Are Private Benefits Bad?
Evidence From Operating Performance
Following Block Trades

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This paper examines how the size of private benefits, measured using block premium, affects future operating performance. We also look at how private benefits affect investment policy (capital expenditure and R&D) and financial policy (capital structure and dividend payout). On a sample of 712 firms whose blocks of shares are traded, we show that higher private benefits are associated with lower future firm operating performance and higher capital expenditure. This shows that private benefits are indeed detrimental to firm's future operating performance and the increase in capital expenditure is one way through which private benefits are realized.

This paper asks the question of whether private benefits are bad for shareholders or whether private benefits can lead to shared benefits. Although many firm ownership structure and governance variables have been shown to affect firm value or performance, the effect of private benefits on firm performance has not been studied. In this paper, we study the relationship between private benefits and firm's operating performance. As Holderness (2003) points out, large-block ownership can be motivated by two factors: shared benefits of control and private benefits. The shared benefits of control arise when large shareholders bring value-increasing changes in corporate policy; such as monitoring by blockholders or superior management of blockholders. Shleifer and Vishny (1986) focus in their theoretical model on the ways in which large shareholders bring about value-increasing changes in corporate policy and thus stress the shared benefits of control. Barclay and Holderness (1991) note positive cumulative abnormal returns for firms with negotiated block trades, supporting the argument of shared benefits of control.

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However, blockholders have the added benefits of enjoying private benefits at the exclusion of minority shareholders. For example, blockholders can use their voting power to consume corporate resources to their advantage. Such activities triggered by private benefits will not be in the best interest of the shareholders and are likely to cause a decrease in firm operating performance. There are also amenity benefits (Demsetz and Lehn, 1985) or non-pecuniary private benefits (Hwang, 2007), whose effects on the firm performance are less certain. Therefore, the overall impact of private benefits on firm performance is unclear.

There have been only a few studies that have examined how certain private benefits can affect firm performance. Yermack (2006) examines firm performance for firms that use corporate jets for their CEOs and finds that firms permitting CEO aircraft use under-perform market benchmark by about 400 basis points per year. However, Rajan and Wulf (2006) suggest that a view of perks that sees them purely as managerial excess is incorrect and find evidence that perks are used as a means to enhance productivity. If private benefits can indeed lead to increased productivity of managers, private benefits may be beneficial to minority shareholders as well.

Although these two studies above examine how managerial perks are related to firm performance, they focus on only one specific type of private benefits: the personal use of company planes.[1] Personal use of corporate jet is only one example of a broad range of private benefits. To the best of our knowledge, this is the first study to examine the relationship between the overall level of private benefits and the future firm performance.

To answer the above question, we examine how private benefits, measured by block premium[2], affect future firm operating performance, measured by return on assts and profit margin. We then examine the relationship between private benefits and various control activities. Specifically, we look into how private benefits are related to changes in investment policy and financial policy. As for the changes in investment policy, we examine changes in capital expenditure and changes in R&D expenditure. As for the changes in financial policy, we look at changes in firm's leverage and changes in dividend payout ratio. Finally, by using simultaneous equations, we examine whether the expected changes in the firm's investment or financial policies affect the size of block premium ex-ante, controlling for other determinants of block premium.

We find that higher private benefits lead to lower future firm operating performance and higher capital expenditure. In our simultaneous equation where we treat both the block premium and the firm policy variable as

[1] Rajan and Wulf (2006) also look at two other types of perks: chauffer service and country club membership. However, they focus on company planes for the main regression results. Another limitation of previous studies is that both Yermack (2006) and Rajan and Wulf (2006) are confined to large companies. Yermack (2006) covers a subset of Fortune 500 firms. The dataset in Rajan and Wulf (2006) come from a survey of about 300 large firms.

[2] See Barclay and Holderness (1989) for a detailed description of measuring private benefits using block premium.

endogenous, we find that the expected changes in capital expenditure are positively related to the measure of private benefits. Since greater private benefits lead to lower firm operating performance and are positively related to increased capital expenditure, this suggests that private benefits may result in activities such as investing in pet projects, through which lower firm performance is brought about.

The paper proceeds as follows. Section 1 briefly explains the rationale behind using block premium to measure private benefits and describes the data selection process. In Section 2, we examine how private benefits are associated with future firm operating performance. In Sections 3 and 4, we describe how private benefits affect the firm's investment policy and financial policy, respectively. Section 5 analyzes whether the expected changes in investment policy and financial policy are incorporated ex-ante into block premium. We summarize the results of the paper in Section 6.

1. Data Selection

We estimate private benefits using block premium, following Barclay and Holderness (1989). Block premium is measured by the difference between the price per share paid for large-percentage blocks of common stock and the market price of the shares after the block transaction.

$$Block\ Premium \equiv 100 \times \frac{(Price\ per\ share\ paid\ for\ the\ block) - (one\ day\ after\ exchange\ price)}{one\ day\ after\ exchange\ price} \qquad (1)$$

The reason why block premium can be used to measure private benefits is as follows. If all shareholders receive benefits in proportion to their fractional ownership, blocks should trade at the exchange price. But if blockholders can enjoy benefits that do not accrue to minority shareholders, then blocks will trade at a premium to the post-announcement exchange price.[3] Therefore, we collect block trades over the period of 1987 to 2006 from the SDC Mergers and Acquisitions database. Transactions must involve a transfer of a block of shares that comprises 5% or more[4] of the shares outstanding and are classified as "block purchase" in the acquisition technique category of the SDC Mergers and Acquisitions database.

From our initial sample size of 1,767, there must be information about price paid per share for the block transaction and the exchange price one day after the announcement of the block trade. Thus we exclude cases where the price paid per share may not be valued objectively, such as transactions involving

[3] Typically, the benchmark used in measuring block premium is the post-announcement price as opposed to pre-announcement price, because the price that follows the announcement will incorporate the expected effect of the transaction. That is, the post-announcement exchange price will reflect the public benefits of the block trade. And since the privately negotiated block trade price will reflect both private and public benefits, the difference between the block trade price and the post-announcement exchange price will reflect only the private benefits.

[4] 5% is the cutoff point used for measuring block premium because it is the point that triggers a mandatory filing to the SEC with regards to a block transaction.

convertible bonds, liabilities, options, warrants, etc. After this screen, sample size is reduced to 1,140.

To rule out instances where the transaction price may not reflect private benefits, we exclude cases where either the target or the acquirer is a subsidiary of the other party, or is a government. We further exclude transactions that are open market repurchases, tender offers, spinoffs, recapitalizations, self-tenders, exchange offers, repurchases, and acquisition of remaining interest. Also, to stay away from block trades that have any takeover motives, we rule out block trades that happen within six months prior to a merger or acquisition concerning the block trading company. These screening processes reduces the number of our sample firms to 811.

The parties of the block transaction can either be an insider or an outsider of the company. Barclay and Holderness (1989) note that purchasers of the trade are typically outsiders, and not one of the firm's directors or officers. In our initial sample, only 2.6% of the trades involve insider purchasers. We restrict our sample to only those block transactions where both parties are not affiliated with the company. The reason behind this selection criterion is that it is ambiguous as to how accurately the block transaction will reflect private benefits when insiders take part in the transaction. For example, insiders purchasing a block of shares may already have managerial and/or ownership control of the firm in which case they will not pay extra for the block. In the case of insider selling a block, he may still have a significant managerial/ownership control of the firm after the trade that he does not have to worry about losing his private benefits. By focusing on outsider purchasers, we are able to conduct a cleaner measurement of private benefits.[5] This screening reduced our sample size to 784.

We also identify insider ownership and the percentage of outsiders among board members of the company whose block was traded. We collect these data from the firm's proxy statement with the most recent record date prior to the block transaction. These further screens reduced our sample size to 756. Finally we need data on operating return, capital expenditure, R&D, and leverage for the year of the block trade and for one year before and after the block transaction. This screen reduced our sample size to its final number, 712. Table I shows the summary statistics of the final sample.

[Table I]

The percentage block premium averages 9.25% for the whole sample. This figure is smaller than the average block premium of 16% reported by Barclay and Holderness (1989). The difference may arise from the difference in sample period, which covers the period 1978-1982 in the case of Barclay and Holderness (1989) and 1987-2006 in this study. Also, by using the SDC

[5] Another possible reason for not using trades that involve insiders may be that insiders may be more informed, thus purchasing undervalued shares and selling overvalued shares. But this is not much of a concern since the benchmark I use for measuring the block premium is the post-announcement price, which is the price when the public incorporates all the information about the block transaction, including the identity of the trading parties.

database, we are able to construct 712 sample block trades whereas Barclay and Holderness (1989) searches Wall Street Journal to identify 63 block trades. Therefore, our sample will include more of less-dramatic block trades since Wall Street Journal reports only news worthy events.

2. Firm Operating Performance

To examine how private benefits are associated with future operating performance, we regress the change in future operating performance from one year before the block trade (time *t-1*) one year after the block trade (*t+1*), on block premium and control variables (measured at time *t*, the year of the block trade). Our first measure of operating performance is industry-adjusted operating return on assets (ROA), as used by Barber and Lyon (1996). Core, Guay, and Rusticus (2006) refer to Barber and Lyon (1996) saying that operating return is the preferred measure of operating performance because it is not affected by leverage, extraordinary items, and other discretionary items. Gompers, Ishii, and Metrick (2003) use operating return on equity, whereas Core, et al. (2006) use operating return on assets. Core, et al. (2006) argue return on assets has more desirable distributional properties than return on equity because total assets are strictly positive, whereas equity can be zero or negative.

Therefore, we measure ROA as operating income divided by year-end total assets. We measure operating income as sales minus cost of goods sold and selling, general and administrative expenses. We use both operating income before depreciation and operating income after depreciation as measures of operating income. ROA is then industry-adjusted by subtracting the ROA of the median firm in the corresponding 48 industries designated by Fama-French (1997) industry. Finally, we measure the change in the industry-adjusted ROA from one year before block trade (*t-1*) to one year after block trade (*t+1*).

We also use net profit margin as another indicator of operating performance. We measure net profit margin as the ratio of income before extraordinary items available for common equity to sales. To use as the dependent variable in the regression, we measure the change in net profit margin from one year before block trade (*t-1*) to one year after block trade (*t+1*).
Gompers, et al. (2003) use book-to-market to control for expected cross-sectional differences in operating performance. Core, et al. (2006) add firm size as a control variable, following Fama and French (1995).
Therefore, we use the following models for the tests:

$$\Delta Industry-adjusted\,ROA_{i,t+1} = \alpha + \beta_1 \cdot (Block\ Premium)_{i,t} + \beta_2 \cdot (\log MVE)_{i,t} + \beta_3 \cdot (\log BME)_{i,t} \quad (2)$$

$$\Delta Industry-adjusted\,net\ profit\,margin_{i,t+1} = \alpha + \beta_1 \cdot (Block\ Premium)_{i,t} + \beta_2 \cdot (\log MVE)_{i,t} + \beta_3 \cdot (\log BME)_{i,t} \quad (3)$$

where *Block Premium* is as defined in equation (1), *MVE* is the market value of equity, and *BME* is the ratio of book value of equity to market value of equity. *MVE* and *BME* are both measured for the most recent year prior to the block trade. In equations (2) and (3), a significantly positive or negative estimate of β_1 would give us an evidence of an association between the amount of private benefits and firm operating performance. To reduce the influence of large outliers, we estimate median (least-absolute-deviation) regressions. And to mitigate the influence of cross-sectional dependence, the regressions are estimated by year, and we report mean coefficients and t-statistics based on the standard errors of these annual coefficients.

[Table II]

Table II shows that for almost every year, greater private benefits are associated with lower ROA and lower profit margin. Both the time series mean of the coefficient and the pooled coefficient of the block premium is significantly negative. This shows that greater amount of private benefits will lead to deteriorating future firm operating performance.

3. Investment Policy

To examine how private benefits are associated with firm's investment policy, we regress the change in capital expenditure from one year before block trade (*t-1*) to one year after block trade (*t+1*), on block premium and other control variables (measured at *t*, the year of the block trade). In addition, we also regress the change in R&D expenditure on block premium and other control variables.[6]

In our regressions, we use the following models for our tests:

$$\begin{aligned}\Delta Capital\ Expenditure_{i,t+1} = {} & \alpha + \beta_1 \cdot (Block\ Premium)_{i,t} + \beta_2 \cdot (Cash\ flow)_{i,t} \\ & + \beta_3 \cdot (Tobin's\ Q)_{i,t} + \beta_4 \cdot (\log Book\ \ value\ of\ \ assets)_{i,t} \\ & + \sum \beta_j \cdot (industry\ \ dummies) + \sum \beta_k \cdot (year\ dummies)\end{aligned} \quad (4)$$

$$\begin{aligned}\Delta R\ \&\ D_{i,t+1} = {} & \alpha + \beta_1 \cdot (Block\ Premium)_{i,t} + \beta_2 \cdot (Cash\ flow)_{i,t} \\ & + \beta_3 \cdot (Tobin's\ Q)_{i,t} + \beta_4 \cdot (\log Book\ \ value\ of\ \ assets)_{i,t} \\ & + \sum \beta_j \cdot (industry\ dummies) + \sum \beta_k \cdot (year\ \ dummies)\end{aligned}$$

(5)

We measure capital expenditure as the firm's capital expenditures over net property, plant, and equipment. We measure R&D as the ratio of R&D expenditures over lagged total assets. We define cash flow as the sum of

[6] Control variables for both equations are the same as those in Bertrand and Schoar (2003), which studies the effect of managers on various firm policies.

earnings before extraordinary items over net property, plant, and equipment. Tobin's Q is defined as the market value of assets divided by the book value of assets. Cash flow, Tobin's Q, and book value of assets are all measured for the most recent year prior to the block trade.

[Table III]

In Panel A of Table III shows that the estimated coefficient of block premium is positive and significant in the first regression where the dependent variable is the change in capital expenditure. For the second regression where the dependent variable is the change in R&D expenditure, the estimated coefficient of block premium is positive but insignificant. Therefore, results in Table III tell us that private benefits are associated with changes in investment policy of the company, in the sense that greater private benefits are likely to bring increase in capital expenditure. Since greater private benefits lead to increased capital expenditure (as shown in Table II) and lower firm operating performance (as shown in Table III), these results taken together suggest that the new blockholder seem to enjoy private benefits through investing in pet projects and such activities in turn may be the cause of lower future firm performance.

4. Financial Policy

To examine how private benefits affect firm's financial policy, we regress the change in leverage from one year before block trade (*t-1*) to one year after block trade (*t+1*) on block premium and other control variables (measured at *t-1*, the year of the block trade). In another test, we regress the change in dividend payout on block premium and other control variables. [7]

In our regression, we use the following model to perform our tests:

$$\begin{aligned}\Delta Leverage_{i,t+1} = {} & \alpha + \beta_1 \cdot (Block\ Premium)_{i,t} + \beta_2 \cdot (Cash\ flow)_{i,t} \\ & + \beta_3 \cdot (ROA)_{i,t} + \beta_4 \cdot (\log Book\ value\ of\ assets)_{i,t} \\ & + \sum \beta_j \cdot (industry\ dummies) + \sum \beta_k \cdot (year\ dummies)\end{aligned} \tag{6}$$

$$\begin{aligned}\Delta Dividends/\ Earnings_{i,t+1} = {} & \alpha + \beta_1 \cdot (Block\ Premium)_{i,t} + \beta_2 \cdot (Cash\ flow)_{i,t} \\ & + \beta_3 \cdot (ROA)_{i,t} + \beta_4 \cdot (\log Book\ value\ of\ assets)_{i,t} \\ & + \sum \beta_j \cdot (industry\ dummies) + \sum \beta_k \cdot (year\ dummies)\end{aligned} \tag{7}$$

We define leverage as the book value of long-term debt over book value of assets. We measure dividend over earnings as the ratio of the sum of common dividends and preferred dividends over earnings before depreciation, interest, and tax. Cash flow, ROA, and book value of assets are all measured for the most recent year prior to the block trade.

[7] Control variables for both equations are the same as those in Bertrand and Schoar (2003), which studies the effect of managers on various firm policies.

In Panel B of Table III, in each regression where the dependent variable is the change in leverage and the change in dividend per earnings, respectively, the estimated coefficient of block premium is insignificant. Therefore, private benefits are not statistically related to changes in the company's financial policy, with respect to either leverage or dividend payout policy.

5. Corporate Policies and Block Premium

In this section, we ask the question of whether the expected change in the company's investment policy and financial policy can affect the size of block premium ex-ante. As private benefits will increase as the beneficiary has more control over the company, the expected level of control that the new blockholder anticipates to have will affect the size of block premium. Therefore, we examine whether the expected changes in investment policy (capital expenditure and R&D) and financial policy (leverage and dividend payout) are reflected ex-ante in the size of block premium.

The above approach means that we are relaxing the assumption that block premium is an exogenous variable. Studies (for example, Barclay and Holderness 1989 and Hwang 2007, among others) show that the characteristics of the company whose blocks are traded and the characteristics of the acquirer of the block can affect the size of block premium. Therefore, in this section, we control for these factors that can influence the size of block premium. [8]

To measure the expected changes in capital expenditure, we first calculate the changes in capital expenditure one year after the block trade and then construct the expected change in capital expenditure using the variables of cash flow, Tobin's Q, and the log of firm size for the most recent year prior to the date of the block trade as in Equation (8). We then use the expected change in capital expenditure as one of independent variables in Equation (9), which includes other known determinants of block premium. A significant coefficient to the expected change in capital structure variable (β_9) in Equation (9) would indicate that the expected change in capital expenditure is incorporated ex-ante in the block premium measure.

$$
\begin{aligned}
&\textit{First Equation} \ : \\
&\Delta Capital\ Expenditure_{i,t+1} = \alpha + \beta_1 \cdot (Block\ Premium)_{i,t} + \beta_2 \cdot (Cash\ \ flow)_{i,t} \\
&+ \beta_3 \cdot (Tobin's\ Q)_{i,t} + \beta_4 \cdot (\log Book\ \ value\ \ of\ \ assets)_{i,t} \\
&+ \sum \beta_j \cdot (industry\ dummies) + \sum \beta_k \cdot (year\ dummies)
\end{aligned}
\tag{8}
$$

$$
\begin{aligned}
&\textit{Second Equation} \ : \\
&Block\ \ premium_i = \alpha + \beta_1 \cdot (percentage\ \ of\ \ shares\ acquired)_i + \beta_2 \cdot (prior\ \ firm\ \ performce)_i \\
&+ \beta_3 \cdot \log(\ firm\ size)_i + \beta_4 \cdot (leverage)_i + \beta_5 \cdot (tangibility\ of\ \ assets)_i \\
&+ \beta_6 \cdot (individual\ acquirer\ dummy)_i + \beta_7 \cdot (acquirer\ is\ in\ the\ same\ industry\ dummy)_i \\
&+ \beta_8 \cdot (bank\ acquirer\ dummy)_i + \beta_9 \cdot (\Delta capital\ \ expenditure)_i \\
&+ \sum \beta_j \cdot (industry\ dummies)_i + \sum \beta_h \cdot (year\ dummies)_i
\end{aligned}
\tag{9}
$$

[8] See Section 3.A in Hwang (2007) for detailed description of determinants of block premium.

Similarly, the effect of the expected change in R&D expenditure on block premium is measured by using *ΔR&D expenditure* instead of *Δcapital expenditure* in both equations.

For examining the effect of the changes in leverage, we first calculate the changes in leverage one year after the block trade and then construct the expected change in leverage using cash flow, ROA, and the log of firm size at the most recent year prior to the block trade as in Equation (10). We then use the expected change in leverage as one of independent variables in Equation (11), which includes other known determinants of block premium. A significant coefficient to the expected change in leverage variable (β_8) in Equation (11) would indicate that the expected change in leverage is incorporated ex-ante in the block premium measure.

$$
\begin{aligned}
&First\ Equation\ :\\
&\Delta\ leverage_i = \alpha + \beta_1 \cdot (Block\ Premium)_{i,t} + \beta_2 \cdot (Cash\ flow)_{i,t}\\
&\qquad + \beta_3 \cdot (ROA)_{i,t} + \beta_4 \cdot (\log Book\ value\ of\ assets)_{i,t}\\
&\qquad + \sum \beta_j \cdot (industry\ dummies) + \sum \beta_k \cdot (year\ dummies)
\end{aligned}
\tag{10}
$$

$$
\begin{aligned}
&Second\ Equation\ :\\
&Block\ premium_i = \alpha + \beta_1 \cdot (percentage\ of\ shares\ acquired)_i + \beta_2 \cdot (prior\ firm\ performce)_i\\
&\quad + \beta_3 \cdot \log(firm\ size)_i + \beta_5 \cdot (tangibility\ of\ assets)_i\\
&\quad + \beta_5 \cdot (individual\ acquirer\ dummy)_i + \beta_6 \cdot (acquirer\ is\ in\ the\ same\ industry\ dummy)_i\\
&\quad + \beta_7 \cdot (bank\ acquirer\ dummy)_i + \beta_8 \cdot (\Delta leverage)_i\\
&\quad + \sum \beta_j \cdot (industry\ dummies)_i + \sum \beta_h \cdot (year\ dummies)_i
\end{aligned}
\tag{11}
$$

Similarly, the effect of the change in dividend payout on block premium is measured by using *Δdividends/earnings* instead of *Δleverage* in both equations.

[Table IV]

Table IV shows the results of simultaneous regression model of estimating firm policies (investment policies and financial policies) and block premium, by treating each of these variables as endogenous. Panel A shows the expected change in the company's investment policy and financial policy with respect to the size of block premium. As for the expected change in investment policy, the effect of block premium on the change in capital expenditure and change in R&D is shown in Model 1 and 2, respectively. As for the expected change in financial policy, the effect of block premium on the change in leverage and change in dividend payout ratio is shown in Model 3 and 4, respectively. Results are similar to those in Section 2 and 3. Greater block premium leads to increased capital expenditure. But we do not find any significant relationship between block premium and other firm policies of R&D expenditure, leverage, and dividend payout.

Panel B shows the expected change in the block premium with respect to the expected change in company's investment or financial policy. Results show

that the expected change in capital expenditure positively affects the size of block premium, whereas the expected change in R&D is not a significant determinant of block premium. Under the situation where capital expenditure is expected to increase 100%, block premium increases by 1.2%. Results also show that both measures of financial policy (change in leverage and change in dividends payout) are not significant determinants of block premium. To summarize, when we measure the effects of various firm policies on private benefits, changes in expected capital expenditure is the only variable that significantly affects block premium. This suggests that increased capital spending may be one channel where the block owner expects to extract private benefits from the company.

6. Conclusion

Using block premium to measure private benefits, we find evidence that greater private benefits leads to lower firm operating performance, in terms of lower future ROA and profit margin. By examining how private benefits can affect different corporate policies, we find that private benefits are positively related to future increases in the company's capital expenditure. Also, when we endogenize block premium using simultaneous equations, we find that the expected changes in capital expenditure is positively related to our measure of private benefits. These are yet another evidence supporting the agency problem of Jensen and Meckling (1976), where a blockholder with large private benefits pursues pet projects (evidenced by increases in capital expenditure), which leads to lower future firm operating performance.

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Table I
Summary Statistics

This table gives summary statistics of several variables for 712 block trades between 1987 and 2006. Block trades are identified through the SDC Mergers and Acquisition database. Percentage block premium is defined as 100*{(price per share paid for the block) – (exchange price one day after the announcement of the transaction)} / (exchange price one day after the announcement of the transaction). Tobin's Q is defined as the market value of assets divided by the book value of assets. ROA is operating income divided by year-end total assets. Operating income is sales minus cost of goods sold and selling, general and administrative expenses. We use both operating income before depreciation and operating income after depreciation as measures of operating income. ROA is then industry-adjusted by subtracting the ROA of the median firm in the corresponding Fama-French (1997) industry. Capital expenditure is capital expenditures over net property, plant, and equipment. R&D is the ratio of R&D expenditures over lagged total assets. Leverage is measured as the book value of long-term debt over book value of assets. Data on block premium, total asset, market value of equity are from SDC Mergers and Acquisition database. Data on ROA, capital expenditure, R&D, and leverage are from Compustat for the year prior to the block transaction.

	mean	std dev	minimum	median	maximum
Block premium (%)	9.25	6.35	-5.95	8.03	25.47
Total asset (mil)	744	2,147	12	98	313,892
Market value of equity (mil)	260	984	5	42	241,636
Tobin's Q	1.87	4.02	1.04	1.58	9.73
Industry-adjusted ROA (before depreciation)	-0.04	0.11	-2.36	-0.02	0.89
Industry-adjusted ROA (after depreciation)	-0.03	0.12	-1.73	-0.02	0.89
Capital expenditure	0.42	2.75	0.00	0.34	7.49
R&D	0.04	0.07	0.00	0.02	0.33
Leverage	0.19	0.32	0.00	0.09	1.89
Sample size	712				

Table II
Regressions of Operating Measures on Block Premium

This table presents the coefficients on private benefits in annual regressions of firm performance measures on private benefits, log(book-to-market equity), and log(market value of equity) for 712 block trades between 1987 and 2006. Variables used to measure firm performance are industry adjusted ROA and profit margin. Block trades are identified through the SDC Mergers and Acquisition database. Block premium is defined as 100*{(price per share paid for the block) – (exchange price one day after the announcement of the transaction)} / (exchange price one day after the announcement of the transaction). ROA is operating income divided by year-end total assets. Operating income is sales minus cost of goods sold and selling, general and administrative expenses. We use both operating income before depreciation and operating income after depreciation as measures of operating income. Net profit margin is the ratio of income before extraordinary items available for common equity to sales. Each dependent variable is industry-adjusted by matching the four-digit SIC codes of all firms in December of each year to the 48 industries designated by Fama-French (1997). Data on block premium and market value of equity from SDC Mergers and Acquisition database. Data on ROA is from Compustat for the year following the block transaction. Results are based on median regressions by year. Then the time series mean of coefficients, and the standard deviation and t-statistics for the average of the coefficients are calculated. Also reported is the result of the pooled regression using median regressions. Significance at the ten-percent and five-percent levels is indicated by * and **, respectively. All coefficients are multiplied by 100 for expositional convenience.

	ΔROA (%)		ΔProfit margin (%)
	before dep.	after dep.	
1987	-0.29	-0.33	-0.21
1988	-0.15	-0.18	0.02
1989	-0.13	-0.17	-0.31
1990	-0.55	-0.57	-0.43
1991	-0.11	-0.14	-0.13
1992	-0.90 *	-0.92 *	-0.72
1993	-0.82 *	-0.84 *	-0.76
1994	-0.93 **	-0.94 *	-0.89 *
1995	-0.49	-0.50	-0.67
1996	-0.24	-0.26	-0.13
1997	-0.32	-0.34	-0.09
1998	-0.29	-0.31	-0.26
1999	-0.89 *	-0.90 *	-0.94 *
2000	-0.97 *	-0.99 *	-0.68

2001	-0.88	-0.92 *	-0.48
2002	-0.13	-0.20	0.01
2003	0.04	0.03	0.06
2004	-0.12	-0.14	-0.09
2005	-0.74 *	-0.68	-0.87
2006	-0.53	-0.55	-0.60
time series mean	-0.47 **	-0.49 **	-0.41 **
(t-statistic)	(-4.57)	(-5.62)	(-4.05)
pooled coefficient	-0.49 **	-0.51 **	-0.39 **
(t-statistic)	(-4.32)	(-4.49)	(-3.57)

Table III
Regressions of Measures of Investment Policy and Financial Policy on Block Premium

This table presents the coefficients on private benefits in annual regressions of measures of investment policy (Panel A) and financial policy (Panel B) on private benefits and other control variables for 712 block trades between 1987 and 2006. Variables used to measure investment policy are capital expenditure and R&D. Variables used to measure investment policy are capital expenditure and R&D. Variables used to measure financial policy are leverage and dividends. Block trades are identified through the SDC Mergers and Acquisition database. Block premium is defined as 100*{(price per share paid for the block) – (exchange price one day after the announcement of the transaction)} / (exchange price one day after the announcement of the transaction). Capital expenditure is capital expenditures over net property, plant, and equipment. R&D is the ratio of R&D expenditures over lagged total assets. Leverage is measured as the book value of long-term debt over book value of assets. Dividend over earnings is the ratio of the sum of common dividends and preferred dividends over earnings before depreciation, interest, and tax. Cash flow is defined as the sum of earnings before extraordinary items over net property, plant, and equipment. Tobin's Q is defined as the market value of assets divided by the book value of assets. Firm size is the size of total asset. ROA is operating income after depreciation divided by year-end total assets. Operating income is sales minus cost of goods sold and selling, general and administrative expenses. Year and industry dummies are included in the regressions. T-statistics are in parentheses. Significance at the ten-, five-, and one- percent levels is indicated by *, **, and ***, respectively.

Panel A : Investment Policy

	ΔCapital Expenditure (%)	ΔR&D (%)
Block premium	1.32** (2.19)	0.07 (1.14)
Cash flow	24.53*** (22.74)	4.62*** (5.64)
Tobin's Q	1.48** (2.8)	0.58 (1.33)
log (Firm size)	0.13 (0.95)	-0.08 (-1.10)
Adj R-square	0.35	0.26

Panel B : Financial Policy

	ΔLeverage (%)	ΔDiv/Earnings (%)
Block premium	0.03 (0.75)	-0.08 (-1.12)
Cash flow	0.02 (1.46)	0.04** (2.35)
ROA	-0.09*** (-3.12)	0.001 (1.07)
log (Firm size)	0.83** (2.45)	0.06** (2.52)
Adj R-square	0.31	0.22

Table IV
Simultaneous Regression of Block Premium

This table shows the results of alternative specifications for the simultaneous regression models of estimating block premium. In Model 1 and 2, change in capital expenditure and change in R&D expenditure is the expected change in capital structure and change in R&D, respectively. Right hand side variables used are block premium, cash flow, Tobin's Q, and log of firm size. In Model 3 and 4, change in leverage and change in dividend/earnings is the expected change in leverage and dividends/earnings, respectively. Right hand side variables used are cash flow, ROA, and log of firm size. Block premium is defined as 100*{(price per share paid for the block) – (exchange price one day after the announcement of the transaction)} / (exchange price one day after the announcement of the transaction). Percentage of shares acquired is the percentage of shares acquired in the block transaction. Prior firm performance is the percentage of common stock return for the 12 months ending two months before the block trade announcement minus the return on the CRSP equal-weighted index. Leverage is measured as the book value of long-term debt over book value of assets. Tangibility of assets is fixed assets over total assets. Individual is a dummy variable that takes the value of 1 when the acquirer is an individual. Acquirer is in the same industry dummy is a dummy variable that takes a value of one when the acquiring company is in the same industry group as the target based on the two-digit SIC code. Bank acquirer dummy is a dummy variable that takes the value of 1 when the acquirer is a financial company. Major industry group dummies based on the two-digit SIC code and year dummies are included in the regression (not reported). P-values are in parentheses. Significant coefficients are indicated at 10%, 5%, and 1% levels by *, **, and *** respectively.

Right-hand side variables	Left-hand side variable			
	Model 1: Capital Expenditure	Model 2: R&D Expenditure	Model 3: Leverage	Model 4: Dividends/ Earnings
Block premium	0.75*	0.03	0.02	-0.04
	(0.08)	(0.18)	(0.64)	(0.23)
Cash flow	17.01***	3.10**	0.01	0.02**
	(0.00)	(0.04)	(0.49)	(0.02)
Log (book value of assets)	0.08	-0.11	0.78	0.06
	(0.36)	(0.34)	(0.35)	(0.24)
Tobin's Q	1.50*	0.14		
	(0.08)	(0.31)		
ROA			-0.05**	0.00
			(0.04)	(0.73)

Panel A: Regression of firm policy variable on block premium

Panel B: Regression of block premium on firm policy variable

Category of right-hand side variables	Right-hand side variables	Left-hand side variable: block premium			
		Model 1	Model 2	Model 3	Model 4
Characteristics of the block	Percentage of shares acquired (%)	0.048**	0.171**	0.075**	0.088**
		(0.03)	(0.03)	(0.04)	(0.02)
	Prior firm performance (%)	0.003	0.002*	0.009*	0.012
		(0.12)	(0.08)	(0.06)	(0.18)
	Log (book value of assets)	0.030	-0.035	0.018	-0.029
		(0.48)	(0.52)	(0.40)	(0.43)
	Tangibility of assets (%)	-0.138*	-0.122	-0.149*	-0.103
		(0.06)	(0.22)	(0.07)	(0.18)
Characteristics of the acquirer	Individual acquirer dummy	3.481	2.105	2.592	4.569
		(0.33)	(0.46)	(0.40)	(0.18)
	Bank acquirer dummy	-4.29	-2.23	-3.19	-1.44
		(0.48)	(0.28)	(0.43)	(0.30)
	Acquirer is in the same industry dummy	0.73	0.28	0.48	0.34
		(0.29)	(0.32)	(0.39)	(0.28)
Control activities	Change in capital expenditure (%)	0.012*			
		(0.08)			
	Change in R&D expenditure (%)		0.001		
			(0.35)		
	Change in leverage (%)			0.001	
				(0.14)	
	Change in dividends/earnings (%)				0.000
					(0.53)