Wealth Effects of Going Private Transactions on Corporate Rivals, Customers and Suppliers

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Abstract

This study explores wealth effects of firms' going-private decisions on corporate rivals, suppliers and customers. Rival firms earn significant positive abnormal returns around the going-private announcement period. I find that the reaction of customers and suppliers is conditional on the degree of dependency on target firms. I identify a set of homogenous characteristics that increase the likelihood of firms being acquired by specific types of acquirers, namely financial buyers and strategic buyers. I find that firms targeted by strategic buyers tend to be younger, smaller, and less profitable but have higher growth opportunities when compared to firms targeted by financial buyers.

JEL classification: G34; D43; L41

Keywords: Going-private, financial buyouts, corporate rivals, suppliers, customers

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I. Introduction and Motivation

Over the last several years, going private transactions have dominated the market for corporate control in the U.S., accounting for an increasing proportion of mergers and acquisitions activity.[1] A firm's decision to go private has broad ranging implications other than the immediate wealth effects of target shareholders.[2] Internally, such a decision affects future performance, governance, leverage structure and agency related issues among other things (e.g. Kaplan 1989; Smith 1990). Externally, this might prompt changes in the competitive dynamics of the markets these companies participate in causing consequent revaluations of rival firms.[3] Furthermore, to the extent a firm interacts with its business partners such as customers and suppliers, such a decision may also impact these firms. The direction and magnitude of the impact depends on factors such as the reason behind the going private decision, acquirer characteristics, dependence of suppliers and customers on the firm and vice-versa, industry characteristics and the prevailing level of M&A activity.

Empirical evidence on going private transactions documents that these transactions are typically associated with significant improvements in corporate performance (e.g., Kaplan 1989; Muscarella and Vetsuypens 1990; Smith 1990). I contend that such performance improvements should affect rivals, customers and suppliers as well since firms do not operate in isolation. Furthermore, theoretical and anecdotal evidence suggests that pure ownership changes from publicly traded to private companies alone enhances the bargaining power of management. For example, Baker and Wruck (1989) describe how O.M. Scott & Sons Company extracted concessions from its corporate suppliers after it went private. No study has quantified the wealth effects of firms' going private decisions on their rivals, customers and suppliers.

Two recent papers on the analysis of wealth affects of M&A activity on corporate rivals, suppliers and customers (Fee and Thomas 2004; Shahrur 2005) are close in spirit to this paper. While providing important insights, both papers concentrate exclusively on horizontal mergers between publicly

[1] For instance, the total volume of going private transactions in the United States exceeded $390 billion in 2006.

[2] Financial economists studied the leveraged buyout boom of the 1980s to examine the characteristics of firms that go private and the sources of gains to various stakeholders (e.g. De Angelo, De Angelo and Rice 1984; Lehn and Poulsen 1989; Marias, Schipper and Smith 1989; Warga and Welch 1993 etc). The recent buyout boom led by financial buyers has raised similar issues and is now the subject of a growing literature (e.g., Mehran and Peristiani 2009; Bargeron, Schlingemann, Stulz and Zutter (2008, 2009))

[3] Literature examining the impact of takeover activity on rival firms dates back to Eckbo (1983, 1985) and extends through Song and Walking (2000) and Shahrur (2005).

traded companies. My paper differs significantly from these studies as existing literature on the market for corporate control suggests that the motives and consequences behind going private transactions differ from those behind mergers between publicly traded companies in several ways. For example, going private transactions are largely motivated by: mitigation of agency problems (Jensen 1986; Lehn and Poulsen 1989), asymmetric information and managerial incentives (De Angelo, De Angelo and Rice 1984), potential tax savings (Lowenstien 1985; Marais, Schipper and Smith 1988), reductions in registration, reporting and other costs associated with being a public company (De Angelo, De Angelo and Rice 1984; Engel, Hayes and Wang 2006). On the other hand, literature suggests that motives behind corporate mergers include: bidders' lack of growth opportunities (McCradle and Viswanathan 1994), managerial pride and empire building (Roll 1986), anticipation of increased market power (Eckbo 1981; Stillman 1983; Kim and Singal 1993), diversification (Berger and Ofek 1995; Lins and Servaes, 1999), operating synergies through economies of scale and economies of scope (Houston, James and Ryngaert, 2001; DeLong 2003), and overpriced equity of acquirers (Travlos 1987).[4] Given these differences, a thorough examination of the impact of going private transactions on corporate rivals, customers and suppliers has important implications for the broader literature on corporate restructuring as well as public policy towards going private transactions.

A distinguishing feature of the recent buyout boom is the predominance of private equity buyers. According to various studies, private equity buyers are involved in nearly 50% of all going private transactions between 2000 and 2007.[5] In this context, I identify a set of homogenous characteristics that make a firm attractive target. I differentiate between acquisitions made by financial buyers (private equity firms) and strategic buyers (private operating firms) as their motives and sources of gains from the acquisition may be different. I examine whether investors react differently to takeovers by financial buyers.

My results indicate that strategic buyers and financial buyers target different types of firms. On average, firms targeted by financial buyers are older, larger, and more profitable but have lower growth opportunities when compared to those targeted by strategic buyers. Strategic buyers, especially when they acquire a firm operating in the same industry, pay lower premiums and complete the deal faster than

[4] These motives are not always mutually exclusive. As mentioned above, operating synergies could be a factor in cases where a firm is taken over by a private operating firm. Also, motives such as strategic realignment due to regulatory and technological changes are common to both types of transactions (see for example Jensen 1993; Mitchell and Mulherin 1996; Mulherin and Boone 2000).

[5] e.g. Boone and Mulherin (2009), Bargeron, Schlingemann, Stulz and Zutter (2008, 2009), Officer, Ozbas and Sensoy (2008).

financial buyer which indicates that these buyers are more knowledgeable about the operations and prospects of target firms.

Takeover announcements prompt revaluations of rival firms. On average, rivals earn positive abnormal returns during the announcement period. This finding is consistent with prior research which argues that the market believes rivals realize efficiency gains because of the increased probability that they will be targets themselves (Song and Walkling 2000; Andrade and Stafford 2004). I measure the wealth effects of firms in the takeover industry's supplier and customer industries. I find that the reaction of customers and suppliers is conditional on their degree of dependence on target firms and vice-versa. That is, firms belonging to dependent supplier industry earn significant positive abnormal returns around takeover announcement period where as firms belonging to main customer (supplier) earn insignificant to negative abnormal returns during the same period.[6]

In the next section I summarize some of the relevant literature. I discuss sample selection in section III. Results are presented in section IV. Section V concludes.

II. Relevant Literature

Empirical evidence on the corporate performance of firms that go private is limited partly because financial data is unavailable once a firm goes private. A few studies that examine this issue use data on firms that choose to go public again (i.e., reverse LBO) and find that going private transactions are typically associated with significant improvements in corporate performance. For example, Kaplan (1989) examines a sample of 76 management buyouts and documents increases in operating income, decreases in capital expenditures, and increases in net cash flows. Similar results were found by Muscarella and Vetsuypens (1990) and Smith (1990).

The observed changes in the performance of firms taken private are often attributed to increased managerial discipline and reduced agency costs. Going private transactions can mitigate agency costs by concentrating residual claims among a small group of investors, which typically includes management. Such transactions allow managers to undertake projects that involve disproportionate effort in return for performance based incentives and other perks. Furthermore, going private transactions often result in the new firm being highly leveraged either because the transaction is financed by issuing new debt and/or

[6] A main supplier (customer) is the industry which supplies (purchases) the largest percentage of takeover industry's input (output). A dependent supplier (customer) is the industry which supplies (purchases) the largest percent of that industry's output (input) to (from) the target industry.

current shareholders are converted to bondholders. Such large debt-services force management to find ways to generate cash and prevent them from wasting resources (Jensen 1986). Larger equity stakes give management incentives to find ways to pay off debt while increasing value. This line of argument suggests the going private decision is driven by efficiency considerations (Jensen 1983, Comment and Schwert 1995).

An increase in productive efficiency due to reduced agency costs might have implications for the rivals, customers and suppliers of the target firms. A takeover can signal that an industry wide increase in productivity is available to rival firms. Rival can benefit if the takeover increases the probability that they will be acquired (Song and Walkling 2000; Andrade and Stafford 2004). On the other hand, to the extent the takeover is expected to increase competition, rival firms could be negatively impacted. The impact on customers and suppliers depends on a.) the extent to which they depend on the target firms and, b.) the increased bargaining power of managers.

Productive efficiency hypotheses do not distinguish between the types of acquirer. However, existing literature attributes collusion and buying power hypotheses as two other possible sources of gains, especially in the context of horizontal and related mergers (Eckbo 1983; Snyder 1996, 1998). As mentioned earlier, private acquirers can be broadly classified into financial buyers and strategic buyers. While an acquisition by a financial buyer merely results in an ownership change, an acquisition by a strategic buyer likely result in a larger and sometimes, diversified firm. To the extent the strategic buyer and target belong to the same industry group, such takeovers are possibly motivated by operating synergies, economies of scale, increased market power and other benefits associated with horizontal integration. This study attempts to test collusion and buying power hypotheses by separately examining the wealth affects of financial and strategic acquirers on rivals, customers and suppliers.[7]

Gains from going private transactions are also attributed to reduction in registration, listing and other stockholder servicing costs. Being a publicly traded company entails compliance related costs which increased significantly during the last few years. More specifically, the 2002 enactment of the Sarbanes–Oxley Act (hereafter, SOX) marked a significant milestone for corporate governance in the U.S. The Act, which was the legislative response to a series of high-profile financial scandals, was intended to rebuild investors' confidence in the capital markets. However, it is often argued that the costs of complying with

[7] Empirical evidence on horizontal mergers between public firms is inconsistent with collusion hypothesis and mixed with respect to buying power hypothesis (e.g., Fee and Thomas 2004; Shahrur 2005; Brown, Fee and Thomas 2009).

SOX dwarf the benefits of increased disclosure and greater transparency. Engel, Hayes and Wang (2006) investigate going-private decisions in response to the passage of SOX and find that the quarterly frequency of going-private transactions increased after the passage of SOX. More recently, Mehran and Peristiani (2009) find that firms' failure to attract a critical mass of financial visibility and investor interest is the primary reason behind the recent surge in going private transactions. For such firms, the costs of being a listed company far exceeded the benefits and as a result, were more likely to go private and opted to do so sooner. If firms opted to go private either to avoid costs of being a public company or due to lack of financial visibility, such a decision should not have any impact on rivals, customers and suppliers.

III. Sample Selection:

Takeover sample:

I collect the initial sample of single segment, publicly traded U.S. targets from the Securities Data Company's (SDC) U.S. Merger and Acquisition Database. I restrict the sample to all completed acquisitions with completion (effective) dates falling in the 1994-2007 period. I require that the acquirer own 100% of the target after the deal. I limit my sample to acquisitions made by financial buyers and strategic buyers (private operating firms). I exclude REITs, spin-offs and joint ventures. For the strategic buyer sub-sample, I require that neither the target nor the acquirer belong at financial services industry (SIC codes between 6000-6999). I further require each target firm to match on the Center for Research in Securities Prices (CRSP) data base and to have a share code indicating a public firm (10, 11). These criteria result in a sample of 246 firms out of which 140 firms are acquired by financial buyers and 106 firms are acquired by strategic buyers. Of the 140 firms targeted by financial buyers, a major Private Equity firm is present in 98 transactions and target management is involved 70 transactions. Further, nearly 30 transactions can be classified as pure management buyouts (MBOs).[8] Of the 106 firms targeted by strategic buyers, nearly 62% are acquired by operating firms that share the same three-digit SIC code with the target firms and consequently, these transactions are classified as related acquisitions. Table 1 presents the distribution of these transactions over time.

[8] Management involvement ranges from target management being one of the entities that take part in the acquisition to a pure management buyout.

Information on Rivals, Customers and Suppliers:

Corporate rivals are defined as firms that share the same four-digit SIC code as target firms at the time of the takeover announcement.[9] For information on corporate customers and suppliers, I rely on the benchmark input-output (IO) accounts for the U.S. economy published by The Bureau of Economic Analysis every five years. The accounts are based primarily on data collected from economic censuses conducted by the Bureau of Census. In this study, I rely on the *Use* table of the benchmark accounts. For any pair of supplier and customer industries, the *Use* table reports estimates of the dollar value of the supplier's industry's output that is used as input in the production of the customer industry's output. Using these tables and methodology described in Shahrur (2005), for each takeover industry, I identify the *Main supplier*, *Main customer*, *Dependent supplier* and *Dependent customer* industries. A main supplier (customer) is one which supplies (purchases) the largest percentage of takeover industry's input (output). A dependent supplier (customer) is one which supplies (purchases) the largest percent of that industry's output (input) to (from) the target industry. For each firm in the sample, I form portfolios of rivals, customers and suppliers by calculating equally-weighted returns of the corresponding industries.

Target Characteristics

I collect data from *Compustat* for a number of target characteristics to be used as control variables in multivariate tests. Prior studies have shown that target returns are lower for larger targets and hence it is important to control for target size. Target size is measured as market value of equity (MVE) 63 trading days prior to the takeover announcement. Target leverage (DEBT) is measured as the book value of debt divided by the sum of the book value of debt and the market value of equity. Managerial entrenchment and agency costs are measured by Tobin's q defined as the firm market value (book value of debt plus market value of equity) divided by the book value of assets. Since non-performance related differences in Tobin's q may be driven by differences in firm age (younger firms typically have a higher Tobin's q), I collect information on firm age (AGE) defined as the number of months since the firm has been listed on CRSP. To capture growth opportunities of targets, I use sales growth (SALES GROWTH) and employee growth (EMPLOYEE GROWTH) calculated as the three-year compounded annual growth in total sales and number of employees. I also use R&D calculated as the expense on research and development divided by the book value of assets and intangible assets (INTANGIBLE) calculated as the fraction of the

[9] Kahle and Walkling (1996) find that one major source of the inaccuracy of Compsutat industry classifications is that the primary SIC code data item is based on the current primary SIC code of a given firm, and thus does not account for the fact that a large number of firms change their primary SIC codes over time. I use Compustat's historical SIC code data item, which represents the history of primary SIC codes for any particular firm.

firm's assets minus net PPE and minus current assets, divided by the book value of assets, to capture growth opportunities of targets. Target profitability is measured as operating cash flow (OCF) defined as sales minus costs of goods sold, sales and general administrative expenses, and change in net working capital, divided by book value of assets. I capture the number of calendar days between the announcement date and the completion date with the variable DAYS. More complex transactions (financing, operating or regulatory factors) are likely to take more days to complete. I collect managerial ownership data from the latest proxy/10-K statements prior to the announcement date. Institutional ownership data is collected from 13-f filings. Please refer to Appendix I for a description of all the variables used in this study.

IV. Descriptive Statistics and Preliminary Results

Univariate Analysis

As Panel A of Table II indicates, going private transactions are typically small deals with a mean (median) transaction value of around $410 ($90) million. Target shareholders are paid a premium of 38% (34%) compared to stock price one week (one month) prior to the announcement. Target firms have negative industry-adjusted Tobins'q. On average, going private transactions are completed in 4 months from the date of announcement. Executives and institutions together own nearly 65% of target firm. These numbers are comparable to those presented in related research on corporate control (e.g., Bargeron et al 2008).

Panel B of Table II presents descriptive statistics of target firms based on the type of acquirer. Firms targeted by strategic buyers are typically much smaller than those targeted by financial buyers. The mean (median) value of assets of operating firm targets is $374 ($90) million as opposed to $607 ($139) million for financial buyer targets. These differences are significant at the 1% level. Financial buyer targets are more levered than strategic buyer targets but these differences are not statistically significant. Average Tobin's q of firms targeted by strategic buyers is 1.60 and that of financial buyer sample is 1.35 and this difference is significant at the 10% level. Financial buyout targets are older (measured as months from CRSP listing) than targets bought out by operating firms. The mean (median) age of financial buyout sample is 125 (83) months while these are 97 (61) for operating firm acquisitions and these differences are significant at the 1% level using both difference of means and medians tests. Growth opportunities as measured by R&D expenses are significantly higher for strategic buyer sample and this difference is significant at the 1% level. Along the same lines, sales growth is also higher among these firms using difference of means test. Further, firms targeted by strategic buyers consistently generate higher revenues but lower earnings when compared to firms targeted by financial buyers. Most of these

differences are statistically significant and are robust to using industry adjusted measures. These results suggest that targets that are bought out by strategic buyers have higher growth opportunities. On the other hand, financial buyers seem to target firms with higher cash flows and intangibles. The mean (median) operating cash flows scaled by the book value of assets for operating firm targets is -0.06 (0.04) while the corresponding values for financial buyout targets is 0.06 (0.07) and these differences are significant at the 1% level. Finally, stock return volatility of firms (STDEV and STDVAR) acquired by strategic buyers is higher than the stock return volatility of firms acquired by financial buyers, which suggests that there is greater uncertainty about the value of targets acquired by strategic buyers.

Summarizing, firms targeted by operating firms tend to be younger, smaller, less profitable but with higher growth opportunities when compared to those targeted by financial buyers. I further investigate the characteristics of sample firms targeted by private operating firms. I divide private acquirers into related and unrelated acquirer groups. A related acquirer is a private operating firm which has the same three-digit SIC code as the target firm. These transactions are similar to horizontal mergers between publicly traded companies. I present the summary statistics of these two groups in Panel C of Table II. On average, related acquirers pay lower premiums than unrelated acquirers. The mean (median) monthly premiums paid by related acquirer are 37% (32.5%) where as unrelated acquirers pay 44.5% (35.3%) and these differences are significant at the 1% level. Further, related acquirers tend to target firms with higher growth opportunities as measured by research and development expenses and complete the deal faster than unrelated acquirers. These findings lend support to the presumption that related acquirers, being in the same industry as the target firm are knowledgeable about the prospects of the target firm and are able to close the deal in a shorter time span and by paying lower premiums. In fact, among all groups, related acquirers tend to focus on targets that invest more in R&D expenses and finish the transaction faster.

Event Study Analysis

I estimate abnormal returns of target firms, equally-weighted portfolios of rivals, and of firms in the takeover industry's supplier and customer industries using standard event study methodology. Market model parameters are estimated from day -379 to day -127 relative to announcement date. Results are presented in Table III.

I first examine the abnormal returns to target firms. Consistent with prior research, I find that targets earn significant positive returns at the takeover announcement. The mean CAR to target firms is 19.80% for the (-1, 1) window. I find that on average, rivals earn positive abnormal returns during the

announcement period. The mean (median) CAR to rival firms is 0.33% (0.23%) for the (-2, 2) window and is significant at the 1% level. This finding is consistent with prior research which argues that the market believes rivals realize efficiency gains because of the increased probability that they will be targets themselves (Song and Walkling 2000; Andrade and Stafford 2004).

I find that the reaction of customers and suppliers is conditional on their degree of dependence on target firms and vice-versa. That is, firms belonging to dependent supplier industry earn significant positive abnormal returns around takeover announcement period where as firms belonging to main customer (supplier) earn insignificant to negative abnormal returns during the same period. The mean CAR to firms in the dependent supplier industry 0.78% for the (-2,2) window and 1.05% for the (-10,10) window. However, only longer horizon returns are significant at 10% level or better.

Extensions: Given that takeover announcements prompt revaluations among rival firms, it would be interesting to examine the real investment activity of rivals following buyouts of competitors. I intend to incorporate and examine the role of factors such as target management incentives and involvement in the takeover process, industry concentration, and existing market for corporate control on the wealth effects of rivals, customers and suppliers. Such an analysis will shed new light on understanding the impact of going private transactions on those firms that have actual, significant product market relationship with the target firms.

V. Conclusion

This study explores wealth effects of firms' going-private decisions on corporate rivals, suppliers and customers. Rival firms earn significant positive abnormal returns around the going-private announcement period. I find that the reaction of customers and suppliers is conditional on the degree of dependency on target firms. I identify a set of homogenous characteristics that increase the likelihood of firms being acquired by specific types of acquirers, namely financial buyers and strategic buyers. I find that firms targeted by strategic buyers tend to be younger, smaller, and less profitable but have higher growth opportunities when compared to firms targeted by financial buyers.

Appendix I - Description of variables:

References:

Bargeron, Leonce, Frederik Schlingemann, Rene Stulz, and Chad Zutter, 2008, "Why do Private Acquirers Pay so Little Compared to Public Acquirers?", *Journal of Financial Economics* 89(3), 375-390.

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Variable	Description	Source
DEAL VALUE	Value of Deal ($MM)	SDC
EXISTING OWNERSHIP	Acquirer's ownership of target prior to announcement	SDC
CASH PERCENT	Percent cash paid	SDC
PREMIUM - ONE WEEK	Offer price / past week's stock price	SDC
PREMIUM - ONE MONTH	Offer price / past month's stock price	SDC
Market Value	price of the stock times the number of shares outstanding three months prior to the announcement	CRSP
AGE	Number of months since the firm has been listed on CRSP	CRSP
ASSETS	Total assets as of the latest fiscal year	COMPUSTAT
TOBIN'S Q	Firm market value divided by the book value of assets (as of latest fiscal year)	CRSP & COMPUSTAT
IAQ	Tobin's q minus the median 2-digit SIC code industry value of this variable.	CRSP & COMPUSTAT
DEBT	Book value of debt divided by the sum of the book value of debt and the market value of equity	CRSP & COMPUSTAT
R&D	Expense on research and development divided by the book value of assets	COMPUSTAT
INTANGIBLE	Fraction of the firm's assets minus net PPE and minus current assets, divided by the book value of assets	COMPUSTAT
OCF	Sales minus costs of goods sold, sales and general administrative expenses, and change in net working capital, divided by book value of assets	COMPUSTAT
EBIT/ASSETS	Operating income before interest and depreciation / book value of assets	COMPUSTAT
NI/ASSETS	Net Income / book value of assets	COMPUSTAT
SALES/ASSETS	Sales / book value of assets	COMPUSTAT
ROE	Net Income / Common shares outstanding	COMPUSTAT

IA_EBIT/ASSETS	EBIT/ASSETS minus the median 2-digit SIC code industry value of this variable.	COMPUSTAT
IA_NI/ASSETS	NI/ASSETS minus the median 2-digit SIC code industry value of this variable.	COMPUSTAT
IA_SALES/ASSETS	SALES/ASSETS minus the median 2-digit SIC code industry value of this variable.	COMPUSTAT
IA_ROE	ROE minus the median 2-digit SIC code industry value of this variable.	COMPUSTAT
SALES GROWTH	Three-year compounded annual growth in sales	COMPUSTAT
EMPLOYEE GROWTH	Three-year compounded annual growth in employees	COMPUSTAT
DAYS	Number of calendar days between the announcement date and the completion date.	SDC
CEO Ownership	CEO's ownership as per the latest proxy/10-K statements prior to the announcement date	Proxy/10-K
EXECUTIVE Ownership	Executives (including CEO) ownership as per the latest proxy/10-K statements prior to the announcement date	Proxy/10-K
INST Ownership	Institutional holdings as of the latest quarter prior to announcement date	13-f Filings
Delta INST Ownership	Increase (decrease) in institutional ownership from five quarters prior to announcement date to one quarter prior to announcement date	13-f Filings
TURNOVER	Daily average of the ratio of the volume of shares traded to shares outstanding	CRSP
STDEV	Standard deviation of raw returns from day -379 to day -127 relative to the announcement day	CRSP
STDVAR	Standard deviation of the market model residuals from day -379 to day -127 relative to the announcement day	CRSP

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Table 1: Distribution of number of deals and type of bidder over time

The sample comes from SDC and includes all completed mergers where the bidder acquires 100% of the controlling interest of the target firms and where the target firm is a single-segment U.S. public firm and the bidder is a U.S. firm that is not publicly traded. The sample period spans from 1994 to 2007. Columns III and IV present the distribution based on the type of acquirer. Columns V presents the distribution of related acquisitions. A related acquisition is one where the acquirer and the target share the same three-digit SIC code.

Year	**Full Sample**	Financial buyer	Operating buyer	Related Acquirer
Col I	***Col II***	*Col III*	*Col IV*	*Col V*
1994	**1**	1		
1995	**1**		1	
1996	**9**	7	2	2
1997	**14**	7	7	4
1998	**17**	11	6	4
1999	**27**	13	14	8
2000	**24**	16	8	6
2001	**23**	10	13	5
2002	**19**	10	9	6
2003	**23**	13	10	6
2004	**20**	12	8	3
2005	**23**	9	14	9
2006	**19**	13	6	6
2007	**26**	18	8	6
Total	**246**	140	106	65

Table 2: Summary statistics on target and deal characteristics

The sample comes from SDC and includes all completed mergers where the bidder acquires 100% of the controlling interest of the target firms where the target firm is fully acquired U.S. public firm and the bidder is not a public U.S. firm. The sample period spans from 1994 to 2007. Panel A presents descriptive statistics of the full sample. Panel B presents similar statistics of sub-samples created on the basis of acquirer type. Panel C presents similar statistics for related and unrelated acquisitions. A related acquisition is one where the acquirer and the target share the same three-digit SIC code. Parametric t-test for differences in mean (assuming unequal variances) and non-parametric Wilcoxon tests for difference in median are employed. Please refer to Appendix I for description of variables.

Panel A: Full Sample

Variable	N	Mean	Median
Deal characteristics			
DEAL VALUE	235	413.13	92.09
EXISTING OWNERSHIP	47	41.013	42.4
CASH PERCENT	221	94.069	100
PREMIUM - ONE WEEK	223	34.804	28.66
PREMIUM - ONE MONTH	223	38.326	33.33
Target characteristics			
Market Value	245	323.34	69.165
AGE	245	113.56	77
ASSETS	245	506.81	107.23
TOBIN'S Q	245	1.466	1.184
IAQ	245	-0.019	-0.196
DEBT	244	0.24	0.142
R&D	125	0.075	0.011
INTANGIBLE	235	0.193	0.128
OCF	236	0.007	0.057
EBIT/ASSETS	243	0.072	0.111
NI/ASSETS	245	(0.092)	0.023
SALES/ASSETS	245	1.366	1.185
ROE	244	0.193	0.315

IA_EBIT/ASSETS	243	(0.011)	0.010
IA_NI/ASSETS	245	(0.091)	0.004
IA_SALES/ASSETS	245	0.277	0.103
IA_ROE	244	(0.104)	0.035
SALES GROWTH	210	0.179	0.078
EMPLOYEE GROWTH	193	0.09	0.034
DAYS	245	125.89	112
CEO Ownership	225	0.124	0.044
EXECUTIVE Ownership	224	0.291	0.239
INST Ownership	234	0.347	0.305
Delta INST Ownership	226	(0.010)	(0.003)
TURNOVER	244	0.005	0.003
STDEV	244	0.042	0.037
STDVAR	244	0.041	0.037

Panel B: Strategic Buyer (private operating firm) Vs Financial Buyer

	Strategic Buyer			Financial Buyer			Difference of Means and Medians			
Variable	*N*	Mean (A)	Median (B)	*N*	Mean (C)	Median (D)	(A) – (C)	*p-value*	(B) – (D)	*p-value*
Deal Value	*96*	245.731	77.674	*139*	528.743	119.590	(281.012)	*0.043*	(41.916)	*0.017*
PREMIUM – ONE WEEK	*87*	0.398	0.333	*136*	0.316	0.265	0.083	*0.083*	0.067	*0.030*
PREMIUM – ONE MONTH	*87*	0.442	0.403	*136*	0.345	0.307	0.096	*0.054*	0.096	*0.018*
Market Value	*106*	279.604	54.351	*139*	356.698	80.060	(77.095)	*0.694*	(25.709)	*0.015*
AGE	*106*	97.962	61.000	*139*	125.460	83.000	(27.498)	*0.062*	(22.000)	*0.021*
ASSETS	*106*	374.954	90.400	*139*	607.369	139.308	(232.415)	*0.384*	(48.909)	*0.000*
TOBIN'S Q	*106*	1.607	1.217	*139*	1.359	1.170	0.248	*0.081*	0.047	*0.164*
IAQ	*106*	0.093	(0.199)	*139*	(0.105)	(0.179)	0.198	*0.141*	(0.020)	*0.516*

DEBT	*105*	0.211	0.100	*139*	0.262	0.180	(0.051)	*0.126*	(0.080)	*0.118*
R&D	*55*	0.109	0.045	*70*	0.048	0.000	0.060	*0.007*	0.045	*0.005*
INTANGIBLE	*104*	0.166	0.104	*131*	0.214	0.148	(0.047)	*0.052*	(0.044)	*0.023*
OCF	*104*	(0.063)	0.038	*132*	0.062	0.074	(0.125)	*0.000*	(0.036)	*0.000*
EBIT/ASSETS	*104*	0.010	0.085	*139*	0.118	0.123	(0.109)	*0.006*	(0.038)	*0.006*
NI/ASSETS	*105*	(0.210)	0.011	*140*	(0.004)	0.032	(0.206)	*0.075*	(0.021)	*0.084*
SALES/ASSETS	*105*	1.413	1.108	*140*	1.331	1.228	0.082	*0.575*	(0.120)	*0.453*
ROE	*105*	0.051	0.097	*139*	0.300	0.477	(0.249)	*0.364*	(0.380)	*0.006*
IA_EBIT/ASSETS	*104*	(0.056)	(0.006)	*139*	0.022	0.022	(0.078)	*0.006*	(0.028)	*0.016*
IA_NI/ASSETS	*105*	(0.189)	(0.006)	*140*	(0.017)	0.009	(0.173)	*0.129*	(0.015)	*0.001*
IA_SALES/ASSETS	*105*	0.403	0.120	*140*	0.182	0.070	0.220	*0.073*	0.050	*0.010*
IA_ROE	*105*	(0.133)	(0.162)	*139*	(0.082)	0.230	(0.050)	*0.852*	(0.393)	*0.001*
SALES GROWTH	*85*	0.259	0.107	*125*	0.124	0.067	0.135	*0.050*	0.039	*0.438*
EMPLOYEE GROWTH	*75*	0.057	0.026	*118*	0.111	0.038	(0.054)	*0.314*	(0.011)	*0.745*
DAYS	*106*	117.311	87.500	*139*	132.432	121.000	(15.120)	*0.154*	(33.500)	*0.002*
CEO Ownership	*95*	0.124	0.043	*130*	0.125	0.046	(0.001)	*0.993*	(0.003)	*0.515*
EXECUTIVE Ownership	*95*	0.301	0.266	*129*	0.285	0.213	0.016	*0.612*	0.053	*0.846*
INST Ownership	*98*	0.284	0.259	*136*	0.393	0.379	(0.109)	*0.006*	(0.120)	*0.009*
Delta INST Ownership	*90*	(0.013)	(0.001)	*136*	(0.009)	(0.005)	(0.004)	*0.800*	0.003	*0.867*
TURNOVER	*104*	0.006	0.003	*140*	0.005	0.003	0.001	*0.370*	(0.000)	*0.470*
STDEV	*104*	0.048	0.043	*140*	0.038	0.033	0.009	*0.002*	0.009	*0.002*
STDVAR	*104*	0.047	0.041	*140*	0.037	0.033	0.009	*0.002*	0.009	*0.001*

Panel C: Related Acquisition Vs Unrelated Acquisition

	Related Acquirer			Unrelated Acquirer			Difference of Means and Medians			
Variable	*N*	Mean (A)	Median (B)	*N*	Mean (C)	Median (D)	(A) – (C)	*p-value*	(B) – (D)	*p-value*
Deal Value	*59*	154.047	76.655	*37*	391.931	89.750	(237.885)	*0.302*	(13.095)	*0.424*
PREMIUM – ONE WEEK	*54*	0.370	0.325	*33*	0.445	0.353	(0.075)	*0.389*	(0.028)	*0.779*
PREMIUM – ONE MONTH	*54*	0.406	0.415	*33*	0.504	0.361	(0.098)	*0.307*	0.054	*0.729*
Market Value	*65*	94.670	55.656	*41*	572.792	53.268	(478.122)	*0.316*	2.388	*0.922*
AGE	*65*	97.200	69.000	*41*	99.171	53.000	(1.971)	*0.921*	16.000	*0.876*
ASSETS	*65*	146.349	89.705	*41*	737.378	92.130	(591.029)	*0.325*	(2.425)	*0.692*
TOBIN'S Q	*65*	1.507	1.203	*41*	1.764	1.448	(0.257)	*0.338*	(0.245)	*0.327*
IAQ	*65*	(0.047)	(0.242)	*41*	0.314	(0.013)	(0.361)	*0.170*	(0.228)	*0.056*
DEBT	*65*	0.200	0.098	*40*	0.228	0.115	(0.028)	*0.580*	(0.017)	*0.360*
R&D	*37*	0.134	0.075	*18*	0.056	0.011	0.077	*0.027*	0.064	*0.099*
INTANGIBLE	*63*	0.150	0.106	*41*	0.192	0.102	(0.042)	*0.265*	0.004	*0.694*
OCF	*64*	(0.097)	0.041	*40*	(0.008)	0.032	(0.089)	*0.118*	0.009	*0.341*
EBIT/ASSETS	*64*	(0.024)	0.087	*40*	0.063	0.083	(0.087)	0.108	0.004	0.341
NI/ASSETS	*65*	(0.319)	0.001	*40*	(0.033)	0.019	(0.287)	0.130	(0.018)	0.045
SALES/ASSETS	*65*	1.456	0.882	*40*	1.342	1.329	0.115	0.610	(0.447)	0.244
ROE	*65*	(0.294)	0.015	*40*	0.611	0.220	(0.905)	0.084	(0.204)	0.047
IA_EBIT/ASSETS	*64*	(0.072)	0.006	*40*	(0.030)	(0.025)	(0.042)	0.416	0.032	0.761
IA_NI/ASSETS	*65*	(0.278)	(0.003)	*40*	(0.046)	(0.009)	(0.232)	0.210	0.006	0.442
IA_SALES/ASSETS	*65*	0.470	0.044	*40*	0.294	0.419	0.176	0.353	(0.375)	0.304
IA_ROE	*65*	(0.389)	(0.228)	*40*	0.284	(0.003)	(0.673)	0.190	(0.225)	0.283
SALES GROWTH	*54*	0.265	0.102	*31*	0.251	0.107	0.014	*0.922*	(0.005)	*0.508*
EMPLOYEE GROWTH	*48*	0.034	0.035	*27*	0.098	0.025	(0.064)	*0.357*	0.009	*0.881*
DAYS	*65*	99.862	82.000	*41*	144.976	113.000	(45.114)	*0.026*	(31.000)	*0.073*
CEO Ownership	*60*	0.120	0.053	*35*	0.131	0.027	(0.011)	*0.757*	0.026	*0.451*
EXECUTIVE Ownership	*60*	0.310	0.267	*35*	0.284	0.236	0.026	*0.617*	0.021	*0.611*

INST Ownership	*61*	0.265	0.241	*37*	0.314	0.343	(0.049)	0.230	(0.102)	0.108
Delta INST Ownership	*57*	(0.015)	(0.000)	*33*	(0.009)	(0.003)	(0.006)	0.789	0.002	0.277
TURNOVER	*63*	0.005	0.003	*41*	0.006	0.003	(0.001)	0.560	0.000	0.665
STDEV	*63*	0.048	0.041	*41*	0.047	0.044	0.002	0.720	(0.003)	0.841
STDVAR	*63*	0.047	0.040	*41*	0.046	0.042	0.002	0.730	(0.002)	0.889

Table 3. Event Study Analysis

Cumulative abnormal returns to target firms, portfolios of rivals, supplier and customers are calculated using standard event study methodology. Market model is used to calculate estimated returns. Corporate rivals are defined as firms that share the same four-digit SIC code as target firms at the time of the takeover announcement. A main supplier (customer) is the industry which supplies (purchases) the largest percentage of takeover industry's input (output). A dependent supplier (customer) is the industry which supplies (purchases) the largest percent of that industry's output (input) to (from) the target industry.

Target Firms:

Event Window	N	CAR	P:N	Patell Z	Sectional T	Generalized Z
(0,0)	244	16.26%	193:51>>>	72.388***	9.965***	10.315***
(-1,+1)	245	19.80%	207:38>>>	50.242***	12.072***	12.029***
(0,+5)	245	17.12%	190:55>>>	31.830***	9.450***	9.851***
(0,+8)	245	17.81%	197:48>>>	26.945***	9.242***	10.748***
(0,+10)	245	17.60%	193:52>>>	24.044***	8.975***	10.235***

Rivals:

Event Window	N	CAR	P:N	Patell Z	Sectional T	Generalized Z
(0,+1)	219	0.21%	120:99)	2.199*	1.765$	1.937$
(-1,+1)	219	0.20%	121:98>	1.521	1.44	2.072*
(-2,+2)	219	0.33%	123:96>	2.422*	1.841$	2.342*
(-5,+5)	219	0.35%	117:102	2.216*	1.245	1.531
(-10,+10)	219	0.89%	119:100)	3.557***	2.104*	1.801$

Dependent Supplier:

Event Window	N	CAR	P:N	Patell Z	Sectional T	Generalized Z
(0,+1)	141	0.56%	73:68	1.780$	1.943$	1.013
(-1,+1)	141	0.58%	77:64)	1.591	1.702$	1.687$
(-2,+2)	141	0.78%	76:65	1.637	1.911$	1.519
(-5,+5)	141	0.67%	77:64)	1.188	1.225	1.687$
(-10,+10)	141	1.05%	83:58>>	1.968*	1.213	2.699**

Dependent Customer:

Event Window	N	CAR	P:N	Patell Z	Sectional T	Generalized Z
(0,+1)	98	-0.23%	37:61<	-0.487	-0.731	-1.976*
(-1,+1)	98	0.10%	46:52:00	-0.373	0.305	-0.156
(-2,+2)	98	0.61%	51:47:00	1.046	1.660$	0.855
(-5,+5)	98	0.76%	52:46:00	1.485	1.302	1.058

(-10,+10)	98	0.80%	53:45:00	1.684$	0.738	1.26

Main Supplier:

Event Window	N	CAR	P:N	Patell Z	Sectional T	Generalized Z
(0,+1)	87	0.53%	45:42:00	0.698	1.634	0.877
(-1,+1)	87	0.15%	44:43:00	-0.235	0.447	0.662
(-2,+2)	87	0.10%	47:40:00	0.271	0.254	1.307
(-5,+5)	87	-0.39%	42:45:00	0.18	-0.806	0.233
(-10,+10)	87	0.17%	43:44:00	0.932	0.214	0.448

Main Customer:

Event Window	N	CAR	P:N	Patell Z	Sectional T	Generalized Z
(0,+1)	115	-0.29%	44:71(	-0.908	-0.98	-1.956$
(-1,+1)	115	-0.34%	47:68	-0.905	-1.202	-1.396
(-2,+2)	115	-0.60%	47:68	-1.607	-1.954$	-1.396
(-5,+5)	115	-0.70%	50:65	-0.685	-1.495	-0.835
(-10,+10)	116	-2.42%	44:72<	-2.532*	-3.622***	-2.036*