

The Decision to Go Private

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Abstract. The volume of public listed firms going private has experienced two dramatic booms since 1980. Several theories have been proposed to explain the flow from public to private equity ownership. By studying the propensity of individual firms to become private during the previous few decades, we attempt to distinguish between the various theories. Firm size, risk, valuation, and growth all predict the decision to go private, consistent with many plausible theories. We find support for several specific explanations of buyout volumes, including the importance of junk bonds, the impact of Sarbanes-Oxley, and the risk-sharing benefits of public ownership. However, we do not find evidence that the break up of conglomerates was a motivation for buyouts. (*JEL: G32, G34*)

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1. Introduction

The flow of firms from public to private ownership has been massive and volatile. In the last few decades, there were two big US waves of buyouts, the first peaking in 1987 and the second perhaps peaking in 2007 (see graph 1). The year-to-year variation is large (the dollar value of buyout transactions in 2006 was approximately 14 times the value in 1992). Similarly, variation in the flow across industries is considerable (see graph 2). Which theories of the private-public choice can explain the time-series and cross-sectional patterns of this flow?

We discuss a number of theories that relate to the choice between private and public ownership, and outline the time-series and cross-sectional predictions about the incidence of buyouts from each. These include a trade-off between risk sharing benefits of public ownership (see e.g. Leland and Pyle (1977)) and better control of agency problems in private firms (see e.g. Fama and Jensen (1983), Jensen (1986), Jensen (1989) and Kaplan (1989)). We discuss several reasons for risk-averse behavior beyond the utility functions of owners, such as bankruptcy costs, and what predictions these alternatives make regarding the private-public choice.¹ Agency problems related to free cash flow (Jensen (1986) or debt overhang (Myers (1977)) may be either more or less severe in private firms with high leverage (as is usually the case for firms that go private). With very few extra assumptions, these standard theories provide predictions about which firms will be likely choose private ownership.

Another category of explanations is institutional in nature. This category includes the possibility that the development of junk bond markets in the first half of the 1980s allowed firms to raise more external finance without relying on equity markets (see Jensen 1989). Institutional investors grew in importance in the 1980s, something Donaldson (1994) ties to the LBO wave of that decade, both as buyers of junk bonds, and as sellers of large blocks of shares. The recent buyout wave has been explained by Sarbanes-Oxley legislation (SOX), which allegedly has made listing less attractive (see Zingales 2006). Yet another group of explanations can be summarized as “cheap debt” explanations (see e.g. Axelson, Jenkinson, Strömberg and Weisbach (2007)). They argue that when (long term) interest rates are low, it is “cheap” to finance a firm with public debt, relative to public equity, and that this allows firms to go

¹ See Bodnaruk, Kandel, Massa and Simonov (forthcoming) as well as Aslan and Kumar (2007) for evidence that owners of firms may be risk averse.

private by exploiting the cheap debt financing. We attempt to evaluate these theories and consider how they might interact with the economic determinants of other theories.

We test the various theories' predictions in panel data on the decisions of US firms to go from public to private ownership. Our main findings are as follows. We find that larger firms, firms with high volatility, firms with high asset growth, and firms with low book-to-market ratios are unlikely to go private. The magnitudes of these effects are economically important. These four variables provide interesting predictive power for which firms go private, but generally do not provide sharp test of the alternative theories. In each case, the empirical finding is consistent with multiple explanations.² Several sharper tests are provided by other variables. We find that conglomerates are not more likely to go private, neither during the 1980s nor at other times, which seems at odds with the conglomerate break-up theory of the 1980s buyout wave. On the other hand, we find that the junk bond wave of the 1980s coincides with a higher relative propensity of large firms to go private. This is consistent with the theory that the development of junk bonds was a key financial innovation allowing larger firms to switch to private status. It is also consistent with a more demand-driven view of junk bonds. We also find support for the argument that Sarbanes-Oxley forced smaller firms off the stock exchange, and we find that entrenched managers reduce the probability of going-private transactions. To summarize, our evidence points to the importance of many of the institutional explanations that have been advanced for going private waves, and suggests that the standard trade-offs (e.g. risk and agency problems) account for a substantial portion of the evidence at the firm-level.

This paper is part of a literature, partially inspired by recent buyout volumes, that explores the role of public and private equity ownership, including Boot, Gopalan and Thakor (2006, forthcoming) and Axelson, Jenkinson, Strömberg and Weisbach (2007). In particular, our results are related to the recent empirical papers by Aslan and Kumar (2007), who study the decision to go public and go private in the UK and Ireland, and Bharath and Dittmar (2007), who compare private and public firms as well as considering the timing of going private decisions. Unlike these papers, we do not study IPOs, nor do we compare public firms to similar private peers. Instead we focus exclusively on the decision to go private. Also unlike

² For example, the fact that smaller firms are more likely to go private is consistent with any theory posting fixed costs of being public but benefits which scale. This set of theories includes, but is not limited to, the standard risk sharing argument.

both these papers, we consider several of the proposed institutional explanations for the recent buyout waves in detail. We examine the cheap debt theory of buyouts, the theory that junk bonds constituted a key innovation which allowed a different set of firms to go private, as well as the theory that 1980s buyouts aimed to break up conglomerates. Finally, unlike both Aslan and Kumar (2007) and Bharath and Dittmar (2007), we study how governance issues at the firm level interact with the process of going private.

2. Theories of the choice between private and public status

A number of theories and hypotheses involve predictions about which firms will be public and which will be private. Many of these theories are specifically related to the buyout decision, and some are of a more general nature. In this section, we outline a series of the most closely related arguments as well as a few arguments about the public-private choice that have not been codified but rely on standard arguments from the literature on corporate finance. We focus on the implications in terms of which public firms are most likely to go private, as opposed to how firm performance changes around a going private event or the price at which a transaction to go private takes place. Finally, we summarize the empirical predictions of all theories at the end of the section.

2.1 Risk aversion

The risk sharing benefits of public equity are lost when a firm goes private. The private firm will likely have fewer owners, and those owners will probably be less diversified than the typical owners of public equity. Hence, the cost of risk is higher for private firms. This impacts welfare directly, if agents are risk averse, but possibly also indirectly, if private firms are making investment, capital structure and organizational choices to reduce risk in a manner that is not first best optimal.

Even with risk neutral owners, private firms may be effectively more risk averse if owners have limited capital and firms face bankruptcy costs or costs of financial distress³. Essentially, the limited capital of the owners forces private firms to be highly levered and face relatively high probabilities of financial distress and inefficient liquidation. In this situation

³ Costs of financial distress could be due to a debt overhang problem (Myers (1977), see also the next section), or fire-sale discount (Shleifer and Vishny 1992).

private firms may also choose to forgo risky but otherwise valuable investment opportunities. Of course, these difficulties can be avoided by going (or remaining) public.

This argument for the benefits of ownership through the stock market does not provide a theory of private and public ownership choices without some countervailing benefit of private ownership (or, equivalently, some disadvantage of public ownership). An argument that involves an advantage of only one form of ownership is half a theory at most. One potential benefit to being private is that agency costs are lower for private firms (see also section 2.3 below). However, there are many potential advantages and disadvantages to being private firm instead of publicly owned, and therefore, considering partial theories when they provide empirical predictions is useful. We must keep in mind that some countervailing force is implicitly assumed to exist, favoring the other form of ownership.

In the case of risk sharing, the main predictions are as follows; first, firms whose cash flows entail more risk will be less likely to go private than those with stable cash flows. Second, the limits to private risk sharing are likely more severe for large firms, and therefore, large firms are also less likely to become private.

2.2 Debt overhang

Myers (1977) suggests that leverage can distort investment incentives, causing debt overhang. Debt overhang refers to a situation where the cash flow generated by new investment is partially appropriated by existing debt holders, and hence positive net present value projects are not always accepted by the owners. Firms for which debt overhang is likely to be important are those firms that have high investment needs, especially if the investment in question has volatile investment payoffs. Hence, to the extent that buyouts necessitate high leverage (to replace public equity), growth firms should be less likely to go private than more stable firms.

2.3 Free cash flow

Jensen (1986) suggests that managers will dislike paying out cash because it reduces the amount of resources under their control and increases the likelihood that they will have to raise external finance, incurring capital markets' scrutiny. Instead, managers prefer to grow their firms, creating substantial agency problems between management and owners. Jensen suggests that high leverage capital structures and the threat of takeovers can help remedy these agency problems. In particular, he indicates that going private transactions are useful because they

result in increased leverage. He also suggests that going private is most useful for firms with “stable business histories and substantial free cash flow (i.e. low growth prospects and high potential for generating cash flows) – situations where agency costs of free cash flow are likely to be high.” The free cash flow theory predicts that leveraged buyouts will occur for firms low asset growth and high book-to-market (due to lower investment needs), low volatility (stability), and high cash flow.

2.4 Cheap debt

Several arguments for the benefits of going private are related to the considerable use of debt in going private transactions (see e.g. Kaplan (1989)). One obvious reason is that by leaving the public equity markets, the supply of equity financing becomes more limited for private firms. It has also been suggested that public firms take on too little debt because of managerial preferences (Jensen (1989)) and that privatized firms are closer to their optimal capital structure, fully exploiting tax and other advantages of debt. Whatever the reason, the high leverage suggests that private firms will benefit more from a reduction in the price of debt relative to the price of equity. In a Modigliani-Miller world, such relative price changes are impossible, but it has been argued that in practice, the relative price of debt and equity changes (Baker and Wurgler (2000)). In the context of buyouts, Axelson, Jenkinson, Strömberg and Weisbach (2007) find that prices paid in going private transactions are related to the economy-wide cost of borrowing, and interprets this as evidence that the “availability of financing impacts booms and busts in the private equity market”. If the price of debt is an important driver of the decision to go private, we expect those firms that face low borrowing costs to be particularly likely to go private.

2.5 Breaking up conglomerates

One explanation of the breakups in the 1980s is that they represented the breakup of conglomerates largely formed in 1960s. This is suggested by Shleifer and Vishny (1990) both for hostile takeovers (by listed acquirers) and for buyouts: “To a significant extent the 1980s reflect the deconglomeration of American business. Hostile takeovers and leveraged buyouts ... facilitated this process”. If this theory is true for buyouts, there should be a higher likelihood of multi-segment firms going private than single segment firms, at the least during more the 1980s.

2.6 Other institutional theories

Many attempts to explain the large and volatile buyout volumes have invoked institutional and legal factors.

The wave of going private activity in the 1980s followed on the heels of vast increase in the availability of non-investment grade debt issues, also called junk bonds. Junk bonds were rarely issued prior to the 1980s, and the volumes grew very quickly until the 1980s and then declined substantially (see Kaplan and Holmström (2003), who report that non-investment grade bond issuance peaked in 1986). Jensen (1989) suggests that this constituted a key financial innovation, allowing firms to go private which had previously been unable to. This interesting argument is difficult to test directly. However, there is an indirect implication that may be more amenable to econometric tests. Jensen (1989) emphasizes that the threat of buyouts increased especially for large firms. Presumably, funds for small transactions were available from lenders before the advent of junk bonds, but larger deals were facilitated by the large amounts of debt that could be issued after the advent of large scale junk bond issues. If this argument is true, the 1980s wave of buyouts would have been affected larger firms more than waves before and perhaps after. To the extent that size negatively impacts the probability of going private, this coefficient should have been less negative during the 1980s.

Institutional investors were important buyers of junk bonds as well as sellers of large blocks of shares in buyouts in the 1980s, something Donaldson (1994) ties to the LBO wave of that decade.

The Sarbanes-Oxley Act of 2002, raised standards for U.S. public companies. SOX raised costs for participating in public equity markets and it has been suggested that this made public status less attractive (Zingales (2006)). If true this predicts a decrease in IPOs and an increase in buyouts. Because many of the costs imposed by SOX are independent of firms size, this effect was likely strongest for small firms.

2.8 Summary of predictions

A large number of theories bear on the question of which and how many public firms are likely to go private and many implications differ between theories. Predictions vary regarding the variables that should matter, their relative importance, and the direction of influence. However, several firm-level variables are implied by many or even most of the theories. These variables do not allow sharp distinction between theories, but because they are

strongly implied by the overall body of theory they constitute a useful empirical baseline. We discuss these variables first.

First, the **valuation** of a firm in the public market is predicted to affect the going private decisions in many theories. We will use the book-to-market ratio to capture firm valuations, and this is measure that is likely to capture many things. Apart from valuations, the book-to-market ratio is probably correlated with a firm's growth opportunities and investment need. The book-to-market ratio is predicted to decrease the probability of going private under the free cash flow theory (if book-to-market is correlated with growth opportunities), the debt overhang theory (if distortions to investment incentives are more severe in firms with low book-to-market) and if there is the potential for market timing. Second, several theories predict that a firm's **growth rate** should affect the probability of it going private. Growth is predicted to have a negative effect on the probability of going private by the free cash flow theory, the risk aversion theory (because a high growth rate is likely to make limited access to outside capital more costly for private firms) and the debt overhang theory (if distortions to investment incentives are more severe in firms with high growth). We use the gross asset growth rate to capture firm-specific growth. The third variable is **risk**. Risk is predicted to have a negative effect on the probability of going private by the risk aversion and free cash flow theories. We use the volatility of stock returns to measure the riskiness of cash flows. The fourth variable is **firm size**. Firm size is predicted to affect the probability of going private whenever the benefits and costs of being public depend on firm size in different ways. For example, if being public entails fixed listing costs but produces benefits that increase in firm size, smaller firms will be more likely to go private. We capture firm size with normalized market capitalization.

For each of these four variables, several theories make similar predictions. These variables are therefore unlikely to provide sharp test of which theories are more accurate. However, several of the theories also make more specific predictions, which allow us to make sharper distinctions between theories.

Beyond the four main variables, the free cash flow theory predicts that firms with high **free cash flow** will be more likely to go private. Similarly, risk aversion generated by financing constraints will be more severe for firms with low cash flow, suggesting that low cash flow firms be more likely to be (or remain) public.

The breaking up conglomerates theory predicts that **multi-segment firms** should be more likely to go private than single segment firms, particularly (or perhaps only) during the 1980s.

Firms vary considerably in their governance structure (see e.g. Gompers, Ishii and Metrick (2003)). If managers resist buyouts, measures of poor **governance** or CEO entrenchment may predict lower likelihood of takeovers. On the other hand, poor governance may increase the potential gains to going private transactions (e.g. under the free cash flow theory), and if managers have limited ability or motivation to resist, poor governance may increase the likelihood of going private.

The cheap debt theory predicts that firms with low **interest costs** (controlling for leverage) should be more likely to go private and that periods with low interest rates (either low long horizon risk free rates or low credit spreads) should see more buyouts.

Two theories predict that the relative size of firms that go private will vary over time. The junk bond theory predicts that the effect of size on the likelihood of going private should be more positive during the 1980s than at other times. On the other hand, the Sarbanes-Oxley theory of buyouts predicts that small firms, which were disproportionately affected by SOX, would see the largest response. Therefore, this theory predicts that firm size should have a stronger negative effect on going private probabilities in the period around and right after the passing of SOX in 2002 (if the relative propensity of small firms to go public increases, size will have a more negative coefficient during the period in question).

3. Data description

We analyze transactions involving the purchase of public companies listed in the United States from SDC Platinum between 1981 and 2006. We match these transactions (or lack thereof) to firm characteristics for public companies listed in the United States every year as well as time-series variables capturing macroeconomic credit conditions. The sample of public companies includes all firms with the accounting information from Compustat for the previous fiscal year and stock-specific information from CRSP as of December of the previous year.

3.1 SDC Platinum

A public company is deemed to have engaged in a transaction to go private in a particular year if more than 50% of its shares are owned by a private entity after the acquisition. We use the target's public status and target's ultimate parent's public status to

classify the target as public or not public. The additional requirement that the target company be matched to stock performance information in CRSP ensures that the target is a public company listed in the United States. We match transaction information for each target other company characteristics using the first six digits of the target's CUSIP.

The acquirer of the public company is considered to be a private entity if it is not a public company or state-owned enterprise itself and is also not a direct or indirect subsidiary of a public company or state-owned enterprise. This classification utilizes the acquirer's public status and the acquirer's ultimate parent's public status as recorded by SDC Platinum. We only consider completed transactions where the variable, percentage owned after transaction, is greater than 50.

3.2 Compustat and CRSP variables

Since we attempt to explain the decision to go private in year t with firm characteristics known in year $t-1$, we consider the following firm-specific variables as proxies for different potential inputs into this choice.

The following accounting variables are constructed from the Compustat Industrial Annual database using information from the fiscal year ending in year $t-1$. The book value of equity is stock holder's equity (data item 216) plus deferred taxes (data item 35) minus preferred stock (data item 56). If stock holder's equity is missing we replace it with the sum of common equity (data item 60) and preferred stock (data item 56). The book-to-market ratio for equity is the book value of equity divided by market capitalization from CRSP as of December of year $t-1$.

Asset growth is the annual growth rate of book value of assets (data item 6) measured between fiscal years. Book leverage is the one minus the ratio of the book value of assets to the book value of equity. Borrowing cost is total interest (data item 15) divided by the difference between the book value of assets and the book value of equity.

We also consider the organizational structure of the target using the Compustat Segments database as an additional aspect of the choice to become a private company. If the firm has more than one (two) business segments, then the firm is classified as multi-segment (tri-segment). We construct indicators for both classification schemes.

Market capitalization is calculated from CRSP in December. We logarithmically transform this variable and scale it to be distributed with a mean of zero and standard

deviation of one for each year. This transformation is designed to remove time-series patterns from firm size. Stock return volatility is calculated from monthly data in CRSP using the previous 36 months ending in December.

3.2 Macroeconomic variables

It is also possible that macroeconomic credit conditions play an important role in the decision to go private. The credit spread is the average yield for BAA rated bonds minus the average yield for AAA rated bonds according to Moody's as of December of the previous year. The US Treasury YTM 1-year (10-year) is the yield to maturity for 1-year (10-year) treasury bonds as of December of the previous calendar year. This information is provided by the St. Louis Federal Reserve Bank.

3.3 Corporate governance indices

We analyze the impact of corporate governance on the decision of a public firm to become private. We focus on two measures for corporate governance. The governance index of Gompers et al. (2003) is constructed from 22 firm-specific provisions and 6 state provisions using data from the Investor Responsibility Research Center. This index is defined so that low values are associated with more rights for shareholders. The entrenchment index of Bebchuk et al. (2004) incorporates a subset of the governance provisions evaluated by Gompers et al. The entrenchment index specifically includes provisions that impede a majority shareholder from imposing decisions on management (e.g. supermajority requirements and limits to shareholder bylaw amendments) and anti-takeover provisions designed to block changes in corporate control that are not approved by management (e.g. poison pills and staggered boards).

4. Results

4.1 Baseline logistic regressions

In Table 2 we consider a series of logistic specifications to predict the decision of a public company to become a private company using assorted firm characteristics. The variables of interest include the book-to-market ratio for equity, asset growth, stock return volatility, and market capitalization (normalized). Columns 1 through 4 of the table present specifications for each of these four variables separately with year and industry fixed effects. Only asset growth and market capitalization have significant explanatory power for the decision to go private.

The sign of the coefficient estimate for stock return volatility is inconsistent with explanations involving risk aversion or debt overhang. Although the relationship is not statistically significant, this specification appears to suggest that risky firms are more likely to go private. The other three variables are of the anticipated sign given the summary of theoretical predictions above.

Columns 5 and 6 of Table 3 present specifications with all four variables as well as year and industry fixed effects. All four variables are statistically significant and of the expected sign. The coefficient on stock return volatility changes sign compared to column 3 indicating that risky firms are significantly less likely to go private. Since there is a strong negative relation between firm size and volatility, it is critical to control for firm size when investigating the role of volatility on the decision to go private. The impact of volatility also suggests that theories of involving, cheap debt, junk bonds, and conglomerate break-ups are not sufficient on their own to fully explain the cross-sectional variation in the decision to go private.

Table 3 presents various permutations of the baseline logistic specification. Columns 1 and 2 present coefficient estimates without year or industry fixed effects, columns 3 and 4 present estimates without industry fixed effects, and columns 5 and 6 present estimates without year fixed effects. For each pair of columns in this table, the first column provides standard errors clustered by firm while the second column provides standard errors clustered by year. The coefficient magnitudes and pattern of statistical significance are stable across the three different specifications. In addition, the decision to cluster by firm or by year does not alter any statistical inferences.

4.2 Macroeconomic credit conditions and “cheap debt” theories

While we investigate the cross-sectional predictions of cheap debt theories in the next subsection, we analyze the relationship between macroeconomic credit conditions and the decision to go private. We consider the impact of the credit spread, short-term interest rate, and the long-term interest rate on the decision to go private. A typical version of a theory involve cheap debt suggests that all three of these variables should be negatively related to the decision to go private because such transactions usually require an increase in leverage.

The results in Table 4 provide suggestive evidence that is consistent with the cheap debt story, but there is no statistically significant relation between any of the three macroeconomic credit variables and the decision to go private. In each specification, we include the four firm-

specific variables in the baseline specifications of Table 2 and Table 3, book leverage, and industry fixed effect. Since we are investigating the impact of macroeconomic phenomena, we can not also include year fixed effects.

In all 6 specifications, the estimates for the four baseline variables are quite similar to the estimates of the analogous specification in column 6 of Table 3. Book leverage has no explanatory power in any of the specifications. The coefficients for the credit spread and the short-term treasury yield are always negative but these estimates are not statistically significant. After controlling for the credit spread, the coefficient on the long-term bond yield has a positive sign but is not statistically significant.

4.3 Borrowing costs and “cheap debt” theories

We investigate the cross-sectional predictions of “cheap debt” theories. In Table 5 we focus on the firm-specific borrowing cost for debt. This variable reflects the firm’s average interest rate on its debt obligations and should capture the ease with which a firm can borrow to increase leverage. Column 1 indicates that borrowing cost is positively related to the decision to go private. This result is inconsistent with the main prediction of cheap debt theories because a high cost of borrowing should make it more difficult to lever up. The coefficient estimates for the other firm characteristics are similar to the estimates for the baseline specification in columns 5 and 6 of Table 2.

However, the specification in column 1 omits an important variable that could explain the surprising pattern. It is quite possible that firms with high leverage also tend to have a high borrowing cost and it is these highly levered firms that are more suitable for transactions to go private. The potential role of leverage in the decision to go private suggests that we can only make inferences about a firm’s cost of borrowing after controlling for leverage. In column 2 we add book leverage which is calculated using the book value of equity and the book value of debt. First, leverage does not have significant explanatory power, second, the coefficient for borrowing cost remains positive and statistically significant, and third, the other coefficient estimates are virtually unchanged compared to column 1. Hence, leverage itself is not an important determinant of the decision to go private and it does not provide an explanation for the positive relation between borrowing cost and the decision to go private.

The next four columns present permutations of the specification in column 2. Columns 3 and 4 present coefficient estimates with year fixed effects and columns 5 and 6 present

estimates with year and industry fixed effects. For each pair of columns, the first column provides standard errors clustered by firm while the second column provides standard errors clustered by year. In columns 3 and 4, year fixed effects appear to strengthen the estimated relationship between borrowing cost and the decision to go private compared to column 2. Once we add industry fixed effects in columns 5 and 6, leverage loses what little explanatory power it possesses in other specifications. The coefficient on borrowing cost remains positive but is only marginally significant in column 5 and insignificant in column 6. To summarize, the results in this table are largely inconsistent with cheap debt theories. The most conservative interpretation of these results is that the firm-specific borrowing cost is unrelated to the decision to go private.

4.4 The 1980s - junk bonds and conglomerates

We consider theories related to the buyout wave of the 1980s. First, we assess the idea that junk bonds constituted an innovation that increased the availability of financing for large buyout deals. If true, we expect the coefficient on size in our logistic regressions to be more positive during the 1980s than at other times.

In Table 6, column one, we test if the estimated coefficient on size varies between the 1980s and later times by including both size and size multiplied with a 1980s dummy (the specification includes year fixed effects, so the 1980s dummy itself is superfluous). As predicted by the junk bond theory, size has a significantly less positive effect on the probability of going private during the 1980s. Indeed, the net effect of size during this period is very close to zero and insignificant, a finding in stark contrast to the pattern at other times (when smaller firms are much more likely to go private). The comparison here is with the role of size in later periods, not earlier (due to data limitations).

Graph 3 plots the coefficient estimate and associated confidence interval for firm size interacted with an indicator variable for each year. In the graph firm size is virtually unrelated to the decision to go private in the 1980s. Beginning in 1990 and continuing until 2005 (with a break in 1996), firm size is negatively related to the probability of becoming private. This graph provides additional evidence regarding the impact of firm size.

What explains the increased role of size after the 1980s? It is possible that the end of the 1980s junk bond era reduced the availability of financing for large deals, and that this availability never recovered. Alternatively, after a period of more frequent large deals, the

supply of suitable large candidates was exhausted. Or, as a third possibility, the development of junk bonds reflected an underlying demand for large scale debt financing which was temporary. Once the conditions of the 1980s had passed, there were fewer large firms that made good targets, and junk bond volumes declined.

Next, we examine the idea that a main motivation for the 1980s going private-wave was the breakup of inefficient conglomerates. We use two measures of whether a firm is a conglomerate, a dummy for whether a firm reports two or more segments in a given year (multi-segment) and dummy for whether a firm reports three or more segments in a given year (tri-segment). In Table 6, column two, we find that the multi-segment dummy has a coefficient insignificantly different from zero. In column three, the same result holds for the tri-segment dummy. This suggests that over our full sample period, there is no significant difference in the incidence of going private transactions for firms with and without multiple segments, once you control for other important determinants. Is it possible that the differential role of size during the 1980s can be misinterpreted as a sign of conglomerate breakups (multi-segment firms are probably larger than single segment firms)? We test this by allowing the coefficient on the multi-segment to be different during the 1980s, and simultaneously excluding size from the set of controls. Results are reported in Table 6, column (4). The coefficient on the multi-segment dummy is now significantly negative outside the 1980s, presumably because it proxies for size, but the net effect during the 1980s is zero. Apart from emphasizing the importance of properly controlling for size in going private regressions, this result suggests why the reduced impact of size during the 1980s could have been misinterpreted as reflecting conglomerates.

Finally, we allow the coefficient on the multi-segment dummy as well as size to vary between the 1980s and other times. Results are presented in column (5). The results for size remain the same (zero net effect during the 1980s, large negative effect at other times). The estimated coefficient for conglomerates is insignificant in all periods. In column (6), we repeat this test with the alternative measure of conglomerates, with identical conclusions. Graph 4 plots the coefficient estimate and associated confidence interval for multi-segment interacted with an indicator variable for each year, while controlling for the interaction of firm size with the indicator variables for each year. In the graph multi-segment is never significantly related to the decision to go private and the coefficient estimates oscillate around zero. In contrast to the plot for firm size in Graph 3, the coefficient for multi-segment does not appear to change in

a particular way over time. This graph provides additional evidence that conglomerates were not an important factor in general or during any specific time period.

Our finding of a very limited role of conglomerate breakups during the 1980s is consistent with several pieces of indirect evidence from the 1980s. Montgomery's (1994) points out that the typical S&P 500 firm had the same number of segments in 1991 as in 1981. Mitchell and Mulherin (1996) conclude that takeovers in the 1980s were concentrated in certain industries rather than to conglomerates. Also, comparing diversifying and related acquisitions, Kaplan and Weisbach (1992) find that during the 1980s, there was no difference in success.

4.5 Sarbanes-Oxley

We also evaluate the argument that the Sarbanes-Oxley act of 2002 drove smaller firms away from the stock market. The prediction for our going private regressions is that the effect of size should be more negative during the period when firms respond to SOX (i.e. smaller firms became relatively more likely to go private than large firms during this period). We use two definitions of the relevant time period: a narrow and a wide definition. The narrow definition is 2003 and 2004, the two years immediately following the act's passing, when any SOX-induced activity is most likely to have occurred. The wider definition includes 2002 and 2005, on the basis that the act was passed in July of 2002, allowing some response to occur that year, and that going private takes time, which suggests that some transactions might be expected after 2004.

In Table 7 firm size is interacted with one of the SOX dummies and we consider various controls and error structures. We also allow the coefficient on size to differ in the 1980s (see the previous section). In columns one and two, we use the two different dummies, controlling for our baseline firm level controls and year, but not industry, fixed effects, clustering errors by firm. The result strongly suggests that smaller firms went private in response to SOX. The coefficient estimates is negative and statistically significant, and implies that the coefficient on size was about two thirds larger during the immediate aftermath of SOX. To get a sense of the economic magnitude, consider the effect of halving the size of a firm which would otherwise have a 1% probability of going private. Outside the 1980s and 2003-2004, according to coefficients estimates in column one, the size reduction would increase the probability of going private to 1.4%. During the 2003-2004 period, the same size reduction would increase the probability of going private from 1% to 1.9% (using the estimates in column 2002-2005, the

probability would become 1.7%). This provides fairly strong evidence in favor of the prediction that SOX pushed smaller firms of the stock market.

4.6 Corporate governance

There are several reasons why corporate governance may be important for the public-private choice. If there is managerial resistance to buyouts, and poor governance makes such resistance more effective, features of a firm's corporate governance will affect the likelihood of going private. Alternatively, poor governance may increase the potential gains to going private transactions. We test these theories by including some measure of firm level governance in the regressions. The power of these tests declines substantially because the sample size is severely limited by the lack of governance data for most firms and years. Three of the main controls (book-to-market, asset growth, volatility) actually lose significance in this limited sample.

In Table 8, columns one to three, the measure is the entrenchment index of Bebchuk, Cohen and Ferrell (2004), with no fixed effects, year fixed effects, and year as well as industry fixed effects, respectively. The estimated coefficient on the entrenchment variable is negative and of similar magnitude in all three specifications, and marginally significant in the first two specifications. The implied magnitude of the effect is large. For a firm with a probability of going private of 1%, an increase in the entrenchment index by one point (on a six point scale), lowers the probability to 0.8%.

In Table 8, column four to six, the same regression specifications are repeated with the governance index of Gompers, Ishii and Metrick (2003). The estimated coefficient remains negative in all three regressions, but now the coefficient is insignificantly different from zero. The weaker results for this broad corporate governance index is probably due to the many governance provisions included by the Gompers et al. that might have little impact on the decision to go private (e.g. director indemnification, limits on director liability, and secret ballots).

These results suggest that perhaps managerial entrenchment reduces the likelihood of going private. One possible explanation is that managers of public firms have better access to private benefits than managers of private firms. Another is that managers worry about the risk of losing their job when there is a change in corporate control.

5. Conclusions

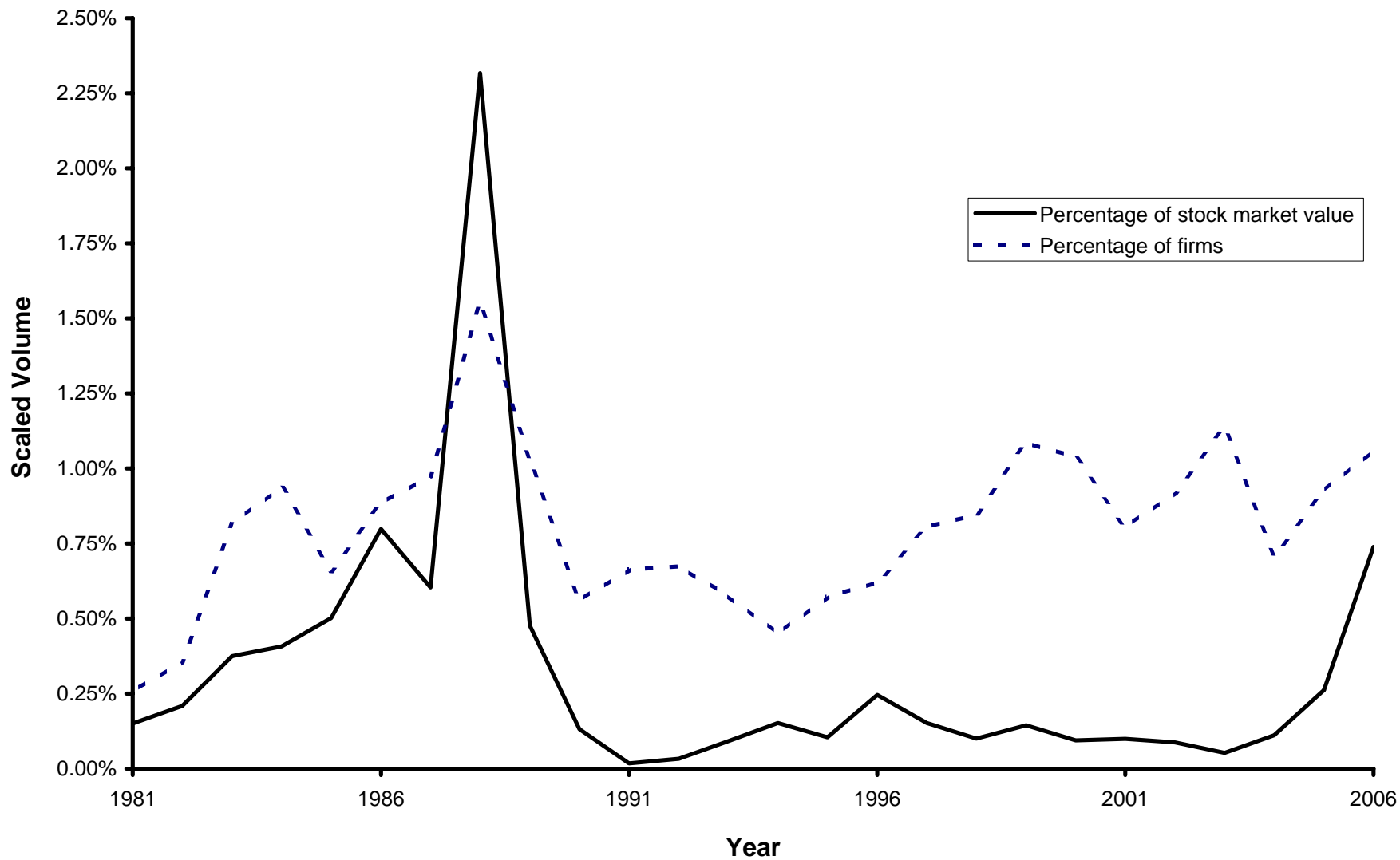
The volume of buyouts of publicly listed firms has experienced two dramatic booms since 1980. Several theories have been proposed to explain the flow from public to private equity ownership. By studying the propensity of individual firms to become private during the previous few decades, we attempt to distinguish between the various theories. Firm size, risk, valuation, and growth all predict the decision to go private, consistent with many plausible theories. We find support for several institutional explanations of buyout volumes, including the importance of junk bonds, the impact of Sarbanes-Oxley, and the risk-sharing benefits of public ownership. However, we do not find evidence that the break up of conglomerates was a motivation for buyouts.

6. References

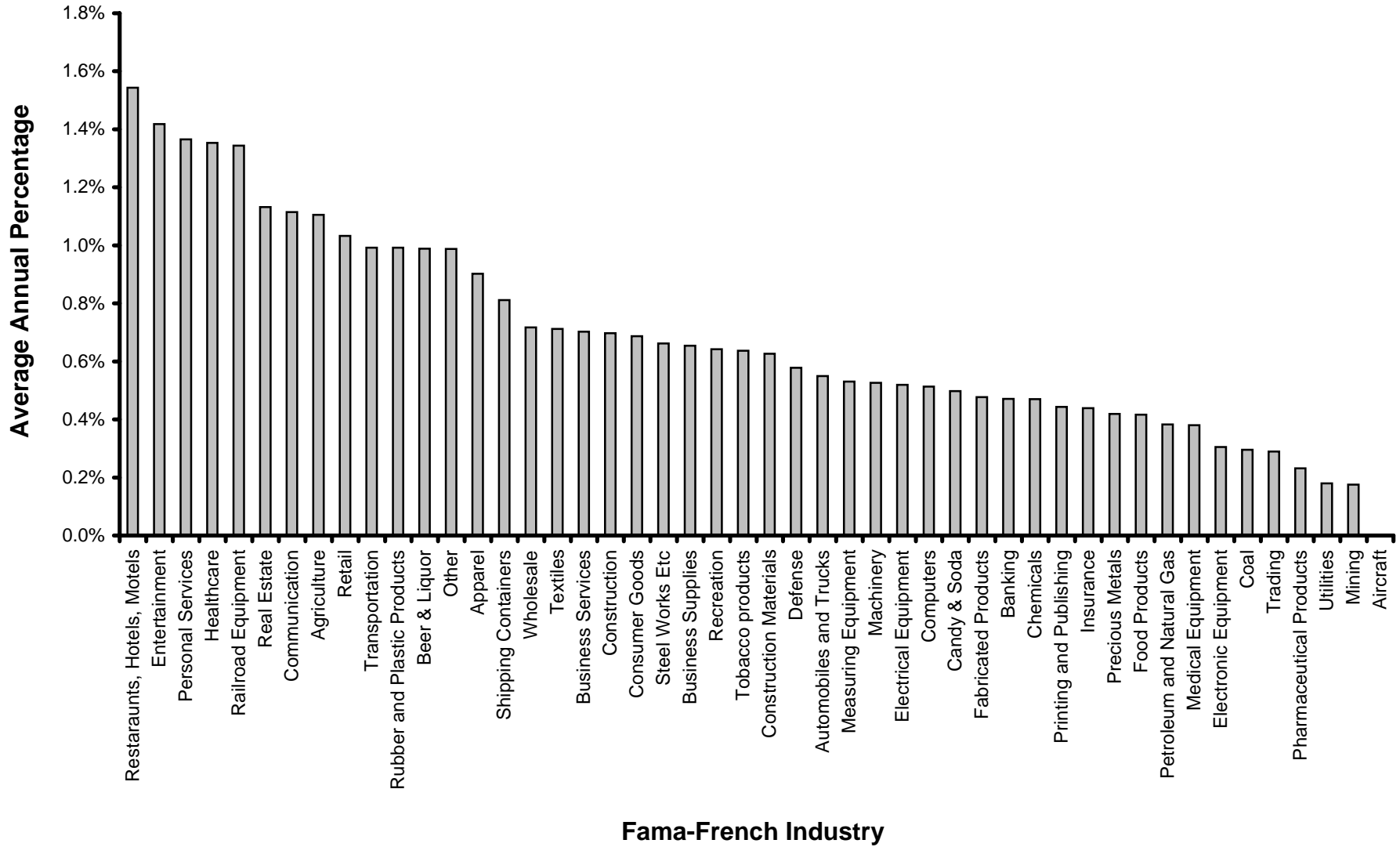
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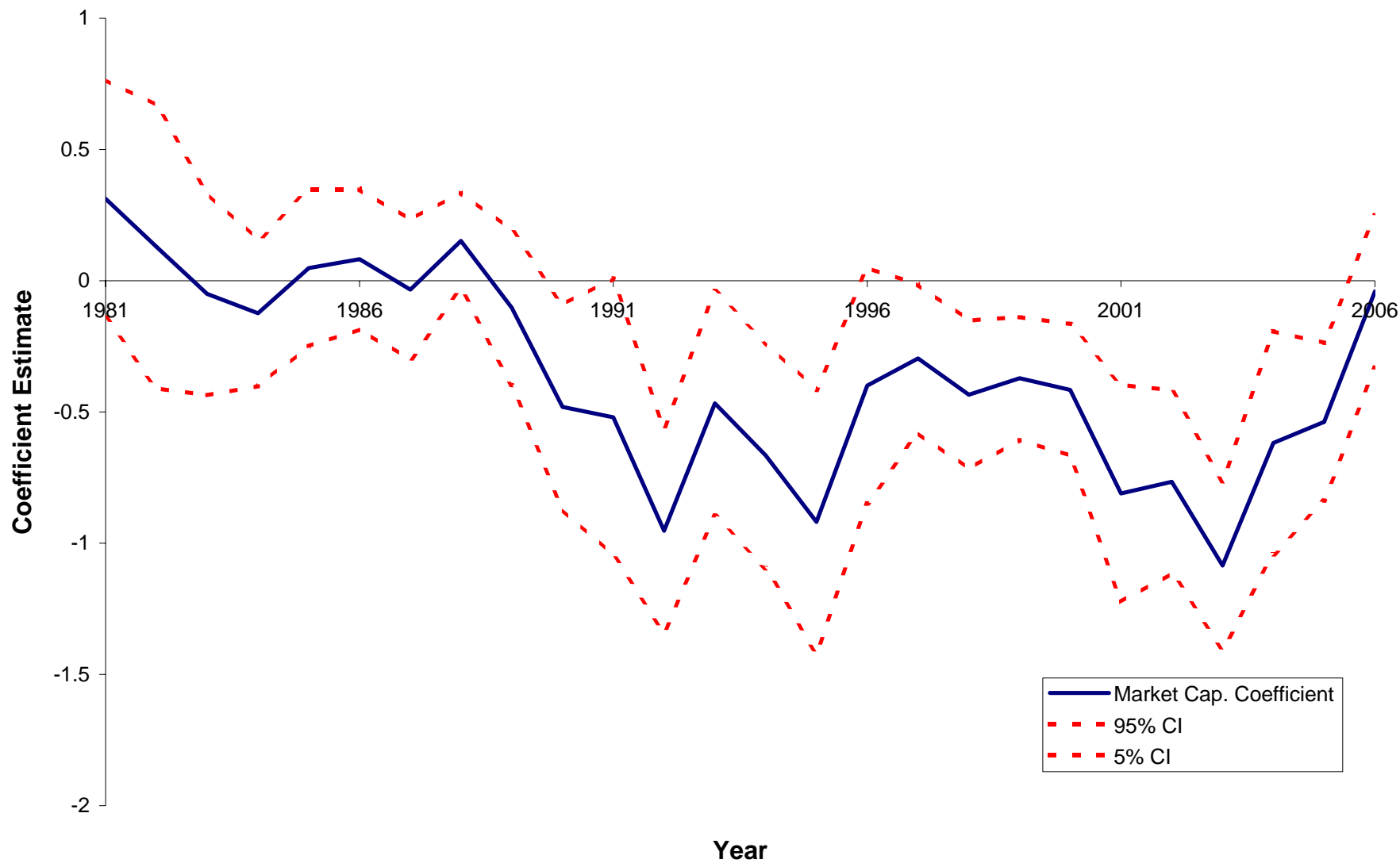
Graph 1: U.S. Going Private Volume 1981-2006



Graph 2: U.S. going private volume by industry



Graph 3: Time-series For Market Capitalization Coefficient Estimates



Graph 4: Time-series For Multi-segment Coefficient Estimates

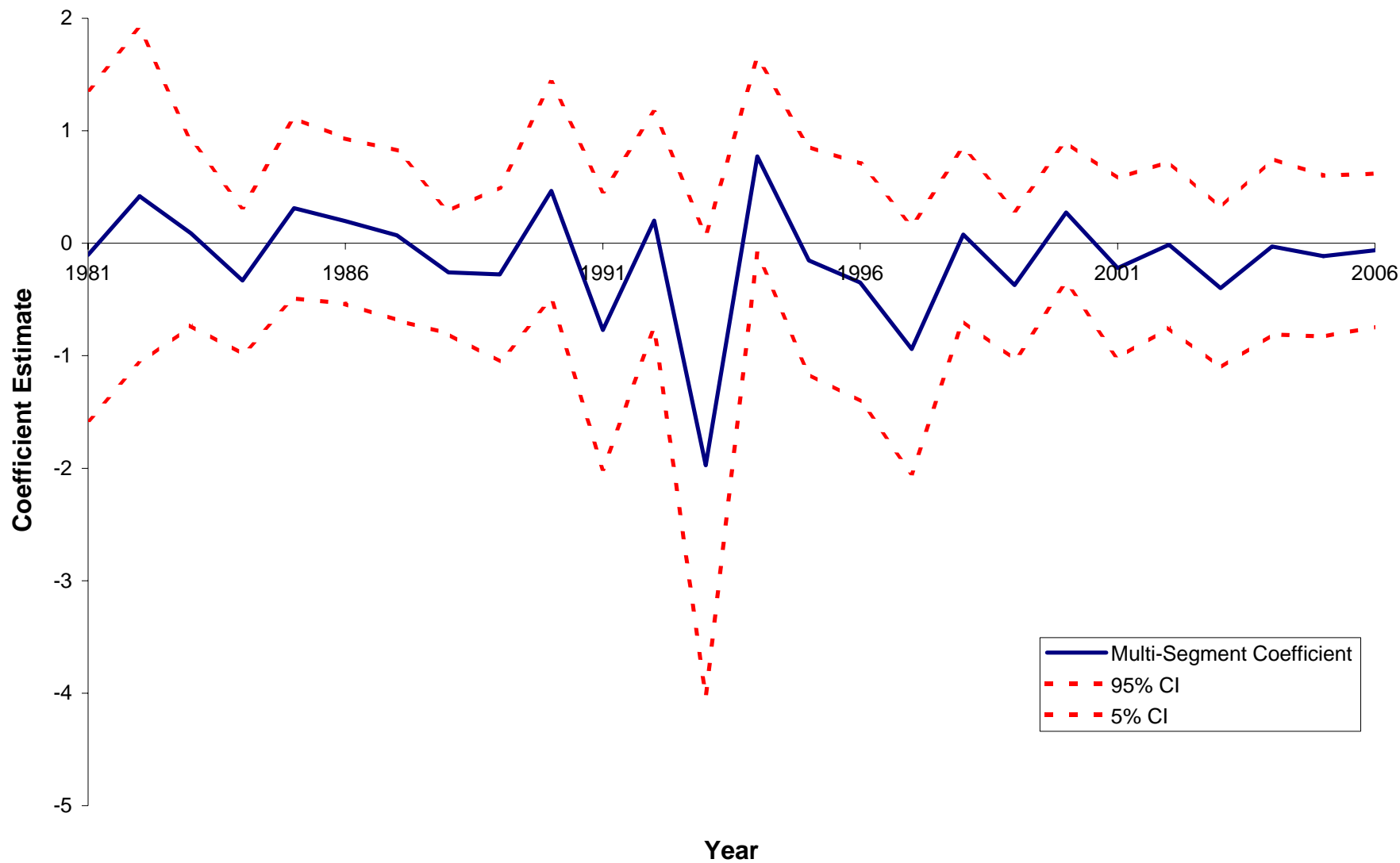


Table 1: Summary statistics

	Going private	Book-To-Market Ratio	Asset Growth	Stock Return Volatility	Market Cap.	Borrowing Cost	Book Leverage	Multi-segment	Tri-segment	E. Index	G. Index
Mean	0.0076	0.8316	1.1061	0.1407	0.1820	0.0453	0.5302	0.4011	0.2694	2.0905	8.8746
Standard Deviation	0.0868	0.7725	0.2228	0.0866	1.0291	0.0598	0.2427	0.4901	0.4436	1.3253	2.6859

Correlation Matrix

Going private	1.000	0.034	-0.024	0.055	-0.035	0.007	-0.002	-0.010	-0.012	-0.010	-0.013
Book-To-Market Ratio For Equity		1.000	-0.206	-0.006	-0.298	0.088	0.032	0.044	0.022	-0.031	-0.060
Asset Growth			1.000	-0.072	0.157	-0.085	-0.015	-0.046	-0.037	-0.012	-0.022
Stock Return Volatility				1.000	-0.386	0.059	-0.149	-0.169	-0.167	-0.044	-0.156
Market Capitalization (Normalized)					1.000	-0.111	0.053	0.253	0.292	0.099	0.098
Borrowing Cost						1.000	0.087	-0.024	-0.038	0.005	-0.005
Book Leverage							1.000	0.153	0.153	0.118	0.144
Multi-segment								1.000	0.742	0.099	0.176
Tri-segment									1.000	0.098	0.180
Entrenchment Index										1.000	0.722
Governance Index											1.000

Notes: Going private is an indicator variable equal to one if more than 50% of a public firm's shares are purchased by a private entity whose ultimate parent company (if it has an ultimate parent company) is also private and equal to zero otherwise. Firm characteristics are measured at the end of the previous fiscal year for accounting data from Compustat. The book-to-market ratio for equity is the ratio of the book value of equity to the market value of equity where the market value of equity is measured as of December of the previous year. Asset growth is the annual growth rate of the book value of assets between fiscal years. Stock return volatility is calculated from monthly data in CRSP using the previous 36 months ending in December. Market capitalization (normalized) is measured as of December of the previous year, log transformed, and scaled to be distributed with a mean of zero and standard deviation of one for each year.

Book leverage is the quantity book assets minus book equity scaled by book assets. Borrowing cost is total interest expense scaled by total liabilities. If the firm has more than one (two) business segments then the firm is classified as multi-segment (tri-segment) and indicator variables are constructed accordingly. The Entrenchment Index is described by Bebchuk et al. (2004) and the Governance Index is described by Gompers et al. (2003).

Table 2. Firm Characteristics and the Decision to Go Private

	Dependent Variable: If a going private transaction occurs $y=1$; otherwise, $y=0$					
	(1)	(2)	(3)	(4)	(5)	(6)
Book-To-Market Ratio For Equity	0.0289 (0.0223)				0.1590 (0.0288) ^{***}	0.1590 (0.0303) ^{***}
Asset Growth		-1.4590 (0.1837) ^{***}			-1.0049 (0.1823) ^{***}	-1.0049 (0.1783) ^{***}
Stock Return Volatility			0.3478 (0.3578)		-1.5782 (0.5311) ^{***}	-1.5782 (0.6024) ^{***}
Market Capitalization (Normalized)				-0.3884 (0.0350) ^{***}	-0.3151 (0.0409) ^{***}	-0.3151 (0.0705) ^{***}
Year Fixed Effects	X	X	X	X	X	X
Industry Fixed Effects	X	X	X	X	X	X
Cluster By Firm	X	X	X	X	X	
Cluster By Year						X
Pseudo R²	0.0452	0.0447	0.0372	0.0484	0.0558	0.0558
N	<i>N</i> = 117,037	<i>N</i> = 117,037	<i>N</i> = 117,037	<i>N</i> = 117,037	<i>N</i> = 117,037	<i>N</i> = 117,037

Notes: Each column presents the coefficient estimates from a logistic specification. The sample period is from 1981 until 2006. A public firm is deemed to have been taken private if more than 50% of its shares are purchased by a private entity whose ultimate parent company (if it has an ultimate parent company) is also private. Firm characteristics are measured at the end of the previous fiscal year for accounting data from Compustat. The market value of equity is measured as of December of the previous year for the book-to-market ratio for equity. Stock return volatility is calculated from monthly data in CRSP using the previous 36 months ending in December. Market capitalization (normalized) is measured as of December of the previous year, log transformed, and scaled to be distributed with a mean of zero and standard deviation of one for each year. The industry fixed effects are defined using the 48 industry classification scheme available on Kenneth French's website. The standard errors for the coefficient estimates are in parentheses and are clustered by firm (or year).

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 3. Firm Characteristics, Alternative Standard Errors, and the Decision to Go Private

	Dependent Variable: If a going private transaction occurs y=1; otherwise, y=0					
	(1)	(2)	(3)	(4)	(5)	(6)
Book-To-Market Ratio For Equity	0.1715 (0.0266) ^{***}	0.1715 (0.0277) ^{***}	0.1982 (0.0267) ^{***}	0.1982 (0.0283) ^{***}	0.1324 (0.0288) ^{***}	0.1324 (0.0290) ^{***}
Asset Growth	-0.8959 (0.1812) ^{***}	-0.8959 (0.1728) ^{***}	-0.8846 (0.1790) ^{***}	-0.8846 (0.1728) ^{***}	-1.0087 (0.1844) ^{***}	-1.0087 (0.1750) ^{***}
Stock Return Volatility	-1.1986 (0.4270) ^{***}	-1.1986 (0.4618) ^{***}	-1.1660 (0.4440) ^{***}	-1.1660 (0.4500) ^{***}	-1.5841 (0.5076) ^{***}	-1.5841 (0.6119) ^{***}
Market Capitalization (Normalized)	-0.3466 (0.0376) ^{***}	-0.3466 (0.0689) ^{***}	-0.3313 (0.0385) ^{***}	-0.3313 (0.0648) ^{***}	-0.3279 (0.0396) ^{***}	-0.3279 (0.0739) ^{***}
Year Fixed Effects			X	X		
Industry Fixed Effects					X	X
Cluster By Firm	X		X		X	
Cluster By Year		X		X		X
Pseudo R²	0.0209	0.0209	0.0335	0.0335	0.0429	0.0429
N	N = 117,647	N = 117,647	N = 117,647	N = 117,647	N = 117,037	N = 117,037

Notes: Each column presents the coefficient estimates from a logistic specification. The sample period is from 1981 until 2006. A public firm is deemed to have been taken private if more than 50% of its shares are purchased by a private entity whose ultimate parent company (if it has an ultimate parent company) is also private. Firm characteristics are measured at the end of the previous fiscal year for accounting data from Compustat. The market value of equity is measured as of December of the previous year for the book-to-market ratio for equity. Stock return volatility is calculated from monthly data in CRSP using the previous 36 months ending in December of the previous year. Market capitalization (normalized) is measured as of December of the previous year, log transformed, and scaled to be distributed with a mean of zero and standard deviation of one for each year. The industry fixed effects are defined using the 48 industry classification scheme available on Kenneth French's website. The standard errors for the coefficient estimates are in parentheses and are clustered by firm (or year).

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 4. The Impact of Macroeconomic Credit Conditions on the Decision To Go Private

	Dependent Variable: If a going private transaction occurs y=1; otherwise, y=0					
	(1)	(2)	(3)	(4)	(5)	(6)
Book-To-Market Ratio For Equity	0.1369 (0.0275)***	0.1344 (0.0279)***	0.1336 (0.0285)***	0.1369 (0.0275)***	0.1370 (0.0274)***	0.1387 (0.0266)***
Asset Growth	-1.0090 (0.1758)***	-0.9949 (0.1733)***	-1.0021 (0.1770)***	-1.0031 (0.1748)***	-1.0130 (0.1819)***	-1.0008 (0.1737)***
Stock Return Volatility	-1.5953 (0.0612)***	-1.6468 (0.6034)***	-1.6179 (0.6058)***	-1.6195 (0.6212)***	-1.5773 (0.6336)**	-1.6147 (0.6255)***
Market Capitalization (Normalized)	-0.3259 (0.0738)***	-0.3301 (0.0745)***	-0.3288 (0.0748)***	-0.3272 (0.0748)***	-0.3249 (0.0758)***	-0.3271 (0.0741)***
Book Leverage	0.0194 (0.1847)	0.0243 (0.1838)	-0.0208 (0.1844)	0.0223 (0.1836)	0.0174 (0.1837)	0.0218 (0.1824)
Credit Spread	-0.0947 (0.1642)			-0.0768 (0.1499)	-0.1142 (0.1796)	-0.1412 (0.2006)
US Treasury YTM (1-year)		-0.0110 (0.0268)		-0.0049 (0.0260)		-0.0402 (0.0698)
US Treasury YTM (10-year)			-0.0077 (0.0328)		0.0051 (0.0362)	0.0512 (0.0957)
Industry Fixed Effects	X	X	X	X	X	X
Pseudo R²	0.0430	0.0430	0.0429	0.0430	0.0430	0.0432
N	N = 117,037	N = 117,037	N = 117,037	N = 117,037	N = 117,037	N = 117,037

Notes: Each column presents the coefficient estimates from a logistic specification. The sample period is from 1981 until 2006. A public firm is deemed to have been taken private if more than 50% of its shares are purchased by a private entity whose ultimate parent company (if it has an ultimate parent company) is also private. Firm characteristics are measured at the end of the previous fiscal year for accounting data from Compustat. The market value of equity is measured as of December of the previous year for the book-to-market ratio for equity. Book leverage is the quantity book assets minus book equity scaled by book assets. Stock return volatility is calculated from monthly data in CRSP using the previous 36 months ending in December of the previous year. Market capitalization (normalized) is measured as of December of the previous year, log transformed, and scaled to be distributed with a mean of zero and standard deviation of one for each year.

The credit spread is the average yield for BAA rated bonds minus the average yield for AAA rated bonds according to Moody's as of December of the previous year (data provided by St. Louis FRB). The US Treasury YTM is the yield to maturity for the 1-year and 10-year treasury bonds as of December of the previous year. The industry fixed effects are defined using the 48 industry classification scheme available on Kenneth French's website. The standard errors for the coefficient estimates are in parentheses and are clustered by year.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 5. Borrowing Costs and the Decision to Go Private

	Dependent Variable: If a going private transaction occurs y=1; otherwise, y=0					
	(1)	(2)	(3)	(4)	(5)	(6)
Book-To-Market Ratio For Equity	0.1504 (0.0292)***	0.1506 (0.0289)***	0.1777 (0.0289)***	0.1777 (0.0296)***	0.1537 (0.0304)***	0.1537 (0.0320)***
Asset Growth	-0.7750 (0.1916)***	-0.7718 (0.1911)***	-0.7244 (0.1887)***	-0.7244 (0.2099)***	-0.9236 (0.1949)***	-0.9236 (0.2248)***
Stock Return Volatility	-1.5553 (0.5438)***	-1.5825 (0.5422)***	-1.7128 (0.5737)***	-1.7128 (0.6435)***	-1.6409 (0.6127)***	-1.6409 (0.7595)**
Market Capitalization (Normalized)	-0.3382 (0.0421)***	-0.3407 (0.0421)***	-0.3279 (0.0432)***	-0.3279 (0.0681)***	-0.2926 (0.0446)***	-0.2926 (0.0714)***
Borrowing Cost	2.7283 (1.1673)**	2.3733 (1.1836)**	3.7239 (1.2912)***	3.7239 (1.5957)***	2.3267 (1.2643)*	2.3267 (1.6955)
Book Leverage		0.2118 (0.1833)	0.2103 (0.1839)	0.2103 (0.1686)	0.0507 (0.1975)	0.0507 (0.1657)
Year Fixed Effects			X	X	X	X
Industry Fixed Effects					X	X
Cluster By Firm	X	X	X		X	
Cluster By Year				X		X
Pseudo R²	0.0208	0.0210	0.0310	0.0310	0.0563	0.0563
N	N = 95,242	N = 95,242	N = 95,242	N = 95,242	N = 94,498	N = 94,498

Notes: Each column presents the coefficient estimates from a logistic specification. The sample period is from 1981 until 2006. A public firm is deemed to have been taken private if more than 50% of its shares are purchased by a private entity whose ultimate parent company (if it has an ultimate parent company) is also private. Firm characteristics are measured at the end of the previous fiscal year for accounting data from Compustat. The market value of equity is measured as of December of the previous year for the book-to-market ratio for equity. Book leverage is the quantity book assets minus book equity scaled by book assets. Borrowing cost is total interest expense scaled by total liabilities. Stock return volatility is calculated from monthly data in CRSP using the previous 36 months ending in December. Market capitalization (normalized) is measured as of December of the previous year, log transformed, and scaled to be distributed with a mean of zero and standard deviation of one for each year. The industry fixed effects are defined using the 48 industry classification scheme available on Kenneth French's website. The standard errors for the coefficient estimates are in parentheses and are clustered by firm (or year).

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 6. Diversity and the Decision to Go Private

	Dependent Variable: If a going private transaction occurs y=1; otherwise, y=0					
	(1)	(2)	(3)	(4)	(5)	(6)
Book-To-Market Ratio For Equity	0.1334 (0.0298)***	0.1601 (0.0296)***	0.1615 (0.0296)***	0.2410 (0.0246)***	0.1337 (0.0307)***	0.1355 (0.0306)***
Asset Growth	-0.9945 (0.1836)***	-1.0279 (0.1832)***	-1.0331 (0.1828)***	-1.2344 (0.1887)***	-1.0112 (0.1843)***	-1.0180 (0.1839)***
Stock Return Volatility	-1.8032 (0.5324)***	-1.7727 (0.5538)***	-1.7905 (0.5565)***	-0.5688 (0.4391)	-2.0470 (0.5575)***	-2.0634 (0.5596)***
Market Capitalization (Normalized)	-0.5462 (0.0503)***	-0.2888 (0.0434)***	-0.2817 (0.0432)***		-0.5257 (0.0529)***	-0.5198 (0.0526)***
(Market Cap.)* (Ind_{1980s})	0.5649 (0.0622)***				0.5601 (0.0661)***	0.5690 (0.0669)***
Multi-segment		-0.0716 (0.0811)		-0.2826 (0.1013)***	-0.1278 (0.1015)	
(Multi-segment)*(Ind_{1980s})				0.2823 (0.1534)*	0.0734 (0.1619)	
Tri-segment			-0.1403 (0.0951)			-0.1970 (0.1185)*
(Tri-segment)*(Ind_{1980s})						0.0396 (0.1898)
Year Fixed Effects	X	X	X	X	X	X
Industry Fixed Effects	X	X	X	X	X	X
Pseudo R²	0.0617	0.0543	0.0544	0.0501	0.0605	0.0608
N	N = 117,037	N = 104,325	N = 104,325	N = 104,325	N = 104,325	N = 104,325

Notes: Each column presents the coefficient estimates from a logistic specification. The sample period is from 1981 until 2006. A public firm is deemed to have been taken private if more than 50% of its shares are purchased by a private entity whose ultimate parent company (if it has an ultimate parent company) is also private. Firm characteristics are measured at the end of the previous fiscal year for accounting data from Compustat. The market value of equity is measured as of December of the previous year for the book-to-market ratio for equity. Stock return volatility is calculated from monthly data in CRSP using the previous 36 months ending in December of the previous year. Market capitalization (normalized) is measured as of December of the previous year, log transformed, and scaled to be distributed with a mean of zero and standard deviation of one for each year. If the firm has more than one (two) business segments then the firm is classified as multi-segment (tri-segment). Ind_{1980s} is an indicator equal to 1 if the observation is between 1980 and 1989. The standard errors for the coefficient estimates are in parentheses and are clustered by firm.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 7. The Sarbanes-Oxley Act and the Decision to Go Private

	Dependent Variable: If a going private transaction occurs y=1; otherwise, y=0					
	(1)	(2)	(3)	(4)	(5)	(6)
Book-To-Market Ratio For Equity	0.1698 (0.0278)***	0.1713 (0.0279)***	0.1286 (0.0301)***	0.1286 (0.0358)***	0.1302 (0.0300)***	0.1302 (0.0339)***
Asset Growth	-0.8722 (0.1806)***	-0.8748 (0.1806)***	-0.9891 (0.1836)***	-0.9891 (0.1738)***	-0.9914 (0.1836)***	-0.9914 (0.1736)***
Stock Return Volatility	-1.2800 (0.4373)***	-1.2618 (0.4357)***	-1.7997 (0.5305)***	-1.7997 (0.5911)***	-1.7865 (0.5287)***	-1.7865 (0.5915)***
Market Capitalization (Normalized)	-0.5044 (0.0495)***	-0.4803 (0.0523)***	-0.4963 (0.0512)***	-0.4963 (0.0638)***	-0.4668 (0.0540)***	-0.4668 (0.0705)***
(Market Cap.)* (Ind_{1980s})	0.4821 (0.0613)***	0.4589 (0.0634)***	0.5138 (0.0630)***	0.5138 (0.0800)***	0.4857 (0.0649)***	0.4857 (0.0831)***
(Market Cap.)* (Ind_{SOX-N})	-0.4240 (0.1432)***		-0.4311 (0.1416)***	-0.4311 (0.1774)**		
(Market Cap.)* (Ind_{SOX-W})		-0.3049 (0.0975)***			-0.3293 (0.0972)***	-0.3293 (0.1404)**
Year Fixed Effects	X	X	X	X	X	X
Industry Fixed Effects			X	X	X	X
Cluster By Firm	X	X	X		X	
Cluster By Year				X		X
Pseudo R²	0.0399	0.0398	0.0626	0.0626	0.0627	0.0627
N	N = 117,647	N = 117,647	N = 117,037	N = 117,037	N = 117,037	N = 117,037

Notes: Each column presents the coefficient estimates from a logistic specification. The sample period is from 1981 until 2006. A public firm is deemed to have been taken private if more than 50% of its shares are purchased by a private entity whose ultimate parent company (if it has an ultimate parent company) is also private. Firm characteristics are measured at the end of the previous fiscal year for accounting data from Compustat. The market value of equity is measured as of December of the previous year for the book-to-market ratio for equity. Stock return volatility is calculated from monthly data in CRSP using the previous 36 months ending in December of the previous year. Market capitalization (normalized) is measured as of December of the previous year, log transformed, and scaled to be distributed with a mean of zero and standard deviation of one for each year. Ind_{1980s} is an indicator equal to 1 if the observation is between 1980 and 1989. Ind_{SOX-W} (Ind_{SOX-N}) is an indicator equal to 1 if the observation is between 2002 and 2005 (2003 and 2004). The standard errors for the coefficient estimates are in parentheses and are clustered by firm.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 8. Corporate Governance and the Decision to Go Private

	Dependent Variable: If a going private transaction occurs y=1; otherwise, y=0					
	(1)	(2)	(3)	(4)	(5)	(6)
Book-To-Market Ratio For Equity	0.0210 (0.1401)	0.2062 (0.1218)*	0.2298 (0.1435)	0.0253 (0.1402)	0.2090 (0.1222)*	0.2237 (0.1454)
Asset Growth	-0.7749 (0.7641)	-0.7025 (0.7538)	-0.7898 (0.7511)	-0.8066 (0.7691)	-0.7321 (0.7570)	-0.8102 (0.7592)
Stock Return Volatility	-2.2533 (1.4652)	-0.1151 (1.0092)	-0.6435 (1.1155)	-2.3414 (1.4708)	-0.1261 (1.0105)	-0.6043 (1.0842)
Market Capitalization (Normalized)	-0.9388 (0.1337)***	-0.7529 (0.1544)***	-0.8047 (0.1506)***	-0.9165 (0.1374)***	-0.7306 (0.1579)***	-0.7862 (0.1528)***
Entrenchment Index	-0.1718 (0.0922)*	-0.1754 (0.0928)*	-0.1610 (0.1011)			
Governance Index				-0.0722 (0.0511)	-0.0729 (0.0515)	-0.0680 (0.0569)
Year Fixed Effects		X	X		X	X
Industry Fixed Effects			X			X
Pseudo R²	0.0528	0.0928	0.1212	0.0517	0.0917	0.1202
N	N = 26,899	N = 26,220	N = 19,348	N = 26,899	N = 26,220	N = 19,348

Notes: Each column presents the coefficient estimates from a logistic specification. The sample period is from 1981 until 2006. A public firm is deemed to have been taken private if more than 50% of its shares are purchased by a private entity whose ultimate parent company (if it has an ultimate parent company) is also private. Firm characteristics are measured at the end of the previous fiscal year for accounting data from Compustat. The market value of equity is measured as of December of the previous year for the book-to-market ratio for equity. Stock return volatility is calculated from monthly data in CRSP using the previous 36 months ending in December of the previous year. Market capitalization (normalized) is measured as of December of the previous year, log transformed, and scaled to be distributed with a mean of zero and standard deviation of one for each year. The Entrenchment Index is described by Bebchuk et al. (2004) and the Governance Index is described by Gompers et al. (2003). The industry fixed effects are defined using the 48 industry classification scheme available on Kenneth French's website. The standard errors for the coefficient estimates are in parentheses and are clustered by firm.

* significant at 10%; ** significant at 5%; *** significant at 1%