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Three Essays On Merger Outcomes: Corporate Strategy, Bargaining Power, And Valuation Waves

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THREE ESSAYS ON MERGER OUTCOMES: CORPORATE STRATEGY, BARGAINING POWER AND VALUATION WAVES

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ABSTRACT

This dissertation consists of three essays on merger outcomes. In the first essay I classify mergers as value-increasing, neutral, or value-decreasing by measuring the change in the combined wealth of acquiring- and target-firm shareholders at the merger announcement date. I then test the role that strategic objectives and negotiation procedures play in driving value-increasing mergers. The results indicate that geographic expansion creates the largest combined increase in wealth. One-on-one negotiations correspond to greater increases in combined wealth, when compared to mergers that begin with auctions, third-party bids, or mutual discussions. The results of my study support both the strategic-alignment and targeted-synergistic-negotiation hypotheses.

The second essay contributes to the literature by identifying novel proxies of bargaining power, such as the negotiation process and underlying deal motivations cited by management. By identifying five mutually exclusive negotiation procedures used to initiate a merger, I am able to simultaneously test theoretical predictions about sales procedure and bidding strategy. I find evidence that a one-on-one negotiation is preferable to an auction in the presence of information costs. Subsequently, I test the *bargaining power hypothesis*; which states that the strength of the acquiring and target managers' bargaining positions drives the distribution of wealth. In mergers that start as auctions, the winning bidder captures the majority of wealth creation. I find that operational expertise provides a significant bargaining advantage for targets. However, acquirers capture the majority of wealth when merging with targets experiencing financial distress.

The third essay uses the most recent financial crisis and subsequent recovery provide a natural experiment to test hypotheses related to value creation and distribution. I find three key results. First, the likelihood of a value-increasing merger was not correlated with market valuation, such that the proportion of value-increasing mergers did not increase during the Financial Crisis. Second, although there is some evidence that the frequency of unrelated mergers increased during the Financial Crisis, access to capital was the more critical deal motivation. Third, my results indicate that financially distressed targets had higher debt and lost considerable negotiating leverage during the financial crisis.

DEDICATION

To Megan and Emma

LIST OF ABBREVIATIONS AND SYMBOLS

M&A	Mergers and Acquisitions
SEC	Securities and Exchange Commission
CRSP	Center for Research on Security Prices
Tar	Target-Firm
Acq	Acquiring-Firm
CMAR	Cumulative Market Adjusted Return
ΔMAV	Change in Market Value

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ESSAY 1: DO CORPORATE STRATEGIES AND NEGOTIATING PROCEDURES DRIVE VALUE-INCREASING MERGERS?

1. INTRODUCTION

Financial research identifies numerous reasons why a takeover announcement might affect the stock prices of the acquiring and target firms.[1] Key factors include the acquiring-firm manager's strategic objective, the bidding procedure, the number of bidders, the payment method, and the existence of a toehold. When researchers examine potential factors, they often collect data about a large sample of acquisitions and measure the stock price reactions of the merging firms. Most studies find that acquiring-firm shareholders generally lose wealth at the merger announcement date, but target-firm shareholders generally gain wealth.[2] However, there are two reasons why using the results of studies that examine the average impact of merger announcements on either acquiring- or target-firm shareholders' wealth may not be the best metric for evaluating specific mergers.

First, Andrade, Mitchell, & Stafford (2001) suggest that if mergers could be "sorted by their true underlying motivations," then those which do benefit acquirers are undertaken for good reasons, "but in the average statistics, they are cancelled out by those with bad reasons." As a result, what is needed is a study that adds to our understanding of the factors that lead to an increase in the *combined wealth* of acquiring- and target-firm shareholders.

Second, recent research suggests that analyzing dollar gains rather than stock returns can provide a different perspective. For example, in contrast to the common view that target-firm shareholders almost always capture the majority of the merger gain, Ahren (2012) finds that

[1] See Bruner (2002) and Andrade, Mitchell, and Stafford (2001).
[2] Relevant studies include Asquith, Bruner, and Mullins, 1987, Bradley, Desai, and Kim, 1988), Fuller, Netter, and Stegemoller, 2002, Moeller, Schlingemann, and Stulz, 2005, and Betton, Eckbo, and Thorburn, 2008.

acquiring-firm shareholders earn greater dollar gains than target-firm shareholders in more than 25% of his sample. However, Ahren (2012) examines only vertically-integrated mergers, so it would be interesting to see if his findings apply to a broader sample of mergers with different strategic objectives.

My study examines the relation between the acquiring-firm manager's strategic objective, the negotiation procedure, and the merger outcome. The term *merger outcome* refers not only to how much wealth a takeover announcement creates, but also to how the acquiring- and target-firm managers distribute the gain. I identify five mutually-exclusive merger outcomes based on the dollar change in the market values of the merging firms. Three categories reflect the change in the combined wealth of the acquiring- and target-firm shareholders (value increasing, neutral, and value decreasing). Essay #1 tests strategic objectives and negotiation procedures as determinants of value-increasing mergers.[1] Essay #2 examines the role of bargaining power in determining how the managers distribute the gain in value-increasing mergers. In that essay I subdivide the value-increasing category depending on the relative gain that accrues to the acquiring-firm shareholders (value capturing, value sharing, or overpaying).

My study extends the merger literature in two important ways. First, I identify the corporate strategies preferred by acquiring-firm managers, and I test the relation between corporate strategy and the change in the combined wealth of the acquiring- and target-firm shareholders. Therefore, my study extends Walker (2000), who examines the relation between corporate strategy and acquiring-firm stock returns. However, a study that examines only the change in acquiring-firm shareholder wealth cannot differentiate between a merger in which the acquiring-firm shareholders wealth loss exceeds the target-firm shareholders' gain (i.e., there is a net loss), and a merger in which the acquiring-firm's shareholders lose wealth but there is a net gain. The first

merger could be driven by industry factors (e.g., overcapacity); the second merger suggests overpayment. Second, my study examines the relation between negotiation procedure and wealth creation. Based on previous financial research, I hypothesize that the synergistic gain should be greater when managers initiate a one-on-one negotiation (either acquirer-to-target or target-to-acquirer) than an auction. I also identify a negotiation procedure, merger negotiations that begin as mutual discussions between the acquiring- and target-firm managers, which previous research has not investigated as a standalone category.

The results of my study show that acquiring-firm managers often merge to broaden the company's product line (32% of the sample mergers), increase market share (21%) or diversify (22%). However, these strategies create less combined wealth than geographic expansion, which produces the largest combined gain (the average gain is 6.7% of the merging firms' combined pre-merger market capitalization). However, mergers that expand the acquiring-firm's operations geographically comprise only 12% of my sample mergers. In addition, I find that one-on-one negotiations do lead to larger increases in combined gain than other negotiation procedures (auctions, mutual discussions, and third-party initiations). With regard to mergers that begin with mutual discussions, I find that 1) the acquiring- and target-firm managers generally have an existing business relationship, and 2) the change in control has a negligible impact on shareholder wealth (presumably because the merging-firms' stock prices already reflect the benefit).

The remainder of my paper is summarized as follows: Section 2 discusses corporate strategy and value creation, Section 3 provides an overview of negotiating procedures, Section 4 describes my method for calculating wealth creation, Section 5 describes the sample, Section 6 presents the results, Section 7 discusses several robustness tests to the method, and Section 8 summarizes my conclusions.

2. CORPORATE STRATEGY & VALUE CREATION

Numerous studies examine the wealth effects of corporate mergers. For example, Copeland, Weston, and Shastri (2005) believe that the impact of a corporate takeover announcement on the wealth of the acquiring- and target-firm shareholders can be explained by at least five hypotheses: synergy (operating or financial), greater market power, improved efficiency, lower agency costs, and asymmetric information. Andrade, Mitchell and Stafford (2001) also identify five motivations for acquisitions: economies of scale, market power, market discipline, over-expansion by acquiring-firm managers, and diversification. Grinblatt and Titman (2002) view operating synergies as the primary motivation for mergers and acquisitions announced during the 1990s. Finally, Lewellen (1971) classifies merger motivations as being either operational or financial. Operational motivations include achieving economies of scale or improving manufacturing efficiency, improving the sales position or offering a more complete product line, acquiring complementary research and / or basic technological expertise, and gaining managerial expertise. Financial considerations include errors in target valuation, increasing the acquiring-firm's debt capacity, and reducing the variability of corporate earnings through diversification.

My study tests the relation between corporate strategy and the change in the combined wealth of the acquiring- and target-firm shareholders. Based on previous research I expect the combined merger gain to be related positively to corporate strategies with greater potential synergy.

2.1 Diversification Strategies

The general consensus in the finance literature is that diversification strategies destroy value. Berger and Ofek (1995) suggest that the stocks of diversified firms often trade at a 13% to 15% discount when compared to more focused firms. Morck, Shleifer, and Vishny (1990) and Walker (2000) find that acquirers of public firms have lower abnormal returns in diversifying mergers. However, a few studies find benefits to diversification. For example, when using a more precise measure of firm diversification, Villalonga (2004) finds evidence of a diversification premium. Santalo and Becereea (2008) conclude that the benefits of diversification are related negatively to the number of specialized firms in the industry. With regard to mergers and acquisitions, Bruner (2002) summarizes the results of studies that examine the combined returns of targets and bidders. Most studies show that diversification strategies destroy value (particularly for conglomerate firms). [3]

2.2 Vertical Integration Strategies

Financial theory and research suggest that the potential for creating synergy should drive vertical integration strategies. Ahren (2012) finds that vertical mergers do create value, but he also finds significant variation in how managers distribute the gain. Fich, Nguyen, and Officer (2013) find that alliance-based, vertically-integrated mergers create more value than horizontal mergers. Vertical integration strategies can occur between related or unrelated firms.

2.3 Related-Firm Acquisition Strategies

[3] One notable exception is Andrade, Mitchell, and Stafford (2001), who conclude that conglomerate acquisitions increase the combined wealth of acquiring- and target-firm shareholders.

Researchers often classify a merger as being related if the acquiring and target firms have the same, or similar, Standard Industrial Classification (SIC) codes. Related acquisition strategies include broadening the product line, increasing market share, and expanding geographically.

Financial theory suggests that the potential for synergistic benefits drives related acquisitions. Hoberg and Phillips (2010) find that mergers between firms with similar product descriptions lead to higher operating profitability and sales growth. Megginson, Morgan, and Nail (2004) conclude that focus-increasing mergers lead to better long-term stock price performance than focus-decreasing mergers. The strategic alignment hypothesis suggests:

> H_1: The combined gain earned by the acquiring- and target-firm shareholders should be related positively to corporate strategies that offer the greatest potential synergistic benefit.

3. NEGOTIATION PROCEDURES & VALUE CREATION

Does value creation in mergers depend on the negotiation procedure? I identify five mutually-exclusive negotiation procedures by reading the merging firms' SEC filings:

1) the merger follows mutual discussions between the acquiring- and target-firm managers,
2) the acquiring-firm managers contact the target-firm managers,
3) the target-firm managers contact only the acquiring-firm managers,
4) the target-firm managers initiate an auction, or
5) a third party makes an offer for the target firm.

Appendix C provides an example of each of the five different negotiating procedures.

There are a number of studies that examine the acquiring- or target-firm manager's choice of negotiating procedure. Bulow and Klemperer (1996) hypothesize that auctions will provide greater revenues for the target-firm shareholders than one-on-one negotiations. French and McCormick (1984) predict that the target firm's size, industry, and affiliation with the acquiring firm drive the choice between an auction and a one-on-one negotiation. Hansen (2001) predicts that the trade-off between competition and information costs drives the choice between an auction and a negotiation.

Although Boone and Mulherin (2007) consider the information cost hypothesis, they also hypothesize that the target-firm wealth effects for auctions and negotiations could be similar. Since the cost of conducting an auction varies across firms, some firms may find that the cost outweighs the benefit. In this case the optimal choice would be to limit competition as part of a

controlled sale. In contrast to a full-scaled auction, a controlled sale arises when the target-firm managers approach a select number of potential bidders.

Fidrmuc, Roosenboom, Paap, and Teunissen (2012) test the relation between buyer type (financial or strategic), negotiation procedure, and offer premiums. They find that private negotiations often precede buyer-initiated mergers, and auctions often precede acquisitions by financial buyers and target-initiated deals.

Relatively few studies examine the relation between a merger's potential synergistic benefit and the negotiation procedure. One exception is Masulis and Simsir (2015), who hypothesize that the synergistic benefits will be greater when acquiring-firm managers initiate the offer. They finds evidence that supports their hypothesis: the increase in the combined values of the merging firms is larger in buyer-initiated deals (+2.8%) than in seller-initiated deals (+0.3%).

I extend Masulis and Simsir (2015) by examining a more precise set of negotiation procedures, and by controlling for the acquiring-firm managers' strategic objective. For example, I differentiate between target-to-acquirer deals and auctions (both are seller-initiated), my sample includes mergers that begin as mutual discussions and third-party offers, and I exclude tender offers (which they include as bidder-initiated deals).[4] The targeted-synergistic-merger hypothesis suggests:

> H_2: The combined gain earned by the merging-firms' shareholders should be greater for one-on-one negotiations (either acquirer-to-target or target-to-acquirer) than auctions.

[4] Previous research indicates that mergers and tender offers often differ in terms of deal motivations and target-firm characteristics.

4. WEALTH CREATION & DISTRIBUTION

4.1 Combined Gains from Mergers

Synergistic theory predicts that the change in the combined wealth of acquiring- and target-target firm shareholders will be positive. Lang, Stulz, and Walkling (1989) find positive cumulative abnormal returns (CARs) for the combined firms in their sample of tender offers. In his analysis of the acquiring-firm's Tobin's Q, Servaes (1991) finds positive combined CARs around the announcement date. Mulherin and Boone (2000) find that the combined target and bidder return at the takeover announcement date is 3.56 percent on average for U.S. acquisitions. Andrade, Mitchell, and Stafford (2001) also find that mergers create wealth for the combined firms. However, these studies do not examine the acquiring-firm managers' strategic objective.

4.2 Advantages of Dollar Gain Relative to CARs

There are several advantages to using dollar gains in order to evaluate wealth creation in mergers. While much of the literature has focused on abnormal percentage returns, Malatesta (1983) and Moeller, Schlingemann, and Stulz (2005) explain that doing so does not capture the change in wealth. Ahren and Sosyura (2014) explain that using dollar values, as opposed to abnormal returns, controls for the fact that the market value of equity generally is much larger for acquiring firms than targets.

4.3 Merger Outcomes

I classify my sample mergers into five mutually exclusive merger outcomes: value capturing, value sharing, overpaying, neutral, and signaling. Each outcome depends on 1) the size of the net gain or loss, and 2) how the gain is divided between the acquiring- and target-firm shareholders. Essay #1 examines the frequencies of each outcome and tests the determinants of value creation. Essay #2 extends the analysis of merger outcomes by examining the bargaining power of acquiring- and target-firm managers.

I calculate the gain or loss for each merger by examining the change in acquiring- and target-firm shareholder wealth. I calculate the combined abnormal "dollar" gain ($Gain_i$) by summing the abnormal dollar change for the acquiring ($\Delta\ MAV_i^A$) and target ($\Delta\ MAV_i^T$) firms. Superscripts "A" and "T" refer to the acquiring and target firms, respectively.

$$Gain_i = \Delta MAV_i^A + \Delta MAV_i^T \quad \text{, where} \tag{1}$$

ΔMAV_i^A = the market-adjusted change in the acquiring-firm's market value of equity over the period t=-5 days to t=+5 days. In equation (2) below, day t=0 refers to the announcement date reported in the SDC database.

Equation (2)

$$\Delta MAV_i^A = \left[\prod_{-5\ days}^{+5\ days} (1 + R_{it}) - \prod_{-5\ days}^{+5\ days} (1 + R_{mt}) \right] \quad (P_{it=-6})(NS_{it=-6})$$

$P_{i,t=-6}$ = the common stock price of acquiring firm *i* on day *t* =-6;

R_{it} = the return for acquiring-firm *i* on day *t*;

R_{it} = the return on the CRSP value-weighted index (NYSE/AMEX/Nasdaq) on day *t*;

$NS_{it=-6}$ = the number of common shares outstanding for firm *i* on day *t*=-6; and

ΔMAV_i^T = the market-adjusted change in the target-firm's market value of equity over the period *t* = -25 days to *t* = +5 days (the calculation is similar to equation (2), but I measure the market capitalization on day *t* = -26).

Equation (3)

$$\Delta MAV_i^T = \left[\prod_{-25\ days}^{+5\ days} (1 + R_{it}) - \prod_{-25\ days}^{+5\ days} (1 + R_{mt}) \right] \quad (P_{it=-26})(NS_{it=-26})$$

I calculate the percentage gain ($Gain_i$%) for each acquisition as follows.

$$Gain_i\% = Gain_i / [(MV_{eq})^A + (MV_{eq})^T] \tag{4}$$

I examine several issues related to the calculation of the wealth creation. For example, although the results of my study reflect the use of different event windows for the acquiring and target firms, in Section 7 of the paper I examine the impact on $Gain_i$ and $Gain\%_i$ of using the same event window [(either (-5, +5) or (-25, +5)]. In addition, I examine whether ΔMAV_i^T might be understated if the acquiring firm's offer follows other takeover-related announcements involving the target firm. This issue is particularly relevant for auctions, since my calculation of ΔMAV_i^T reflects only the wealth effect when acquiring-firm managers announce *their first offer*. As a result, Section 7 also examines the wealth effects of target firms during the period beginning with the initiation of an auction and ending with the acquiring-firm manager's first offer. I find that the merger announcement date captures most of the increase in wealth accruing to the target-firm's shareholders.

I classify an acquisition as *value-increasing* if *Gain%* is greater than 4%. Admittedly, 4% is a subjective cut-off. However, my objective in choosing the cutoff is two-fold: 1) to provide separation between the value-increasing and value-decreasing categories, and 2) to obtain a sufficient number of value-increasing acquisitions so that I can analyze bargaining power in Essay #2. I discuss the impact of using a 3% or 5% cutoff on the size of my subsamples in Section 7.

Neutral outcomes refer to mergers in which Gain% is between -4% and 4% (-4% < Gain% < 4%). *Neutral* acquisitions have little effect on the combined wealth of the acquiring- and target-firm shareholders because the total synergistic gain is negligible. *Value-decreasing* acquisitions refer to mergers in which Gain% is less than -4% (Gain% < -4%). Although target-firm shareholders generally benefit from the latter transactions, the mergers in this category signal a decrease in the value of the acquirer's assets-in-place because acquiring-firm shareholder losses greatly exceed target-firm shareholder gains.

Note that value-increasing acquisitions can be either *value capturing*, *value sharing*, or *overpaying*. The classification depends on the percentage of the total gain that accrues to acquiring-firm shareholders (Acquirer %).

$$Acquirer_i\ \% = (\Delta\ MAV_i^A\ /\ Gain_i)\ x\ 100 \qquad (5)$$

A merger is value-capturing if the acquiring-firm shareholders receive more that 50% of the gain (*Acquirer%* > 50%) over the eleven-day event window. An acquisition is value-sharing if the acquiring-firm shareholders receive 0% – 50% of the gain (0% < Acquirer%) < 50%). Overpaying occurs when the acquiring-firm shareholders lose wealth (i.e., $\Delta\ MAV^A < 0$), even though the merger is value-increasing.

The following merger between two hypothetical firms illustrates the classifications. Suppose the expected pre-merger cash flows of an acquiring and target firm are $100 per year and $60 per year, respectively. Both cash flow streams are perpetuities, and the required rate of return for each firm is 10%, so the pre-merger equity market values of the standalone companies are $1,000 and $600, respectively. In addition, suppose investors expect the cash flow of the combined entity to be $180 per year (i.e., the gain from synergy is $20 per year). If the required rate of return

is 10%, then $Gain_i$ is \$200 (= $V^{AT} – (V^A + V^T)$ = \$1,800 – (\$1,000 + \$600)). The acquisition is value-increasing because the $Gain\%_i$ is equal to 12.5% (= \$200 / \$1,600).

Table 1 (Panel A) illustrates the possible outcomes. Outcome A is value-capturing because the acquiring-firm shareholders receive more than 50% of the gain. In this example, ΔMAV^A is \$160 and ΔMAV^T is \$40, so $Acquirer\%_i$ is 80% (= \$160 / \$200). Outcome B is *value-sharing* because the acquiring- and target-firm shareholders divide the gain evenly. Outcome C involves *over-paying* because the acquiring-firm shareholders lose wealth. In the latter case, the target-firm shareholders receive 115% of the total expected gain.

On the other hand, suppose investors expect the cash flow of the combined entity to increase by only \$4 per year. The combined gain is equal to \$40, so $Gain\%_i$ is 2.5% (= \$40 / \$1,600). I classify this merger as *neutral*, since the combined gain is negligible (Outcome D). Outcome E is value-decreasing because $Gain_i\%$ is less than -4%.

Table 1 (Panel B) shows the distribution of merger outcomes for my sample of 705 mergers announced between January 1, 1996 and December 31, 2007. When I use a 4% cutoff, I classify 44.3% of my sample mergers as value-increasing, 26.0% as neutral, and 29.8% as value-decreasing. In addition, 144 mergers (or 46.2% of the 312 value-increasing mergers) are value capturing, 37.5% are value sharing, and 15.7% are overpaying. As a result, I do have a sufficient number of outcomes in each of the value-increasing subcategories to analyze bargaining power (Essay #2).

Table 1. Classification of Outcomes

This table defines five mutually exclusive acquisition outcomes. The classification depends on 1) the size of the announcement period gain or loss (Gain%), and 2) how the Gain% is divided between the acquiring- and target-firm shareholders (Acquirer%). Panel A illustrates each of the five outcomes by examining five possible outcomes for a merger between two hypothetical firms. The variable GAIN is equal to the market-adjusted change in acquiring-firm value (Δ MAV^A) plus the market-adjusted change in target-firm value (Δ MAV^T). The variable Gain% is equal to GAIN divided by the sum of the pre-merger equity market values of the acquiring and target firms (MV_{eq}^A and MV_{eq}^T, respectively). The variable Acquirer % is equal to the change in the market-adjusted value of the acquiring firm (Δ MAV^A) divided by GAIN.

Panel A. Illustrative Example

Outcome	(Δ MAV^A)	(Δ MAV^T)	Gain	%Gain	Acquirer%	Target%	Category
A	\$160	\$ 40	\$200	12.5%	80%	20%	Capturing
B	\$100	\$100	\$200	12.5%	50%	50%	Value-Sharing
C	-\$ 30	\$230	\$200	12.5%	-15%	115%	Over-Paying
D	\$ 20	\$ 20	\$ 40	2.5%			Neutral
E	-\$300	\$140	-\$160	-10.0%			Value-Decreasing

Note: Outcomes A, B, and C are value-increasing because the Gain% is greater than 4.0%. Outcome D is neutral because Gain% is between -4.0% and 4.0%. Outcome E is value-decreasing because Gain% is less than -4.0%.

Panel B: Definitions

N = 705, Mergers from January 1st, 1995 through December 31st, 2007.

%Gain		Δ $MAV_i^A > 0$	Δ $MAV_i^A < 0$	Total	Percent
		Acquirer%			
	>50%	50% to 0%	< 0%		
> 4%	Value-Capture (n = 144)	Value-Sharing (n = 117)	Overpaying (n = 49)	312	44.26%
-4% to 4%			Neutral	183	25.96%
< -4%			Value-decreasing	210	29.79%
			N =	705	100.0%

5. DATA

5.1. Sample

My study examines mergers involving publicly-traded, U. S. companies announced between January 1, 1995 and December 31, 2007. The study period ends at December 2007 because the number of mergers declined significantly beginning in 2008. Essay #3 examines how the financial crisis affected acquiring-firm managers' merger strategies, bargaining power, and deal motivations.

I identify my sample mergers by using data from *Thomson Financial Securities Data Corporations* (SDC). The sample acquisitions satisfy the following criteria.

1. The acquiring firm owns more than 50% of the target firm's shares at the completion date.
2. The acquiring firm does not announce another acquisition within two months of the takeover announcement data. (This restriction eliminates 77 mergers.)
3. The acquiring firm is not a communications firm, public utility, or financial institution.
4. The relative transaction size is greater than 1%.[5]
5. Data for the acquiring and target firms are available from CRSP.
6. The EDGAR database contains company filings related to the acquisition. Specifically, The SEC filings must contain adequate information to identify the negotiation procedure and the managers' deal motivations (i.e., reasons for the merger).
7. I exclude tender offers (i.e., acquisitions in which the EDGAR filings are 14D, SC-TO, or SC-13D). The SEC filings pertaining to tender offers generally do not discuss deal motivations, which I use in Essay #3 to examine bargaining power.
8. A *Wall Street Journal* article announces the merger, which I use to help identify the acquiring-firm's strategic objective.

[5] Relative transaction size is measured as the target firm's common equity value divided by the acquiring firm's common equity value.

5.2 Merger Wealth Creation and Selected Firm Characteristics

Table 2 compares selected firm-level characteristics observed in value-increasing mergers with those observed in value-decreasing mergers. I include firm-level characteristics as control variables in several multivariate models (discussed in a later section).

Table 2 (Panel A) reports the results of difference-in-means tests for selected acquiring-firm characteristics. Acquiring firms generally have a lower Tobin's Q ratio in value-increasing mergers (1.85) when compared to value-decreasing mergers (3.06). The -1.20 difference (= 1.85 – 3.06) is significant at the 5% level (the t-statistic is equal to -2.14). On the other hand, the results indicate that acquiring firms participating in value-increasing mergers often have greater financial leverage and more intangible assets when compared to acquiring firms participating in value-decreasing mergers. The differences for the $Debt_i$ and $Leverage_i$ ratios are both positive and statistically significant. The intangible asset ratio is 5.4% points higher.

Table 2 (Panel B) reports the results for selected target-firm characteristics. Target firms participating in value-increasing mergers have significantly higher P/E_i ratios (21.6 versus 10.8). The mean difference in the P/E ratios is 10.9, which is significant at the 10% level. In addition, targets participating in value-increasing mergers have greater intangible asset values, but lower leverage ratios.

Table 2. Wealth Creation and Firm Characteristics

Table 2 examines how (if at all) acquiring-firm characteristics (Panel A) and target-firm characteristics (Panel B) vary between value-increasing and value-decreasing mergers. The value-increasing category includes acquiring firms in the three subcategories (value capturing, value sharing, and overpaying). *Debt-Ratio*$_i$ is total debt divided by total assets. *Leverage*$_i$ is long-term debt divided by common equity. *M/B*$_i$ is the market price divided by book value per share. *P/E*$_i$ is the price divided by earnings per share. *ROA*$_i$ is net income divided by total assets. *ROE*$_i$ is net income divided by total equity. *Intangibles*$_i$ is intangible assets divided by total assets. *R&D*$_i$ Intensity is R&D expenditures divided by total assets. I report the t-statistics for difference-in-means tests in parentheses with ***, **, and * denoting statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

Panel A: Acquirer	Value Increase	Value Decrease			
Ratios	*Mean*	*Mean*	*Difference*	*t-stat*	*Sig. 2-tail*
Tobin's Q acq	1.8521	3.0566	-1.2045**	-2.142	0.033
P/E acq	33.0742	18.6359	14.4383	0.992	0.321
M/B acq	5.3679	5.6388	-0.2709	-0.210	0.834
Debt Ratio acq	0.2087	0.1771	0.0316*	1.765	0.078
Leverage acq	1.2719	0.2921	0.9798*	1.714	0.087
Intangibles acq	0.1935	0.1397	0.0537***	2.686	0.007
R&D acq	0.0719	0.0968	-0.0249	-1.540	0.125
ROA acq	0.1112	0.0568	0.0543	1.467	0.143
ROE acq	0.2803	0.1436	0.1367	1.126	0.261

Table 2 (Continued)

Panel B: Targets	Value Increase	Value Decrease			
Ratios	*Mean*	*Mean*	*Difference*	*t-stat*	*p-value*
Intangibles Tar	0.1538	0.1174	0.0363**	1.867	0.049
R&D Intensity	0.1272	0.1460	-0.0188	-0.637	0.525
R&D Expenditures	-0.0019	-0.0004	-0.0015*	-0.907	0.074
Debt Ratio tar	0.1943	0.1753	0.0190	0.892	0.373
Tobin's Q tar	1.4597	1.8452	0.3856	1.282	0.201
M/B tar	3.3564	4.1569	-0.8005	-1.067	0.286
P/E tar	21.6482	10.7670	10.8812*	1.465	0.090
Leverage tar	-0.2794	0.6337	-0.9131**	-1.552	0.018
ROA tar	0.0577	0.0154	0.0423	1.348	0.179
ROE tar	-0.0562	0.1777	-0.2340	-1.020	0.308
P.M. tar	28.4087	-0.0445	28.4532	0.783	0.436

6. RESULTS

6.1 Corporate Strategies and Merger Outcomes

I classify the acquiring-firm managers' acquisition strategy by following Walker (2000), who examines six mutually-exclusive strategic objectives: geographic expansion, broaden the product line, increase market share, integrate vertically, and diversify with, and without, overlap. Due to the small number of mergers involving diversification without overlap, I combine all diversification strategies into one group.

Table 3 (Panel A) shows the relation between the strategic objectives and merger outcomes. The most popular acquisition strategies are *broadening the product-line* (229 mergers, or 32.5% of the total sample), *increasing market share* (21.1%), and *diversification* (21.8%). Managers adopt g*eographic expansion* (11.6%) and *vertical integration* (12.9%) strategies less frequently.

Table 3 (Panel A) also shows the frequencies of each strategy classified by merger outcome. For example, the acquiring-firm managers broadened the product line in 32.5% of the sample mergers, but this strategy represents only 22.2% of the value-capturing mergers. Notably, *broadening the product line* represents 42.9% of the value-decreasing mergers. Geographic expansion comprises 11.6% of the sample mergers, but this category represents 18.8% of the value-sharing outcomes. When I test the null hypothesis that corporate strategy and merger outcome are independent by using a chi-square test (Panel B), I can reject the null hypothesis at the 1% level of significance (the chi-square statistic is equal to 32.9). As a result, I conclude that strategic objectives do play a role in determining merger outcomes.

Table 3. Corporate Strategies and Merger Outcomes

Panel A

Strategy	**Total**	**Capture**	**Share**	**Over-pay**	**Neutral**	**Decrease**
Geographic	82	21	22	5	18	16
Expansion	11.6%	14.6%	18.8%	9.8%	9.8%	7.6%
Broaden	229	32	32	19	56	90
Product Line	32.5%	22.2%	27.4%	37.3%	30.6%	42.9%
Increase	149	37	24	13	36	39
Market Share	21.1%	25.7%	20.5%	25.5%	19.7%	18.6%
Vertical	91	20	17	8	23	23
Integration	12.9%	13.9%	14.5%	15.7%	12.6%	11.0%
Diversification	154	34	22	6	50	42
	21.8%	23.6%	18.8%	11.8%	27.3%	20.0%
Total	705	144	117	51	183	210
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Panel B: Chi-Sq. Test	Value	d.f.	Asymp. Sig.
Pearson χ^2	32.88	16	0.008
Likelihood Ratio	32.65	16	0.008
Linear-by-Linear Assoc.	0.063	1	0.802
N of Valid Cases	705		(2-sided)

Table 4 shows that *geographic expansion* has the largest combined gain among the strategic objectives. This strategic objective leads to an average increase of 6.7% in the combined, pre-merger market capitalizations of the acquiring and target firms. When the strategic objective is to *increase market share* or *integrate vertically,* the combined wealth gains are 3.07% and 3.01% respectively. The average Gain% for diversification strategies is about 2%. *Broadening the product line* produces an average gain of only 0.06%.

Table 4 (Panel B) shows the results of a one-way, fixed-effects ANOVA model (Daniel and Terrell, 1995). I reject the null hypothesis that the average $Gain\%_j$ for each of the five strategic objectives are equal [H_0: $\mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5$]. The F-statistic is equal to 4.4, which significant at the 1% level. The results in Panel C show the results of pairwise comparison tests. Geographic expansion generally creates more wealth than broadening the product line.

Table 4. Gain%$_i$ by Strategy

Strategic Objective	*N*	*Mean*	*Std. Dev.*	*Minimum*	*Maximum*
Geographic Expansion	82	6.68%	14.44%	-27.21%	79.01%
Broaden Product Line	229	0.06%	12.67%	-33.67%	48.63%
Increase Market Share	149	3.07%	13.12%	-38.33%	41.66%
Vertical Integration	91	3.01%	10.71%	-32.49%	30.94%
Diversification	154	2.18%	12.44%	-30.52%	55.84%
Full Sample	705	2.31%	12.83%	-38.33%	79.01%

Panel B: ANOVA

%Gain	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.286	4	0.071	4.424	0.002
Within Groups	11.297	700	0.016		
Total	11.583	704			

6.2 Negotiation Procedures and Merger Outcomes

Table 5 examines the relation between negotiation procedures and merger outcomes. Acquirer-to-target negotiations are the most frequent (283 mergers, which represents 40.1% of the total sample). Mutual discussions are the second most frequent negotiation procedure (24.1%), whereas mergers that begin with third-party offers are the least frequent (5.2%).

Table 5. Negotiation Procedures and Merger Outcomes

Negotiation	Total	**Capture**	**Share**	**Overpay**	**Neutral**	**Decrease**
Acquirer-to-Target	283	49	53	24	83	74
	40.1%	34.0%	45.3%	47.1%	45.4%	35.2%
Target-to-Acquirer	115	27	15	12	30	31
	16.3%	18.8%	12.8%	23.5%	16.4%	14.8%
Target Auction	100	29	7	3	32	29
	14.2%	20.1%	6.0%	5.9%	17.5%	13.8%
Mutual Discussion	170	28	37	10	25	70
	24.1%	19.4%	31.6%	19.6%	13.7%	33.3%
Third-Party	37	11	5	2	13	6
	5.2%	7.6%	4.3%	3.9%	7.1%	2.9%
Total	705	144	117	51	183	210
	100%	100%	100%	100%	100%	100%

Chi-square Test	Value	d.f.	Asymp. Sig.
Pearson χ^2	47.214	16	<0.001
Likelihood Ratio	49.643	16	<0.001
Linear-by-Linear Assoc.	0.02	1	0.889
N of Valid Cases	705		(2-sided)

When I classify the negotiation procedures by merger outcomes, I find that target-to-acquirer offers often are value-increasing. This negotiation procedure, which describes 16.3% of the sample mergers, represents 18.8% of the value-capturing outcomes and 23.5% of the overpaying outcomes. I test the null hypothesis that negotiating procedures and merger outcomes are independent by using a chi-square test. The computed chi-squared statistic is 47.2, which is significant at the 1% level (Table 5, Panel B). The results indicate that negotiation procedures do drive merger outcomes.

Table 6 shows that when target-firm managers initiate merger negotiations, the average increase in combined wealth is 3.6%. Mergers initiated by the acquiring-firm managers have the second highest combined gain (3.2%) followed by third-party-initiated mergers (2.5%). Contrary to some theoretical predictions, the average Gain% is only 1.7% when mergers begin with an *auction*. In contrast to my conjecture that *mutual discussions* would lead to more synergistic mergers, this procedure produced the lowest combined gain (0.3%). This result suggests that the pre-merger stock prices of the acquiring and target firms already reflect the synergistic benefits of the business collaboration and transferring control creates little additional value.

Table 6. Negotiation Procedures and Gain%

The variable Gain% is equal to the combined change in wealth of the acquirer and target shareholders, divided by the sum of the combined, pre-merger equity market values of the merging firms (MV_{eq}^{A} and MV_{eq}^{T}, respectively). I identify the negotiating procedure by using the SEC filings.

Negotiating Process	*N*	*Mean*	*Std. Dev.*	*Minimum*	*Maximum*
Acquirer-to-Target	283	0.0318	0.1234	-0.3367	0.5584
Target-to-Acquirer	115	0.0365	0.1368	-0.2097	0.7901
Auction	100	0.0170	0.1145	-0.3052	0.3233
Mutual Discussion	170	0.0028	0.1410	-0.3833	0.4166
Third-Party	37	0.0248	0.1023	-0.3249	0.2390
Full Sample	705	0.0231	0.1283	-0.3833	0.7901

6.3 Multivariate Analysis

6.3.1 Control Variables

In this section I investigate the relation between strategic objectives, negotiation procedures, and value creation after controlling for selected firm and deal characteristics. Previous research identifies a number of variables that can affect the wealth of acquiring- and target-firm shareholders including payment method (Travlos, 1987), size of the acquirer (Moeller et al. 2004), relative size (Asquith, Bruner, and Mullins, 1983), value of the deal (Moeller, Schlingemann, and Stulz, 2005), bidding competition (Bradley et al. 1988), bidder's toehold (Betton and Eckbo, 2000), and leverage (Harford, 1999).

Although previous research indicates that acquiring- and target-firm size, as well as their relative sizes, are important determinants of wealth gains in mergers, the evidence is mixed. For example, Moeller, Schlingemann, and Stulz (2002) find that the abnormal returns for small acquiring firms often exceeds the wealth gain for larger acquiring firms. On the other hand, in his analysis of the cumulative abnormal return of acquirers, Schwert (2000) finds a positive coefficient for bidder size. With regard to the relative size of the merger (target equity divided by acquirer equity), Servaes (1991) indicates that the combined return to acquirer and targets is positively related to relative size. Asquith, Bruner, and Mullins (1983) and Moeller, Schlingeman, and Stulz (2004) find that acquirer returns increase as the relative size increases, but Travlos (1987) finds the opposite result.

There is also evidence that size plays a role in determining the negotiating procedure. Boone and Mulherin (2011) find that the average size of the bidding firm is larger in negotiations than auctions.

6.3.2 OLS Regression Analysis

I use the following OLS Regression Model to test the determinants of Gain%.

$$Gain\% = \propto + S_1\,(Strategy\,Vector)_i + \beta_1 MultiBid(1,0) + \beta_2 Cash(1,0) + \beta_3 TranSize + \varepsilon_{i,t}$$

where S_i is a vector of binary variables representing five mutually exclusive strategic objectives, and, C_i is a vector of control variables.

The independent variables include the strategic objectives and selected control variables (multiple bidder, cash, stock or mixed offers, and the relative sizes of the merging firms).

Table 7 reports the results for five model specifications. The interpretation of the constant term depends on the model specification. For example, the constant term for Model 1 indicates that Gain% is 2.3% when the acquiring firm adopts a diversification strategy. This result is statistically significant at the 5% level (the t-statistic is 2.39). The constant term for Model 3 indicates that Gain% is 3.6% when the acquiring-firm's managers adopt a diversification strategy and make a mixed offer (a combination of cash and stock). The coefficient of Stock Pay indicates that Gain% decreases 2.4% points when the acquiring-firm manager's make a stock offer.

The binary variable for *geographic expansion* is positive and statistically significant for all five model specifications. As a result, geographic expansion leads to greater Gain% than a diversification strategy. The coefficient for *broadening product line* is negative and statistically significant for three of the model specifications. As a result, there is some evidence that broadening the product line creates lower Gain% than diversification.

I find that Gain% is lower for stock offers than cash or mixed offers. I also find a positive relation between Gain% and the transaction's relative size.

Table 7. Strategic Objectives as Determinants of Gain%

$$Gain\% = \propto + S_1\ (Strategy\ Vector)_i + \beta_1 MultiBid(1,0) + \beta_2 Cash(1,0) + \beta_3 TranSize + \varepsilon_{i,t}$$

This table presents the results of OLS regressions of the percentage change in the combined wealth of acquiring- and target-firm shareholders (Gain%) at the merger announcement date. The strategic objectives are mutually-exclusive, binary variables. The independent variables include the relative size of the transaction (size), and binary variables that reflect the payment method (cash or stock) and the presence of multiple bidders. For example, the intercept term for Model 3 reflects a diversification strategy when the payment method is mixed (a combination of cash and stock). I report t-statistics in parentheses with ***, **, and * denoting statistical significance at the 0.01, 0.05, and 0.10 level, respectively. All models include year fixed effects.

	Model 1	Model 2	Model 3	Model 4	Model 5
	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)
(Constant)	2.30%**	2.30%	3.58%**	1.70%	2.72%
	(2.39)	(1.59)	(2.00)	(1.62)	(1.44)
Geographic Expansion	4.70***	4.70***	5.99***	4.20**	5.67***
	(2.79)	(2.78)	(3.37)	(2.45)	(3.17)
Broaden Product	- 2.40*	- 2.40*	- 1.68	- 2.40*	- 1.54
	(-1.88)	(-1.87)	(-1.30)	(-1.92)	(-1.19)
Market Share	1.10	1.10	1.48	1.00	1.41
	(0.79)	(0.79)	(1.05)	(0.69)	(1.00)
Vertical Integration	0.00	0.00	0.55	- 0.10	0.58
	(- 2.60)	(-0.03)	(0.34)	(-0.07)	(0.36)
Multiple Bidders		0.01			- 3.22
		(0.01)			(-1.57)
Cash Pay			1.46		2.11
			(0.80)		(1.14)
Stock Pay			- 2.44**		- 2.18**
			(-2.24)		(-1.96)
Relative Size				1.60*	1.81*
				(1.73)	(1.76)
Number of mergers	705	705	705	705	705
R^2	2.7%	2.7%	7.8%	3.1%	8.5%
Adj. R^2	2.2%	2.1%	5.5%	2.5%	5.9%
F-statistic	4.42***	3.89***	3.39***	4.54***	3.33***

Table 8. Negotiation Procedures as Determinants of Gain%

$$Gain\% = \propto + S_1\,(Strategy)_i + N_2(Negotiation) + \beta_5 MultiBid(1,0) + \beta_7 TranSize + \varepsilon_{i,t}$$

This table presents the results of OLS regressions of the percentage change in the combined wealth of acquiring- and target-firm shareholders (Gain%) at the merger announcement date. The strategic objectives and negotiation procedures are mutually- exclusive, binary variables. The independent variables include the transaction's relative size, and binary variables that reflect the payment method (cash or stock) and the presence of multiple bidders. For example, the intercept for Model 8 reflects a diversification strategy, a mixed offer, and mutual discussions. I report t-statistics in parentheses with ***, **, and * denoting statistical significance at the 0.01, 0.05, and 0.10 level, respectively. All models include year fixed effects.

	Model 6 Coefficient (t-statistic)	Model 7 Coefficient (t-statistic)	Model 8 Coefficient (t-statistic)	Model 9 Coefficient (t-statistic)	Model 10 Coefficient (t-statistic)
(Constant)	0.63%	0.67%	1.44%	- 0.38%	0.11%
	(0.34)	(0.36)	(0.68)	(-0.20)	(0.05)
Geographic Expansion	5.12***	5.20***	5.94***	4.47***	5.60***
	(3.08)	(3.11)	(3.34)	(2.66)	(3.12)
Broaden Product	- 2.30*	- 2.21*	- 1.71	- 2.36*	- 1.57
	(-1.84)	(-1.76)	(-1.32)	(-1.89)	(-1.21)
Market Share	1.67	1.70	1.56	1.46	1.48
	(1.23)	(1.25)	(1.11)	(1.08)	(1.05)
Vertical Integration	- 0.04	- 0.02	0.72	- 0.15	0.74
	(-0.03)	(-0.02)	(0.44)	(-0.10)	(0.45)
Acquirer-to-Target	3.06**	3.06**	2.78**	3.24***	2.98**
	(2.54)	(2.54)	(2.20)	(2.68)	(2.36)
Auction	1.83	1.85	1.79	2.05	2.23
	(1.15)	(1.16)	(1.08)	(1.29)	(1.34)
Target-to-Acquirer	2.84*	2.85*	2.51*	3.12**	2.90*
	(1.92)	(1.94)	(1.64)	(2.12)	(1.89)
Third Party	2.38	2.53	2.07	2.59	2.76
	(1.10)	(1.16)	(0.90)	(1.20)	(1.20)
Multiple Bidders		- 1.23			- 3.32
		(-0.64)			(- 1.61)
Cash Pay			1.17		1.96
			(0.64)		(1.04)
Stock Pay			- 2.33**		- 1.97*
			(-2.12)		(-1.75)
Relative Size				2.09**	2.08*
				(2.26)	(2.00)
Number of mergers	705	705	705	705	705
R^2	7.3%	7.3%	8.5%	7.9%	9.2%
Adj. R^2	4.9%	4.8%	5.6%	5.4%	6.2%
F-statistic	3.02***	2.90***	3.01***	3.14***	3.04***

Table 8 reports the results of regression models that examine both strategic objectives and negotiation procedures as determinants of Gain%. The constant term for Model 6 reflects the Gain% for a merger that diversifies the acquiring-firm's operations and begins as a mutual discussion between the acquiring- and target-firm managers.

The results of Models 6 – 10 show that Gain% is related positively to *geographic expansion* as a strategic objective and one-on-one negotiation procedures (either acquirer-to-target or target-to-acquirer). Again, there is some evidence that broadening the product line reduces Gain% by about 2% points. Models 8 – 10 show that Gain% is related positively to the mergers' relative size, and related negatively to stock offers.

Table 9 reports the results of OLS regressions that include selected acquiring- and target-firm characteristics.[6] Adding the variables that control for firm characteristics does not change the results for geographic expansion and acquirer-to-target negotiations (see Models 11 and 12). The coefficient for the acquiring-firm's market-to-book ratio is negative and statistically significant (t-statistic is equal to -1.8, which is significant at the 10% level). This result indicates that Gain% is lower when mergers involve target firms with greater M/B ratios.

[6] Missing data in *Compustat* reduced the sample sizes for Models 11 and 12 to 344 mergers. However, I made the decision to include the selected firm characteristics after the committee accepted my dissertation proposal. As a result, I plan to complete the data collection by using other sources after I defend my dissertation defense (but before submitting the paper to a journal).

Table 9. Determinants of Gain%: Full Model Results

This table presents the results of OLS regressions of the percentage change in the combined wealth of acquiring- and target-firm shareholders (Gain%) at the merger announcement date. The strategic objectives and negotiation procedures are mutually- exclusive, binary variables. The independent variables include the transaction's relative size, binary variables that reflect the payment method (cash or stock) and the presence of multiple bidders, and selected acquiring- and target-firm characteristics. For example, the intercept for Model 11 reflects a diversification strategy, a mixed offer, and mutual discussions. I report t-statistics in parentheses with ***, **, and * denoting statistical significance at the 0.01, 0.05, and 0.10 level, respectively. All models include year fixed effects.

	Model 11		Model 12	
	Coefficient	(t-stat)	Coefficient	(t-stat)
(Constant)	3.68%	(0.79)	- 2.07%	(- 0.38)
Geographic Expansion	5.41**	(2.03)	5.31**	(2.00)
Broaden Product line	- 1.03	(- 0.55)	- 1.23	(- 0.66)
Increase Market Share	2.89	(1.31)	3.51	(1.58)
Vertical Integration	1.65	(0.65)	1.43	(0.57)
Acquirer-Target	4.17**	(2.33)	4.16**	(2.33)
Auction	2.62	(1.10)	2.71	(1.15)
Target-Acquirer	3.12	(1.36)	3.20	(1.40)
Third-Party	3.80	(1.15)	4.06	(1.24)
Stock Pay	- 3.34**	(-1.96)	- 2.70	(-1.57)
Cash Pay	1.40	(0.38)	1.75	(0.48)
Ln (Mkt-Cap (Acq))	- 0.30	(-0.49)	1.16	(1.24)
Debt Ratio (Acq)	2.81	(0.61)	1.63	(0.35)
Intangible (Acq)	- 3.02	(-0.59)	- 1.93	(-0.38)
M/B (Acq)	- 0.12*	(-1.80)	- 0.12*	(-1.79)
Debt Ratio (Tar)	- 4.59	(-1.28)	- 5.09	(-1.42)
Intangible (Tar)	1.48	(0.28)	1.09	(0.21)
M/B (Tar)	0.04	(0.41)	0.03	(0.31)
Ln (Mkt-Cap (Tar))	0.05	(0.07)	- 1.29	(-1.37)
Relative Size			5.25**	(2.10)
Number of mergers	344		344	
R^2	13.5%		14.7%	
Adjusted R^2	5.2%		6.2%	

7. SENSITIVITY ANALYSIS

7.1 Return Calculation Sensitivity Analysis

For those readers interested in comparing my results to previous research, Table 10 (Panel A) reports the CMAR's (cumulative market adjusted returns) and CAR's (cumulative abnormal returns) of the acquiring firms for two event windows. In general, the magnitude of the abnormal returns earned by acquiring- and target-firm shareholders are similar to those found in previous research.

Columns 1 and 2 reflect an 11-day event window, and Columns 3 and 4 reflect a 31-day event window. Holding the event window constant, there is not a significant difference between the CMAR's and the CAR's. However there is a difference between the results for the 11-day event window [-5, +5] and the 31-day event window [-25, +5].

Table 10 (Panel B) reports the same return calculations for targets. Again, there is not a significant difference between the returns calculations given a particular event window, but there is a difference between the return measures across the two event windows. The returns are larger for the longer time interval.

Table 10 (Panel C) shows the acquiring- and target-firm pre-merger, market capitalizations. The mean acquirer size is $7.983 billion at day t = -6 and $7.757 billion at day t = -26. The mean target size is $1.171 billion and $1.226 billion at day t = -6 and t = -26, respectively.

Table 10. Return Calculation Sensitivity Analysis

The table reports statistics that show the calculations of returns used in the analysis. Panel A reports the results for the sample of acquirer firms while Panel B shows the statistics for target firms. There are 705 acquirer and target observations. CMAR is the cumulative market-adjusted return. CAR is the cumulative abnormal return. Column [1] shows the CMAR [-5, +5] around the announcement date of the merger (t=0). Column [2] reports the CAR [-5, +5] at the announcement date. Columns [3] and [4] report CMAR and CAR statistics for the longer event window [-25, +5]. Panel C reports the market capitalization of acquirers and targets measured before the merger announcement.

		(1)	(2)	(3)	(4)
Panel A	Acquirer	**[-5, +5]**		**[-25, +5]**	
		CMAR11acq	*CAR11acq*	*CMAR31acq*	*CAR11acq*
	Mean	-0.01191	-0.00933	0.00994	0.01355
	Terciles	-0.07662	-0.06744	-0.09827	-0.07881
		-0.01020	-0.00466	-0.00367	0.00733
		0.04786	0.05028	0.09216	0.09980
Panel B:	Target				
		[-5, +5]		**[-25, +5]**	
		CMAR11tar	*CAR11tar*	*CMAR11tar*	*CAR11tar*
	Mean	0.24715	0.23090	0.29485	0.28316
	Terciles	0.06117	0.07204	0.06746	0.10076
		0.20855	0.20395	0.24025	0.25487
		0.38958	0.35631	0.43261	0.42266

Panel C: Market-Capitalization

	Acquirer		Target	
	[t-6]	[t-26]	[t-6]	[t-26]
Mean	$ 7,983,074.56	$ 7,757,552.15	$ 1,171,984.71	$ 1,126,116.59
Terciles	$ 467,829.88	$ 453,052.36	$ 68,716.47	$ 62,937.65
	$ 1,575,552.75	$ 1,548,935.34	$ 220,011.00	$ 217,353.50
	$ 5,043,294.53	$ 5,306,902.99	$ 712,950.53	$ 706,896.68

(Dollars in Thousands)

7.2 Sensitivity Analysis for Wealth Creation ($Gain_i$)

Table 11 compares the values of $Gain_i$ and $Gain\%_i$ for different event windows. Column 1 shows the mean value of each variable based on the event windows examined by this study: ΔMAV_{acq} [-5, +5] and ΔMAV_{tar} [-25, +5]. The average $Gain_i$ is equal to $71.4 million (Panel A), and the average $Gain\%_i$ is 3.0% (Panel C). Columns 2 and 3 show the mean values of each variable based on symmetrical windows (either an 11-day or a 31-day period).

When I compare the results in Columns 1 with the results in Column 3, I find that the average $Gain_i$ increases from $71.4 million to $313.4 million. The percentage increase appears large, but the increase is relatively small when compared to the average pre-merger, market capitalizations of the merging firms (about $14.0 billion) (see Table 11, Panel B). Panel C reports $Gain_i\%$ for the three windows. $Gain_i\%$ *[-5. +5]* is the smallest at 2.51%.

Which time period is correct? The advantage of using a longer event window (i.e., a 31-day period) is that the researcher is more likely to capture the entire wealth effect caused by the event. For example, previous research indicates that target-firm stock prices typically experience a price run-up that begins about 25 days before the acquiring-firm's initial offer. Thus, the use of an 11-day window for the target firms arguably would understate $Gain_i$. On the other hand, the advantage of using a shorter window (i.e., an 11-day event window) is that the researcher is less likely to attribute the wealth effects of other events to the merger announcement. Thus, the use of a 31-day window for the acquiring-firms arguably would add *noise* to the measure of $Gain_i$.

Table 11: Event-Window Sensitivity Analysis

This table reports summary statistics of wealth effects for different event windows. Panel A shows the results for the total combined change in dollar value, $Gain_i$, *which is the* ΔMAV_{acq} and ΔMAV_{tar}. ΔMAV_{acq} *is the acquirer's* $CMAR_i$ (market-adjusted return) multiplied by the pre-merger market value of equity. ΔMAV_{tar}. *is the target's* $CMAR_i$ (market-adjusted return) multiplied by the pre-merger market value of equity. Panel B shows the pre-merger, combined market value of equity. Panel C reports the $Gain\%_i$, which is the combined change in market value for both the acquirer and target shareholders. The sample size is 705 mergers.

	(1)	(2)	(3)
Acquirer	**[-5, +5]**	**[-5, +5]**	**[-25, +5]**
Target	**[-25, +5]**	**[-5, +5]**	**[-25, +5]**
Panel A: **Combined Change Value**			
$\Delta MAV_{acq} + \Delta MAV_{tar}$	$Gain_i$	$Gain_{i[-5,+5]}$	$Gain_{i[-25,+5]}$
Mean	$71,397.15	-$38,290.50	$313,351.33
Terciles	-$72,113.10	-$68,842.18	-$111,346.39
	$31,768.68	$28,644.57	$42,359.27
	$304,979.12	$302,517.90	$401,158.21
Panel B: **Total M.V. of Equity**			
$MV_{acq} + MV_{tar}$	$MVeqty$	$MVeqty_{(t-6)}$	$MVeqty_{(t-26)}$
Mean	$14,275,459.22	$14,261,830.24	$13,946,957.43
Terciles	$847,962.50	$832,132.48	$826,881.44
	$2,793,873.88	$2,811,887.55	$2,717,908.70
	$10,707,608.89	$10,648,384.24	$10,264,641.22
Panel C: **Percentage Gain**			
$Gain_i / MVeqty$	$Gain\%$	$Gain\%_{[-5,+5]}$	$Gain\%_{[-25,+5]}$
Mean	3.025%	2.510%	4.943%
Terciles	-3.595%	-3.929%	-4.841%
	2.738%	1.998%	3.352%
	9.338%	8.501%	12.964%

(Dollars in Thousands)

I prefer to use an 11-day window for the acquiring firms, and a 31-day window for the targets, for two related reasons. First, previous research indicates that merger announcements typically have a large, positive impact on the target-firm's stock price. My study reports target-firm CAR's of approximately 24% to 30% (Table 10). However, there are relatively few events (besides corporate takeover announcements) that systematically have wealth effects of this magnitude. As a result, including the wealth effects from contaminating events is less of a concern when measuring the impact of a merger announcement on target-firm shareholder wealth. On the other hand, previous research indicates that merger announcements typically have a relatively small impact on acquiring-firms' stock returns. My study reports CAR's of approximately -1% to +1%. Clearly, there are many events that have wealth effects of this magnitude. As a result, the presence of contaminating events is a more serious concern when measuring the change in acquiring-firm shareholder wealth.

7.3 Cut-Off Sensitivity Analysis

Table 12 shows the change in the number of value-increasing mergers as the cutoff changes from 3% to 5%. If the cutoff is 3%, then I would classify 321 mergers (or 45.5% of the total 705 mergers examined by my study) as value-increasing. If the cutoff is 5%, then I would classify 37.7% as value-increasing. Although the choice of the cutoff admittedly is subjective, the 4% cutoff seems to strike the right balance between 1) providing separation between the value-increasing and value-decreasing merger outcomes, and 2) providing a sufficient number of value-increasing mergers so that I can study bargaining power (which is the focus of Essay #2).

Table 12. Cut-Off Sensitivity

This table shows how the number of value-increasing, neutral, and value-decreasing mergers varies with different cutoffs. For example, the number of value-increasing mergers declines from 312 mergers to 266 mergers when I change the cutoff for Gain% from 4% to 5%. *Gain%* is the combined change in the pre-merger, market capitalization of the acquiring and target firms. Note that the sample of value-increasing mergers increases (decreases) as the cutoff for value-increasing mergers decreases (increases).

5% Cutoff		N	Percent
Gain% > 5%	Value Increase	266	37.7%
5% > Gain% > -5%	Neutral	279	39.6%
Gain% < -5%	Value Decrease	160	22.7%
		705	100.0%
4% Cutoff			
Gain% > 4%	Value Increase	312	44.3%
4% > Gain% > -4%	Neutral	183	26.0%
Gain% < -4%	Value decrease	210	29.8%
		705	100.0%
3% Cutoff			
Gain% > 3%	Value Increase	321	45.5%
.03 > Gain% > -3%	Neutral	186	26.4%
Gain% < -3%	Value decrease	198	28.1%
		705	100.0%

7.4 The Calculation of Auction Returns

Readers should recognize that the merger announcement date listed in the SDC database generally does not coincide with the date an auction begins. As a result, I analyze the change in the wealth of target-firm shareholders (ΔMAV_t) for different time periods beginning with auction initiation and ending at the merger announcement date.[7]

Figure 1 illustrates the typical auction process and defines the sub-periods. Table 13 presents the results for each sub-period and the total auction period. The mean change in market value during at the *engagement* of the financial advisor, $\Delta MAV^T(t\text{-}3)$, is -$8.4 million. During the *contact* period, $\Delta MAV^T(t\text{-}2, t\text{-}1)$, when the financial advisor or representatives of the target are contacting potential acquirers, the mean change in wealth is $4.9 million. Thus, the average wealth effect for both the engagement and contact periods is $-3.5 million. At the announcement of the merger, the average change in target market value, $\Delta MAV^T(t=0)$, is $28.2 million. The net change in market value represents the combined change in market value for the engagement, contact period, and merger announcement. The mean $\Delta MAV^T(net)$ is positive, but lower than the $\Delta MAV^T(t=0)$ calculated exclusively at the announcement of the merger (t=0). Based on my findings in Table 13, I conclude that the merger announcement date captures most of the increase in target-firm shareholder wealth when managers initiate auctions. Appendix D describes the auction process in greater detail.

[7] Dollar Gains for Target firms: ΔMAV_t = (Mkt-Adj. Returns) x (Pre-Merger Market-Cap)

8. CONCLUSIONS

What role (if any) do the acquiring-firm's strategic objective and the managers' choice of negotiation procedure play in determining wealth creation at the merger announcement date? I answer this question by analyzing the change in the combined wealth of acquiring- and target-firm shareholders, and I identify five mutually-exclusive outcomes based on wealth creation and distribution. Finally, I test the determinants of valuing-increasing mergers.

The results of my study provide support for the *strategic alignment* hypothesis, particularly as it applies to mergers that expand the acquiring-firm's operations geographically. Geographic expansions create the largest combined gain even after I control for the payment method (cash, stock, or mixed). However, the relative importance of the other strategic objectives declines once I control for the payment method.

The results also support the targeted-synergistic-merger hypothesis. Mergers that begin with one-on-one negotiations (either acquirer-to-target or target-to-acquirer) create larger increases in the combined wealth of the merging firms' shareholders than mergers that begin with formal auctions, mutual discussions, or third-party offers.

After examining the determinants of wealth creation in mergers, the second key issue is to examine how the managers distribute the combined gain. As a result, the ensuing analysis examines the determinants of wealth distribution in a multivariate setting. I address several key questions including: How do deal motivations affect the relative bargaining power of acquiring- and target-firm managers? What role does the relative bargaining power of the acquiring- and

target-firms' managers play in determining the negotiation procedure? Which strategic objectives, negotiation procedures and deal motivations are most favorable for acquiring-firm shareholders?

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LIST OF APPENDICES

APPENDIX A: AUCTION PROCESS

Figure 1: Auction Process

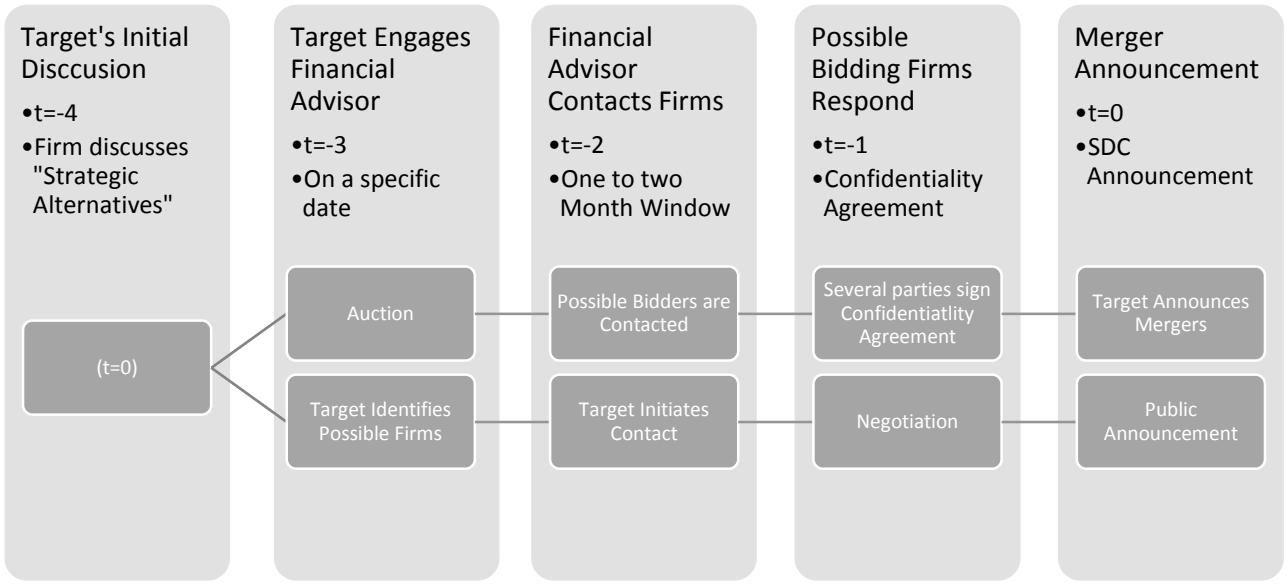

Table 13.

Auction Periods

	Engagement $\Delta MAV^{T}_{(t-3)}$	Contact Period $\Delta MAV^{T}_{(t-2,t-1)}$	Total Auction $\Delta MAV^{T}_{(t-3,\ t-1)}$	Announcement $\Delta MAV^{T}_{(t=0)}$	Net MAV $\Delta MAV^{T}_{(t-3,t=0)}$
Mean	-8.398	4.932	-3.466	28.201	24.735
Std. Deviation	32.108	45.175	54.751	120.308	126.442
Minimum	-104.258	-113.624	-115.851	-94.108	-126.762
Maximum	55.860	196.023	236.053	697.497	719.442

Appendix A. Auction Analysis

Information Flow in Auctions

I provide a chronological account of information flow that identifies more granular timing in the auction process. Boone and Mulherin (2007) identify the *initiation event* (target contacts investment bank), *rumor date*, *agreement date*, and *completion date*. However, they do not actually begin calculations at the time of the *initiation event*. Despite disclosure guidelines and confidentiality agreements, the early stages of an auction are a vital period of information exposure for the target firm. Consequently, it is imperative that this period is considered in analysis of wealth effects for target shareholders. Figure 1 provides a graphical representation of different intervals in the auction process.[8]

[Insert Figure 1 Here]

(t = -4, t=-3) *Engagement* Period: In the *engagement* period, the target begins discussing strategic issues and decides to pursue possible strategic relation.

$$Auction\ (t=-4,-3)\colon \Delta MAV_i^T = \left[\prod_{-25\ days}^{+5\ days}(1+R_{it}) - \prod_{-25\ days}^{+5\ days}(1+R_{mt})\right]\ (P_{it=-26})(NS_{it=-26})$$

The initial period, defined as (t-4), represents the initial discussion by target firm managers disclosed in the SEC filings. The time in which the target engages a financial advisor is defined as (t-3). Recall that Boone and Mulherin (2007) define *initiation* as the time when the target

[8]Table 11 (*Auction-ΔMAV*^{T}) illustrates the difference in the market value of the target-firm throughout the different time periods. The net ΔMAV^T is on average lower higher and there are considerable differences in the wealth effects measured when among the different time periods.

contacts a financial advisor. However, there is a distinction between contacting an advisor and a formal engagement with an advisor, particularly in regards to the timing.

(t = -2, t = -1) *Contact* Period: The *contact* period encompasses a window, usually one to two months, in which the designated financial advisor contacts a number of possible acquiring-firms or bidders. The equation below reflects the entire window of engagement.

$$Auction(t=-2,-1)\colon \Delta MAV_i^T = \left[\prod_{-5\ days}^{+5\ days}(1+R_{it}) - \prod_{-5\ days}^{+5\ days}(1+R_{mt})\right] \quad (P_{it=-5})(NS_{it=-5})$$

where t=-5 is five days before the window identified in the SEC filing and +5 is five days after the window. In other words, if the SEC filing identifies a two month window of the contact period, I account for the time before and after the window. This adjustment is made to the *contact* period calculation because the *engagement* window routinely coincides with the beginning of *contact* period.

(t=0) *Announcement* Period: The *announcement* period is in-line with the original announcement date.

$$Announcement\ (t=0)\colon \Delta MAV_i^T = \left[\prod_{-25\ days}^{+5\ days}(1+R_{it}) - \prod_{-25\ days}^{+5\ days}(1+R_{mt})\right] \quad (P_{it=-26})(NS_{it=-26})$$

Examples of Bidding Auctions:

Whereas there are differences in the timing of auctions and the corresponding flow of information, there are also differences among the level of competition. The following three examples provide insight into the number of potential bidders involved in the typical auction process. Although the purpose of this paper is not to disprove the validity of the SDC data base, it is worth noting that our use of the SEC filings allows us to paint a clearer picture of the nature

of the bidding process, particularly in regards to the number of parties involved and the exact timing of the events.[9] One way to quantify the level of competition is to identify the number of parties contacted and number of parties that express interest or sign a letter of confidentiality.

The following three examples provide insight into the various levels of competition in auctions. In a relatively small auction in 2006, Trimble Navigation Ltd acquired @Road (at Road) following an auction. Initially, there were twelve potential acquirers contacted and four parties signed letters of confidentiality. As a result of a large scale auction 2007, Forest Oil Corp. acquired Houston Exploration Co. The financial advisor Houston Exploration Co. contacted 81 potential acquirers. Twenty of those parties expressed an interest and eighteen actually attended meetings. In the final example, involving Pogo and Plains Exploration, the financial advisor initially contacted 42 companies. According to the background of the merger, three companies denoted as Company A, B, and C, all made formal. However, the SDC database reports two bidders.

[9] In the Boone and Mulherin (2007) example of competition in an Auction, 65 potential bidders are contacted by the financial advisor and 28 sign confidentiality agreements.

APPENDIX B: PREDICTED SIGN

Appendix B: Strategic Objective Hypothesis Overview

Appendix: Wealth Creation	**Sign**	**Prior Literature**
Combined Wealth: %Gain		
Diversification with Overlap	(-)	Walker (2000);
Diversification w/out Overlap	(-)	Morck, Shleifer, & Vishny (1990)
Vertical Integration	(+)	Ahren (2012)
Increase Market Share	(+)	DeLong (2001)
Geographic Expansion	(+/-)	DeLong (2001)
Broaden Product Line	(-)	Santalo and Becereea (2008)

Appendix B:	**Negotiating Process and predicted sign based on prior literature.**	
%Gain	**Sign**	
Target ->Acquirer		Boone and Mulherin (2007): if the information costs hypothesis holds, there should not be a difference between the wealth effects of auctions and negotiations.
Target Auction	(+)	Bulow and Klemperer (1996): target returns will be greater in an auction than in a negotiation.
Acquirer ->Target		
Mutual Discussion	(+)	Synergistic Theory predicts that there will be an increase in wealth when firms have a pre-existing relation.
Third-Party	(+)	Bradley, Desai, and Kim (1988): the combined wealth of the post-merger firm will be higher in the presence of multiple bidders.
Acquirer%	**Sign**	**Literature**
Acquirer ->Target	(+)	Magee, Galinsky, and Gruenfeld (2007): parties with power tend to behave more proactively in competitive situations.
Target ->Acquirer	(-)	Magee, Galinsky, and Gruenfeld (2007): parties with power tend to behave more proactively in competitive situations.
Target Auction	(-)	Bulow and Klemperer (1996): target returns will be greater in an auction than in a negotiation. Hansen (2001) uses a model that encompasses a potential loss of information by the selling firm which predicts that in the presence of information costs, auctions are more costly than negotiated deals.
Mutual Discussion	(+/-)	
Third-Party	(-)	Bradley, Desai, and Kim (1988): targets will gain the “lions share” of wealth creation in the presence of multiple bidders.

APPENDIX C: NEGOTIATION PROCESSES

Appendix C (Negotiation Processes):

Target-to-Acquirer: Mission Critical Software (Target) contacts NetIQ Corp. (Acquirer) in 2000

BACKGROUND OF THE MERGER

In late 1999, MCS management began considering opportunities to further develop its product lines through acquisitions of or investments in products, technologies and businesses. In connection with this activity, on December 7, 1999, MCS engaged Chase H&Q to act as its financial advisor for selected business development opportunities.

On December 15, 1999, a representative of Chase H&Q telephoned Ching-Fa Hwang, President and Chief Executive Officer of NetIQ and expressed an interest in discussing potential business development opportunities between MCS and NetIQ, including a possible merger of the two companies. Mr. Hwang expressed interest in further discussions regarding potential business development activities with MCS.

Michael Bennett, President and Chief Executive Officer of MCS, telephoned Mr. Hwang during the first week of January 2000 and the two CEOs decided to meet in Phoenix, Arizona the following week.

Acquirer-to-Target: Veeco (Acquirer) initiates discussion with the CVC (Target) 2000

BACKGROUND OF THE MERGER

From time to time, Veeco has conducted preliminary discussions with numerous merger and acquisition candidates who primarily manufacture high precision process test and measurement equipment for the microelectronics industry. Before January 2000, Edward H. Braun, Chairman, Chief Executive Officer and President of Veeco, and Christine B. Whitman, Chairman, Chief Executive Officer and President of CVC, were familiar with one another and had come into contact with one another at industry trade shows, various conventions and in various other circumstances.

From time to time on several occasions over the past several years, Mr. Braun and Ms. Whitman had discussed the possibility of a business combination or strategic relationship involving Veeco and CVC, however, on each occasion, these discussions were terminated and did not result in any further actions relating to any such business combination or strategic relationship. Also, from time to time over the past several years, industry analysts and other persons familiar with the industry in which Veeco and CVC operate have independently suggested to Veeco and CVC that a business combination or other strategic relationship between Veeco and CVC would be viewed favorably by customers and the investment community.

On January 21, 2000, Mr. Braun called Ms. Whitman to congratulate her on CVC's public offering and the completion of CVC's first quarter as a public company. On January 24, 2000, Mr. Braun and Ms. Whitman spoke by telephone and exchanged general information about Veeco's and CVC's businesses. Mr. Braun suggested the possibility of a business combination involving Veeco and CVC. Ms. Whitman invited Mr. Braun to come to Rochester (the home of CVC's headquarters) to discuss in greater detail the possibility of a merger or other business combination transaction involving Veeco and CVC.

Mutual Discussion: Quintus and Mustang.com have mutual discussion

BACKGROUND OF THE MERGER

On January 13, 2000, Quintus' Chairman and Chief Executive Officer, Alan K. Anderson and Mustang.com's President and Chief Executive Officer, James A. Harrer, had a telephonic conversation regarding the possibility of a business combination and agreed to meet in person on January 20, 2000.

On January 20, 2000, Messrs. Anderson and Harrer met at the Los Angeles office of Mustang.com to discuss a potential merger of the two companies and to determine a preliminary valuation. Messrs. Anderson and Harrer had a general discussion regarding valuation and agreed to continue discussions.

At a regular meeting of the board of directors of Quintus on January 27, 2000, the board discussed general strategic matters, including the possibility of a merger with Mustang.com.

On January 28, 2000, the parties executed a confidentiality agreement pursuant to which the companies agreed to exchange certain non-public information regarding their businesses. Also on that date, Mr. Harrer visited Quintus' corporate headquarters to meet other senior executives of Quintus. Over the next few days, Mustang.com and Quintus met with their financial advisors to discuss issues that would need to be addressed in a merger transaction.

Auctions:

Large Auction: Houston Exploration Co. (Target) initiates an auction in 2007, Forest Oil Corp. (Acquirer)

Background of the Merger

On October 25, 2005, in light of market conditions and recent industry activity, Houston Exploration's board of directors met to consider, among other things, a possible corporate restructuring

designed to refocus and reposition Houston Exploration for sustainable growth and maximize stockholder value. Such restructuring contemplated, among other things, a sale of some or all of Houston Exploration's Gulf of Mexico assets, a restructuring of Houston Exploration's existing hedge portfolio to improve cash flow and/or repurchases of up to $200 million of Houston Exploration's common stock. The board instructed management to develop further the restructuring proposal.

On November 4, 2005, Houston Exploration's board received additional input from management on the corporate restructuring proposal and decided to proceed with initial steps designed to restructure Houston Exploration's business. Specifically, the board authorized Houston Exploration's management to commence a sale process with respect to Houston Exploration's Gulf of Mexico assets and to retain Wachovia Capital Markets, LLC ("Wachovia") to act as Houston Exploration's financial advisor in connection with such sale. The board also approved a discretionary common stock repurchase program of up to $200 million to be executed in connection with such sale. Based on the recommendation of management, the board determined not to authorize a restructuring of Houston Exploration's hedge program at that time.

In November 2005, Houston Exploration retained Wachovia to assist it with the sale of its Gulf of Mexico assets, and a formal sale process commenced soon thereafter. Between November 2005 and January 2006, Wachovia contacted a total of 81 potential acquirors of Houston Exploration's offshore assets. Twenty of these parties entered into confidentiality agreements with respect to the process. In January and February 2006, 18 parties attended management presentations with respect to the assets. Bids were due on February 10, 2006.

Small Auction: Washington Homes (Target) and Hovnanian Enterprises (Acquirer) in 2001

BACKGROUND OF THE TRANSACTION

For some time, the management of Washington Homes was disappointed by the fact that, despite what it viewed as strong financial performance, the price to earnings multiple at which the Washington Home's stock traded in the market was significantly below that at which the stocks of other publicly-held companies, outside of the homebuilding industry, traded. Management was also aware of the fact that publicly-held companies which are in the small and micro cap categories in the homebuilding industry, such as Washington Homes, traded at even lower multiples than publicly-held companies in the medium cap and large cap categories in that industry. Accordingly, while the management of Washington Homes was not yet ready to recommend to its board of directors that a

formal process for the sale of Washington Homes be initiated, management, with the concurrence of the board, decided to explore various possible alternatives to enhance shareholder value.

In the Fall of 1998, Washington Homes retained Wasserstein Perella & Co., Inc., which we refer to in this document as "Wasserstein Perella," on an exclusive basis, as financial advisor to explore various possible financial and strategic alternatives that might be available in order to enhance the value of the common stock of Washington Homes. Subsequently, Wasserstein Perella conducted a thorough analysis of Washington Homes and its position in the homebuilding industry and discussed with management various strategic alternatives, including the sale of Washington Homes to strategic buyers in the homebuilding industry, share repurchase programs, dutch auction procedures, a going private transaction, acquisition of a smaller homebuilder and other strategic alliances. After being approached by several companies, informal discussions regarding a possible sale of Washington Homes were held during 1999. No formal process for the sale of Washington Homes was authorized or initiated, and no formal discussions pertaining to the sale of Washington Homes were held with any prospective purchasers during that period.

In April 2000, management of Washington Homes, still disappointed by the price levels at which its stock traded despite record results, revised its arrangements with Wasserstein Perella to act as its financial advisor with respect to a possible strategic transaction which would lead to the merger of Washington Homes with, or its acquisition by, one of a short list of approximately a half-dozen strategic candidates in the U.S. homebuilding industry, including Hovnanian, which had been identified by management of Washington Homes, in consultation with Wasserstein Perella, as being a good strategic fit for Washington Homes. Wasserstein Perella was retained to act as exclusive agent to attempt to arrange the sale of Washington Homes. Wasserstein Perella had advised Washington Homes that the most effective way to initiate serious discussions with prospective purchasers pertaining to a strategic transaction would be to make formal overtures to a limited number of prospective buyers as part of a formal process. Washington Homes, while it was willing to use a formal process as a means of determining whether a transaction with identified strategic buyers or merger partners was likely, did not want to put a formal "for sale" sign on Washington Homes because of concerns about the impact on and related risks regarding its employees, customers and suppliers. Accordingly, in its role as financial advisor to Washington Homes, Wasserstein Perella established a process whereby indications of interest to acquire Washington Homes, and ultimately, formal acquisition proposals, were sought from the approximately half-dozen strategic buyers which had been previously identified.

At management's request, Wasserstein Perella contacted six potential acquirors, including Hovnanian, to determine their interest in Washington Homes. During the first week of June 2000, five of the six potential acquirors, including Hovnanian, entered into confidentiality agreements and received a confidential information memorandum describing the business and operations of Washington Homes. Shortly thereafter, each of the prospective acquirors which had signed a confidentiality agreement received a letter from Wasserstein Perella explaining the procedures for the forthcoming process pertaining to a possible transaction involving Washington Homes. Each was requested to provide a list of dates over the next two week period on which its representatives would be available to attend a presentation by the management of Washington Homes. Each was also advised in that letter that following the presentations by the management of Washington Homes, Wasserstein Perella would request from each of them a non-binding indication of interest that included the following information: (a) an indication of the value and the form of consideration relating to the proposed transaction and (b) a list of significant issues and assumptions that might affect the prospective acquiror's level of interest, including the future role of current management of Washington Homes following the consummation of any transaction. In addition, the letter stated that, upon receiving the indications of interest, Washington Homes would select a limited number of interested parties to visit a data room and pursue further due diligence leading to the submission of a definitive offer.

Each letter further advised that qualified parties as determined by Washington Homes would be provided with a form of purchase agreement specifying the terms upon which Washington Homes would be willing to enter into a transaction. In addition, each qualified prospective purchaser would be asked to submit a written proposal that would specify the amount and form of consideration and include the purchase agreement marked to show changes from the form provided.

Of the five prospective acquirors, four, including Hovnanian, held discussions with the management of Washington Homes during the last week of June and the first week of July. On July 5 and 6, 2000, each of the four prospective acquirors which had held discussions with the management of Washington Homes submitted confidential written, non-binding indications of interest to acquire Washington Homes. The non-binding indications of interest from the four prospective acquirors offered consideration consisting of stock or a mix of cash and stock with values denominated by the respective bidders at prices ranging from approximately $7.25 to $9.00 per share for Washington Homes common stock, as well as certain other terms and conditions.

Based upon a review of those non-binding indications of interest, three, including Hovnanian, of the prospective acquirors were offered access to a data room containing public and non-public information pertaining to Washington Homes which had been set up at the Washington, D.C. offices of Duane, Morris & Heckscher LLP, counsel to Washington Homes, at its offices in Washington, D.C., commencing in mid-July. All three of the prospective acquirors availed themselves of the opportunity to review the materials in the data room during the third and fourth weeks of July and, in addition, two of the prospective bidders, including Hovnanian, requested and received a tour of the operations of Washington Homes in Maryland and Virginia.

ESSAY 2: DO NEGOTIATING PROCEDURE AND DEAL MOTIVATIONS DRIVE BARGAINING POWER IN MERGERS?

1. INTRODUCTION

In this paper I examine the role that negotiating procedure and deal motivations play in determining the distribution of wealth created by merger announcements. Studies historically have explained the division of merger gains by examining determinants such as relative firm size (Moeller, Schlingeman, and Stulz, 2002), ownership (Stulz, Walkling, and Song, 1990), the number of bidders (Bradley, Desai, and Kim, 1988), and product market dependence (Ahren, 2012).[10] However, there are inherent limitations to using these proxies to analyze bargaining power. For instance, Boone and Mulherin (2008) argue that the number of bidders is a noisy and incomplete measure of competition. To address this issue, I propose two observable proxies of bargaining power: the negotiating procedure that takes place between the firms and the deal motivations that the managers of each firm disclose to their respective shareholders. My approach allows for a more comprehensive and meticulous analysis of bargaining power than previous research.

I also examine the determinants of the negotiation process by simultaneously addressing the target's sales procedure and the acquirer's bidding strategy. Theoretical models of the target's sales procedure predict that the choice of an auction or a negotiation reflects a trade-off between competition and information costs (Hansen, 2001); or, the impact of characteristics such as target size, industry structure, and affiliation with the bidding firm (French and McCormick, 1984).

[10]Relatively few studies examine the bargaining power of acquiring- and target-firm managers. One exception is Peterson and Peterson (1991), who hypothesize that acquirers receive more of the gain 1) following tender offers rather than mergers, and 2) following tender offers when the target-firm shareholders are more diffuse.

Bidding theory implies that the premium paid for the target is directly related to the acquirer's bidding strategy (e.g. Betton and Eckbo, 2000). Despite the abundance of literature about either sales procedure or bidding strategy, relatively few studies have empirically analyzed both sales procedure and contact initiation simultaneously. In this paper, I identify the party who initiates contact in one-on-one negotiations. I also introduce a previously unidentified form of controlled sale, which I refer to as mutual discussion. In the case of auctions, I analyze the complete progression of information flow and the ensuing wealth effects.

The details provided by the respective firm managers in Securities and Exchange Commission (SEC) EDGAR filings provide a thorough description of the merger process.[11] I am particularly interested in the standard 'merger background' section of the S-4 and DEFM filings. Given the fiduciary responsibility of managers of publicly traded firms, the filings provide reliable details about many facets of the deal. A thorough chronology of the negotiating procedure is provided, along with relevant information about competition from other bidders and the role of third-parties. Additionally, the executives of each firm provide reasons for the merger as a form of persuasion for shareholder votes and justification to board members. The publicly available information allows me to use the managers' wording to categorize deal motivations as opposed to pre-specified categories. This novel approach allows me to closely align this study with the actual reasoning behind executive decisions.

I find evidence that the underlying motivations for a deal do play a significant role in determining the negotiating procedure. For example, target-firm managers are more likely to use an auction when their firm is experiencing financial problems, and they are more likely to use a

[11]Various studies note the insightfulness of SEC filings. For instance, Boone and Mulherin (2007) use the merger background section of the SEC filings to classify the selling procedure as a negotiation or an auction. I also use the filings to evaluate the negotiation process.

one-on-one negotiation (which I refer to as target-to-acquirer) when merging for marketing or operating reasons. I also find support for the *information cost hypothesis*, which states that targets are less likely to initiate an auction when there are potential costs associated with the release of proprietary information. In particular, target-firm managers who cite a desire to either gain technological expertise, or enhance product development, are less likely to initiate an auction. On the other hand, acquiring-firm managers are less likely to initiate contact (which I refer to as acquirer-to-target) when they cite expanding the customer base or acquiring the target-firm's technological expertise as motivations. Mergers that begin with mutual discussions between the acquiring- and target-firm managers generally occur when the firms' managers have an existing business relationship.

My results also support the *bargaining power hypothesis*, which states that acquiring- and target-firm managers with more negotiating leverage tend to capture more wealth for their firm's shareholders. The results are consistent with Shalvi, Moran, and Ritov (2010), who find that negotiation outcomes often depend on the manager's locus of control. I find that a manager who cites financial weakness or distress as a deal motivation (i.e., an indicator of an externally-oriented manager) has relatively less bargaining power than an internally-oriented manager (i.e., a manager who perceives more control over his or her destiny). I also find that acquiring-firm managers lose bargaining power when they cite a desire to increase shareholder liquidity or improve their firm's access to capital. On the other hand, target-firm managers capture more wealth in operationally-motivated mergers, specifically those driven by a desire to gain manufacturing expertise. I also find that the winning bidder in auctions generally captures a significant portion of the wealth in value-increasing mergers. Consistent with Stulz, Walking and Song (1990), I find that an increase in the relative size of the target to the acquirer increases the target's bargaining power. Finally, my

findings support Bradley, Desai, and Kim (1988), who find that an increase in the number of bidders significantly decreases the acquirer's ability to capture wealth.

The remainder of this paper is organized as follows: Section 2 provides an overview of the relevant literature. Section 3 discusses the bargaining power hypothesis with predictions regarding the impact of specific deal motivations. Section 4 explains the sample selection and methodology. Section 5 discusses the empirical results and section 6 discusses the conclusions.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Negotiating Procedure and Deal Motivations:

Several theoretical models and empirical studies seek to explain the topic of negotiation in mergers. The majority of relevant theoretical predictions address either the target's choice of selling procedure or the acquirer's bidding strategy. In regards to selling procedures, Bulow and Klemperer (1996) predict that target returns will be greater in an auction with many bidders compared to a negotiation with a single bidder. French and McCormick (1984) and Hansen (2001) predict that target returns will be the same in auctions and negotiations. In regards to the decision to initiate contact in a merger, Masulis and Simsir (2015) find that large, liquid, and high return on equity acquirers initiate deals more frequently. On the other hand, small targets are more likely to initiate contact than larger targets. Nonetheless, competition also plays a major role in the bidding processes. For instance, Betton and Eckbo (2000) predict that toeholds are less likely to receive competition from third-party bidders or be challenged by target managers. Aktas, de Bodt, and Roll (2010) suggest that an increase in the number of N-1 rivals increases the initial offer premium. By analyzing five mutually exclusive negotiating procedures, I am able to simultaneously test theoretical predictions from both streams of literature.

2.1.1 Target Selling Process

Theoretical models on the part of the target selling procedure focus on the choice between an auction and negotiation. French and McCormick (1984) predict that the target-firm shareholders can reach higher immediate returns in the case of an auction. Bulow and Klemperer

(1996) model an English Auction, where the seller is always better off having one more bidder than engaging in a bargaining process with the winning bidder. Bulow and Klemperer suggest that the decision not to use an auction is potentially harmful to target shareholders. The model of Hansen (2001), on the other hand, incorporates the potential loss of information by the selling firm in auctions. Hansen argues that there is a competitive information cost for targets that use an auction, because the target risks the release valuable information to other bidders in the process.

The term target-initiated deal is used in this study to refer to a merger in which the target-firm managers make a strategic decision to sell the company without prior contact by a bidding firm. Boone and Mulherin (2007) emphasize that targets increasingly initiate takeovers, and Aktas, de Bodt, and Roll (2009) suggest that target-initiated deals often begin as auctions.[12] Nonetheless, Aktas et al. (2009) conclude that auctions are costly and time-consuming. Boone and Mulherin (2007) consider both the agency cost hypothesis, which implies that auctions benefit target shareholders, and the information cost hypothesis, which suggests that auctions are costly. If the information costs outweigh the agency costs, then target-firm managers would be less likely to use an auction. Information costs could include the potential release of proprietary information (e.g., about the target-firm's technology or manufacturing expertise).

Fidrmuc, Roosenboom, Paap, and Teunissen (2012) show that premium determination is just one part of a wider and complex selling process that begins with deal initiation. They suggest that the manager's choice of selling mechanism is not random. For instance, more profitable firms with lower leverage are typically sold in auctions rather than in controlled sales or private negotiations. On the other hand, higher research and development intensity increases the odds of

[12]Boone and Mulherin (2007) hypothesize the following relation: controlled sale = f {affiliation (+), industry (+), target size (-)}.

a controlled sale. They also find that buyer initiated deals are most likely to be private negotiations. The agency and information cost hypotheses suggest:

> *H1 (Sales Procedure): When compared to Target-to-Acquirer negotiations, the likelihood of an Auction should be related inversely to the target firm's information costs.*

2.1.2 Initiation: Acquirer-to-Target versus Target-to-Acquirer

The decision to initiate contact in a merger is a major corporate decision. Undoubtedly, the choice reflects a variety of factors such as operating performance, financial stability, and growth potential. Aktas et al. (2009) argue that although bidder-initiated deals are most often negotiations, less than 25% of negotiated deals are initiated by the target. However, relatively few studies examine the factors that determine which party will initiate the negotiation.

Masulis and Simsir (2015) examine the choice to initiate contact in a merger and the implications for shareholders. They explain that the target in buyer initiated deals often represent an acquiring-firms optimal takeover candidate. In contrast, target initiated deals usually reflect a set of unfavorable circumstances for the target. Masulis and Simsir (2015) find that large buyer firms are more likely to initiate deals, while small target are more likely to put themselves up for sale. Masulis and Simsir (2015) also find that high return on equity increases an acquirer's likelihood of initiating contact.

Magee, Galinsky, and Gruenfeld (2007) hypothesize that people who experience more power tend to behave more proactively in competitive situations than people who experience less power. Power refers to the capacity to control one's own, and others', resources and outcomes. Those individuals with high power depend less on the resources of those with low power.

There are several reasons why acquiring-firm managers might initiate contact (i.e., acquirer-to-target). For example, if acquiring-firm managers want to gain access to the target

firm's technological expertise, there might be a significant advantage to initiating the process before other firms enter the competition. In the presence of proprietary information such as technological expertise, the information costs might include opportunity costs. Therefore, I posit that acquirers have an incentive to contact the target in the presence of information asymmetry.

H2 (Initiation): Acquirers are more likely to initiate contact when more information costs associated with the target.

2.2 Bargaining Power

Financial theory and previous empirical research identify at least six factors that can proxy for the bargaining power of acquiring- and target-firm managers: 1) firm-specific objectives, 2) the nature of the bidding process (i.e., identifying the party initiating the merger negotiations), 3) the presence of multiple bidders, 4) the composition of target-firm shareholder ownership, and 5) the target-firm manager's resistance (if any), and the relative sizes of the acquiring and target firms.[13] Agency cost explanations, such as the hubris hypothesis of Roll (1986), imply that takeovers neither create nor destroy value, but simply redistribute wealth from overbidding acquirers to target shareholders. In the presence of target management hostility, Schwert (2000) suggests that acquirers of public firms have lower cumulative abnormal returns. Stulz (1988) indicates that an acquirer with a greater toehold could have a stronger bargaining position. While it is not the focus of this study, previous support of the importance of a toehold requires me to account for ownership in analysis of wealth distribution.[14] Betton and Eckbo (2000) examine

[13] Betton, Eckbo, and Thorburn (2008) find that bidder gains increase with the offer premium and the target-firm's price run-up, suggesting that offer premiums could signal larger combined gains rather than the target-firm managers' bargaining power.

[14] Betton and Eckbo (2000) identify: the initial offer premium (Premium), the initial toehold (Toehold), and three dummy variables for zero toehold (zero-toe), cash as payment method (payment), and the presence of a negotiated pre-bid tender agreement (Negotiated).

bargaining power by examining the initial offer premium, the initial toehold, the method of payment, and the presence of a negotiated, pre-bid tender agreement.

Several studies of bargaining power focus on the number of bidders. Bradley et al. (1988) suggest that the total gains are larger in multiple-bidder acquisitions, but the target-firm shareholders generally receive most of the gain. However, they do not find evidence that the fraction of target shares purchased determines the distribution of the gain. On the other hand, Bulow and Klemperer (1996) predict that restricting the number of bidders in an auction process can be wealth increasing for target shareholders because an ongoing auction process can reveal confidential information.[15] While empirical studies such as Moeller, Schlingemann, and Stulz (2002) use the number of public bidders to classify the competitiveness of a takeover, Boone and Mulherin (2008) suggest that the number of bidders is a poor proxy of competition.[16]

Previous research indicates that firm size is an important determinant of bargaining power. Stulz, Walkling and Song (1990) suggest that relative firm size is correlated positively with bargaining power. Moeller, Schlingemann, and Stultz (2004) show that acquiring firms with larger relative size are more likely to over-pay. In his analysis of vertical mergers, Ahern (2012) finds that relatively large targets receive a greater portion of the gain.[17]

My study adds to this literature by examining how (if at all) the deal motivations cited by the acquiring- and target-firm managers affect bargaining power. I collect the deal motivations from the Securities and Exchange Commission (SEC) EDGAR database. The company filings provide a description of the merger process and the managers' motivations for completing the

[15] Hansen (2001) and French and McCormick (1984) conclude that target firms inevitably choose the number of bidders.
[16] Moeller, Schlingemann, and Stulz (2002) acknowledge that their measurement of takeover competitive does not account for the existence of private competition.
[17] Ahern (2012) indicates that absolute firm size is unrelated to the division of cumulative abnormal returns.

merger.[18] The managers' stated motivations provide direct insight about their reasons for engaging in the deal. While many of the deal motivations are symmetric (i.e. both firms cite the same or corresponding motivations), others are one-sided and subsequently have a more dramatic impact on the relative bargaining power. Appendix B lists the motivations examined by my study and shows the predicted sign of deal motivation coefficients.

2.2.1 Operating Motivations for Mergers

Operating motivations include cost savings, the desire to gain from the other firm's technological expertise, or the desire to add the other firm's managers to the acquiring-firm's management team. However, the motivations are neither mutually exclusive, not one-directional. For example, if the target-firm managers cite a desire to achieve *economies of scale* and the acquiring-firm managers cite *cost savings* as motivations, the deal could be advantageous to both parties.[19]

I hypothesize that some motivations, such as those related to expertise or exclusivity, often infer greater information cost and thus should have a greater impact on a manager's negotiating leverage. For example, Higgins and Rodriquez (2006) argue that acquirers in the pharmaceutical industry have greater bargaining power when the exclusivity and patent horizon of their own product portfolios and pipelines are strong. Similarly, if the acquiring-firm managers cite the *technological expertise* of the target firm as a deal motivation, then I expect the acquiring-firm managers will lose bargaining power.[20] Therefore,

[18]Various studies note the insightfulness of the SEC filings. For instance, Boone and Mulherin (2007) use the merger background section of the SEC filings to classify the selling procedure as a negotiation or an auction. I also use the filings to evaluate the negotiation process.

[19] Admittedly, the relative bargaining power also could depend on other characteristics, such as industry structure (Mitchell and Mulherin, 1996), regulation, and competition (Bradley et al., 1988).

[20] Google's acquisition of YouTube and a number of Facebook's acquisitions are notable examples.

H3 (Operating Motivations): The acquiring- and target-firm managers' relative bargaining power should depend on the type of operating motivations cited by each party.

2.2.2. Operating Motivations and Rational Over-Payment

Jovanovic and Rousseau (2001) believe that technological advancements often trigger merger activity in certain industries, particularly those characterized by rapid innovation and technological change. For example, an advance in computer software development could force firms to merge to keep pace with their competitors. If technology-driven mergers are time sensitive, then firms may find it in their best interest to pay excessively in order to ensure deal completion. This notion is especially relevant when the acquiring-firm's managers desire the target firm's expertise or unique product line. The target-firm's managers might possess considerable bargaining power in these cases.

Akdogu (2011) predicts that the acquiring-firm managers might knowingly over-bid for a target firm, particularly when losing the deal could have negative long-term implications for shareholder wealth. According to this view, the acquiring-firm managers do not want to risk losing the target firm to a competitor. Akdogu (2011) predicts that firms often rationally over-pay when purchasing a target's technological expertise.

Fidrmuc, Roosenboom, Paap, & Teunissen (2012) suggest that strategic buyers tend to value research and development expenses and intangible assets such as growth options. Empirically, Higgins and Rodriguez (2005) find that biopharmaceutical companies can successfully outsource R&D through acquisitions. Higgins and Rodriguez (2005) also note the difficulty in valuing intangible assets. Given the high growth opportunities for many smaller firms and the difficulty in quantifying their future cash-flows, it is reasonable to assume that the

managers of such firms could possess considerable bargaining power.[21] I hypothesize that acquirers are more likely to over-pay in the presence of information costs.

H4 (Rational Overpayment): Acquiring-firm managers are more likely to overpay for a target firm when the merger involves considerable information and opportunity costs.

2.2.3 Financial Motivations for Mergers

Lewellen (1971) was one of the first to address the financial benefits of merging firms. Lewellen discusses the coinsurance effect and the benefits of corporate diversification. The benefit of diversification stems from the reduction in cash flow volatility. Accordingly, the merging firms realize an increase in debt capacity which leads them to greater access to capital markets. Greater access to capital markets and an increase in shareholder liquidity are the two most frequently cited financial motivations cited by both acquirers and targets in this study.

Shalvi, Moran, and Ritov (2010) hypothesize that bargaining power is related to the negotiator's locus of control. Shalvi et al. (2010) predict that initial offers and final outcomes will exhibit stronger correlation when negotiators are externally-oriented. I hypothesize that managers who cite financial weakness or distress as a deal motivation are externally-oriented managers (i.e., they have less control over the firm's fate).

I test whether financial deal motivations serve as an indicator of an internally-oriented manager. For example, I expect the target-firm managers to lose bargaining power if they cite *severe financial trouble* as a deal motivation. Some deal motivations provide a mixed message. For example, a large number of target-firm managers cite *access to capital* as a deal motivation. Intuitively, the target-firm manager's need to access capital could reflect a loss of bargaining

[21] Moeller, Schlinemann, and Stulz (2007) suggest that acquirers with more uncertain growth prospects gain less in acquisitions.

power. However, the motivation also could reflect a rapidly-growing firm with substantial growth opportunities. In this case the acquiring-firm managers might be willing to pay a large premium to acquire the target firm.[22] Therefore, I differentiate between target-firm managers seeking access to capital to finance growth opportunities and managers that seek capital as a result of financial distress.

H5 (Financial Motivations): Internally-oriented managers should have greater bargaining power than externally-oriented managers (i.e., managers who cite severe financial trouble).

2.2.4 Marketing Motivations for Mergers

Ahren (2012) finds evidence that product market dependence drives the division of gains when acquiring firms integrate vertically. Greater product market dependence implies greater bargaining power for the upstream firm. On the other hand, acquiring-firm managers who want to broaden the product line likely will sacrifice bargaining power. The loss of bargaining power should be greater if the acquiring-firm managers cite the target firm's exclusive product or *better product line* as a deal motivation.

Marketing motivations include the desire by the acquiring-firm managers to gain access to the target firm's *large customer base* (a strategy of increasing market share), the desire to increase the firm's size in order to make it more attractive to large customers (such as original equipment manufacturers, OEM), and a desire to gain access to a particular customer of the target firm. Thus,

H6 (Marketing Motivations): The acquiring- and target-firm managers' relative bargaining power should depend on the number and type of marketing motivations cited by each party.

[22] To address this issue I evaluate the strength of the signal using correlation matrices in appendix C.

3. DATA

3.1 Sample Selection

The sample includes mergers between publicly-traded, U. S. firms announced between January 1, 1995 and December 31, 2007. Given the importance of information disclosure to my study, it is necessary that the merger has relevant company filings available in the SEC EDGAR database. The SEC filings must contain adequate information to identify the negotiation procedure under the 'background' section and the deal motivations for each firm under the 'reasons for the merger' section. I restrict the sample to mergers with S-4, S-4/A or DEFM filings, and I exclude tender offers (EDGAR files 14D or SC-TO).

I identify the sample mergers using data from Thomson Financial Securities Data Corporation (SDC).[23] The sample mergers satisfy the following criteria: 1) data for the acquiring and target firms are available from Center for Research in Security Prices (CRSP), 2) the *Wall Street Journal* contains an article that describes the acquiring-firm managers' strategic objective, 3) the acquiring firm owns more than 50% of the target firm's shares at the completion date, 4) the acquiring firm does not announce another acquisition within two months of the takeover announcement data (this requirement excludes 26 mergers), 5) the relative transaction size is greater than 1%, and 6) the acquiring firm is not a communications firm, public utility, or financial institution.

[23] I exclude tenders offers because the SEC filings (S-TO and 14A) generally do not include the 'background' section that I use to identify the negotiating process, nor do they include a 'reasons for the merger' section from which I find information about the deal motivations.

There are 1,602 mergers from January 1st, 1995 to December 31st, 2007, that meet the initial sample criteria. However, only 705 mergers have S-4 and DEFM14A documents for the acquiring and target firms. The sample size is consistent with Boone and Mulherin (2007); Atkas, de Bodt, and Roll (2009); and Masulis and Simsir (2015) I classify 312 mergers (or 44.3%) as value-increasing mergers, which are the primary focus of this study.[24] A value-increasing merger refers to the merger in which the combined gain earned by the acquiring- and target-firm shareholders is greater than 4% (see Section 4).

I am particularly interested in the standard 'merger background' section of the S-4 and DEFM filings, which provide details about the merger transaction. A thorough chronology of the negotiating procedure is provided, along with information about competition from other bidders and the role of third-parties. In addition, the executives of each firm provide their reasons for the merger. The SEC filings allow me to use the managers' descriptions to categorize the deal motivations. Therefore, my classification scheme should be closely aligned with the actual reasoning behind the executives' decisions.

3.1.1 Classification of Negotiation Process:

My search of the SEC filings identifies five mutually exclusive negotiating procedures: 1) the acquiring-firm managers begin the process by contacting the target-firm managers (acquirer-to-target), 2) the target-firm managers begin the process by contacting only the acquiring-firm managers (target-to-acquirer), 3) the target-firm managers begin the process by initiating an auction, 4) the takeover follows mutual discussions between the acquiring- and target-firm

[24] Using similar sample selection criteria, Aktas de Bodt, and Roll (2009) identify 754 mergers announced between 1994 and 2006 with SEC filings. However they reduce their sample to 591 mergers when they restrict their sample to mergers with sufficient information to determine the initiating party.

managers (i.e., it is not clear which party initiated the merger), and 5) a third party begins the process by making a bid for the target firm.

Previous empirical studies, such as Boone and Mulherin (2007), often group target-to-acquirer, acquirer-to-target, and mutual discussions together as a negotiation or controlled sale. The theoretical predictions of Hansen (2001) explain a controlled sale that describes the target-to-acquirer classification of this study. Masulis and Simisir (2015) note the difficulty in identifying the initiating party based on their analysis of SEC filings. They exclude 504 out of 947 deals because there was not sufficient initiation information.[25] The portion of their sample would be identified as either third-party initiation or mutual discussion in this study. The more detailed identification scheme of my study provides insight into the determinants, and the wealth effects, associated with each negotiating procedure. Mutual discussion is a previously unidentified category of negotiating procedure which is unique to this study.

3.2 Results for Negotiation Procedure Hypotheses

3.2.1 Auctions versus Target-to-Acquirer Negotiations

My sample contains 59 target firms sold in formal auctions and 129 mergers in which the target-firm managers initiate a controlled sale. Table 1 compares the financial characteristics of the target firms involved in these two types of negotiation procedures. When compared to target firms whose managers initiate a target-to-acquirer negotiation, target firms whose managers initiate an auction have significantly higher debt ratios (26.0% to 19.5%) and significantly lower q-ratios (0.77 versus 2.19). I can reject the null hypothesis that the two means are equal at

[25] Masulis and Simisir (2015) explain that the reason why initiation data cannot be found in deals for which SEC documents are available is the complicated nature of the deal. The most labor intensive aspect of this study was identifying the chronological order of the negotiation procedure and specific party that initiated the process.

conventional levels (the t-statistics are 1.66 and -2.53, respectively). However, I find no relation between negotiation procedure and the target firm's level intangible assets.

Table 1: Mean Target Firm Characteristics

Mean Target Firm Characteristics sorted by Sales Procedure

The table presents the means and standard deviations of firm characteristics for subsamples split according to the target's choice of sales procedure, together with t-ratios for the differences between the averages for the two categories. Panel A reports results for the sample of auctions, while Panel B shows the summary statistics for the sample of target firms that choose a controlled sale and initiate contact with the acquirer. $P/E_{i,t}$ is the ratios of year-end stock price to earnings per share. $Leverage_{i,t}$, is the ratio of long-term debt to equity. All variables, *Intangible*, *RD-Investment* is measured as a fraction of the book value of total assets, *Debt-Ratio*, Tobin's Q, $M/B_{i,t}$, $P/E_{i,t}$, $Leverage_{i,t}$, $ROA_{i,t}$, $ROE_{i,t}$, represent targets only. Panel C reports the difference in means while t-statistics are reported in parentheses. ** and * denote significance at the 0.01 and 0.05 levels, respectively.

Panel A	Auction	(N=137)						
	Intangible	*R&D*	*Debt-Ratio*	*Q*	*M/B*	*P/E*	*Leverage*	*ROA*
Mean	0.132	0.136	0.2596	0.770	1.154	10.79	-5.045	0.070
Std. Dev.	0.179	0.198	0.3263	1.523	34.74	17.28	53.771	0.212
Panel B	Target-Acquirer(151)							
Mean	0.126	0.123	0.1945	2.187	4.39	22.62	0.106	0.053
Std. Dev.	0.187	0.153	0.2261	5.133	6.86	66.05	2.339	0.225
Panel C	Difference in Means							
Difference	0.005	0.012	0.0652**	-1.417**	-3.236	-11.83	-5.15	0.016
t-statistic	(0.197)	(0.35)	(1.663)	(-2.52)	(-1.59)	(-1.46)	(-0.97)	(0.43)

Table 2 contains parameter estimates for the econometric models concerning the relation target deal motivations and the choice of sales procedure. To test the hypothesis that target managers are less likely to use an auction in the presence of information costs, I apply the logit model below. The signs of the estimated coefficients and the relevant p-values should provide clear suggestions about the relation between target deal motivations and the likelihood of using an auction. In order to analyze the determinants of a target-firm manager's sales procedure, I use a restricted sample of only those mergers which begin with either an auction or a target-to-acquirer initiation.

$$\text{Likelihood of Sales Procedure} \begin{cases} Auction = 1; \\ Target - to - Acquirer = 0 \end{cases} = \int (Target\ Deal\ Motivations)$$

Target-firm managers are more likely to initiate an auction when the firm has a high debt ratio, a large R&D expense, and a high return on equity (ROE). Target-firm managers are more likely to initiate a target-to-acquirer negotiation when the target firm has a high P/E ratio, and the target-firm managers cite either access to capital or enhance product development as a deal motivation. The results support the information cost hypothesis (H1), with the exception of the coefficient for the R&D expense variable. My prior expectation is that target firms with a large investment in intangible assets would be more likely to initiate a target-to-acquirer negotiation.

Table 2: Logistic Regression of Sales Procedure

Logistic Regression – Target auction equals 1, Target-to-acquirer sale = 0

The table reports the results from estimating the following equation.

$$\text{Likelihood of Sales}\begin{cases} Sales\ Procedure\ (Target-Auction)=1; \\ Sales\ Procedure\ (Target-to-Acquirer)=0 \end{cases} = \int (Target\ Motivations)$$

The dependent variable *Sales Procedure* is an indicator variable capturing the mergers in which acquirers initiate contact and zero if the target initiatives contact.

Table 2 provides the results of logistic regressions of the choice of sales procedure. There are 215 target initiated deals, 100 of which are auctions and 115 of which involve one-on-one deals that are initiated by the target. The determinants of sales procedure are deal motivations cited by target firm managers as reasons for the merger in SEC filings. The p-values in brackets are for a two tailed test.

	Estimate	*p-value*	*Estimate*	*p-value*
Constant	0.602	[0.627]	2.144	[0.172]
Debt-Ratio Tar	7.499*	[0.084]	8.958*	[0.091]
P/E Tar	-0.018	[0.240]	-0.020*	[0.098]
M/B Tar	-0.219	[0.307]	-0.355	[0.160]
R&D Tar	6.616*	[0.058]	9.378*	[0.058]
Intangibles Tar	-3.654	[0.345]	-5.984	[0.183]
ROE Tar	3.173*	[0.071]	5.030*	[0.055]
Mkt-Cap Tar	-0.002	[0.172]	-0.002	[0.213]
TM Access Capital	-2.769**	[0.029]	-2.824**	[0.024]
TM Increase Liquidity	0.045	[0.971]	-0.010	[0.994]
TM Manufacturing	1.113	[0.576]	1.287	[0.524]
TM Enhance Development	-2.061*	[0.068]	-2.578*	[0.058]
TM Customer-base	-0.120	[0.914]	0.152	[0.893]
TM Economies Scale	1.856	[0.123]	1.988	[0.136]
Pseudo R^2	0.451		0.479	
N	294		294	
Target Industry Fixed Effects	No		Yes	

3.2.2 Acquirer-to-Target vs. Target-to-Acquirer

My sample contains 283 mergers in which the acquiring-firm managers initiate the negotiation, and 115 mergers in which the target-firm managers initiate the negotiation by approaching only the acquiring firm (I refer to this negotiation procedure as a controlled sale). Table 3 reports the results of difference in means tests for the 398 acquiring and target firms involved in one-on-one negotiations. Panels A, B and C show the results for the acquiring firms. When compared to acquiring firms that are approached by the target-firm managers, acquiring firms that initiate the negotiation have higher R&D expenses, and lower intangible asset, leverage and market-to-book (P/B) ratios. When compared to target firms that are approached by the acquiring-firm managers, target firms that initiate the negotiation have lower q ratios. These preliminary results suggest that acquiring-firm managers who initiate mergers face lower growth prospects, but target-firm managers who initiate mergers face higher growth prospects.

[Insert Table 3 Initiation Here: Ratios of Acquirer-Target vs. Target-Acquirer]

In order to tests the initiation hypothesis; I use a Logit model to test the determinants of merger initiation. The model includes the acquiring- and target-firm managers' deal motivations, firm characteristics, and dummy variables to control for industry fixed affects. The dependent variable takes a value of 1 for acquirer-to-target negotiations and 0 for target-to-acquirer negotiations.

$$\text{Likelihood of Initiation} \begin{cases} Acquirer - to - Target = 1; \\ Target - to - Acquirer = 0 \end{cases} = \int (Combined\ Deal\ Motivations)$$

Table 4 (Panel A) shows the results two model specifications using only the firm-level characteristics. Model [1] uses only the firm-level characteristics. Model [2] uses firm-level

statistics with both acquirer and target industry fixed effects. Key determinants of target-to-acquirer negotiations are a high market-to-book ratio and q-ratio for the acquiring firm, and a high *P/E* ratio for the target firm. The results suggest that target-firm managers tend to initiate mergers when the acquiring and target firms operate in high growth industries.

Table 4 (Panel B) shows the results when I add the acquiring- and target-firm managers' deal motivations to the model. When the acquiring-firm managers cite access to capital as a deal motivation, the target-firm mangers are more likely to initiate the negotiation. When the target-firm managers cite the access to the acquiring-firm's customer base as a deal motivation, the acquiring-firm managers are more likely to initiate the negotiation. Surprisingly, gaining access to the other firm's technology do not imply a particular negotiation procedure. These results provide some evidence for H2, particularly as the hypothesis relates to target firms with large growth opportunities.

Table 3: Mean Firm Characteristics sorted by the Choice of Initiation

The table presents the means and standard deviations of firm characteristics for subsamples split according to the initiating party in the negotiation process, together with t-ratios for the differences between the averages for the two categories. Panel A reports results for the sample of mergers initiated by the acquirer, while Panel B shows the summary statistics for the sample of target firms that choose a controlled sale and initiate contact with the acquirer. All variables, *Intangible*, *R&D-Intensity*, *Debt-Ratio*$_{i,t}$, Tobin's q, *M/B*$_{i,t}$, P/E$_{i,t}$, *Leverage*$_{i,t}$, *ROA*$_{i,t}$, *ROE*$_{i,t}$, have been previously defined. Panel C reports the difference in means while t-statistics are reported in parentheses. ** and * denote significance at the 0.01 and 0.05 levels, respectively. Panels D, E, and F follow the same format for target firm characteristics.

Acquirer Ratios	*Intangible*	*R&D (Acq)*	*q(Acq)*	*M/B(Acq)*	*P/E(Acq)*	*Leverage*	*ROA(Acq)*
Panel A: Acquirer-Target							
Mean	0.154	-0.006	-2.438	4.759	24.5380	0.513	0.1016
Std. Dev.	0.168	0.026	7.394	8.981	125.4187	1.361	0.2129
Panel B: Target-Acquirer							
Mean	0.178	-0.009	-2.802	6.130	49.6051	0.879	0.1279
Std. Dev.	0.199	0.037	5.892	13.038	167.5215	2.971	0.1580
Panel C: Difference Test							
Difference	-0.024	0.004	0.363	-1.371	-25.0671	-0.365	-0.0262
t-statistic	(-1.02)	(0.947)	(0.421)	(-1.076)	(-1.468)	(-1.52)	(-0.881)
Target Ratios	*Intangible*	*R&D (Tar)*	*q (Tar)*	*M/B(Tar)*	*P/E(Tar)*	*Leverage*	*ROA(Tar)*
Panel D: Acquirer-Target							
Mean	0.117	-0.001	-1.505	3.5864	16.2763	0.1941	0.0310
Std. Dev.	0.163	0.008	2.413	8.2796	72.2815	4.2428	0.3131
Panel E: Target-Acquirer							
Mean	0.126	-0.002	-2.187	4.3899	22.6289	0.1066	0.0535
Std. Dev.	0.187	0.008	5.133	6.8686	66.0543	2.3394	0.2252
Panel F: Difference Test							
Difference	-0.009	0.0007	0.6827**	-0.8035	-6.3525	0.0875	-0.0224
t-statistic	(-0.431)	(0.564)	(1.715)	(-0.877)	(-0.714)	(0.198)	(-0.552)

Table 4: Logistic Regression of the Choice to Initiate

Logit Regression – Acquirer-to-target equals 1, Target-to-acquirer sale = 0

The table reports the results from estimating the following equation .

$$\text{Likelihood of Initiation} \begin{cases} Initiaion\ (Acquirer - to - Target) = 1; \\ Initiation\ (Target - to - Acquirer) = 0 \end{cases} = \int (Firm\ Charachteristics)$$

The dependent variable *Initiation* is an indicator variable capturing the mergers in which acquirers initiate contact and zero if the target initiates contact. There are 398 observations. Acquirers initiate contact 283 and targets initiate a controlled sale 115 times.

Panel A: Initiation				
Acquirer to Target				
Target-Acquirer				
	Estimate	*p-value*	*Estimate*	*p-value*
Constant	1.650	[0.486]	3.315	[0.335]
M/B Acq	-1.002	[0.057]	-1.006	[0.060]
P/E Acq	-0.004	[0.424]	-0.005	[0.314]
Debt-Ratio Acq	9.626	[0.267]	6.978	[0.470]
q-ratio Acq	-1.623	[0.055]	-1.644	[0.054]
ROA Acq	-10.222	[0.473]	-13.956	[0.341]
ROE Acq	5.968	[0.465]	9.232	[0.324]
R&D Acq	-9.336	[0.532]	-14.185	[0.407]
Intangibles Acq	3.792	[0.484]	2.676	[0.623]
M/B Tar	-0.159	[0.725]	-0.327	[0.537]
P/E Tar	-0.015	[0.082]	-0.018	[0.062]
Debt-Ratio Tar	-0.994	[0.846]	-0.900	[0.861]
q-ratio Tar	-0.046	[0.940]	-0.243	[0.727]
ROA Tar	-0.110	[0.989]	0.366	[0.965]
ROE Tar	-0.192	[0.970]	-0.810	[0.879]
R&D Tar.	7.349	[0.384]	8.818	[0.353]
Intangibles Tar	-0.529	[0.912]	-2.432	[0.662]
N	398		398	
Pseudo R^2	0.327		0.301	
Acquirer. Industry F.E.	No		Yes	
Target Industry F.E.	No		Yes	

Panel B:

$$\text{Likelihood of Initiation} \begin{cases} Initiaion\ (Acquirer - to - Target) = 1; \\ Initiation\ (Target - to - Acquirer) = 0 \end{cases} = \int (Firm\ Charachteristics)$$

Panel B:

		Estimate	p-value	Estimate	p-value	Estimate	p-value
Acquirer Ratios	*Constant*	1.455	[0.152]	2.104	[0.070]	1.888	[0.044]
	M/B Acq	-0.478	[0.020]	-0.519	[0.014]	-0.353	[0.020]
	P/E Acq	-0.004	[0.135]	-0.005	[0.115]	-0.004	[0.122]
	Debt-Ratio Acq	5.070	[0.101]	5.933	[0.068]	3.747	[0.095]
	q-ratio Acq	-0.818	[0.047]	-0.920	[0.033]	-0.668	[0.039]
	ROA Acq	0.176	[0.922]	0.129	[0.943]		
	Intangibles Acq	3.945	[0.202]	4.183	[0.184]	-2.209	[0.228]
Target Ratios	*M/B Tar*	0.003	[0.919]	0.009	[0.756]	-0.006	[0.854]
	P/E Tar	-0.016	[0.070]	-0.017	[0.058]	-0.006	[0.041]
	Debt-Ratio Tar	-0.069	[0.973]	-0.785	[0.717]	-0.704	[0.660]
	q-ratio Tar	0.217	[0.224]	0.250	[0.200]	0.177	[0.243]
	ROA Tar	-0.749	[0.608]	-0.730	[0.619]		
	Intangibles Tar	-4.917	[0.033]	-5.436	[0.024]	-2.209	[0.228]
Acquirer Motivations	*AM Access Capital*	-0.637	[0.459]	-0.698	[0.441]	-1.043	[0.096]
	AM Technology	0.156	[0.872]	0.090	[0.927]	0.093	[0.898]
	AM Customer base	-0.353	[0.663]	-0.307	[0.714]	-0.126	[0.825]
Target Motivations	*TM Access Capital*	-0.109	[0.877]	-0.050	[0.944]	0.360	[0.487]
	TM Technology	-0.811	[0.454]	-0.784	[0.472]	-0.949	[0.221]
	TM Customer base	2.102	[0.023]	2.196	[0.019]	1.160	[0.059]
	Pseudo R^2	0.247		0.259		0.19	
	Industry FE	No		Yes		Yes	

4. WEALTH EFFECTS

4.1 Value Creation

In order to be included in the sample, the total gain that accrues to acquiring- and target-firm shareholders as a result of an acquisition, *%Gain*, must be value-increasing. On the other hand, *%_gain* is related negatively to the presence of adverse signaling. I calculate the expected gain or loss *(%Gain$_i$)* for each acquisition by examining the change in acquiring and target-firm shareholder wealth. I calculate the combined abnormal "dollar" returns (*%Gain$_i$*), shown in Equation 1, by summing the abnormal dollar change for the acquirer (ΔMAV_i^A) and the abnormal dollar change for the target (ΔMAV_i^T). I calculate ($Gain_i = \Delta MAV_i^A + \Delta MAV_i^T$) where superscripts "A" and "T" refer to the acquiring and target firms, respectively, where ΔMAV_i^A = the market-adjusted change in the acquiring-firm's value over the period t=-5 days to t=+5 days. Day t=0 refers to the announcement date reported in the SDC database.[26]

$$\Delta MAV_i^A = \left[\prod_{-5\ days}^{+5\ days} (1 + R_{it}) - \prod_{-5\ days}^{+5\ days} (1 + R_{mt}) \right] \quad (P_{it=-6})(NS_{it=-6})$$

[26] $P_{i,t=-6}$ is the common stock price of acquiring firm i on day t =-6; R_{it} is the return for acquiring-firm i on day t; R_{it} is the return on the CRSP value-weighted index (NYSE/AMEX/Nasdaq) on day t; and NS_i is the number of common shares outstanding for firm i on day t=-6.

$$\Delta MAV_i^T = \left[\prod_{-25\ days}^{+5\ days} (1 + R_{it}) - \prod_{-25\ days}^{+5\ days} (1 + R_{mt}) \right] \quad (P_{it=-26})(NS_{it=-26})$$

ΔMAV_i^T = the market-adjusted change in the target-firm's value over the period t = -25 days to t = +5 days (the calculation is similar to ΔMAV_i^A, but I measure the market capitalization on day t = -26). The estimation of ΔMAV_i^T can be understated if the acquiring firm's offer follows other takeover-related announcements involving the target firm. I search the Wall Street Journal Index to identify disclosures that occur within twelve months of day t=0. I also analyze the negotiating process disclosed in the SEC filings. I calculate the percentage gain (%Gain) for each merger as follows.

$$\%Gain_i = Gain_i / [(MV_{eq})A + (MV_{eq})T]$$

4.1.2 Value Distribution

While most merger studies analyze the CAR (cumulative abnormal return), this study analyzes dollar gains. Ahren (2012) explains that making inferences about bargaining power from percentage returns and premiums is misleading because acquirers are typically much larger than targets. I calculate dollar gains by multiplying the compounded return by the pre-merger market-capitalization. In order to analyze the acquirer's portion of the combined gain, I focus the sample on the mergers classified as value-increasing. There are 312 mergers in which the combined change in value is greater than 4%.

$$\text{Acquirer\%} = \Delta MAV_i^A / Gain_i$$

Ahren and Sosyura (2014, JF) explain that using dollar values, as opposed to abnormal returns, allows us to account for the large difference in the sizes of the market value of equity of acquirers and targets that is common in most mergers. While much of the literature has focused on abnormal percentage returns, Malatesta (1983) and Moeller, Schlingemann, and Stulz (2005)

explain that doing so does not capture the change in wealth. Kale, Kini, and Ryan (2003) compute the bidder's share of the combined abnormal wealth gain from the takeover to analyze the impact of financial advisors. When the combined wealth gain is positive (i.e. value-increasing), Kale et al. (2003) define the abnormal wealth gain to the bidder divided by the combined wealth gain to the target and bidder.

Ahren (2012) explains that only when both acquirer and target gains are positive, can the distribution of gains be thought of as "splitting a pie". Using this intuition, I examine the distribution of wealth in value-increasing mergers. In this table, value-increasing mergers are defined as those in which the combined market value of equity for the acquirer and target are positive. Consequently, I focus one portion of the analysis on mergers in which both parties have a positive change in shareholder wealth.

4.2 Acquirer% in Value-Increasing Mergers

4.2.1 Acquirer% and Negotiation Procedure

Based upon the descriptive analysis and theoretical foundations, I believe that the distribution of shareholder wealth will be disproportionate among the five negotiating procedures. I hypothesize that, ceteris paribus, target-initiated deals are more likely to lead to acquiring-firm shareholders gaining a disproportionate share of the combined increase in shareholder value. On the other hand, I predict that target-firm shareholders will capture more of the gain when acquiring firms initiate a deal.

Table 5 examines *Acquirer%* across the negotiating procedures for the 312 value-increasing sample mergers. I find that *auctions* provide the winning bidder with the greatest share of the combined gain. Acquiring-firm shareholders receive approximately 71.1% of the combined

gain on average in auctions. On the other hand, acquiring-firm shareholders receive only 37.3% of the combined gain on average when target-firm managers initiate merger negotiations. Masulis and Simsir (2015) find that when target firms decide to sell themselves without prior solicitation, the target shareholders receive significantly lower premiums. However, the results of table 5 suggest that the aforementioned finding of Masulis and Simsir (2015) might be driven more by auctions, than a controlled sale initiated by the target.

Table 5: Acquirer% and Negotiation Process

This table summarizes wealth distribution with respect to five negotiating procedures. Acquirer% represents the acquirer portion of wealth creation in mergers where the combined increase in wealth is greater than four percent. I use SEC filings to identify five mutually exclusive negotiating procedures: acquirer-to-target, target-to-acquirer, target-firm managers initiate an auction, mutual discussions between the acquiring- and target-firm managers, or a third party begins the process by making a bid for the target firm. Each subsample is tested against the null that Acquirer% in that subsample is equal to zero. t-values are reported in parentheses and significance levels are denoted by an asterisk, * for 10%, ** for 5%, and *** for 1 %.

Table 5: Acquirer%

Negotiation	*N*	*Mean*	*Std. Dev.*	*Median*
Acquirer-to-Target	126	31.52%***	58.72%	41.75%
		(7.218)		
Target-to-Acquirer	54	37.28%***	53.81%	49.31%
		(5.643)		
Auction	39	71.13%***	47.21%	77.38%
		(9.391)		
Mutual Discussion	75	39.96%***	43.75%	37.64%
		(7.858)		
Third-Party	18	50.91%***	57.66%	75.97%
		(3.355)		
Full Sample	312	40.61%***	54.29%	45.17%
		(14.279)		

Consistent with the predictions; acquirers sacrifice the most wealth when they initiate contact in a merger. Acquiring-firm shareholders receive approximately 31.5% of the division of gains. In support of conjectures about the relation between synergy and mutual discussion, wealth is, acquirers are able to capture 39.9% of wealth, when the negotiation begins with mutual discussion. Interestingly, acquirers are able to capture 50.9% of wealth when a third-party initiates the merger.

4.2.2 Acquirer% and Deal Motivations

Table 6 (Panel A) shows the results of t-tests for the mean difference in Acquirer% classified by the acquiring-firm managers' deal motivations. When the acquiring-firm managers cite the target firm's manufacturing expertise as a motivation, the acquiring-firm shareholders capture 23.2% of the combined gain. When the acquiring-firm managers do not cite this motivation, the acquiring-firm shareholders capture 44.3% of the combined gain. The mean difference is -21.2% (= 23.2% – 44.3%), which is significant at the 1% level (the t-statistic is equal to -2.71). Consistent with the bargaining power hypothesis (H3, H5 and H6), acquiring-firm managers lose bargaining power when they cite operating, financing, and marketing motivations for merging with the target firm (e.g., cost savings, increasing liquidity, access to capital, and combining sales).

Table 6: Acquirer% by Deal Motivations

This table provides the results of differences tests of the means of Acquirer% in mergers that include or do not include citations for the relevant deal motivations. The deal motivations are cited by mangers in SEC filings, under *reasons for the merger*. Panel A shows the acquirer deal motivations and panel B reports the target deal motivations. The p-values (2-tailed) are for t-statistics of differences are based on t-test of the means.

Table 6: Panel A:

			Acquirer%			
Acquirer Motivations		*N*	*Mean*	*Difference*	*t-stat*	*Sig. (2-tailed)*
AM Target Technology	1	134	42.73	5.74	0.896	0.371
	0	163	36.99			
AM Enhance New Product	1	102	40.56	1.52	0.226	0.821
	0	194	39.04			
AM Manufacturing Expertise	1	60	23.18	-21.15	-2.712	0.007
	0	237	44.32			
AM Cost Savings	1	184	33.72	-17.13	-2.653	0.008
	0	113	50.85			
AM Increase Liquidity	1	41	08.36	-36.34	-4.035	<0.001
	0	256	44.70			
AM Access Capital	1	63	20.10	-23.98	-3.161	0.002
	0	231	44.09			
AM Use NOL	1	5	31.06	-8.77	-0.354	0.724
	0	293	39.83			
AM Expand Customer Base	1	148	42.92	6.43	1.012	0.312
	0	150	36.49			
AM Size for Large Customers	1	43	33.36	-7.38	-0.816	0.415
	0	255	40.75			
AM Combine Sales	1	69	26.20	-18.50	-2.520	0.012
	0	243	44.71			
AM Existing Relation	1	37	41.43	1.18	0.122	0.903
	0	254	40.25			

Table 6: (cont.) Panel B:

Target Motivations		*N*	*Acquirer% Mean*	*Difference*	*t-stat*	*Sig. (2-tailed)*
TM Technological Expertise	1	94	40.98	1.11	0.162	0.871
	0	203	39.87			
TM Enhance Product Development	1	170	34.13	-14.62	-2.274	0.024
	0	125	48.75			
TM Manufacturing Expertise	1	60	19.43	-26.08	-3.339	0.001
	0	236	45.50			
TM Access to Capital	1	161	39.00	-4.28	-0.668	0.505
	0	132	43.28			
TM Increase Liquidity	1	108	41.27	1.21	0.182	0.856
	0	186	40.06			
TM Low Financial Performance	1	35	42.43	2.20	0.222	0.824
	0	258	40.23			
TM Severe Financial Problems	1	9	79.21	40.06	2.167	0.031
	0	283	39.15			
TM Industry Consolidation	1	105	34.79	-8.87	-1.329	0.185
	0	188	43.66			

Table 6 (Panel B) shows the results for the merger motivations cited by the target-firm managers. In contrast to the results for acquiring-firm managers, target-firm managers gain bargaining power when they cite operating motivations for mergers. The acquiring-firm shareholders receive 34.1% of the combined gain on average when the target-firm managers cite enhancing product development as a motivation, but acquiring-firm shareholders receive 48.8% of the gain when managers do not cite this motivation. Target-firm shareholders also capture more of the gain, when the target-firm managers cite manufacturing expertise as a motivation.

Neither result supports the bargaining power hypothesis (H3 and H6). However, I do find results consistent with H5 (externally-oriented managers lose bargaining power). Target-firm managers lose bargaining power when they cite severe financial problems as a motivation. Acquiring-firm shareholders receive 79.2% of the combined gain on average when target-firm managers cite severe financial problems as a motivation. Acquiring-firm shareholders receive 39.2% of the combined gain on average when target-firm managers do not cite this motivation. However, relatively few target-firm managers cite this motivation (9 mergers).

4.3 Merger Outcomes

4.3.1 Outcome Distribution by Deal Motivations

Table 7 provides a frequency of deal motivations classified by merger outcome. I classify the merger motivations into four categories: operating, marketing, financial, and other. The acquiring-firm deal motivations in are shown in Panel A. The most frequently cited operational motivations for acquirers are attaining the target firm's technological expertise (336 mergers (out of 705 total sample mergers), cost savings (335), enhance product development (250), and attaining the target firm's manufacturing expertise (101). The most common marketing motivations are a desire to expand the customer base (309) and to combine products (235). The desire to access capital (123) and increase shareholder liquidity (85) are the most frequently-cited financial motivations.

Table 7: Merger Outcomes and Deal Motivations

This table reports the distribution of deal motivations among the five merger outcomes. The deal motivations are cited by mangers in SEC filings, under *reasons for the merger*. Panel A shows the acquirer deal motivations and panel B reports the target deal motivations. The mergers are sorted on the combined wealth creation and distribution. Value-increasing mergers are defined as those with a %Gain > 4%. The three value-increasing merger outcomes are sorted on the distribution of wealth: *Capturing* (Acquirer%>.50), *Sharing* (.50>Acquirer%>0), *Over-paying* = (Acquirer%<0), which are reported in columns [2], [3], and [4] respectively. The *neutral* mergers have a negligible %Gain (4% > %Gain > -4%) and merger outcome *signal* represents value-decreasing mergers where both firms lose wealth (%Gain < -4%).

Table 7:

Panel A: Acquirer Motivations

Acquirer Motivations	Total	Capture	Share	Overpay	Neutral	Signal
Operating						
Target Technology	336	66	45	23	78	124
Cost Savings	335	71	80	33	68	83
Enhance New Product	250	48	37	17	64	84
Manufacturing Expertise	101	18	28	14	20	21
Target Management	74	8	14	6	20	26
Marketing						
Expand Customer Base	309	73	54	21	59	102
Combine Products	235	55	35	11	57	77
Combine Sales/Distribution	172	25	27	17	52	51
Size Large Customers	130	17	20	6	40	47
Purchasing Power	54	8	12	5	13	16
Particular Customer	36	9	9	3	6	9
Target's Better Product	29	2	1	1	11	14
Financial						
Access Capital	123	15	33	15	28	32
Increase Shareholder Liquidity	85	9	20	12	18	26
Target Financial Strength	52	4	12	9	16	11
Use Cash	5	0	1	0	2	2
Use NOL	7	1	3	1	2	0
Other						
Existing Relation	93	17	14	6	33	23
International	66	8	12	5	26	15
3rd-Party	10	0	0	4	2	4
Litigation	10	2	1	2	1	4

Table 7: (Continued)

Panel B: Target Motivations

Target Motivations	Total	Capture	Share	Overpay	Neutral	Signal
Operating						
Economies of Scale	344	67	72	31	70	104
Technological Expertise	257	45	34	15	68	95
Enhance Product Development	237	43	31	19	60	84
Industry Consolidation	220	45	42	18	52	63
Manufacturing Expertise	106	16	29	15	18	28
Acquirer's Management	88	13	13	6	18	38
Financial						
Access to Capital	336	71	65	25	84	91
Increase Shareholder Liquidity	245	52	40	16	62	75
Lower Financial Performance	70	17	11	7	16	19
Cyclicality / Cash-flow volatility	25	4	7	1	6	7
Severe Financial Problems	20	7	2	0	4	7
Marketing						
Acquirer's Large Customer-base	249	42	38	17	57	95
Distribution Channel	168	17	26	12	56	57
Size for Large Customers	152	23	23	7	53	46
Purchasing Power	31	3	10	3	8	7
Shrinking Market	11	4	4	1	1	1
Other						
International Exposure	24	1	2	0	15	6

Table 7 (Panel B) shows the target-firm managers' deal motivations. Typical operating motivations include economies of scale or scope (344), technological expertise (257), product development (237), and industry consolidation (220). Among the financial motivations, target-firm managers cite access to capital (336), a desire to increase target firm's shareholder liquidity (245), lower than expected (or weak) financial performance (70), and severe financial problems (i.e. default) (20). Marketing motivations for targets include a desire to access the targets large

customer-base (249), the acquirer's sales force and distribution channel (168), and greater size to compete for larger customers (70).

4.3.2 Firm-level Characteristics and Merger Outcomes

Table 8 presents summary statistics (means median, standard deviation, and number of observations) for the target and acquirer financial ratios. Panel A reports the results of acquiring-firm characteristics classified by merger outcome. Acquirers who capture wealth have lower levels of intangible assets (the mean ratio is 14.8%) than acquirers that overpay (the mean ratio is 21.6%). However, acquiring-firm managers that engage in value-capturing mergers have greater leverage ratios, market-to-book ratios, and P/E ratios than those that share value or over-pay.

Table 8 (Panel B) reports the results of target-firm characteristics classified by merger outcome. There is some evidence that acquiring-firm managers overpay when the target firm has a higher intangible asset ratio (the mean is 17.3% for overpaying versus 12.6% for value-capturing), and a lower P/E ratio (the mean is 4.8 for overpaying versus 13.4 for value-capturing).

Table 8: Summary Statistics by wealth distribution categories

This table presents the means, median, and standard deviation of firm characteristic for the full sample and subsamples split according to the division of gains. The three categories for wealth distribution in value-increasing mergers: Capturing (Acq%>.50), Sharing (.50>Acq%>0), Over-paying = (Acq%<0). Panel A shows the acquirer ratios and panel B shows the target ratios. The firm characteristics include ratios: *Debt-Ratio* is the ratio of debt divided by total assets. *Leverage* is long-term debt divided by total equity. *M/B* is the market-to-book ratio. *ROA* is the return on assets measure by net income divided by total assets. *ROE* is the return on assets measure by net income divided by total equity. The *Intangible* ratio is intangible assets divided by total assets.

Panel A:	**Acquirer Ratio**						
		Debt-Ratio	*Leverage*	M/B_{Acq}	P/E_{Acq}	ROA_{Acq}	*Intangible*
Capture (3)	*Mean*	0.203	1.682	6.057	60.952	0.075	0.148
(n=129)	*Median*	0.197	0.299	3.456	22.740	0.145	0.095
	Std. Dev	0.183	8.678	15.326	219.414	0.460	0.163
Share (2)	*Mean*	0.231	0.871	4.280	15.565	0.150	0.187
(n=42)	*Median*	0.149	0.170	2.342	14.047	0.139	0.089
	Std. Dev	0.230	4.845	8.371	126.334	0.096	0.212
Overpay (1)	*Mean*	0.210	0.776	3.012	23.788	0.104	0.215
(n=106)	*Median*	0.205	0.336	2.336	16.952	0.149	0.198
	Std. Dev	0.173	4.034	5.011	76.511	0.197	0.199
Full Sample	*Mean*	0.210	1.211	4.605	39.452	0.096	0.181
(N=278)	*Median*	0.186	0.298	2.680	17.837	0.147	0.122
	Std. Dev	0.186	6.687	11.379	164.228	0.347	0.188
Linearity	*Sig.*	.749	.297	.042	.081	.568	.011

Panel B: Target Ratios

		Debt- Ratio	*Leverage*	M/B_{Tar}	P/E_{Tar}	ROA_{Tar}	*Intangible tar*
Capture (3)	*Mean*	0.201	-2.850	1.565	13.435	-0.019	0.126
N=129	*Median*	0.138	0.105	2.053	7.143	0.065	0.057
	St. Dev.	0.227	41.208	28.180	60.541	0.291	0.167
Share (2)	*Mean*	0.172	-0.162	3.063	23.710	0.112	0.144
N=42	*Median*	0.129	0.087	2.139	13.332	0.146	0.059
	St. Dev.	0.166	4.786	4.703	64.146	0.162	0.209
Overpay (1)	*Mean*	0.238	-1.383	1.876	4.802	0.112	0.173
N=106	*Median*	0.212	0.224	2.236	12.370	0.143	0.096
	St. Dev.	0.232	11.157	10.550	100.372	0.174	0.199
Full Sample	*Mean*	0.209	-1.852	1.954	12.186	0.048	0.145
N=278	*Median*	0.165	0.135	2.149	11.093	0.120	0.068
	St. Dev.	0.220	28.967	19.930	77.929	0.245	0.187
Linearity	*Sig.*	0.183	0.667	0.886	0.469	(<.001)	0.049

4.4 Tests of the Bargaining Power Hypothesis

I test the bargaining power hypothesis by constructing a multivariate model. The dependent variable is the percentage of the combined gain that is captured by the acquiring-firm shareholders. The independent variables include the negotiation procedures and firm-level characteristics. Tables 9, 10, and 11 contain the key results of the empirical analysis. In particular, Table 9 depicts the effects of negotiation procedure on the division of gains in value-increasing mergers. The effect of negotiation procedure is investigated in three different models. The estimated coefficients are reported with the respective t-statistics in parentheses.

$$Acquirer\% = \beta_{\propto} \propto + \beta_N Negotiate + \beta_{AM} AM + \beta_{TM} TM + \beta_F Firm + \beta_C Control + \varepsilon,$$

where *N* is a vector of five mutually exclusive negotiation variables,
AM is a vector representing acquirer motivations,
TM is a vector representing target motivations,
F is a vector of firm level characteristics, and
C is a vector of control variables relative to the deal.

Table 9 shows the results for three models. The estimates for Model 1 indicate that acquiring-firm shareholders capture more of the combined gain in acquirer-to-target negotiations and less when target-firm managers initiate an auction. The intercept term reflects a merger that begins with mutual discussions between the acquiring- and target-firm managers. Models 2 and 3 include firm-level characteristics. Acquiring-firm shareholders capture more gain in auctions, but capture less gain when the acquiring and target firms have high intangible asset ratios. The models have a high R^2, but a low adjusted R^2 value (which reflects the large number of dependent variables).

Table 9: Acquirer% by Negotiation and Ratios

This table presents the estimated coefficients from the following regression.

$$Acquirer\% = \beta_{\propto} \propto + \beta_N Negotiate + \beta_F Firm + \beta_C Control + \varepsilon,$$

This table reports the results of OLS regressions with the Acquirer% as the dependent variable. A vector of negotiation procedure variables is included. Model [2] includes market-cap, the debt-equity ratio D/E_i, *M/B*, and *Intangibles* for both acquirers and targets. Model [3] includes a binary variable, Stock, if equity was the primary method of payment. Regression coefficients are reported with t-statistics in parentheses. Significance is reported ***, **, and * for significance at 1%, 5%, and 10%, respectively.

Acquirer%	*Coefficient [1]*	*Coefficient [2]*	*Coefficient [3]*
(Constant)	36.777	30.219	52.518*
	(1.218)	(1.395)	(2.153)
Acquirer-Target	-14.533*	3.881	11.677
	(-1.700)	(0.234)	(0.707)
Target-Acquirer	-6.662	21.299	19.395
	(-0.641)	(1.001)	(0.879)
Target-Auction	23.826**	49.834**	50.100**
	(2.025)	(2.245)	(2.305)
Third-Party	6.933	30.610	25.830
	(0.450)	(1.020)	(0.896)
Debt-Ratio Acq		73.408	39.706
		(1.448)	(0.741)
Intangible Acq		-84.782**	-71.178*
		(-2.227)	(-1.852)
M/B Acq		3.914	3.492
		(1.474)	(1.354)
Mkt-Cap Acq		0.00582	0.04028
		(0.916)	(-0.985)
Debt-Ratio Tar		1.842	-4.986
		(0.048)	(-0.137)
Intangible Tar		-47.197	-83.527*
		(-1.162)	(-1.964)
M/B Tar		1.404	0.783
		(1.089)	(0.636)
Mkt-Cap Tar		0.01145	0.00981
		(-0.467)	(1.267)
Stock (1,0)			-2.328
			(-0.158)
N			
Adj. R^2	0.044	0.033	0.050
Acq. Industry FE	Yes	Yes	Yes
Tar. Industry FE	Yes	Yes	Yes

Table 10: Sensitivity Analysis of Value-Increasing Classification

In Panel A, I use 3% as the cut-off for value-increasing mergers and the sample size is 345. Consistent with the previous analysis, I use the 4% cut-off with 327 sample mergers. In Panel C, I use 5% as the cut-off for value-increasing mergers and the sample size 290.

	Panel A: *Gain%>3%*			Panel B: *Gain%>4%*			Panel C: *Gain%>5%*		
Acquirer%	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
(Constant)	34.***	35.56***	45.6***	39.***	26.59***	49.7***	41.***	28.68***	52.6***
	(5.575)	(3.560)	(2.965)	(6.563)	(2.779)	(3.422)	(7.514)	(3.265)	(3.950)
Acquirer-Target	-4.014	-9.017	-9.013	-6.085	-9.325	-9.210	-9.445	-10.366*	-10.443*
	(-0.53)	(-1.237)	(-1.236)	(-0.83)	(-1.347)	(-1.337)	(-1.40)	(-1.653)	(-1.680)
Auction	33.1***	18.676*	18.811**	26.9***	16.00*	16.333*	24.***	15.130*	15.614*
	(3.314)	(1.965)	(1.978)	(2.765)	(1.764)	(1.809)	(2.774)	(1.824)	(1.897)
Target-Acquirer	-1.334	-5.293	-5.629	-0.631	-7.702	-8.265	6.017	2.792	2.233
	(-0.14)	(-0.598)	(-0.635)	(-0.07)	(-0.908)	(-0.979)	(0.715)	(0.352)	(0.284)
Third-party	16.938	5.240	5.692	7.078	-7.382	-7.128	13.467	-2.260	-2.040
	(1.277)	(0.410)	(0.445)	(0.540)	(-0.589)	(-0.571)	(1.064)	(-0.192)	(-0.175)
Ln(Tar-size)		-19.18***	-16.8***		-20.44***	-15.1***		-18.35***	-12.8***
		(-8.04)	(-4.719)		(-8.906)	(-4.494)		(-8.541)	(-4.047)
Ln(Acq-size)		15.931***	13.46***		18.151***	12.51***		16.028***	10.06***
		(6.462)	(3.561)		(7.690)	(3.512)		(7.238)	(3.423)
Relative-Size			-7.721			-18.041			-18.149
			(-0.859)			(-2.106)			(-2.375)
Stock		-3.371	-4.760		1.497	-1.630		3.970	1.003
		(-0.553)	(-0.755)		(0.258)	(-0.274)		(0.749)	(0.186)
Cash		-1.761	-3.140		1.496	-1.548		3.077	-0.046
		(-0.193)	(-0.339)		(0.169)	(-0.173)		(0.372)	(-0.006)
R2	0.049	0.218	0.219	0.040	0.238	0.249	0.061	0.265	0.280
Adj. R2	0.039	0.199	0.198	0.029	0.219	0.227	0.049	0.245	0.257
F-stat	4.788	11.719	10.491	3.609	12.466	11.693	5.033	12.732	12.13
p-value	[.001]	[<.001]	[<.001]	[.001]	[<.001]	[<.001]	[.001]	[<.001]	[<.001]
N	345	345	345	327	327	327	290	290	290

4.4.1 Sensitivity Analysis

I now turn my attention to the sensitivity of Acquirer% to different cut-offs for identifying value-increasing mergers. Table 10 depicts the results of a sensitivity analysis for different definitions of a value-increasing merger. The results are robust to using 3%, 4%, or 5% as the definition of a value-increasing merger. As the cut-off increases, the impact of using auctions as the form of sales procedure decreases. The acquirer% decreases from 18% at the 3% cut-off, to 16% at the 4% cut-off, to 15% at the 3% cut-off.

According to the estimates of the models using the 5% cut-off, it appears that acquirer-to-target contact and acquirer% are significantly negatively related. The result suggests that acquirers who contact targets initially sacrifice wealth. Target size and acquirer size appear to have significant impact on the distribution of wealth. Large acquirers are able to capture more wealth, while large targets are able to capture wealth.

4.4.2 Deal Motivations and Negotiating Procedure

Table 11 depicts the effects of negotiating procedure and deal motivations on the division of gains. The results of estimated coefficients from OLS regression are reported with the respective t-statistics in parentheses. The model includes binary variables for auctions, acquirer-to-target contact, target-to-acquirer contact, third-party initiation and the intercept reflects mutual discussion. The model also includes both acquirer and target industry fixed effects.

According to the estimates of the variables modeled, there is a change in the explanatory power of the negotiation variables. When the deal motivations are included in the regressions, the coefficient for acquirer to target initiation becomes significant. It appears that acquirer initiation is significantly negatively related to Acquirer%. On the other hand, auctions are again shown to

be positively linked with the acquirer shareholders' portion of wealth distribution. Of the acquirer's deal motivations, a desire to increase liquidity is significantly negatively related to Acquirer%. In regards to the target's deal motivations, manufacturing expertise is negative and significant.

4.4.3 Acquirer% and Negotiation Procedure

Table 12 shows the results for Acquirer% classified by type of negotiation procedure. For example, acquiring-firm shareholders capture a smaller percentage of the gain in auctions when the target-firm managers cite increase liquidity and manufacturing expertise as deal motivations. Acquiring-firm shareholders also capture a smaller percentage of the gain as the target firm increases in size relative to the acquiring firm. The most consistent explanatory variable is relative firm size.

Table 11: Acquirer% by Negotiation and Deal Motivations

This table presents the estimated coefficients from the following regressions:

$$Acquirer\% = \beta_{\propto} \propto + \beta_N Negotiate + \beta_{AM} Acquirer\ Mot. + \beta_{TM} Target\ Mot. + \beta_C Control + \varepsilon,$$

This table reports the results of OLS regressions with the Acquirer% as the dependent variable. The model includes binary variables for auctions, acquirer-to-target contact, target-to-acquirer contact, third-party initiation and the intercept reflects mutual discussion. AM and TM represent a vectors of acquirer and target deal motivations, respectively. Cash, is a binary variable if the primary method of payment cash. Regression coefficients are reported with t-statistics in parentheses. Significance is reported ***, **, and * for significance at 1%, 5%, and 10%, respectively.

Acquirer%	Coefficient	(t-stat)
(Constant)	66.625**	(2.073)
Acquirer-Target	-15.547*	(-1.695)
Target-Acquirer	-13.950	(-1.242)
Auction	20.877*	(1.718)
Third-Party	3.379	(0.213)
AM Product Development	8.847	(0.906)
AM Manufacturing Expertise	14.101	(1.101)
AM Access Capital	5.253	(0.475)
AM Increase Liquidity	-22.747*	(-1.870)
AM Expand Customers	3.433	(0.420)
AM Large Customers	-5.996	(-0.539)
TM Increase Liquidity	-1.392	(-0.170)
TM Access Capital	2.486	(0.331)
TM Technology Expertise	-4.578	(-0.506)
TM Manufacturing Expertise	-35.184**	(-2.605)
TM Expand Customer base	17.600*	(1.925)
TM Industry Consolidation	-10.464	(-1.413)
Relative Size	-32.574***	(-4.068)
Cash Pay	-15.572	(-0.857)
R^2	0.475	
Adj. R^2	0.218	
Acquirer Industry Fixed Effects	Yes	
Target Industry Fixed Effects	Yes	

Table 12: Acquirer% by Negotiation and Ratios

This table presents the estimated coefficients from the following regressions:

$$Acquirer\% = \beta_{\propto} \propto + \beta_{AM} Acquirer\ Mot. + \beta_{TM} Target\ Mot. + \beta_{C} Control + \varepsilon$$

where the dependent variable is Acquirer%. Model [1] includes results of regressions of only Auctions. Model [2] includes acquirer-to-target contact. Model [3] is for the sample of Target-Acquirer Contact. Model [4] is for Mutual Discussion. Cash, is a binary variable if the primary method of payment cash. Regression coefficients are reported with t-statistics in parentheses. Significance is reported ***, **, and * for significance at 1%, 5%, and 10%, respectively.

Acquirer%	Auctions	Acquirer-Target	Target-Acquirer	Mutual Discussion
	n=46	n=150	n=60	N=77
	[1]	[2]	[3]	[4]
Enhance Product	-20.699	3.318	24.502	14.641
Development	(-0.914)	(0.259)	(1.003)	(1.227)
AM Manufacture	29.247	-10.893	-8.195	-0.121
Expertise	(1.185)	(-0.464)	(-0.265)	(-0.008)
AM Access	22.722	-4.047	30.236	-1.752
Capital	(0.791)	(-0.253)	(1.254)	(-0.105)
AM Increase	-19.683	-38.613*	-44.039	1.741
Liquidity	(-0.524)	(-1.905)	(-1.582)	(0.098)
AM Expand	13.978	-16.568	-43.018**	11.314
Customer base	(0.844)	(-1.232)	(-2.213)	(0.844)
AM Size for Large	-1.075	-23.399*	69.930	-18.298
Customers	(-0.055)	(-1.823)	(1.600)	(-1.137)
TM Increase	-38.724**	4.932	42.795**	-8.097
Liquidity	(-2.297)	(0.397)	(2.190)	(-0.648)
TM Access	-26.350	-0.010	-27.203	16.611
Capital	(-1.398)	(-0.001)	(-1.311)	(1.377)
TM Technological	24.134	12.909	-3.800	-4.860
Expertise	(1.138)	(0.893)	(-0.169)	(-0.411)
TM Manufacture	-58.636*	-3.975	-52.795	-17.620
Expertise	(-1.778)	(-0.166)	(-1.661)	(-1.243)
TM Customer	10.600	18.875	17.498	9.143
Expansion	(0.432)	(1.337)	(0.887)	(0.747)
Relative Size	-31.770**	-29.741***	-48.500**	-36.086***
	(-2.304)	(-2.869)	(-2.297	(-3.230)
Cash Payment	-45.228	-2.694	13.382	4.535
	(-2.236)	(-0.173)	(0.447)	(0.151)
R^2	0.457	0.226	0.459	0.326
Adj. R^2	0.205	0.131	0.224	0.175
N=	46	150	60	77

5. CONCLUSIONS

This paper extends the literature on wealth distribution in mergers by examining the relation between bargaining power, negotiation procedure, and deal motivations. I find evidence to support the *bargaining power hypothesis*, which states that acquirers are more likely to capture wealth in mergers when they possess superior negotiating leverage. The deal motivations cited by both acquiring and target firms provide considerable insight about the division of gains in mergers. The negotiation process also plays a vital role in determining wealth distribution. Consistent with earlier studies, I find that larger targets are able to capture more wealth.

Testing the relation between deal motivations and the acquirer's ability to capture wealth, I find evidence that informational asymmetry is an important determinant in the division of gains. In particular, I find that targets possess superior bargaining power when operating motivations such as technological expertise, product development, or manufacturing expertise are the primary motivations cited by either the acquirer or target firm's management for entering the deal. Financial motivations are a strong indicator of wealth distribution, but the impact differs among acquirers and targets. When the target firm cites financial distress as a motivation for the merger, the acquirer is able to capture wealth. On the other hand, when the acquiring-firm managers cites financial motivations for the merger, such as a desire to increase shareholder liquidity, the acquiring-firm shareholders actually sacrifice their portion of gains. There is also evidence that acquirers lose bargaining power when they cite marketing motivations.

The negotiation process does play a major role in determining the division of gains in mergers. An insightful finding of this study is that Acquirer% is positively related to auctions. This result suggests that the winning bidder in auctions actually captures a substantial portion of wealth creation. In fact, this result is persistent throughout the various analyses and model specifications. There is also evidence that acquirers who initiate contact sacrifice bargaining power. When I use a more stringent cut-off to identify value-increasing mergers, acquirer-to-target contact is negative and significant.

I then relate negotiation procedure to the underlying deal motivations. By simultaneously testing theoretical predictions about sales procedure and bidding strategy, I provide insight into the determinants of negotiating procedure in mergers. I find evidence consistent with the *information cost hypothesis* and predictions of Hansen (2001). In the presence of information costs, a one-on-one negotiation is more likely to be used by the target than a formal auction with many bidders. In particular, when target firms cite technological expertise or a need to enhance product development, the target is less likely to use an auction than a controlled sale.

I conclude that negotiating procedure is a necessary control variable when analyzing the division of gains in mergers and managerial deal motivations provide valuable insight about the relative bargaining position of firms in a merger. By analyzing all of the possibilities with which merger talks begin, I provide a comprehensive analysis of the impact of negotiating procedure on wealth distribution. Further, I introduce a previously unidentified category of negotiating procedure, which I designate as mutual discussion. The novel approach of using managerial is also an insightful contribution of this paper. Based on the results of this analysis, deal motivations deserve further attention in studies of bargaining power.

My study provides insight into various endogenous and observable aspects of mergers. Based on the results of my analysis, acquiring firm managers should be reluctant to engage in mergers if the primary motivations for the deal are financially oriented. Acquiring firms should also be reluctant to outsource research and development via mergers. Consistent with rational overpayment, the acquirers in my sample sacrifice any wealth creation when seeking to access expertise of the target or exclusive products. Acquiring firms can also benefit from the finding that the winning bidder actually captures wealth in value-increasing mergers that begin with a target auction.

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LIST OF APPENDICES

APPENDIX A: SALES PROCEDURE WEALTH EFFECTS

Appendix A: Analysis of Target Sales Procedure:

In order to adequately analyze the choice of sales procedure, it is imperative that I include an analysis of target wealth effects. French and McCormick (1984) and Hansen (2001) predict that target-firm shareholders should earn similar returns in auctions and negotiations.

Appendix A: Target Auction compared to Controlled Sale

N=288	Auction n=137	Target-Acquirer n=151			
	Mean	*Mean*	*Difference*	*t-stat*	*Sig.*
Target Return	*[St. Dev.]*	*[St. Dev.]*			
CMARt	0.22654	0.29705	-0.07051	-1.503	0.134
	[0.31382]	[0.46042]			
CMAR11tar	0.17818	0.23053	-0.05235	-1.579	0.116
	[0.24675]	[0.27553]			
ΔMAV11tar	$56,428.84	$217,675.74	-$161,246.90	-2.740	0.007
	[$132,104.5]	[$621,807.3]			
Mkt-Cap6tar	$545,011.62	$1,315,716.91	-$770,705.29	-1.790	0.075
	[$1,056,692]	[$4,553,786]			
CMARtar25	0.22168	0.32092	-0.09924	-1.629	0.089
	[0.30974]	[0.59075]			
ΔMAV26tar	$80,093.69	$212,119.19	-$132,025.49	-2.115	0.035
	[$160,995.2]	[$655,546.8]			
MktCap26tar	$516,254.56	$1,346,418.25	-$830,163.69	-1.907	0.058
	[$997,165.7]	[$4,616,979]			

Appendix A (continued):

Cumulative Market Adjusted Returns (CMAR) for the Target

CMARt	*Model [1]*		*Model [2]*		*Model [3]*	
	Coefficient	*t-stat*	*Coefficient*	*t-stat*	*Coefficient*	*t-stat*
(Constant)	0.295***	18.73	0.359***	6.593	0.390***	0.069
Auction	-0.077*	-1.861	-0.082*	-1.890	-0.076*	0.046
Target Size			-0.0654	-0.818	-0.0453	0.000
Stock-Pay			0.026	0.754	0.026	0.038
Cash-Pay			0.113**	2.002	0.116*	0.065
Multiple bidders			-0.079*	-1.889	-0.091*	0.048
TM Economies of Scale					-0.010	0.034
TM Enhance Product Development					0.071*	0.036
TM Manufacturing Expertise					0.006	0.048
TM Access Capital					-0.010	0.033
TM Increase Liquidity					-0.008	0.035
TM Low Financial Performance					-0.055	0.055
TM Expand Customer base					-0.105***	0.036
TM Industry Consolidation					0.023	0.036
Adj. R^2 =	0.009		0.003		0.016	
N =	288		288		288	

APPENDIX B: VARIABLE DESCRIPTION

Appendix B: Variable Definitions

Variable	Description	
Panel A. Dependent Variables		
ΔMAV^A	Change in acquiring-firm shareholder value.	
ΔMAV^T	Change in target-firm shareholder value.	
%Gain	The combined change in market value for both the acquirer and target shareholders.	
Acquirer%	The Acquirer's change in market value, divided by the combined change in market value.	
Panel B. Negotiation Dummies		
Auction	Binary Variable: 1 if the target utilizes an auction, 0 otherwise.	
Target-to-Acquirer	Binary Variable: 1 if the target contacts the acquirer, 0 otherwise.	
Acquirer-to-Target	Binary Variable: 1 if the acquirer initiates contact, 0 otherwise.	
Third-party	Binary Variable: 1 if a third-party initiates contact, 0 otherwise.	
Mutual Discussion	Binary Variable: 1 if the parties begin discussions on a mutual platform, 0 otherwise.	
Panel C. Strategic Objectives		
	Related mergers have the same 2-digit SIC code	
	Geographic Expansion	Related
	Broaden Product Line	Related
	Increase Market Share	Related
	Vertical Integration	Both
	Diversification	Unrelated
Panel D. Deal Motivations		
	Acquirer Motivations	
	Target Motivations	
Panel E. Main Control Variables		
Target Size	Market Capitalization of the Target (at t-26)	
Acquirer Size	Market Capitalization of the Target (at t-5)	
Relative Size	Target Market-Cap/ Acquirer Market-Cap	
Tobin's q Ratio	Market value of assets over book value: (item6 – item60 + item25* item199) / item6	
Debt Ratio	(Long-term Debt + Current Liabilities) / Total Assets	
Leverage	(Long-term Debt / Total Asset)	
Market to Book	The market value of equity divided by the book value of equity.	
Panel F. Deal Characteristics		
Cash	Dummy Variable: 1 for purely cash-financed deals, 0 otherwise.	
Stock	Dummy Variable: 1 for purely stock-financed deals, 0 otherwise.	

Appendix B.2	**Distribution of Gains**	
Acquiring-Firm Managers Cite:	**Deal Motivations**	**Predicted Sign**
Operating Motivations		
	Cost Savings: Economies of Scale	**(+/-)**
	Better Product	**(-)**
	Technological Expertise or	**(-)**
	New Product Development	**(+/-)**
	Manufacturing Capability or Expertise	**(-)**
	Seasoned Management	
Marketing Motivations		
	Greater Size to Compete for Larger Customers	**(+/-)**
	Expand Customer-base	**(+/-)**
	Relationship with Specific Customer	**(-)**
	International Sales	**(+/-)**
Financial Motivations		
	Access to Capital	**(-)**
	Greater Liquidity	**(-)**
	Quicker use of NOL	**(+)**
	Use Excess Cash	**(+)**
Target Firm Managers Cite		**Predicted Sign**
Operating Motivations		
	Cost Savings: Economies of Scale	**(+/-)**
	Technological Expertise	**(-)**
	New Product Development	**(-)**
	Manufacturing Capability or Expertise	**(+)**
	Seasoned Management	**(+/-)**
Marketing Motivations		
	Greater Size to Compete for Larger Customers	**(+/-)**
	Expand Customer-base	**(+/-)**
	Relationship with Specific Customer	**(+)**
	International Sales	**(+/-)**
Financial Motivations		
	Access to Capital	**(+/-)**
	Greater Liquidity	**(+)**
	Weak Financial Performance (low earnings)	**(+)**
	Severe Financial Problems (i.e. default)	**(+)**

APPENDIX C: DEAL MOTIVATION EXAMPLES

Appendix C: (Panel A) Examples of Operating Motivations for Acquisitions

1. Cost savings and / or the opportunity to realize economies of scale.

Typical of acquisitions that cite this reason is Fritz Companies' acquisition of Intertrans Corporation. The Fritz Board believes that the merger not only enhances "Fritz's position as a freight consolidator through economies of scale in consolidating shipments," but also presents "opportunities for further operating leverage by recognizing economies of scale in operating costs, thereby presenting opportunities for increased operating margins."#A (ID #1166)

2. Acquiring (or target) firm has a better product

When Advanced Micro Devices (AMD) acquired NexGen, the acquiring-firm managers indicated that "NexGen's advanced state of development of its sixth generation (microprocessor) design enables AMD to cease activity on its own sixth generation design project and redirect those resources to future microprocessor generations." #C (ID #1426)

3. Add acquiring (or target) firm's seasoned management team to resolve management succession.

Typical of acquisitions that cite this motivation is Safeway's acquisition of Vons Companies. The Vons Board noted that "absent the proposed Merger with Safeway, the Vons Board would have to resolve plans for senior management succession since Vons' Chairman and Chief Executive Officer was scheduled to retire in April 1997, which was the same time Vons' Chief Operating Officer's employment agreement expired." #B (ID #1841)

4. Acquiring (or target) firm's technological expertise and / or the opportunity to enhance new product
development

Typical of mergers that cite this reason is Tracor's acquisition of AEL Industries. #D (ID # 1403)

5. Acquiring (or target) firm's manufacturing capability

Typical of acquisitions that cite this reason is Watson Pharmaceutical's acquisition of Circa Pharmaceuticals. Watson's Board notes that "Circa currently has excess production, research and distribution facilities, which could be advantageous to the combined company." #E (ID #1215)

6. Resolve actual or potential litigation.

Typical of acquisitions that cite this reason is Boston Scientific Corporation's acquisition of Target Therapeutics. At the time of the takeover announcement, Boston Scientific was fighting a patent infringement lawsuit filed by Target Therapeutics. #F (ID #1937)

Appendix C: (Panel B) Examples of Marketing Motivations for Mergers

1. Acquiring (or target) firm's relationship with a particular customer

When 3Com Corporation acquired Chipcom Corporation, the acquiring-firm managers cited the opportunity "to significantly expand 3Com's relationship with IBM by improving and leveraging the existing Chipcom / IBM strategic relationship." Note G (ID #1331)

2. Greater size to compete for larger customers

Typical of acquisitions that cite this reason is Collins and Aikman's acquisition of Larizza Industries. Larizza's Board cites the preference of automotive original equipment manufacturers for suppliers that can "meet increasingly stringent standards for quality, cost and full-service capabilities, including design, engineering, product management support and the ability to provide complete systems, rather than individual components. The automotive original equipment manufacturers have also begun to prefer suppliers that are able to supply them globally." Note H (ID #1400)

3. Broaden the acquiring (or target) firm's customer base

Typical of acquisitions that cite this reason is HBO & Company's (HBOC) acquisition of CliniCom Incorporated. CliniCom's Board notes that "after entering into the HBOC Agreement in December 1993, 29% of CliniCom's total revenues in 1994 were received through HBOC, and revenues from HBOC have represented more than 50% of CliniCom's revenues in 1995." CliniCom's Board states that HBOC's "larger customer base and marketing organization offers opportunities for wider distribution of the CliniCom system." Note I (ID # 1321)

4. Gain access to worldwide distribution system

Typical of acquisitions that cite this reason is Acclaim Entertainment's acquisition of Lazer-Tron Corporation. Among other benefits, Lazer-Tron's Board cites "the potential ability to increase international revenues through Acclaim's broad international distribution and marketing network."

Note J (ID # 1185)

Appendix C (Panel C): Examples of Financial Motivations for Mergers

1. Larger firms have greater access to capital.

When Kuhlman Corporation acquired Schwitzer Inc., Kuhlman's Board anticipated that the "combined companies will be able to capitalize on the opportunities available to a much larger company in the capital markets." Note K (ID # 1179)

2. Acquiring (or target) firm's financial strength

Typical of acquisitions that cite this reason is Richfood Holding's acquisition of Super Rite Corp. Super Rite's Board cites "the strong balance sheet and significant cash flow of the combined entity, which among other things would enhance the ability of the combined entity to fund additional expansion, both of the wholesale business and of the retail business." Note L (ID # 1300)

3. Target has severe financial problems (e.g., the firm either is currently not in compliance with its loan covenants, or is likely to default on its debt obligations in the absence of a merger).

Typical of acquisitions that cite this reason is Federated Department Stores' acquisition of Broadway Stores. Broadway's Board of Directors considered "the significant risk that, in light of limitations on Broadway's working capital financing and the general weakness in its operating results, significant vendors might refuse to ship merchandise for the Fall and Christmas seasons and that Broadway might have no recourse to obtain additional working capital financing other than in the context of reorganization proceedings under the United States Bankruptcy Code." Note M (ID #1345)

4. Increase shareholder liquidity

Typical of acquisitions that cite this reason is Tidewater's acquisition of Hornbeck Offshore Services. Hornbeck's Board suggests that Hornbeck shareholders will benefit as a result of the stock swap because of "the greater liquidity provided by Tidewater Common Stock with over 60 million shares outstanding following the Merger, compared to over 13 million shares outstanding for Hornbeck before the Merger, together with expanded analyst coverage and potentially greater investor interest." Note N (ID #1468)

5. Quicker use of NOL

Ceridian Corporation's acquisition of Comdata Holdings illustrates this reason. Note O (ID #1361)

ESSAY 3: MERGER OUTCOMES AND THE FINANCIAL CRISIS: DOES BARGAINING POWER CHANGE IN THE PRESENCE OF CAPITAL CONSTRAINTS?

1. INTRODUCTION

Mis-valuation theory suggests that the over-estimation of synergies by managers and investors can drive merger waves. For example, Rhodes-Kropf and Viswanathan (2004) and Shleifer and Vishny (2003) argue that merger activity is related positively to stock market valuations, and Harford (2005) suggests that merger activity is correlated negatively with changes in interest rates. Eisfeld and Rampini (2003) show that variation in capital liquidity strongly impacts the degree of total capital reallocation in the economy. However, despite the evidence about the relation between capital market conditions and the level of merger activity, relatively few studies examine how merger waves affect value creation (i.e., the combined gain earned by acquiring- and target-firm shareholders) and value distribution (i.e., how managers distribute the combined gain between acquiring- and target-firm shareholders). The recent financial crisis (2008-2010) and subsequent recovery (2011-2013) provide a natural experiment for examining these issues.

My study contributes to the literature in three ways. First, I test whether mergers announced during the financial crisis produced larger combined gains for acquiring- and target-firm shareholders than mergers announced during the pre- or post-crisis periods. Bouwman, Fuller, and Nain (2009) conclude that more disciplined firms make better acquisition decisions

during periods of low valuation. Consistent with their results, I show that the relative percentage of value-increasing mergers is correlated negatively with merger activity.[27]

Second, I examine how the merging managers' strategic objectives and deal motivations changed as a result of the financial crisis. I find that the frequency of target firms citing severe financial problems is linked to the level of financial market stress. I also find that, while it is difficult for firms to raise external capital, the relative frequency of financial motivations increases when compared to operating and marketing motivations. Third, I test the relation between capital availability and the relative bargaining power of the acquiring- and target-firm managers. I find that acquiring-firm managers sacrifice a larger percentage of the combined gain when capital market conditions deteriorate.

The remainder of this paper is organized as follows: Section 2 discusses the hypothesis development. Section 3 describes the sample and method. Section 4 discusses my results, and Section 5 summarizes my conclusions.

[27] A value-increasing merger refers to a merger that increases the wealth of the acquiring- and target-firm shareholders by more than 4% of the combined, pre-merger market capitalizations of the merging firms. A value-decreasing merger refers to a combined loss less than -4%.

2. LITERATURE REVIEW

2.1 Explanations of Merger Waves

The finance literature identifies two primary schools of thought regarding the determinants of merger waves: mis-valuation and industry shocks. The mis-valuation theory suggests that managers and investors tend to overestimate the synergies from mergers and acquisitions. Consistent with this hypothesis, Nelson (1959) suggests that increases in merger activity are not only a phenomenon of prosperity, but also closely related to the state of the capital market. Bouwman, Fuller, and Nain (2009) find that there are about three times as many acquisitions during high-valuation markets than during low-valuation markets.

On the other hand, the neo-classical view suggests that merger waves occur as a result of industry restructurings driven by regulatory, technological, and economic shocks. For example, Jovanovic and Rousseau (working paper, 2001) conclude that mergers are explained by changes in technology as opposed to changes in anti-trust or regulatory policy.[28]

Harford (2005) combines the two views. He finds that economic, regulatory, and technological shocks can drive industry merger waves, but he concludes that capital market conditions also play a role. Whether a particular shock leads to a merger wave depends on capital liquidity. He suggests that high capital market liquidity along with lower financing constraints often produce ideal conditions for industry shocks to become merger waves. The more recent theoretical model of Martos-Vila, Rhodes-Kropf, and Harford (2014) suggest that debt mis-

[28] Other relevant studies include Harford (2005), Shleifer and Vishny (2003) and Mitchell and Mulherin (1996).

valuation can not only increase merger activity, but also impact the relative frequencies of financial and strategic buyers.

2.2 Value Creation and Merger Activity

Rhodes-Kropf and Vishnawanathan (2004) propose a theory that explains why merger waves occur during valuation waves. Rhodes-Kropf and Viswanathan (2004) model both firm-specific and market-wide components of stock prices, and show that mis-valuation leads to *ex post* mistakes that are correlated with market valuation. The model suggests that in high valuation periods, merger offers appear more attractive so that target-firm managers are more likely to accept an offer. On the other hand, in low valuation periods, targets will accept bids only if the expected synergistic benefit is greater than the target-firm's relatively lower standalone value. The basic intuition is that the best *deals* from the acquiring-firm shareholders' perspective are initiated when the stock market is depressed, while the worst deals are initiated when the stock market is booming.

Shleifer and Vishny (2003) create a model based on stock market mis-valuation that explains the decision to acquire, the choice of payment method, the valuation consequences of mergers, and merger waves. They suggest that bidders succeed at cashing in on the temporary market overvaluation of their stocks because target-firm shareholders have a short time horizon.

Prior empirical evidence suggests that value creation changes depending on the state of the financial markets. In their analysis of different valuation periods, Bouwman et al. (2009) find that regardless of the payment method, acquisitions by low-valuation acquirers outperform those made by high-valuation acquirers. Thus, I expect the proportion of value-increasing mergers will increase as merger activity decreases.

H1 (Value-Creation Hypothesis): The prevalence of value-increasing mergers is negatively correlated with merger activity.

2.3 Corporate Strategy

Previous research suggests that changes in economic conditions can affect acquiring-firm managers' strategic objectives. For example, Andrade, Mitchell, and Stafford (2001) suggest that there was less hostility in the 1990s and an increase in related acquisitions (same 2-digit SIC). On the other hand, the co-insurance effect introduced by Lewellen (1971) implies that there are benefits to a diversification strategy. By combining uncorrelated activities, a merged firm can reduce cash-flow volatility, reduce the risk of default, and also increase the firm's debt capacity.[29]

Consistent with Lewellen's hypothesis, Gosh and Jain (2000) suggest that merging firms can increase their financial leverage as a result of an increase in debt capacity. Dimitrov and Tice (2006) find that diversified firms performed better than focused firms during weak economic conditions. Kuppuswamy and Villalonga (2010) also suggest that diversification creates value in the presence of a financial crisis because of financing advantages. Specifically, diversified companies' access to internal capital markets is more valuable with the existence of external capital market constraints. As a result, I hypothesize that the frequency of diversifying mergers should increase during the financial crisis.

H2 (Corporate Strategy Hypothesis): The frequency of un-related (diversifying) mergers will increase during the financial crisis.

2.4 Deal Motivations

[29] The merger between Energy Transfer Partners (ETP) and Sunoco illustrates the benefits of diversification as perceived by the companies' managers. According to the S-4 filing, "ETP believes the merger will diversify its cash flow, as the combined company will derive a significant and growing portion of its cash flow from serving the crude oil, refined products and NGL markets. Sunoco's retail business and iconic brand will add another source of stable cash flow to ETP's portfolio."

In order to better understand bargaining power, it is important to identify the underlying motivations for the deal.[30] As economic conditions change, I expect the distribution of deal motivations to change. Many firms experienced poor performance or even the threat of bankruptcy as the economy deteriorated. Difficult economic conditions reduced firm liquidity and limited managers' ability to raise capital.

While financial constraints will likely impact the decision to engage in mergers, the periods of historically low interest rates following the financial crisis should have the opposite effect. Easier access to capital leads to increased liquidity which can reduce transaction costs. Lipson and Mortal (2007) examine the relation between liquidity changes and changes in firm characteristics around mergers and acquisitions. I test whether the financial motivations for mergers changed during the financial crisis.

H3 (Financial Motivations Hypothesis): The prevalence of financially-motivated mergers is directly related to capital market cycles.

2.5 Bargaining Power

A number of studies indicate that stock market valuation impacts not only the volume of acquisitions (Ang and Cheng, 2006 and Dong, Hirshleifer, Richardson, and Teoh, 2006), but also the behavior of the participants. Holmstrom and Kaplan (2001) indicate that leverage and hostility were high during the 1980s, but decreased during the 1990s. Officer (2007) finds that acquisition discounts are significantly greater when debt capital is relatively more expensive to obtain. In addition, he suggests that acquiring-firm managers often sell overpriced stock to less overpriced targets.

[30] Leland (2007) suggests that financial synergies by themselves are insufficient to justify mergers, but they can be important in special circumstances.

I test whether the bargaining power of both acquiring- and target-firm managers changes depending on the availability of capital, the level merger activity, and broader economic conditions. I hypothesize that capital market constraints will increase the bargaining power of acquiring-firm managers. However, valuation waves and capital market cycles can affect managerial bargaining power in two ways. First, economic conditions can affect the number of competing bidders as only acquirers with a distinct bargaining advantage will choose to engage in a merger during periods of low valuation. The decrease in competition (or perceived competition) from other bidders may decrease the target-firm managers' bargaining power. Second, the target-firm managers will have limited bargaining power due to the difficulty they face in raising external capital (e.g. Officer, 2007). Using this intuition, I test the *bargaining power hypothesis* that the acquirer's negotiating leverage is negatively related to both merger activity and the availability of capital.

H4 (Bargaining Power Hypothesis): The acquiring-firm managers' bargaining power will be related positively with the level of financial stress in the economy.

Similarly, I hypothesize that target-firm managers will lose bargaining power if their firm is facing financial distress. As a result, I propose the *access to capital hypothesis*, which suggests that target-firm managers will have low bargaining power when capital market conditions are weak and the managers cite access to capital as a deal motivation.

H5 (Access to Capital Hypothesis): The target-firm managers' bargaining power is related inversely to financially-motivated deals.

3. DATA AND METHOD

3.1 Sample Selection

The sample consists of 209 mergers announced between January 1st 2004 and December 31st 2013. The sample mergers involve publicly-traded, U.S. domiciled firms. I exclude financial institutions and utilities, which eliminates 144 mergers from the sample. I exclude mergers if either the target or the acquirer was involved in another deal within a two-month window of the SDC announcement date. This requirement eliminates 49 deals from the sample. I exclude mergers that lack adequate disclosure in the SEC filings.[31]

I use the merger background section of the U.S. Securities and Exchange Commission EDGAR system to classify the deal motivations of the two parties. Following studies such as Boone and Mulherin (2007), I obtain information on the details of the negotiation procedure for each merger by reading the background section of DEFM14A and S-4 filings. My sample contains 215 mergers with S-4 filings and 71 mergers with DEFM14A filings, but the Center for Research in Securities Prices (CRSP) contains information only for both firms involved in 209 mergers.

3.2 Identification of Valuation Waves & Capital Constraints

Previous studies have used different methods for defining the financial crisis period. The National Bureau of Economic Research (NBER) considers December 2007 to be the peak period prior to the structural break in the economic cycle.[32] The *trough* of the cycle occurred eighteen

[31] I exclude all tender offers due to this requirement.
[32] Aktas, de Bodt, and Roll (2010) use the NBER recession to define the financial crisis.

months later in June 2009. Gurtler, Hibbeln, and Winkelvos (2014) use the 4th quarter of 2008 to examine the impact of the financial crisis on catastrophe bonds. Friewald, Jankowitsch, and Subra (2012), who analyze the subprime crisis, utilize dummy variables to identify liquidity constraints during the Financial Crisis. Ivashina and Scharfstein (2010) find that there was a 79% decrease of new loans to large borrowers from the credit boom in 2nd quarter of 2007 to the 4th quarter of 2008.

My study uses both a periodic analysis and a dynamic approach. Following Harford (2005), I use structural breaks to identify different periods of M&A activity. Figure 1 shows the annual merger and acquisition (M&A) value for U.S. domestic deals during the sample period. There is a substantial decrease in merger activity during the Financial Crisis. Total M & A activity of U.S. domiciled firms declined from $1,510 billion in 2007 to $826.4 billion in 2008, a decrease of 45.3%. Similarly, my sample contains 19 mergers in 2007 and 9 mergers in 2008. As a result, I use January 2008 as the beginning of the Financial Crisis. I also use the St. Louis Fed Financial Stress Index (STLFSI) to control for continuous fluctuations in capital market conditions during the financial crisis.

[Insert Figure 1 Here]

Figures 1 also shows the increase in merger activity during the recovery period. For example, my sample contains 32 mergers announced during 2012.

3.3 Method

I calculate the market-adjusted return for both acquirers and targets. I calculate the dollar change in wealth of the acquiring-firm's shareholders, ΔMAV_i^A, by computing the market-adjusted change in the acquiring-firm's market value of equity over the period t=-5 days to t=+5 days. Day t=0 refers to the announcement date reported in the SDC database.

Equation (1)

$$\Delta MAV_i^A = \left[\prod_{-5\ days}^{+5\ days}(1 + R_{it}) - \prod_{-5\ days}^{+5\ days}(1 + R_{mt})\right] \quad (P_{it=-6})(NS_{it=-6})$$

$P_{i,t=-6}$ = the common stock price of acquiring firm i on day *t* =-6;

R_{it} = the return for acquiring-firm *i* on day *t*;

R_{it} = the return on the CRSP value-weighted index (NYSE/AMEX/Nasdaq) on day t;

$NS_{it=-6}$ = the number of common shares outstanding for firm *i* on day *t*=-6; and

ΔMAV_i^T = the market-adjusted change in the target-firm's equity value over the period t = -25 days to t = +5 days (the calculation is similar to Equation 1, but I measure the market capitalization on day t = -26).

Equation (2)

$$\Delta MAV_i^T = \left[\prod_{-25\ days}^{+5\ days}(1 + R_{it}) - \prod_{-25\ days}^{+5\ days}(1 + R_{mt})\right] \quad (P_{it=-26})(NS_{it=-26})$$

Table 1 shows the change in performance during the Financial Crisis and the subsequent recovery period. Panel A reports the results for the acquiring firms. The CMARs of the acquiring firms is on average negative and significantly lower during the Financial Crisis.[33] For example, the mean $CMAR_{acq}$ for the 11-day interval [-5, +5] around the announcement date is -4.7% for the 26 sample mergers announced during the Financial Crisis (2008 – 2010). The average $CMAR_{acq}$ is +4.2% for the 57 mergers announced during the post-crisis period (2011 – 2013). Table 1 also reports average firm size (market capitalization) and the dollar changes in wealth.

[33] In order to analyze the difference in cumulative abnormal returns and cumulative market-adjusted returns, I calculate both measures. Appendix 1 provides descriptive statistics for $CMAR_{acq}$, CAR_{acq}, $CMAR_{tar}$, and CAR_{tar}. The results and conclusions of my study are not sensitive to the use of either CMAR or CAR.

Table 1: Market Adjusted Returns and Dollar Change in Value

Panel A reports the results for the sample of acquirer firms while Panel B shows the statistics for target firms. There are 209 acquirer and target observations. Column [1] shows the full sample, column [2] the Financial Crisis period, and column [3] the recovery. The CMAR [-5, +5] and CMAR [-25, +5] represents cumulative market adjusted return around the announcement date of the merger (t=0).

		Full Sample	Financial Crisis (2008-2010)	Post-Crisis (2011-2013)			
		N=209	n=26	n=57	[2] – [3]		
Panel A:	Acquirer	*Mean*	*Mean*	*Mean*	*Difference*	*t-stat*	*p-value*
Return	*CMARAcq [-5, +5]*	-0.00689	-0.04703	0.04172	-0.0887	-3.09	0.003
	CMARAcq [-25, +5]	0.00944	-0.03261	0.05988	-0.0925	-2.27	0.026
Size	*Mkt-CapAcq [-6]*	$17,920,912	$27,774,546	$32,216,487	-$4,441,941	-0.22	0.826
	Mkt-CapAcq [-26]	$17,539,607	$27,341,495	$31,270,748	-$3,929,254	-0.20	0.840
Dollar	*ΔMAVAcq [-5, +5]*	-$451,816	- $1,918,318	- $72,686	-$1,845,632	-2.04	0.044
	ΔMAVAcq [-25, +5]	-$295,654	- $2,067,448	$483,015	-$2,550,463	-2.37	0.020

Sig. (2-tailed)
Dollars in Thousands

Table 1 (Panel B) shows the results for target firms. Target-firm shareholders earn similar CMAR's during the Financial Crisis (the mean is 29.3% for the 31-day event window [-26, +5]) when compared to the post-crisis period (34.7%). A difference in means test fails to reject the null hypothesis that the two means are equal (the p-value is 42.8%). Although the market capitalization of the sample target firms is significantly greater during the Financial Crisis, I do not find a significant difference in the average dollar change in target-firm shareholder wealth across the two time periods.

Table 1: Continued

		Full Sample (2004-2013) N=209	Financial Crisis (2008-2010) n=26	Post-Crisis (2011-2013) n=57	[2] – [3]		
Panel B:	Target	*Mean*	*Mean*	*Mean*	*Difference*	*t-stat*	*p-value*
Return	*CMARTar [-5, +5]*	0.23735	0.23249	0.32317	-0.0906	-1.64	0.104
	CMARTar [-25, +5]	0.26567	0.29316	0.34691	-0.0537	-0.79	0.428
Size	*MktCap6tar [-6]*	$2,394,462	$4,281,713	$1,420,937	$2,860,775	2.01	0.047
	MktCap26tar [-26]	$2,369,628	$4,196,714	$1,420,589	$2,776,124	2.01	0.047
Dollar Change	*ΔMAV11tar [-5, +5]*	$351,682	$620,606	$333,270	$287,336	1.27	0.205
	ΔMAV26tar [-25, +5]	$356,362	$785,427	$327,489	$457,938	1.23	0.221

Sig. (2-tailed)
Dollars in Thousands

3.3.1 Combined Synergistic Gains (Losses):

I classify merger outcomes by considering both wealth creation and distribution. The combined gain, $Gain_i$, is equal to the sum of the market-adjusted change in the dollar values of the acquiring and target firms. I calculate the percentage gain (Gain%) for each completed deal by dividing $Gain_i$ by the combined pre-merger market values of the acquiring and target firms.

$$Gain\%_i = Gain_i / [(MV_{eq})^A + (MV_{eq})^T]$$

Table 2 shows the number of sample mergers per year and the annual mean and median Gain%. For example, the mean Gain% for 2007 is 5.3% when using the 31-day event window [-25, +5]. The mean Gain% declines to 1.1% in 2008 before increasing to 13.8% during 2012 (the recovery period).

Table 2: Annual Distribution of the Combined Change in Shareholder Value

The table reports results of merger characteristics before and after the financial crisis. Gain represents the combined dollar change in value for acquirers and targets (ΔMAVacq + ΔMAVtar). The variable %Gain is equal to the combined change in wealth of the acquirer and target shareholders, divided by the sum of the pre-merger equity market value of the firms (MV_{eq}^{A} and MV_{eq}^{T}, respectively). In the first and second set of results, both firms are measured at the [-5, +5] and [-25, +5] windows, respectively. In the third set of results, the acquirer is measured at the [-5, +5] window, while the target is measured at the [-25, +5] window.

		Gain% [-5, +5]			Gain% [-25, +5]			Gain%		
Year	N	Mean	Median	St. Dev.	Mean	Median	St. Dev.	Mean	Median	St. Dev.
2004	26	1.34%	1.23%	8.61%	5.08%	3.30%	13.1%	1.72%	3.42%	9.81%
2005	35	2.34%	2.20%	8.35%	3.53%	3.19%	12.8%	2.61%	3.07%	9.21%
2006	27	2.80%	-0.22%	9.69%	4.95%	3.79%	12.8%	2.76%	-0.23%	10.9%
2007	20	5.22%	3.82%	11.2%	5.33%	7.81%	12.7%	5.85%	4.36%	11.3%
2008	9	-0.20%	-1.04%	9.07%	1.11%	-0.10%	23.8%	-0.37%	-1.59%	
2009	12	1.60%	-0.39%	9.35%	4.44%	2.15%	15.6%	2.58%	-0.16%	9.99%
2010	5	-1.55%	1.19%	6.48%	-0.71%	-1.56%	11.3%	-0.89%	2.95%	6.46%
2011	12	3.89%	1.19%	15.6%	2.25%	-2.40%	15.5%	1.98%	-1.07%	16.4%
2012	31	10.61%	6.87%	12.9%	13.80%	12.1%	17.7%	11.40%	6.92%	13.4%
2013	14	6.89%	6.08%	9.80%	6.98%	5.27%	13.9%	6.83%	5.74%	9.51%
All	**209**	**3.94%**	**2.29%**	**10.7%**	**5.75%**	**3.81%**	**14.8%**	**4.27%**	**3.18%**	**11.6%**

3.3.2 Division of Gains (Losses):

In order to analyze the distribution of gains in merger, I focus on value-increasing mergers. A merger is classified as value increasing if the Gain% is greater than 4%.[34] However, the classification of value-increasing mergers also depends on the percentage of the total gain that accrues to acquiring-firm shareholders (*Acquirer %*).

$$\text{Acquirer}_i\ \% = (\Delta MAV_i^A\ /\ Gain_i) \times 100$$

A merger is value-capturing if the acquiring-firm shareholders receive more that 50% of the gain (*Acquirer%* > 50%) over the eleven-day event window. An acquisition is value-sharing if the acquiring-firm shareholders receive 0% – 50% of the gain (0% < Acquirer%) < 50%). Overpaying occurs when the acquiring-firm shareholders lose wealth (i.e., $\Delta\ MAV^A < 0$), even though the merger is value-increasing.

3.3.3 Wealth Creation and Distribution during the Financial Crisis

Table 3 reports statistics of wealth creation during the Financial Crisis and recovery period. The combined dollar gain, $Gain_i$, is significantly lower during the Financial Crisis when measured by using either the 11- or 31-day event windows. A difference in means test rejects the null hypothesis at the 5% level (the t-statistic is equal to -1.94 when Gain reflects a 31-day event window). Gain% also declines significantly (the mean difference is -7.4% when measured using the 31-day event window). The p-value is 7.1%.

Table 3 also examines how the managers distribute the combined gain. However, bargaining power (as measured by $Acquirer\%_i$) does not change significantly across the two periods. Acquiring-firm shareholders capture about 10.4% of the gain on average before the

[34] I use 4% as a subjective cut-off to provide separation between the number of value-increasing and value-decreasing acquisitions.

Financial Crisis (2005 – 2007) and receive 9.1% of the gain on average during the Financial Crisis (2008 – 2010). The mean difference is 1.3%, which is not statistically significant at conventional levels (p-value is 0.84).

Table 3: Merger Characteristics

The table reports results of merger characteristics before and after the financial crisis. Gain represents the combined dollar change in value for acquirers and targets (ΔMAVacq + ΔMAVtar). The variable %Gain is equal to the combined change in wealth of the acquirer and target shareholders, divided by the sum of the pre-merger equity market value of the firms (MV_{eq}^{A} and MV_{eq}^{T}, respectively). The variable Acquirer% represents the acquirer portion of wealth creation in mergers where the combined increase in wealth is greater than four percent. The p-values (2-tailed) are for t-statistics of differences are based on t-test of the means.

	Full Sample (2004-2013) N=209 *Mean*	Pre-Lehman (2005-2007) n=91 *Mean*	Post-Lehman (2008-2010) n=96 *Mean*	*[2]-[3] Difference*	*t-stat*	*p-value*
$Gain_i$ (dollar) *[-5,+ 5]*	-$108,377	-$1,297,711	$278,901	-$1,576,612	-2.045	0.044
$Gain_i$ (dollar) *[-26, +5]*	$51,260	-$1,282,020	$845,034	-$2,127,054	-1.94	0.056
$MV_{eq}^{A} + MV_{eq}^{T}$ *[-6]*	$21,037,579	$32,056,259	$33,455,575	-$1,399,315	-0.068	0.946
$MV_{eq}^{A} + MV_{eq}^{T}$ *[-26]*	$20,614,443	$31,538,209	$32,507,249	-$969,040	-0.049	0.961
$Gain\%_i$ *[-5,+ 5]*	0.03936	0.00370	0.08282	-0.07913	-2.841	0.006
$Gain\%_i$ *[-26, +5]*	0.05748	0.02299	0.09696	-0.07397	-1.828	0.071
Acquirer% [-5,+ 5]	-0.00467	0.03946	0.07472	-0.03526	-3.041	0.003
Acquirer% [-26, +5]	0.00785	0.10395	0.09135	0.01260	-2.247	0.027
Sig. (2-tailed)						

3.4 Outcome Distribution

Table 4 shows the annual distribution of merger outcomes during the study period. Although the sample size is relatively small, I do not find strong evidence to support H1 (the value-creation hypothesis). I classify 42.9% of my sample mergers as value-increasing in 2006 – 2007, and 42.3% of my sample mergers as value-increasing in 2008 – 2009 (the Financial Crisis period). I find the largest percentage of value-increasing mergers (61.5%) during the recovery period (2012 – 2013). On the other hand, I do find a disproportionately large number of value-decreasing mergers during the 2008 – 2011 period. This category increases from about 18% during 2004 – 2007 to 26% during 2008 – 2011. I use a chi-square test of independence to test the null hypothesis that merger outcomes are independent of time period. I reject the null hypothesis at the 0.08 level (the chi-square statistic is equal to 26.9).

Table 4 (Panel B) shows the distribution of wealth for my subsample of 94 value-increasing mergers. My sample contains only 10 value-increasing mergers during 2008 – 2011, so it is difficult to draw strong conclusions. However, I do test the null hypothesis that the distribution of the gain captured by acquiring-firm shareholders ($Acquirer\%_i$) is independent of the time period. The chi-square statistic is 9.5, which is not significant at conventional levels. As a result, the results in Table 4 do not support the H4 (the Bargaining Power Hypothesis).

Table 4: Annual Distribution of Merger Outcomes

Gain represents the combined dollar change in value for acquirers and targets (ΔMAVacq + ΔMAVtar). In Panel A, the variable %Gain is equal to the combined change in wealth of the acquirer and target shareholders, divided by the sum of the pre-merger equity market value of the firms (MV_{eq}^{A} and MV_{eq}^{T}, respectively). In Panel B, the variable Acquirer% represents the acquirer portion of wealth creation in mergers where the combined increase in wealth is greater than four percent. Percentages are for rows.

Panel A: Value Creation (*Gain%*)

	Total	*Increase*		*Neutral*		*Decrease*	
Year	N	N	%	N	%	N	%
2004-2005	62	28	45.2%	22	35.5%	12	19.3%
2006-2007	42	18	42.9%	17	40.5%	7	16.6%
2008-2009	26	11	42.3%	8	30.8%	7	26.9%
2010-2011	27	7	25.9%	13	48.2%	7	25.9%
2012-2013	52	32	61.5%	17	32.7%	3	5.8%
Full Sample	209	96	45.9%	77	36.8%	36	17.3%

Chi-Square Tests	Value	df	Sig. (2-sided)
Pearson Chi-Square	26.947a	18	0.080
Likelihood Ratio	29.866	18	0.039
Linear-by-Linear Assoc.	4.691	1	0.030
N of Valid Cases	202		

Panel B: Distribution (*Acquirer%*)

Panel B:	*Total*	*Capture*		*Share*		*Overpay*	
Year	N	N	%	N	%	N	%
2004-2005	33	7	21.3%	17	51.2%	9	27.5%
2006-2007	21	7	33.3%	8	38.1%	6	28.6%
2008-2009	7	3	42.9%	3	42.9%	1	14.2%
2010-2011	3	0	N/A	2	66.7%	1	33.3%
2012-2013	30	16	53.3%	9	30.0%	5	16.7%
Full Sample	94	33	40.5%	39	36.9%	22	22.6%

Chi-Square Tests	Value	df	Sig. (2-sided)
Pearson Chi-Square	9.527a	8	0.300
Likelihood Ratio	10.521	8	0.230
Linear-by-Linear Assoc.	4.611	1	0.032
N of Valid Cases	94		

4. RESULTS

4.1 Periodic Frequency of Strategic Objective:

Table 5 (Panel A) shows how the acquiring-firm managers' strategic objectives changed during the study period. The percentage of mergers with diversification as the strategic objective did increase from 12.5% in 2006 – 2007 to 22.7% in 2008 – 2009, but the highest percentage of diversification mergers (31.4%) was observed during 2012 – 2013 (the recovery period). Although the sample size admittedly is small, I cannot reject the null hypothesis that corporate strategy and time period are independent (the chi-square statistic is equal to 20.5, which is not significant at conventional levels). The results in Table 5 do not support H2 (the Corporate Strategy Hypothesis).

Table 5 (Panel B) focuses on the relative frequencies of related and un-related mergers. A related merger refers to a merger in which the acquiring and target firms have the same 2-digit SIC code or the same Fama - French industry classification. Fama and French identify 48 industry classifications. The results in Table B indicate that the proportion of related and unrelated mergers does vary by time period. However, I observe the largest frequency of unrelated mergers during the recovery period (2012 – 2013). The χ^2 test is significant for each of three specifications of relatedness.

Table 5: Annual Distribution of Strategic Objectives

Panel A:
Strategy

Years		*Broaden Product line*	*Increase Market Share*	*Geographic Expansion*	*Vertical Integration*	*Diversification*	*Full Sample*
2004-2005	N	21	19	10	11	14	75
	%	28.0%	25.3%	13.3%	14.7%	18.7%	100%
2006-2007	N	19	11	8	11	7	56
	%	33.9%	19.6%	14.3%	19.6%	12.5%	100%
2008-2009	N	4	6	2	5	5	22
	%	18.2%	27.3%	9.1%	22.7%	22.7%	100%
2010-2011	N	5	4	7	1	1	18
	%	27.8%	22.2%	38.9%	5.6%	5.6%	100%
2012-2013	N	11	11	6	7	16	51
	%	21.6%	21.6%	11.8%	13.7%	31.4%	100%
Total	N	60	51	33	35	43	222
	%	27.0%	23.0%	14.9%	15.8%	19.4%	100%

Chi-Square Tests	Value	df	Sig. (2-sided)
Pearson χ^2	20.507a	16	0.198
Likelihood Ratio	19.068	16	0.265
Linear-by-Linear Assoc.	2.053	1	0.152
N of Valid Cases	222		

Panel B: Related Mergers

2-digit SIC		Un-Related	Related	Total
2004-2005	Count	17	58	75
	% row	22.7%	77.3%	100.0%
2006-2007	Count	12	44	56
	% row	21.4%	78.6%	100.0%
2008-2009	Count	7	15	22
	% row	31.8%	68.2%	100.0%
2010-2011	Count	2	16	18
	% row	11.1%	88.9%	100.0%
2012-2013	Count	22	29	51
	% row	43.1%	56.9%	100.0%
Full	Count	60	162	222
Sample	% row	27.0%	73.0%	100.0%

Chi-Square Tests	Value	df	Sig. (2-sided)
Pearson χ^2	10.892a	4	**0.028**
Likelihood Ratio	10.794	4	0.029
Linear-by-Linear Assoc.	5.006	1	0.025
N of Valid Cases	222		

FF-48		mismo48ff		Total
		Un-related	Related	Total
2004-2005	Count	15	58	73
	% row	20.5%	79.5%	100.0%
2006-2007	Count	10	42	52
	% row	19.2%	80.8%	100.0%
2008-2009	Count	7	14	21
	% row	33.3%	66.7%	100.0%
2010-2011	Count	2	15	17
	% row	11.8%	88.2%	100.0%
2012-2013	Count	21	29	50
	% row	42.0%	58.0%	100.0%
Full	Count	55	158	213
Sample	% row	25.8%	74.2%	100.0%

Chi-Square Tests	Value	df	Sig. (2-sided)
Pearson χ^2	11.444a	4	**0.022**
Likelihood Ratio	11.178	4	0.025
Linear-by-Linear Assoc.	6.084	1	0.014
N of Valid Cases	213		

3-digit SIC		mismo3sic		Total
		Un-related	Related	Total
2004-2005	Count	24	51	75
	% row	32.0%	68.0%	100.0%
2006-2007	Count	18	38	56
	% row	32.1%	67.9%	100.0%
2008-2009	Count	10	12	22
	% row	45.5%	54.5%	100.0%
2010-2011	Count	6	12	18
	% row	33.3%	66.7%	100.0%
2012-2013	Count	31	20	51
	% row	60.8%	39.2%	100.0%
Full	Count	89	133	222
Sample	% row	40.1%	59.9%	100.0%

	Value	df	Sig. (2-sided)
Pearson χ^2	13.216a	4	0.010
Likelihood Ratio	13.078	4	0.011
Linear-by-Linear Assoc.	10.125	1	0.001
N of Valid Cases	222		

4.2 Financial Motivations for Mergers

In order to analyze the role that financial motivations play in bargaining power during the Financial Crisis, I examine the deal motivations cited by managers in the SEC filings. I also incorporate firm-characteristics routinely associated with a firm's financial standing. In addition, I provide an analysis of the target-firm characteristics when managers cite financial motivations as a reason for merger.

4.2.1 Deal Motivations

Table 6 (Table A) shows the frequencies of selected deal motivations cited by the target-firm managers. For example, the sample contains 21 mergers announced during 2008 and 2009 (see Table 2). The managers of 12 target firms (or 57% of the 21 total sample mergers) cited access to capital as a deal motivation. Similarly, the sample contains 17 mergers announced during 2008 and 2009. The managers of 5 target firms (29.4%) cited reducing cash-flow volatility as a motivation for the merger. Note that the percentages do not add to 100% because managers can cite multiple motivations for each merger. For my sample of 209 mergers, 86 (or 41.1%) of the target-firm managers cited access to capital as a deal motivation. Increasing liquidity was the second most frequently cited motivation (61 managers or 29.2% of the sample mergers.

Table 6 (Panel B) shows the frequencies of selected deal motivations cited by the acquiring-firm managers. The most frequently cited motivation was access to capital (cited in 46 (or 22%) of the 209 sample mergers). Acquiring-firm managers were least likely to cite the use of tax credits from net operating losses (4.3%) or the use of excess cash (0.5%) as deal motivations.

Table 6: Annual Distribution of Deal Motivations

Panel A: Target Financial Deal Motivations

	Access Capital		*Increase Liquidity*		*Low Financial Performance*		*Severe Financial Problems*	
Years	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*
2004-2005	31	50.82%	20	32.79%	3	4.92%	1	1.64%
2006-2007	20	42.55%	14	29.79%	7	14.89%	1	2.13%
2008-2009	12	57.14%	8	38.10%	2	9.52%	2	9.52%
2010-2011	11	64.71%	9	52.94%	2	11.76%	1	5.88%
2012-2013	12	26.67%	10	22.22%	11	24.44%	4	8.89%
Total	86		61		25		9	

Panel B: Acquirer Motivations

	Access Capital		*Increase Liquidity*		*Target's Financial Strength*		*Use Net Operating Loss*	
Years	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*
2004-2005	16	29.6%	10	18.5%	6	11.1%	3	5.6%
2006-2007	16	40.0%	8	20.0%	3	7.5%	2	5.0%
2008-2009	7	35.0%	4	20.0%	0	0.0%	1	5.0%
2010-2011	4	26.7%	3	20.0%	4	26.7%	2	13.3%
2012-2013	3	6.0%	2	4.0%	6	12.0%	1	2.0%
	46		27		19		9	

4.2.2 Firm Characteristics

There are several firm and deal characteristics that will impact bargaining power. The firm characteristics most relevant to this study involve financial performance and debt capacity.[35] For example, Gort (1969) finds that the average P/E ratio was higher for acquirers than their targets. In order to proxy for *eagerness* on the part of the target, Aktas, de Bodt, and Roll (2010) use the debt-ratio. The intuition is that the target-firm shareholders' eagerness to sell could be related positively to the debt ratio.

[35] Appendix B provides an overview of Variable Descriptions.

Table 7: Firm Characteristics

The table reports the mean firm characteristics before and after the financial crisis with t-tests for the difference in means. I use quarter 4, 2008 as the break. *D/E* is the debt-to-equity ratio. *M/B* is the market-to-book ratio. *P/E is price divided by* earnings per share. *Leverage* is long-term debt divided by total assets. The *Intangible* ratio is intangible assets divided by total assets.

Panel A: Acquirer Ratios

Acquirer Statistics	Full Sample N=209 *Mean*	Pre-Lehman (2005-2007) n=61 *Mean*	Post-Lehman (2008-2010) n=20 *Mean*	*[2]-[3]* *Difference*	*t-stat*	*p-value*
Market/Book$_i$	6.075	6.3353	10.0425	-3.7072	-0.567	0.572
P/E$_i$	18.659	27.7149	15.4133	12.3016	1.744	**0.085**
Debt-Ratio$_i$	0.2354	0.2095	0.2188	-0.0093	-0.158	0.874
Leverage	2.995	1.4490	3.9902	-2.5412	-0.898	0.372
Intangible	0.2431	0.2491	0.2343	0.0149	0.260	0.796
Sig. (2-tailed)						

Panel B: Target Ratios

Target Statistics	Full Sample N=209 *Mean*	Pre-Lehman (2005-2007) n=61 *Mean*	Post-Lehman (2008-2010) n=20 *Mean*	*[2]-[3]* *Difference*	*t-stat*	*p-value*
Market/Book$_i$	2.128	3.6785	3.4036	0.2748	0.281	0.780
Debt-Ratio	0.2262	0.1385	0.1905	-0.0520	-1.106	0.273
Intangible	0.2205	0.2159	0.2236	-0.0077	-0.117	0.907
Leverage	0.2905	0.5274	1.3233	0.7959	1.100	0.274
Sig. (2-tailed)						

Table 7 provides an overview of the firm characteristics examined by my study. In order to compare the changes in firm characteristics, I analyze firm financial ratios in the three years preceding (2005-2007) and during the financial crisis (2008-2010). Table 7 shows that acquirers had average *P/E* ratios of 27.72 before the financial crisis, which were significantly higher than the average *P/E* ratios of 15.41 during the financial crisis.[36] However, I did not find a significant difference between the means observed before and during the Financial Crisis for the other variables. The latter statement also holds for target firms (see Panel B).

4.2.3 Deal Motivations and Financial Ratios

In order to understand the bargaining power of firms, I compare the deal motivation of target-firm managers to selected target-firm financial ratios. Table 8 shows the results of difference tests of the means of the financial ratios and target deal motivations. Target-firm managers who cite a desire to 'access capital' via the merger have significantly higher debt ratios, 0.2353, when compared to target-firm managers who do not cite this objective (the mean debt ratio is 0.1820).

The deal motivation designated as 'low financial performance' applies when the target-firm managers cite consecutive quarters of missed earnings announcement predictions. However, this deal motivation does not imply specific financial characteristics regarding the debt or market-to-book ratios.

The deal motivation designated as 'severe financial problems' applies when the target-firm managers cite either a default on loan payments, or a ratings down-grade that leaves the firm with an inability to raise external capital. Targets that cite severe financial problems have debt ratios

[36] Bouwman, Fuller and Nain (2009) look at the acquirer's M/B, but identify valuation periods with P/E ratios.

of 0.4082, which is significantly higher than other targets (the mean debt ratio for the latter group is 0.1990). The results of Table 8 provide support for using financial deal motivations in the subsequent analysis.

Table 8: Deal Motivations and Financial Ratios

This table reports firm level statistics by each of the three categories for wealth distribution in value-increasing mergers. The Debt-Ratio is total debt divided by total assets. *M/B* is the market-to-book ratio. *Leverage* is long-term debt divided by total equity.

Table 8: Target Debt Ratios

Target Deal Motivations

Access Capital (1,0)

	Mean	*difference*	*Sig.*	*t-stat*
Debt Ratio	0.2353	0.0533	**0.097**	1.338
	0.1820			
M/B	3.2673	1.3131	0.670	1.549
	1.9543			
Leverage	0.0408	1.1073	0.500	0.567
	-1.0665			

Low Fin. Performance (1,0)

	Mean	*difference*	*Sig.*	*t-stat*
Debt Ratio	0.2090	0.0051	0.920	0.087
	0.2039			
M/B	2.6371	0.1354	0.653	0.106
	2.5018			
Leverage	0.8962	1.8007	0.487	0.691
	-0.9045			

Severe Fin. Problems (1,0)

	Mean	*difference*	*Sig.*	*t-stat*
Debt Ratio	0.4082	0.2092	**0.016**	1.852
	0.1990			
M/B	1.0321	-1.5403	0.513	-0.626
	2.5723			
Leverage	-0.0780	0.5368	0.749	0.114
	-0.6149			

4.3 Wealth Creation

There are considerable changes in corporate strategy throughout the financial crisis and subsequent recovery. To better understand the role that corporate strategy plays in wealth creation during different periods, I analyze the combined gain in a multi-variate setting.[37] Table 9 examines the determinants of value-creation. The primary variables of interest are the binary variables representing different time periods. The intercept reflects a diversification strategy in each of the models and a merger involving a mixed payment (Models [2] and [4]).

In Model [1] the variable for post Lehman Brothers is positive and significant, which suggests that the combined change in value was 2.652% greater after the fall of Lehman Brothers. The intercept term is significant and positive, which implies that a diversification strategy is value-increasing throughout the sample period. The binary variable geographic expansion is positive and significant in each of the four model specifications. This result provides evidence that a corporate strategy involving geographic expansion was value-creating throughout the sample period. Models [3] and [4] utilize Pre-Crisis and Financial-Crisis binary variables, which represent the two years before and during the crisis, respectively. The coefficient for the crisis period is negative and significant in model [4], which suggests that value creation decreased during the period of 2008 and 2009.

[37] *Gain = f (Strategy | Capital Availability)*

Table 9: Determinants of Value Creation

The results of this table are of OLS regressions of the model below.

$$Gain\% = \propto + S_1\ (Strategy\ Vector)_i + \beta_1 MultiBid(1,0) + \beta_2 Cash(1,0) + \beta_3 TranSize + \varepsilon_{i,t}$$

The sample consists of 209 mergers from January 1st, 2004 to December 31st, 2013. The dependent variable *Gain%* is equal to $Gain_i$ divided by the sum of the pre-merger equity market values of the acquiring and target firms (MV_{eq}^{A} and MV_{eq}^{T} , respectively). The variable of interest represent different time intervals associated with the Financial Crisis. Consistent with Furtler, Hibbeln, and Winkelvos (2014), I use the 4th quarter of 2008 as a structural break. Models [3] and [4] include binary variables for Pre-Crisis and Post-Crisis. Where S_1 is a vector of binary variables representing five mutually exclusive strategic objectives. I report *t*-statistics in parentheses with ***, **, and * denoting statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

DV: Gain%

	[1]	[2]	[3]	[4]
(Constant)	3.695*	6.603	6.116***	10.841**
	(1.900)	(1.508)	(3.193)	(2.272)
Lehman (1,0)	2.652*	3.389		
(Post=1, Pre=0)	(1.681)	(1.527)		
Pre-Crisis			-1.361	-1.454
(2005-2007)			(-0.814)	(-0.652)
Crisis-period			-4.101	-11.249*
(2008-2009)			(-1.641)	(-1.867)
Geographic	5.467**	10.260***	4.940*	9.350**
Expansion	(2.007)	(2.702)	(1.808)	(2.409)
Broaden	-3.472	-1.690	-3.873*	-2.998
Product-line	(-1.505)	(-0.573)	(-1.682)	(-1.024)
Increase	0.855	1.940	0.586	0.922
Market Share	(0.360)	(0.637)	(0.247)	(0.303)
Vertical	-3.282	-0.497	-3.325	-1.274
Integration	(-1.257)	(-0.159)	(-1.270)	(-0.412)
Stock (1,0)		-5.428		-6.751**
		(-1.659)		(-2.039)
Cash (1,0)		-2.687		-3.750
		(-0.818)		(-1.106)
Multi-Bidders		-0.995		0.431
		(-0.765)		(-0.790)
N=209	N=209	N=209	N=209	N=209
R^2	0.085	0.149	0.084	0.158
Adj. R^2	0.062	0.091	0.058	0.093

Table 10: Determinants of Value Creation by Period

The results of this table are of OLS regressions of the model below.

$$Gain\% = \propto + S_1\ (Strategy\ Vector)_i + \beta_1 Period + \varepsilon_{i,t}$$

The sample consists of 209 mergers from January 1st, 2004 to December 31st, 2013. The dependent variable *Gain%* is equal to *Gain*$_i$ divided by the sum of the pre-merger equity market values of the acquiring and target firms (MV_{eq}^{A} and MV_{eq}^{T} , respectively). The variable of interest represent different time intervals associated with the Financial Crisis and Sample. S_1 is a vector of binary variables representing five mutually exclusive strategic objectives. I report *t*-statistics in parentheses with ***, **, and * denoting statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

		[1]		[2]		[3]	
		Coefficient	t-stat	Coefficient	t-stat	Coeff.	t-stat
	(Constant)	2.20	(1.563)	2.60	(1.103)	4.60**	(2.204)
Strategy	Geographic Expansion			5.90**	(2.037)	4.10	(1.407)
	Broaden Product line			-3.10	(-1.258)	-4.30*	(-1.714)
	Increase Market Share			1.00	(0.398)	-0.10	(-0.021)
	Vertical Integration			-2.70	(-0.924)	-3.20	(-1.076)
Period	Pre-Crisis (2006-2007)	2.40	(1.066)	2.60	(1.144)		
	Crisis (2008-2009	0.80	(0.321)	-0.60	(-0.207)		
	Recovery (2010-2011)	-0.20	(-0.093)	-2.70	(-0.860)		
	Post (2012-2013)	7.70***	(3.648)	7.60***	(3.451)		
	St. Louis Fed Index					-2.00*	(-1.688)
	N	209		209		209	
	R^2	0.074		0.146		0.077	
	Adj. R^2	0.056		0.108		0.051	
	F-stat	4.105		3.823		3.272	
	p-value	.003		<.001		<.001	

4.3.1 Wealth Creation during Valuation Waves and Financial Market Stress:

Table 10 shows the combined gain based upon different valuation periods and the level of financial market stress.[38] The results of Models [1] and [2] indicate that there was not a significant change in value creation throughout the sample period with the exception of 2012-2013. Model

[38] Bouwman, Fuller, and Nain (2009) identify three valuation periods (high, neutral, and low). They classify overall stock market valuation for a month based on the de-trended P/E ratio of the S&P 500 index.

[2] also shows that geographic expansion was a value-creating corporate strategy for acquirers, even after controlling for the different time periods of the sample period.

Model [3] substitutes the St. Louis Federal Reserve Financial Stress Index (STLFSI) for the time period indicator variables.[39] The coefficient for the St. Louis Fed Index is negative and statistically significant.[40] As the stress index increases indicating lower capital availability, Gain% increases. This result does support H1 (the value creation hypothesis). Merger gains are larger during difficult economic conditions. This finding also is consistent with the predictions of Rhodes-Kropf and Viswanathan. With regard to corporate strategy, the results in Table 10 indicate that the combined value (Gain%) is lower when the acquiring-firm's corporate strategy is broadening product line.

4.4 Division of Gain

4.4.1 Bargaining Power Model

The distribution of wealth in mergers should depend on the relative bargaining power of a firm and the manager's ability to finance daily operations. In order to test the bargaining power hypothesis, I analyze the acquirer's ability to capture wealth given the availability of capital and total merger activity. Whenever I use *Acquirer%* as the dependent variable, the sample is reduced to the 96 mergers that were value-creating.

$$\text{Acquirer\%} = f\,(\text{Motivations, Bargaining Power} \mid \text{Cost of Capital, M\&A Activity})$$

Table 11 analyzes the acquiring-firms' bargaining power given the level of systemic stress in financial markets. To control for financial market stress, I use the St. Louis Fed Stress Index.

[39] See AppendixAfor a full description of the St. Louis Fed Stress Index.
[40]Harford (2005) estimates capital market liquidity by calculating the spread between the average business loan rate and the Federal Funds Rate.

Negative index values indicate below-average financial market stress, and positive values indicate above-average financial market stress. In each of the six model specifications, the coefficient for the St. Louis Fed Index is negative and highly significant. In contrast to H4 (the Bargaining Power Hypothesis), acquiring-firm shareholders capture less gain when external capital is more difficult to attain (i.e., the index value is higher).

The primary variables of interest are indicators of the target firms' financial reasons for merger. In Models [1], [2], and [3], the variable target-financial-problems takes a value of 1 if the target-firm managers cite either 'low financial performance' or 'severe financial problems' as a deal motivation. When targets cite financial problems, the percentage of the gain captured by the acquirer increases by 48% points. Consistent with the predictions of H5 (Access to Capital Hypothesis), acquirers gain considerable bargaining power when the target is experiencing financial distress.

In Models [4], [5], and [6], I include an acquiring- and target-firm financial motivation index. Each index measures the number of financial motivations cited by either the acquiring- or target-firm managers. The *acquirer motivation index* has a possible range of one to four motivations, and the *target motivation index* has a possible range of one to five motivations. Higher index values imply greater financial motivation for completing the merger (and lower bargaining power by the firm's managers). The coefficient for the target financial motivation index is positive and significant. The result implies that acquirers are able to capture more wealth the greater the target-firm managers' financial motivation for completing the merger. Similarly, the acquiring-firm managers' capture a lower percent of the value created, when acquiring-firm managers' cite financial motivations for completing the merger. These results do support H4 and H5.

Table 11: Bargaining Power in the Presence of Financial Distress

Target Distress and Financial Stress

The table reports results of OLS regression with the Acquirer% as the dependent variable. The variables St. Louis Fed Index represents the systemic level of stress from various benchmarks such as the Fed Funds Rate, Aaa rated securities. LIBOR, and Euro-Dollar. In models [1], [2], and [3]; the primary variables of interest are the Target Financial Problems, which is a binary variable representing 1 if the target cites financial distress in the form of bankruptcy or consecutive and continued quarters of under-performance. In the models [4], [5], and [6], I use the deal motivations indices for both acquirers and targets. I report t-statistics in parentheses with ***, **, and * denoting statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

Acquirer%	[1]	[2]	[3]	[4]	[5]	[6]
(Constant)	-32.930*	-44.244	-52.478	-36.389*	-33.587	-36.899
	(-1.862)	(-1.489)	(-1.669)	(-1.744)	(-1.078	-1.123
St. Louis Fed	-31.829**	-43.202***	-42.048***	-34.015**	-47.362***	-46.785***
Stress Index	(-2.624)	(-2.966)	(-2.862)	(-2.642)	(-3.023	-2.935
Target Financial	47.966***	48.481***	48.598***			
Problems	(2.874)	(2.861)	(2.856)			
Target Financial				20.240	19.950*	19.208*
Motivation Index				(2.049)	(1.945	1.814
Acquirer Financial				-7.342	-4.981	-5.544
Motivation Index				(-0.557)	(-0.363	-0.397
Stock Pay	44.044**	41.226**	38.961*	38.348**	32.872	32.264
	(2.462)	(2.124)	(1.979)	(1.954)	(1.503	1.453
Mkt-Cap Acq	.00305**	.00262	.00342*	.00325*	.00327*	.003635*
	(2.119)	(1.681)	(1.860)	(2.108)	(1.954	1.844
Mkt-Cap Tar	-.0100	-.00973	-.0138	.01025**	.009158	.01121
	(-1.567)	(-1.409)	(-1.625)	(-1.497)	(-1.221	-1.177
Multi-Bid		1.934	1.531		-6.827	-6.768
		(0.153)	(0.120)		(-0.501	-0.49
Relative Size			26.956			12.931
			(0.829)			0.358
N=	98	98	98	98	98	98
R^2	0.396	0.426	.437	0.342	0.367	0.369
Adj. R^2	0.320	0.333	.328	0.241	0.243	0.225

Table 12: Bargaining Power and Motivation Indices

This table reports the results of OLS regressions. The *Debt-Ratio*$_{i,t}$, *M/B*$_{i,t}$, and Market-capitalization have been previously defined for both acquirers and targets. The variable of interest represent different time intervals associated with the Financial Crisis. Each model includes a vector of binary variables representing the six deal motivation indexes. Models [3] and [4] include binary variables for Pre-Crisis and Post-Crisis. I report t-statistics in parentheses with ***, **, and * denoting statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

Acquirer%			**Lehman**	**Pre-Crisis**
	[1]	[2]	[3]	[4]
(Constant)	12.104	-27.680	16.259	8.004
	(0.526)	(-0.707)	(0.463)	(0.338)
Debt-Ratio Acq	101.78*	111.562*	103.336	96.876
	(1.768)	(1.857)	(1.728)	(1.662)
M/B Acq	-0.866	-1.173	-0.888	-0.772
	(-0.668)	(-0.842)	(-0.665)	(-0.589)
Mkt-Cap Acq	0.000**	0.000*	0.000**	0.000**
	(2.267)	(2.065)	(2.215)	(2.171)
Debt-Ratio Tar	-134.292**	-155.382	-132.53**	-149.15**
	(-2.327)	(-2.009)	(-2.202)	(-2.452)
M/B Tar	-1.929	-2.196	-1.893	-2.158
	(-1.665)	(-1.606)	(-1.565)	(-1.799)
Mkt-Cap Tar	0.000*	0.000	0.000*	0.000
	(-1.772)	(-1.061)	(-1.735)	(-1.614)
Target Financial	21.391**	26.711**	21.463***	21.84***
Motivation Index	(3.021)	(2.913)	(2.950)	(3.052)
Tar. Operating Index	3.722	1.410	3.032	5.075
Motivation Index	(0.381)	(0.107)	(0.278)	(0.508)
Tar. Marketing Index	-1.419	3.535	-1.485	0.032
Motivation Index	(-0.173)	(0.381)	(-0.177)	(0.004)
Acq. Financial Index	-7.621	-7.807	-8.149	-4.094
Motivation Index	(-0.616)	(-0.480)	(-0.622)	(-0.311)
Acq. Operating Index	-3.730	3.266	-4.028	-1.322
Motivation Index	(-0.450)	(0.356)	(-0.463)	(-0.150)
Acq. Marketing. Index	35.518**	42.127**	34.610*	40.140**
Motivation Index	(2.454)	(2.461)	(2.178)	(2.572)
Lehman0pre1post			-3.403	
(Pre=1, Post=0)			(-0.160)	
Pre-Crisis				-18.268
(2005-2007)				(-0.832)
R^2	0.666	0.768	0.667	0.678
Adjusted R^2	0.466	0.471	0.439	0.458
Year Fixed Effects	No	Yes	No	No

4.4.2 Wealth Distribution given firm characteristics and motivations:

Table 12 also reports the results of OLS regressions when the acquirer's portion of the gain is the dependent variable. Dong, Hirshleifer, Richardson, and Teoh (2006) differentiate between the mis-valuation hypothesis and the financing constraint / debt capacity hypothesis by including leverage as a control variable. Therefore, I include firm-specific characteristics such as the debt-ratio. The coefficient for both the target financial motivations is positive and significant. The coefficients imply that the acquirer's ability to capture more of the wealth created is related positively to the financial motivations cited by target-firm managers. The coefficient of the target firm's debt ratio is significant and negative in all Model specifications. This result implies that targets with more debt maintain bargaining power in mergers. The coefficient of the acquiring firm's debt ratio is significant and positive in Model specifications [1] and [2].

Columns [3] and [4] include binary variables for the different periods of the financial crisis. Again, the coefficient the target financial motivation index is positive and significant. This result provides further evidence that the acquiring firm gains bargaining power when the target cites financial motivations for entering the merger. Note that Model specification [2] uses year fixed effects, while the other models do not.

5. CONCLUSIONS

In this study I examine wealth creation and the division of gains during the Financial Crisis and subsequent recovery. I test five hypotheses related to value creation (H1), corporate strategy (H2), changes in deal motivations (H3), and bargaining power (H4 and H5). I find limited support for H1 (the Value Creation Hypothesis, when I use a chi-square test of independence between value creation and the time period. I observe the highest percentage of value-increasing mergers during the recovery period (2012 – 2013). I obtain similar results when I test H1 by using a multivariate approach. Therefore, I find no evidence that mergers announced during the Financial Crisis (2008 – 2009) created more combined wealth than mergers announced during the pre- and post- crisis periods.

I find weak support for H2 (the Corporate Strategy Hypothesis). I cannot reject the null hypothesis that corporate strategy and time period are independent by using a chi-square test when I examine all five corporate strategies separately. However, I can reject the null hypothesis when I differentiate only between related and unrelated mergers. The frequency of unrelated mergers increased from 21.4% in 2006 – 2007 to 31.8% in 2008 – 2009. Even so, the highest frequency of unrelated mergers occurred during 2012 – 2013 (43.1%).

I find stronger results when I examine the frequency of mergers driven by financial considerations, particularly for target firms. The percentage of target-firm managers citing access to capital increased from 42.6% in 2006 – 2007 to 64.7% in 2010 – 2011. The desire to increase

liquidity also increased during this period. These results support H3 (the Financial Motivations Hypothesis).

Finally, I find support for the Bargaining Power (H4) and Access to Capital (H5) hypotheses. Acquiring-firm managers captured a larger percentage of the combined wealth gain when 1) the economic conditions deteriorated (as measured by the level of the St. Louis Federal Reserve Stress Index), and 2) when the target-firm managers cited financial motivations for merger. However, the number of mergers declined significantly during the Financial Crisis, so acquiring-firm managers do not appear to have been able to take advantage of their increased bargaining power on a relatively large scale.

Final Thoughts of Dissertation: How does Essay 3 fit in?

In Essays 1 and 2, I identify the determinants of wealth creation and wealth distribution in mergers. The results in Essay #1 provide insight into the relation between corporate strategy, negotiation procedure, and value creation. In Essay #2 I construct models to test the determinants of negotiating procedure and bargaining power. The logical extension is to test the results in a different economic environment. In particular, does bargaining power change with the level of financial market stress and merger activity? As a result, Essay 3 uses the same outcome classification scheme while introducing the element of variability in capital markets.

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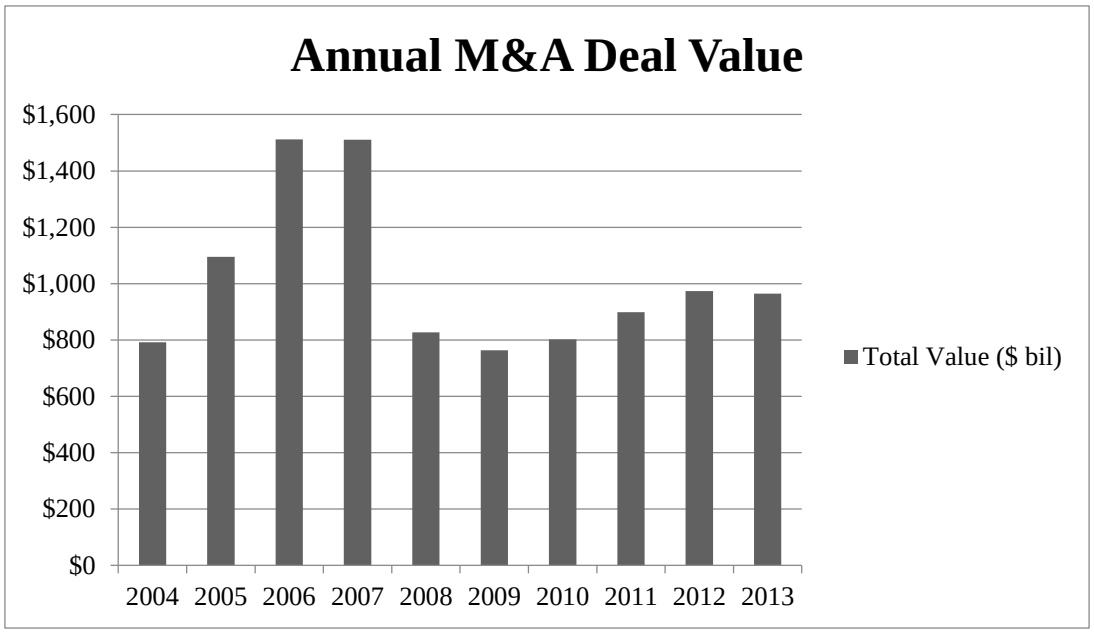
Figure 1: Annual U.S. Domestic M&A Deal Value[41]



Annual

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Value ($ billion)	$792	$1,095	$1,511	$1,510	$826	$763	$802	$898	$973	$964
Sample Deals	26	36	23	19	9	17	11	16	32	20

[41] Mergermarket in association with Merrill datasite, *Deal Drivers: the Comprehensive Review of Mergers and Acquisitions in the EMEA Region* (London: Remark, February 2010).

LIST OF APPENDICES

APPENDIX A: DEAL MOTIVAION FREQUENCIES

Appendix A: All Deal Motivations cited by Acquirers and Targets

Acquirer Motivations	N	Target Motivations	N
AM Cost Savings	110	TM Scale/Scope	108
AM Target Technology	101	TM Access Capital	86
AM Expand Customer Base	79	TM Acquirer's Tech	73
AM Combine Distribution Channel	70	TM Capital for Growth	37
AM Enhance New Prod	67	TM Enhance Product Development	62
AM International	50	TM Industry Consolidation	59
AM Access Cap	44	Economic Cycle Cash-flow volatility	41
AM Manufacturing Expertise	41	TM Increase Shareholder Liquidity	57
AM Combine Products	35	TM Distribution Channel	56
AM Existing Relation	33	TM Acquirer's Customer base	53
AM Size Big Customer	32	TM Needs Size	43
AM Purchasing Power	28	TM Acquirer's Manufacturing	37
AM Liquidity	27	International	20
AM Target's Better Product	21	TM Low Fin Performance	22
AM Tar Management	21	Cash Offer -> Value Liquidity	17
AM Tar Fin Strong	18	TM Purchasing Power	17
Cash-flow Volatility & Economy	12	TM Acquirer's Management	14
AM Use NOL	9	TM Severe Financial Problems	7
AM Target's Particular Customer	6	TM Shrink Mkt	5
AM Litigation	1	Regulation	5
AM Use Cash	1		
AM 3rdParty	1		

APPENDIX B: RETURN CALCULATIONS

Appendix B: Table of Return Calculations

The table reports statistics that show the calculations of returns used in the analysis. Panel A reports the results for the sample of acquirer firms while Panel B shows the statistics for target firms. There are 209 acquirer and target observations. CMAR is the cumulative market-adjusted return. CAR is the cumulative abnormal return. Column [1] shows the CMAR [-5, +5] around the announcement date of the merger (t=0). Column [2] reports the CAR [-5, +5] also around the announcement. Columns [3] and [4] report CMAR and CAR statistics for the longer event window [-25, +5].

Panel A: Target

Market Adjusted Return

	Holding Period		Mean	Std. Dev.	Minimum	Maximum
Return	[-5,+ 5]	CMARtar	0.3700	0.26000	-0.29584	0.97854
	[-26, +5]	CMARtar	0.3860	0.28076	-0.32022	0.99163
Dollar	[-5,+ 5]	ΔMAVtar	$282,793.5	$399,851.2	-$629,950.0	1804075.0
	[-26, +5]	ΔMAVtar	$305,697.5	$460,785.7	-$544,117.8	2649432.0

Cumulative Abnormal Return

	Holding Period		Mean	Std. Dev.	Minimum	Maximum
Return	[-5,+ 5]	CARtar	0.3673	0.25039	-0.07835	1.35198
	[-26, +5]	CARtar	0.3848	0.25100	-0.27058	1.05862
Dollar	[-5,+ 5]	ΔMAV(car)tar	$282,793.5	$399,851.2	-$629,950.4	1804,074.7
	[-26, +5]	ΔMAV(car)tar	$652,771.3	2,287,705.8	-4630,195.9	15849,844.7

Market Capitalization

	day		Mean	Std. Dev.	Minimum	Maximum
	[-5]	Target-Size	$1020,298.6	$1,363,924.6	$10,809.4	$8,571,323.7
	[-26]	Target-Size	$996,788.8	$1,347,311.2	11,079.3	8,752,026.1

Panel B: Acquirer

Market Adjusted Return

	Holding Period		Mean	Std. Dev.	Minimum	Maximum
Return	[-5,+ 5]	CMARacq	0.02830	0.10976	-0.23912	0.50683
	[-26, +5]	CMARacq	0.04000	0.15400	-0.38485	0.48980
Dollar	[-5,+ 5]	ΔMAVacq	$106,160.1	$1,472,725.6	-6,377,246.5	7,131,459.6
	[-26, +5]	ΔMAVacq	$767,712.7	$2,785,245.2	-4,336,465.0	20.809,609.0

Cumulative Abnormal Return

	Holding Period		Mean	Std. Dev.	Minimum	Maximum
Return	[-5,+ 5]	CARacq	0.02645	0.10581	-0.27245	0.45187
	[-26, +5]	CARacq	0.03491	0.13082	-0.38379	0.45497
Dollar	[-5,+ 5]	ΔMAV(car)acq	$119,084.4	$1,463,277.9	-6,457,088.7	7,188,722.1
	[-26, +5]	ΔMAV(car)acq	$652,771.3	$228,7705.8	-4,630,195.9	15,849,844.7

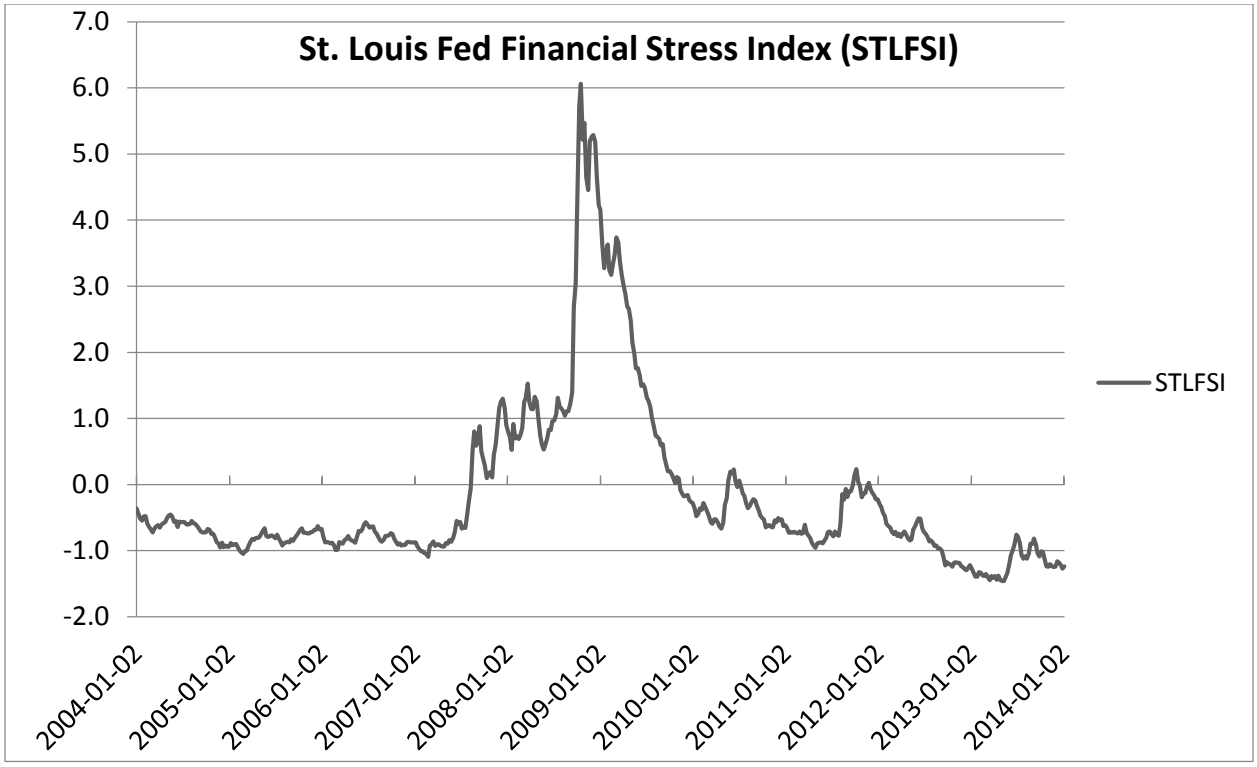
Market-Cap

	day		Mean	Std. Dev.	Minimum	Maximum
	[-5]	Acquirer-Size	$26048837	$74725405	37968.0	575867260
	[-26]	Acquirer-Size	$24820024	$71100490	40474.0	547704177

APPENDIX C: ST. LOUIS FEDERAL RESERVE FINANCIAL STRESS INDEX

Appendix C: St. Louis Fed Financial Stress Index

The STLFSI measures the degree of financial stress in the markets. The average value of the index is designed to be zero, which represents normal financial market conditions. Values below (above) zero imply below (above) average financial market stress. The index is constructed from seven interest rates series, six yield spreads, and five other indicators discussed below.



Appendix C (Continued) **St. Louis Federal Reserve Financial Stress Index**

The St. Louis Fed Financial Stress Index (STLFSI) is appropriate for the analysis of this study. The STLFSI includes seven interest rate series; (federal Funds Rate, 2-yr., 10-yr., and 30yr. treasury bonds, Baa-rated corporate bonds, Merrill Lynch High-Yield Index & BBB-rated), six yield spreads; (yield Curve: 10-yr. Treasury minus 3-month treasury, LIBOR 3-month and 3-mong Eurodollar spread), five other indicators; (S&P 500 Financials Index, CBOE VIX, J.P. Morgan Emerging Market Bond Index, Merrill Lynch Bond Market Index, 10 yr. nominal treasury minus ten year TIPS). The index is relatively simple to interpret. The average value of the index, which begins in late 1993, is designed to be zero. Thus, zero is viewed as representing normal financial market conditions. Values below zero suggest below-average financial market stress, while values above zero suggest above-average financial market stress.

To control for broader capital market characteristics I follow the methodology of Aktas, de Bodt, and Roll (2010) who identify the following *ex ante* competition proxies: wave, predicted wave, deal frequency previous quarter, deal frequency previous semester, buyout activities, and NBER recession. Other determinants of merger waves include the C&I Loan Rate Spread, an economic shock index, and a metric for tight capital.

APPENDIX D: VARIABLE DESCRIPTIONS

Appendix B: Variable		
Variable Definitions	Description	
Panel A. Dependent Variables		
%Gain	The combined change in market value for both the acquirer and target shareholders.	
Acquirer%	The Acquirer's portion of value created from value-increasing mergers.	
Panel B. Negotiation Dummies		
Auction	Binary Variable: 1 if the target utilizes an auction as the form of sales procedure, 0 otherwise.	
Target-to-Acquirer	Binary Variable: 1 if the target contacts the acquirer as the form of sales procedure, 0 otherwise.	
Acquirer-to-Target	Binary Variable: 1 if the acquirer initiates contact, 0 otherwise.	
Third-party	Binary Variable: 1 if a third-party initiates contact, 0 otherwise.	
Mutual Discussion	Binary Variable: 1 if the parties begin discussions on a mutual platform, 0 otherwise.	
Panel C. Strategic Objectives		
	Geographic Expansion	Related
	Broaden Product Line	Relate
	Increase Market Share	Related
	Vertical Integration	
	Diversification	No
Panel D. Deal Motivations		
	Acquirer Motivations	
	Target Motivations	
Panel E. Main Control Variables		
Target Size	Market Capitalization of the Target	
Acquirer Size	Market Capitalization of the Target	
Relative Size	Target Market-Cap/ Acquirer Market-Cap	
Tobin's q Ratio	Market value of assets over book value of assets: (item6 – item60 + item25* item199) / item6	
Debt Ratio	(Long-term Debt + Current Liabilities) / Total Assets	
Leverage	(Long-term Debt / Total Asset)	
Market to Book	The market value of equity divided by the book value of equity.	
Panel F. Deal Characteristics		
Cash	Dummy Variable: 1 for purely cash-financed deals, 0 otherwise.	
Stock	Dummy Variable: 1 for purely stock-financed deals, 0 otherwise.	
Panel G.		
NBER Recession	Dummy Variable: 1 if the merger occurred during a recession period, 0 otherwise.	

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"Market Information and Price Clustering: Evidence from SEC Rule 201" 2014, Davis, Ryan L., Stephen N. Jurich, Brian S. Roseman, and Ethan D. Watson

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"Trading Activity around Intraday Short-Sale Restrictions," Stephen N. Jurich, 2014.

"Effects of Locality and Risk of Late Stage Breast Cancer Diagnosis in Kentucky Females, 2001-2011" 2014, Sither, Michael J. and Stephen N. Jurich

"Size Precedence and Market Quality: The Case of the PSX Exchange" 2013, Jurich, Stephen N.

"Sophisticated Hedging with Currency Derivatives: Evidence from U.S. Insurers" 2012, Jurich, Stephen N.

"A Cross-Country analysis of Capital Access and the Capital Structure of Micro-Lending Institutions" 2013, Akpandjar, George M. and Stephen N. Jurich

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Stephen N. Jurich, "Does the Rebalancing of Leveraged Exchange Traded Funds increase End-of-Day Volatility?" presented at the 2014 meeting of the Eastern Finance Association, Pittsburgh, Pennsylvania, April 10, 2014.

Stephen N. Jurich, "Trading Activity around Intraday Short-Sale Restrictions," presented at the 2014 meeting of the Midwest Finance Association, Orlando, Florida, March 7, 2014.

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