Exits, Performance, and Late Stage Venture Capital: the Case of UK Management Buy-outs

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Abstract

Using a hand-collected dataset of 1,333 buy-outs, we examine long term operating performance of UK management buy-outs (MBO), during the period 1980-2004. Our probit model successfully predicted choice of initial public offering (IPO) exit method in 81% of cases, and show that backing by highly reputable private equity (PE) firms increases the likelihood of IPOs by 45%. We track operating performance of sample buy-outs up to 13 years (3 pre and 10 post buy-out years) and examine operating performance after buy-out and exit transactions. The results of our pooled cross-sectional time series models suggest a statistically significant increase in output, efficiency and dividends during the post buy-out period. Our IPO sub-sample displays no evidence of statistically significant underperformance that is often documented in the IPO literature.

JEL classification: G24, G32, G34
Key words: MBO, Operating Performance, Private Equity, IPO, Acquisitions

Introduction

The UK venture capital (VC) market is the largest European market, equal to the rest of the European markets put together.[1] The market is dominated by management buy-outs (MBO) and buy-ins (MBI) and it is often referred to as private equity (PE) market. A recent study reports that the private equity asset class has outperformed all principal UK comparative asset classes since 1987.[3] Nevertheless, the average private equity weight for UK pension managers was only 3.75% until 2003.[4] In the past, the reluctance to invest in private equity was often attributed to fund trustees' psychological barriers, and investors' misconceptions about risks and cash flows associated with investments in private equity.[5]

More recently, syndicated deals and increased availability of debt finance has contributed to a significant increase in the capital accumulated by private equity funds. For example, in the first half of 2006 UK-based PE fund managers raised £11.2 billion of capital, compared to £10.4bn of funds raised via IPO on the London Stock Exchange public equity markets, during the same period.[6] An average PE-backed buy-out deal size in the UK increased from £11.6m in 2002 to £ 16.7 million in 2006 and to £68 million in 2007. During the same period, the total number of PE backed deals steadily increased reaching more than 2000 in 2004, and continuing to increase in 2005 to 2007.[7] This growth of PE funding was accompanied by cases of takeovers of large UK public companies by private equity groups, increased leveraged finance provision to private equity transactions and development of secondary markets for both individual and PE funds holdings.

The recent trends have generated public interest and raised the profile of PE- backed deals but at the same time have created controversy: *"…private equity firms have been characterized by trade unions as "asset strippers who destroy jobs and load companies with debt."*[8] The opinions among practitioners on the long term effects of

[1] EVCA (2001).
[3] BVCA (2000).
[4] Financial Times, 12 May 2003.
[5] BVCA (2000).
[6] FSA (2006), p. 4.
[7] Financial Times, 30 April 2007.
[8] Financial Times, 30 April 2007.

PE investments and in particular, whether the benefits for PE funds come at the expense of the longer term health of companies, are also divided. While the British Private Equity and Venture Capital Association (BVCA), has provided statistics suggesting that companies backed by PE have grown employment and sales faster than other companies, many argue that because of the short term perspectives of PE firms, after the PE exits (typically 3 years) the implications for shareholders, employees, and others may be unpleasant.[9] The above controversy prompted both public and regulators to require more transparency and a new regulatory framework for the industry.[10] At least some of the above controversies stem from the paucity of recent research on the late stage VC investments.

Many of the earlier studies on UK buyouts have focused on *short term* post-buy-out operating performance (Wright et al., 1996; Wright, 1986), the short and long term financial performance of buyouts that went public through IPO (Jelic et al., 2005; Levis, 2007), the involvement of various institutions in these transactions (Robbie et al., 1992), and analysis of failure of buyouts (Wright et al., 1996). In the USA, there has been some separate analyses of reverse leverage and/or management buyouts (L/MBO) (Muscarella and Vetsuypens, 1990; DeGeorge and Zeckhauser, 1993; Holthausen and Larcker, 1996; Kaplan, 1991) and venture-backed IPO (e.g. Megginson and Weiss, 1991; Lerner, 1994; Brav and Gompers, 1997). The studies of reverse L/MBO, however, did not specifically examine the role of the private equity funding.

A second wave of research is beginning to emerge relating to the more recent period of private equity activity which culminated in mid 2007 (Cumming et al., 2007; Kaplan and Stromberg, 2009). Evidence again primarily relates to the short term effects, showing that in the first three years after buyout there are on average improvements in profitability (Cressy et al., 2007a). Studies also indicate that an

[9] Financial Times, 16 February 2007.

[10] The Financial Services Authority (FSA), for example, published a discussion paper aiming to stimulate discussion among policy makers and industry participants about the development of the PE market and in particular on an appropriate level and form of regulatory engagement with the private equity sector in 2006. The UK Treasury Select Committee went further in terms of tightening regulation during 2007 at the height of the second wave (TSC, 2007), while the European Commission has also been developing proposals for regulatory changes.

initial decline in employment in private equity backed buyouts is followed by subsequent increases in employment (Cressy et al., 2007b; Davis et al., 2008, 2009; Amess and Wright, 2007a,b; Amess et al., 2008).

The objective of this study is to shed more light on the private equity market by investigating both post buyout and post exit *long term* operating performance, and the effects that different exit strategies, PE backing, and reputation of PE firms may have on performance. Recent attention to exits and the longer term effects of PE backed firms has been limited (for exceptions see Stromberg, 2008; Jelic, 2009). While there has been recent evidence that reverse LBOs' three and five year stock performance is at least as good as that of other IPOs and the stock market as a whole (Cao and Lerner, 2007), there is an absence of evidence concerning the longer term post-exit operating performance. Moreover, evidence relating to exits in both the first and second waves of private equity has tended to focus on IPOs, yet the vast majority of private equity backed buyouts exit by means of either a strategic sale or a secondary buyout (CMBOR, 2008).

The importance of tracking performance over a longer period has been highlighted by both the continuing debate about the overall benefits of PE investments and the operating performance literature (Barber and Lyon, 1996). We, therefore, track buyouts' operating performance up to 13 years (3 years before and 10 years after buyout transactions), and separately examine the determinants of the performance changes after both buy-outs and exit transactions. Using a novel, hand-collected dataset of 1,333 buy-outs covering the period 1980-2004, we find that PE backed transactions tend to be larger than their non-PE backed counterparts, both in terms of MBO value and value at exit. Backing by a highly reputable PE firms increases likelihood of flotation by 45%. The reputation of the PE firm is also positively associated with increase in employment both after buy-out transaction and after exit. This evidence suggests that long term benefits from PE investments do not come at the expense of employees.

The rest of the paper is organised as follows. In Section 2, we provide a summary of related literature. Section 3 describes the data sources and our sample. Methodology is

discussed in Section 4. Results are presented and discussed in Section 5. Section 6 contains conclusions with suggestions for further research.

2. Relevant literature and hypotheses

2.1. Determinants of exit methods

In spite of the popularity and extensive media coverage of IPOs, the evidence on what is the most desired (and dominant) form of 'harvesting' is not clear. For example, Sahlman (1990) reports that more venture capital backed private firms opted for trade sales than IPOs during the 1980s.[12] Cumming et al. (2006), Cumming and MacIntosh (2003) and Cumming (2008) also show that exit routes are varied and differ across institutional contexts and the nature of control rights contracts held by the venture capital firm.

A number of studies have identified differences in exit strategy. IPOs, for example, involve public (including regulatory) scrutiny and lengthy disclosure during and after exit. On the other hand, only a limited number of investors are involved in information gathering related to trade sales (Chemmanur and Fulghieri 1999). It can be argued, therefore, that the level of information asymmetry is much higher for trade sales than for IPO (Cumming and MacIntosh, 2003). Although both IPO and trade sales benefit from the subsequent access to public debt and equity market, a profitable project in companies that have undergone trade sales may find it more difficult to raise funding within the internal capital markets of the acquiring firms (Stein, 1997). Exit strategies also tend to affect the valuation of the companies. Lerner (1994) for example, reports that the return to investment in companies that exit via flotation was four times that of the return for trade sales for venture capital backed private firms.[13] The above differences suggest that choice between different exit strategies may not be random, and that some determinants of choice could be identified.

[12] Terms: trade sale, sell-out, and sale will be used inter-changeably.
[13] Similarly, Koeplin et al., (2000) report that trade sales are often valued at a 20-30% discount to similar public takeover deals.

Brau et al., (2003) classify the possible determinants into four different categories: industry related, market timing related, factors related to overall demand for funding by private firms, and deal-specific determinants. The evidence for market timing in IPO markets suggest that peaks in the IPO market (hot issue periods) coincide with peaks in stock market returns (Ritter, 1984; Lowry, 2003), while the overall demand for funding influences the choice between IPOs and acquisitions to a lesser degree (Mikkelson et al., 1997). Boehmer and Ljungqvist (2004) suggest that more companies will go public when outside valuations are high or have increased. They also highlight the importance of deal (i.e. company) specific factors, such as uncertainty related to future profitability and insider ownership. For example, when deal uncertainty is high more firms would choose IPO, while companies whose shareholders enjoy significant private benefits of control are less likely to go public. Finally, industry classification has been identified as an important determinant of exit methods (Pagano et al., 1998), particularly innovative and technology based sectors.

Ellingson and Rydquist (1997) report that sell-outs would be preferred to IPO by companies with assets that are more difficult to value by dispersed public shareholders. Similarly, Poulsen and Stegemoller (2005) consider companies' ownership, growth, and information asymmetry as important determinants of choice. They hypothesise that firms with low insider ownership, lower growth opportunities, and assets that are more difficult to value by dispersed public shareholders would prefer trade sale to IPO. In the buy-out context, deals originated from divestments of divisions of larger corporations may have significantly greater growth opportunities than buy-outs from other vendor sources where parental control systems have constrained their ability to exploit growth opportunities (Wright et al., 2000). Similarly, private equity transactions driven by outsider (e.g. management buy-ins - MBIs) may be riskier than insider driven management buy-outs (MBOs) but may have greater growth prospects. For divestments and MBIs, therefore, IPOs are expected to be the preferred exit strategy. Finally, reputable PE firms may send a certification signal about the quality of the firm, making an IPO more feasible.

2.2 Private equity backing and performance

2.2.1 Performance after buy-out transactions

There is extensive evidence that restructuring of buy-outs within a two to three year period is key to generating gains, and that PE firms' board representation contributes to better performance of PE backed buy-outs (see Thompson and Wright (1995); Cumming et al., (2007), and Kaplan and Stromberg (2009) for comprehensive literature surveys). Evidence also points to governance advantages of PE firms' boards compared to publicly listed companies (Acharya et al., 2009; Cornelli and Karakas, 2008).

The evidence on improvements in operating performance after buy-out transactions during the first wave in the 1980s is conclusive (Kaplan, 1989; Smith, 1990; Opler, 1992; Wright et al., 1996). For example, Wright et al. examine 251 UK buy-outs and 446 non-buy-outs which were tracked for up to six years after the buy-out. The authors conclude that buy-outs significantly outperform non-buy-outs in terms of return on assets and return on equity in years 3 to 5 post buy-out. The limited evidence on the operating performance of private equity backed buy-outs, especially public to private transactions, during the second wave appears to be less positive (Weir et al., 2008; Guo et al., 2009). However, buy-outs involving former divisions of corporations which had previously been constrained by the former parent's control systems in their ability to exploit growth opportunities (Wright et al., 2000), may be more likely to have growth prospects post buy-out (Meuleman, et al., 2009).

The only evidence, so far, on the relative performance of UK buy-outs opting for different exit strategies comes from Nikoskelainen and Wright (2007). The authors report an internal rate of return of enterprise value of 22.2% and the average equity internal rate of return of 70.5%, for the sample of 321 UK buy-outs exiting during the period 1995-2004. Buy-outs that exited via IPO outperformed trade sale exits and secondary buy-out exits. Larger buyouts performed better than medium and smaller buyouts. The authors also suggest that returns are related to corporate governance mechanisms resulting from leveraged buyouts. In particular, experienced, specialised PE firms may be able to build reputations for selecting good deals and providing

value added services to enable the business to develop (Cressy et al., 2007a; Meuleman, et al., 2009).

2.2.2 Operating performance in post-exit phase

The operating performance of buy-outs exited via stock market flotation has been examined as a part of larger samples in the IPO literature. For example, Khurshed et al. (2003) report long term reductions in operating performance for UK IPOs during the 1980-83 period, in the first year after listing. Jain and Kini (1994) and Mikkelson et al. (1997) report long term deterioration in operating performance for US IPOs. Mikkelson et al. (1997) argue that the drop in the performance was associated with the firms timing ability to go public during periods of exceptionally good performance.[14] A common feature of these studies, however, is that they have examined both early stage and buy-out stage investments combined. Buy-out firms, however, are quite distinct and are not representative of a typical firm going public, and it is important to study them separately (Jelic et al., 2005).

Barber and Lyon (1996) provide an alternative explanation for operating 'underperformance' after IPO. They report that the results of some studies could be biased due to the fact that authors did not track the performance of IPO firms long enough after coming to market. They also suggest that cash flow, rather than accrual based, measures of performance should be used since the use of accruals tends to overstate earnings pre-event. Finally, scaling profit by sales rather than total asset can be a better measure of performance after IPO since it avoids the 'build up in assets' measurement problem. The problem is related to the fact that operating assets tend to increase immediately after the IPO but their deployment is often delayed which would mean further delay in the effect on operating income.

Lin and Smith (1998) hypothesize that VC firms balance the cost of continued monitoring involvement (i.e. inability to redeploy advisory talent to other ventures) against the adverse market reaction to insider selling during IPO. To expedite redeployment of investments, companies backed by VC are brought to the market

[14] Elsewhere a significant decline in the post IPO performance was documented for Japanese IPO (Cai and Wei, 1997; Kutsuna et al., 2002).

sooner than non-VC backed companies. The authors also report a decline in VC's board seats after the IPO exit from 13.6% to 4.9%. This further may imply that one should expect deterioration in performance after the exit. In the context of the governance and incentive systems in PE backed LBOs, IPOs may experience both a reduction in monitoring by PE firms and a decline in managerial equity holdings (Holthausen and Larcker, 1996).

Empirical evidence on financial performance (i.e. stock market price based) seems to contradict this view, and documents an absence of statistically significant underperformance for PE backed IPOs (Espenlaub et al., 1999; Jelic et al. 2005; Levis, 2007).[15] Cao and Lerner (2007) find for a US sample covering 1981-2003 that reverse LBOs' three and five year stock performance is at least as good as that of other IPOs and the stock market as a whole. Holthausen and Larcker (1996) find continued profit outperformance by reverse LBOs for up to four years post IPO. Jelic et al. (2005) argue that private equity firm reputation plays an important role in financial long term performance of reversed buy-outs that were subsequently floated. The authors did not find underperformance by PE backed buy-outs. Furthermore, buy-outs backed by more prestigious firms performed better than those backed by less prestigious firms, measured by two year buy-and-hold returns after IPO.

3. Data sources and sample descriptive statistics

3.1. Data sources

Buy-out and exit transactions have been identified from the Center for Management Buy-out Research (CMBOR) Quarterly Reviews (various issues), KPMG MBO commentaries (various issues), Barclays Private Equity Deal Maker (various issues), Barclays Private Equity – Exits (various issues), KPMG New Issue Statistics, and www.growthbusiness.co.uk website. This data collection exercise enabled us to obtain a list of 1,333 UK buyouts, with inception and/or vintage years, size and details about

[15] Levis (2007) reports that PE backing does not seem to be reliable a factor in differentiating average long term performance of UK IPOs, although they do seem to generate more homogenous performance.

exit strategies, type of transaction (MBO vs. MBI), vendors, and industry classification for the period 1980-2004. We monitor the progress of buy-outs following completion, by surveying the same sources plus London Stock Exchange Primary Market Fact-sheets, BVCA reports, and websites of PE firms. Additional data on operating performance, current ownership status, venture capital involvement, and exit strategies was collected from various sources such as: FAME database, Reuters database, Datastream database, companies' annual reports (obtained either from Companies House or directly from the companies), and IPO and/or acquisition prospectuses.

The data on the number of deals and the total amount of equity invested by different PE firms in UK companies was collected from MBO Statistics – KPMG Corporate finance publications – various issues, from 1981 to 1998. More recent data was collected from the PE firms' home websites and www.growthbusiness.co.uk website. Reputation is then established using the number of deals as equity leader and total amount invested as criteria, and calculating the reputation score as a weighted average:

Reputation score = ½ (number of deals as equity leader) + ½(total equity funding in £m)

(equation 1)

Based on the reputation score we established a list of the top 10 most reputable PE equity providers who, in total, funded more than 2,000 buy-outs from 1981 to 2004. Two overseas PE firms were included in the list outside the criteria since they have established their reputation elsewhere (i.e. the USA) before, more recent, investments in UK companies.

3.2 Sample descriptive statistics

The firms from the second sub-sample (non-floats) are, on average, larger than other sample firms (floats and non-exits, respectively) (Table 1). The sample firms that exited via IPO were floated either on the Main Board of the London Stock Exchange

(310 firms) or on one of the second boards (200 firms).[16] The second sub-sample (non-floats) consists of 354 MBOs that exited via either trade sales (237 firms), secondary MBOs (88 firms) or through the receivership process (29 firms). Finally, 232 of our sample buyouts had not exited by the end of 2004.

Insert Table 1 about here

Non-exits tend to be much smaller transactions than their counterparts from IPO and non-IPO sub samples. It takes, on average, 46 months before sample companies exit their buy-outs structure. The difference in time to exit via IPOs and other exit methods is not statistically significant. Median internal rate of return of enterprise value (IRR) for all sample companies that exited their buy-out structure is 30%. The sample buy-outs that exited via IPOs earned 42% and clearly outperformed trade sale (24%) and SMBO exits (23%).[17] The difference in IRRs for sales and SMBOs is not statistically significant. Overall, the descriptive statistics and the results of univariate analysis suggest statistically significant differences in the size and internal rates of return between sample firms stratified by different exit strategies

4. Methodology

4.1 Determinants of exit methods

The determinants of IPO choice were examined within the following probit models:

$$FLOAT_i = \alpha o + \beta_1 LNVMBO_i + \beta_2 DIVESTMENT_i + \beta_3 MBI_i + \beta_4 AVFTSE_i + \beta_5 TIMEX_i + \beta_6 INDUSTRY\,i + \beta_7 PE\,i + \varepsilon i \quad \textit{(equation 2)}$$

$$FLOAT_i = \alpha o + \beta_1 LNVMBO_i + \beta_2 DIVESTMENT_i + \beta_3 MBI\,i + \beta_4 AVFTSE_i + \beta_5 TIMEX_i + \beta_6 INDUSTRY_i + \beta_7 REPUTATION_i + \varepsilon i \quad \textit{(equation 3)}$$

The dependent variable is a dummy variable taking a value equal to 1 if buy-out exited via flotation, and 0 otherwise (trade sale, secondary buy-outs, liquidation)

[16] USM until 1995, and AIM since 1995.
[17] Our results are consistent with results reported in Nikoskelainen and Wright (2007).

(FLOAT). The choice of IPO is a function of the following explanatory/control variables: a variable for buy-out value, as natural logarithm buy-out value *(LNVMBO);* a dummy variable for source of buy-out transaction taking value equal to 1 for divestments *(DIVESTMENT)*, and zero otherwise (privatizations and/or family owned entire companies, secondary buy-outs, and receivership)*;* a dummy variable for buy-in transactions taking value equal to 1 for buy-in transactions *(MBI)*, and 0 for buy-outs*;* an average growth rate for FTSE All Shares Market Index during the exit year and the year preceding the exit *(AVFTSE);* a dummy variable taking value equal to 1 for manufacturing companies, and 0 otherwise *(INDUSTRY);* a variable for length of time (number of months) before exits *(TIMEX);* a dummy variable taking value equal to 1 for PE backed firms, and 0 otherwise *(PE);* a dummy variable for more reputable private equity firms' taking value equal to 1 for top ten PE firms *(REPUTATION)*, and 0 otherwise.

4.2. Operating performance measures

Barber and Lyon (1996) evaluated the choice of an accounting based performance measure, statistical tests, and models of expected operating performance. Their findings highlight the importance of following the performance of sample firms for several years following the event (i.e. buy-out and/or IPO). An IPO, for example, may create a large increase in the book value of their assets as they invest in additional operating assets, but no commensurate increase in operating profit, since these assets have not been employed long enough to generate operating profit. Following performance over a longer period of time would ascertain whether erosion in operating performance is the result of a temporary build-up in assets. Usage of alternative measures of performance (i.e. cash based) which are unaffected by the changes in a firm's operating assets is also recommended. We follow both recommendations and investigate operating performance of sample firms before/after buy-out transactions, as well as before/after exits. Specifically, our study tries to determine changes in operating performance by measuring changes in (1) profitability, (2) operating efficiency, (3) output, (4) dividend payments, (5) employment levels, and (6) leverage:

Profitability:

Return on assets (ROA) = Net profit after tax divided by asset

Return on sales (ROS) = Net profit after tax divided by sales

Operating efficiency:

Sales efficiency (SALEFF) = Sales in £, divided by number of employees, normalized to unity in the year of MBO or exit (year 0)

Output:

Sales (SALE) = Sales in £, normalized to unity in the year of MBO and or exit (year 0)

Dividends:

Dividends to sales (DIVSAL) = Cash dividends divided by sales

Dividends to assets (DIVA) = Cash dividends divided by assets

Employment:

Total employment (EMPL) = Total number of employees, normalized to unity in the year of MBO or exit (year 0)

Leverage:

Long term debt ratio (GEAR1) = Total long term debt divided by total assets

Total liabilities ratio (GEAR2) = Total liabilities divided by total assets

4.3 Operating performance in post buy-out phase

We examine change and determinants of change in operating performance in the post-buyout phase within the following pooled cross-sectional time-series regression model, estimated via a Generalized Least Squares random-effects method (GLS): [22]

$$P\,it = \alpha o + \beta_1\, POST\,it + \beta_2\, LNVMBO\,it + \beta_3\, INDUSTRY\,it + \beta_4\, PE\,it + \beta_5\, MBI\,it + \varepsilon i \quad \textit{(equation 4)}$$

$$P\,it = \alpha o + \beta_1\, POST\,it + \beta_2\, LNVMBO\,it + \beta_3\, INDUSTRY\,it + \beta 4\, REPUTATION\,it + \beta 5\, MBI\,it + \varepsilon i \quad \textit{(equation 5)}$$

Where, performance measures (*Pit* = dependent variables) for output, efficiency, employment, profitability, gearing, and dividends, respectively are: (i) sales in £, normalized by sales in buy-out year *(SALE)*, (ii) sales per employee ratio, normalized by the ratio in buy-out year *(SALEFF)*, (iii) number of employees, normalized by number of employees in buy-out year *(EMPL)*, (iv) profit divided by total assets *(ROA)*, (v) long term debt divided by total assets *(GEAR1)*, and (vi) dividends divided by sales *(DIVSAL)*. Performance is a function of a pre/post dummy taking value equal to 1 for post buy-out years, and 0 otherwise *(POST)* and several explanatory/control variables. The explanatory/control variables are a variable for buy-out value, as natural logarithm of buy-out value *(LNVMBO);* a dummy variable taking value equal to 1 for manufacturing companies, and 0 otherwise *(INDUSTRY)*[23]; a dummy variable for more reputable private equity firms' taking value equal to 1 for top ten PE firms, and 0 otherwise *(REPUTATION);* a dummy variable for buy-in transactions taking value equal to 1 for buy-in transactions, and 0 for buy-outs *(MBI);* a dummy variable taking value equal to 1 for PE backed firms, and 0 otherwise *(PE).*

[22] Reported R^2 is an overall R^2 as a weighted average of the estimates produced by the between and within estimators.

[23] A similar classification was made in KPMG's publications on buy-outs given a significant number of buy-outs from this sector (more than 40% during 1980s). In addition, manufacturing companies require different monitoring skills from PE firms.

4.4 Operating performance in post-exit phase

We estimate the following model for buy-outs exited via IPO:

$$Pit = \alpha o + \beta_1 POST\ it + \beta 2\ TIMEX\ it + \beta_3\ LNVEXIT\ it + \beta_4\ INDUSTRY\ it + \beta 5\ PEit + \varepsilon i$$

(equation 6)

$$Pit = \alpha o + \beta_1 POST\ it + \beta 2\ TIMEX\ it + \beta_3\ LNVEXIT\ it + \beta_4\ INDUSTRY\ it + \beta 5\ REPUTATION\ it + \varepsilon i$$

(equation 7)

Again, all parameters of the pooled cross-sectional time-series regression are estimated via GLS random effects method. Where, performance measures (*Pit* = dependent variables) for output, efficiency, employment, profitability, gearing, and dividends, respectively are: (i) sales in £, normalized by sales in exit year *(SALE)*, (ii) sales per employee ratio, normalized by the ratio in exit year *(SALEFF)*, (iii) number of employees, normalized by number of employees in exit year *(EMPL)*, (iv) profit divided by total assets *(ROA)*, (v) long term debt divided by total assets *(GEAR1)*, and (vi) dividends divided by sales *(DIVSAL)*. Performance is a function of a pre/post dummy taking value equal to 1 for post exit years, and 0 otherwise *(POST)* and several explanatory/control variables. The explanatory/control variables are a variable for buy-out value, as natural logarithm of buy-out value at exit *(LNVEXIT);* a dummy variable taking value equal to 1 for manufacturing companies, and 0 otherwise *(INDUSTRY)*; a dummy variable for more reputable private equity firms' taking value equal to 1 for top ten PE firms, and 0 otherwise *(REPUTATION);* a dummy variable for buy-in transactions taking value equal to 1 for buy-in transactions, and 0 for buy-outs *(MBI);* a dummy variable taking value equal to 1 for PE backed firms, and 0 otherwise *(PE).*

4.5 Robustness of the results

Barber and Lyon (1966) suggest that models for operating performance that yield well-specified and powerful statistical results incorporate a company's past performance. In particular, models based on changes in performance dominate level models in detecting abnormal operating performance.[28] We, therefore, examine and test for significance in changes in performance up to five years after the event and adopt a naïve, no-change model of the performance:[29]

$$E(P_{it}) = P_{i,\,t-k.} \qquad \textit{(equation 8)}$$

Where, $E(P_{it})$ is expected performance of the buyout during post-event period, and $P_{i,\,t-k.}$ is past performance before the event. It has been noted that companies may be motivated to overstate reported profits in the year prior to IPO. An accrual-based measure, therefore, can increase the likelihood that 'underperformance' will be recorded after IPO. For that reason, we use average performance for 3 years prior to the event for $P_{i,\,t-k.}$

First, we compute relevant ratios for every firm for three years before and five years after IPO. We then calculate means and medians of cross-section of the firms, for each ratio, for the pre-IPO (-1 to –3) and post IPO (years, +1 to +5) period. The year of IPO (year 0) is excluded from the analysis, because it may include both public and private ownership phases of the firm. We compare the performance in each of the post IPO years with the average over a 3-year period before IPO. To test whether the changes in operating performance are significant, we run a two sample T-test for significant changes in means and a Mann Whitney test for significant changes in medians.[30] Finally, a proportion test is used to determine whether proportion (p) of companies that have experienced change in a given direction is greater than the proportion of the companies expected by chance.[31]

[28] Matching by size of sample companies does not seem to be critical in tests designed to detect abnormal performance.
[29] This model is one of nine alternative models discussed in Barber and Lyon (1996).
[30] Barber and Lyon report that non-parametric test perform much better than parametric tests, regardless of the operating performance measure employed.
[31] Typically we test whether, p = 0.5.

5. Results

5. 1 Determinants of exit methods

The results for determinants of exit strategies are shown in Table 2. Regressions for equations 2 and 3 exhibit high goodness of fit (90.5 and 80.7 percent, respectively). The regression for equation 2 suggests positive association between *PE* backing and the likelihood of flotation.[32] *REPUTATION* also plays an important part in selecting the exit method (equation 3). For example, backing by a highly reputable PE firm increases the likelihood of flotation by 45%. The variables *DIVESTMENT, MBI,* and *INDUSTRY* are all positively associated with the likelihood of flotation, and are highly statistically significant. *LNVMBO* and *TIMEX* are negatively associated with the likelihood of flotation and are also highly statistically significant.

Insert Table 2 about here

5.2 Post buy-out performance

Table 3 reports the results of pooled cross-section regression across time for changes in operating performance after buy-outs. The results suggest statistically significant increases in output, efficiency and dividends during the post buy-out period. The t-statistics for the coefficients of POST variable for change in output, efficiency and dividends are statistically significant at 5%, 1% and 10%, respectively.[33] Among control variables value of buy-out is important for changes in gearing and dividends (both positively associated with value of buy-outs), while management buy-ins tend to be associated with an increase in gearing in the post buy-out period. Buy-outs backed by PE firms tend to increase employment after buy-outs. Surprisingly, PE backing and the reputation of the PE firms are negatively associated with changes in profitability.

Insert Table 3 about here

[32] The regression for model 2, however, exhibits poor Pesaran-Timmermann statistic which cast some doubts on this particular model specification.
[33] Our unreported results of univariate analysis for post-buyout performance are economically and statistically consistent with the results of the multivariate analysis.

5.3 Post exit performance

In the regressions for equations 6 and 7, we find statistically significant increases in output, employment, profitability and dividends, while gearing is significantly reduced (Table 4). It is worth noting that PE variable was dropped from the regressions for ROA and employment (equation 6) due to collinearity.[34] Among control variables, size *(LNVEXIT)* and time to exit *(TIMEX)* seem to be the most important determinant of changes in performance. Overall, the sub-sample displays no evidence of statistically significant underperformance that is often documented in the IPO literature. In contrast, the evidence suggests improved performance during the post listing period. The results for increase in employment of PE backed buyouts are particularly interesting and shed more light on the ongoing debate about the role of PE firms in the UK (Johnson, 2007). The evidence on changes in employment is consistent with early empirical evidence on changes in employment following buy-outs (Kaplan, 1989; Smith, 1990) as well as more recent evidence by CMBOR and others (Davis et al., 2008, 2009; Amess and Wright, 2007a, b; Amess et al., 2008).[35]

Insert Table 4 about here

5.4 Robustness of the results

The evidence for the operating performance of buy-outs after they exited via IPO suggests improvements in employment, sales efficiency and sales up to 5 years after IPO (Table 5 – Panel A). We also find strong evidence of improvements in dividends (measured by DIVS). Buy-outs exiting via IPO also significantly reduced gearing levels after coming to market, a finding consistent with US evidence in Kaplan (1991). The effect is statistically significant up to 5 years after IPO. The results for changes in profitability are less conclusive but they do seem to suggest statistically significant improvements in the year following IPO, based on the results for non-parametric tests (i.e. Mann Whitney and one sample proportion tests). These findings in respect of profitability contrast somewhat with US evidence by Holthausen and

[34] We also estimated modified equation 6 that also includes an interaction term, REPUTATION. The unreported results are economically and statistically consistent with the reported results for equation 6.
[35] The CMBOR data, as cited in Johnson (2007), reported a steady increase in employment from the second up to the fifth year after buy-out.

Larcker (1996) who find continued profit outperformance by LBOs for up to four years post IPO.

Insert Table 5 about here

In Panel B, we present results for the sub-sample of SMBO exits.[36] To the best of our knowledge there has been no previous examination of the operating performance of the SMBOs. The results suggest a lack of statistically significant changes in the operating performance of the sample buy-outs that exited via SMBO. The results are consistent with anecdotal evidence that SMBOs are often used by PE firms as a back-up exit method near the end of the holding period, and where IPOs and/or trade sales are not feasible. In such circumstances, PE firms are simultaneously selling their existing shares and purchasing shares in the new company without making any significant changes.

5. Conclusion and further research

Using a hand-collected dataset of 1,333 buyouts, we examine long term operating performance of management buy-outs and the choice of investors/managers exit methods. We add to the literature by examining both PE backed and non PE backed deals and by tracking their operating performance up to 13 years (3 pre and 10 post buy-out years). We separately examine the determinants of the performance changes after both buy-outs and exit transactions.

Buy-outs exited via IPO are, on average, smaller than sample buy-outs exited via trade sales, secondary buy-outs or receiverships. Our probit regressions for determinants of exit strategies exhibit high goodness of fit and levels of statistical significance, and show higher likelihood of IPO for larger and those companies

[36] The relevant results for the sub-sample of trade sales were not available since majority of sell-outs tend to be absorbed into a different corporate entity.

backed by PE firms. In particular, backing by highly reputable PE firms increases the likelihood of flotation by 45%.

The results of our pooled cross-sectional time series models suggest a statistically significant increase in output, efficiency and dividends during the post buy-out period. Overall, our sample companies exhibited statistically significant improvements in output and statistically significant reductions in gearing in the post-exit phase. Exit type is statistically significant in the regression for changes in employment. The floated buy-outs tend to increase employment after exiting the buy-out structure. More reputable PE firms tend to increase employment in both post-buyout and post-exit phases. Reputation of PE firms is also important for changes in output.

In a separate regression for post exit performance of buy-outs exited via IPO, we find statistically significant increases in output, employment, profitability and dividends, and reductions in gearing. The above results were confirmed in our univariate analysis of changes in the performance relative to benchmarks based on the past performance. The results of the univariate analysis also suggest lack of statistically significant changes in the operating performance of the sample buy-outs that exited via SMBO.

Overall, the sub-sample displays no evidence of statistically significant underperformance that is often documented in the IPO literature. On the contrary, the evidence suggests improved performance during the post listing period. The results for changes in employment of PE backed buy-outs are particularly interesting and shed more light on the ongoing debate about the role of PE firms in UK. Based on the evidence presented, benefits for PE equity investors do not seem to come at the expense of the employees. Our result for the sub-sample of IPO buy-outs contradict the long term IPO underperformance hypothesis supported by US and UK data (Jain and Kini 1994; Khurshed et al. 2003).

Surprisingly, PE backing and the reputation of the PE firms are negatively associated with changes in profitability measured by ROA. Data constraints have prevented us from checking for the robustness of this result but other recent studies of public to private buy-outs have also noted that the profitability improvements found in the first private equity wave do not appear to be repeated during the second wave (Weir, et al.,

2008; Guo et al., 2009). Further research should use alternative measures of profitability which are not affected by changes in gearing (e.g. operating income). Fama and French (2000) provided strong evidence for mean reversion properties of earnings together with cross-sectional variations in the tendency for mean reversion. Control of mean reversion properties of earnings in smaller companies experiencing exceptional before-even results could, therefore, be of particular importance for further research in this area.

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Table 1 Sample Descriptive Statistics

The table presents descriptive statistics for sample MBOs, during 1980-2004, stratified by occurrence of exits and exit strategies. Floats are MBOs where investors/managers exited via IPOs. Other exits are MBOs where investors/managers exited via trade sales, secondary MBOs, or liquidations. Non-exits are MBOs that have not changed their status – status in 2004. IRR is average annual holding period return, calculated as IRR = $(VEXIT/VMBO)^{-t}$ -1, where t=time to exit in calendar years, VMBO= inflation adjusted value of buy-out transaction, VEXIT= inflation adjusted value at exit, in million (£);P-values are reported for 2 sample T and Mann Whitney tests for differences in mean and median values, respectively.

		Mean	Median	St.Dev.	Min	Max
MBO value (£ mill)						
Floats (510 sample firms)		120.00	16.80	295.50	0.10	2,140
Other exits (354 sample firms)		97.30	40.00	194.20	1.80	2,013
Non-exits (232 sample firms)		45.40	18.00	163.80	9.00	2,375
Floats vs. other exits	P-value	0.488	**0.000**			
Floats vs. non exits	P-value	**0.024**	0.211			
Other vs. non exits	P-value	**0.001**	**0.000**			
Time to 1st exit (months)						
Floats		45.72	36.00	36.78	1	246
Other exits		45.65	36.00	32.94	10	180
Floats vs. other exits	P-value	0.981	0.542			
IRR (%)						
Floats		137	42	817	-69	13,205
Sales		122	24	716	-57	7,900
SMBO		31	23	33	-8	193
Floats vs. Sales	P-value	0.820	**0.004**			
Floats vs. SMBO	P-value	**0.030**	**0.001**			
Sale vs. SMBO	P-value	0.155	0.681			

Table 2 Probit maximum likelihood estimation for the choice of IPO exits

Probit regressions for equations 2 and 3, from the text. Dependent variable is a dummy variable taking value equal to 1 if buy-out exited via IPO, and 0 otherwise (trade sale, secondary MBO, liquidation). The choice of IPO is a function of the following explanatory/control variables: a variable for buy-out value, as natural logarithm buy-out value (LNVMBO), a dummy variable for source of buy-out transaction taking value equal to 1 for domestic and foreign divestments, and zero otherwise (privatizations, entire company (including family owned) going private, secondary buy-outs, and receivership) (DIVESTMENT), a dummy variable for buy-in transactions taking value equal to 1 for buy-in transactions, and 0 for buy-outs (MBI), average growth rate for FTSE All Shares Market Index during the exit year and the year preceding the exit (AVFTSE), a dummy variable for manufacturing companies taking value equal to 1 for companies from engineering, hi-tech, IT, chemicals, textiles, paper and wood, and plastic, and 0 otherwise (INDUSTRY), a variable for lengths of time, as number of months, before exits (TIMEX); PE is a dummy variable taking value equal to 1 if buy-out received private equity backing, and 0 otherwise. REPUTATION is a dummy variable for more reputable private equity firms' taking value equal to 1 for top ten PE firms, and 0 otherwise. All parameters are estimated using Probit Maximum Likelihood Estimation. Test statistics are presented in parenthesis.

	Equation 2	*Equation 3*
LNVMBO	-0.489 (0.000)	-0.301 (0.000)
DIVESTMENT	1.111 (0.000)	1.230 (0.000)
MBI	0.049 (0.815)	0.418 (0.009)
AVFTSE	-0.174 (0.580)	0.206 (0.395)
INDUSTRY	0.582 (0.008)	0.706 (0.000)
TIMEX	-0.007 (0.004)	-0.006 (0.003)
PE	2.530 (0.000)	
REPUTATION		1.172 (0.000)
INTERCEPT	0.668 (0.131)	0.377 (0.273)
Marginal effects factor	0.379	0.386
Goodness of fit	0.905	0.807
Pseudo R^2 (%)	62.68	34.51
Pesaran-Timmermann statistic	-0.964 (0.335)	-3.798 (0.000)
N	703	703

Table 3 Multivariate analysis: determinants of operating performance in post buy-out phase

Pooled cross-sectional time-series regression for the determinants of changes in operating performance. Performance measures (dependent variables) for output, efficiency, employment, profitability, gearing, and dividends, respectively are (i) sales in £, normalized by sales in exit year (SALE), (ii) sales per employee ratio, normalized by the ratio in exit year (SALEFF), (iii) number of employees, normalized by number of employees in exit year (EMPL), (iv) profit divided by total assets (ROA), (v) long term debt divided by total assets (GEAR1), and (vi) dividends divided by sales (DIVSAL). The performance is a function of a pre/post dummy taking value equal to 1 for post exit years, and 0 otherwise (POST) and several explanatory/control variables. The explanatory/control variables are a variable for buy-out value at exit, as natural logarithm of buy-out value (LNVMBO), a dummy variable taking value equal to 1 for manufacturing companies, and 0 otherwise (INDUSTRY), a dummy variable for more reputable private equity firms' taking value equal to 1 for top ten PE firms (PEREPUTATION), and 0 otherwise, a dummy variable for more reputable private equity firms' taking value equal to 1 for top ten PE firms (REPUTATION), and 0 otherwise. All parameters of the pooled cross-sectional time-series regression are estimated via a GLS random-effects model. R^2 is the overall R^2 as a weighted average of the estimates produced by the between and within estimators. Test statistics are presented in parenthesis.

	DEPENDENT VARIABLES											
	OUTPUT (SALE)		**EFFICIENCY (SALEFF)**		**EMPLOYMENT (EMPL)**		**PROFITABILITY (ROA)**		**GEARING (GEAR1)**		**DIVIDEND (DIVSAL)**	
	Eq. 4	*Eq. 5*	*Eq. 4*	*Eq. 5*	*Eq.4*	*Eq.5*	*Eq.4*	*Eq.5*	*Eq.4*	*Eq.5*	*Eq.4*	*Eq.5*
POST	0.201 (0.048)	0.201 (0.048)	0.249 (0.000)	0.249 (0.000)	-0.001 (0.992)	-0.001 (0.992)	-0.083 (0.575)	-0.083 (0.575)	-0.006 (0.848)	-0.006 (0.848)	0.063 (0.078)	0.063 (0.078)
LNVMBO	0.043 (0.450)	0.037 (0.512)	-0.021 (0.351)	-0.025 (0.279)	-0.035 (0.337)	-0.019 (0.590)	-0.026 (0.669)	-0.050 (0.405)	0.052 (0.091)	0.058 (0.081)	0.035 (0.020)	0.041 (0.012)
MBI	-0.146 (0.643)	-0.135 (0.670)	0.137 (0.197)	0.146 (0.168)	-0.144 (0.407)	-0.186 (0.266)	0.066 (0.835)	0.121 (0.697)	0.297 (0.074)	0.325 (0.051)	0.010 (0.912)	0.006 (0.955)
INDUSTRY	-0.212 (0.371)	-0.180 (0.449)	-0.001 (0.998)	0.001 (0.995)	-0.055 (0.625)	-0.087 (0.423)	0.128 (0.590)	0.226 (0.339)	-0.174 (0.116)	-0.175 (0.119)	-0.012 (0.819)	-0.011 (0.848)
PE	0.166 (0.361)		-0.067 (0.264)		0.133 (0.165)		-0.373 (0.039)		-0.086 (0.291)		-0.133 (0.002)	
REPUTAT		-0.046 (0.834)		-0.099 (0.179)		0.340 (0.004)		-0.701 (0.002)		0.007 (0.957)		-0.067 (0.197)
INTERCEPT	0.929 (0.000)	1.029 (0.000)	0.921 (0.000)	0.932 (0.000)	1.172 (0.000)	1.108 (0.000)	0.228 (0.397)	0.308 (0.246)	0.164 (0.217)	0.114 (0.422)	0.007 (0.914)	-0.068 (0.299)
R^2 (overall)	0.015	0.012	0.162	0.165	0.022	0.058	0.016	0.030	0.166	0.153	0.149	0.093
Wald χ^2 stat.	6.18 (0.289)	5.38 (0.371)	48.67 (0.000)	49.25 (0.000)	3.49 (0.625)	9.85 (0.080)	4.85 (0.434)	9.76 (0.082)	14.37 (0.013)	12.99 (0.024)	21.30 (0.001)	12.31 (0.031)
N obs./group	432/144	432/144	216/72	261/72	225/75	225/75	327/109	327/109	174/58	174/58	159/53	159/53

Table 4 Multivariate analysis: determinants of operating performance in post IPO phase

Pooled cross-sectional time-series regression for the determinants of changes in operating performance after IPOs. Performance measures (dependent variables) for output, efficiency, employment, profitability, gearing, and dividends, respectively are (i) sales in £, normalized by sales in exit year (SALE), (ii) sales per employee ratio, normalized by the ratio in exit year (SALEFF), (iii) number of employees, normalized by number of employees in exit year (EMPL), (iv) profit divided by total assets (ROA), (v) long term debt divided by total assets (GEAR1), and (vi) dividends divided by sales (DIVSAL). The performance is a function of a pre/post dummy taking value equal to 1 for post exit years, and 0 otherwise (POST) and several explanatory/control variables. The explanatory/control variables are a variable for buy-out value at exit, as natural logarithm of market value at exit (LNVEXIT), a variable for time to exit in number of months (TIMEX), a dummy variable for exit type, taking value equal to 1 for flotation, 0 otherwise (FLOAT), selectivity correction factor, estimated from the probit regression for choice of exit strategy, as the inverse Mills ratio (LAMBDA), a dummy variable for manufacturing companies taking value equal to 1 for manufacturing companies, 0 otherwise (INDUSTRY), a dummy variable for more reputable private equity firms' taking value equal to 1 for top ten PE firms (PEREPUTATION), and 0 otherwise. All parameters of the pooled cross-sectional time-series regression are estimated via a GLS random-effects model. In regressions for equation 6, for SALEFE, ROA, and EMPL, PE variable was dropped due to collinearity. R^2 is the overall R^2 as a weighted average of the estimates produced by the between and within estimators. Test statistics are presented in parenthesis.

	DEPENDENT VARIABLES											
	OUTPUT (SALE)		**EFFICIENCY (SALEFF)**		**EMPOLYMENT (EMPL)**		**PROFITABILITY (ROA)**		**GEARING (GEAR1)**		**DIVIDEND (DIVSAL)**	
	Eq.6	*Eq.7*	*Eq.6*	*Eq.7*	*Eq.6*	*Eq.7*	*Eq.6*	*Eq.7*	*Eq.6*	*Eq.7*	*Eq.6*	*Eq.7*
POST	0.937 (0.000)	0.939 (0.000)	0.021 (0.805)	0.021 (0.807)	0.675 (0.057)	0.668 (0.060)	0.033 (0.036)	0.033 (0.037)	-0.194 (0.000)	-0.194 (0.000)	0.276 (0.135)	0.276 (0.000)
LNVEXIT	-0.183 (0.223)	-0.153 (0.099)	-0.095 (0.130)	-0.098 (0.130)	0.021 (0.921)	0.014 (0.944)	0.029 (0.004)	0.029 (0.006)	0.053 (0.018)	0.049 (0.035)	0.593 (0.000)	0.607 (0.099)
TIMEX	-0.003 (0.357)	-0.003 (0.357)	-0.003 (0.039)	-0.003 (0.039)	-0.002 (0.674)	0.002 (0.688)	0.001 (0.258)	0.001 (0.263)	-0.001 (0.998)	-0.001 (0.802)	0.012 (0.018)	0.011 (0.357)
INDUSTRY	-0.347 (0.116)	-0.340 (0.119)	0.292 (0.051)	0.302 (0.052)	-0.166 (0.815)	-0.813 (0.285)	0.003 (0.930)	0.002 (0.942)	-0.046 (0.394)	-0.058 (0.271)	-0.069 (0.858)	-0.400 (0.119)
PE	0.300 (0.223)		–		–		–		0.107 (0.398)		0.149 (0.719)	
REPUTATION		0.294 (0.138)		-0.055 (0.666)		0.807 (0.076)		0.003 (0.896)		-0.028 (0.575)		-0.248 (0.138)
INTERCEPT	1.408 (0.001)	1.421 (0.001)	1.504 (0.000)	1.538 (0.000)	0.951 (0.320)	0.605 (0.514)	-0.069 (0.115)	-0.072 (0.148)	0.022 (0.894)	0.158 (0.160)	-2.813 (0.000)	-2.615 (0.001)
R^2 (overall)	0.119	0.122	0.186	0.186	0.064	0.120	0.154	0.154	0.208	0.205	0.138	0.143
Wald χ^2 stat.	39.96	40.72 (0.000)	9.14 (0.058)	8.88 (0.114)	4.17 (0.383)	7.37 (0.195)	14.38 (0.007)	14.10 (0.015)	41.78 (0.000)	41.31 (0.000)	18.86 (0.002)	19.42 (0.002)
N obs./group	278/97	278/97	68/24	68/24	62/22	62/22	102/37	102/37	153/54	153/54	210/73	210/73

Table 5 Changes in post exit performance

The table presents mean and median values for the measures of operating performance relative to IPO (Panel A) and SMBO (Panel B) exit years (*equation 8* in the text). Statistical significance of mean and median of the operating performance measures in post-exit years (+1 to +5) and the average performance measure during the three year period prior to exit, tested using two sample T-test (for the differences in mean; assuming unequal variance) and Mann Whitney test (for the differences in median). One sample proportion test was used to analyze whether the proportion of firms with increasing performance in post exit years is likely to be equal to 50 percent. > indicates an increase in average (mean and median) performance or higher proportion of MBO with increase in performance; < indicates a decrease in average (mean and median) performance or higher proportion of MBO with decrease in performance. Firms included only if they have at least one observation before/after exit (i.e. minimum of three year data). Employment (EMPLOY) =total number of employees, normalized to unity in the year of exit (year 0). Return on sales (ROS) = net profit after tax divided by sales. Return on assets (ROA) =net profit after tax divided by total assets. Return on equity (ROE) = net profit after tax divided by total equity. Sales efficiency (SALEFF) = sales divided by number of employees, normalized to unity in the year of exit (year 0). Sales (SALES) = sales normalized to unity in the year of exit (year 0). Long term debt ratio (GEAR1) = long term debt divided by total assets. Total liabilities ratio (GEAR2) = total liabilities divided by total assets. Dividends to assets (DIVA) = cash dividends divided by total assets. Dividends to sales (DIVS) = cash dividends divided by sales.

Panel A: IPO

		Pre EXIT			Post EXIT				
N		Year-3	Year-2	Year-1	Year+1	Year +2	Year +3	Year+4	Year+5
	EMPLOY								
32	Mean	1.28113	0.898487	0.948176	1.195908	1.854461	2.837556	1.189334	1.22718
	Median				1.084211	1.172392	1.202105	1.197895	1.242105
	Change; T-stat; P-value		Mean = 0.957545		**>0.011**	**>0.072**	**>0.133**	**>0.021**	>0.261
	Change; MW-statistic; P-value		Median = 0.935647		**>0.0001**	**>0.0000**	**>0.0014**	**>0.0072**	>0.1184
	Prop: After > Before; p=50% (P-value)				**>0.001**	**>0.000**	**>0.012**	**>0.063**	>1.000

		Pre EXIT			Post EXIT				
N		Year-3	Year-2	Year-1	Year+1	Year +2	Year +3	Year+4	Year+5
	ROA								
44	Mean	0.045194	0.049146	0.084699	0.106939	0.073792	0.060158	0.029524	0.167235
	Median	0.035581	0.051811	0.084843	0.098871	0.089258	0.075345	0.078109	0.082429
	Change: Mean (T-stat; P-value)	Mean = 0.067932			**>0.063**	>0.752	<0.716	<0.404	>0.338
	Change: Median (MW-statistic; P-value)	Median = 0.063809			**>0.0124**	>0.2119	>0.4922	>0.4787	>0.6046
	Prop: After > Before; p=50 % (P-value)				**>0.000**	**>0.000**	**>0.001**	**>0.001**	**>0.000**
	ROS								
56	Mean	0.038123	0.14903	0.055563	0.662506	0.830486	3.355494	1.675717	0.060981
	Median	0.031854	0.032596	0.049342	0.070155	0.055207	0.059622	0.059552	0.050332
	Change: Mean (T-stat; P-value)	Mean = 0.088748			<0.339	<0.350	>0.184	>0.347	<0.537
	Change: Median (MW-statistic; P-value)	Median = 0.03926			**>0.0107**	>0.1603	>0.1511	>0.2914	>0.3744
	Prop: After > Before; p=50 % (P-value)				**>0.000**	**>0.000**	**>0.000**	**>0.000**	**>0.000**
	GEAR1								
56	Mean	0.24012	0.32598	0.30615	0.12297	0.130334	0.108174	0.11182	0.135143
	Median	0.06568	0.15699	0.20517	0.05603	0.10190	0.08277	0.095017	0.084135
	Change: Mean (T-stat; P-value)	Mean = 0.314068			**<0.000**	**<0.000**	**<0.000**	**<0.000**	**<0.001**
	Change: Median (MW-statistic; P-value)	Median = 0.200715			**<0.0002**	**<0.0013**	**<0.0005**	**<0.0018**	**<0.0328**
	Prop: After > Before; p=50 % (P-value)				**<0.000**	**<0.000**	**<0.000**	**<0.000**	<0.115
54	**GEAR2**								
	Mean	0.73342	0.92737	0.79125	0.50897	0.35178	0.285337	0.286276	0.57283
	Median	0.69396	0.79717	0.73366	0.47948	0.435351	0	0	0.55198
	Change: Mean (T-stat; P-value)	Mean = 0.820042			**<0.000**	**<0.000**	**<0.000**	**<0.000**	<0.206
	Change: Median (MW-statistic; P-value)	Median = 0.749792			**<0.000**	**<0.000**	**<0.000**	**<0.000**	**<0.0029**
	Prop: After > Before; p=50 % (P-value)				**<0.000**	**<0.003**	**<0.000**	**<0.001**	<0.115

		Pre EXIT			Post EXIT				
N		Year-3	Year-2	Year-1	Year+1	Year +2	Year +3	Year+4	Year+5
	DIVS								
144	Mean	0.012914	0.025462	0.012192	0.160547	0.190384	0.262424	0.294648	0.019144
	Median	0.000000	0.000000	0.001434	0.023515	0.019615	0.021615	0.020887	0.015447
	Change: Mean (T-stat; P-value)	Mean = 0.018268			>0.278	>0.297	>0.301	>0.316	>0.903
	Change: Median (MW-statistic; P-value)	Median = 0.002157			**>0.0000**	**>0.0000**	**>0.0000**	**>0.0000**	**>0.0000**
	Prop: After > Before; p=50 % (P-value)				**>0.000**	**>0.000**	**>0.000**	**>0.010**	**>0.022**
	DIVA								
58	Mean	0.025386	0.030797	0.026132	0.035445	0.021324	0.02159	0.017833	0.043691
	Median	0.017979	0.006459	0.017005	0.032844	0.016487	0.008035	0	0.018881
	Change: Mean (T-stat; P-value)	Mean = 0.0247628			>0.177	<0.506	<0.635	<0.194	>0.413
	Change: Median (MW-statistic; P-value)	Median = 0.0163852			>0.2639	>0.3550	<0.1585	<0.1155	>0.8863
	Prop: After > Before; p=50 % (P-value)				>0.419	<0.890	<0.164	<0.090	<0.664
	SALEFF								
32	Mean	0.679939	1.118901	0.990194	1.028586	1.073401	1.029469	0.829381	1.825153
	Median	0.673556	0.902823	0.946534	1.030968	1.083078	1.095858	1.115445	1.825153
	Change: Mean (T-stat; P-value)	Mean = 1.010119			>0.828	<0.558	>0.886	<0.511	>0.351
	Change: Median (MW-statistic; P-value)	Median = 0.925367			**>0.0136**	**>0.0284**	**>0.0356**	>0.8764	**>0.0370**
	Prop: After > Before; p=50 % (P-value)				**>0.071**	**>0.093**	>0.815	>1.000	>0.500
	SALES								
154	Mean	0.755215	0.802322	0.907173	1.476156	2.03712	2.681188	3.186439	4.043112
	Median	0.641445	0.726957	0.834052	1.199349	1.50096	1.779399	1.999681	2.18367
	Change: Mean (T-stat; P-value)	Mean = 0.821614			**>0.000**	**>0.000**	**>0.000**	**>0.000**	**>0.000**
	Change: Median (MW-statistic; P-value)	Median = 0.752401			**>0.000**	**>0.000**	**>0.000**	**>0.000**	**>0.000**
	Prop: After > Before; p=50 % (P-value)				**>0.000**	**>0.000**	**>0.000**	**>0.000**	**>0.000**

Panel B: SMBO

		Pre EXIT			Post EXIT				
N		Year-3	Year-2	Year-1	Year+1	Year +2	Year +3	Year+4	Year+5
	EMPLOY								
9	Mean	1.089352	1.070048	1.045737	0.954491	0.936374	0.890909	1.035112	*n.a.*
	Median	1.006936	1.005685	1.007344	0.975467	1.027453	1.080542	1.035112	*n.a.*
	Change; T-stat; P-value		Mean = 1.059		*<0.281*	*<0.460*	*<0.614*	*n.a.*	*n.a.*
	Change; MW-statistic; P-value		Median = 0.9975		*<0.5365*	*>0.8852*	*>0.5892*	*n.a.*	*n.a.*
	Prop: After > Before; p=50% (P-value)				*<1.000*	*<0.727*	*<1.000*	*n.a.*	*n.a.*
	ROA								
13	Mean	0.126991	0.104774	0.102096	0.112955	0.23792	0.106706	0.08299	0.112955
	Median	0.15552	0.091813	0.104449	0.074159	0.097326	0.067266	0.084796	0.074159
	Change: Mean (T-stat; P-value)		Mean = 0.094		*>0.728*	*>0.335*	*>0.833*	*<0.842*	*n.a.*
	Change: Median (MW-stat; P-value)		Median = 0.0657		*>0.6081*	*>0.4757*	*>0.8121*	*>0.8930*	*n.a.*
	Prop: After > Before; p=50% (P-value)				*>0.581*	*<1.000*	*>1.000*	*>1.000*	*n.a.*
	ROS								
9	Mean	0.083511	0.082769	0.049663	1.621232	0.117345	0.088345	0.142159	*n.a.*
	Median	0.131068	0.103099	0.083657	0.120843	0.11377	0.128793	0.142159	*n.a.*
	Change: Mean (T-stat; P-value)		Mean = 0.045		*>0.339*	*>0.228*	*>0.561*	*n.a.*	*n.a.*
	Change: Median (MW-stat; P-value)		Median = 0.050		*>0.4799*	*>0.3606*	*>1.0000*	*n.a.*	*n.a.*
	Prop: After > Before; p=50% (P-value)				*>1.000*	*<1.000*	*<1.000*	*n.a.*	*n.a.*
	GEAR1								
6	Mean	0.58442	0.21318	0.4387	0.51237	0.36	0.34553	0.00141	*n.a*
	Median	0.66038	0.08663	0.49525	0.63388	0.3786	0.34553	0.00141	*n.a*
	Change: Mean (T-stat; P-value)		Mean = 0.415		*>0.555*	*<0.795*	*<0.880*	*n.a.*	*n.a.*
	Change: Median (MW-stat; P-value)		Median = 0.3877		*>0.6481*	*<0.7491*	*<0.6171*	*n.a.*	*n.a.*
	Prop: After > Before; p=50% (P-value)				*<1.000*	*<0.625*	*<0.500*	*n.a.*	*n.a.*
	GEAR2								
10	Mean	0.37182	0.36068	0.39361	0.37468	0.25492	0.24633	0.01663	*n.a.*
	Median	0.20077	0.15328	0.25391	0.1946	0.10111	0.01227	0.01663	*n.a.*
	Change: Mean (T-stat; P-value)		Mean = 0.402		*<0.886*	*<0.441*	*<0.603*	*<0.3719*	*n.a.*
	Change: Median (MW-stat; P-value)		Median = 0.2495		*<0.5660*	*<0.2159*	*<0.1956*	*n.a.*	*n.a.*
	Prop: After > Before; p=50% (P-value)				*<0.180*	**<0.031**	*<0.250*	*n.a.*	*n.a.*

		Pre Exit			Post Exit				
N		Year-3	Year-2	Year-1	Year+1	Year +2	Year +3	Year+4	Year+5
	SALEFF								
9	Mean	0.975827	1.038195	1.008403	1.048161	2.268878	2.663928	0.781106	*n.a*
	Median	0.923823	0.963963	0.971168	1.021718	1.059787	1.100572	0.795217	*n.a*
	Change: Mean (T-stat; P-value)		Mean = 1.008		*>0.709*	*>0.350*	*>0.388*	*n.a.*	*n.a.*
	Change: Median (MW-stat; P-value)		Median = 1.0308		*>0.9296*	*>0.7363*	*>0.5892*	*n.a.*	*n.a.*
	Prop: After > Before; p=50% (P-value)				*>1.000*	*>0.727*	*>0.625*	*n.a.*	*n.a.*
	SALES								
7	Mean	1.19505	1.166206	1.111467	0.97208	1.079703	1.170923	1.221638	*n.a.*
	Median	1.138497	1.070925	1.108602	1.040886	1.094249	1.18085	1.221638	*n.a.*
	Change: Mean (T-stat; P-value)		Mean = 1.148		**<0.082**	*<0.552*	*>0.802*	*n.a.*	*n.a.*
	Change: Median (MW-stat; P-value)		Median = 1.1715		*<0.2013*	*<0.7983*	*>0.7768*	*n.a.*	*n.a.*
	Prop: After > Before; p=50% (P-value)				*<0.125*	*>1.000*	*>0.625*	*n.a.*	*n.a.*
	DIVS								
6	Mean	0.23012	0.05309	0.09148	0.18065	0.10236	0.09064	0.11423	0.10579
	Median	0.08105	0.04908	0.05981	0.20056	0.07206	0.06884	0.08959	0.10579
	Change: Mean (T-stat; P-value)		Mean = 0.112		*<0.895*	*<0.758*	*>0.975*	*n.a.*	*n.a.*
	Change: Median (MW-stat; P-value)		Median =0.0415		*>0.4034*	*>0.5309*	*>0.7656*	*n.a.*	*n.a.*
	Prop: After > Before; p=50% (P-value)				*>0.375*	*<1.000*	*>1.000*	*n.a.*	*n.a.*
	DIVA								
5	Mean	0.40339	0.06016	0.1396	0.13755	0.10464	0.18674	0.10634	*n.a.*
	Median	0.12747	0.03779	0.07467	0.11547	0.07183	0.13732	0.10634	*n.a.*
	Change: Mean (T-stat; P-value)		Mean = 0.171		*<0.805*	*<0.614*	*>0.931*	*n.a.*	*n.a.*
	Change: Median (MW-stat; P-value)		Median = 0.0384		*>0.6761*	*>1.000*	*>1.000*	*n.a.*	*n.a.*
	Prop: After > Before; p=50% (P-value)				*>0.375*	*>1.000*	*>1.000*	*n.a.*	*n.a.*