

The Rise of the Private Equity Market

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I. Introduction

In a classic article titled *The Eclipse of the Public Corporation*, published in 1989, Michael Jensen wrote that "The publicly held corporation ... has outlived its usefulness in many sectors of the economy and is being eclipsed." Jensen's article, written at a time when dozens of large U.S. corporations, including RJR Nabisco, R.H. Macy, and Trans World Airlines, had gone private in leveraged buyouts, appears highly relevant today. After a lull during the 1990s, private equity transactions generally, and going private transactions in particular, have resurged during the past few years.

A recent editorial in *The Wall Street Journal* summarizes the dramatic increase in recent private equity activity:

Private equity is booming, and sweeping up U.S. business in the process. Fifteen years ago, a handful of private equity firms managed a few billion; today, more than 250 firms control some \$800 billion in capital. Buyouts magazine, which tracks private equity deals, estimates that nearly \$175 billion in new money flowed into U.S.-based private equity firms last year alone, including giants such as Blackstone, KKR, and the Carlyle Group.

Dozens of public companies have gone private in recent years, including well-known companies such as Vermont Teddy Bear, Toys R Us, Neiman Marcus, and La Quinta Inns. During the past few months, HCA and Kinder Morgan have announced plans to go private in \$33 billion and \$22 billion deals, respectively. After 50 years as a public corporation, Ford Motor Co. recently announced it is considering going private. Dozens of other large public companies in the U.S. are rumored to be considering the same.

This paper examines the recent increase in going private activity in the U.S. and compares it with the going private transactions of twenty years ago that inspired Jensen to discuss the eclipse of the public corporation. Specifically, we empirically examine a sample of 245 U.S. companies that went private during the period of 1995 to 2005. The following results emerge from our analysis:

- The number and market value of companies going private have increased over time. During 1995-1999, 101 firms (an average of 20.2 per year) with an inflation adjusted average market value of assets of \$231 million went private. During 2000-2005, 144 firms (an average of 24.0 per year) with an average asset value of \$431 million went private.
- The industry distribution of firms going private has changed over time. Compared with twenty years ago, when going private transactions were almost nonexistent in technology industries, during 1995-2005, 15 firms in high technology industries went private. Manufacturing accounts for the highest number of going private transactions over the period (79, 32% of the sample), followed by services (40, 16%), retail (37, 15%), and financial (27, 11%).
- The announcements of going private transactions are associated with statistically significant increases in the stock prices of target firms. The average residual return on the announcement day for the entire sample is 17.2%. Over a three-day window ranging from one day before through one day after the announcement day, the residual return is 21.4%.
- The average residual return on the announcement day for 13e-3 going private transactions (i.e., management-led transactions) is 20.2%, versus 13.6% for other going private transactions (i.e., those led by private equity firms and other investors). This evidence is not consistent with the view that management-led buyouts create an inherent conflict of interest that deprives target shareholders of value.
- The stock price performance of firms that went private during 1995-2005 was significantly worse than the corresponding stock price performance of their industry peers during the one, two, and three years before their respective going private transactions were announced. The average buy-and-hold return for targets in the year immediately preceding the going private transactions is 6.3%, versus 30.8% for the corresponding industry indexes.

- The average return on equity (R O E) of going private targets is significantly lower than the corresponding ROE of their respective industry peers. The average ROE for going private targets is -14.78% in the year before the transaction versus 6.11% for the industry peers.
- There are minor differences in return on assets (R O A) and working capital management of going private targets and the corresponding ROA and working capital management of their respective industry peers.
- Going private targets have significantly more cash, as a percent of assets, than their industry peers. On average, the ratio of cash to the book value of assets is 0.113 for targets, versus 0.096 for the corresponding industry peers.
- The direct costs of complying with the Sarbanes-Oxley Act of 2002 are a significant proportion of the market capitalization of firms that went private in 2004 and 2005, especially among smaller firms. On average, these costs are estimated to be 1.3% to 2.6% of market capitalization for all firms that went private. Among firms with market capitalizations of less than \$100 million, these costs are estimated to be 3.6% to 7.2% of market capitalization and 18% to 36% of the premiums paid in the transactions.

II. Evolution of Going Private Transactions

For a greater depth of understanding of the U.S. leveraged buyout market as it exists today, it is constructive to consider the history of leveraged buyouts, even in a generalized way. Certain factors drove fundamental changes in private equity in general, and contributed to the evolution of leveraged buyouts in particular. For purposes of this paper, the authors assume private equity is a general investment class in the alternative—i.e., non-publicly traded securities—sector and that leveraged buyouts are a subset of that class. Alternative investments might include real estate, timber, other commodities, hedge funds and private equity. Private equity would include venture capital, meaning capital for early stage companies, as well as leveraged buyouts, capital generally devoted to the purchase of established companies using both debt and equity.

In the 1970s and early 1980s, public stocks were cheap. The average S&P 500 firm had a price to earnings multiple of 15.9 at the beginning of the 1970s. By the end of the decade, the average price to earnings multiple was 7.3. The mighty Dow Jones Industrial Average opened the 1970s at 760 and only managed to rise to 875 by the end of 1981. Factors driving this included the oil crisis of the early '70s and the Watergate scandal during 1972-1975. A few financial entrepreneurs, such as Henry Kravis, Martin Dubilier, Ted Forstman and Thomas Lee, operating in the mold of merchant bankers, determined that they could acquire stable, in some sense boring, companies for modest purchase prices financed in large part by borrowed funds. Equity value was created as the cash flow from these companies amortized the debt and the company was later sold. Because the purchase prices were low, the debt could be paid off in a few short years despite the high interest rates of the time, so the sale price of a company didn't need to exceed the purchase price for those entrepreneurs to earn a handsome profit and internal rate of return on their equity. In those early years of the LBO industry, these entrepreneurs operated out of offices resembling nothing more sophisticated than small law or doctors' offices, and their methods were equally straightforward. They were essentially bargain hunters, looking for cheap companies that had borrowing capacity, and their strategies and capital structures were simple. Their returns, however, were nothing short of spectacular. Making money seemed easy and compounded annual rates of return of 60-100% were not uncommon. Competition for deals was modest, and most firms had genuinely robust proprietary deal flow.

By the early- to mid-1980s, these LBO sponsors began to publicize their returns to institutional investors, drawing more equity capital to the buyout sector. In addition,

the relaxation of laws restricting corporate pension plans from investing in private unregulated partnerships drew more capital into the market place. The LBO sponsors began hiring more people and slowly began to become more sophisticated in their financial and business analysis, particularly with the advent of spreadsheet software in the early 1980s such as VisiCalc and Lotus 123. Also by the mid 1980s, oil prices, interest rates and inflation abated, and the stock market began to develop steam. This allowed firms that bought companies earlier to sell them into a market willing to pay higher prices. In addition to leverage, the sponsors' returns were enhanced by this buy low, sell high phenomenon.

With the economic and stock market tailwind at their backs, the LBO firms steadily increased the number of deals they did and amount of money they managed. Success has many fathers, and also many imitators. More firms entered the fray, sensing easy money. Lenders too enjoyed success during this period. LBO loans generated hefty upfront fees for the lenders compared to other more traditional lending activities, and the interest rates paid by the borrowers were high. Default rates were low despite the leverage, so leverage increased substantially, further enhancing the returns of the LBO sponsors. In addition to major US money center banks, the LBO lending community was joined by foreign banks, savings and loans, mutual funds, pension funds, insurance companies, finance companies such as GE and Westinghouse, investment banks, and the bond market. With all these new players in both the lending and equity market for LBOs, lending and investment standards became inconsistent. Competition for deals among sponsors increased, but most high quality firms could still brag of a portfolio of deals

where a substantial portion was generated on a proprietary basis, based on unique networks of contacts, industry specialization and/or brand recognition.

Michael Milken almost single-handedly created a high yield bond market that fueled much of the LBO market in the 1980s. One might even say you didn't need money to do an LBO of your own, just Mike Milken's phone number. Milken operated out of the Los Angeles office of what was previously a sleepy little investment bank called Drexel Burnham Lambert. Milken figured he could get institutions to lend money to LBO companies by buying bonds, both public and private, if they were offered higher interest rates, a slice of the equity in the buyouts if the loan was far enough down the capital structure, and a liquid market. In the case of a liquid market, Drexel often bought loans back or traded existing loans for new issues, creating an impression of market liquidity, which in essence became a self-fulfilling prophecy as more investors entered the high yield market, drawn by the high returns available. Problems developed in the late 1980s as some companies couldn't meet their projections, in some cases brought on by leverage which started out with no margin for error (EBITDA to cash interest coverage got as low as 1.01 to 1, on the assumption that growth would eventually allow companies to grow out of their leveraged positions) and the onset of the recession of 1990-1991. As default rates increased, lenders recognized the lending market had become, even before the phrase was coined, irrationally exuberant. Lenders were not being compensated enough for the risk they were taking, and the slivers of equity being attached to the riskiest of loans wasn't enough to compensate for the losses on the companies that defaulted.

The LBO equity sponsor made money during the 1980s, not by buying cheap as they did in the 1970s, but by buying companies with little money down. Drexel and others created ever new instruments, such as senior notes, senior subordinated notes, subordinated notes with warrants, zero coupon bonds, pay-in-kind preferred stock, which allowed sponsors to delicately segment the capital structure to create maximum leverage. Also during the 1980s, many LBOs were based on break up values of conglomerates. Disaggregating the conglomerates for values where the sum of the sold parts was greater than the whole could create equity value. Whereas the skills of the successful sponsor of the 1970s were based on bargain hunting, the success of the sponsor during the 1980s was based on excelling at financial engineering. While returns weren't quite as good as they were in the 1970s, sponsors were still targeting internal rates of return above 30%.

The collapse of Drexel in 1990, the decline of the high yield bond market, and the exit of many of the lenders and equity sponsors who were new to the party in the late half of the 1980s brought a sense of calm back to the LBO market during the 1990s. The rise in value of the stock market, combined with the still increasing equity capital flowing to LBO sponsors in the 1990s meant purchase prices, measured as a multiple of earnings before interest, taxes, depreciation and amortization (EBITDA), began to rise significantly. Higher prices and lower leverage necessarily meant lower returns for LBO equity investors– but there was plenty of room to fall and still provide returns well in excess of traditional investment alternatives. While *target* returns were in the mid-30% range, by the late 1990s, targeted returns had fallen to the mid- to low-20s, and for the largest buyouts, even the high teens. The higher prices, lower leverage ratios, and lower expected returns necessitated a back-to-basics approach for most LBO practitioners. The

market had moved from rewarding the bargain hunter, to financial engineer, now to talented investor and good director. The focus moved to good companies, good corporate strategies, and good (at least compared to the peaks of the 1980s) balance sheets. Investors also refined and rewarded quality entrepreneurial management with more sophisticated and more liberal equity incentives. Boards represented by LBO sponsors paid closer attention to operations and efficient, growth oriented capital spending. Sponsors also adapted capital structures to allow for growth by borrowing longer-term senior notes or structuring back-end weighted amortization schedules to allow for growth investment spending even in a leveraged environment.

More money being managed by virtually all successful firms also drove returns lower. The larger amount of money under management and larger deal sizes did not require a commensurate growth in the number of partners at the LBO firms. Consequently, they could make the same amount of, or more, money with lower returns simply by having more dollars invested. Toward the end of the '90s and into the 2000s, this generally reduced incentive for higher returns, coupled with ever more money under management continued to drive purchase prices higher. This was also helped by lower interest rates and a renewed willingness by lenders to push the leverage multiples higher. In the second half of the 1990s, the leading mega funds were considered large if a fund was \$1 billion. Today, those same mega funds manage multi-billion dollar funds.

Today's U.S. market is well developed. The market is awash in liquidity, both in debt and equity. Stock prices are high, and LBO purchase prices are high. Sellers are also well informed and sophisticated. It would be rare to find a deal that wasn't represented by an investment bank and going through at least a limited auction. As a

result, the pure bargain hunting strategy of the 1970s is non-existent. The financial engineer of the 1980s has been arbitrated out of the market by a rational debt market that can provide capital to all comers. With high purchase prices and fierce competition for deals, coming from not only a bevy of LBO firms but also from hedge funds seeking new avenues of opportunity, even a great investor will struggle for returns in excess of the high teens in this environment. What's an LBO sponsor to do? Many are searching for ways to enhance the companies they buy. One strategy is to bring in partners with operating backgrounds in an effort to improve the operating performance of target companies.

III. Sample and Data

The sample for this study consists of 245 firms that went private during the period of 1995 through 2005. The sample was drawn from an original sample of 508 transactions identified in the Securities Data Corp. (SDC) mergers and acquisitions database as leveraged buyouts. We cross-referenced this sample with the Center for Research on Securities Prices (CRSP) database to provide stock price and delisting information. Additionally, the sample was matched to the Compustat Industrial Annual database for accounting data. Finally, we searched news stories for all companies to confirm that they were acquired in a going private transaction, resulting in the final sample of 245 going private transactions. Missing data impacts the sample size in some of the subsequent analysis.

Table 1 lists the number and average market value of assets of firms going private in each year during the sample period. Average market value of assets is inflation adjusted using the consumer price index to reflect constant 2005 dollars. The number of

going private transactions was highest in the year 2000 (43), followed by 1999 (40) and 2005 (28). The average market value of assets for firms going private is highest in 2004 (\$839 million), followed by 2005 (\$741 million), and 1995 (\$339 million).¹

The table reveals that the average market value has increased significantly since the passage of Sarbanes-Oxley in 2002, from an annual average of \$232 million during 1995-2001 to an annual average of \$651 million during 2003-2005, an increase of over 180%. Of course, some of the increase in the average asset value of firms going private over time reflects a general appreciation in the value of public companies during this period. However, the general increases in the market values of firms going private only accounts for a relatively small portion of the increase in asset value of firms going private since 2002. For example, the average year-end value of the S&P 500 increased by only 11% from the period of 1995-2001 to the period of 2003-2005. Hence, it appears that since 2002 there has been a substantial increase in the size of firms going private, even after adjusting for changes in overall equity values.

Table 2 details the industry distribution for our sample of going private transactions. Going private firms are classified into one of ten general industry classifications based on the standard industrial classification (SIC) code provided in the CRSP database. For the full sample, the number of going private transactions is highest for firms classified as manufacturing (79), followed by services (40) and retail (37). Almost 64% of the going private transactions in the sample come from one of these three industries. Table 2 also reports the sample industry distribution for the 1995-1999 period and the 2000-2005 period. The proportion of the deals targeting manufacturing firms

¹ The market value of assets is computed as the sum of the book value of debt, the book value of preferred stock, and the market value of common stock.

declines significantly from the first period to the next (44.6% of the early period targets are classified as manufacturing versus 23.6% during the later period). While going private activity in manufacturing decreases in the later half of the sample period, the wholesale, retail, financial and high tech industries experience significant increases.

IV. Effect of Going Private Transactions on Shareholder Value

To examine the effect of going private transactions on shareholder value during 1995-2005, we conducted an event study on the announcement dates for the 245 going private transactions. The software package used for conducting the event study was Eventus, published by Cowan Research. The event study was conducted with a 250-day estimation period, ranging from 270 trading days before the first announcement date through 21 trading days before the announcement date. An equal-weighted market index was used to estimate the parameter value. The announcement date identified by SDC was used as the announcement date in the event study.

Table 3 contains the residual returns from the event study for the entire sample and various sub-samples. The mean residual return on the announcement date for the full sample is 17.2% and it is statistically significant at the 0.01 level. The cumulative residual returns over the window of one trading day before the announcement date through one trading day after the announcement date (i.e., the [-1,+1] window) is 21.4% and also significant at the 0.01 level. The corresponding residual return over the [-5,+5] window is 23.5%. These results are similar to results previously documented in the academic literature on going private transactions.²

Table 3 also presents evidence on residual returns in management-led going private transactions as compared with going private transactions led by private equity

² See, for example, DeAngelo and DeAngelo (1984) and Lehn and Poulsen (1988).

firms or other, non-management, investors. Management-led going private transactions result in a so-called 13e-3 filing, named for Rule 13e-3, which the SEC adopted in 1979. The rule was adopted to address concerns that investors, legal commentators, and others had that there was an alleged inherent conflict of interest in management buyouts versus buyouts led by third parties.³ The basis for this concern was that managers allegedly wore two hats in management buyouts, one as the acquirer who would like to acquire the company at the lowest possible price and the other as an agent for stockholders who had a duty to maximize the price shareholders received for their shares.

The table reveals that residual returns associated with recent going private transactions are actually higher in 13e-3 transactions than they are in non-13e-3 transactions. The mean residual return on the announcement date for the 134 13e-3 transactions in the sample is 20.2%, versus 13.6% for the 111 other transactions in the sample. Similar results hold for other windows surrounding the announcement dates – residual returns are consistently higher in 13e-3 versus non 13e-3 transactions. The results indicate that, as a general matter, shareholders have not been deprived of value in going private transactions led by managers as opposed to those led by third parties during 1995-2005.⁴

The table also shows that residual returns increased somewhat over the sample period. During 1995-1999, the mean residual return on the announcement date was 13.6%, as compared with 19.7% during 2000-2005. A similar pattern of differences in

³ See, for example, Full Text of Commissioner Sommer's Remarks on 'Going Private', *Sec. Reg. & L. Rep.* (BNA) No. 278, at D-1 (Nov. 20, 1974); Victor Rudney, A Note on Going Private, 61 *Virginia Law Review* 1019 (1975); and Lewis D. Solomon, Going Private: Business Practices, Legal Mechanics, Judicial Standards, and proposals for Reform, 25 *Buffalo Law Review* 141 (1975).

⁴ This result is consistent with evidence from going private transactions during the 1980s (See Davis and Lehn (1992)).

residual returns exists for other windows surrounding the announcement dates. To determine whether the increase is associated with the passage of Sarbanes-Oxley in 2002, the table reports the mean residual return during 1995-2002 with the corresponding return during 2003-2005. The results show that the two mean returns are essentially identical (17.2% in both periods), suggesting that Sarbanes-Oxley does not account for the higher residual returns in going private transactions.

V. Attributes of Targets in Going Private Transactions

One popular explanation for why firms go private is that the firm is in need of operating improvements, which are more likely to be achieved under the governance structure of a private firm. Literature on going private transactions, and leveraged buyouts more generally, point to several features of private equity that create strong incentives for value creation. These features include (i) greater equity ownership by managers, (ii) greater sensitivity of executive compensation to performance, (iii) greater decentralization of decision-making, and (iv) high leverage.

Previous literature on leveraged buyouts and going private transactions finds evidence that going private transactions during the 1980s generally resulted in significant operating improvements. In a study of large management buyouts executed in the 1980s, Steven Kaplan (1989) documents larger operating income increases, capital expenditure decreases and net cash flow increases for buyout firms relative to their industry peers in the three years following the buyout. Kaplan concludes that operating improvements drive the market value increases (which average 96% for his sample) during the buyout period for these firms. The following sections examine the stock price performance,

operating performance, growth and use of cash in the years preceding the going private transaction for our sample of deals.

A. Stock Price Performance

Table 4 presents buy and hold returns for the year preceding the going private transactions in our sample. These buy and hold returns are subtracted from the mean industry buy and hold return for firms not engaging in going private transactions over the same period to produce a measure of relative stock performance. The results in Table 4 provide evidence that the stock performance of our sample firms consistently lags that of the average industry firm in the year leading up to the going private announcement.

The full sample results point to an average buy and hold return of 6.3% for going private targets in the year immediately preceding the announcement, compared to 30.8% for the corresponding equally weighted industry index. The -24.5% difference is highly significant. Similar stock price underperformance is documented for management led transactions (13e-3), non-management led buyouts, and over the first and second half of our sample period.

When the sample is divided into pre- and post-Sarbanes-Oxley (1995-2002 vs. 2003-2005), the results suggest a possible change in motivation for going private transactions. In the period before the passage of Sarbanes-Oxley, the average target firm underperforms its peers by 27.8%. However, firms going private post-Sarbanes-Oxley underperform their respective industry index by 15.6% on average. Additionally, this result is only marginally statistically significant. This result suggests that stock price underperformance may no longer be a primary motivation for going private transactions

in the post-Sarbanes-Oxley environment. Subsequent analysis will examine the effects of Sarbanes-Oxley in additional detail.

B. Operating Performance

Table 5 examines the return on assets⁵ (ROA) and working capital management⁶ for the sample of going private firms relative to their industry peers over the two years preceding the deal announcement. The results in Table 5 present the mean difference between the average target firm's ROA (working capital) and that of the median industry firm. ROA and working capital management are two common measures of operating performance.

The ROA results presented in Table 5 do not document a consistent underperformance for our sample of targets of going private transactions. On the contrary, the full sample ROA results two years prior to the announcement suggest that the average target firm actually outperforms its industry peers by 1.4%. However, the difference is not significant the next year. Finally, targets of management buyouts (13e-3) exhibit higher average ROA than industry peers both one (2.3%) and two years (2.2%) prior to a going private announcement.

The working capital management results in the final two columns of Table 5 suggest that there may be room for improvement in this area for targets of going private transactions. The full sample results indicate that the average target firm uses approximately 1.8% more working capital per dollar of sales than the average industry peer in the year prior to the going private announcement. Additionally, the average target firm's measure of working capital management is 1.4% higher than the average industry

⁵ Return on assets is calculated as net income divided by total assets.

⁶ Working capital management is defined as accounts receivable plus inventory minus accounts payable, all divided by net sales.

firm two years prior to the deal announcement. Both results are highly significant. Overall, these results suggest that operating improvements might still represent a source of value creation in going private transactions.

C. Growth

Table 6 examines the ratio of property, plant and equipment (PPE) to assets and the market to book ratio (M/B) for the sample of going private firms relative to their industry peers over the two years preceding the deal announcement. The results in Table 6 present the mean difference between the average target firm's PPE to assets (market to book ratio) and that of the median industry firm. PPE/assets and market to book ratio are common proxies for a firm's growth prospects.

The ratio of property, plant and equipment to total assets results in table six indicate that a larger portion of the average going private firm's total assets are in the form of tangible assets relative to their industry peers. For the full sample period, in the year prior to the going private announcement, target firms tend to have 8.3% more of their asset base in the form of tangible assets. Two years prior to the deal announcement the difference is 6.6% on average. Both results are statistically significant. This relation holds for both management and non-management led buyouts, in the later half of the sample, and both pre- and post-Sarbanes Oxley. The only period for which this relation is not exhibited is the first half of the sample period (1995-1999).

The PPE to total assets results are consistent with Jensen's (1986) free cash flow hypothesis. Free cash flow theory posits that firms with strong cash flows and low growth opportunities are most likely to benefit from increased use of debt. Increased debt levels serve at least two functions in such firms. First, the servicing of debt

consumes cash that might otherwise be used by management on value destroying investments. Second, the increased use of debt strengthens the incentive for creditors to monitor the activities of management. Since going private transactions are generally financed through significant use of debt, such transactions may represent one manifestation of free cash flow theory in practice as low growth firms with strong income represent prime candidates for a buyout.

The final two columns of Table 6 present comparisons of market to book ratio, another common proxy for growth opportunities. Unlike the PPE to total assets results, the market to book results do not document a significant disparity between going private targets and their industry peers.

D. Cash

Table 7 examines the ratio of cash to book value and cash to market value for the sample of going private firms relative to their industry peers over the two years preceding the deal announcement. The results in Table 7 present the mean difference between the average target firm 's cash to book value (cash to market value) and that of the median industry firm.

The full sample results and a number of the sub-sample results in Table 7 point towards an excess of cash at targets of firms of going private transactions relative to industry peers. For example, the cash to book value results indicate that the average target firm holds 1.7% more cash as a percentage of book value relative to the median industry firm in the year prior to the going private announcement. The difference is even larger two years prior to the announcement, with the average target firm holding 2.0% more cash than their industry peers.

The difference is largest for management led buyouts (13e-3), with a cash to book value differential of 3.4% one year prior and 3.6% two years prior to the announcement. Cash to market value exhibits a similar pattern for management-led buyouts with an average difference of 8.3% in the year prior to the going private deal announcement. These results are again consistent with free cash flow theory, as low growth firms generating significant amounts of cash are ideal candidates for increased use of debt, which is generally the result of a going private transaction. Additionally, going private transactions are often at least partially financed with the target firm's cash. The relatively large cash balances exhibited by the sample going private targets are consistent with this mode of financing.

Interestingly, when comparing the pre- and post-Sarbanes-Oxley results, excess cash appears to be a factor prior to the passage of the regulation, but not after. The average target firm holds 2.0% more cash as a function of book value in the year prior to the deal announcement in the years preceding Sarbanes-Oxley, but the difference is insignificant in the post Sarbanes-Oxley years. Like the stock price performance results discussed above, the cash result provides further evidence that the motivation for going private may have shifted since the passage of Sarbanes-Oxley.

VI. Sarbanes-Oxley and Going Private Transactions

A common theme in many of the recent going private discussions is the cost of being a public company. These costs have steadily increased for most public firms, at least in part due to the costs of complying with the Sarbanes-Oxley act passed in 2002. Thomas Frist, Jr., founder of HCA Inc., which recently announced one of the largest going private transactions in history, identified Sarbanes-Oxley as one factor in the decision to pursue a

buyout.⁷ Likewise, Georgia Pacific CEO Pete Corell cited Sarbanes-Oxley when discussing the buyout of his firm.⁸

The final three tables of this study are designed to explore the relation between Sarbanes-Oxley and recent going private transactions. These tables use audit fees to proxy for the cost of compliance with Sarbanes-Oxley. If Sarbanes-Oxley increased the cost of being a public company, as many suggest, one manifestation of this might be found in increased audit fees.

A. Audit Fees and Sarbanes-Oxley

Table 8 utilizes a regression framework to examine the relation between audit fees and the implementation of Sarbanes-Oxley. The sample consists of the 49 public companies announcing a successful going private transaction in 2004 and 2005. The dependent variable in the regressions is the natural log of the audit fees for a given firm-year observation. Results are presented for ordinary least squares (OLS) and fixed effects regressions.

Both regressions in Table 8 control for the level of sales for the firm-year observation. Audit fees are expected to increase as a firm grows larger, and sales represents a proxy for the size of the firm. As expected, the coefficient on sales is positive and significant in both regressions.

The main variable of interest in Table 8 is a dummy variable, which is equal to one if the year is after the adoption of Sarbanes-Oxley (2003-2005) and zero otherwise. Even after controlling for sales, both Table 8 regressions suggest that audit fees are

⁷ Behind \$21 Billion Buyout of HCA Lies a High-Stakes Bet on Growth, *Wall Street Journal*, July 25, 2006

⁸ The SOX Appeal of Going Private, *Business Week Online*, November 29, 2005.

significantly higher after the adoption of Sarbanes-Oxley. Examination of the adjusted R-squared values indicates that both models explain much of the variation in audit fees.

B. Present Value of Incremental Audit Fees post-Sarbanes-Oxley

Table 9 further explores the relation between Sarbanes-Oxley and audit fees. Mean (median) audit fees pre-Sarbanes-Oxley represent the average (median) annual audit fees for firms over in the two years leading up to the passage of the regulation (2000-2001). This number is then multiplied by the coefficient on the post-Sarbanes-Oxley dummy variable from the fixed effects regression (0.424) in Table 8 to estimate the mean (median) incremental audit fees in the post-Sarbanes-Oxley years. Finally, the present value of the incremental audit fees is estimated based on three multiples, 10, 15 and 20.

The results in Table 9 paint an interesting picture. Assuming a conservative discount rate of 10% (a multiple of 10), the present value of the incremental audit fees post-Sarbanes-Oxley is \$2.3 million, on average. A discount rate of 20% results in a present value estimate of \$4.6 million. Overall, the Table 9 results suggest that the cost of being a public company has increased dramatically since the passage of Sarbanes-Oxley. Additionally, it must be noted that audit fees represent only one component of the cost of compliance. Items such as internal resources and systems re-engineering related to compliance will not be reflected in the audit fees. In a recent study⁹, Thomas Hartman of Foley & Lardner, LLP estimates the average cost of being a public company with annual revenue under \$1 billion increased by 223% from the passage of Sarbanes-Oxley through 2004. For larger companies (\$1 billion in revenue and up), Hartman estimates the total cost of being public to be \$14.3 million in 2004.

⁹ Hartman, T., The cost of being public in the era of Sarbanes-Oxley, 2005 White Paper.

C. Present Value of Audit Fees as a Percentage of Market Capitalization

Table 10 concludes our analysis of audit fees and Sarbanes-Oxley with an examination of the present value of the incremental audit fees after the adoption of the regulation as a percentage of the market capitalization of target firms and the premiums paid in going private transactions. Results are presented for the full sample, and for subsamples based on market capitalization. Small firms are defined as firms with market capitalizations of less than \$100 million. Medium firms have market capitalizations between \$100 million and \$1 billion, while large firms are those with market capitalizations greater than \$1 billion.

The results of Table 10 indicate that the present value of the incremental audit fees post-Sarbanes-Oxley represent between 1.3 and 2.6% (depending on the multiple used) of the average target firm's market capitalization when considered over the full sample. The percentage of market capitalization is greater for smaller firms, with the present value of incremental audit fees estimated at 3.6 to 7.2% for small firms and only 0.2 to 0.3% for large firms.

The final two columns of Table 10 examine the audit fees with respect to the deal premiums, where the premium is measured as the difference between the target firm's market capitalization as of the firm's final trading day and 21 days prior to the deal announcement. The results suggest that the mean present value of the audit fees represents between 6.4 and 12.8% of the total deal premium over the full sample. Interestingly, the present value of incremental audit fees is 18.1 to 36.2% of the deal premium for small firms. This declines to 4.4 to 8.7% for medium sized firms and 0.8 to 1.5% for larger firms.

Together, the results of Tables 8 through 10 provide evidence consistent with the costs of Sarbanes-Oxley compliance, and more generally the costs of being a public company, as additional motivation for pursuing a going private transaction. Going private can reduce or even eliminate the costs associated with satisfying the regulations related to Sarbanes-Oxley and being public. The results of this section suggest that these costs are significant. Their elimination may represent a significant source of value in a going private transaction.

VII. Conclusion

This paper examines the recent increase in going private activity in the U.S. by empirically examining a sample of 245 U.S. companies that went private during the period 1995 to 2005. We document a number of results consistent with earlier studies of going private transactions. Additionally, we document results consistent with a more recent justification for going private, the increased costs of being public, at least partially related to the adoption of Sarbanes-Oxley.

We find that going private activity has increased over our sample period, both in terms of the number of deals and in the size of the average deal. Additionally, the industry distribution of firms going private has changed, with a shift away from targets in manufacturing and towards service and high tech firms. Going private transactions continue to be well received by investors, with average returns of 17.2% the day of the deal announcement.

Targets of going private transactions exhibit significantly worse stock price performance in the year preceding the going private announcement, underperforming their industry peers by over 24% on a buy and hold basis. Additionally, measures of

operating performance suggest there is room for improvement relative to industry peers. Consistent with free cash flow theory, growth opportunities appear lower and cash levels higher for firms targeted in going private transactions.

Finally, an examination of audit fees surrounding the passage of Sarbanes-Oxley suggests that compliance costs represent a significant portion of both the target firm market capitalization and deal premium in going private transactions, particularly for smaller target firms. Our audit fee results are consistent with the popular notion that firms are withdrawing from the capital markets due to the onerous costs of being public. The surge in going private transactions at least partially motivated by Sarbanes-Oxley compliance highlights an unintended consequence of such regulation.

VIII. References

Davis, J., Lehn, K., 1992. Information asymmetries, rule 13e-3, and premiums in going-private transactions. *Washington University Law Quarterly* 70, 587-611.

DeAngelo, H., DeAngelo, L., 1984. Going private: minority freezeouts and stockholder wealth. *Journal of Law and Economics* 27, 367-401.

Hartman, T., 2005. The cost of being public in the era of Sarbanes-Oxley. Working paper, 1-15.

Jensen, M., 1986. Agency costs of free cash flow, corporate finance, and takeovers. *American Economic Review* 76, 323-329.

Jensen, M., 1989. Eclipse of the public corporation. *Harvard Business Review* 67, 61-74.

Kaplan, S., 1989. The effects of management buyouts on operating performance and value. *Journal of Financial Economics* 24, 217-254.

Lehn, K., Poulsen, A., 1988. Leveraged buyouts: wealth created or wealth redistributed, in *Public Policy Towards Corporate Takeovers*, M. Weidenbaum and K. Chilton (eds.), New Brunswick, NJ, Transaction Publishers.

Table 1

Number of Going Private Transactions by Year, 1995-2005

Number of going private transactions and the average market value of target firms on an annual basis for 245 completed going private transactions during the period of 1995 to 2005. Market value is computed as the sum of the book value of debt, the book value of preferred stock, and the market value of common stock.

Year	Number of Going Private Transactions	Average Market Value of Firms Going Private (MM\$)
1995	6	339.03
1996	10	142.99
1997	26	231.83
1998	19	171.76
1999	40	238.85
2000	43	204.70
2001	19	303.58
2002	18	331.88
2003	15	138.64
2004	21	838.70
2005	28	740.96

Table 2

Number of Going Private Transactions by Industry

Number of going private transactions and the proportion of total deals by industry for 245 completed going private transactions during the period of 1995 to 2005. Broad industry definitions are based on the standard industrial classification provided in the CRSP database. Additional results are presented for the 1995-1999 and 2000-2005 subperiods.

	Full sample		1995-1999		2000-2005	
	No.	%	No.	%	No.	%
Agriculture	3	1.2%	1	1.0%	2	1.4%
Mining	4	1.6%	1	1.0%	3	2.1%
Construction	1	0.4%	0	0.0%	1	0.7%
Manufacturing	79	32.2%	45	44.6%	34	23.6%
Transportation	18	7.3%	8	7.9%	10	6.9%
Wholesale	21	8.6%	6	5.9%	15	10.4%
Retail	37	15.1%	11	10.9%	26	18.1%
Financial	27	11.0%	9	8.9%	18	12.5%
Services	40	16.3%	16	15.8%	24	16.7%
High Tech	15	6.1%	4	4.0%	11	7.6%

Table 3

Cumulative Abnormal Returns Associated with Announcements of Going Private Transactions

Cumulative abnormal returns (CARs) estimated over various windows surrounding the first announcement of a going private offer for 245 completed going private transactions during the period of 1995 to 2005. The [0] window denotes the abnormal return on the announcement day, [-1,1] denotes the window of one trading day before the announcement through one trading day after the announcement and so forth. An estimation period of 270 trading days before the announcement date through 21 trading days before the announcement date is used to estimate parameter values for the event study. P-values are in parentheses.

Mean CARs over the following event windows:

<u>Sample</u>	<u>[0]</u>	<u>[-1,+1]</u>	<u>[-5,+5]</u>	<u>[-20,-2]</u>	<u>[1, 20]</u>
Full (N=245)	17.2% (0.00)	21.4% (0.00)	23.5% (0.00)	4.0% (0.00)	2.4% (0.02)
13e-3 (N=134)	20.2% (0.00)	26.3% (0.00)	28.8% (0.00)	3.8% (0.00)	3.7% (0.01)
Non 13e-3 (N=111)	13.6% (0.00)	15.3% (0.00)	17.1% (0.00)	4.4% (0.04)	0.8% (0.60)
1995-1999 (N=101)	13.6% (0.00)	15.7% (0.00)	17.9% (0.00)	4.4% (0.05)	0.9% (0.58)
2000-2005 (N=144)	19.7% (0.00)	25.3% (0.00)	27.4% (0.00)	3.8% (0.00)	3.5% (0.02)
1995-2002 (N=181)	17.2% (0.00)	21.1% (0.00)	23.7% (0.00)	5.4% (0.00)	1.9% (0.10)
2003-2005 (N=64)	17.2% (0.00)	22.0% (0.00)	22.8% (0.00)	0.2% (0.92)	4.0% (0.10)

Table 4

Buy and Hold Returns Associated with Announcements of Going Private Transactions

Buy and hold returns (BAHs) estimated over for completed going private transactions during the period of 1995 to 2005. Buy and hold returns are measured over the period beginning 270 trading days before the announcement date through 21 trading days before the announcement date. BAH returns are presented for both the target firm, an equally weighted average for the target firm's industry (defined at the four digit SIC level) and the difference between the two. P-values are in parentheses.

<u>Sample</u>	<u>Mean Target BAH Return</u>	<u>Mean Index BAH Return</u>	<u>Mean Difference in Target v. Index BAH Return</u>
Full (N=238)	6.3%	30.8%	-24.5% (0.00)
13e-3 (N=131)	1.6%	25.5%	-23.9% (0.00)
Non 13e-3 (N=107)	12.0%	37.2%	-25.3% (0.00)
1995-1999 (N=97)	1.7%	30.3%	-28.7% (0.00)
2000-2005 (N=141)	9.4%	31.1%	-21.7% (0.00)
1995-2002 (N=175)	0.2%	28.0%	-27.8% (0.00)
2003-2005 (N=63)	23.1%	38.7%	-15.6% (0.10)

Table 5

Mean difference between target firm return on assets and working capital and that of the median industry firm

Return on assets (ROA) and working capital are estimated for the target firm and the median industry firm for one and two years prior to the going private announcement. The table presents the mean difference across all sample firms where accounting data is available. Additionally, sub-samples examining management buyouts (13e-3 sample) and various subperiods are presented. P-values are in parentheses.

Sample	ROA ₁	ROA ₂	Working Capital ₁	Working Capital ₂
Full (N=241)	0.002 (0.82)	0.014 (0.03)	0.018 (0.06)	0.014 (0.02)
13e-3 (N=131)	0.023 (0.01)	0.022 (0.00)	0.023 (0.12)	0.021 (0.15)
non 13e-3 (N=110)	-0.023 (0.24)	0.004 (0.77)	0.012 (0.33)	0.006 (0.65)
1995-1999 (N=101)	-0.004 (0.85)	0.005 (0.66)	0.003 (0.81)	0.010 (0.38)
2000-2005 (N=140)	0.007 (0.50)	0.020 (0.01)	0.029 (0.05)	0.017 (0.24)
1995-2002 (N=178)	0.006 (0.63)	0.014 (0.07)	0.015 (0.12)	0.012 (0.22)
2003-2005 (N=63)	-0.009 (0.52)	0.014 (0.28)	0.028 (0.31)	0.021 (0.43)

Table 6

Mean difference between target firm property, plant and equipment to assets and market to book ratio and that of the median industry firm

Property, plant and equipment (PPE) as a percentage of total assets and market to book ratio are estimated for the target firm and the median industry firm for one and two years prior to the going private announcement. The table presents the mean difference across all sample firms where accounting data is available. Additionally, sub-samples examining management buyouts (13e-3 sample) and various subperiods are presented. P-values are in parentheses.

Sample	PPE/Assets ₋₁	PPE/Assets ₋₂	M/B ₋₁	M/B ₋₂
Full (N=241)	0.083 (0.00)	0.066 (0.00)	0.006 (0.67)	0.001 (0.92)
13e-3 (N=131)	0.064 (0.01)	0.052 (0.05)	0.024 (0.18)	0.028 (0.10)
non 13e-3 (N=110)	0.109 (0.00)	0.084 (0.00)	-0.015 (0.49)	-0.031 (0.17)
1995-1999 (N=101)	0.011 (0.68)	0.031 (0.22)	-0.021 (0.32)	-0.040 (0.05)
2000-2005 (N=140)	0.125 (0.00)	0.090 (0.00)	0.025 (0.19)	0.031 (0.09)
1995-2002 (N=178)	0.060 (0.02)	0.049 (0.03)	0.000 (0.99)	-0.010 (0.54)
2003-2005 (N=63)	0.144 (0.00)	0.116 (0.01)	0.022 (0.45)	0.033 (0.23)

Table 7

Mean difference between target firm cash to book value and cash to market value and that of the median industry firm

Cash to book value and cash to market value are estimated for the target firm and the median industry firm for one and two years prior to the going private announcement. The table presents the mean difference across all sample firms where accounting data is available. Additionally, sub-samples examining management buyouts (13e-3 sample) and various subperiods are presented. P-values are in parentheses.

Sample	Cash/BV ₋₁	Cash/BV ₋₂	Cash/MV ₋₁	Cash/MV ₋₂
Full (N=241)	0.017 (0.07)	0.020 (0.04)	0.032 (0.28)	0.024 (0.32)
13e-3 (N=131)	0.034 (0.00)	0.036 (0.00)	0.083 (0.08)	0.059 (0.11)
non 13e-3 (N=110)	-0.005 (0.72)	-0.000 (0.99)	-0.028 (0.41)	-0.017 (0.57)
1995-1999 (N=101)	0.018 (0.20)	0.016 (0.23)	0.064 (0.31)	0.040 (0.39)
2000-2005 (N=140)	0.015 (0.20)	0.022 (0.09)	0.011 (0.70)	0.013 (0.62)
1995-2002 (N=178)	0.020 (0.06)	0.021 (0.07)	0.040 (0.27)	0.033 (0.24)
2003-2005 (N=63)	0.007 (0.70)	0.017 (0.30)	0.011 (0.85)	-0.003 (0.95)

Table 8

Ordinary Least Squares (OLS) and Fixed Effects Regressions of Audit Fees on Sales and a Post Sarbanes-Oxley Dummy Variable

This table reports results from OLS and fixed effect regressions of audit fees on sales and a dummy variable that takes the value of one if the year is after the adoption of Sarbanes Oxley (i.e., if the year is 2003, 2004, or 2005) and zero otherwise. The sample consists of 49 public companies that went private in 2004 or 2005. The natural log of audit fees and sales are used in the regressions. P-values are in parentheses.

	<u>OLS</u>	<u>Fixed Effects</u>
Intercept	3.232 (0.00)	3.033 (0.27)
Sales	0.472 (0.00)	0.539 (0.00)
Post Sarbanes-Oxley	0.453 (0.00)	0.424 (0.00)
N	178	178
Adjusted R-squared	0.353	0.885

Table 9

Estimate of the Present Value of Incremental Audit Fees After Sarbanes-Oxley

The present value of incremental audit fees after Sarbanes-Oxley (Sarbox) for the sample of 49 firms that went private in 2004 and 2005 is estimated in the following way. Incremental audit fees after Sarbox are estimated as the average audit fee in 2000 and 2001, i.e., Pre-Sarbox audit fees multiplied by 0.424, the estimated coefficient on the post-Sarbanes-Oxley dummy variable in the fixed effect regression reported in Table 8. The present value of the incremental audit fees is then estimated as a multiple of 10, 15, and 20 times the incremental audit fees.

Mean Audit Fees, <u>Pre-Sarbox</u>	Mean Incremental Audit Fees, <u>Post-Sarbox</u>	Mean Present Value of Incremental Audit Fees w/Multiples of:		
		<u>10</u>	<u>15</u>	<u>20</u>
\$536,942	\$227,664	\$2.3m	\$3.4m	\$4.6m

Median Audit Fees, <u>Pre-Sarbox</u>	Median Incremental Audit Fees, <u>Post-Sarbox</u>	Median Present Value of Incremental Audit Fees w/Multiples of:		
		<u>10</u>	<u>15</u>	<u>20</u>
\$274,741	\$116,490	\$1.2m	\$1.7m	\$2.3m

Table 10

Present Value of Incremental Audit Fees After Sarbanes-Oxley as a Percentage of the Market Capitalization of Firms Going Private and Premiums Paid in Going Private Transactions

The present value of incremental audit fees after Sarbanes-Oxley are expressed as a percentage of (i) the market capitalization of 44 firms that went private in 2004 and 2005 as of 21 trading days before the first announcement of the offer and (ii) the premium paid in the transaction, measured as the difference between the final price at which the company's public stock traded and its price 21 trading days before the first announcement of the offer times the number of shares outstanding. Small, medium, and large transactions are defined as those involving companies with market capitalizations of less than \$100 million, between \$100 million and \$1 billion, and more than \$1 billion, respectively.

Present Value of Incremental Audit Fees,
Post-Sarbox as a Percent of:

<u>Sample</u>	<u>Market Capitalization</u>		<u>Premium</u>	
	<u>Mean</u>	<u>Median</u>	<u>Mean</u>	<u>Median</u>
Full (N=44)	1.3 - 2.6	0.5 - 1.0	6.4 - 12.8	2.6 - 5.1
Small (N=10)	3.6 - 7.2	2.4 - 4.9	18.1 - 36.2	12.1 - 24.3
Medium (N=21)	0.9 - 1.7	0.6 - 1.2	4.4 - 8.7	3.0 - 6.0
Large (N=13)	0.2 - 0.3	0.1 - 0.2	0.8 - 1.5	0.5 - 1.0