

# “Private Equity: The Leveraged Buyout Model Revisited with a Dash of Clustering”

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## SECTION 4. Practitioner's corner

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### Private equity: the leveraged buyout model revisited with a dash of clustering

#### Abstract

During 2006-2007, investments in private equity firms fueled a marked acceleration in corporate merger and acquisition activity. Fueled by opportunistic equity investors and a willing debt market, acquisitions of thousands of public and private companies were announced during this period of time. Observers of this increased activity drew parallels between the private equity surge of 2006-2007 and the leveraged buyout boom of the 1980s. This paper accomplishes several related goals. First, it analyzes the private equity acquisition model and calculates key financial characteristics of private equity acquisition targets related to size, growth, and liquidity. (The target analyses are limited to acquisitions of publicly traded companies.) The outputs of these analyses are compared to prior research on leveraged buyout targets from the 1980s. Striking similarities of today's private equity driven acquisitions and the 1980 leveraged buyout market are noted. Second, this paper examines the existence of "clubbing" in today's private equity driven acquisition market. This "clubbing" activity involves the teaming up of competing private equity firms in order to complete acquisitions. Recently, federal authorities have begun to evaluate the potential anticompetitive consequences of this "clubbing" activity. The paper draws upon published research on clubbing, clustering, and cartels when evaluating the impact of "clubbing" on the private equity merger and acquisition market.

**Keywords:** private equity, mergers and acquisitions, clubbing.

**JEL Classification:** G34.

#### Introduction

Considerable attention has recently been focused on the role private equity (PE) firms play in American capital markets. In particular, much of the merger and acquisition (M&A) activity over the last two years has been undertaken by private equity firms. During the first five months of 2007, \$281 billion private equity M&A had been completed. This is more than triple the amount from the prior year, and represents 35% of all M&A, an increase of 16% over the prior year (Sender, 2007). The existence of private equity firms is not a new development; however, the frequency and size of their investments have made private equity a seemingly overnight addition to the American vocabulary. The purpose of this paper is therefore threefold. First, the authors summarize the structural underpinnings of the recent rise in popularity of private equity firms and their M&A strategies. This summary is contrasted with organizational structures and strategies of entities operating in prior periods of elevated M&A activity. Second, the authors analyze financial similarities and differences of PE firms and their acquisition targets compared to M&A companies along with their acquisition targets from prior periods of elevated M&A activity. Third, the authors identify the potential for clustering, clubbing, and cartel behavior among private equity firms making acquisitions.

#### 1. The private equity firm

Private equity firms are organizations which manage pools of capital invested by large institutional investors and high wealth individuals. Financial returns from PE firms have been strong, averaging 20-30% per year, more than double the S&P 500 stock index in 2006 (Rosenbush 1, 2007). Private equity firms are tasked with investing this capital in public and private companies. Such investing activities often result in the PE firm acquiring all of the stock of a target company (or at least obtaining control of the target). If the target firm is a public corporation, it is normally delisted from its exchange upon acquisition and "taken private". The ultimate goal of the PE firm is commonly to do a "makeover" on the acquired company and eventually sell this made-over acquisition to another company for a profit or take the acquired company public through an IPO at an offering price which generates a profit for the PE firm.

The popularity of private equity has even spawned specialization within the PE industry. Given the focus on the making-over of the acquired firms, PE firms often specialize in specific industries (e.g., automotive, health care). Private equity firms can thus hire specific industry talent to help makeover the target and not simply apply a one-size-fits-all strategy of cost cutting and downsizing. Further, each private equity firm has its own style of managing the acquired target and PE firms will generally focus on deals of a certain size (Aronson and Pressly, 2005).

## 2. Structure

Private equity firms provide investment opportunities to investors by first structuring a specialized investment vehicle (fund) and then soliciting investors for the fund. These funds are generally structured as limited liability partnerships with the PE firm serving as the general partner (GP) while investors remain limited partners (LP). The partnerships are typically closed-end funds with a life of 10-12 years. During the life of the PE fund, the GP invests the money it receives from the LPs along with money it has borrowed. Limited partners may also be subject to capital calls as the private equity fund grows. As the fund earns returns on its investments, the general partner distributes the profits to the LPs, net of fees and a "carried interest" kept by the GP. A PE fund will usually have a carried interest provision which specifies that some percentage (e.g., 20%) of all profits beyond a certain threshold is to be paid to the GP. Additionally, most private equity firms manage multiple PE funds. A typical time schedule would be for a PE firm to raise equity capital from LPs and launch a new fund every three to five years (Phalippou and Zollo, 2007).

## 3. The makeover

Makeover strategies executed by private equity firms vary once a PE firm has secured control of the target firm. Whereas, the acquisitions are still largely financially driven, PE firms today take on more of a managerial role than the strategic buyers in leveraged buyout transactions of the past (Kiechel, 2007). There is less emphasis on "slice and dice" and more on growing the business (Shearer, 2006). If the target has been taken private, there no longer exists the short term bias that accompanies quarterly reporting of earnings in publicly traded firms. (Private firms are usually not subject to SEC requirements to file reports such as 8Ks, 10Qs, and 10Ks.) (Dalwood, 2005). Taking the firm private also has the benefit of removing expensive Sarbanes Oxley (SOX) reporting requirements in most cases. Private companies are generally exempt from these more onerous SOX reporting requirements (Shearer, 2006).

Kiechel reports that the typical makeover involves the following five tactics. 1) Debt is used aggressively in the acquisition. Investors supply equity dollars to the private equity firm, and the PE firm will obtain additional funding in the debt markets when making the acquisition. 2) The new owners of the target firm will focus on cash flows instead of GAAP earnings. 3) Costs reductions in the target firm will be a key focus. 4) A line of business within the target will be concentrated upon. This will likely

be the line of business where the target can most easily dominate its competitors. Other lines of business will be sold or shuttered. 5) An effort will be made to find who will be the best long term owner of the business and the PE firm will sell the target firm to this new owner(s) at the end of the makeover period (Kiechel, 2007).

## 4. Financing the acquisition

The private equity strategy has been described as buying as many companies as possible and issuing as much debt as possible to pay for them (Sender, 2007). A key component of today's private equity acquisition surge is the lender's willingness to lend large sums of money to PE firms at relatively low interest rates. Lenders' tolerances of leverage have expanded as well. Whereas in 2004, the average buyout was funded by \$4.50 of debt per dollar of target company cash flow, today PE deals are being done at an average of \$5.90 of debt for each dollar of cash flow. Deals funded with \$8.00 to \$9.00 of debt per dollar of target cash flow are not uncommon (Rosenbush 1, 2007). As a result, interest payments have also gone up. Internally generated cash flow in these companies has fallen to a 10 year low of 1.7 times interest payments versus 2.4 times last year and 3.4 times in 2004 (Zuckerman and Ng, 2007). Private equity firms must be properly focused on cash flow while trying to make interest payments and stay in compliance with debt covenants. The significant debt burden resulting from most PE acquisitions leaves little excess cash left within the target for managers to spend. Private equity transactions therefore remove a target manager's ability to spend excess cash (because there is very little or none) on poor investments or organizational slack, in theory maximizing the value of the firm (Economist, 2007).

Although the second half of 2007 has shown a slowing in private equity deal volume, the PE acquisition business model is not at the end of its life. At the time this paper was completed, private equity firms had approximately \$300 billion of equity capital to invest. These firms can generally borrow \$2 of debt for each \$1 of equity. This means nearly \$1 trillion of capital is available today to the PE firms for acquisitions (Bierly, 2007). Of this \$1 trillion, roughly 50% is concentrated in the largest 12 PE funds (Shearer, 2006). Another financing alternative taken advantage of by private equity acquirers is the formation of "clubs" for the purpose of making the acquisition. The largest 12 private equity funds are common participants in these "clubs". "Clubs" are groups of two or more PE firms who form consortiums to bid on acquisition targets. These "clubs" allow for even greater pooling of resources and

allow PE firms to bid for even larger acquisition targets (Jacobius, 2006). The “clubs” are not mergers of private equity firms; they are joint ventures formed for the purpose of completing an acquisition. Private equity firms may be part of one “club” for the purpose of one acquisition and part of a different “club” for the purpose of another acquisition. Private equity partners in one acquisition may be competitors in the next deal. Earlier this year, The U.S. Department of Justice announced an investigation into the formation of these “clubs”. An analysis of this “clubbing” behavior and the potential effects on competition in company acquisitions is included later in this research.

### 5. Private equity by another name

The private equity transaction of today appears to be largely a retooled version of what was labeled a leveraged buyout (LBO) in the 1980s. These 1980 era LBO transactions also commonly involved private companies acquiring target companies while issuing large amounts of debt. This last major buyout boom started slowly with LBO financing driving less than 1% of all the M&A transactions in 1980. Falling interest rates and the introduction of the “junk bond” by Michael Milliken and others made the LBO a popular financial tool by the mid-1980s. By 1988, over 20% (dollar value) of all M&A transactions were completed using an LBO structure. By 1998, ten years later, this percent of LBO deals had fallen back below 2% of all M&A. Reasons cited for this decline in popularity include rising stock prices and the increase in defaults on acquisition debt (Bruner, 2004).

### 6. Profile of the typical LBO firm

With the surge of leveraged buyout activity in the 1980s (and to a lesser extent, prior), researchers pored over the financial profile of companies acquired in LBO transactions in the hope of identifying common characteristics of LBO candidates. Morck, Shleifer, and Vishny examined differences in the make-up of hostile versus friendly takeovers. They found that hostile takeover targets have slow growth rates, low Tobin's  $q$ , and have low officer ownership. Friendly takeover candidates have average growth rates and average Tobin's  $q$ , and high officer ownership. Both hostile and friendly targets were considered small relative to the Fortune 500 (Morck, Schleifer, and Vishny, 1988). Stevens found that targets had a higher level of sales to total assets but lower EBIT to sales than non-targets. He also found targets had higher net working capital to total assets and lower long term debt to total assets than non-targets (Stevens, 1973). Similar to Morck et al. Hasbrouck determined that the most important

driver when choosing a target was its relative size and found larger acquisitions were more expensive on a relative basis (Hasbrouck, 1984). Simkowitz and Monroe's findings indicated that: 1) targets generally had price-earning ratios which were less than their acquirer; 2) targets tended to be low dividend payers; 3) targets historically had not been able to build their book value; and 4) target firms tended to be smaller (Simkowitz and Monroe, 1971). Palepu's research held that targets exhibited higher excess returns, lower growth, and were smaller (Palepu, 1986).

These findings of the prior analysis of the LBO candidates were varied. Noted observations portray these candidates as smaller companies, with slower growth profiles and above average cash liquidity (stronger working capital positions with lower dividends paid). These results are logical for a number of reasons. First, all other variables being equal, potential buyers of these companies would find LBO debt financing for smaller companies easier than for larger companies. Second, candidates with lower growth profiles could reflect “diamonds in the rough”, that is, solid companies that lack the capital or expertise to grow. Alternatively, lower growth companies could be in slower growing mature industries. Either of these types of slow growing companies would make good collateral for an LBO acquisition financing. Finally, the fact that LBO transactions are completed largely with debt financing supports the acquisition of companies with good liquidity. Lenders are more willing to lend to companies who, after completion of the acquisition, have the liquidity to repay the acquisition debt financing.

Based upon this profile of LBO candidates, this paper analyzes recent private equity transactions to determine if the private equity companies follow similar strategies when identifying acquisition candidates. The analyses look at key measurements of size, growth, and liquidity of 88 private equity acquisitions of publicly held companies announced between January 1, 2006 and July 23, 2007.

### 7. The database

The data source employed in this study for identifying companies for analysis is the MergerMarket database as of July 23, 2007. This study investigated a period between January 1, 2006 and July 23, 2007 that included 1253 private equity transactions (Mergermarket). Analysis of the database revealed that the overwhelming majority of these transactions were not acquisitions of publicly held entities. Most of the transactions involved acquisitions of private companies or acquisitions of public companies divisions. Since private company and divisional data

were not readily available, these transactions were excluded from the analysis. These excluded transactions were observed to be small in most cases, when compared to acquisitions of public companies. This tended to support the LBO model of smaller acquisition candidates. Further research is needed to investigate the relationship of size of these non-public and divisional entities and the private equity acquisition model. While screening for publicly traded company acquisitions, 109 private equity acquisitions were identified. Further analysis of the 109 companies determined that historical financial information was not available for 21 of the companies (Compustat). After eliminating the companies with missing data, the final sample consisted of 88 companies.

## 8. Analysis of size

It was expected that the companies in the private equity transaction population would be smaller than the average publicly traded company. The average market capitalization for companies in the Russell 3000 was \$73.7 billion as of December 31, 2005. The Russell 3000 was chosen as a size benchmark because of its comprehensiveness. Approximately 98% of American publicly traded companies are in the Russell 3000 (Russell). December 31, 2005 was chosen as a measurement date because it was the last date prior to the private equity acquisition period analyzed. It is a conservative benchmark date as stock prices in general (and market capitalizations) increased during the period analyzed which would have indicated a higher benchmark if a later date was chosen. The average market capitalization for companies in the private equity target population was \$3.7 billion at December 31, 2005 (Compustat). Not only was this less than the average market capitalization for the Russell 3000, it was also lower than the average market capitalization, for companies in the Russell Midcap. The December 31, 2005 average market capitalization for the Russell Midcap was \$7.6 billion (Russell).

## 9. Analysis of growth

It was expected that slower growth would be observable in the companies in the private equity population when compared to the stock market in general (prior to announcement of a private equity acquisition). Growth could be measured by analyzing the change in a company's stock price in comparison to an industry benchmark. Put another way, it was expected that these soon to be acquired private equity targets would be market underperformers for the period prior to acquisition announcement.

The study's growth analysis involved the calculation of the annual stock price appreciation (or depreciation) for a one year period for each target company

prior to announcement of the private equity transaction. Because, the stock price in an individual company may experience a price run-up (due to information leaks) prior to a major announcement such as a private equity acquisition, the one year period that began 15 months prior to the announced acquisition and ended 3 months prior to the announcement was chosen. This excluded any stock price changes (run-up) in the three months prior to announcement. Additionally, because the population involved 88 transactions announced on multiple dates over a 19 month period, the calculation of stock price appreciation (or depreciation) was completed individually for each of the companies. This allowed each company to have a different one year pre-acquisition period for analysis. The average pre-announcement annual stock price appreciation for the 88 companies in the population was then calculated to be .16% (Bigcharts). Since the target population experienced a relatively low level of average stock price appreciation during this period, average Beta was also calculated for the population of companies at December 31, 2005. An indication of a low Beta (low risk) could explain, in part, a portfolio's historical low level of growth. The portfolio's average Beta was calculated to be 1.703 (Compustat). This indication of greater than average risk (Beta greater than 1.0.) did not explain the population's small price appreciation.

A benchmark was constructed for comparison of the stock price growth in the private equity population. Given the relative small size of market capitalization of the population, the Russell Midcap was chosen as the appropriate benchmark. The change in the Russell Midcap index was calculated for the one year period that began 15 months prior to the announced acquisition and ended 3 months prior to each acquisition announcement. Because the population involved 88 transactions announced on multiple dates over a 19 month period, the index appreciation individually was calculated for each transaction. The average pre-announcement index appreciation for the time periods related to the 88 transactions in the population was calculated to be 13.46% (Russell). As anticipated, the actual growth of the private equity population (.16%) was less than the stock market average (13.46%).

## 10. Analysis of liquidity

It was expected that the companies in the private equity transaction population would have greater financial liquidity than the average publicly traded company. Liquidity in the population was measured by calculating two ratios: 1) the current ratio (current assets divided by current liabilities), and 2) the percentage of current assets that are cash at December 31,

2005. December 31, 2005 was chosen as a measurement date because it was the last date prior to when acquisitions of companies in the population were announced. Once calculated, the average liquidity ratios were compared to a stock market index benchmark.

At December 31, 2005, the average current ratio for the population of private equity targets was 1.86. The average stock market current ratio, as measured by the S&P 1500 at December 31, 2005 was 1.18. Similarly, the average percentage of current assets that was cash in the target population was 31.4% at December 31, 2005. The average for the stock market, as measured by the S&P 1500 at the same date was 21.5% (Compustat). As measured by both of these ratios, the financial liquidity of the private equity target population exceeded the financial liquidity of the stock market in general.

## Conclusions

Previous research completed on corporate acquisition transactions in the 1980s and prior identified specific financial commonalities of companies which were acquired in leveraged buyout transactions. Studies by Morck, Shleifer, and Vishny, Simkowitz and Monroe, Stevens, and Hasbrouck evaluated financial characteristics of LBO target companies. Their research included conclusions that acquired companies were smaller in size, grew more slowly, and had above average financial liquidity when compared to peers. This paper analyzed 88 companies whose stock was being acquired in a private equity transaction in 2006-2007. Like the previous LBO transaction period, companies targeted for acquisition in private equity transactions in 2006-2007 were also smaller than the average publicly traded company, had a growth profile which was slower than the average company, and had superior financial liquidity to their peers. In many ways, the private equity growth model of today is the LBO model of the 1980s repackaged.

## Additional study

The analysis focused on the acquisition of publicly traded companies. No analysis of leveraged buyout or private equity transactions involving private company targets or corporate divisional targets was completed. Given, most announced private equity transactions were of private companies or corporate divisions, additional study of these types of acquisitions is warranted.

## Epilogue

In late 2007, it became evident that additional external factors may be impacting the pace of private equity transactions announced. One of these factors is the availability of debt as a funding vehicle for

private equity acquisitions. There is some concern that the debt market's reaction to problems with sub-prime mortgages may cause debt funding sources to tighten for other purposes such as private equity transactions. The study of the tightening of the debt market on private equity deal flow is beyond the scope of this paper.

The second external factor is the recent U.S. Department of Justice's investigation into consortium bidding (clubbing) in private equity transactions and the resulting concern it may lead to charges of anti-competitive behavior on the part of the bidders (Berman, 2006). These consortiums arose as PE deals evolved from small one buyer transactions to large multi-buyer club transactions. Although most private equity firms today still focus on middle market buyouts, large buyouts are becoming more prevalent. Various private equity funds form consortia in order to be able to bid for a large acquisition for which they otherwise would not have sufficient capital or resources (Spremann & Gantenbein, 2005). In essence, joint acquisitions of companies enable the private equity industry to enhance its capacity to complete multibillion dollar merger and acquisition transactions. Private equity shops have "teamed up in club deals that have allowed them to pool large portions of the funds in their war chests, have eyed larger deals, and invaded sectors that were once off-limits to leveraged deals" (Shearer, 2006, p. 29). An advantage in having clubs compete for larger targets is that there are fewer competitors (Shearer, 2006). "Given the massive amounts of capital being raised, the increasing number and size of club deals, and a healthy stock market, it can be tough to make the glass-half-empty case in looking at the buyout business" (Shearer, 2006).

Such club-like relationships often lead to conditions for clustering. Clustering has existed in realms outside the PE world for some time. Clusters are "localized sectoral agglomerations of symbiotic organizations that can achieve superior business performance because of their club-like interaction" (Steinle & Schiele, 2002, p. 850). They are not a simple concentration of independent economic agents, but are networks of interrelated cooperating businesses (Steinle & Schiele, 2002). A cluster may be built around one or more "core" companies (i.e., firms that drive the cluster) or they may consist of several, more equal partners with no particular firm performing a dominant role (Rugman & Verbeke, 2002). They allow for an interaction that is simultaneously cooperative and competitive. The club-like atmosphere of clusters promotes intensive knowledge exchange among its members (Steinle & Schiele, 2002). In addition to the creation of identity-based

ties, the structure of such clubs consists of setting cluster-wide “rules for knowledge protection and value appropriation” (Rugman & Verbeke, 2002). Such clubs can represent the collective interests of the cluster as well as undertake the function of regulating local competition and mobilizing cooperation. In essence, organizational clusters represent a key forum for joint action. The organizations involved engage in a formal assessment of the private costs and benefits associated with participation in cluster formation and exploitation (Rugman & Verbeke, 2002). Nevertheless, an understanding of how and why organizations form clubs and choose to cluster and possibly to demonstrate cartel-like behaviors remains relatively weak. As such, the application of cluster theory to PE transactions is developing.

The primary motivation for firms to cluster is economic self-interest (Bergman & Feser, 1999). Jacobs (1997) argues that the distinction between clusters and cartels lies in innovativeness and competition (Vleugel, 2005). “In the case of a cartel, the explicit aim is to reduce competition; a side-effect is a reduction in innovation” (Vleugel, 2005). The frequency of occurrence of collusion among several private equity firms and the extent to which the

performance of firms participating in such collusion departs from the competitive norm provokes discussion (Green & Porter, 1984). In an industry in which contracts are awarded by competitive bidding, a scheme to rotate winning bids among ostensibly competitive private equity firms might be perfectly enforceable (Green & Porter, 1984). “Each firm would act as a monopolist when its turn came, and would clearly see that bidding low out of turn would jeopardize a profitable arrangement” (Green & Porter, 1984, p. 89). According to Stigler’s (1964) Theory of Oligopoly, cooperative industry performance might result from noncooperative motives. According to this theory, the firms within an industry form a cartel, which is designed to enforce monopolistic conduct in a self-policing way (Green & Porter, 1984). The optimal cartel structure may be one which provides member firms with strong positive incentives that make collusive behavior attractive rather than severely punishing defecting firms after the fact (Green & Porter, 1984). Although private equity firms appear to be forming clubs as well as clustering in order to be able to bid for larger transactions, there is currently no proven indication that such cooperative relationships result in cartel-like behaviors.

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