Private Equity and Corporate Governance: Do LBOs Have More Effective Boards?*

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Comments Welcome

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1 Introduction

The literature on corporate governance has long focused on the boards of public companies. Boards monitor and provide advice to management. When ownership of the company is dispersed, boards, and in particular outside directors sitting on boards, monitor management on behalf of the owners.

If the role of boards in public companies is to provide management supervision, one may ask whether boards play the same role in companies that have been acquired by one or more private equity groups. The rationale often given for the success of private equity is that it concentrates the ownership in the hands of few shareholders. Since these shareholders are also involved in running the company operations, they have strong incentives to maximize the value of the firm. In addition, private equity partners often have a long experience in restructuring companies, and thus their advice can be very useful. As Sir David Walker states in his July 2007 Consultation document, "...alignment [of interests] is achieved in private equity through control exercised by the general partner over the appointment of the executive and in setting and overseeing implementation of the strategy of a portfolio company. Lines of communications are short and direct, with effectively no layers to insulate or dilute conductivity between the general partner and the portfolio company executive team."

One may therefore argue that a company which has been bought by a private equity fund may not need a board at all, since the private equity partners can closely monitor the management and provide advice independently from the board. However, usually such monitoring and advisory functions are provided through the board. For example, Lerner (1995) shows that venture capitalists sit on the board of the companies they have invested in, and their presence on the board increases when their support is particularly valuable (e.g. during a change in CEO). We may therefore expect to find that this is the case also for leveraged buyouts, and the active involvement of the private equity sponsors may take place through participation in the board.

In this paper we study the boards of public companies that have been taken private with private equity backing.[1] The purpose of this is two-fold. First, we want to learn more about how boards of companies with private equity investors function. There is limited empirical evidence about these boards, since the private nature of the companies implies that much less information is publicly available. Are these boards dramatically different from the boards of public companies? Are they just nominal boards, with no relevance for the restructuring of the company? Or do they serve an important supervisory and advisory role in the restructuring process?

Second, if the boards of these private equity-backed companies are an important part of the restructuring process, then given the successful performance of many private equity investments, one may wonder whether private equity boards are better structured or more

[1] By private equity backing (or sponsorship) we mean that at least one private equity firm has invested in the equity of the company.

effective than boards of public companies. Therefore, by looking at the characteristics of these boards we can have further evidence about what makes a board more effective.

In this paper, we have constructed a new data set, which follows the board composition of all public to private transactions that took place in the UK between 1998 and 2003.[2] Out of 142 such transactions, 88 were sponsored by at least one private equity fund. We can thus look at the change in the composition of the board when the company became private and any subsequent change throughout the period in which the private equity fund was still involved. We examine whether private equity boards are substantially different from the boards of public companies and whether we find support for the view that private equity funds are more involved in an advisory and supervisory capability than regular public boards.

When making this comparison, one has to keep in mind, as already mentioned, that the role of a board cannot be exactly the same in these two situations. As stressed by Sir David Walker (July 2007), "...the main driver of reforms of corporate governance of listed companies has been to re-emphasize the role of the board as a guardian of shareholder interests. But the private equity model has no material deficiency in this respect." Therefore, we use as control group a set of public to private transactions where there was no private equity backing. These are either pure management buyouts, or buyouts where the acquirers were not financial institutions (and thus not institutions we would identify as private equity firms). Also in management buyouts equity ownership is in the hands of few shareholders who are involved in the running of the company operations, leading to an alignment of interests. Therefore differences in the board composition and structure can at least in part be attributed to the presence of a private equity sponsor, that has experience in restructuring companies and implementing the strategy described above.

We find that when the company goes private fundamental shifts in the board size and composition take place:

- The board size decreases. When we compare the reduction in board size of leveraged buyouts (LBOs) to the reduction of management buyouts (MBOs), we do not find a significant difference, once we take into account differences in the size of the firms. Looking at LBOs only, we find a larger decrease when the private equity form backing the LBO has a larger experience.

- The board composition of MBOs and LBOs is very different, but in both cases the presence of outside directors is drastically reduced. In the case of private equity deals, outside directors are replaced by individuals employed by the private equity sponsors. In the case of pure management buyouts, the outside directors disappear and only management is left. In other words, while in pure management buyouts the owners are the managers, in LBOs the private equity sponsor still needs to supervise the management,

[2]The focus on UK companies is due to the availability of data: only for the UK was it possible to find non-sporadic information about boards of private companies in the last 10 years.

and therefore to be present on the board and perform a constant supervisory or advisory role. The private equity sponsors replacing the outside directors are substantially younger.

- We find evidence that the higher the need for experienced advice and supervision, the greater degree of active involvement by private equity firms. For example, we identify presumably more difficult deals by looking at deals where the CEO changes after the company is taken private. These were cases where the management team performance was most unsatisfactory and a larger overhaul of the company may have been necessary.[3] We find that if there is a CEO change the board size decreases less when the company is taken private, the private equity sponsor representation on the board is larger and the fraction of management on the board is smaller. This suggests that in these presumably more difficult cases the private equity sponsor is more actively involved and its presence on the board is larger.

- We also look at deals which have not yet been exited (or that went bankrupt after the LBO). Obviously, *ex post* these turned out to be the most difficult companies to restructure. If the expectation of the private equity sponsor is correct, one would assume that, on average, the private equity firm had anticipated these deals to be difficult. We find that the private equity presence on the board (as a proportion of total directors), immediately after the company went private, is larger for deals that take longer to exit.

- We also look at companies that had a larger proportion of outsiders sitting on the board while still public, as a signal that these companies may need more supervision (or advice) than other companies. We find that these companies also have a larger presence of private equity sponsors sitting on the board after the LBO.

- The presence of LBO sponsors on the board may also depend on the "style" or preferences of the private equity firm: certain firms rely less on their own partners or employees and more on outsiders (although the presence of outsiders on the board is generally low). We also find that if more than one private equity firm is sponsoring the deal, then the proportion of LBO sponsors on the board is larger, presumably because each sponsor wants to have a representative on board.

- When we look at the evolution of the board over time, we find that board size and percentage of LBO sponsors sitting on the board slightly decrease over time. Presumably, when most of the restructuring process has taken place, the involvement of the private equity firm decreases since, as explained previously, most of the effort and involvement is devoted to difficult buyouts. In fact, for the few firms that take a very long time to exit, board size and percentage of LBO sponsors increases again substantially in the very last years.

[3]Looking at the statements around the time of transition this seems to be what happened in most cases. However, even if the departure of the CEO was completely voluntary, one could also argue that losing a CEO who is most familiar with the business could constitute a significant challenge.

- We find that, during the restructuring period, CEO turnover for firms backed by private equity funds is very high (not counting of course any change that took place when the company went private). We also find that board turnover is unusually high in private equity firms, whether we compare it to the turnover of the same companies before the LBO or to the turnover of companies that went private through an MBO.

Therefore, the evidence shows that in more difficult cases, when extra management support or monitoring is needed, boards are larger and the LBO sponsors are more likely to sit on it. This suggests that the board is central to the restructuring process and for the relation between management and shareholders (i.e. the private equity firms). Individuals on the board can help the restructuring process, but since those with management experience and ability to help in this process are a scarce resource, they are added to the board only if the additional benefit of their presence is significant (which is likely to be only in the most difficult deals).

On the other hand, the evidence regarding CEO and board turnover does not support the opinion that private equity companies have a long term view which allows them to be less sensitive to short term events and to provide management with incentives to invest in long term growth.[4] The very high CEO turnover, for example, may be consistent with a period of major restructuring and refocusing, but it is hard to reconcile with the view that private equity firms have a long term approach.

In the discussion of our results, we will often refer to the results of the existing literature on public company boards. This literature so far has focused on whether certain board characteristics make a board more effective in its supervisory role, and whether this translates into improvements in company performance. For example, Weisbach (1988) shows that CEO are more likely to be fired when prior performance is not satisfactory if there are more outside directors on the board. The presence of outsiders is thus crucial in ensuring that the board does not collude with the management and thus become useless as a monitor. Similarly, it has been suggested (see for example, Jensen 1993) that larger boards may be less effective than smaller ones. Yermack (1996) finds that larger boards are associated with a lower Tobin's Q (i.e. worse performance).

Other studies have looked at what factors might determine the characteristics of the board. Boone, Casares Field, Karpoff and Raheja (2007) track the evolution of the board of public companies from their IPO until 10 years later, and find that board independence (measured by the proportion of outside directors) decreases when the manager has more influence. Coles, Daniel and Naveen (2007) show that complex firms, which have a greater need for advisors, have larger boards with more outside directors. Linck, Netter and Yang (2007) look at public companies and find that firms structure their boards in ways consistent with the costs and benefits of the monitoring and advisory roles of the board. We will also show that this trade-off of costs and benefits of monitoring is present in the context of private equity firms, and argue that it is easier for private equity firms to identify the cost

[4]See, for example, Rogers, Holland and Haas, 2002.

of allocating one more experienced individual to one board. Some papers (see, for example, Adams 1998) also stress the fact that the board does not only have a monitoring role, but also has an advisory role. Following on this idea, Adams and Ferreira (2007) argue that management-friendly boards can be optimal when the advisory role is particularly important. This view may also help to shed some light on private equity boards.

The rest of the paper is structured as follows. The next section explains how we constructed the data set, and give a general description of the data. Section 3 studies how the board changes when the company becomes private, and Section 4 looks at the evolution of the board after the company has become private. Section 5 concludes.

2 Description of the data

Using Capital IQ we identified all public to private transactions that took place in UK from January 1998 until October 2003. We identified 148 transactions, but had to drop 6 cases, because of the lack of data for those specific cases. We were then left with 142 deals, which were divided into the following 3 groups. For 88 of the public to private transactions, at least one of the sponsors is a financial institution, that has invested in the equity of the company.[5] These cases are thus categorized as "proper LBOs" or "private equity deals", and will constitute the main focus of the analysis. 42 of the remaining cases are pure management buyouts; there is no private equity fund involved and therefore they cannot be classified as private equity deals. Nonetheless, in what follows we will also look at these cases and compare them to the private equity deals. This will allow us to isolate effects that may be due purely to the change in the corporation status from public to private, and those that are associated with the presence of a private equity group. Finally, there are 12 cases which are not pure management buyouts, but where the investor is not a financial sponsor or, more specifically, a professional private equity fund: it could be a wealthy individual or a company. We will call them "other transactions". In most of the analysis we will analyze these last 12 transactions together with the 42 management buyouts as a unique group, which will be compared to the private equity deals. However, we have also computed all the tables of the paper using only the 42 pure management buyouts as a comparison to the private equity deals, and we have found no major difference.

Figure 1 shows the distribution of the deals over the years. Notice that in the first couple of years (i.e. 1998-1999) there are almost only private equity backed LBOs, while in later years management buyouts and other transactions become a substantial fraction of the deals.

From Capital IQ we also identified the total value of the company implied by the price paid to take the company private. In Table 1 we present summary statistics for the company size.[6] Moreover, in Figure 2 we show the distribution of the company size for LBOs, MBOs

[5]For one of these 88 buyouts we could only find the board before the company went private, but not afterwards. Therefore, this company will be dropped from the analysis of changes in the boards when the companies are taken private.

[6]Information was missing on the implied company value for two MBOs, and therefore those two are not in

and other transactions. LBOs are in general larger in size than MBOs: their mean is $328M versus $55M for MBOs. In general, private equity companies, thanks to their ability to raise high level of debt, are able to acquire larger companies. The 12 other transactions also have a large average, but that is mainly driven by one very large outlier which has a value larger than 7B$. If we drop that outlier, they are not significantly different in size from the MBOs. LBOs also have two large outliers but the mean remains significantly larger than the MBOs one even after dropping those two outliers.

We identified which of 142 deals were exited and the way in which they were exited using Capital IQ and information from the press. Then, using the data set Dash, we tracked the board composition of these companies from two or three years before the announcement of the buyout until the exit of the private equity group or until 2007, whichever was later.[7]

We encountered several challenges when creating this time series. Once the company was taken private, a complex ownership structure was created, with several layers of companies. Therefore, it was not clear any more which company housed the relevant board. For example, the board of the company which was originally taken private could become a very small board of two people (the CEO and another member of management), but at the same time a new company was created, which owned the original one and whose board was the one making all the important decisions. In other cases, several layers of companies were created, each one owning the company below (or there were more complex ownership structures, not simply vertical) and the board that took the relevant decision was not housed in the company that was the direct owner of the original one, but two or three layers above that. Moreover, this structure could change over the years of the LBO, and therefore the relevant board could be housed in different companies over time. In order to identify which board to observe, we had to proceed in the following manner. First, we used the data sets Dash, Fame and Amadeus to reconstruct the post-LBO ownership structure of the various companies and their subsidiaries. Then, we downloaded the compositions of the boards of each of these companies, in order to identify the relevant board. To identify the relevant board a certain degree of discretion had to be exercised. We took into account the hierarchical ownership structure and then looked at various aspects, for example whether an outside director was sitting on the board, or how large the board was.[8] We also looked at whether some private equity general partner was sitting on the board, since they tended to be reported only in the relevant board and in none of the other boards, while a subset of the management directors was reported in all the other boards. This was repeated for each year, since the relevant board was not necessarily in the same company thorough the entire time period (although

Table 1.

[7] An exit takes place when the private equity sponsor (or the management that took it private in an MBO) sells its stake in the company, or when the company goes bankrupt. In some cases, there is an IPO, but the private equity firms retain a stake in the firm. We consider these cases exits because, although the sponsor has not sold its entire equity stake, the company is not anymore a private company, but has returned to be a public company. Secondary buyouts are also considered exits.

[8] As mentioned above, some boards were obviously only nominal boards and had only two or three people who were also in what we finally identified as the relevant board, so some boards were easy to rule out as the relevant ones.

in most cases it was). We went through several iterations, until we felt comfortable with the choice of the company and its board. In cases where there was uncertainty about which board was the relevant one, we considered more than one board and also conducted the analysis with the alternative boards.

In order to conduct our analysis, we also had to identify the year before and after the company was taken private. We proceeded in the following way. From Capital IQ we knew the announcement date of the transaction. Since we only observe the board once per year at fixed dates, the date in which we observe the board could be very close to the announcement date, or almost a year afterwards. Therefore, we started by looking at the directors of the first board observed after the announcement date and the last board before the announcement date. By comparing these boards and the identities of the directors, we could determine whether the first board after the announcement date was still the board of the public company (i.e. the transition to private company had not been completed yet) or it was already the board of the private company. In some cases, however, the board on the first date after the announcement was still a "transitional" board (especially when the board date was close to the announcement date). For example, immediately after the transaction, not all new board members had been nominated to the board. In some cases, the CEO was only present in the second board following the transaction, since at the time of the first board the CEO had not yet been assigned. For this reason, the analysis in Section 3 has been conducted comparing the characteristics of the board prior to the announcement to the second board after the announcement date, instead of the first date.[9]

For each director, the data report the date of birth and country of residence. The data also provides information on how many other boards the director was also involved in (since the Dash data set which reports the board starts in 1996, two years before the first LBO in the data set, we also collected how many directorships the director had before 1996, although we do not have that information year by year). The data also includes information on which industries (SIC code) the companies belong to, the number of employees they have, and their turnover. From Capital IQ we can also determine which private equity funds were involved in each leveraged buyout. Finally, using Capital IQ and press coverage we could find how many deals had been exited and what type of exit they had. 65 of the 142 deals were not exited as of August 2007: of these deals, 37 were pure MBOs (which are less likely to be exited anyway) and 28 were LBOs.[10] Among all the exited deals, 23 were secondary buyouts, 11 IPOs, 2 MBOs, 26 trade sales, 13 bankruptcies and 2 exits of an unknown type.

Finally, we looked for the identity of all the directors sitting in the boards each year. We did this using a series of data sets (Capital IQ, Fame, Amadeus, Perfect Information and a general search in press releases) and divided the directors in the following categories: CEO, management, other non-management insiders (including previous CEOs), outsiders, and LBO sponsors. Outside directors are directors who neither work for the firm nor for

[9]We have conducted the same analysis by taking the first board afterwards, or the board two years before going private or any combination of these cases, and the results do not change.

[10]Naturally, the most recent deals were less likely to be exited because there has not been enough time, still if one considers only the LBOs that had been announced by the end of 2000, 12 have not yet been exited.

any of the private equity groups backing the LBO, and who have no other obvious special relationship to the firm. A director can be classified as an LBO sponsor only after the LBO. This category identifies whether the director is employed by one of the private equity funds that are backing the LBO. For all other directors (also the ones involved in the board before the LBO) we identify those who have some past or present connection to any private equity group.[11]. We also identify the outside directors who are or have been CEOs in other companies.

3 Changes in the board following an LBO or MBO

In this section we examine changes in board characteristics (mainly size and composition) before and after the firm was taken private and look at whether these changes are different for LBOs and MBOs.

The existing literature on public firms, argues that some board characteristics are associated with better management incentives and thus to better firm performance.[12] Given that private equity groups aim to improve firm performance, one may wonder whether some of this improved performance is achieved by changing the characteristics of the board. As mentioned in the introduction, when making the comparison one has to take into account that the situation of a public company and of a company which has recently been taken private in an LBO or an MBO is very different. In fact, a public company has disperse ownership: as a consequence shareholders cannot monitor the management and therefore need to rely on the board in order to monitor management. Private equity groups, instead, own a large fraction of the company, and monitor and advise management constantly, so that one may wonder whether they need a board at all. The boards of firms that undergo an MBO provide a useful comparison, since both LBOs and MBOs take public companies private with the objective of improving their performance.

Board Size, Univariate Analysis

In Table 2, Panel A, we first compare the size of the boards of companies that underwent an LBO to boards of companies that underwent an MBO or other types of transactions.[13] In the year before the companies were taken private there is no significant difference in the size of the boards of the two types of companies (both have approximately 6.5 directors). This is, to a certain extent, surprising, because one would expect that companies that were taken private by a private equity group needed more "external intervention" and therefore might have had larger (i.e. more inefficient) boards. We also checked whether in these boards,

[11] For example, they sit or have sat on the board of a private equity group, or they have taken part in the past in an LBO sponsored by a private equity group, may be as management.

[12] Note that this literature can only establish a correlation, not a causality (see also the conclusions of this paper). Performance can be measured in different ways: probability of exit, company value at exit, or looking at different financial measures such as operating profits.

[13] We have also compared changes in the board size of LBOs and pure MBOs only, with no difference in the results.

before an MBO or an LBO, there was an outside director with a connection to private equity, since we expected that there would have been more people with such connections in companies that subsequently underwent an LBO. We find that in 44% of the LBOs there was a director with such a connection (before the LBO), while only in 26% of the non-LBO cases there was such connection (the difference is statistically significant).

Looking at the boards after the companies have been taken private, one can see that companies that undertook an MBO have a significantly smaller board than for LBOs (4.2 instead of 5.4 people). Boards of companies that underwent both an LBO and an MBO are significantly and substantially smaller after being taken private. The drop in board size is significantly larger for MBOs. On average, MBOs lose 2 directors out of 6, i.e. they are 30% smaller, while LBOs lose 1 director out of 6.5, i.e. they are 15% smaller. The difference between MBOs and LBOs sizes and changes in size, however, could be due to the fact that LBO transactions are on average larger than MBOs (in terms of implied enterprise value, as shown in Table 1 and Figure 2), and we know that on average larger companies have larger boards (at least in public companies). Therefore, we construct a size-matched sample of 39 MBOs and 39 LBOs and in Panel B we conduct the same analysis as in Panel A but for the matched companies only. As before, we find that before being taken private there is no significant difference in size between LBOs and MBOs. However, we now also find that there is no significant difference between LBOs and MBOs after the private equity transaction. The drop in the board size when the company goes private is also not significantly different for LBOs and MBOs. In other words, once we take into account the size of the company, there is a considerable drop in the size of the board in both cases.

The decrease in board size is consistent with the existing literature about boards of public companies, which suggests that board sizes are correlated with company performance. This is also consistent with Kaplan and Gertner (1996) who look at boards of reverse LBOs (after they went public) and find that reverse LBOs have smaller boards than the other firms trading in the market, matched by size and industry.

Some companies may have been taken private because the private equity sponsors thought their performance could be improved, but not because the management was inefficient. In such cases, while the company was public the board may have been working in an efficient manner, and therefore may not need to be changed. In 45 out of the 87 private equity deals the CEO was replaced.[14] When the CEO was not replaced, it suggested that the CEO may have been doing his/her job correctly. Note that in a few cases after the company has been taken private there is no official CEO as a separate person from the LBO sponsors: in other words, one representative of the private equity fund backing the LBO assumes that role. We also consider these cases as CEO changes, since the previous CEO is not present anymore.

In Panel C of Table 2 we look at private equity deals only and distinguish between cases in which the CEO was changed and cases in which the CEO was not changed. The cases in which the CEO was changed can be interpreted as cases in which the performance of the CEO

[14] We now talk of 87 deals since we have dropped the case for which we did not have board characteristics after the company was taken private.

had been unsatisfactory before the company was taken private. Although an unsatisfactory performance of the CEO does not necessarily imply that the board was not doing its job, clearly there is a higher probability that the board was not putting enough pressure on the CEO. However, we find that when there was a change in the CEO, the board declined in size less than when there was no CEO change, although the difference is not statistically significant.

Board Composition

Figure 3 presents charts with the composition of the board before and after going private for LBOs, MBOs and other transactions. To begin with, note that members of the private equity groups actively sit on the board of firms that have undergone LBOs: the percentage of LBO sponsors sitting on the board after an LBO is 39%. This shows that private equity firms are active investors. Figure 3 shows that before being taken private MBOs have a larger proportion of insiders and a smaller proportion of outsiders than both LBOs and other transactions. Insiders (defined as CEO, other management and other non-management insiders) make-up 61% of the board in MBOs, 55% in LBOs and 45% in the other transactions. For MBOs and LBOs, the proportion of outsiders drops dramatically after the company is taken private: 11.8% for MBOs and 9.3% for LBOs (note that in the case of MBOs we have highlighted outside directors with a known private equity connection). Given the size of the board afterwards (5.4 for LBOs and 4.2 for all others), that means that in most of the companies there is no outsider on the board.[15]

The role of expert outsiders in private equity boards is often mentioned, since it is usually assumed that outsiders have an important advisory role, because of their industry knowledge (see, for example, Kester and Luehrman, 1995). However, our analysis shows that there are few outsiders on company boards after a private equity transaction. To make sure this result was not driven by some anomalies, we have performed the following checks. First, we have looked at the change in the board composition if we drop the companies in the real estate industry (since they usually involve a different set of investors) but the composition did not change (the percentage of outsiders increased by 1%). Second, we check whether this result could be due to the difficulty in identifying outsiders. In the case of LBOs, 7% of the seats were on average occupied by individuals whose identity we could not determine with certainty, and therefore were classified as unknown. It is possible that these individuals are in large majority outsiders, since the identity of LBO sponsors is easier to find in our data sets and the most senior management can usually be found. If we assume that all unknown individuals are outsiders, this will constitute an upper bound to the number of outsiders sitting on the board of a private equity firm. In such case, on average outsiders make up 16% of the board. Given an average board size of 5.43 individuals (as reported in Table 1), this tells us that the average number of outsiders on a private equity board is 0.87, i.e. still less than one person per board (and in fact there are several deals where no outsider was sitting on the board).

[15] In the other transactions the fraction of outsiders is more substantial, 30.7%, but this could be due to the fact that it is more difficult in this case to establish a connection with the insiders (since often the acquirer is another company or a private individual) and therefore we may be overstating the fraction of outsiders.

In MBOs, one percent of the board is made of people with some prior or present private equity contact. In other words, this would suggest that the expertise of private equity groups may be valuable also for the management doing an MBO.

The percentage of insiders on boards does not change after an LBO, but it significantly increases after MBOs (the mean increases from 61% to 86%). After an MBO, a company removes all outside directors and replaces some, not all, with insiders, thereby decreasing the average size of the board. This is consistent with the view that following an MBO the company is completely owned by the managers. Following an LBO, instead, there is still some separation between owners and management, although management may now have an equity stake. The private equity firms sit on the board and monitor the managers instead of the outside directors. It is thus natural to compare the fraction of outside directors on the board prior to an LBO, to the proportion of both outsiders and LBO sponsors on the board afterwards. This proportion of outsiders and LBO sponsors remains more or less unchanged: the mean decreases from 43% to 40% and the decrease is not statistically significant. Therefore, in LBOs the presence of insiders in the board remains unchanged, and the outside directors are replaced by LBO sponsors, i.e. by directors from the private equity funds backing the deal.

In some cases there may be a higher need for involvement, either for monitoring or advisory support. In Table 3, we separate the LBOs in two groups: LBOs where the CEO was replaced when the company was acquired by a private equity group and LBOs where the CEO was not replaced. In companies where the CEO was changed it is more likely that the CEO had an unsatisfactory performance before the LBO. We may therefore expect to observe in these companies fewer outside directors before the LBO, since more outside directors are usually associated with better manager performance (as in Weisbach 1988). In Panel A we look at the percentage of outsiders sitting on the board for these two groups. Despite our expectations, there is no significant difference between the two groups. However, when we look in Panel B at the percentage of insiders on the board, we find that when there was no CEO change, the fraction of insiders in the board after the company goes private actually increases, while it decreases if the CEO was replaced. The difference is statistically significant. Similarly, the percentage of LBO sponsors (showed in Panel C) is 25% when there is no change of CEO and 37% when there is a change: in this last case, the LBO sponsors are more heavily involved. The difference between the two cases is statistically significant. In other words, this seems to indicate that when the management team performed well before the buyout or has the confidence of the private equity sponsors, their presence in the board does not change (or slightly increases on average). When the CEO changes post-LBO, the presence of insiders on the board was reduced and the LBO sponsors are more heavily involved. Such a change suggests that the private equity sponsors considered the presence of insiders on the board excessive, and possibly a cause of the unsatisfactory performance, and there were more scope for improving performance.

We also looked at the change in the average age of the board following an MBO or an LBO.[16] In the case of an MBO there is no significant change in the average age of the

[16]The age is measured at the time of the board: to the extent that some people remain on the board, they

board, while in the case of an LBO the board is on average 7 or 8 years younger: in general the private equity directors are much younger than the outside directors who were sitting on the board when the company was public. In fact, Figure 4 shows the distribution of the age for LBO sponsors, outside directors and management. It is immediately clear that LBO sponsors are the youngest group, while outsiders are the oldest group. There is no significant difference between the cases where the CEO was changed and the cases where the CEO was not changed. Since the previous analysis highlighted that private equity directors tend to replace the outside directors, one can compare their average age. Looking at private equity deals only, the average age of outside directors when the company is public is 59 years (ranging from a minimum board average of 55 to a maximum of 68), while the average age of the directors representing the private equity is 42 (going from a minimum board average of 37 to a maximum of 47.5). Clearly, the directors replacing the outside directors are much younger.

Exit

Another way to capture whether a certain LBO was a more challenging deal (one that would require more effort from the private equity firm sponsoring the deal) is to see whether the deal has been exited by 2007. Clearly, exit is an *ex post* measure of success. However, private equity firms go through a very thorough due diligence process before acquiring a company and have a good idea of what challenges lay ahead. Therefore, if the expectations of the private equity firms are on average correct (and given their expertise one should hope they are), then one can assume that the LBO sponsors, on average, already expected the non exited deals to be the most challenging ones. Therefore, we use the fact that a deal was exited in 2007 as a proxy for whether the private equity firm expected the deal to be difficult at the time of the LBO.

The bankruptcy cases have been added to the non-exits, so that an exit is always a positive resolution (since non-exits are meant to capture difficult deals). However, an exit through a secondary buyout may not necessarily be a positive outcome and may also indicate that the restructuring of the firm has not been concluded, therefore we have conducted the analysis considering secondary buyouts both exits and non-exits, with no significant difference. The analysis is restricted to LBOs only, since usually in MBOs the management does not plan to exit the company, at least in the short term.

In Table 4, Panel A, we show that the average size of the board decreases for both exited deals and non-exited deals. There is no statistically significant difference between the two groups. When we look at the board composition (Panel B), we find that for exited deals the percentage of insiders on the board does not change, while it decreases for non exited deals (in both cases the difference is non significant). More importantly, the percentage of LBO sponsors is higher for non-exited deals than exited deals (Panel C). Since this is the percentage of LBO sponsors in the board at the time when the company went private, and not at the time of exit, one can conclude that the private equity funds probably have a correct expectation ex ante of which deals might be the most problematic. In these deals the private

will automatically be 1 or 2 years older.

equity sponsors increase the number of their own employees, since those are the deals that require most effort and involvement. This is also consistent with the fact (reported in Panel D) that 61% of the non exited deals had a change in the CEO, while only 44% of the exited deals had a change in the CEO (this difference is however not statistically significant). In general, these results would suggest that private equity sponsors put an increasing amount of effort in the companies most difficult to restructure and that at least part of the restructuring that private equity sponsors undertake gets implemented through the board.

Multivariate Analysis

We now look at how the changes in the size and composition of the board depend on various characteristics of the company or of the private equity funds sponsoring the LBO. In Table 5 we look at what affects the change in size of the board. We consider as dependent variables both the absolute and the percentage change in the size of the board (i.e. the change in the number of directors).

As explanatory variables, we first look at the total value of the firm implied by the LBO offer price for the shares. We then look at some characteristics of the private equity funds sponsoring the deal. First, we consider the number of private equity funds involved (without distinguishing between lead and no lead investors). Second, we introduce a dummy variable which takes value one if at least one of the private equity funds backing the firm has considerable experience. Experience is measured in terms of the number of deals recorded in Capital IQ in which the private equity firm was involved. We also want to distinguish between private equity funds that have a more "hands-on" approach, and that typically interact a lot with the management, and other private equity funds. We do this in three ways. We create a dummy variable that takes the value 1 if the leading private equity fund is affiliated with a bank, since traditionally these funds are less involved.[17] We also create a dummy when the LBO sponsor is 3i, since this fund can be considered different because of its large size, government roots, and traditional (though changing) reluctance to take a hands-on role.[18] Finally, we also use a more discretional approach, reading through various statements, websites, and description of each fund, and classifying each fund as active or not, where by active we mean that the fund typically follows the strategy of being involved. We also introduce a real estate dummy for deals in this sector, since the private equity funds sponsoring real estate LBOs usually are completely different from the private equity funds sponsoring the other LBOs.

We also introduce some variables to capture whether the deals is expected to be more

[17] See Hellmann, Lindsey and Puri (2007).

[18] See Lerner, Hardymon and Leamon (2002) and the HBS case "3i Group plc: May 2006" (HBS 9-807-006) for a description of the origins and evolution of 3i. The case mentions that in early times "3i ... would provide funding to an experienced management team ... and relied on the operating team's expertise in management issues. One 3i executive might be responsible for 30 or 40 companies, a ratio that precluded close involvement." The case also argues that in more recent time 3i "began taking majority ownership positions [and started] playing a more active role in managing its companies." Yet the case also shows that 3i had 2759 companies in its portfolio in 2001, which is considerably larger than other group, and may thus make involvement more difficult.

difficult, and the company may require a larger effort to turn it around. The first is a dummy variable that takes value one if there was a change of CEO from before to after the LBO. As already argued in the univariate analysis, one may expect that in such case there is a larger job to be done, since the management in the period before the LBO did not seem satisfactory. Moreover, if there is already a trustworthy and experienced management in place, the private equity firm may need to be involved less. The second variable is whether the deal was exited or not. The idea is that *ex post* the exited deals may be the one that were already expected (at the time of the LBO) to be easier, and therefore less involvement was necessary. Finally, we consider the percentage of outsiders on the board before the LBOs. The literature on boards has often stressed that the number of outsiders on board should increase for firms where the monitoring is more necessary. Therefore, such percentage could capture firms where the business is less easy to monitor.

Looking at the results in Table 5, note first that the fact that the intercept is positive and significant confirms what we already showed before: on average, the board shrinks following an LBO. The results are not very different whether we look at the absolute or percentage change of the board size. Exited deals do not seem to have significantly different boards, but deals where the CEO changed at the time of the LBO have on average a smaller reduction in the board. This could be due to the need to put more LBO sponsors or outsiders on the board, as we will study in Table 6. The proportion of outsiders sitting in the board before the LBO is not significant. In regression 2, we add an additional variable, which captures how many of these outsiders were CEOs themselves (or had been CEOs), since one could argue they may have a particular insight, and therefore their presence on one company board could signal that this company needs special expertise for a monitoring or advisory role. The coefficient of this variable is significant but positive: thus it means that in companies that had a larger number of CEOs as outsiders, the board shrinks more. Since this type of outsiders are more likely to be dropped when the company is taken private, one possible interpretation is that they are less effective than other outsiders.[19] Finally, we see that more experienced private equity firms reduce the size of the board more. This may suggest that they need less people on board to monitor the management, since their representatives are very experienced, or that they have developed a better ability to streamline the process.

In Regression 4, we introduce the average size of the board before the LBO, which has a positive and significant coefficient.[20] In this regression the coefficient of firm size also becomes negative and significant. That means that larger boards tend to be reduced more in proportion, unless the large size of the board is due to the fact that the company is large: in such case, the reduction is less strong (in fact, notice that the coefficient of firm size is now negative and significant). This implies that boards that are more likely to have been inefficient—since they were very large even when the company was not particularly

[19] For examples, they may have been particularly busy, if they were still CEOs. More research could be conducted about this result, by looking in more detail at the identity of these individuals.

[20] Since there could be a collinearity problem of the average board size with the firm size (we know from the existing literature on public companies that larger companies have larger boards) we have also run Regression 4 introducing, in addition to firm size, also the squared firm size. The results do not change: the coefficient of average size of the board before the LBO does not change and the t-stat decreases from 3.7 to 3.4.

large—are reduced more drastically following an LBO.

In Table 6, we focus on the composition of the board and what affects it. The explanatory variables are the same as in Table 5, while the dependent variables are: the percentage of LBO sponsors sitting on the board measured one year after the LBO, the average percentage of LBO sponsors from the LBO until exit (or 2007 if not exit has taken place), the percentage of insiders and the precentage of outsiders. Regression 1 focuses on the proportion of LBO sponsors. Although it is not significant, the coefficient of firm size is positive, suggesting that for larger deals, which may expected to be more complex, the private equity firm will put more of their people on the board. More important, the coefficient of LBO sponsors is positive and very significant: the reason is likely to be that when there are many private equity firms sponsoring the deal, each of them may want to have a representative on the board. In Table 5, the coefficient of this variable was negative, suggesting that when there are multiple sponsors backing the deal, the size of the board was reduced less (although the coefficient in that instance was not significant). This would be consistent with this result in Table 6: each private equity firm backing a deal will try to have some representatives sitting on the board, and this will result in slightly larger board.[21] The coefficient of the CEO change is positive and significant: consistent with our hypothesis, private equity firms tend to take more board seats when the improvement of the business looks more difficult, either because the firm is in bad conditions (and that is why the CEO was changed) or because they do not have a good management team in place to rely upon. The coefficient of exited deals is negative and significant, which is consistent with the same story: when the deal was expected to be easier to exit, the private equity firm put less of their people on board, but tried instead to sit on the boards of the most difficult cases. This story is a story of costs and benefits of the monitoring and advisory roles of the board: it is always good to have one more experienced LBO sponsor on the board. However, these individuals are very busy (and costly, since they could instead be used on another board) and therefore adding one more of them on the board is costly and it will be done only if the marginal benefit of having one more person is higher than the cost (which is likely to happen in the more difficult deals). This is also consistent with the fact that the proportion of outsiders sitting on the board before the LBO has a positive and significant coefficient. A large proportion of outsiders on the board before the LBO could signal that the company is more complex to monitor. This could be because the type of business is more complex, or it is easier to extract benefits from control. Boone, Casares Field, Karpoff and Raheja (2007) finds that measures of the scope and complexity of the firm's operations are positively related to the proportion of independent outsiders on the board. Therefore, the proportion of outsiders sitting on the board before the LBO should indicate its complexity. If that is correct, one may imagine that after the LBOs, the private equity firms will have the same increase in the need to monitor and therefore they will put more individuals on the board.

Finally, if we look at the type of private equity sponsors, note that the 3i dummy has, as

[21] An alternative explanation could be that larger deals are more likely to be syndicated (and thus to have multiple sponsors) and are also more difficult to supervise (and thus may require more LBO sponsors sitting on the board). However, we are controlling for firm size and therefore this is unlikely to be the explanation.

expected, a negative and significant coefficient: 3i is less likely to have a hands-on approach. The coefficient of bank affiliated sponsors is negative (so they tend to sit less on the board) but non significant. Surprisingly, experienced sponsors do not seem to behave any differently from less experienced one. As an alternative criterion, in Regression 2 we drop the dummies for experienced and bank affiliated sponsors and introduce instead the dummy for active sponsors. The coefficient of this dummy is positive and significant: the claims by some private equity funds to be more hands-on and actively involved seem to be confirmed in practice. The other results do not change. In Regressions 3 and 4 we run the same regression, but use as a dependent variable the average size of the board over the years following the LBO. In this way we correct for the possibility that the board following the LBO was still in a transition phase. The results do not vary and are a little stronger. Note that in these 4 regressions the adjusted R-square is between 22% and 34%, thus these variables explain a considerable part of the variation.

In Regressions 5 and 6 we conduct the same analysis for the proportion of insiders. Not surprisingly, the results tend to be the reverse of the ones in Regressions 1 to 4 (since there is a certain degree of substitution between the number of board seats for the management and the one for the LBO sponsors). However, this was not necessarily true, since a large number of LBO sponsors could imply a larger board, not necessarily a smaller proportion of insiders.[22] We find that when there are more private equity funds sponsoring the deal the proportion of insiders is reduced. Therefore the request of the funds to have one of their representatives sitting on the board comes at the expense of the number of the seats left to the management team, which is not necessarily an efficient decision. Companies that had more outsiders sitting on the board before will have less insiders (possibly because there is a larger need for monitoring). If the CEO were changed during the transition from public to private the company has a smaller proportion of insiders afterwards. Note that this result is stronger than the one for the proportion of LBO sponsors on the board, suggesting that probably when the CEO was changed, several other members of the management team also left and were never completely replaced in the board. Exited deals, which should be on average less challenging deals, also have a smaller proportion of insiders.

Finally, in Regression 7 we look at the percentage of outsiders. Note that when running this regression we have considered as outsiders also all the people we could not identify with certainty, on the ground that outsiders are usually the hardest to find in the various data set (or from various press coverages). This is probably adding noise to our measure of outsiders. We find only two variables which have a significant coefficient: the 3i dummy, and the dummy for a bank affiliated sponsor. This suggests that private equity firms that do not get directly involved will rely more on very experienced outsiders to monitor management and to advise them.

[22]Later, when discussing the evolution of the board after the LBO, we show in Figure 6 that over time the proportion of management is relatively constant over time, while the proportion of LBO sponsors changes more.

4 Evolution of the board following and LBO

In this section we look at the evolution of the board after the company is taken private. In Figure 5 we look at how the average board size changes over time for LBOs, MBOs and other transactions. For all three cases, there is a large decrease in size when the company is taken private. However, boards of MBOs and other transactions decrease in size much more than LBO boards. Moreover, immediately following the LBO, the board size seems to increase slightly, possibly with LBO sponsors and outsiders (as it will be shown in the next figure). As the number of years after the LBO increase, the board size slightly decreases. One may imagine that as the firm progresses towards its strategy implementation and the accomplishment of the restructuring, there will be less need of private equity sponsors involvement and the board might be shrinking in size. Beyond year seven of the PE transaction the board size increases. However, when one looks at the board size in year seven, all the firms exited in less than 7 years are not there anymore. The increase in board size in later years is therefore probably due to the fact that these are cases that turned out to be particularly difficult and in which the private equity firm had to become very involved, trying to solve particularly difficult cases.

This view is confirmed if one looks in Figure 6 at the evolution of the board composition. When the company is taken private, the proportion of outsiders (which includes all the unknown individuals) shrinks from more than 40% to less than 20% while LBO sponsors participation in the board increases. The proportion of insiders does not change much, but it drops dramatically in the very last years, when they are replaced by LBO sponsors and outsiders: again, these are probably the problematic cases and the private equity firms representatives need to be more directly involved.

We then look at how often there is a change in the CEO after the company is taken private. We compute the CEO turnover both before and after the company is taken private for MBOs, LBOs and other transactions. When doing so, we do not take into account any change of CEO that takes place during the transition from public to private: we only want to look at changes in CEOs while there is no major change of ownership. It has often been argued that private equity firms are able to give their CEO a longer horizon to plan a company growth and therefore we should observe that following an LBO, CEO turnover decreases. However, this is not what we observe. If we look at pure MBOs, we find that the CEO turnover decreases (not surprisingly, since the CEOs often own a large proportion of the shares). While before the MBO 17% of the companies in our sample experienced a change of CEO, this happens for only 2.4% of the company afterwards. Companies that were taken private by a private equity firm had a much higher turnover: 33.3% of the companies in our sample had a change of CEO before being taken private. This suggests that LBOs are more likely to occur in companies that have recently underperformed (and therefore the CEO has lost his/her job) but also in companies where the founder has recently retired, and a new external CEO has just been brought in (we observe several instances of this type in our sample). One would expect therefore that there would be lower CEO turnover following an LBO, but this is not what happens. The percentage of companies in our sample that

experience a change in CEO after an LBO is 45%. This number decreases to 31% if we ignore any change in the CEO from the first to the second year after the LBO, on the grounds that it might still be reflecting the transition from public to private. Moreover, one could argue that since we look at only three years before the LBOs, while the years following the LBO could be many more, this is a biased comparison. Therefore, we compute the CEO turnover also in this alternative way: we compute the number of times the CEO was changed in a company, and divide by the number of years over which this was observed. If we compute it in this way, we find that the average CEO turnover is 7% both before and after the LBO. If we exclude any change from the first to the second year, the turnover becomes 4%. With this last measurement we find a reduction in the CEO turnover following an LBO, but given that there was an unusually large turnover for these companies before the LBO, the result still does not confirm the view that private equity firms give management a longer horizon.

In Table 7 we look at the turnover of people in the board. We measure this turnover in two ways. First, in Panel A and B we look at the change in the size of the board from one year to another, measured as the (absolute) change in the total number of people sitting on the board, normalized by the board size in the previous year. We measure the average change in size in the years before the LBO and in the years after the LBO. Of course, any change in size that take place when the company goes from public to private is not included. We compute the average change in size after the LBO, both including the change in size from the first to the second year after the LBO, and excluding this transition phase. We then take the average change for a company before and after the LBO and then the average over all companies. The results are presented in Panel A of Table 7. One can see that the size variation of MBOs and LBOs before was 10% in both cases. However, LBOs have a significantly larger size variation afterwards: 21% or 16% depending on whether we consider or not the first year variation.

We also measure turnover as the number of people who changed in a board from one year to the consecutive year, normalized by the size of the board in the previous year. This measure of turnover picks up changes due to variation in the board size and changes due to turnover of people, even if the size of the board has not changed. Again, we find that LBO boards have a very high turnover. Companies that are taken private in an LBO already have higher turnover than MBO companies before going private, but while MBO companies board turnover does not change afterwards (it either increases slightly or decreases slightly, depending on whether we include or not the change from the first to the second year after the LBO) the turnover of LBOs increases.

5 Conclusions

We have looked at the size, composition and evolution over time of boards. We find that the role of the board is crucial in private equity and that studying the boards is a good way to see how private equity general partners can be effective in restructuring a company. Having private equity partners on the board of a company can be very helpful for achieving success

in restructuring a company. However, the opportunity cost of private equity firms being actively involved in the board of one deal is that they have less time to focus on other deals. We find evidence that they choose to use more of their resources in the deals they expect to require more time and attention. The successful turn-around of companies is the result of time and effort that private equity firms put in the process. Most of the funds, also, seem to prefer the use of their own employees, rather than expert outsiders.

At the same time, when looking at the evolution of the boards over time from immediately after the LBO to the exit, we find a picture of continuous change: there is a large turnover both of directors and of CEOs. Further study is needed to understand what is driving all these changes. For example, we plan to look at industry or firm specific announcements, to see whether these changes of CEOs follow industry or firm specific shocks.

The analysis in this paper has only compared the board of LBOs to the boards of MBOs. In the future, we plan to compare the boards of LBOs also to companies that stayed public, to detect any difference in the board characteristics. We also plan to conduct further research on how these boards change over time while the company is private and what causes these changes. Finally, note in this paper we focussed on detecting situations where private equity sponsors were very active on the board, and thus were particularly involved in the restructuring process. However, we did not provide evidence that this increased involvement of the private equity sponsors actually led to better performance of the company (in terms of value of the company, ability to exits or operating profits). Showing such a causality effect is very difficult, for two reasons. First, the corporate governance literature has often underlined (see Hermalin and Weisbach, 1998 and 2003) that the choice of the board and the performance of the firm are both endogenously determined variables and causality cannot be determined. Second, financial data about companies taken private in LBOs can be unreliable, both because there is less information available about private companies and because of the complex ownership structure we highlighted in Section 2. In fact, the "layers structure" of companies after an LBO is such that it may be difficult to decide which companies financial data to follow. Nonetheless, future research should try to tackle also this problem.

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Figure 1

This figure shows the number of public to private transactions that took place in UK each year, from 1998 to 2003. We distinguish between LBOs, MBOs and other transactions. The year of each transaction is determined according to the announcement date.

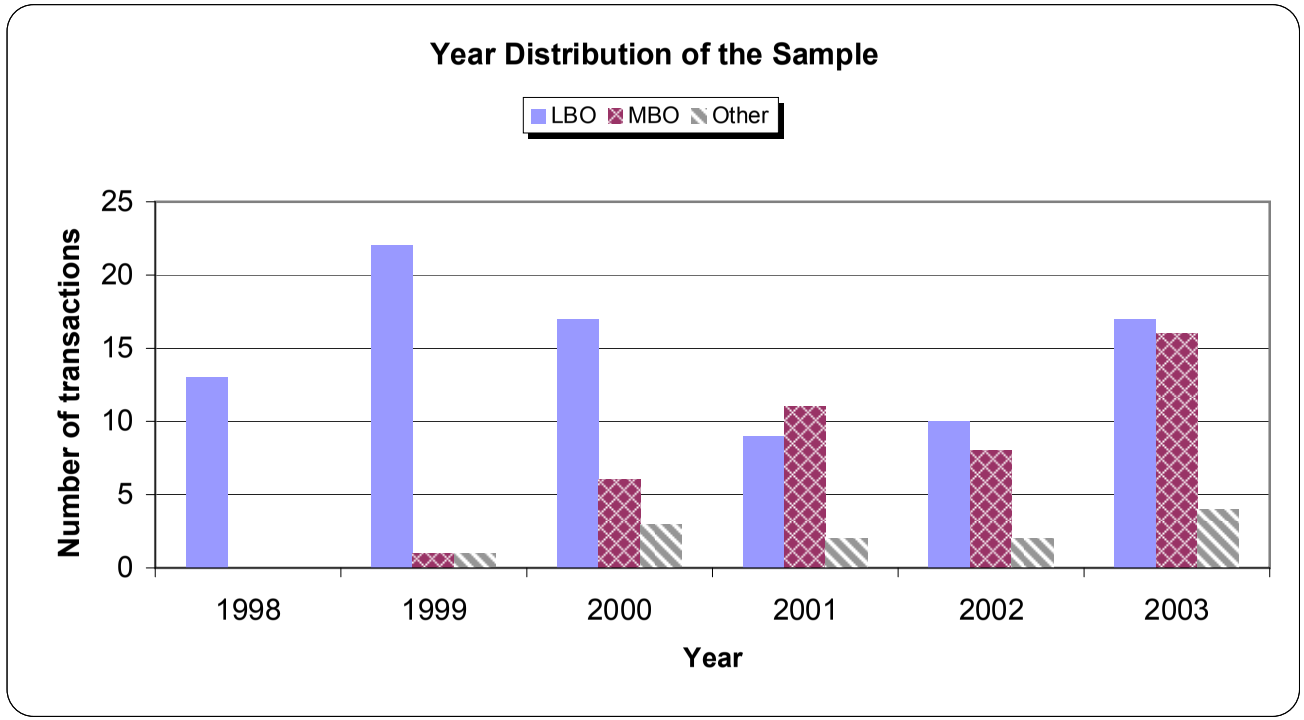


Figure 2

This figure shows the distribution of the public to private transactions, by transaction size. Transaction size is the value of the company, as implied by the price paid to take it private. We distinguish LBOs, MBOs and other transactions. Since we have no data for the transaction size of 2 MBOs, those two transactions are not represented in the figure.

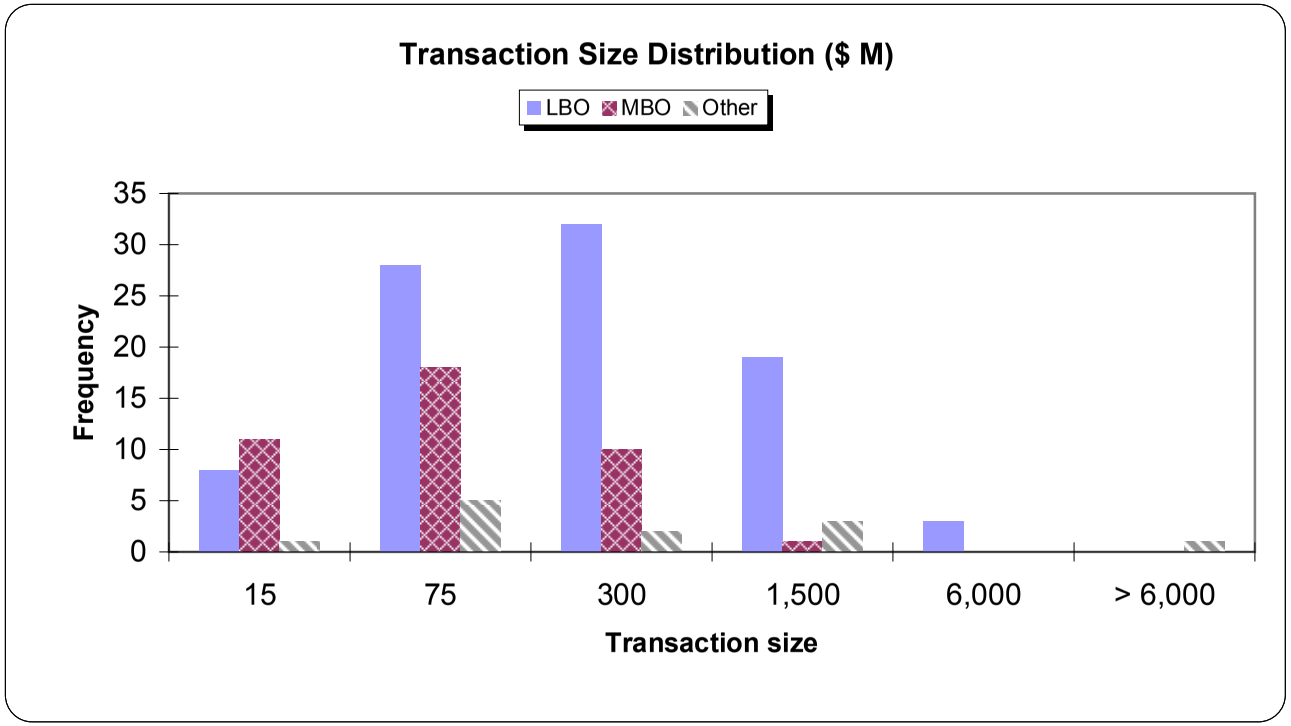
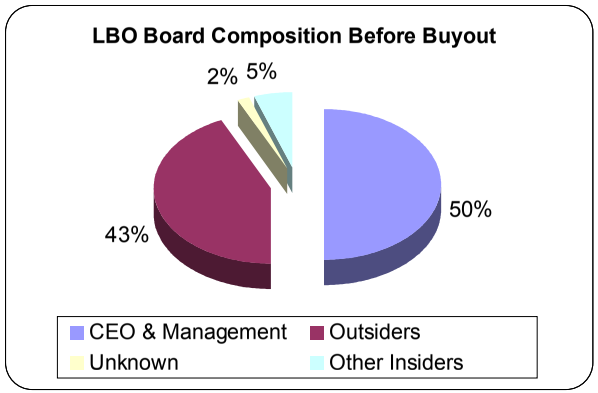
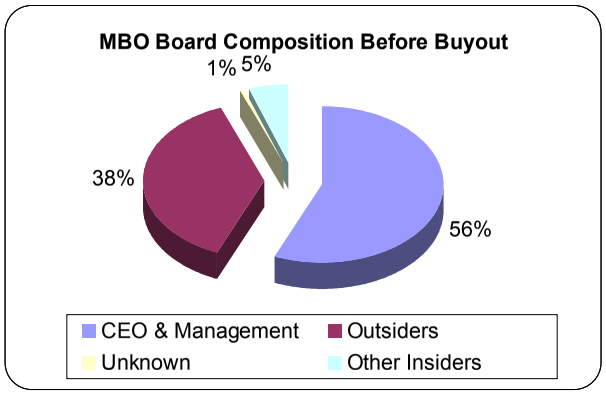
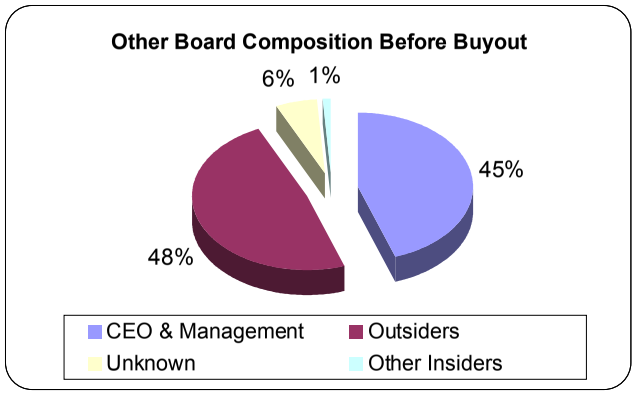


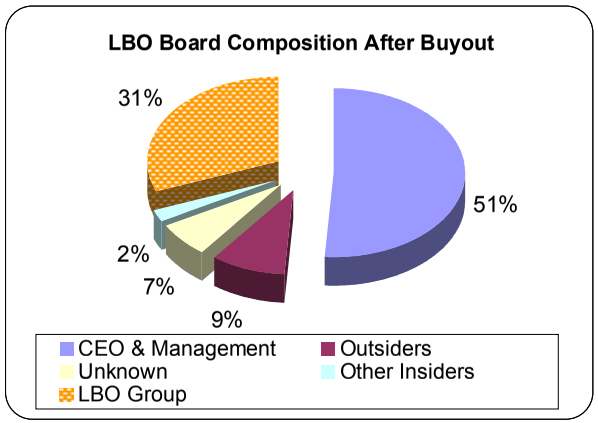
Figure 3

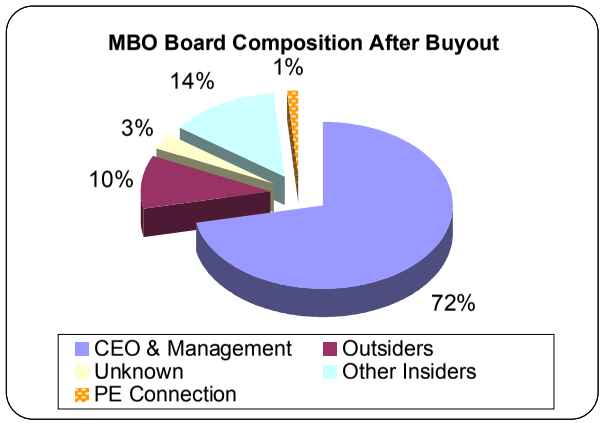
This figure represents the board composition of LBOs, MBOs and other transactions. We report the composition for the last board observed before the company went private and the second board observed after the company went private. The board composition shows the different types of directors. Other insiders refer to other non-management insiders (for example, previous CEOs). Outsiders are individuals for which no special relation to the company could be found. Unknown are individuals whose identity could not be determined with certainty. LBO group are partners or employees of one of the private equity firms backing the transaction. PE connection are outside directors, for whom a private equity connection could be identified (for example, they are employees or directors of a private equity firm).











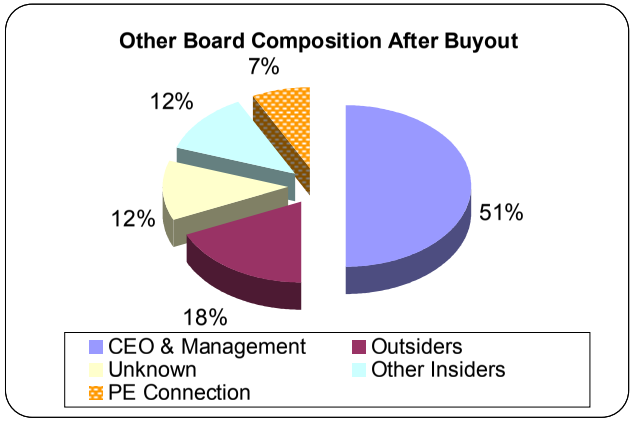


Figure 4

This figure shows the age distribution of the different types of directors.

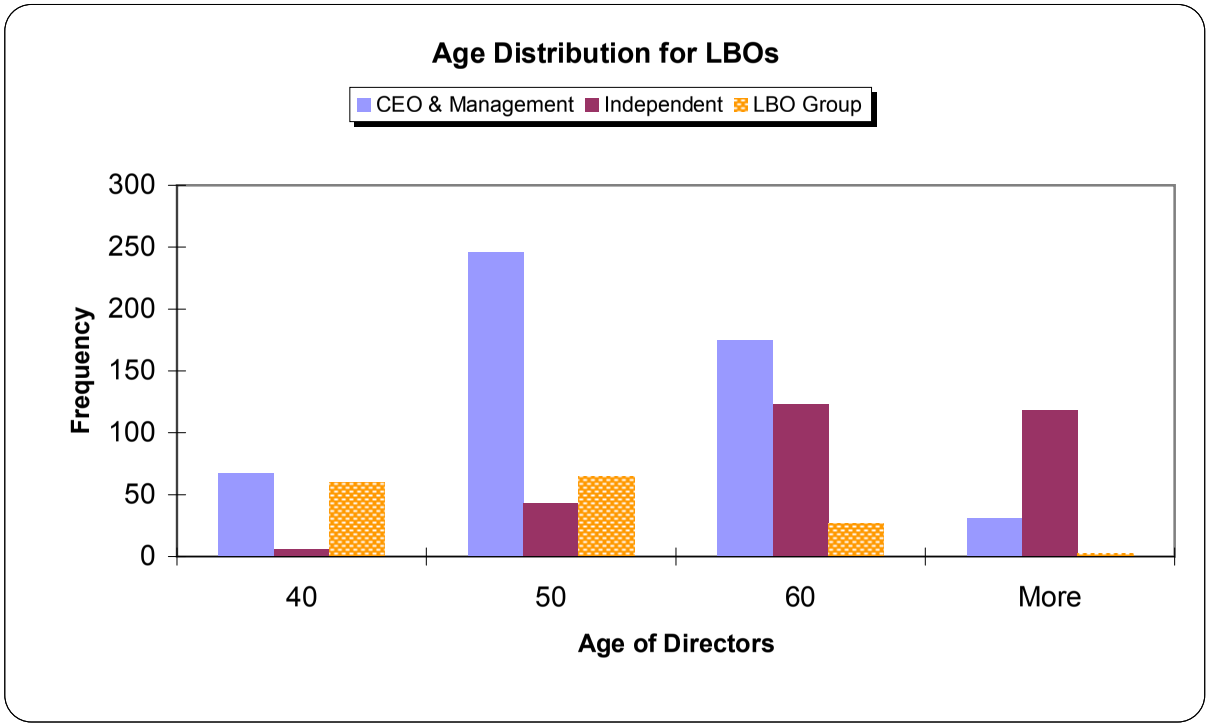


Figure 5

This figure shows how the size of the board changes over time, distinguishing between LBOs, MBOs and other transactions. Date 0 is the year in which the buyout takes place. The chart shows, for example, that in year 4 after the buyout LBOs had on average a board of 5 people. The average is taken over all the LBOs that have not been exited by year 5.

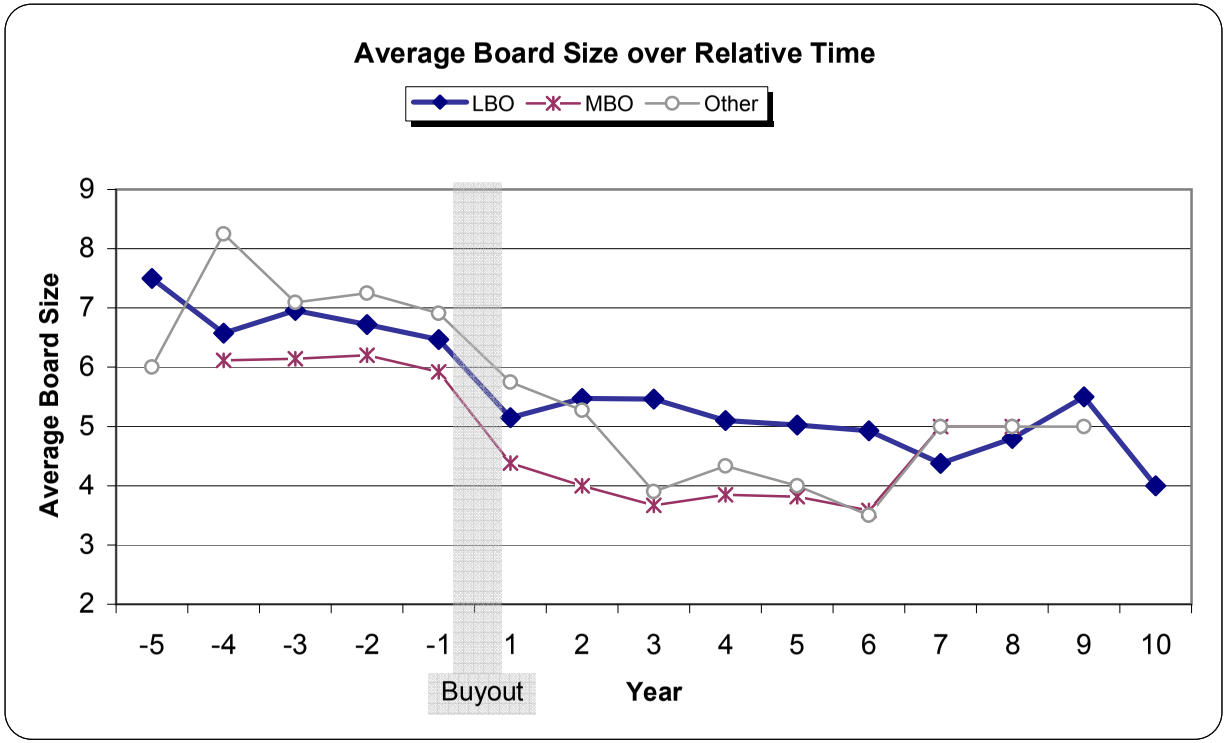


Figure 6

This figure shows the evolution of the board composition for LBOs. Year 0 is the year in which the LBO takes place. The figure shows the average percentage of 3 groups of directors (with respect to the total number of directors): management (composed of CEO, Management and Other insiders), Outside directors and LBO sponsors. The average in year, for example, 5 is taken over all the LBOs that have not been exited by year 5.

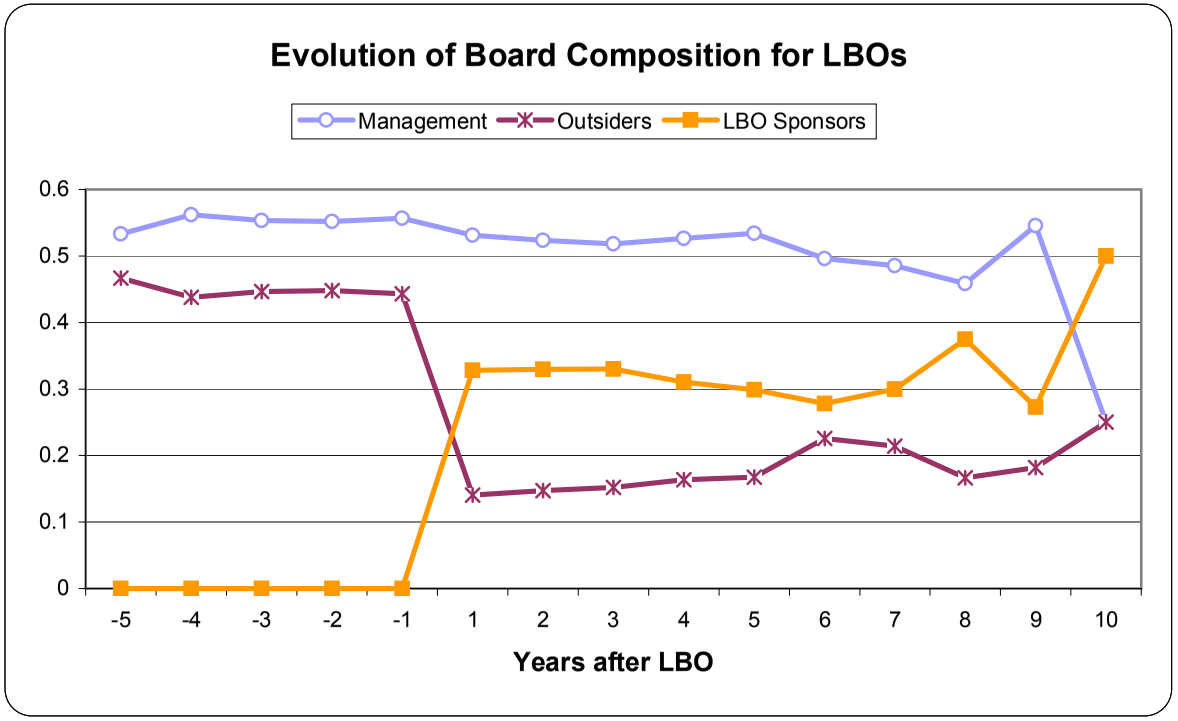


Table 1: Company Size Descriptive Statistics ($M).

This table represents some statistics about the size of the companies in the sample. Size is computed as the enterprise value implied by the price paid to take the company private. For two MBOs we do not have such information and therefore they are not represented in this table.

	Obs	Mean	Std. Dev.	Min	Max	Median
LBOs	88	327.86	685.70	0.41	5300.00	105.47
MBOs	40	55.16	73.22	0.49	379.00	23.61
Other	12	985.00	2192.01	8.91	7741.58	75.30

Table 2: Change in the board size.

This table shows the change in the average board size when the firm is taken private. We measure the average board size of the last board before the company is taken private (before) and of the second board observed after the company is taken private (after). T-statistics of the difference between LBOs and MBOs and of the difference between the board before and after are provided. Panel A reports statistics for all MBOs and LBOs. For one LBO we do not observe the board after the company is taken private, therefore that LBO is not represented in this table. Panel B selects 39 MBOs and 39 LBOs, matched by size. Panel C considers LBOs only and compares cases where the CEO changes after the buyout to cases where the CEO does not change.

Panel A. MBO vs. LBO.

		(m) **MBO** n=54	(l) **LBO** n=87	(m) - (l) t-stat
(b)	**Before**	6.22	6.51	-0.88
(a)	**After**	4.24	5.43	-3.16
(b) - (a)	t-stat	4.90	3.81	

	(m) **MBO**	(l) **LBO**	(m) - (l) t-stat
Change in size after event	1.98	1.08	2.00

Panel B. MBOs vs. LBOs, matched sample.

		(m) **MBO** n=39	(l) **LBO** n=39	(m) - (l) t-stat
(b)	**Before**	6.59	6.10	1.21
(a)	**After**	4.44	4.84	-0.97
(b) - (a)	t-stat	4.88	3.30	

	(m) **MBO**	(l) **LBO**	(m) - (l) t-stat
Change in size after event	2.15	1.26	1.64

Panel C. No CEO Change vs. CEO Change (LBOs only).

		(m) **No CEO Change** n=40	(l) **CEO Change** n=45	(m) - (l) t-stat
(b)	**Before**	6.58	6.53	0.11
(a)	**After**	5.18	5.67	-1.09
(b) - (a)	t-stat	3.22	2.26	

	(m) **No CEO Change**	(l) **CEO Change**	(m) - (l) t-stat
Change in size after event	1.40	0.87	1.14

Table 3: Change in the board composition of LBOs only.

This table shows the change in the board composition when the firm is taken private. Only LBOs are considered. We measure the board composition of the last board before the company is taken private (before) and of the second board observed after the company is taken private (after). We distinguish between cases where the CEO changes after the buyout and cases where the CEO does not change. T-statistics of the difference between these two cases and of the difference between the board before and after are provided. Panel A reports the number of outside directors sitting on the board (as a percentage of total directors), Panel B the number of insiders (CEO, Management, and Other insiders) and Panel C the number of LBO sponsors (partners or employees of private equity firms backing the LBO).

Panel A. Percentage of outsiders sitting on the board.

		(m) **No CEO Change** n=40	(l) **CEO Change** n=45	(m) - (l) t-stat
(b)	**Before**	42%	44%	-0.56
(a)	**After**	9%	10%	-0.36
(b) - (a)	t-stat	11.04	11.53	

	(m) **No CEO Change**	(l) **CEO Change**	(m) - (l) t-stat
Change in percentage after event	34%	35%	-0.24

Panel B. Percentage of insiders sitting on the board.

		(m) **No CEO Change** n=40	(l) **CEO Change** n=45	(m) - (l) t-stat
(b)	**Before**	57%	55%	0.64
(a)	**After**	61%	47%	2.87
(b) - (a)	t-stat	-1.01	1.80	

	(m) **No CEO Change**	(l) **CEO Change**	(m) - (l) t-stat
Change in percentage after event	-4%	8%	-2.28

Panel C. Percentage of LBO sponsors sitting on the board.

		(m) **No CEO Change** n=40	(l) **CEO Change** n=45	(m) - (l) t-stat
(b)	**Before**	-	-	-
(a)	**After**	25%	37%	-2.35
(b) - (a)	t-stat	-	-	

Table 4: Differences between exited and non-exited deals (LBOs only).

This table shows the change in the board size and composition when the firm is taken private. Only LBOs are considered. We measure the board size and composition of the last board before the company is taken private (before) and of the second board observed after the company is taken private (after). We distinguish between LBOs exited and deals not yet exited as of August 2007. T-statistics of the difference between these two cases and of the difference between the board before and after are provided. Panel A reports the change in board size, Panel B the number of insiders (CEO, Management, and Other insiders) as a percentage of the total number of directors and Panel C the number of LBO sponsors (partners or employes of private equity firms backing the LBO). Panel D shows the fraction of LBOs where the CEO changed.

Panel A. Change in the board size by exit.

		(m) **No Exit** n=46	(l) **Exit** n=41	(m) - (l) t-stat
(b)	**Before**	6.61	6.39	0.60
(a)	**After**	5.52	5.32	0.46
(b) - (a)	t-stat	2.86	2.50	

	(m) **No Exit**	(l) **Exit**	(m) - (l) t-stat
Change in size after event	1.09	1.07	0.03

Panel B. Percentage of insiders sitting on the board.

		(m) **No Exit** n=46	(l) **Exit** n=41	(m) - (l) t-stat
(b)	**Before**	55%	55%	-0.17
(a)	**After**	49%	58%	-1.54
(b) - (a)	t-stat	1.27	-0.47	

	(m) **No Exit**	(l) **Exit**	(m) - (l) t-stat
Change in percentage after event	5%	-2%	1.44

Table 4 (cont'd): Differences between exited and non-exited deals (LBOs only).

Panel C. Percentage of LBO sponsors sitting on the board.

		(m) **No Exit** n=46	(l) **Exit** n=41	(m) - (l) t-stat
(b)	**Before**	-	-	-
(a)	**After**	35%	26%	1.75
(b) - (a)	t-stat	-	-	

Panel D. Percentage of CEO changes.

	(m) **No Exit** n=46	(l) **Exit** n=39	(m) - (l) t-stat
CEO Change	61%	44%	1.59

Table 5: Changes in the board size, multivariate analysis.

This table reports regression coefficients (and T-statistics in parentheses) for various dependent variables and model specifications. The dependent variables are the board size change, defined as the difference in the number of people on the board before and after the LBO, and the percentage change in board size. Firm size is the enterprise value implied by the LBO and number of LBO sponsors is the number of PE funds backing the LBO. Change in CEO at LBO is a dummy that takes value one if there has been a CEO change from before to after the LBO. Experienced sponsors and Bank affiliated sponsors are dummies that take value one if at least one of the PE firms backing the LBO is an experienced firm or if the leading sponsor is a bank affiliated PE firm. 3i dummy takes value 1 if the leading sponsor is 3i. Fraction of Outsiders before LBO with CEO experience measure the number of outsiders in the board before the LBO who were or had been CEOs in other companies. Real Estate is a dummy that takes value one if the company is in the real estate sector. One, two or three asterix means that the coefficients are significant at, respectively, 10%, 5% and 1% level.

Dependent variable	**Board size change**	**Board size change**	**% Board size change**	**% Board size change**
	Reg 1	**Reg 2**	**Reg 3**	**Reg 4**
Intercept	4.71***	4.76***	0.7***	0.08
	(3.58)	(3.67)	(3.57)	(0.31)
Firm Size (billion $)	-0.42	-0.43	-0.05	-0.14***
	(-1.40)	(-1.44)	(-1.06)	(-2.90)
Change in CEO at LBO	-0.74	-1.04**	-0.12*	-0.12*
	(-1.60)	(-2.14)	(-1.78)	(-1.82)
Number of LBO sponsors	-0.51	-0.51	-0.1	-0.08
	(-1.19)	(-1.20)	(-1.51)	(-1.35)
Experienced sponsor	-1.88**	-1.98**	-0.28**	-0.25**
	(-2.16)	(-2.30)	(-2.19)	(-2.07)
Bank affiliated sponsor	-0.71	-0.58	-0.12	-0.1
	(-1.06)	(-0.88)	(-1.22)	(-1.13)
Fraction of outsiders before the LBO	-1.08	-1.43	-0.11	-0.04
	(-0.71)	(-0.95)	(-0.47)	(-0.18)
Fraction of outsiders before the LBO with CEO exp.		1.58*		
		(1.82)		
Average size of board before LBO				0.08***
				(3.70)
Real Estate	-0.66	-0.83	-0.07	0.04
	(-0.83)	(-1.06)	(-0.57)	(0.35)
Exited Deal	-0.34	-0.31	-0.08	-0.09
	(-0.69)	(-0.65)	(-1.14)	(-1.35)
3i dummy	0.52	0.58	0.04	0.05
	(0.46)	(0.52)	(0.21)	(0.29)
Adjusted R-squared	6.8%	9.5%	6.2%	19.4%
N	87	87	87	87

Table 6: Board composition, multivariate analysis.

This table reports regression coefficients (and T-statistics in parentheses) for various dependent variables and model specifications. The dependent variables are the percentage of LBO sponsors sitting on the board (measured in the second year following the LBO), the average percentage of LBO sponsors sitting on the board, over all years after the LBO, the percentage of insiders sitting on the board (in the second year or on average) and the percentage of outsiders on the board in the second year following the LBO. Firm size is the enterprise value implied by the LBO and number of LBO sponsors is the number of PE funds backing the LBO. Change in CEO at LBO is a dummy that takes value one if there has been a CEO change from before to after the LBO. Experienced sponsors and Bank affiliated sponsors are dummies that take value one if at least one of the PE firms backing the LBO is an experienced firm or if the leading sponsor is a bank affiliated PE firm. 3i dummy takes value 1 if the leading sponsor is 3i. Fraction of Outsiders before LBO with CEO experience measure the number of outsiders in the board before the LBO who were or had been CEOs in other companies. Real Estate is a dummy that takes value one if the company is in the real estate sector. One, two or three asterix means that the coefficients are significant at, respectively, 10%, 5% and 1% level.

Dependent variable	**%LBO sponsors**	**%LBO sponsors**	**Average% LBO sponsors**	**Average% LBO sponsors**	**%Insiders**	**Average% Insiders**	**% Outsiders**
	Reg 1	**Reg 2**	**Reg 3**	**Reg 4**	**Reg 5**	**Reg 6**	**Reg 7**
Intercept	-0.2	-0.11	0.04	-0.1	0.94***	0.94***	0.08
	(-0.17)	(-1.00)	(0.34)	(-1.05)	(6.48)	(7.31)	(0.78)
Firm Size (billion $)	0.04	0.04	0.04	0.04	-0.01	-0.01	-0.02
	(1.26)	(1.15)	(1.30)	(1.38)	(-0.44)	(-0.35)	(-1.02)
Change in CEO at LBO	0.1**	0.1**	0.1**	0.11***	-0.13***	-0.13***	0.04
	(2.06)	(2.16)	(2.31)	(2.76)	(-2.63)	(-2.90)	(0.95)
Number of LBO sponsors	0.13***	0.13***	0.12***	0.11***	-0.12**	-0.11***	-0.16
	(3.02)	(2.97)	(3.06)	(3.12)	(-2.51)	(-2.68)	(-0.46)
Experienced sponsor	0.04		0.01		-0.1	-0.13	0.06
	(0.46)		(0.07)		(-1.02)	(-1.55)	(0.80)
Bank affiliated sponsor	-0.05		-0.08		-0.05	-0.5	0.11**
	(-0.76)		(-1.38)		(-0.74)	(-0.74)	(1.98)
Fraction of outsiders before the LBO	0.29*	0.28*	0.25*	0.26**	-0.32*	-0.3**	0.35
	(1.83)	(1.82)	(1.81)	(2.03)	(-1.93)	(-2.02)	(0.28)
Active Sponsor		0.04**		0.09***			
		(2.01)		(2.91)			
Real Estate	0.47	0.05	0.03	0.03	0.01	0	-0.06
	(0.57)	(0.64)	(0.42)	(0.46)	(0.15)	(0.01)	(-0.93)
Exited Deal	-0.09*	-0.09*	-0.1**	-0.13***	0.1*	0.11**	-0.02
	(-1.76)	(-1.92)	(-2.37)	(-3.15)	(1.92)	(2.27)	(-0.36)
3i dummy	-0.2*	-0.14	-0.19*	-0.1	0	0.03	0.2**
	(-1.71)	(-1.18)	(-1.91)	(-1.06)	(0.01)	(0.28)	(2.16)
Adjusted R-squared	22.0%	25.1%	27.7%	34.0%	22.2%	17.3%	5.6%
N	87	87	87	87	87	87	87

Table 7: Board turnover.

Panel A. Size variation (including first year after LBO).

		(m) **MBO** n=39	(l) **LBO** n=82	(m) - (l) t-stat
(b)	**Before**	10%	10%	-0.16
(a)	**After**	12%	21%	-2.22
(b) - (a)	t-stat	-0.82	-3.69	

	(m) **MBO**	(l) **LBO**	(m) - (l) t-stat
Change in size variation after event	-3%	-11%	1.69

Panel B. Size variation (excluding first year after LBO).

		(m) **MBO** n=32	(l) **LBO** n=74	(m) - (l) t-stat
(b)	**Before**	10%	10%	0.04
(a)	**After**	10%	16%	-1.43
(b) - (a)	t-stat	-0.18	-2.79	

	(m) **MBO**	(l) **LBO**	(m) - (l) t-stat
Change in size variation after event	-1%	-6%	1.27

Panel C. Turnover (including first year after LBO).

		(m) **MBO** n=39	(l) **LBO** n=82	(m) - (l) t-stat
(b)	**Before**	7%	12%	-2.54
(a)	**After**	8%	17%	-3.77
(b) - (a)	t-stat	-0.07	-2.55	

	(m) **MBO**	(l) **LBO**	(m) - (l) t-stat
Change in turnover after event	0%	-5%	1.41

Panel D. Turnover (excluding first year after LBO).

		(m) **MBO** n=39	(l) **LBO** n=82	(m) - (l) t-stat
(b)	**Before**	7%	13%	-2.31
(a)	**After**	5%	15%	-3.78
(b) - (a)	t-stat	0.79	-1.24	

	(m) **MBO**	(l) **LBO**	(m) - (l) t-stat
Change in turnover after event	2%	-3%	1.24