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TITLE: Undervaluation, private information, agency costs and the decision to go private.

YEAR: 2005

Publisher citation: WEIR, C., LAING, D. and WRIGHT, M. 2005. Undervaluation, private information, agency costs and the decision to go private. Applied financial economics [online], 15(13), pages 947-961. Available from: https://doi.org/10.1080/09603100500278221.

OpenAIR citation: WEIR, C., LAING, D. and WRIGHT, M. 2005. Undervaluation, private information, agency costs and the decision to go private. Applied financial economics, 15(13), pages 947-961. Held on OpenAIR [online]. Available from: https://openair.rgu.ac.uk

Undervaluation, Private Information, Agency Costs and the Decision to Go Private

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Abstract
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Undervaluation, Private Information, Agency Costs and the Decision to Go Private

Abstract

There is widespread anecdotal evidence that poor stock market performance is an important reason for taking a company private. Our results support the perceived undervaluation hypothesis. The finding also applies to management buy-outs, which indicates that the management of these firms had private information. We also find that firms going private had non-optimal governance structures, higher board and institutional ownership. The last finding is consistent with going private transactions providing institutions with a means of exiting firms with poor market valuation, particularly during a time of very limited pressure from the market for corporate control.

Undervaluation, Private Information, Agency Costs and the Decision to Go Private

I Introduction

The market for corporate control has traditionally been viewed as an important mechanism for acquiring under-valued corporations, changing their ownership and governance and subsequently improving performance. The development of leveraged buy-outs (LBOs) in the 1980s in the US was viewed as an important development of the market for corporate control. LBOs introduced a novel mechanism for acquiring listed companies with agency problems and replacing them with more effective governance structures. These public to private (PTP) transactions involved the taking private of listed corporations and the replacement of public monitoring by private monitoring based on leverage, concentrated ownership and active financial investors.

The UK experienced a significant increase in the number and value of public-to-private transactions during the late 1990s. During the period 1990-1997, some 37 PTPs took place whereas during the period 1998-2000, there were 116 PTPs. The average value of each deal was £29.78 million for 1990-1997 and £142.30 million for 1998-2000, which represents a 4.77 times increase in deal size.

US studies analyzing the factors influencing the decision to go private using data from the 1980s have primarily investigated the impact of free cash flow and

growth prospects on PTPs, for example, Lehn and Poulsen (1989), Kieschnick (1998). Other studies such as Kaplan (1989) concentrated on tax advantages and Halpern et al (1999) looked at board shareholdings and incentive effects.

However, developments over the last two decades suggest that these arguments may provide incomplete explanations of public to private activity. In this context, this paper extends previous research relating to firms going private in four ways. First, there is a great deal of anecdotal evidence that the latest wave of PTPs is driven by the management's perception that the stock market undervalues their company. This suggests that the rationale for going private may have changed. However, this perception has not been analysed. We investigate the relevance of undervaluation and contrast a measure that may reflect perceived undervaluation by management with that of an objective measure of undervaluation. This provides an insight into the extent of private information possessed by the management teams of firms that go private.

Second, since the 1980s concerns about corporate malpractice have led to increased emphasis on enhancing internal corporate governance through the adoption of corporate governance codes that, inter alia, recommended important changes to the operation of boards of directors. The UK in particular has been innovative in introducing corporate governance codes. We therefore look at the role of corporate governance mechanisms in the post-Cadbury period given that reports such as Cadbury (1992) and Hampel (1998) set out clear guidelines on

the matter of corporate governance with a Code of Best Practice identifying recommended internal governance structures. We evaluate the extent to which firms going private may experience higher agency costs because of ineffective governance structures.

Third, since the 1980s, hostile takeovers have become quite rare. This applied to both the US, for example, North (2001) and to the UK, for example, Weir and Laing (2003). If firms going private are poor stock market performers and there is not an active market for corporate control, the decision to go private may represent an important means for an institution to exit such a company.

Fourth, we analyse the impact of differentiating between types of PTP. The sample is split into management buy-outs (MBOs) and non-MBOs in terms of undervaluation, agency costs and ownership. This distinction is potentially important because the current management team is likely to remain in post after an MBO whereas a non-MBO involves outside management taking over.

We find evidence that, using a measure of perceived undervaluation, firms going private do perform worse on the stock market than firms that remain public. Although the objective measure of valuation also produces support for the undervaluation hypothesis, the result is statistically weaker. This suggests that the management of firms going private possess private information that leads them to believe that the market undervalues their companies. If the time period is

extended to three years before going private, perceived undervaluation remains highly significant but the objective measure becomes insignificant.

We find that institutional shareholders have significantly higher shareholdings in firms going private This, combined with the undervaluation results, suggests that going private provides institutions with a means of exiting undervalued companies. In addition it was found that, governance factors explain the likelihood of being taken private. Firms going private are more likely to have internal governance mechanisms that do not conform to those recommended in the UK's Code of Best Practice.

We also find that board shareholdings are significantly higher in firms going private and these firms were not more likely to experience hostile interest than firms remaining public. This suggests that there was no pressure from the market for corporate control. In terms of the traditional arguments, we find no evidence that firms going private have more free cash flow, lower growth prospects or are likely to lower tax payments.

We also find that MBOs are significantly undervalued according to the perceived measure but are not according to the more accurate objective measure. There is evidence that non-MBOs experienced lower perceived valuations but not lower actual undervaluation. The results therefore similar to those of MBOs but suggest that, in the case of non-MBOs, management does not have private information

that leads them to believe that the market is wrong. However, it does show that outside buyers value the companies differently.

We also find that prior to going private, MBOs have non-optimal board structures, particularly in terms of a greater incidence of duality. MBOs also have higher institutional shareholdings, which, given the lack of alternative buyers, suggests that institutions would be willing to agree to the bid to take the company private. Further, the higher board shareholdings suggest that the directors would not only maintain control but also gain a financial windfall from the premium paid. In terms of non-MBOs, we also find non-optimal board structures and higher shareholding values.

The paper is structured as follows. The next section discusses the various reasons for going private and the determinants of the sale process. Section III describes the data and sets out the variable definitions. Section IV sets out the methods of analysis and presents the results. Finally some conclusions are drawn.

II Literature Review and Hypotheses

One of the key reasons for going public is to make it easier to raise capital and to increase the profile of the company (Treasury, 1998). However, there are a number of reasons why this may not occur. First, many firms that go private are relatively small. For example, in our sample of firms that went private, 97% had a market capitalisation of less than £300 million. The average value of deals was

£49.5 million in 1998 and £116.44 million in 2000. In the UK, an analysis of smaller quoted companies showed that the smaller company index tended to be low relative to the All Share Index (Treasury, 1998). This makes it harder for firms to issue equity and hence increases their cost of capital. Relatively low equity prices also make companies unattractive to institutional shareholders and fund managers. The lack of interest in such shares means that they are likely to remain lowly valued which provides an impetus to go private.

Second, small firms often experience a degree of illiquidity in their stock. For example, they are often ignored by fund managers who tend to deal in substantial blocks of capital and so would find it inefficient to spend time and effort in buying smaller blocks of small firms (CMBOR, 1999).

Third, if institutions attempt to sell shares in firms that experience thin trading, it is likely to have a noticeable effect on the share price which will reduce the value of any remaining holdings. This lack of buyers makes it harder for these companies to use the equity market to fund expansion, which in turn raises questions about the actual benefits of being a publicly quoted company. Given that there are significant costs associated with being quoted, for example, additional accounting and audit expenditures and listing costs, going private appears to be an attractive proposition.

As a consequence, the nature of the share price performance brings with it the management perception that, given its financial performance, the market undervalues the company. Management is faced with a choice, take the company private or remain quoted and be likely to continue to be undervalued in the management's eyes. This will result in probable wealth decreases as shareholdings fall in value.

The issue of perceived undervaluation by the management has received little academic attention One early US study, Maupin et al (1984), surveyed senior management of ex-quoted firms and used factor analysis to identify the characteristics of firms going private. One of the significant reasons for going private was that the market valuation of the company, measured by the price-earnings ratio, did not reflect the management's perception of its true value.

In the UK, evidence for perceived undervaluation, and its importance in the decision to go private, tends to be anecdotal. For example, the chairman of Denby complained of a low price earnings ratio (Financial Times, 1999); the chairman of Norbain argued that the low share price meant that it would be easier to compete by going private (Financial Times, 1999); and the chairman of Goodhead stated that, being a small company, there was no institutional interest in it (Daily Telegraph, 2000). Further examples include the chief executive of Allied Textiles stating that the market was not reflecting the intrinsic value of the company (Financial Times 2000) and the chairman of Ward, a building firm,

claimed that the housing boom had not been reflected in the company's share price.

These examples clearly show that the decision to go private was driven by a perception that the market had not accurately valued the companies in terms of their share prices. An important theme running through the comments made about the perceived undervaluation is that it had occurred over a period of time and was expected to persist. Undervaluation may therefore be defined in terms of the deterioration of the company's share price relative to firms remaining public. This will therefore hamper management's ability to use the expected benefits available to quoted companies. Its main consequence is the very limited access to the funds required to finance either expansion or acquisitions. Remaining public therefore imposes severe restrictions on a company's ability to compete. This would be consistent with the management of firms going private possessing private information that indicates that the firm is undervalued relative to the market's view. Thus:

H1a: firms that are perceived to be undervalued are more likely to go private

However, it may be that by concentrating too closely on share price performance as a measure of company value, management was ignoring alternative, more objective valuation measures, for example, enterprise value (see data section).

This provides a broader measure of company worth by including cash and debt in addition to market capitalisation. For consistency, we hypothesise that:

H1b: firms that are actually undervalued are more likely to go private

The second explanation for going private relates to shareholder wealth effects. Studies have shown that a bid announcement increases the share price of the firms going private. For example, DeAngelo et al (1984), Marais et al (1989) and Lee et al (2001) all reporting significant premiums being paid to the shareholders of firms that went private. Existing shareholders will only sell if offered more than the current market price for their shares and hence there is a financial incentive to accept a bid. Evidence of higher board shareholdings in firms going private was found by Maupin (1987) and Halpern et al (1999). This reasoning may also apply to institutional shareholdings. As discussed above, smaller companies may experience thin trading and little share price movement. This lack of market activity will make any offer, with its premium element, an attractive proposition to an institution. This will be particularly welcome if the institution is locked into an undervalued company. The second hypothesis therefore is:

H2: firms with higher board and external shareholdings are more likely to go private.

An alternative explanation is that firms going private suffer from high agency costs, Jensen (1986) and Lehn and Poulsen (1989). One source of high agency costs is the existence of ineffective internal governance mechanisms, something that has been the subject of much debate in the UK where quoted companies

must include a governance report in their annual accounts. The basis for the report is the Combined Code of Best Practice (Hampel, 1998), a development of the Cadbury Code of Best Practice (Cadbury, 1992). There is no legal requirement for companies to adopt the Code but it does lay out the rationale behind the governance structures that are regarded as best practice, and hence are expected to improve accountability, increase transparency and so reduce agency costs.

The internal mechanisms identified in the Code deal with two key areas, board structure and the presence of committees, in particular audit and remuneration committees. In the UK audit and remuneration committees are present in around 95% of quoted companies (Weir and Laing, 2000; Dahya et al., 2002). Given their near total adoption, it was decided to omit them from the analysis. The paper therefore focuses on the issue of board structure and defines internal governance mechanisms in terms of non-executive director representation and the presence of duality. The latter occurs when one person combines the posts of CEO and chairman.

The key concern about duality is that it affords one person too much of a powerbase and offers an increased locus of control (Morck et al., 1987). These reduce the board's ability to monitor and check the actions of the CEO. Duality should therefore be linked to poor performance. However, there is evidence that duality does not adversely affect performance (Baliga et al., 1996; Weir et al., 2002).

Further, the role of governance in take-overs is usually analysed in terms of hostile acquisitions (for example, Shivdasani, 1993; O'Sullivan and Wong, 1999). As discussed above, in recent years in the UK, acquisitions of publicly quoted companies have been mainly non-hostile (Weir and Laing, 2003). Going private transactions tend to involve a non-contested change of organisational structure hence the impact of duality may be less clear-cut. In addition, as shown above, firms going private tend to be relatively small and the Combined Code recognises that smaller firms may neither need nor be able to afford a separate chairman. This raises further questions about the role of internal governance mechanisms and the extent to which they ensure that the board pursues shareholder interests.

Non-executive directors represent an effective means of monitoring the actions of the executive directors (Jensen and Meckling, 1976), and hence reduce managerial discretion. By ensuring wealth maximising policies, non-executive directors play an important part in the reduction of agency costs. In addition, non-executive directors may bring other advantages such as expert knowledge to the company (Fama and Jensen, 1983).

The Code stresses the importance of non-executive directors in terms of their relative representation on the board. It is proposed that a significant presence will be achieved if there are at least three non-executive directors on the board. It therefore identifies an absolute number of non-executives rather than a relative number in relation to effective monitoring.

Although most studies include variables such as duality and non-executive director representation as separate variables, it is of interest to assess how far a company adopts both of these key recommended governance structures. We therefore construct hypotheses based on the combined adoption of the recommended governance structures as well as their individual adoption. Thus:

H3a: companies that do not adopt the recommended governance structures are more likely to go private.

H3b: companies that have duality are more likely to go private

H3c: companies with fewer non-executive directors are more likely to go private.

In the US, firms going private in the 1980s were more likely to experience hostile takeover interest than firms that remained public (Lehn and Poulsen, 1989; Halpern, et al., 1999). Hence the market for corporate control appeared to act as an effective realignment mechanism in the US. Consistent with this, and, notwithstanding the fact that, in the UK, during the 1990s there has not been an active hostile take-over market we propose:

H4: firms going private are more likely to experience take-over interest than firms that remain public.

We also address elements related to the more traditional explanations for going private, free cash flow and growth, and tax savings. First, free cash flows are

cash balances in excess of what is required to fund projects with positive net present values (Jensen, 1986). Firms with high free cash flows therefore incur high agency costs because the funds could be returned to shareholders in the form of higher dividends or used to repurchase stock, which again increases returns to shareholders.

Evidence about the role of free cash flow in the decision to go private is mixed. Lehn and Poulsen (1989) find evidence that firms going private had higher free cash flows whereas Opler and Titman (1993) and Halpern et al. (1999) reported an insignificant relationship. However, consistent with the Jensen (1986) proposition, we hypothesise that:

H5: firms with high free cash flows are more likely to go private.

Second, Jensen's argument about the importance of free cash flow is also linked to growth opportunities (Jensen, 1986). Firms with substantial free cash but low growth opportunities may spend the cash on negative net present value projects because there are limited opportunities for profitable investment within the firm's areas of operation. A number of studies have used different measures of growth opportunities. For example sales growth was found to be significantly lower for firms going private by Lehn and Poulsen (1989). However, Opler and Titman (1993) and Halpern et al. (1999) find no evidence that Tobin's Q is lower for firms going private. Consistent with Jensen's hypothesis, we propose that:

H6: firms with lower growth prospects are more likely to go private.

Third, in relation to potential tax advantages, Maupin (1987) found firms going private would benefit from significant tax savings generated from the increased depreciation write-offs. Another potential source of tax savings is from the increase in debt used to partly finance the deal (Kaplan, 1989). More generally, Halpern et al. (1999) found that firms going private pay more tax than firms that remained publicly quoted. Therefore:

H7: firms going private pay more tax than firms that remain public.

III Data and methodology

We construct a sample of PTPs and a matched sample of firms that remained public using the same accounting date as the PTP. This allowed us to compare firms at the same point in time. The sample was matched by size and industry as classified by the Financial Times Industrial Classification. Matching samples have been used in numerous studies, for example, Lehn and Poulsen (1989), Song and Walkling (1993) and Weir and Laing (2003).

Data were obtained for all non-financial public-to-private transactions during the period 1998-2000. The data included performance, ownership and governance details. Because the financial services sector is overseen by the Financial

Services Authority, the relationship between governance mechanisms and performance is not necessarily as it is for non-financial sector companies. As a result, only non-financial services are included in the sample. We also required companies to have at least two years of complete data. This gave us a working sample of 84 public-to-private transactions, the total number being 116.

The names of firms going private were provided by the Centre for Management Buy-out Research (CMBOR), which is based at the University of Nottingham. Data relating to sales growth, tax, free cash flow and undervaluation were taken from Extel Company Analysis. Data relating to pressure from the market for corporate control were taken from Financial Times Intelligence. Data on board shareholdings and external shareholdings were taken from the PriceWaterhouseCoopers Corporate Register. Details of the bid premiums were taken from Acquisitions Monthly. The data relate to the situation at the publication of the last accounts before the PTP transaction occurred.

Dependent variables

The dependent variable used in tables 5 and 6 takes the value one if the company went private and zero if it remained public. For table 7 it is one if a company was involved in a PTP that was a management buy-out and zero if not and for table 8 it is one if the company was involved in a PTP that was a non-management buy-out and zero if not. The dichotomous nature of the dependent variable means that using OLS will cause a number of problems. For example it

will produce residuals that are non-normally distributed and heteroscedastic. Therefore logistic regression is an appropriate technique to use:

$$P_i = F(Z_i) = \frac{1}{1 - e^{-Z_i}}$$

where P_i is the probability that a company will be involved in a public-to-private transaction, e is the natural log and

$$Z_i = \beta X_i$$

where X_i is the matrix of explanatory variables. In the logistic model

$$Z_i = \ln\left(\frac{P_i}{1 - P_i}\right)$$

where 1-P_i is the probability of remaining public and hence Z_i is the log of the odds of going private. We report the logits.

The main models estimated are:

$$Z_i = \beta_0 - \beta_1 Value1_i - \beta_2 Brdvalue_i + \beta_3 Extshare_i + \beta_4 Threat_i - \beta_5 CC_i + \beta_6 Tax_i - \beta_7 SalesG_i + \beta_8 FreeCashFlow_i \quad (1)$$

$$Z_i = \beta_0 - \beta_1 Value1_i + \beta_2 Brdshare_i + \beta_3 Extshare_i + \beta_4 Threat_i - \beta_5 CC_i + \beta_6 Tax_i - \beta_7 SalesG_i + \beta_8 FreeCashFlow_i \quad (2)$$

$$Z_i = \beta_0 - \beta_1 Value1_i + \beta_2 Brdvalue_i + \beta_{32} Extshare_i + \beta_{43} Threat_i + \beta_{54} Duality_i - \beta_6 NX_i + \beta_7 Tax_i - \beta_{87} SalesG_i + \beta_9 FreeCashFlow_i \quad (3)$$

$$Z_i = \beta_0 - \beta_1 Value1_i + \beta_2 Brdshare_i + \beta_3 Extshare_i + \beta_4 Threat_i + \beta_5 Duality_i - \beta_6 NX_i + \beta_7 Tax_i - \beta_8 SalesG_i + \beta_9 FreeCashFlow_i \quad (4)$$

Independent variables

The independent variables used in the analysis are defined as follows.

Value1 – is defined in two ways

(i) it is a measure of the management's perceived undervaluation (PU1). It is the ratio of the *market capitalisation* of a company at point t divided by its market capitalisation in t-1. Point t is the date of the last accounts before the announcement of the PTP for both the company going private and its match and t-1 relates to the previous year. The perceived undervaluation hypothesis therefore expects firms going private to be undervalued relative to firms remaining public.

(ii) We also use *enterprise value* (EV1) as the objective measure of valuation. It is defined as market capitalisation plus debt minus cash. As above, the extent of undervaluation is measured by the ratio of enterprise value in period t to its value in t-1. If PTPs are truly undervalued, we expect there to be a negative relationship between it and the probability of going private. Thus

Thus $\frac{\delta Z_i}{\delta Value1_i} < 0$

We also include a second measure, Value2, which also has two definitions:

(i) PU2 is defined as market capitalisation in period t divided by market capitalisation in t-2. This provides a longer-term perspective on the direction of the management's perceived undervaluation.

(ii) EV2 is enterprise value in t divided by enterprise value in t-2.

Both will have a negative relationship with going private.

Thus $\frac{\delta Z_i}{\delta Value2_i} < 0$

Brdvalue – is the value, in millions of pounds, of the board's shareholding. This measures potential wealth effects of remaining public. For firms of the same size, we would not expect any difference in the value of shareholdings. However, if undervaluation is present, we would expect the value of board shareholdings to be lower for PTPs. The value of shareholdings also indicates that there may be a financial incentive to go private and hence negative wealth effects if remaining public.

Thus $\frac{\delta Z_i}{\delta Brdvalue_i} < 0$

Brdshare – is the percentage of the firm's equity held by the board. It also measures the financial incentives associated with going private because the greater the shareholding, the greater the gains from any premium received. Thus

$\frac{\delta Z_i}{\delta Brdshare_i} > 0$

Extshare – is the total shareholdings of institutions that have at least a 3% holding. All externally held shareholdings in excess of 3% must be made public. The higher the shareholdings, the greater the financial incentives to accept the decision to go private. Thus $\frac{\delta Z_i}{\delta Extshare_i} > 0$

CC – is a measure of compliance with the Combined Code of Best Practice. It is a dummy variable that takes the value 1 if a company has at least three non-executive directors and has a separate CEO and chairman and zero if not. Compliance should represent good governance and effective internal monitoring.

However, given the expected presence of high agency costs, firms going private are less likely to comply with the Code. Therefore $\frac{\delta Z_i}{\delta CC_i} < 0$

Duality – is a dummy variable that takes the value 1 if the posts of CEO and chairman are combined and zero if they are separated. We expect firms going private to be more likely to combine the posts. Therefore $\frac{\delta Z_i}{\delta Duality_i} > 0$

NX – is a dummy variable that takes the value 1 if there are at least three non-executive directors on the board and zero otherwise. We expect firms going private to have fewer non-executive directors. Therefore $\frac{\delta Z_i}{\delta NX_i} < 0$

Threat – measures the pressure from the market for corporate control. Halpern et al. (1999) measured take-over interest in terms of the reporting of a significant interest or if an actual bid had been made. Following this approach, we use a dummy variable that takes the value 1 if there had been a failed hostile bid or a proxy fight in the period from one month before the PTP was announced to eighteen months before and zero if not. This provides a clear measure of how far the incumbent management faced actual pressure from the market for corporate control. If the company suffered from poor management we would expect there to be more interest in buying companies that went private than for those remaining public. Therefore $\frac{\delta Z_i}{\delta Threat_i} > 0$

We also introduce a number of variables to control for more traditional explanations of going private:

Free cash flow – is the three-year average percentage free cash flow deflated by sales. Free cash is defined as operating cash flow minus interest, taxes and dividends. We expect there to be a positive relationship between free cash flow and the decision to go private. Thus $\frac{\delta Z_i}{\delta Freecashflow_i} > 0$

SalesG – is the three-year average percentage change in sales. It measures growth prospects (Kieschnick, 1998). We expect firms going private to have lower growth prospects than firms remaining public. Thus $\frac{\delta Z_i}{\delta SalesG_i} < 0$

Tax – is the three-year average tax paid deflated by sales converted to a percentage. The tax paid is taken from the cash flow statement. If the rationale was to gain tax advantages from the increased debt, we would expect firms going private to pay more in tax than firms remaining public (Kaplan, 1989). Thus $\frac{\delta Z_i}{\delta Tax_i} > 0$

IV Results

IVa Whole sample

INSERT TABLE 1

Table 1 provides an overview of the sample's characteristics. The perceived valuation measures, PU1 and PU2, show that market values rose over the period by 7% and 23% respectively whereas the true valuation measures, EV1 and EV2 rose 14% and 27%. The mean value of board shareholdings was £7.47 million

and the average board shareholding was 15.27%. External shareholdings held by institutions had a mean value of 30.21%, which means that large institutional shareholders held twice as many shares as the board. In terms of adopting the Combined Code of Best Practice recommendations, 49% had at least 3 non-executive directors and a separate chairman and CEO. Thus over half had not adopted both of the key governance structures in the Code**.** Breaking it down, 23% had a dual CEO-chairman and the average proportion of firms with at least three non-executive directors was 0.59. In terms of the numbers on non-executive directors, 57% had at least three. Average free cash flows were 5.09% of sales and the average tax paid 1.70% of sales. On average 2% of the sample experienced hostile take-over interest.

INSERT TABLE 2

Table 2 reports the univariate analysis. There is evidence that firms going private experienced falling market capitalisation whereas those remaining public had rising market valuations, with PU1 being 0.92 and 1.23 respectively. The differences for PU1 and PU2 are both significant at the 5% level which offers support for the perceived undervaluation argument. The objective valuation measures, EV1 and EV2, also show signs that firms going private were being valued more lowly than firms remaining public. Boards hold significantly more shares in firms that went private but there is no difference in the value of their shareholdings. We also find that institutions had higher shareholdings in firms going private.

The governance variables show that 44% of firms going private had adopted the Combined Code's recommended board structures with 54% of firms remaining public doing so. The difference was not significant. Firms involved in PTPs had a significantly higher incidence of duality than firms remaining public, 30% against 16%. No difference was found in the proportion with at least non-executive directors on the board. Thus governance differences appear to be driven by the attitude towards duality.

Interestingly in relation to traditional explanations, the univariate analysis also finds no significant differences between the two samples of firms in terms of free cash flows, sales growth, tax paid, or the extent to which the firms experienced a hostile take-over interest.

INSERT TABLE 3

Table 3 reports the correlation matrix for the independent variables. High correlations indicate the possibility of multicollinearity which means that variables should not be included in the same equation. Table 3 shows high correlations between PU1, PU2 and EV1 and EV2. There is also a high correlation between PU1 and EV1. There are also high correlations between CC and NX and Duality. Accordingly, these variables were included in separate equations in the results reported in subsequent tables.

INSERT TABLE 4

Table 4 provides some additional insights into the undervaluation hypothesis. Undervaluation, measured by PU1 and EV1, was split into quintiles for each of the samples. In terms of perceived undervaluation, the chi square shows that there is a significant difference, at the 5% level, in the proportions of PTPs and non-PTPs in the different quintiles. The table shows, for example, that PTPs make up 54.5% of firms in the quintile measuring the greatest loss of value and only 27.3% in the highest quintile. Non-PTPs were 45.5% and 72.7% respectively. PTPs also constituted 67.6% of the firms in the second lowest quintile. These results therefore provide support for the management's perception that firms going private are valued more lowly than those remaining public, even when size is accounted for. However, if EV1 is used, no statistical difference is found between the percentages of firms in the different percentiles.

INSERT TABLE 5

The initial logistic regression results are given in Table 5. They show that both undervaluation measures are negative and significant in all models indicating that firms involved in PTPs suffer market value deterioration relative to firms that remain public. The results are statistically stronger for the perceived measure of undervaluation. They also show that the boards of firms going private had significantly higher shareholdings at 1%. However, the variable measuring the value of shareholdings is not significantly different which suggests that the market's undervaluation had direct wealth effects on the boards of firms that went private because the higher shareholdings are not being translated into greater wealth. Externally held shareholdings were also significantly higher for firms

going private. The insignificant market for corporate control variable, THREAT, means that there is unlikely to be alternative buyers waiting to make a bid.

We find that CC is negative and significant in two of the four equations in which it appears. Thus firms going private are less likely than their matched counterparts to have adopted the Code's recommendations about duality and non-executive director representation. As the table shows, the result is being driven by the fact that firms going private are more likely to have duality rather than by the lack of non-executive directors. Thus they are more likely to have non-optimal governance structures.

There is no evidence that UK firms went private to gain tax advantages. Neither do we find that firms going private suffer from either higher free cash flows or lower growth opportunities than firms remaining public.

INSERT TABLE 6

The extent of potential undervaluation was further explored by replacing PU1 with PU2 and EV1 with EV2. These measure how far valuation has changed over the previous two years. This gives an additional time lag to the analysis, something that could provide valuable additional insights into the undervaluation issue. If significant, this would illustrate a longer-term undervaluation of firms going private relative to similar sized firms in the same industry. The longer intertemporal movement was significant and negative in all four models that used perceived undervaluation. This suggests that the market had been moving

against the firms that went private for a number of years. However, there is no difference in the enterprise value measure. This implies that, given publicly available information, the market does not undervalue firms that go private over a longer time period. The other key results remain the same.

Thus, we find support for the perception that on average, relative to firms of the same size, in the same industry, firms going private had seen their valuations fall. However, using enterprise value, there is no evidence of undervaluation. This raises the possibility that the management teams of firms that went private have private information that led them to believe that the stock price should be higher.

A number of additional tests were undertaken to assess the robustness of the results. First, we included a measure of accounting performance, the three-year average return on assets. It was insignificant, suggesting that firms going private were not poor performers. Second, the Hampel Report, Hampel (1998) proposed that non-executive directors should make up at least one third issue of the board. A dummy variable was constructed that had the value one if at least one third of a board was non-executive directors and zero if not. It was found to be insignificant. Thus the results indicate that duality was the key governance difference between the samples. It may be that even though the Code indicates that small firms may not necessarily separate the posts, it may represent a situation in which dominant founders are still in control, the market still viewed its presence with suspicion

Third, we obtained details of the bid premium from Acquisitions Monthly for one day, and one month, prior to the announcement that the company was going private. The bid premium averaged 44% for the one day period and 46% for the month. Both were significantly different from zero. This indicates that not only were there significant wealth gains to be made by shareholders but also that the premium represents further evidence that the market had undervalued the companies.

IVb Management buy-outs and non-management buy-outs

The sample of firms going private was split into management buy-outs, n=59, and non-management buy-outs, n=25. There are a number of key differences between the two, the main one being that the current management drive an MBO and as such, are more likely to remain in post after the buy-out. In contrast non-MBOs (typically management buy-ins, MBIs, or investor-led buy-outs, IBOs) involve an outside buyer and a probable change of management. Logistic regression was used on the samples with the company matches being used. The results are reported in Tables 7 and 8.

Consistent with the private information argument, we expect that MBOs will be perceived by their management to be undervalued. This may also be reflected in the objective measure. It is also expected that MBOs will have higher internal ownership than firms remaining public because it will increase the probability of

bid success. It would also mean that management would have a financial incentive to go private. We also expect MBOs to have governance structures that do not comply with the Code of Best Practice because the extent of their ownership offers them protection against the market from corporate control. We also expect less pressure from the market for corporate control because potential buyers will be put off by the existence of significant blocks of internal ownership, which may make a successful bid more difficult. Higher tax payments are also hypothesised.

INSERT table 7

The results show that MBOs were perceived to be undervalued, however, the result was mainly only weakly significant at the 10% level. Board ownership was significantly higher and there was some evidence that duality was more common. In terms of pressure from alternative buyers, the variable THREAT was omitted from this part of the analysis because its inclusion generated a singular matrix. However, given the small overall number of hostile bids that there was no pressure from external buyers and that the incumbent management did not face competition from outside buyers. In relation to free cash flow and growth opportunities, the results provide evidence that in the UK these factors do not affect management buy-outs. In terms of longer-term undervaluation, although not reported here, PU2 was significantly lower at 5% and EV2 was insignificant. In the case of MBOs, management decided to act upon the differences in perceived valuation, which suggests that they possessed private information.

Non-MBOs involve outside buyers and the probable replacement of the incumbent management. We therefore expect they will experience both perceived and actual undervaluation because they will be characterised by poor stock market performance. They will also have non-optimal governance structures. Board ownership will be lower which means that the management will be less able to resist an outside bid. In addition, we expect them to exhibit higher agency costs as a result of higher free cash flows and lower growth prospects. tax payments are also expected to be higher.

INSERT table 8

Most of the equations, five out of eight, for non-MBOs were statistically insignificant, including all of the EV1 equations. This again illustrates differences between the management's perceptions and those of the market. In those models that were significant, we find that boards have higher shareholdings but external shareholdings are not significantly different. There is again evidence that duality is more likely to occur in a firm going private. At the time of the outside bid for the company, the value of board shareholdings in the targets was higher than that in firms remaining public. We also find that the EV2 measure of valuation was not different for non-MBOs. However, there was no move by management to buy the company. This suggests that the management had no private information that would lead them to buy the company.

V. Conclusions

This paper has used a novel, hand collected dataset of PTP buy-outs completed in the late 1990s to extend understanding of buy-outs that has generally been based on studies carried out in the 1980s. In particular, the paper analyses the valuation, agency costs and ownership characteristics of firms going private and compared them with those of firms remaining public. We show that firms going private suffer from perceived undervaluation. This supports the anecdotal evidence that is available in the UK. If we use a more objective measure of valuation, enterprise value, there is also evidence of lower valuation, however, this does not hold if a longer period is used for comparison. We also find differences occur if the sample is split into MBOs and non-MBOs. For MBOs and non-MBOs, once again, perceived undervaluation is lower but the objective value measure is not different. This is consistent with the management of firms going private by means of an MBO having private information that the market does not whereas this is not the case for non-MBOs. However, in the latter case, outside management believe that they can create value by taking the firm private.

We also find evidence of higher agency costs being incurred by firms that went private. These take the form of non-optimal internal governance mechanisms, something present in all three sets of the analysis. Contrary to Lehn and Poulsen (1989), there is no evidence that pressure from the market for corporate control acts as an impetus to going private.

There is however, evidence of financial incentives to going private, particularly for MBOs, because of higher board ownership. In relation to institutions, given the insignificant enterprise valuation results, it does not appear that they are locked into poorly performing companies so that going private represents a way out. It appears that going private therefore represents a financial windfall to the institutions.

Importantly, these findings differ from more traditional explanations for going private. We have shown that in the UK in the late 1990s low growth opportunities, higher free cash flows and higher tax payments, do not influence the decision to go private.

Our results raise a number of additional research questions. First, the importance of undervaluation has been shown to be dependent on the way in which it is defined. It would be helpful to identify the reasons why management believed that the market was undervaluing their firms. Second, what factors influence non-MBOs? These results refer to a relatively small number of non-MBOs and further analysis of a larger sample may offer useful insights. Third, it has been shown that there is little evidence of an active public market for corporate control. However, it may be that there is an active private market in the sense that there is take-over activity, successful or otherwise, that is not made public. Boone and Mulherin (2003) have shown that in the US there is significant private competition for firms before the final public announcement of a single buyer. Thus the market

for corporate control appears not to influence changes in ownership but in fact it is played out behind the scenes rather than in public. It would be interesting to find out if this applied to the UK as well.

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Table 1 Descriptive statistics of the sample

	Minimum	Maximum	Mean
PU1	0.19	11.71	1.07
PU2	0.15	17.02	1.23
EV1	0.10	12.13	1.14
EV2	0.12	14.32	1.27
Brdval (£m)	0.02	198.22	7.47
Brdsh (%)	0.01	75.31	15.27
CC	0	1	0.49
NX	0	1	0.59
Duality	0	1	0.23
Free cash flow (%)	-44.13	45.43	5.09
Tax (%)	-42.03	9.12	1.70
SalesG (%)	-26.29	279.76	19.62
Extshare (%)	0	88.56	30.21
Threat	0	1	0.02

PU1 is the ratio of market capitalisation at year-end before going private to market capitalisation the previous year. PU2 is the ratio of market capitalisation at year-end before going private to market capitalisation two years previous. EV1 is the ratio of enterprise value (market capitalisation plus debt minus cash) at year end before going private to its value the previous year. EV2 is the ratio of enterprise value (market capitalisation plus debt minus cash) at the year-end before going private to it value two years previous. Brdvalue is the value of the board's shareholdings. Brdshare is the percentage of equity held by the board. Extshare is the total shareholdings of institutions. CC is a dummy variable that equals 1 if the company has at least three non-executive directors and no duality and zero otherwise. NX is a dummy variable that has the value 1 if the board has at least three non-executive directors on the board and zero otherwise. Duality is a dummy variable that has the value 1 if the posts of CEO and chairman are combined and zero if not. Free cash flow is the three year average percentage free cash flow divided by sales. Tax is the three year average tax paid deflated by sales. SalesG is the three year average percentage change in sales. Threat is a dummy variable that has the value 1if there had been a failed hostile bid or proxy fight in the period one month to eighteen months before the announcement of the PTP and zero if not.

Table 2 Univariate analysis of factors influencing the decision to go private

	PTP	Non PTP	T statistic	Z statistic
PU1	0.92	1.23	2.15**	2.31**
PU2	0.96	1.49	2.19**	2.16**
EV1	0.95	1.34	2.09**	1.87*
EV2	1.14	1.40	1.11	2.85***
Brdval (£m)	9.28	5.66	1.18	1.35
Brdsh (%)	18.76	11.74	2.38**	2.03**
CC	0.44	0.54	1.26	1.26
NX	0.57	0.61	0.57	0.57
Dual	0.30	0.16	2.52**	2.44**
FCF (%)	5.07	5.10	0.02	0.21
Tax (%)	1.92	1.48	0.73	0.21
SalesG (%)	17.93	21.31	0.56	0.85
Ext (%)	32.76	27.67	1.82*	1.55
Threat	0.02	0.02	0.00	0.00

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

z statistic refers to the paired Wilcoxon test.

PU1 is the ratio of market capitalisation at year-end before going private to market capitalisation the previous year. PU2 is the ratio of market capitalisation at year-end before going private to market capitalisation two years previous. EV1 is the ratio of enterprise value (market capitalisation plus debt minus cash) at year end before going private to its value the previous year. EV2 is the ratio of enterprise value (market capitalisation plus debt minus cash) at the year-end before going private to it value two years previous. Brdvalue is the value of the board's shareholdings. Brdshare is the percentage of equity held by the board. Extshare is the total shareholdings of institutions. CC is a dummy variable that equals 1 if the company has at least three non-executive directors and no duality and zero otherwise. NX is a dummy variable that has the value 1 if the board has at least three non-executive directors on the board and zero otherwise. Duality is a dummy variable that has the value 1 if the posts of CEO and chairman are combined and zero if not. Free cash flow is the three year average percentage free cash flow divided by sales. Tax is the three year average tax paid deflated by sales. SalesG is the three year average percentage change in sales. Threat is a dummy variable that has the value 1if there had been a failed hostile bid or proxy fight in the period one month to eighteen months before the announcement of the PTP and zero if not.

Table 3 Correlation Matrix

	PU1	PU2	EV1	EV2	Brdval	Brdsh	CC	NX	Dual	FCF	TAX	SalesG	EXT	Threat
PU1	1.00													
PU2	0.47	1.00												
EV1	0.84	0.36	1.00											
EV2	0.80	0.59	0.80	1.00										
Brdval	-0.01	0.06	-0.02	0.02	1.00									
Brdsh	-0.04	0.08	-0.03	0.03	0.50	1.00								
CC	-0.13	-0.13	-0.12	-0.20	0.00	-0.19	1.00							
NX	-0.24	-0.14	-0.12	-015	-0.02	-0.26	0.77	1.00						
Dual	0.01	0.00	0.04	0.06	0.06	0.11	-0.56	-0.25	1.00					
FCF	-0.11	-0.21	-0.08	-0.06	-0.06	0.17	-0.10	-0.08	0.05	1.00				
TAX	-0.01	-0.02	-0.01	-0.06	-0.06	-0.07	0.05	0.18	0.05	0.03	1.00			
SalesG	0.00	0.03	0.01	0.16	0.16	-0.07	0.02	0.03	0.06	0.07	-0.37	1.00		
EXT	-0.08	0.06	-0.12	-0.13	-0.13	-0.52	0.18	0.10	-0.10	-0.12	0.01	0.09	1.00	
Threat	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	0.02	0.02	-0.08	0.07	0.45	.015	0.24	1.00

PU1 is the ratio of market capitalisation at year-end before going private to market capitalisation the previous year. PU2 is the ratio of market capitalisation at year-end before going private to market capitalisation two years previous. EV1 is the ratio of enterprise value (market capitalisation plus debt minus cash) at year end before going private to its value the previous year. EV2 is the ratio of enterprise value (market capitalisation plus debt minus cash) at the year-end before going private to it value two years previous. Brdvalue is the value of the board's shareholdings. Brdshare is the percentage of equity held by the board. Extshare is the total shareholdings of institutions. CC is a dummy variable that equals 1 if the company has at least three non-executive directors and no duality and zero otherwise. NX is a dummy variable that has the value 1 if the board has at least three non-executive directors on the board and zero otherwise. Duality is a dummy variable that has the value 1 if the posts of CEO and chairman are combined and zero if not. Free cash flow is the three year average percentage free cash flow divided by sales. Tax is the three year average tax paid deflated by sales. SalesG is the three year average percentage change in sales. Threat is a dummy variable that has the value 1if there had been a failed hostile bid or proxy fight in the period one month to eighteen months before the announcement of the PTP and zero if not.

Table 4 Undervaluation by quintiles

	Perceived Undervaluation		Enterprise Value	
	PTP (%)	Non-PTP (%)	PTP (%)	Non-PTP (%)
1	54.5	45.5	51.5	48.5
2	67.6	32.6	61.8	38.2
3	44.1	55.9	58.8	41.2
4	55.9	44.1	33.2	61.8
5	27.3	72.7	39.4	60.5
Chi square		12.26**		6.33

** - significant at 5%

Perceived undervaluationis the ratio of market capitalisation at year-end before going private to market capitalisation the previous year. Enterprise value is the ratio of enterprise value (market capitalisation plus debt minus cash) at year end before going private to its value the previous year. For the quintiles, 1 represents the lowest quintile, or the greatest loss of value and 5 represents the highest quintile, or the highest gain in value.

Table 5 Logistic regression of factors affecting the decision to go private with undervaluation measured from one period before going private

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
PU1	-1.0042 (2.77)***	-0.9758 (2.60)***	-1.0547 (2.88)***	-1.0221 92.71)***				
EV1					-0.6754 (1.98)**	-0.6474 (1.92)*	-0.6897 (1.93)*	-0.6384 (1.80)*
Brdvalue	0.0210 (1.43)		0.0252 (1.49)		0.0182 (1.36)	0.0215 (1.41)		
Brdshare		0.4271 (3.55)***		0.0446 (3.60)***			0.0424 (3.51)***	0.0469 (3.72)***
Extshare	0.0023 (2.40)**	0.0401 (3.54)***	0.0251 (2.61)***	0.0441 (3.75)***	0.0188 (2.07)**	0.0214 (2.27)**	0.0374(3.29)***	0.0421 (3.54)***
Threat	0.2714 (0.46)	0.3422 (0.57)	0.6288 (0.89)	0.4678 (0.78)	-0.1263 (0.11)	0.7271 (1.05)	0.0519(0.04)	0.8969 (1.27)
Tax	0.0277 (0.56)	0.0478 (0.98)	0.0122 (0.24)	0.0324 (0.65)	0.0292 (0.60)	0.0113 (0.23)	0.0484 (1.01)	0.0292 (0.59)
SalesG	-0.0023 (0.52)	-0.0019 (0.43)	-0.0031 (0.70)	-0.0033 (0.71)	-0.0012 (0.28)	-0.0026 (0.60)	-0.0009 (0.22)	-0.0026 (0.57)
Free cash flow	-0.0096 (0.44)	-0.0071 (0.30)	-0.0148 (0.67)	-0.0117 (0.51)	-0.0078 (0.36)	-0.0140 (0.64)	-0.0061 (0.26)	-0.0141 (0.62)
CC	-0.6927 (2.05)**	-0.4649 (1.32)			-0.6113 (1.86)*		-0.3713 (1.08)	
Duality			1.1498 (2.67)***	1.1231 (2.49)**		1.0724 (2.53)**		1.1139 (2.51)**
NX			-0.2563 (0.72)	-0.0017 (0.14)		-0.1978 (0.56)		0.1342 (0.35)
Constant	0.5790 (1.11)	-0.6801 (1.02)	0.1146 (0.20)	-1.1470 (1.28)	0.3390 (0.64)	-0.1780 (0.31)	-0.9033 (1.34)	-1.6463 (2.49)**
Chi square	19.72***	30.63***	24.70***	36.14***	16.26**	20.98**	27.54***	33.96***

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

PU1 is the ratio of market capitalisation at year-end before going private to market capitalisation the previous year.EV1 is the ratio of enterprise value (market capitalisation plus debt minus cash) at year end before going private to its value the previous year. Brdvalue is the value of the board's shareholdings. Brdshare is the percentage of equity held by the board. Extshare is the total shareholdings of institutions. CC is a dummy variable that equals 1 if the company has at least three non-executive directors and no duality and zero otherwise. NX is a dummy variable that has the value 1 if the board has at least three non-executive directors on the board and zero otherwise. Duality is a dummy variable that has the value 1 if the posts of CEO and chairman are combined and zero if not. Free cash flow is the three year average percentage free cash flow divided by sales. Tax is the three year average tax paid deflated by sales. SalesG is the three year average percentage change in sales. Threat is a dummy variable that has the value 1if there had been a failed hostile bid or proxy fight in the period one month to eighteen months before the announcement of the PTP bi and zero if not.

Table 6 Logistic regression of factors affecting the decision to go private with undervaluation measured from two periods before going private

	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15	Model 16
PU2	-0.6333 (2.52)**	-0.5681 (2.25)**	-0.6414 (2.50)**	-0.5681 (2.18)**				
EV2					-0.1971 (1.28)	-0.2138 (1.41)	-0.1629 (1.05)	-0.1773 (1.16)
Brdvalue	0.0261 (1.60)		0.0308 (1.68)*		0.0188 (1.42)		0.0216 (1.46)	
Brdshare		0.0493 (3.88)***		0.0540 (4.07)***		0.0448 (3.68)***		0.0494 (3.87)***
Extshare	0.0221 (2.34)**	0.0441 (3.67)***	0.0254 (2.57)**	0.0497 (3.93)***	0.0188 (2.06)**	0.0382 (3.35)***	0.0214 (2.27)**	0.0430 (3.60)***
Threat	0.2393 (0.41)	0.3343 (0.55)	0.6490 (0.91)	0.8652 (1.18)	-0.0467 (0.04)	0.1404 (0.12)	0.7372 (1.05)	0.9295 (1.30)
Tax	0.0234 (0.48)	0.0460 (0.93)	0.0073 (0.14)	0.0270 (0.54)	0.0278 (0.55)	0.0480 (0.96)	0.0109 (0.21)	0.0297 (0.59)
SalesG	-0.0018 (0.39)	-0.0012 (0.26)	-0.0021 (0.46)	-0.0026 (0.55)	-0.0005 (0.11)-	0.0003 (0.01)	-0.0020 (0.44)	-0.0016 (0.35)
Free cash flow	-0.0158 (0.70)	-0.0161 (0.66)	-0.0219 (0.97)	-0.0231 (0.97)	0.0183 (0.75)	-0.0214 (0.85)	-0.0217 (0.88)	-0.0265 (1.07)
CC	-0.7021 (2.06)**	-0.4323 (1.20)			-0.6293 (1.91)*	-0.4004 (1.15)		
Duality			1.1149 (2.62)***	1.1671 (2.61)***			1.0059 (2.47)**	1.0525 (2.46)**
NX			-0.2727 (0.76)	0.1161 (0.29)			-0.2409 (0.69)	0.0930 (0.24)
Constant	0.2632 (0.54)	-1.2255 (1.88)*	-0.2398 (0.45)	-1.9645 (2.68)***	-0.0846 (0.18)	-1.3498 (2.20)**	-0.5977 (1.17)	-2.0828 (3.00)***
Chi square	20.29***	33.48***	24.93***	39.85***	11.62	24.42***	15.93*	30.42***

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

PU2 is the ratio of market capitalisation at year-end before going private to market capitalisation two years previous. EV2 is the ratio of enterprise value (market capitalisation plus debt minus cash) at the year-end before going private to it value two years previous. Brdvalue is the value of the board's shareholdings. Brdshare is the percentage of equity held by the board. Brdrel is the value of board shareholdings at the year-end before going private divided by the value the year before. Extshare is the total shareholdings of institutions. CC is a dummy variable that equals 1 if the company has at least three non-executive directors and no duality and zero otherwise. NX is a dummy variable that has the value 1 if the board has at least three non-executive directors on the board and zero otherwise. Duality is a dummy variable that has the value 1 if the posts of CEO and chairman are combined and zero if not. Free cash flow is the three year average percentage free cash flow divided by sales. Tax is the three year average tax paid deflated by sales. SalesG is the three year average percentage change in sales. Threat is a dummy variable that has the value 1if there had been a failed hostile bid or proxy fight in the period one month to eighteen months before the announcement of the PTP bi and zero if not.

Table 7 Logistic regression of factors affecting the decision to go private by means of a management buy-out

	Model 17	Model 18	Model 19	Model 20	Model 21	Model 22	Model 23	Model 24
PU1	-0.6943 (1.67)*	-0.7449 (1.96)*	-0.7287 (1.74)*	-0.8071 (2.10)**				
EV1					-0.5509 (1.38)	-0.5443 (1.53)	-0.5341 (1.36)	-0.5495 (1.55)
Brdshare	0.0598 (3.78)***		0.0608 (3.78)***		0.0600 (3.77)***		0.0615 (3.79)***	
Brdvalue		0.0168 (1.23)		0.0195 (1.22)		-0.1530 (1.18)		0.0174 (1.12)
Extshare	0.0546 (3.56)***	0.0243 (2.14)**	0.0577 (3.68)***	0.0272 (2.33)**	0.0529 (3.43)***	0.0217 (1.92)*	0.0558 (3.54)***	0.0240 (2.08)**
Tax	0.0658 (1.20)	0.0388 (0.70)	0.0515 (0.91)	0.0267 (0.47)	0.0649 (1.20)	0.0372 (0.68)	0.0486 (0.87)	0.0232 (0.42)
SalesG	-0.0012 (0.24)	-0.0016 (0.35)	-0.0023 (.044)	-0.0024 (0.50)	-0.0007 (0.15)	-0.0012 (0.26)	-0.0020 (0.40)	-0.0021 (0.44)
Free cash flow	-0.0057 (0.20)	-0.0089 (0.37)	-0.0134 (0.49)	-0.0135 (0.56)	-0.0071 (0.26)	-0.0086 (0.38)	-0.0156 (0.58)	-0.0134 (0.56)
CC	-0.4390 (1.01)	-0.6812 (1.69)*			-0.3870 (0.90)	-0.6398 (1.61)		
Duality			1.0165 (1.89)*	0.9811 (1.97)*			1.0280 (1.90)*	0.9806 (1.97)*
NX			-0.0267 (0.52)	-0.3764 (0.88)			-0.0850 (0.18)	-0.2637 (0.62)
Constant	-1.6664 (2.02)**	0.3283 (0.59)	-2.1153 (2.36)**	-0.0046 (0.01)	-1.7659 (2.14)**	0.2074 (0.37)	-2.2943 (2.55)***	-0.2009 (0.33)
Chi square	28.92***	12.49*	32.04***	15.71**	28.59***	12.03*	31.74***	14.69*

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

PU1 is the ratio of market capitalisation at year-end before going private to market capitalisation two years previous. EV1 is the ratio of enterprise value (market capitalisation plus debt minus cash) at year end before going private to its value the previous year. Brdvalue is the value of the board's shareholdings. Brdshare is the percentage of equity held by the board. Extshare is the total shareholdings of institutions. CC is a dummy variable that equals 1 if the company has at least three non-executive directors and no duality and zero otherwise. NX is a dummy variable that has the value 1 if the board has at least three non-executive directors on the board and zero otherwise. Duality is a dummy variable that has the value 1 if the posts of CEO and chairman are combined and zero if not. Free cash flow is the three year average percentage free cash flow divided by sales. Tax is the three year average tax paid deflated by sales. SalesG is the three year average percentage change in sales.

Table 8 Logistic regression of factors affecting the decision to go private by means of a non-management buy-out

	Model 25	Model 26	Model 27	Model 28	Model 29	Model 30	Model 31	Model 32
PU1	-3.1011 (2.71)***	-3.8371 (2.83)***	-3.2437 (2.72)***	-3.7351 (2.85)***				
EV1					-1.6474 (1.75)*	-1.4400 (1.51)	-1.9543 (1.96)*	-1.7192 (1.72)*
Brdshare	0.0111 (0.42)		0.0241 (0.93)		0.0069 (0.28)	0.0142 (0.59)		
Brdvalue		0.0663 (1.72)*		0.0674 (1.68)*			0.0456 (1.29)	0.0468 (1.28)
Extshare	0.0101 (0.50)	0.0199 (1.00)	0.0168 (0.77)	0.0227 (1.06)	0.0071 (0.37)	0.0139 (0.67)	0.0133 (0.70)	0.0177 (0.88)
Tax	-0.3116 (1.32)	-0.4193 (1.63)	-0.3103 (1.39)	-0.3653 (1.57)	-0.1598 (0.79)	-0.1376 (0.72)	-0.2028 (0.98)	-0.1672 (0.39)
SalesG	-0.0154 (1.09)	-0.0177 (1.20)	-0.0149 (1.03)	-0.0160 (1.08)	-0.0116 (0.86)	-0.0102 (0.74)	-0.0125 (0.92)	-0.0110 (0.80)
Free cash flow	0.0248 (0.38)	0.0104 (0.15)	0.0351 (0.53)	0.0265 (0.38)	-0.1598 (0.79)	0.0228 (0.40)	0.0094 (0.16)	0.0177 (0.30)
CC	-1.0925 (1.46)	-1.1429 (1.50)			-0.8218 (1.22)		-0.7656 (1.17)	
Duality			1.6846 (1.87)*	1.6098 (1.77)*		1.0821 (1.33)		0.9691 (1.18)
NX			0.1026 (0.13)	-0.0178 (0.02)		0.0076 (0.01)		-0.0439 (0.06)
Constant	3.9943 (1.98)*	4.4757 (2.07)**	2.7244 (1.32)	3.1278 (1.46)	2.1860 (1.23)	0.8911 (0.46)	2.1956 (1.24)	1.0762 (0.57)
Chi square	11.96	15.08**	13.66*	16.13**	5.82	6.15	7.55	7.63

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

PU1 is the ratio of market capitalisation at year-end before going private to market capitalisation two years previous. EV1 is the ratio of enterprise value (market capitalisation plus debt minus cash) at year end before going private to its value the previous year. Brdvalue is the value of the board's shareholdings. Brdshare is the percentage of equity held by the board. Extshare is the total shareholdings of institutions. CC is a dummy variable that equals 1 if the company has at least three non-executive directors and no duality and zero otherwise. NX is a dummy variable that has the value 1 if the board has at least three non-executive directors on the board and zero otherwise. Duality is a dummy variable that has the value 1 if the posts of CEO and chairman are combined and zero if not. Free cash flow is the three year average percentage free cash flow divided by sales. Tax is the three year average tax paid deflated by sales. SalesG is the three year average percentage change in sales.