Small Business Economics (2005) 24: 465-476
DOI 10.1007/s11187-005-6438-y

Board Pay and the Separation of Ownership from Control in U.K. SMEs

Robert Watson
Nick Wilson

ABSTRACT. This paper examines Board pay for a sample of 571 U.K. SMEs from 1991 to 1995. Approximately half of the sample were closely-held (i.e., owner-managed) firms which allowed empirical testing of models of the relationship between Board pay and ownership from control characteristics. Consistent with their need to align shareholder and manager incentives, the results indicate that the change in non-closely-held SME Board pay is significantly related to both external market pay comparisons and "benchmark" profits. This contrasts with the empirical results for the closely-held firms where Board pay awards are typically highly sensitive to current total profits but wholly unrelated to external market pay levels.

1. Introduction

This paper investigates the relationships between Board pay decisions and the ownership and control characteristics of small and medium-size enterprises (SMEs). A number of hypothesised relationships between Board pay decisions and one of the most distinctive organisational characteristics of SMEs (Ang, 1991), namely, their closely-held[1] ownership and control status (see Huse, 2000, for a recent review of the area) are empirically evaluated. The empirical analysis has been based on a sample of 571 non-listed U.K. SMEs, utilising data relating to the 5-year period 1991 to 1995. The closely-held firm is very different from the large, public-listed firms that the research on Board, particularly CEO, pay has overwhelmingly focused on (for recent reviews of this literature, see Barkema and Gomez-Mejia, 1998 and Murphy, 1999). The lack of a separation of ownership from control characteristic of closely-held firms implies that the agency and incentive alignment concerns central to the large firm literature (Fama and Jensen, 1983; Garen, 1994; Holmstrom, 1979, 1982), particularly the empirical investigation into pay-firm performance relationships, will be of very limited relevance to the decisions and incentives faced by the majority of SMEs.

Even so, the unlisted sector also contains a substantial minority of enterprises that have professional (i.e., non-owner) managers and a board ownership structure where the directors collectively own only a small proportion of the issued share capital, in short, an ownership and management structure that is very similar to large listed firms. This diversity in the ownership and control characteristics of SMEs provides an opportunity to model and empirically test contrasting behavioural motivations behind Board pay decisions. In the current paper, approximately half of our sample are closely-held firms and we model closely-held Board pay decisions so as to reflect the fact that the directors are also the main shareholders of the enterprise. The closely-held pay model has been adapted from previous research by Keasey and Watson (1996) and Watson (1990). Our closely-held firm model, however, differs from these prior studies by modelling and controlling for predicted firm-specific fixed effects in the estimates and not assuming any partial

Final version accepted on May 23, 2003

Robert Watson
Durham Business School
University of Durham
Durham DH1 3HP
U.K.

and

Nick Wilson
Leeds University Business School
University of Leeds
Leeds LS2 9JT
U.K.

adjustment process to "unexpected" changes in profits. This more parsimonious model simply assumes that owner-managers attempt to maintain a relatively stable and firm-specific inter-temporal income level (reflecting board members consumption needs and agreements relating to their respective labour and capital contributions), but also award themselves a large proportion of total profits based upon a target payout ratio.

In contrast, the remuneration of the boards of the non-closely held SMEs are expected to be very similar to recent U.K. results obtained from large firm Board and CEO pay studies in the following two respects. Firstly, because the directors are not the major shareholders, an element of their pay can be expected to be contingent upon exceeding some firm profitability performance benchmark. However, as has been found in relation to large firms, the sensitivity of pay to this "excess" (or "unexpected") profitability is expected to be relatively limited and the estimated coefficient very much smaller than in the case of the closely-held firms. Secondly, as they contain employees with external labour market opportunities, the pay of non-closely held Boards can be expected to include a significant component related to external comparison pay levels, i.e., the pay levels received by other directors in similar non-closely-held SMEs.

2. Review of the large firm literature

There have been a great many published studies concerned with the determinants of large, publicly-listed, company executive, particularly Chief Executive Officer (CEO), compensation schemes. The review by Barkema and Gomez-Mejia (1998), for example, suggested that more than 300 such studies had been published in academic journals. However, virtually all of these studies have adopted an agency theory perspective which, given the not unrealistic assumption of a divorce of ownership from control, has focused attention on managerial incentive alignment and performance-related pay issues (Jensen and Meckling, 1976; Fama and Jensen, 1983). The central control problem for widely-held firms stems from a combination of managerial discretion, costly-to-remedy information asymmetries and the incentives for individual shareholders to "free ride" in regard to the monitoring and control of executive actions (Grossman and Hart, 1983). This creates the need for some form of incentive alignment to ensure that executive discretion is exercised in furtherance of shareholder wealth maximisation (for a review, see Denis, 2001). The main concern of the large firm literature has, therefore, been the investigation of the efficiency properties of, and empirical evidence relating to the use of, executive pay schemes that provide an incentive structure that aligns shareholder and manager interests.

It is recognised that there are constraints that limit the extent to which pay can be made contingent upon firm performance. For example, performance measures such as profitability or shareholder returns, are generally agreed to be somewhat "noisy" signals of executive effort and ability. Moreover, as executives are typically undiversified, making a high proportion of pay dependent upon firm performance is likely to expose the executive to unacceptable levels of firm-specific risk (Ang, 1991). Executives also have potential external labour market alternatives (Fama, 1980) and, therefore, a high average level of risk aversion amongst executives will limit the degree to which their pay can be made highly contingent upon firm performance measures.

Executive employment contracts will therefore normally specify that pay is to be *partly dependent* upon an easily observable output measure, such as profits or shareholder returns (Garen, 1994). The remainder will consist of a salary (often referred to as the executive's "insurance" or "participation constraint"), the level of which can be expected to be related to what executives in comparable firms are paid. Thus, the target pay level (D^*) will be a function of the fixed salary (f) and a performance contingent incentive ($r(P)$) component, i.e.,

$$D^* = \{f + r(P)\}. \quad (1)$$

In empirically testing agency models based on the above, most studies have focused on the elasticity of the pay-performance link and have utilised a natural log transformation of the dependent variable. Typically, the right-hand-side performance metric has either been defined as accounting profits (often scaled by some size measure such as total assets or sales), or shareholder returns. Many empirical studies that have

estimated executive pay-level models have found that the major determinant of salary levels (i.e., "*f*", the non-performance related component of pay) is firm size (Baker et al., 1988; Pavlik et al., 1993). Even so, a host of other (often unobserved) differences in managerial quality and motivation and differences in firm and job characteristics have been found to generate significant differences in salary levels. The preferred method of empirically testing the pay-firm performance link, primarily because all unobservable fixed effects "drop-out" of the estimating equation, has been to estimate first-difference formulations of equation (1), i.e.,

$$\Delta\text{Log}(D_{it}) = \alpha_t + \beta_P(\text{Log}(P_{it}) + u_{it}. \quad (2)$$

Despite the apparently strong theoretical expectation that there would be a significant positive empirical relationship between pay and firm performance (i.e., $\beta_P > 0$), to date the U.K. evidence of such a link has been less than wholly convincing (Gregg et al., 1992; Conyon and Leech, 1994; Conyon et al., 1995). Recent reviews of the international, particularly the U.S., evidence have confirmed these U.K. findings (Gomez-Mejia, 1994; Barkema and Gomez-Mejia, 1998). Indeed, these reviews actually concluded that "there is no sound theoretical basis to expect a strong relationship between executive pay and firm performance" (Gomez-Mejia, 1994, p. 161). Moreover, "adding more empirical studies on the statistical relationship between executive pay and firm performance to the vast literature that already exists on this issue leads researchers into a blind alley" (Barkema and Gomez-Mejia, 1998, p. 143).[2]

The apparent inability to isolate a strong empirical pay-firm performance link using such "parsimonious" first-difference pay change estimating equations should not be surprising, particularly as the model has often been tested using highly diverse cross-sectional data. In addition, the exclusive focus on the pay-firm performance dimension ignores the effect upon pay changes of adjustments which ensure that an executive's salary is sufficient to induce their continued participation given his/her risk preferences and external labour market alternatives. In a well-functioning executive labour market, in order for firms to avoid potentially costly motivational, recruitment and retention problems, salaries can be expected to closely track external pay levels to prevent pay from deviating far from that received by "comparable" directors (see Fama, 1980). A significant element of executive pay awards can therefore be expected to be influenced by the pay executives receive in comparator firms. Inter-temporal changes in external market-determined pay levels are clearly not fixed effects and their omission from pay change models may, therefore, bias the estimated coefficients on the firm performance measures.

Several recent papers have attempted to empirically test models of the process by which external pay comparisons become incorporated into executive pay awards (Cosh and Hughes, 1997; Ezzamel and Watson, 1998, 2002; Smith and Szymanski, 1995). Though the details of their analyses differ, the findings of these studies are all broadly consistent with the prediction that external pay comparisons have a significant impact upon pay awards. This recent evidence from the large, public-listed, U.K. company sector indicates that remuneration committees, usually assisted by outside pay consultants, determine executive and total Board pay with reference to the pay levels received by executives occupying similar positions in "comparable" organisations (for a review, see Ezzamel and Watson, 2002).

3. Modelling directors' pay in non-closely-held SMEs

The SME sector includes a significant minority of non-closely-held firms with ownership and control structures, and therefore agency problems, similar to large, publicly-listed, firms (Storey, 1994). From the above review of the large firm literature, Board pay in these non-closely-held firms can therefore also be expected to consist of a salary partly determined by the pay received by other "comparable" boards of directors and, for incentive alignment reasons, a firm performance related component. In developing an appropriate SME board pay model from (1), the following issues are relevant. First, the relationship between pay and firm performance may be relatively weak if direct monitoring by shareholders provides a more effective way of mitigating agency problems (Denis, 2001). Second, as SMEs do not have their equity publicly traded, the performance metric cannot be based on shareholder returns measures. In this study, reported annual profits

(before directors' fees and taxes) are used as the firm performance variable. Third, if incentive alignment arising from the separation of ownership from control is the motivation for creating a relationship between directors pay and profits then it is likely that only profits above some benchmark (or "expected") level will actually trigger additional payments. In this paper, we incorporate the possibility of a benchmark profit level by assuming that the benchmark consists of the proportion j of the $t-1$ profits and so the time t profit related pay component becomes,

$$r(P_t - jP_{t-1}) \tag{3}$$

where P_t and P_{t-1} are respectively the time t and $t-1$ profits before directors fees and taxes

$$0 < r < 1;\ 0 < j < 1.$$

Fourth, we incorporate the potential influence of external market comparisons within the Board pay model by recognising that the salary, f_t, will (at least partly) be influenced by some observable measure of the "comparison" level of pay obtained by boards of directors in other firms, i.e.,

$$f_t = a_t + b(D^m_{t-1}) \tag{4}$$

where D^m_{t-1} = the $t-1$ reported comparison pay level and a_t and $b > 0$.

Substituting relationships (3) and (4) into (1) and taking D_{t-1} from both sides produces the following Board pay change model:

$$D^*_t - D_{t-1} = a_t + bD^m_{t-1} + rP_t - rjP_{t-1} - D_{t-1} \tag{5}$$

Allowing for the existence of firm specific fixed effects and time dependent differences in a_t, we get the following panel data empirical estimating equation:

$$D_{it} - D_{it-1} = \sum \alpha_i + \sum Y_t + \beta_1 D^m_{it-1} + \beta_2 P_{it} + \beta_3 P_{it-1} + \beta_4 D_{it-1} + u_{it} \tag{6}$$

where $\sum \alpha_i = \sum (a_i)$, the intercept and the $n-1$ dummy variables representing the n firm specific intercept differences; $\sum Y_t = \sum (a_t)$, the $t-1$ year dummy variables.

In order to test (6), an empirical proxy for the comparison level of pay (D^m_{t-1}) is required. To obtain a measure of the comparison pay level, we follow the Ezzamel and Watson (2002) study and exploit the almost universal empirical finding (see Pavlik et al., 1993, for a review) that executive pay is strongly positively related to firm size (e.g., sales and/or capital employed). By regressing the log of pay on the log of firm sales for each year, the profit divided by total assets and including year ($\sum Y_t$) and firm specific ($\sum \alpha_i$) dummies to control for sample-wide period effects and unobservable time-invariate firm specific effects respectively, we are able to estimate a predicted pay level of each board of directors, i.e.,

$$LnD_{it-1} = \sum \alpha_i + \sum Y_t + \beta Ln(SALES_{it-1}) + \beta P_{it-1} + u_{it-1} \tag{7}$$

And therefore,

$$D^m_{it-1} = e^{\{\sum \alpha_i + \sum Y_t + \beta Ln(SALES_{it-1}) + \beta P_{it-1}\}} \tag{8}$$

The predicted level of pay for each board of directors for each year derived from equation (8) can then be entered into the estimating equation described by (6). It is expected that if the change in Board pay is partly determined by what comparable firms are paying their boards of directors, the estimated coefficient on the predicted pay level (D^m_{t-1}) will be significantly positive.

4. Modelling directors' pay in closely-held SMEs

The closely-held Board pay model is an adaptation of the model developed and used in previous work by Watson (1990) and Keasey and Watson (1996). The lack of a separation of ownership from control implies a very high degree of substitutability regarding the distribution of the firm's profits between directors pay, dividends and retained earnings. Though the model posits a highly significant positive relationship between Board pay and firm profitability, this does not rely upon incentive alignment motivations as there is no obvious need to align directors pay with firm performance in order to mitigate agency problems.

Owner-managers of closely-held enterprises, i.e., the board of directors, have (in principle) complete discretion regarding how they allocate the enterprise's profits between directors fees, dividends and retaining funds in the business (Watson, 1990). Apart from cases where there are one or more significant owners that are not members of the board, all these cash flows will be received by the same individuals and are, therefore, substitutable to some degree. Indeed, if there

were a well-functioning market for the firms' shares, in the absence of significant tax savings and/or changes in risk exposure, all such cash flows would be perfect substitutes. In practice, of course, they are not perfect substitutes because of the highly illiquid nature of retained earnings, the differing management roles and ownership stakes of the individual team members and their particular marginal tax rate status. In addition, owner-managers can normally be expected to value a significant degree of inter-temporal stability in their incomes, i.e., a salary, in order to plan for and fund existing and anticipated personal consumption requirements.

The closely-held firm model assumes that 'desired' Board pay at time t, D_t^*, will be related to profits, P_t, by a fixed minimum level of pay, f_t, and a payout ratio, r. That is,

$$D_t^* = f_t + r(P_t) \tag{9}$$

where r will be a function of, amongst other things, corporate tax rates, the number of directors and their marginal tax rates and f_t can be expected to reflect the board's current and anticipated minimum consumption requirements. The level of f_t, because it reflects the unique individual circumstances and consumption requirements of each board of directors, can be expected to vary across individual firms. To test whether this is the case, panel data empirical estimation methods that allow for individual intercepts to vary, i.e., to reflect any firm-specific fixed effects, are used. Despite the expectation that the minimum level of Board pay in closely-held companies, f_t, will vary across firms, to date no study of closely-held firms has actually tested for such firm-level fixed effects. It will be recalled that we argue that f_t for the non-closely-held SMEs is likely to incorporate a significant element that is related to the levels of directors pay found in "comparable" businesses rather than simply being unique to the individual firm. As potential external labour market opportunities are unlikely to be relevant to owner-managers, no such assumption is made in regard to the closely-held firms.

Assuming that there is full adjustment to the desired level of pay from year to year, equation (9) can be expanded to empirically evaluate the change in pay between time $t - 1$ and t as follows:

$$D_t - D_{t-1} = f_t + rP_t - D_{t-1} + u_t \tag{10}$$

and which, using pooled data and allowing for the existence of firm-level fixed effects and time-varying common effects, gives the following estimating equation:

$$D_{it} - D_{it-1} = \sum \alpha_i + \sum Y_t + \delta_1 P_{it} + \delta_2 D_{it-1} + u_{it} \tag{11}$$

where $\sum \alpha_i = \sum (f_i)$; $\sum Y_t = \sum(f_t)$; $\delta_1 = r$, and $\delta_2 = -1$.

It will be appreciated that the above estimating model for the closely held firms is simply a special case of the non-closely held firm estimating model described in (6). The closely held firm model shown in (11) does not include either the market comparison pay level (D_{it-1}^m) or the lagged profits terms (P_{it-1}), hence it is equivalent to equation (6) with both β_1 and β_3 assumed equal to zero.

The closely-held board pay model described by (11) is slightly different from the model used in previous research (i.e., Watson, 1990 and Keasey and Watson, 1996). The model used by these earlier researchers, which we also empirically evaluate, did not include any fixed effects, but included the $t - 1$ profit variable (P_{t-1}) because it was assumed that there would be a partial adjustment of pay to unexpected profits and full adjustment to any expected profits. This partial adjustment mechanism, though apparently receiving empirical support in these earlier studies, does not appear to be consistent with the target payout ratio and assumed tax minimisation motivations central to the model.

5. Sample, data and variables

The data for this study relates to 655 firms that responded to a mail survey on trade credit practice conducted in the Autumn of 1994 and sent to 3650 firms, thus constituting a useable response rate of 18%. The survey collected detailed data on the firm, its ownership and organisational structure, products, markets, supplier relationships, and credit management practices. The firms mailed were a randomly selected stratified sample of manufacturing companies originally drawn from the U.K. FAME database and all had single digit SIC Codes 2, 3 or 4.[3] The survey data was then matched with each firm's financial data contained

in a full credit reference report, provided by Dun & Bradstreet International. When we exclude firms with less than two years of consecutive and complete data, the minimum requirement for estimating the pay change models, and this reduces the sample to 571 firms, providing a total of 1969 firm-year observations.

Section A of Table I shows the number of observations per year and the (almost-equal) split between closely-held businesses (i.e., those in which the directors collectively own a majority stake) and other, non-closely-held, firms. Section B of Table I indicates that the mean total asset size of the closely-held firms, at slightly less than £4m, is less than 40% that of the other firms (£10.3m). In terms of the relative proportions of different types of financing, Section B indicates that though both groups of firms have approximately the same proportions of equity finance (share capital plus retained profits), the closely-held firms have a smaller proportion of issued share capital and a correspondingly higher proportion of retained earnings vis-à-vis the other firms. In terms of the non-equity forms of finance, it is also clear that

TABLE I
Descriptive statistics

Section A: Observations by year and firm type

Year	All firms	Closely-held	Other firms
1991	498	244	254
1992	547	268	279
1993	574	282	292
1994	578	288	290
1995	384	213	170
Total	**2581**	**1295**	**1286**

Section B: Capital structure variables*

	All firms Mean (SD)	Closely-held Mean (SD)	Other firms Mean (SD)
Total assets (£m)	7.14 (10.86)	3.98 (4.70)	10.32 (14.65)
Share capital (%)	14.88 (24.26)	11.22 (17.35)	18.56 (29.64)
Retained profits (%)	19.14 (35.80)	24.17 (28.58)	14.07 (41.23)
Long-term debt (%)	4.12 (10.10)	4.74 (8.22)	3.50 (11.65)
Hire purchase (%)	2.24 (5.30)	2.95 (6.03)	1.53 (4.33)
Short-term debt (%)	9.04 (12.72)	10.51 (12.38)	7.55 (12.88)

* End of year balance sheet values used in all cases; the %'s are in relation to total assets.

Section C: Profit & loss account variables**

	All firms Mean (SD)	Closely-held Mean (SD)	Other firms Mean (SD)
Sales (£m)	10.44 (12.29)	6.57 (7.06)	14.11 (14.80)
Profit before directors' fees (%)	6.95 (21.06)	7.21 (14.32)	6.70 (25.86)
Directors fees (%)	3.09 (11.02)	3.75 (10.55)	2.44 (11.43)
Profit after directors' fees (%)	3.77 (19.11)	3.27 (9.57)	4.24 (11.43)
Tax (%)	1.20 (2.82)	1.07 (2.17)	1.33 (3.33)
Dividends (%)	1.83 (8.04)	1.04 (3.52)	2.62 (10.77)
Retained profits (%)	0.61 (19.31)	1.02 (8.28)	0.22 (25.70)

** All variables, with the exception of sales, are expressed in terms of their % of annual turnover.

the closely-held firms make greater use of short-term debt (e.g., overdrafts) and other types of liability (e.g., trade credit, provisions for future tax, other accrued charges and directors loans, unpaid fees, etc.) not listed in the table.

In Section C of Table I, the profit and loss account variables are expressed in terms of their percentage of annual sales. For both the closely-held and other firms, the total appropriations of profit in the form of directors fees and dividends is about 5% of sales. In the case of the other, non-closely-held, firm sample, the average appropriations of profit as directors fees and dividends are approximately equal. However, as should be expected for the closely-held firms, directors fee payments dominate and are some 3.5 times the size of dividend payments.

6. Empirical results

The results shown in Table II have been estimated using all 571 of the sample firms for which the complete information was available. The analysis relates therefore to all firms irrespective of their ownership and control status. In order to reduce possible heteroskedasticity problems and to enable a comparison of the results with those of previous work, all the variables in the models have been scaled by total assets.[4] The table contains the empirical estimates for four alternative specifications. Model 1 is the closely-held firm model used in previous work by Watson (1990) and Keasey and Watson (1996). This model incorporates the possibility of differing speeds of adjustment to "expected" and "unexpected" profits and so differs from the closely-held firm model developed in this paper by the inclusion of a lagged profits term and

TABLE II
Board of directors pay change models
All firms
(Pooled observations= 1969)
All variables scaled by total assets

Variable	Model 1	Model 2	Model 3	Model 4
D^m_{t-1}				–0.235 (0.79)
P_t	0.446 (40.36)***	0.520 (40.43)***	0.545 (42.15)***	0.522 (40.07)***
P_{t-1}	–0.239 (17.68)***	–0.045 (2.46)***		–0.041 (2.15)**
D_{t-1}	–0.353 (11.33)***	–1.032 (16.54)***	–1.036 (17.41)***	–1.015 (15.36)***
Positive pooled constant	Yes**	Yes**	Yes**	Yes**
Fixed effects	No	Yes***	Yes***	Yes***
Year dummies	Yes*	Yes*	Yes*	Yes*
Equation F-ratio	$241.4_{(7,1961)}$	$4.99_{(577,1391)}$	$5.03_{(576,1392)}$	$4.98_{(578,1390)}$
Adjusted R^2 (%)	46.1	53.9	52.8	53.9

Statistical significance levels:
* = 10% significance levels.
** = 5% confidence levels.
*** = 1% confidence levels.
Notes:
Model 1: The partial adjustment and profits trend model used in previous published research.
Model 2: Model 1 incorporating Fixed effects.
Model 3: the Closely-Held model, i.e., equation (11).
Model 4: the Non-Closely Held Model, i.e., equation (6).

the exclusion of any firm-specific fixed effects. Because Model 1 assumes a partial adjustment of pay to "unexpected" profits, the coefficient on the lagged pay term (D_{it-1}), though still expected to be negative, may be significantly larger than –1. As with the previous published research, the empirical estimates of Model 1indicate a partial adjustment (the estimated speed-of-adjustment coefficient being only approximately 35%) of pay to unexpected profits and a significantly negative coefficient on the lagged profits term (P_{t-1}). The estimated parameters and explanatory power of Model 1 are in fact very close the results reported by Keasey and Watson (1996).

Model 2 includes firm-specific dummy variables to empirically evaluate the importance of firm-specific, time-invariant, fixed effects. As anticipated, by allowing the intercepts of individual firms to vary the explanatory power of the model vis a vis Model 1 is greatly improved and the adjusted R^2 of the estimates increases to 53.9%. Interestingly, the coefficient on the lagged pay variable increases to –1.032 and this is now insignificantly different from –1.[5] In contrast, the size and statistical significance of the lagged profits term falls dramatically.[6]

Model 3 summaries the empirical estimates of the closely-held firm model developed in this paper and described by equation (11). This model differs from Model 2 only in respect of not including the lagged profits term (P_{t-1}). Not surprisingly then, given the relatively small coefficient and significance level of this variable in the Model 2 estimates, the parameters and explanatory power of this model are very similar to those of Model 2. Model 4 is the non-closely held firm model developed in this paper and described by equation (6). Model 4 differs from Model 2 by including the estimated $t - 1$ market comparison pay level (D^m_{t-1}) variable in the estimating equation.[7] As the coefficient on this variable is both the "wrong" sign (negative) and statistically insignificant, the explanatory power of Model 4 is no better than that of Model 2. Moreover, none of the other parameters in the model are materially different from the Model 2 estimates. It might be concluded that, as the more parsimonious, Model 2 is the more efficient of the three models that incorporate the fixed effects. However, it will be recalled that the Table II results have been estimated using all of the firms in the sample. As approximately half of the firms in this sample are non-closely held, a more appropriate test of the explanatory models would be to compare the results obtained from models 3 and 4 when estimated on the two sub-samples of firms. The expectation is that Model 4 (the non-closely held model) will be superior to Model 3 (the closely-held model) when estimated using only non-closely held firm data. In contrast, Model 3 will be superior to Model 4 when estimated using only the closely-held firm observations.

Table III presents the estimates of models 3 and 4 for the two sub-groups of SMEs: the Non-Closely Held and the Closely-held firms. Turning first to the non-closely held firms, it is clear that Model 4 is superior to Model 3 because the addition of the estimated external market comparison pay variable (D^m_{t-1}) and the lagged profits term (P_{t-1}) are both of the "correct" sign and individually statistically significant at 1% confidence levels. As anticipated, the lagged profits term has a statistically significant negative coefficient. Consistent with the incentive alignment motivations associated with non-closley held firms, this indicates that boards receive an additional performance related payment only on profits above the expected (or benchmark) profit level (i.e., jP_{t-1}). Similarly, the coefficient on the external market pay comparison variable is, as anticipated, positive and indicates the importance of external market benchmarks upon the subsequent pay awards of comparable SME boards. Moreover, the relative explanatory power of the two models, as indicated by the adjusted R^2's indicates that Model 4 is superior to Model 3. As the coefficient on the external market comparison pay variable is individually significant it can also be inferred that Model 4 is superior to Model 2.[8]

As can be seen from Table III, the situation is reversed when the two competing behavioural models are estimated using only the closely-held firm observations. Here, as anticipated, Model 3 is clearly superior to Model 4, both in terms of relative explanatory power and in terms of efficiency since neither of the two additional variables in Model 4 are individually statistically significant or, indeed even of the correct sign. As anticipated, it is clear that the estimated market comparison pay level does not possess any explanatory power

TABLE III
Board of directors pay change models
by firm type
All variables scaled by total assets

Variable	Non-closely held companies		Closely-held companies	
	Model 3	Model 4	Model 3	Model 4
D^{m}_{t-1}		0.544 (2.44)***		–0.441 (1.10)
P_t	0.115 (12.15)***	0.107 (9.76)***	0.737 (46.84)***	0.731 (45.77)***
P_{t-1}		–0.036 (3.14)***		0.024 (0.73)
D_{t-1}	–1.091 (27.73)***	–1.119 (26.15)***	–1.062 (12.24)***	–1.036 (10.24)***
Positive pooled constant	Yes***	Yes**	Yes***	Yes***
Fixed effects	Yes**	Yes**	Yes***	Yes***
Year dummies	Yes*	Yes*	Yes*	Yes*
Equation F-ratio	$3.78_{(297,688)}$	$3.51_{(299,686)}$	$16.84_{(285,697)}$	$10.99_{(287,695)}$
Adjusted R^2 (%)	41.7	43.3	75.1	74.5
N =	986	986	983	983

Statistical significance levels:
* = 10% significance levels.
** = 5% confidence levels.
*** = 1% confidence levels.
Notes:
Model 3: the Closely-Held model, i.e., equation (11).
Model 4: the Non-Closely Held Model, i.e., equation (6).

in respect of the closely-held firm board pay decisions. Also, as anticipated the lagged profits term is not of any statistical significance for the closely held firms which, consistent with the lack of an incentive alignment motivation for linking pay and firm performance, implies that the t – 1 profit-based benchmark pay level is zero.[9]

One final point to note is that the coefficients on the current period profits term are consistently significantly larger in respect of the closely-held firms than for the non-closely held firms. The non-closely held coefficients are approximately one-seventh the size of those estimated for the closely-held firms. Note, however, that even the relatively small, but statistically highly significant, coefficients on the current profits variable for the non-closely-held estimates are still very much larger and of much greater statistical significance than is generally found in equivalent studies of large, publicly-listed, enterprises.

In summary, the results suggest that the very parsimonious closely-held firm Model 3 is able to explain a remarkably high proportion of the cross-sectional variance in closely-held firm Board pay awards. The performance of the, less parsimonious, non-closely held firm model (Model 4) when estimated using the non-closely held firm observations is significantly less impressive in this regard. When compared to the typically very low explanatory power achieved by pay change models estimated on large firm datasets (Conyon et al., 1995), the non-closely-held firm model's performance is, nonetheless, also very impressive. It is evident, therefore, that the variation in behaviour between closely-held firms is relatively small once the influence of current profits, last year's board

pay and the time-invariant fixed effects are taken into account. The diversity of behaviour is clearly greater in the case of the non-closely held firms even though the empirical model contains additional and statistically significant variables. The major difference is that for the non-closely held firms, the influence of current profits upon board pay is very much smaller than is the case for the closely-held firms

7. Concluding remarks

In this paper we have attempted to model and empirically test the different motivations and behaviour of SME boards of directors with respect to Board pay decisions on the basis of the differing motivations arising from differences in the degree of separation of ownership from control. The use of a heterogeneous sample of SMEs, which was subsequently split into two sub-groups, closley-held and non-closely held firms, allowed us to investigate some of the main empirical predictions of the agency theory-inspired models, particularly in regard to the pay decisions of the non-closely-held SME Boards. In the absence of direct monitoring of executive actions, the agency theory models predict that for incentive alignment reasons, there will be a significant positive relationship between Board pay and "unexpected" firm performance (reported profits). Moreover, given a competitive external managerial labour market, a positive relationship to estimates of comparable external labour market alternatives was also expected. Clearly though, neither incentive alignment nor external labour market alternatives are relevant factors in respect of the determination of Board pay in owner-managed, i.e., closely-held, enterprises. Our empirical results shown in Tables II and III appear to statistically confirm these expectations

As regards the underlying motivations driving the closely-held firms Board pay awards, it was anticipated that these would be best explained in terms of a relatively unchanging combination of unique, firm-specific characteristics (captured by the fixed-effects dummy variables) and a desire to maintain a constant and relatively high payout ratio. The empirical estimates that did not incorporate fixed effects (i.e., Model 1 in Table II), were very similar to the results obtained by previous studies. However, the addition of the fixed effects (Model 2) radically changed the estimated coefficients and significance levels on the lagged pay term (D_{t-1}) and the lagged profits term (P_{t-1}). The inclusion of the fixed effects made the coefficient on the former indistinguishable from –1.0 and greatly reduced the absolute magnitude and statistical significance of the coefficient on the latter. The results suggest, therefore, that there was apparently full adjustment of Board pay to changes in profits since the coefficient on the lagged $t - 1$ pay variable was close to –1 in all the estimated regression equations. Given the vastly increased range of very flexible and tax-efficient savings and diversification schemes available to owner-managers, there seems no financial reason for them to "play safe" and only partially adjust to changes in firm profits, whether or not "anticipated".[10]

The hypothesised negative and positive signs (and statistical significance levels) on respectively the lagged profits and market pay comparison variables (D^{m}_{t-1}) in respect of the non-closely held firm observations received empirical support. However, in terms of the closely-held firm empirical findings, as anticipated, neither the predicted market comparison pay level variable nor the lagged (benchmark) profits variable coefficient appear to have any significant impact on subsequent pay awards.

The results presented in this paper have contributed to the literature on the importance of differences in ownership and control for understanding the motivations underlying Board pay decisions. The paper has also attempted to close the gap between the large and small firm literatures on Board pay by developing an empirical model that allows the testing of hypotheses relating to the differing motivations and consequences for directors pay awards arising from differences in ownership and control. The empirical results are highly supportive of the main hypotheses advanced. This suggests that this relatively under-researched area is capable of yielding interesting results regarding the relationships between corporate ownership and control characteristics and directors pay decisions. For example, the paper unambiguously shows that the relative importance that incentive alignment motivations, and inter-temporal pay stability concerns

and external labour market pay comparisons play in driving SME Board pay decisions is likely to vary systematically with differences in ownership and control characteristics. Moreover, closely-held firm board pay decisions are likely to be related to other important financial decisions, such as capital structure where "pecking order" assumptions (Myers and Majluf, 1984) are both particularly appropriate and have recently been shown to have significant empirical content when tested on closely-held firms (see Watson and Wilson, 2002). Finally, what is also apparent from the paper is that, despite the many previous studies of large firms that have appeared to indicate a lack of any significant link between pay and firm performance measures, this is not the case in regard to the U.K. SME sector. The conclusions of Burkema and Gomez-Mejia (1998), admittedly based upon their review of the large firm literature, that further "empirical studies on the statistical relationship between executive pay and firm performance . . . leads researchers into a blind alley" (p. 143) seems, therefore, somewhat premature if the focus of the research is the SME sector.

Appendix
Board of directors pay level empirical estimates

$$LnD_{it-1} = \sum \alpha_i + \sum Y_t + \beta Ln(SALES_{it-1}) + \beta P_{it-1} + u_{it-1}$$

Variable	Non-closely held firms	Closely-held firms	All firms
P_{t-1} (scaled by total assets)	–0.051 (0.91)	1.501 (4.02)***	0.495 (1.72)*
$Ln(Sales_{t-1})$	0.463 (2.25)**	0.411 (2.85)***	0.434 (3.41)***
Fixed effects and year dummies	Yes***	Yes***	Yes***
Equation F-ratio	$3.53_{(297,688)}$	$4.80_{(285,697)}$	$3.97_{(576,1392)}$
Adjusted R^2(%)	43.3	52.5	46.5
N =	986	983	1969

Statistical significance levels:
* = 10% significance levels.
** = 5% confidence levels.
*** = 1% confidence levels.

Notes

[1] In the U.K., the legal definition of a closely-held firm is an incorporated business which is owned and controlled by five or fewer members and their 'close associates', which includes family members.

[2] For empirical evidence of a more robust relationship between pay and performance when the former includes executive share option wealth changes, see Main et al. (1996).

[3] Details of the survey instrument can be obtained from the authors.

[4] Several other formulations of the estimating equations were tested, including unscaled and alternative scaling variables (sales) and log-linear estimates. However, as the results obtained from these alternative specifications were virtually identical to the reported results we have chosen not to include them in the paper.

[5] This is also true in respect of all the models estimated with fixed effects. Indeed, re-estimating each model with the coefficient on D_{t-1} set to –1, does not lead to any material changes in the parameters or to the explanatory power of the models.

[6] The reduction in the individual significance levels of the independent variables arises due to their relatively high (and expected) correlation with the fixed effects.

[7] The model used to estimate (D^m_{t-1}) is shown in the Appendix to this paper.

[8] Direct estimates of Model 2 using the non-closely held firm observations produces a set of estimates that have an adjusted R^2 of 42.0%.

[9] Model 3 is also superior to Model 2 as the adjusted R^2 vis-à-vis Model 3 decreases marginally when the lagged profits variable is included in the estimating equation.

[10] As mentioned earlier, the partial adjustment mechanism with respect to current profits (whether or not anticipated), does not appear to be consistent with the other main behavioural motivation in their model, namely that the target payout ratio is driven by possible tax minimisation motivations.

References

Ang, J. S., 1991, 'Small Business Uniqueness and the Theory of Financial Management', *Journal of Small Business Finance* **1**, 1–13.

Baker, G. P., M. C. Jensen and K. J. Murphy, 1988, 'Compensation and Incentives: Practice vs Theory', *Journal of Finance* **18**, 593–616.

Barkema, H. G., P. Geroski and J. Schalbach, 1997, 'Managerial Compensation Strategy and Firm Performance', *International Journal of Industrial Organisation* **15**, 413–417.

Barkema, H. G. and L. R. Gomez-Mejia, 1998, 'Managerial Compensation and Firm Performance: A General Research Framework', *Academy of Management Journal* **41**, 135–145.

Conyon, M., P. Gregg and S. Machin, 1995, 'Taking Care of Business: Executive Compensation in the United Kingdom', *The Economic Journal* **105**, 704–714.

Conyon, M. and D. Leech, 1994, 'Top Pay, Company

Performance and Corporate Governance', *Oxford Bulletin of Economics and Statistics* **56**, 229–247.
Cosh, A. and A. Hughes, 1997, Executive Remuneration, Executive Dismissal and Institutional Shareholdings', *International Journal of Industrial Organisation* **15**, 469–492.
Denis, D. K., 2001, 'Twenty-five Years of Corporate Governance Research . . . and Counting', *Review of Financial Economics* **10**, 191–212.
Ezzamel, M. and R. Watson, 1998, 'Market Comparison Earnings and the Bidding-up of Executive Cash Compensation: Evidence from the UK', *Academy of Management Journal* **41**, 221–231.
Ezzamel, M. and R. Watson, 2002, 'Pay Comparability Across and Within UK Boards: An Empirical Analysis of the Cash Pay Awards to CEOs and other Board Members', *Journal of Management Studies* **39**, 207–232.
Fama, E. F., 1980, 'Agency Problems and the Theory of the Firm', *Journal of Political Economy* **88**, 288–307.
Fama, E. F. and Jensen, 1983, 'Separation of Ownership and Control', *Journal of Law and Economics* **26**, 301–325.
Garen, J. E. 1994, 'Executive Compensation and Principal-Agent Theory', *Journal of Political Economy* **102**, 1175–1199.
Gomez-Mejia, L. R., 1994, 'Executive Compensation: A Reassessment and a Future Research Agenda', *Research in Human Resource Management* **12**, 161–222.
Gregg, P., S. Machin and S. Szymanski, 1993, 'The Disappearing Relationship between Directors Pay and Corporate Performance', *British Journal of Industrial Relations* **31**, 1–9.
Grossman, S. J. and O. Hart, 1983, 'An Analysis of the Principal-Agent Problem', *Econometrica* **51**, 7–45.
Hart, O., 1995, 'Corporate Governance: Some Theory and Implications', *Economic Journal* **105**, 678–689.
Holmstrom, B., 1979, 'Moral Hazard and Observability', *Bell Journal of Economics* **10**, 74–91.
Holmstrom, B., 1982, 'Moral Hazard in Teams', *Bell Journal of Economics* **13**, 324–340.
Huse, M., 2000, 'Boards of Directors in SMEs: A Review and Research Agenda', *Entrepreneurship & Regional Development* **12**, 271–290.
Jensen, M. C. and W. H. Meckling, 1976, 'Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure', *Journal of Financial Economics* **3**, 305–360.
Keasey, K. and R. Watson, 1996, 'Owner-Manager Drawings, Firm Performance and Financial Structure: An Analysis of Small and Closely Held UK Firms', *Journal of Business Finance and Accounting* **23**, 753–778.
Main, B. G. M., A. Bruce and T. Buck, 1996, 'Total Board Remuneration and Company Performance', *Economic Journal* **106**, 1627–1644.
Murphy, K., 1999, 'Executive Compensation', in O. Ashenfelter and D. Card (eds.), *Handbook of Labour Economics*, Vol. 3, Amsterdam: North-Holland.
Myers, S. and N. Majluf, 1984, 'Corporate Financing and Investment Decisions when Firms have Information that Investors Do Not Have', *Journal of Financial Economics* **13**, 187–221.
Pavlik, E., T. Scott and P. Tiessen, 1993, 'Executive Compensation: Issues and Research', *Journal of Accounting Literature* **12**, 131–189.
Smith, R. and S. Szymanski, 1995, 'Executive Pay and Performance: The Empirical Importance of the Participation Constraint', *International Journal of the Economics of Business* **2**, 485–495.
Storey, D. J., 1994, *Understanding the Small Business Sector*, London: Routledge.
Watson, R., 1990, 'Employment Change, Profits and Directors Remuneration in Small and Closely-held UK Companies', *Scottish Journal of Political Economy* **37** (August), 259–274.
Watson, R. and N. Wilson, 2002, 'Small and Medium Size Enterprise Financing: Some of the Empirical Implications of a Pecking Order', *Journal of Business Finance & Accounting* **29**, 557–578.