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Executive Remuneration and the Payout Decision

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Abstract

We analyze the payout channel choice of listed UK firms and examine whether the choice between dividends, share repurchases, a combination of payout channels, or complete earnings retention is affected by investor sentiment, taxation, major shareholder ownership, and in particular the CEO's compensation package. The payout choice can have an immediate effect on the value of the CEO's stock options and restricted stock, whereby anticipated dividends drive down the value of her equity-based pay if it is not dividend-protected whereas share repurchases may have a positive impact. We use a quantile regression analysis to examine various payout scenarios as well as a nested logit model which studies payout choice conditional on changing payout levels. We find that it is the CEO's personal wealth as reflected by her compensation package rather than shareholder preferences which has the strongest impact on the firm's payout policy.

Keywords: executive compensation, payout policy, dividends, share repurchases, market sentiment

JEL Classifications: G30, G35, J33, M52

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We analyze the payout channel choice of listed UK firms and examine whether the choice between dividends, share repurchases, a combination of payout channels, or complete earnings retention is affected by investor sentiment, taxation, major shareholder ownership, and in particular the CEO's compensation package. The payout choice can have an immediate effect on the value of the CEO's stock options and restricted stock, whereby anticipated dividends drive down the value of her equity-based pay if it is not dividend-protected whereas share repurchases may have a positive impact. We use a quantile regression analysis to examine various payout scenarios as well as a nested logit model which studies payout choice conditional on changing payout levels. We find that it is the CEO's personal wealth as reflected by her compensation package rather than shareholder preferences which has the strongest impact on the firm's payout policy.

1. Introduction

> *"The American craze for share buybacks shows no sign of abating. Returning capital to shareholders by repurchasing stock may soon be more popular than paying dividends. Investors may cheer because they pay less tax on buybacks. But they should also worry, because buybacks may be enriching managers at their expense."* (The Economist, 23rd April 1998).

Are dividends and share repurchases substitutes for corporate payouts? The economic answer to this question is simple. In a nutshell, dividends are paid out of earnings and result in a reduction of shareholders' equity. Repurchases reduce both the cash position and the number of shares outstanding, i.e. the leverage ratio increases. As these payout methods do not alter the firm value in perfect capital markets, investors should be indifferent as to the payout channel (Miller and Modigliani, 1961). Considering dividends and share repurchases as perfect substitutes ignores the many capital market imperfections induced by informational asymmetries, taxation, shareholder expectations, and managerial personal rent-seeking. Accordingly, the two payout methods are inherently distinct and cannot be regarded as substitutes. Stephens and Weisbach (1989) suggest that repurchases offer greater flexibility in quantity and timing than dividend payments. This is consistent with the idea by Jagannathan, Stephens, and Weisbach (2000), who observe that dividends are usually paid out of sustainable cash flows (operating cash flows), while stock repurchases are typically paid out of temporary cash flow surplus (non-operating cash flows). Amihud and Li (2006) support the idea that, unlike dividends, stock repurchases preserve financial flexibility.

While many theories have been proposed to explain the surge in stock repurchases, there is some evidence that executive pay practices play an important role in the payout decision in the US (Fenn and Liang, 2001) and Finland (Liljeblom and Pasternack, 2006). Whereas in the US study executive remuneration has a significant impact on dividend policy, the latter study which is based on a unique dataset that includes information on the dividend protection of equity-based compensation contracts finds that the Finish companies that have adopted such an option program

show no tendency to avoid dividends. While executive compensation in general and equity-based pay in particular are meant to function as a corporate governance mechanism that incentivizes management to pursue actions beneficial to shareholders, there are doubts about this idea as the firm's payout decision may be influenced by incentive pay at the detriment of shareholders. Therefore, Bebchuk, Fried, and Walker's (2002) managerial power argument may be valid, which states that the popularity of executive stock options results from the fact that in the eyes of CEOs, they are the most effective way to extract wealth from the firm without provoking 'shareholder outrage'. In this paper, we ask how the different components of CEO remuneration affect the level of corporate payout and the choice between the different payout channels in the UK.

The purpose of this paper is to provide new empirical evidence on the relation between, on the one hand, the level of dividend and total payout, and the payout channel choice, and, on the other hand, executive pay practices in the UK, while accounting for taxation, market sentiment, major blockholder concentration, and other control variables. We analyze these relations by means of quantile regressions, which enables us to study the payout decision at various levels. We find that CEO stock options are strongly associated with a lower dividend payout, which supports the managerial power hypothesis: CEOs holding non-dividend protected stock options prefer to avoid dividend payments as the reduction in share price following a dividend announcement hurts the value of their stock options. We use a nested logit model to investigate the payout channel choice conditional on the firm committing to pay out earnings. We show that a CEO first determines the level of payout (relative to the previous year) and then decides about the payout channel. We confirm that CEO stock options and restricted stock in firms that increase their payout are negatively associated with dividend payout and positively with share repurchases.

While the relation between executive remuneration has been studied for the US and Finland, this is the first study on the UK. While the UK is similar to the US concerning the breadth and maturity of its capital market (Ferris, Sen, and Yui, 2006) and its corporate governance regime, the results of previous US studies cannot be readily applied to a UK setting due to e.g. differences in taxation of dividends and share repurchases, and the concentration of ownership (Renneboog and Trojanowski, 2011). Our study uses a unique data set that combines both actual share repurchase information and detailed information on the various components of pay. As we dispose of detailed information regarding all the equity-based components of pay, we explicitly test the impact of stock options and restricted shares on the firm's payout choice. We draw on long-term payout data for virtually all listed firms.

The paper is organized as follows. In Section 2, we review the recent payout literature and formulate our conjectures. Section 3 presents the estimation methods, while we present the data, provide descriptive statistics, and discuss the regulatory settings in Section 4. Section 5 discusses the empirical results. A summary and a discussion of our findings is presented in section 6.

2. Literature and Hypotheses

In this section, we discuss how we expect executive remuneration contracts to affect the payout decision and discuss alternative motives to pay out earnings such as market sentiment, taxes, the role of ownership concentration, and aspects of corporate governance.

2.1. Executive Remuneration

The main justification to introduce equity-based compensation is the reduction of agency costs as the incentives of top management and stockowners are then more aligned. Indeed, executive directors[1] with incentive-oriented remuneration packages (stock options and/or restricted stock) are also co-owners and hence are expected to focus on value creation. However, a payout decision that is favorable to management as it makes their compensation packages more valuable, may not necessarily be the best decision for all shareholders. Usually, share repurchases have an immediate positive impact on the share prices because a repurchase may signal to the market that the stock is underpriced and enable the most pessimistic shareholders to sell their stake. Still, how credible is this signal of undervaluation when one realizes that for the top managers a (short run) increase in share price leads to a rise of the value of their stock options and restricted stock? For the US, Fenn and Liang (2001) suggest that the growth in share repurchases is related to the increasing use of managerial stock incentives since the 1990s. This stock option hypothesis is in line with the findings of Kahle (2002) who details that firms heavily relying on stock-option-based compensation are more likely to repurchase their stock. Still, Aboody and Kasznik (2008) demonstrate that the lower dividend payout in firms with large equity-based compensation is only partly offset by stock repurchases. In other words, executive stock options and restricted stock lead to a reduction in payout, and induce self-interested managers to favor repurchases over dividends.

Therefore, we conjecture that *CEOs with high levels of executive stock options or restricted stock prefer share repurchases over dividends, and prefer no payout over a dividend payout (C1).*

The above conjecture implicitly assumes that equity-based compensation is not dividend protected. This means that the management does not receive dividends on restricted shares that have not yet vested as the management does not legally own these share as yet. Likewise, the management does not get any dividends on stock options (regardless of vesting). Without dividend protected equity-based pay, top management can indeed shy away from paying out dividends because anticipated dividends drive the share price down which decreases the value of equity-based pay. Liljeblom and Pasternack (2006) show that Finnish firms do not avoid paying out dividends if the managerial stock options are dividend protected, but they do so in the case of no dividend

[1] We will use the UK definition of a director throughout the paper: an executive director is a top manager (officer) who is a member of the board of directors. A non-executive director (often referred to as 'director' in the US) is a board member who does not hold an executive position within the firm.

protection. If dividend protection is widely used, the above conjectures will not be empirically supported as dividend protection turns the payout channel choice into a neutral decision from the perspective of the management. There is no empirical evidence for the UK on dividend protection due to a lack of consistent reporting. Therefore, we have contacted some leading compensation consulting firms in the UK (Towers Watson, Hay Group) and have learnt that dividend protection is a relatively new phenomenon and is only used among the larger firms (part of the FTSE100 firms). Given that we examine virtually all listed UK companies (including small caps and fledglings), the vast majority of firms does not have dividend protection and the above conjectures are worth testing (in aggregate and by size quantiles).

2.2. The Role of Large Shareholders

If agency costs are high, shareholders will prefer a high (stable) payout policy as a steady stream of cash outflows curbs the corporate funds managers have at their discretion. The advantage of a high payout policy to the shareholder of cash rich firms is that the free cash flow is returned to the shareholders and is not wasted on empire building projects. Moreover, the advantage of this policy within growth firms is that the management is occasionally forced to face the scrutiny of the capital markets when it needs to collect funds for further investments. Shareholders may prefer a high dividend payout, which is usually rather sticky in UK, over share repurchases as the latter are part of occasional buy-back programs (Renneboog and Trojanowski, 2011). As such, a high dividend payout policy can be seen as a precommitment device - somewhat like high leverage, but then less binding - which is especially important in the context of asymmetric information. This raises the question whether managers would voluntarily adopt a high payout policy or large outside shareholders (such as industrial or commercial companies, or individuals and families) and non-executive directors owning large share stakes impose a specific payout policy.

Thus, we conjecture that *in the presence of high levels of non-institutional ownership (individuals and families, companies, non-executive directors) a high payout is preferred over no payout and share repurchases over dividends (C2a).* An alternative conjecture would be that in firms with strong outsider shareholders, the management is sufficiently monitored such that a high payout is not necessary to curb managerial discretion (Oswald and Young, 2008) - essentially, large shareholders and a high payout policy are substitutes from a monitoring perspective. Apart from the above agency issues, there may also be other reasons for outside shareholders to prefer a specific payout policy, such as taxes which we will discuss in the following subsection.

Institutional shareholders (mutual funds, unit trusts, pension funds, banks) make up the most important shareholder category in the UK. Still, their individual influence on the firm may be limited because they usually hold relative small share stakes following portfolio investment restrictions, i.e. limits on how much they can invest in a single firm. Furthermore, institutional shareholders may lack monitoring expertise and may not be interested in close monitoring as this gives them price-sensitive inside information that may temporarily immobilize portfolio

rebalancing (Faccio and Lasfer, 2000). With exception of some activist investment funds and private equity investors (Becht, Franks, Mayer, and Rossi, 2009; Dimson, Karakas, and Li, 2013), financial institutions have usually been passive investors. Institutional investors are likely to have a preference for a high payout in an agency framework (see above) and prefer a steady stream of dividends to rebalance their ownership portfolio in order to protect the liquidity of their investments. We thus conjecture that *in the presence of high levels of institutional ownership, a higher payout is expected and dividends are preferred to share repurchases (C2b).*

Executive directors who own large share stakes and who want to safeguard private benefits of control aim at maintaining more discretion over the cash flows and therefore would prefer a low payout policy. In case of a payout, they prefer share repurchases to dividends, because share repurchases give them more discretion about the timing of the payout. Furthermore, in some cases a share repurchase may increase the executives' ownership concentration (Stonham, 2002). Therefore, we conjecture that in *the presence of high levels of executive ownership concentration (CEOs, executives), payout is lower and, in case of a payout, share repurchases are preferred to dividends (C2c).*

2.3. Taxation

The relative taxation burden on share repurchases and dividends may influence both the payout decision and the payout channel. Whether dividends or repurchases are given priority can be influenced by the largest shareholders (whose tax rates may differ). For instance, Lie and Lie (1999), Kooli and L'Her (2010), and Renneboog and Trojanowski (2011) report the impact of taxes on payout for the US, Canada, and the UK, respectively. The question about causality then emerges: does ownership concentration influence payout policy (shareholders set dividend policy) or does the inverse relation apply (i.e. a firm's payout attracts a specific tax clientele). Perez-Gonzalez (2002) shows that the causality goes from ownership to payout policy in the US because tax reforms are followed by changes in payout policy, and is hence consistent with tax-induced preferences of major shareholders. Likewise, Liljeblom and Pasternack (2006) show that a higher foreign ownership explains a tendency toward share repurchases in Finland. In contrast, Michaely, Thaler, and Womack (1995) demonstrate that changes in payout policy do not necessarily lead to adjustments in ownership concentration and structures. Geiler and Renneboog (2010) calculate the after-tax values of £ 1 in dividends and in share repurchases for different types of investors and thus infer the preferences of individuals and families, pension funds, and corporations regarding the payout method. They show that, from a tax perspective, individuals preferred share repurchases over dividends over the period 1996-2007, pension funds preferred dividends before 1997 but became subsequently tax-neutral, and corporations (including financial firms) preferred dividends over the whole time window of the past twenty years. We therefore formulate the following conjectures: *Executive and nonexecutive directors, as well as individuals and families prefer share*

repurchases over dividends, but the after-tax value of payout reverses the preference for corporations and financial institutions (C3).

2.4. Sentiment

Market sentiment refers to the behavioral biases that affect the preference for specific payout channels. The concept was pioneered by Baker and Wurgler (2004a) who show that in some time periods the dividend premium is positive (the shares of 'safe' dividend payers are valued more than the shares of firms that do not pay out earnings and focus on capital appreciation) whereas in others, the premiums are negative. They conclude: "The essence of the catering theory is that managers give investors what they currently want" (Baker and Wurgler, 2004a: 1160). In the US, the dividend premium has been positive prior to 1987, but afterwards negative up to the year 2010 with the exception of 2002 and 2008 (Baker and Wurgler, 2004b, Baker, 2010). Ferris, Sen, and Yui (2006) largely concur with these findings for the UK as the dividend premium was negative during the late 1990s. We conjecture that *firms issue dividends if the dividend premium is positive and retain earnings or repurchase their shares in case of a negative dividend premium (C4).*

The literature on investor sentiment is related to the concept of overconfidence, which is the belief that the precision of one's information is greater than it actually is (Gervais, Heaton, and Odean, 2003). Odean (1998) develops models in which overconfident investors overestimate the precision of their knowledge about the value of a financial security. The most robust effect of overconfidence is that trading volume increases when price takers or insiders are overconfident in the stock price evolution. We therefore conjecture that *investor confidence in a specific stock, as proxied by the stock's trading volume and momentum, leads to a relative preference of share repurchases to dividends (C4).*

2.5 Other Controls

We also control for firm characteristics such as size, performance and risk measures, as well as decision makers' traits such as tenure, age, and gender. The propensity to pay dividends increases in firm size and growth opportunities (Fama and French, 2001, Allen and Michaely, 2003, Hu and Kumar, 2004, Denis and Osobov, 2008a). Grullon and Michaely (2002) report that established large US firms also show a higher propensity to pay out cash through share repurchases. We also include firm performance, leverage, and risk because dividend-paying firms are typically more profitable (Fama and French, 2001, Grullon and Michaely, 2002, Renneboog and Trojanowski, 2011), less levered firms tend to prefer share repurchases to repaying debt (Hovakimian, Opler, and Titman, 2001, Jagannathan and Stephens, 2003, Renneboog and Trojanowski, 2011), and firms with more volatile cash flows may be more prone to changes in payout policy.

The 'free cash flow theory' as presented by Jensen (1986) suggests that dividends and repurchases are one way to curb overinvestment by management as payout policies are 'sticky' (Allen and Michaely, 2003). Likewise, Fenn and Liang (2001) present evidence that share repurchases and dividends are positively related to net operating cash flow. Consequently, we need to control for the possibility that the level of cash flows is positively related to corporate payout.

Dividends are often interpreted as a commitment device of the firm to return cash to the shareholder in the future, while share repurchases are typically used as transitory payout option (De Angelo et al., 2008). Likewise, Brav, Graham, Garvey, and Michaely's (2005) results suggest that dividend-paying firms are reluctant to deviate from the historic level of dividends and use share repurchases as an adjustment mechanism, which is why we add past payout levels to our model.

Personal characteristics of the top decision makers such as overconfidence or optimism may affect corporate decisions: for example, Malmendier and Tate (2005) suggest that CEO overconfidence can bring about corporate investment distortions. Ben-David, Graham, and Harvey (2007) demonstrate that firms with overconfident CFOs pay out fewer dividends. Heaton (2002) and Graham, Harvey, and Puri (2008) claim that optimistic managers use more (short term) debt. The market also seems to react more positively to dividend changes initiated by optimistic managers rather than by rational managers (Bouwman, 2010). Lin, Hu, and Chen (2005) measure CEOs' optimism by comparing their earnings forecasts with the actual earnings. Similarly, we calculate the *Dividend Surprise* that measures the difference between the actual dividend paid and the estimated 12-month forward dividend lagged by one year. The idea is that a positive surprise captures the CEO's optimism about the firm's future. Therefore, in case of a payout, an optimistic CEO may opt for a large dividend payout in order to show commitment and belief in the future.

A CEO's age and experience may have an impact on his investment (and payout) decisions. Gervais and Odean (2001) make a similar argument for traders: at the beginning of their career, traders are more overconfident, but this gradually decreases with experience and tenure. Hence, we conjecture that a younger CEO tends to avoid payout in order to be able to invest in more projects, and in the case of payout, prefers share repurchases to dividends to avoid long-term commitment. A large literature shows that gender also determines financial decision making. Barber and Odean (2001: 261) argue that, "in areas such as finance, men are more overconfident than women." The gender literature states that men tend to attribute performance on male tasks to skills rather than luck (Prince, 1993). For the above reasons, we include CEO age, tenure, and gender. Lastly, as it is the board of directors who decides on the payout decision, we control for board size, the percentage of non-executive directors, and the percentage of female directors.

3. Methodology

To examine the factors driving the payout choice, we first rely on quantile regressions. In a second step, we estimate a multinomial logit model to investigate what factors determine the payout channel choice whereby the choice set consists of no payout, dividends, share repurchases, or a

combination of dividends and share repurchases.[2] We perform a Hausman test to alleviate concerns about outcomes violating the independence of irrelevant alternatives (IIA) assumption, which implies that adding another payout choice does not affect the relative odds between the two alternatives considered. To further alleviate this concern, we also estimate a multinomial probit model for the above choice set. Third, we model the payout level, the payout channel choice, and changes in the payout policy as a 3-dimensional choice set by means of a nested logit model.

3.1 Quantile Regressions

The reason why we rely on quantile regressions to study how the different components of CEO remuneration affect the level of corporate payout is that the complexity of the interactions between different factors in our model leads to data with unequal variation of one variable for different ranges of another. Quantile regressions provide a more complete picture of the conditional distribution at the selected percentiles. Furthermore, quantile regressions are more robust to outliers as they minimize the asymmetrically weighted sum of absolute errors (Hallock, Madalozzo, and Reck, 2008): $\sum_{i=1}^{n} | \; y_i - X_i'\beta(\tau) | \times [(\tau) \, I \, (y_i > X_i'\beta(\tau)) + (1 - \tau) \, I \, (y_i \leq X_i'\beta(\tau))]$.

Here, y is the dependent variable, X denotes a matrix of covariates, and the coefficient β depends on the estimated quantile τ. The bracket on the right hand side describes a function that assigns weight $(1 - \tau)$ to observations below the predicted value and weight (τ) to those observations above that value. The function *I* is a dummy variable taking the value of 1 if the condition in the parentheses is fulfilled and 0 otherwise. It is important to note here that for each quantile all of the available information is being used. We employ the quantile regression at the 25th, 50th, and 75th percentile to learn more about the relation between our independent variables and the firm's payout decision. In addition, we compare the results based on the median (MAD) to the results obtained from a random effects regression on the mean and a Tobit regression. We run the following quantile regression (with quantiles labeled p):

$$Payout_{it} = \alpha^{(p)} + \beta_1^{(p)} \times \textbf{\textit{Remuneration variables}}_{it} + \beta_2^{(p)} \times Taxation\ variables_{it} + \beta_3^{(p)} \times Sentiment\ variables_{it} + \beta_4^{(p)} \times Other\ determinants_{it} + \sum_{k=1}^{12} \gamma_k \times Industry_k ,$$

where payout stands for (i) total payout and (ii) dividends, standardized by assets, EBIT, and cash flows, respectively (see section 4).

[2] We combine the payout type of the simultaneous use of share repurchases and dividends with the payout type share repurchases, as there are only few observations in the latter category.

3.2. Multinomial Regression Models

We also model the payout decision by means of a joint estimation of the likelihood that a firm makes a payout and that the decision maker chooses a specific payout channel. In short, we investigate how the different components of pay affect the choice between the different payout channels. We assume that the order of the alternative payout channels is arbitrary (as there is no natural ordering to the decision maker), and that the CEO maximizes his individual utility. As we cannot observe the utility of a payout alternative to an individual *i* at time *t*, we divide it into an observable and non-random part (μ) and an unobservable error part (ε): $U_{it} = \mu_{it} + \varepsilon_{it}$. We try to explain μ by our set of alternative variables. A positive beta coefficient implies that a decision maker attaches a positive utility to the corresponding characteristic. Accordingly, as we assume that there is no random taste variation, no correlation of unobserved disturbances over time, and that the unobservable errors per individual decision maker and payout alternative are *mutually independent*, we apply a log Weibull distribution. We test for IIA property by means of the Hausman and McFadden (1984) test which compares the estimate of β using all alternatives to the estimate of a subset of alternatives. We assume the error terms to be independent across CEOs, but not necessarily so across time. In addition, we clustered all the standard errors at the firm level. The systematic part for our multinomial logit reads as follows:

$$\mu_{it} = \alpha + \beta_1 \times \textbf{\textit{Remuneration variables}}_{it} + \beta_2 \times \textit{Taxation variables}_{it} + \beta_3 \times \textit{Sentiment variables}_{it} + \beta_4 \times \textit{Other determinants}_{it} + \sum_{k=1}^{12} \gamma_k \times \textit{Industry}_k.$$

3.3. Nested Logit Models

We use a nested logit model to investigate the payout channel choice conditional on a firm's payout. In our setup, the decision maker essentially needs to answer two questions: first, what is the payout level, and second, which of the payout channels is appropriate to distribute the designated funds? The nested structure of this model is illustrated in Table 1. We model the *payout channel* choice as two different alternatives: (1) dividends, and (2) share repurchases, and share repurchases combined with dividends. We add an additional layer of complexity called change in *payout policy*, where we define the change in payout policy as the decision to increase, keep stable, or decrease the level of the total payout. We consider a growth rate larger than five percent as an increasing payout, a growth rate between zero and five percent as a stable payout policy, and a negative growth rate as a decreasing payout. We assume a firm commits to a payout and decides in a first step among three nests: increase, keep stable and decrease the level of total payout and then, in a second step, between the alternative payout channels available within each nest. The nested logit model is based on the same utility function as the multivariate model discussed above, yet it offers an alternative way to deal with the IIA property: (i) it allows the disturbances to be

correlated, and (ii) to have the same correlation within a nest, but (iii) also to remain independent across nests. Accordingly, the IIA assumption holds within each nest, but is not maintained across alternatives in different nests.

[Insert Table 1 about here]

4. Data

4.1. Data Sources and Sample Selection

We select a sample of all UK firms listed between 1996 (following the release of the Greenbury Report on Director's Remuneration in 1995) and 2007 (at the end of which the financial crises commenced). The sample is close to the population of the UK companies listed on the London Stock Exchange (LSE). We have payout information for 1,906 companies, and information on 13,197 firm-years for CEOs. The sample comprises companies listed on the FTSE100, FTSE250, FTSE Small Cap, FTSE Fledgling, and FTSE Alternative Investment Market (AIM).[3] For all these firms, we collect from Datastream payout data on dividends - both the actual cumulative gross year-end dividends paid and the expected dividends. Information on actual share repurchases are from BvD Zephyr, which has been double checked by means of CapitalIQ. The remuneration of CEOs, the other executive directors, and the non-executive ones as well as their characteristics (position, gender, tenure, age) are gathered from BoardEx and Manifest. Ownership stakes by type of shareholder are collected from Thomson One Banker and PricewaterhouseCoopers and accounting information, sector aggregation, and share price data stem from Datastream Advance. The Fama-French-Carhart factors for the UK are calculated by means of data from the *Style Research Markets Analyzer*.

We made a few adjustments to the length of the financial year: (i) in case the reported length of the financial year deviates from the standard 365 days, we adjust the accounting and remuneration information accordingly, and (ii) when a financial year does not coincide with the reported calendar year, we apply the following rule: if the reported end of the financial year lies within the first (last) six months of a given year, the entry belongs to the preceding (current) calendar year.

4.2. Payout Data

We compile the information on share repurchases and dividends from Datastream, Manifest, and Zephyr. A look at our sample reveals, that dividend payments are still the most important payout channel, with close to 78% of the firms opting for it. Almost 17% of the time, firms choose for earnings retention; in about 5% of the cases, firms opt for both dividends and share repurchases; and in solely 0.3%, firms engage exclusively in share repurchases. The payout

[3] FTSE Fledgling and FTSE Alternative Investment Market partially overlap.

channel choice varies substantially with ownership: we find a negative correlation between ownership stakes held by individuals and families and earnings retention, and a positive one between pension funds and dividend payout. When we relate the average amounts paid out to the payout channel, we find that firms pay out on average 32% of their EBIT with either dividends or share repurchases as their sole payout channel. When a firm is using both payout channels simultaneously it tends to distribute on average a significantly larger share (51%) of their EBIT. When pension funds are prominently present in the ownership structure, firms tend to payout by far the largest share, almost 70% of their EBIT.

Figure 1 depicts the development of payout over time: dividend payout over EBIT (EAT) is fairly stable over all years, with a maximum in 2002 of 37% (66%), declining to 28% (47%) at the end of the sample period. Share repurchases are only observed since 2001 and show considerable variation over time. The amount paid out via a combination of dividends and share repurchases increases from 1998, reaches a high of about 60% of EBIT (119% of EAT) in 2001, and then decreases sharply to 45% (72%) in 2007. Average payout over all payout channels does not vary much over the years. We find an average payout through all available channels of 28% of EBIT (49% of EAT), with a peak in 2003 of 32% (58%) and a low in 2007 of 25% (38%). The average payout conditional on payout is only slightly higher over all years: we find an average payout over all channels of approximately 34% of EBIT (57% of EAT).

[Insert Figure 1, about here]

How does the development of the payout policy in the UK relate to the international development of payout? In the US, firms traditionally preferred to pay out dividends to share repurchases (Fama and French, 2001; Grullon and Michaely, 2002). However, from the 1990s, an unprecedented growth of share buybacks occurred. While DeAngelo, DeAngelo and Skinner (2004) and Hsieh and Wang (2007) confirm that the number of dividend paying firms decreased significantly, they also point out that this phenomenon went hand in hand with a marked increase of the amount of dividends paid out by high-dividend paying firms. Grullon and Michaely (2002) suggest that share repurchases in the US substituted dividends, as the total payout has stayed more or less constant. Figure 2 details the evolution of the payout channel choice in the UK. The number of UK firms paying dividends decreases over the period from 1998 until 2007 from 86% to 55%, which is in line with the findings of Ferris, Sen and Yui (2006), who report a decline in the number of dividend payers from 75.9% to 54.5% over the period 1988 through 2002, with much of the decline happening in the 1998-2002 period. From 2001 onwards, an upward trend towards more combined payout (share repurchases and dividends) can be observed. Only very few firms rely solely on share repurchases to return funds to shareholders, which implies that share repurchases are not a substitute for dividends. Thus, we do not find the stark increase in the number of share repurchases in the UK as reported for the US by e.g. De Angelo et al. (2004), but find some evidence for an increased usage of a combined payout channel. This is in line with Renneboog and

Trojanowski (2011), who also only provide some support for the 'dividend substitution hypothesis'.

[Insert Figure 2, about here]

4.3. Remuneration Data

The remuneration of executive directors consists of the following parts: (i) salary, (ii) fees, (iii) bonus, (iv) equity-based pay, (v) miscellaneous remuneration, and (vi) other remuneration. The *salary* is a fixed amount usually set by the compensation committee and is commonly paid out in cash. The *bonus* awarded to executive directors is typically based on previous year's benchmarked performance measures and usually consists of cash (but is sometimes also paid in shares). A bonus can be voluntarily or mandatorily deferred for a typical vesting period of 3 years.

Equity is typically the single largest component of remuneration and can be partitioned into stock options and restricted stock. The fundamental idea behind option granting is to encourage managers to undertake investments that increase shareholder wealth (Geiler and Renneboog, 2011). *Options* are usually issued at the money with a maturity of 10 years and are vested after 3 to 5 years. In the UK, the right to exercise an option is typically tied to meeting a certain performance threshold, usually formulated in terms of earnings per share.[4] *Restricted stock* is usually awarded as part of a Long-Term Incentive Plan which imposes conditions on the vesting, such as meeting specific firm performance criteria and the executive remaining employed at the firm throughout the entire vesting period. As long as the restricted shares are not vested, the executive cannot be considered the legal owner of the shares and he does not receive the dividend. Equity-based remuneration is dividend-protected which can take place ex ante or ex post. In the latter case, the foregone dividend related to equity-based compensation is accumulated and paid out at the end of the contract. In the ex ante case, the exercise price of the option or the number of restricted shares is adjusted when dividends are paid out.[5] *Miscellaneous compensation* comprises a transaction bonuses (e.g. in relation to a takeover), deferred cash bonuses, compensation for loss of office, recruitment bonuses, and relocation expenses. A deferred cash bonus is typically not performance-dependent but is awarded to retain an executive director. It is used to smooth the bonus payments over time and can also be converted into shares. Other elements of pay can comprise compensation for medical expenses and insurance costs. As the information available on pension contributions is far from complete, we have excluded it from our measure of total pay. The composition of CEO remuneration is detailed in Table 2. On average, a CEO is awarded a total compensation of about £590,000 a year, £270,000 (46%) of which is stemming from equity-based pay, £180,000 (31%)

[4] We use the Black Scholes approach to calculate the value of the options; wherefore we collect the market price and grant date from Datastream Advance. If we lack information on the maturity, we assume it to be 10 years. The risk-free rate is the 10 years UK government bond (GILT) rate.

[5] Over our sample period, dividend corrections of equity-based pay is still rare and limited to a minority of the largest companies.

from the base salary, and £110,000 (19%) from the bonus. Figure 3 details the evolution of CEO remuneration over time: base salary stays almost constant during the entire sample period. The biggest increase can be found in the equity-based pay component, which increases from an average of £130,000 (34% of total pay) in 1996 to about £280,000 (43%) in 2007. Another strong increase can be seen in the bonus, which increases from £62,846 (16.5%) in 1996 to £160,000 (25%) in 2007. It should be noted that CEO remuneration varies greatly with company size: FTSE100 firms pay a CEO on average more than twice the salary of a FTSE250 firm, about five times the salary of an FTSE Small Cap, and about 10 times that of an FTSE Fledgling. Also, equity-based pay is far more important in large firms: it amounts to 50% of total pay for a FTSE350 firm, 45% for an FTSE Small Cap, and 35% for an FTSE Fledgling.

[Insert Table 2 and Figure 3, about here]

4.4. Market Sentiment

In order to estimate whether the market prefers dividend payout over capital gains, we calculate the dividend premium, which is the logarithm of the average market-to-book ratio of dividend paying firms minus that of non-dividend payers (Baker and Wurgler, 2004a). Figure 4 depicts that the dividend premium has been negative during the late 1990s, turned positive in 1999 (which corroborates the results of Denis and Osobov (2008b)); from early 2000, the equity market strongly declines and investors were willing to pay a premium on dividend-paying stocks. In 2005 and 2006, the dividend premium strongly increases along with rising concerns about the development on the US housing market. Figure 4 demonstrates that there is little evidence of a systematic relation between the dividend premium and the propensity to pay dividends.

[Insert Figure 4, about here]

4.5. Ownership Concentration

We collected the ownership concentration (blocks of 3% for the outside shareholders and all shares held by insiders) from BoardEx, Manifest, and annual reports. We partition the shareholders into these categories: CEOs, other executive directors, non-executive directors, nominee accounts, financial institutions, individuals and families (not related to a director), and corporations. On average, outsiders own 31% of shares whereas insiders accumulate an average of 7.5% of the shares outstanding (see Table 3). The most influential categories of owners are financial institutions (19.7%), followed by corporations (7.9%) and executive directors (5.3%) Table 3 also shows that over time, total outsider ownership stayed rather constant, but insider ownership increased from 3.7% in 1998 to 7.5% in 2007, mostly because of equity-based compensation.

[Insert Table 3, about here]

4.6. Taxation

The taxation regulation in relation to dividends and share repurchases has changed substantially during the last two decades. Corporations are typically excluded from paying taxes on dividends that they receive from another corporate UK resident. Individual shareholders, however, are obliged to report these dividends as income and pay taxes on them (ICTA 1988, s14.1). As this leads to double taxation: first at the company level and thereafter at the individual level, an imputation system was introduced in 1973, which allowed shareholders to deduct the taxes already paid at the company level – the so-called imputation tax credit (Bell and Jenkinson, 2002). Other entities, such as trusts, charities, and pension funds were tax-exempt, but have still been able to claim the tax credit.

In the case of share repurchases, corporations could generally forward imputation tax credits to shareholders for taxes paid by the company on the 'distribution element' of share buybacks. This distribution element is defined as the difference between the market value of the repurchased shares and the book value of the corresponding paid-in capital. It is important to note, however, that the sole repayment of capital does not form a distribution (Geiler and Renneboog, 2010). The tax treatment of share repurchases depends on the type of recipient: individuals selling their shares in an open-market repurchase are subject to capital gains tax on the amount exceeding their exemption.[6] Such exemption does not exist for corporate shareholders, who are subject to Corporation Tax.

In 1997, pension funds could no longer recuperate the imputation tax credit paid on dividends. According to Bell and Jenkinson (2002: 1327) "U.K. pension funds saw an immediate 20 percent drop in the value of their net dividend income on U.K. equities." This cleared the way for another far-reaching change in the taxation regulations: In April 1999, the UK tax authorities abolished the Advanced Corporation Tax system – a decision that marked the return to a classical taxation system. Table 4 shows the differences in the taxation of both payout methods regarding various types of owners: pension funds preferred dividends before 1997, when they turned tax-neutral concerning both dividends and share repurchases. While individuals have preferred share repurchases between 1996 and 2007, corporations (including financial firms) were more in favor of dividends.

[Insert Table 4, about here]

[6] Individuals who sell their stock in an open-market repurchase are required to pay capital gains tax of 18% (2010-11) on gains that exceed their personal exemption, which currently amounts to £10,100.

5. Empirical Results

5.1. Level of Payout Regressions

We perform quantile regressions of dividend payout, the results of which are presented in Table 5. We find that both the base salary and bonus are positively associated with dividend payout but only for the firms with the highest level of payout. The variable for CEO stock options is persistently and significantly negatively related to dividend payout at the 1%-level of significance for the 25th and the 50th percentile, and at the 5%-level of significance for the 75th percentile. A 50% increase in the number of stock options that a CEO receives is associated with roughly a 5% decrease of dividend payout at the 25th percentile, a 3.5% decrease of dividend payout at the 50th percentile, and a 3.0% decrease of dividend payout at the 75th percentile. The negative relation between stock options and the dividend payout ratio is consistent with the managerial power idea as presented in conjecture 1, according to which the payment of dividends is costly for CEOs holding stock options (which are not dividend protected as is the case for most firms in our sample) and should therefore lead to a lower dividend payout. The quantile regressions also show that the negative effect of CEO stock options on dividend payout is smaller, the larger is the dividend payout. For restricted stock, we find a negative but insignificant relation with the dividend payout ratio at all quantiles of payout, which fails to support conjecture 1.

The corresponding results of a similar quantile regression on total payout are presented in Table 6. We find that some remuneration components are persistently significantly related to total payout at all three quantiles: while a higher salary and bonus are positively associated with total payout (at low, medium, and high levels of payout), we find that stock options are negatively related to total payout at the 1%-level of significance. This again supports our conjecture 1 in that CEOs with a large number of stock options avoid payout. It is also in line with the US findings by Sharma (2011), Cuny, Martin, and Puthenpurackal (2007), and Fenn and Liang (2001), who report a (weak) negative coefficient for stock options on total payout, but contrary to the findings of Hu and Kumar (2004) who find that CEO compensation is not significantly related to the payout decision for large firms. Our coefficients indicate that a 50% increase in CEO stock options is associated with roughly a 5% decrease of total payout at the 25^{th} percentile, a 10% decrease of total payout at the 50^{th} percentile (Median Absolute Deviation (MAD)), and a 18% decrease in total payout at the 75^{th} percentile. CEOs of companies with the largest payouts experience the strongest disincentive to return value to the company's shareholders due to a higher number of stock options. As for restricted shares, an increase is not related to total payout, save for the highest payout firms.

[Insert Tables 5 and 6, about here]

We find little support for conjecture 2a: (a) non-executive ownership is related to neither dividend payout (Table 5) nor total payout (Table 6) and (b) individual and family ownership concentration is not correlated to high dividend and total payout as we only find a correlation at the 25th percentile (at the 5%-level). This does not corroborate the findings of Bhattacharyya, Elston,

and Rondi (2011) who state that family control leads to a higher dividend payout. What is in line with conjecture 2a is the negative relation between equity stakes held by other companies and dividend payout (25^{th} and 50^{th} percentiles) and total payout/assets (all quantiles). This indicates that when a corporation holds a share stake of 25% above the median stake (Table 5), the dividend payout is expected to be lower by almost 5% and total payout declines by one third (Table 6). The reason may be that strong outsider ownership reduces the free riding problem of corporate monitoring such that alternative governance mechanisms such as a high payout are no longer necessary as a commitment device. This result also shows that taxation does not explain dividends, as we have shown above that corporations should have a tax-induced preference for dividends. We do find support for conjecture 2b which deals with the relation between institutional ownership and payout. Consistent with Khan's (2006) results and with conjecture 2c, we document that CEO ownership concentration is negatively related to dividend and total payout which is in line with the idea that dividends reduce managerial discretion over the firm's cash flows.

Particularly during the years 1999-2001 (the initial sample period 1997/1998 is left out), firms exhibit a lower tendency to pay dividends than in earlier and later periods. This observation may have two explanations. First, this period includes the equity market boom (1999 and 2000) which was brought to an abrupt end by the bursting of the dotcom bubble. Given the strong increase in capital gains prior to 2001, the relative importance of dividend yields in total shareholder returns was lower (Table 5). Second, since the end of the 1990s, the tax-induced preference for dividends for pension funds was reduced (and the tax credit loophole was closed in 1999) which may reflect the declining importance of dividends in the investment strategies of these types of investors. Combining these findings and the ones above on the ownership by type of investor, we have little evidence that taxation influences payout policy such that we fail to accept conjecture 3.

The market sentiment which may favor either dividends or share repurchases and is captured by the dividend premium has an inverse sign for the median regression, which suggests that corporations do not adjust its payout policy towards more dividends when dividend paying shares are more in demand. The dividend optimism measure (past dividend surprises) is not related to dividend payout save for the highest quantile regression where we find a counterintuitive sign. So, dividend surprises do not influence the future payout policy.

In the case that investor's confidence in the evolution of a specific stock is high (as proxied by a stock's trading volume), we observe a positive relation to both dividend- and total payout at all levels. At the 50^{th} percentile, a 50% increase in trading volume is highly significantly associated with a 0.6% increase in dividend payout and a 4% increase in total payout. Investor optimism (as proxied for by momentum) is negatively related to both dividend payout and total payout at all levels, but only barely significantly so for dividends and only at the 50^{th} percentile.

Size is highly significantly and positively associated with higher dividend payout (and total payout) at all levels, as reflected by the coefficients of index membership (FTSE100, FTSE250,

FTSE Small Caps – we left out the smallest cohort of firms, namely, the ones included in the FTSE Fledgings). As expected, payout depends on the firm's profitability, but the relation between ROA and dividend payout (Table 5) shows that the impact of profitability on dividend payout declines when a firm adopts a high dividend payout policy. A 1% increase in ROA is related to a 67% increase in dividend payout (25^{th} percentile), and to an increase of only 17% (75^{th} percentage). While dividend payout is sticky, this is less the case for total payout (which includes share repurchases), as we note in Table 6 that the relation between payout and profitability is higher for high payout firms. In highly levered firms, both dividend and total payout are lower because the firm needs to manage cash such that the debt can be serviced. Consistent with the notion that dividends are sticky (and Lintner's (1956) classical observations), we find that past dividends strongly correlate with future dividend payout decisions.

When we re-estimate the above models by means of random effects models and compare these results with the results of the median quantile regression, we find that our results are quantitatively and qualitatively upheld. A Tobit regression (left-censoring limit at zero payout) also confirms our main result, namely the statistically significant negative relation between CEO stock options and both dividend payout and total payout.

5.2. Payout Channel Choice

How do the different components of pay affect the choice between the different payout channels? To answer this question, we estimate multinomial logit (and probit) models and present the results in Table 7. Our dependent variable is the utility of the choice between (i) no payout, (ii) dividends, and (ii) share repurchases (either share repurchases as the only payout channel or repurchases combined with dividends). A high salary is negatively related to the dividend payout and share repurchases, relative to no payout. This indicates that the utility to payout decreases for a CEO with a higher base salary (Panel A). We also note that a CEO with a large number of stock options or restricted stock opts for not paying out dividends (relative to dividend payout) (Panel A) and that a CEOP prefers a payout including share repurchases over a dividend payout (Panel B). The related average marginal effects (not shown) indicate that a 50% increase in the level of CEO stock options (restricted shares) is associated with a decrease in the probability of a dividend payout of roughly 11% (4.5%). These findings are consistent with the idea that a CEO with higher equity-based components of pay avoids dividend payout (and prefers earnings retention) in order to prevent the negative effect of a reduction in share price induced by an anticipated dividend payment on his stock option holdings. The marginal effects of the relation between CEO stock options and a payout by means of share repurchases relative to dividend payout, show that a 50% increase in the level of CEO stock options is associated with roughly a 1.5% increase in the probability that a payout with share repurchases is chosen over a pure dividend payout policy. This finding is in accordance with conjecture C1, i.e. executive options induce self-interested managers

to opt for repurchases instead of dividends. The results discussed above are in line with Fenn and Liang (2001), who observe that management stock options in the US are strongly negatively related with dividends and positively with repurchases. They also corroborate the findings by Lambert et al. (1989) and Arnold and Gillenkirch (2002) that -in the absence of dividend protection- firms with a higher level of executive stock options have a lower dividend payout, which is only partly offset by share repurchases.

[Insert Table 7, about here]

We find little impact of the presence of major shareholders on the payout channel choice: non-executive directors, executive directors (excluding the CEO), pension funds and other institutional investors are not related to payout. The exception are individuals and families who prefer dividends over no payout (panel A of Table 7) and prefer dividends over share repurchases (Panel B). These findings are congruent with individuals' and families' preferences for a steady income stream rather than with a tax argument (which would predict the inverse relations) or with the possibility that those shareholders consider payout as a commitment mechanism that reduces the discretion of CEOs. Companies who own equity stakes prefer earnings retention over any payout (dividends, or share repurchases). As before, we find that CEOs owning equity prefer no payout over dividends.

Our market sentiment conjecture 4 states that firms may cater to the preferences of the market (dividends or share repurchase). We measure the 'taste for dividends' by means of the dividend premium, but our results suggest that this type of catering does not happen: while we would expect a positive sign in column 1 of panel A and a negative one in panel B of Table 7, we obtain inverse signs and no or weak significance. Our optimism measure (past dividend surprises) and the stock's momentum are not related to payout channel choice. When the stock's trading volume (which is a proxy for investors' confidence about a stock) is high, the payout policy is geared toward share repurchases (rather than to dividends or to no payout) (Panels A and B). So, we find that neither overall market sentiment about dividend versus no dividend paying stocks nor managerial optimism influence corporations' payout policy. Still, trading volume as a measure of investors' confidence in a specific stock leads to a lower dividend and more share repurchases. As before, we find that large, more profitable, and more cash rich firms pay out more (by either channel) and that larger firms use the share repurchases more frequently than smaller firms to return cash to the shareholders. We can conclude here that we find support for the influence of the incentive aspects of top management's remuneration contracts on payout policy (conjecture 1) but that ownership conjectures (conjectures 2a-c), the taxation conjecture (3), and the market sentiment conjecture (4) are rejected.

In addition, we run the Hausman test to check whether the coefficients of a choice-restricted model are the same as the ones estimated above. The results suggest that the difference between the coefficients estimated is not systematic, i.e. there is no problem with IIA. In other

words, no payout, dividends, and share repurchases in combination with dividends and share repurchases are independent alternatives. As a robustness test, we estimate a multinomial probit model and obtain virtual identical results.

5.3. Nested Logit on the Choice of Payout Channel and Payout Policy

How does a firm choose between dividend payout and share repurchases (including the combination of dividends and share repurchases) given that it committed to payout in the first place? Contrary to our earlier setup, we now rely on a nested logit model and assume that a CEO first faces the decision concerning the appropriate level of payout and then decides between the payout channels. The base case in the nested logit is stable dividend policy. The results presented in Table 8 corroborate our earlier findings regarding the managerial stock option variable: conditional on the decision to increase total payout, the presence of stock options reduces the use of the dividend payout channel. In other words, the utility of the decision to increase total payout by using the dividend channel is negatively affected by the level of managerial stock options. We find a statistically significant and positive relation between CEO stock options and share repurchases, and the combination of share repurchases with dividends. This implies that if the firm intends to increase the payout, it will prefer share repurchases (possibly combined with dividends) over dividends because share repurchases drive the value of the managerial stock options up, whereas anticipated dividends drive the share price and hence the option contracts' value down. Table 8 also reveals that when top management owns restricted stock, the firm is also likely to opt for share repurchases (possibly combined with dividends) rather than for a pure dividend payout. Both findings are consistent with conjecture 1. These results only hold for firms that increase their level of total payout - where channel choice is an imminent issue - but not for firms that reduce their payout.

Non-executive and executive directors prefer payout increases to run via the share repurchase channel and not via dividends, as is the case when other companies hold large equity stakes in the firm. Pension funds prefer the increase in payout via dividends rather than via share repurchases; although they do not have a tax-induced preference for a specific payout channel, they may prefer the cash inflow of dividends to facilitate occasional portfolio rebalancing given changes in their benchmark indices and in- and outflows of funds. When payout decreases, pension funds still prefer a switch to dividends whereas executives prefer the share repurchases channel. So, we have mixed results for conjectures 2: C2b is supported as pension funds prefer dividends, but C2a and C2c are not.

Our tax conjecture that individuals prefer share repurchases, corporations prefer dividends, institutional investors are neutral. We find that non-executive and executive directors' ownership is positively related to share repurchases in the subsample of firm who increase the total level of payout. Similar results emerge for the subsamples of firms that keep the total level of payout stable

or decrease it. In line with conjecture 3, we find (weak) evidence that financial institutions prefer dividends, but the equity stakes held by other institutional investors, and individuals and families are not consistently related to payout channel choice. Finally, ownership held by other companies is negatively related to dividend payout and positively related to the decision to adopt share repurchases or a combination of dividends and share repurchases.

When the dividend premium is positive, then firms are still more frequently using the share repurchases option, which implies that firms do not cater to the market's preference for dividends. The momentum of a stock is not related to corporate payout policy, but the trading volume is. As before, we report that when trading volume is high, the dividend payout is low and share repurchases are preferred. So, the relation between sentiment and payout is at best weak.

[Include Table 8, about here]

The results for the other independent variables are largely in line with our earlier results. Overall, applying the nested logit model leads to some additional insights which complement our earlier findings: managerial stock options are negatively related with dividend payout and the presence of such options as well as restricted stock induces the firm to opt more for share repurchases, conditional on the decision to pay out and to increase the level of total payout relative to the year before.

5.4. Robustness Tests

In addition to the methodological robustness tests mentioned above (random effects models, tobit models controlling for left censoring, multinomial probit, Hausmann test on independence of alternatives), we address the following concerns:

Endogeneity

A possible issue is that performance affects both total payout and remuneration. For instance, a successful company can make a high payout to its shareholders and compensate the executives accordingly. In other words, remuneration may not be the cause of payouts, but firms with a greater payout capacity have chosen to pay more remuneration. If this is the case, the resulting coefficients can be biased because of endogeneity through omitted variables ("unobserved heterogeneity"). In order to deal with this possibility, we rely on an instrumental variable approach using a two-stage least squares estimation. We regress the remuneration components (adjusted for the industry mean) on past returns, return on assets (ROA), and market-adjusted return (FTSE All Share Index), and include the predicted variables in the second stage. Our results remain essentially unaffected.

CEO vs. All Executives

In our current regression setup, we focus on the CEO who is the most influential decision maker, but we also rerun our models including the average remuneration (total and components) of all executive directors. The relation between executive stock options and the different payout choices becomes insignificant, from which we conclude that it is only the main decision maker's incentives that have an impact on the payout decision (while also acknowledging that the executives other than the CEO receive less equity-based compensation).

Excluding Financial Companies

In our sample, we have included all firms listed on a UK stock exchange. While financial firms do often have a different asset structure and have to comply with different regulations, we re-estimate our current model in the absence of financial firms. Our results remain essentially the same.

Leaving Out Firms with Only Share Repurchases

When constructing the dependent variable, we refer to the following categories: (0) no payout, (1) dividends, and (2) share repurchases and combined payout (i.e. share repurchases and dividends). In order to test whether firms that solely engage in repurchases affect the results, we remove them from the sample, i.e. we essentially focus on no payout, dividends, and combined payout. Again, our results are largely unaffected.

CEO and CEO-Equivalents

Some companies do not have a CEO. Often these companies are rather small and are led by either a managing director or other senior executives. In the absence of a CEO, we constructed a CEO-equivalent based on the highest-ranking executive available. While we do not rely on these CEO-equivalents in our main regressions, but use them as a robustness check. Entering the CEO-equivalents into our regression does not significantly change the results.

Including Past Options Grants

Since we know that executive stock options for CEOs often become vested after 3 years, we include the lagged amount of stock options instead of the amount currently granted. As a lag of 3 years reduces our sample size too much such that we run the same model with stock options lagged by one year. Again, the results remain largely stable, with a negative, albeit less significant, relation between executive stock options and the choice for dividends (versus the base case of no payout). The choice for repurchases versus dividends, however, becomes insignificant.

6. Conclusions

Corporations rely on dividends, share repurchases, or a combination of both payout methods to return earnings to their shareholders. Over the last decade, the importance of the dominating payout method - dividends - seems to be somewhat eroded at UK firms, but an increasing number of firms combines share repurchases with dividends. We investigate the main determinants of payout channel choice such as ownership concentration, taxation, market and stock sentiment, and focus in particular on the role of the CEO's remuneration contracts.

We find that firms which pay their CEOs partly with stock options pay lower dividends and their total payout is lower. Our multivariate analysis on the channel choice indicates that when a CEO is granted sizeable managerial stock options and restricted shares, the firm is more likely to opt for share repurchases or share repurchases combined with dividends rather than only use dividends as a payout channel. From a nested logit analysis emerges that the above channel choice preferences hold particularly true for firms that decided to increase their level of total payout, but switches between payout channels are rare for firms with stable or decreasing payout policies. These observations seem to be related to managerial self-dealing as the stock options and restricted stock are not dividend-protected (which is the case for the vast majority of listed UK firms): paying out anticipated dividends reduces the value of the CEO's equity-based pay whereas share repurchases drive up its value.

These findings are in line with Bebchuk et al. (2002) who claim that the primary appeal of stock options may lie in the fact that they facilitate the extraction of rents from shareholders while at the same time provoking 'minimum outrage'. The payment of dividends is costly to CEOs holding stock options (and restricted stock) and therefore leads to a lower dividend payout. Our marginal effects analysis indicate that a 50% increase in the level of CEO stock options (restricted shares) is associated with a decrease in the probability of a dividend payout of roughly 11% (4.5%). While we find total CEO remuneration to be positively related to total payout and various payout channels, a closer investigation of the relation between the different components of pay and the level of total payout indicates that the option component of pay furthers a lower payout. This is contrary to the idea that a larger equity-based component of pay contributes to the alignment of interests between managers and shareholders. In sum, the option component of CEO pay does not alleviate the agency problem between CEO and shareholders, but leads to a decrease in total payout and a partial restitution of dividends by share repurchases that are beneficial to the CEO.

While we cannot show that executive officers can indeed affect the executive pay setting process to increase the amount of stock options awarded, we can show that they can influence corporate decisions to maximize their personal wealth. Therefore, we argue that the number of firms using share repurchases, possibly in combination with dividends, has risen due to the increasing option components of pay.

Payout policy may also reflect the preferences of the major shareholders. Our findings regarding ownership concentration partially support the idea that individuals and families consider

dividend payout as a commitment mechanism to reduce the CEO's discretion over cash flows. Furthermore, high levels of corporate ownership alleviate the problem of asymmetric information to the extent that payout as a commitment mechanism becomes less important as large shareholder monitoring and payout policy can be substitutes. Pension funds opt for dividends rather than share repurchases, because they may prefer a steady source of income to rebalance their ownership portfolio. The payout channel choice may also be imposed by major shareholders' tax incentives: executive and non-executive directors, as well as individuals and families prefer share repurchases to dividends, corporations prefer dividends, and financial institutions preferred dividends over share repurchases in the beginning of our sample period but subsequently became neutral. Some of our findings are in line with the taxation-induced preferences: the presence of executive and non-executive directors' share blocks leads to an increased use of share repurchases when firms increase their total payout level, but this relation is not found for individuals and families. Corporations as major shareholders do not exert any impact on the channel choice, but the presence of financial institutions does induce a higher dividend payout.

We do not find any evidence that firms cater to the market sentiment towards dividends (captured by a positive dividend premium) or share repurchases. Payout policy is not related to stock momentum, dividend surprises, but high stock trading volume precedes share repurchases.

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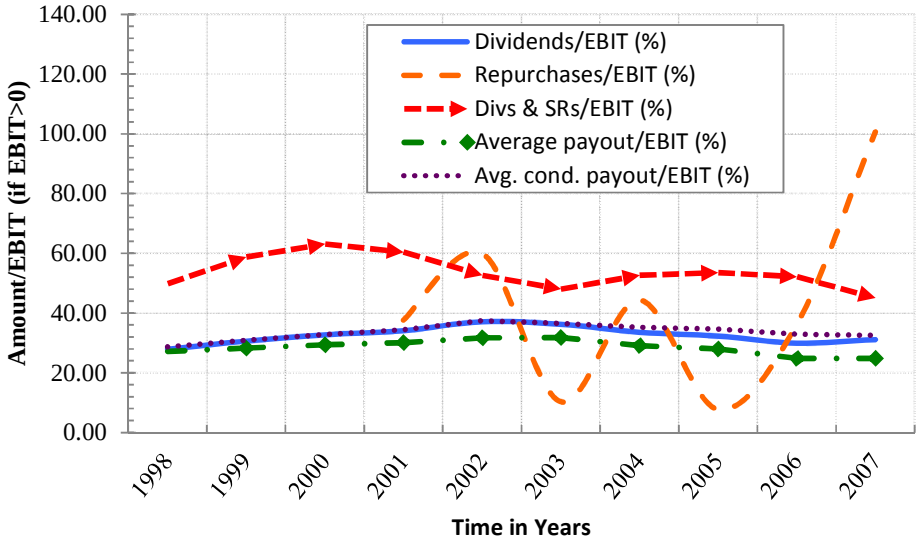
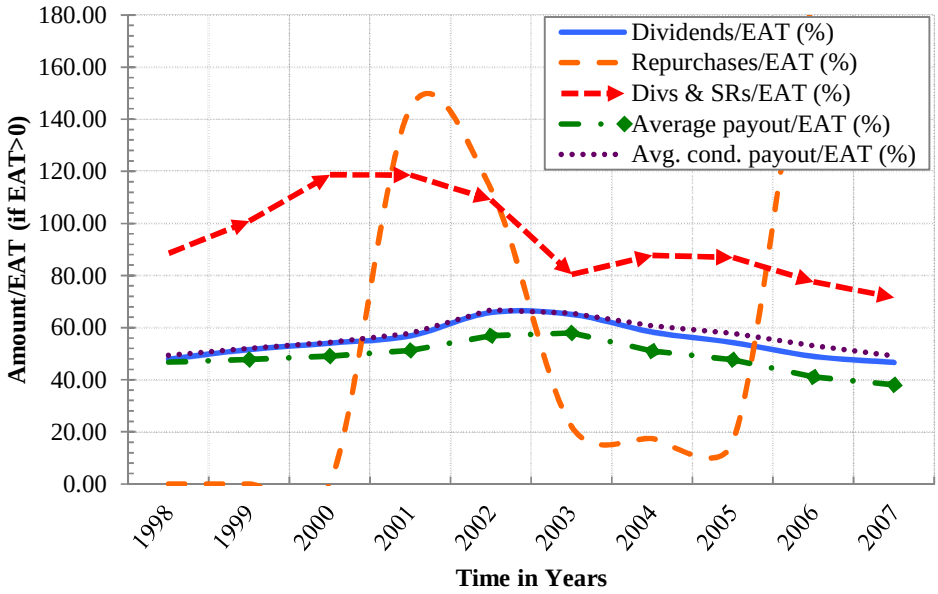
Figure 1 Payout Channels: Propensity to Pay.

Panel A:



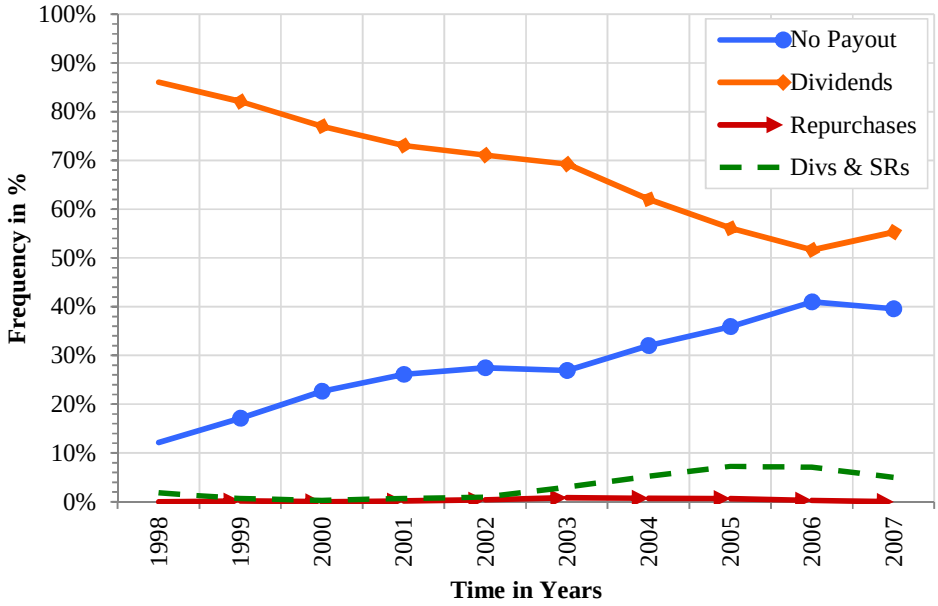
The figure shows the distributed funds over EBIT (if EBIT>0), winsorized at 5 and 95%. Average nominal payout is measured over all payout channels (frequency-weighted). Average conditional payout (over EBIT) gives the same figure conditional on payout. Sources: own calculations based on Datastream, Manifest, and Zephyr.

Panel B:



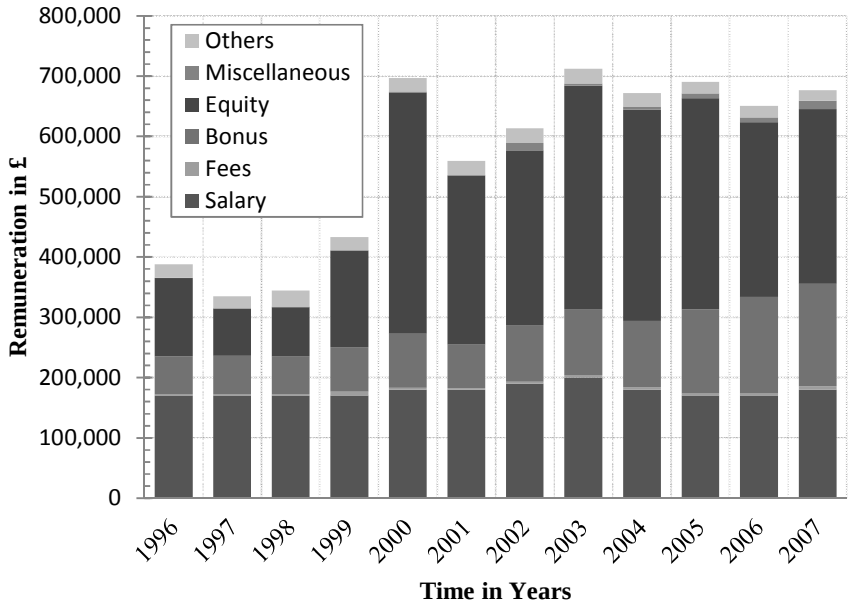
The figure shows the distributed funds over EAT (if EAT>0), winsorized at 5 and 95%. Average nominal payout is measured over all payout channels (frequency-weighted). Average conditional payout (over EAT) gives the same figure conditional on payout. Sources: own calculations based on Datastream, Manifest, and Zephyr.

Figure 2 The Evolution of Payout Channel Choice over Time.



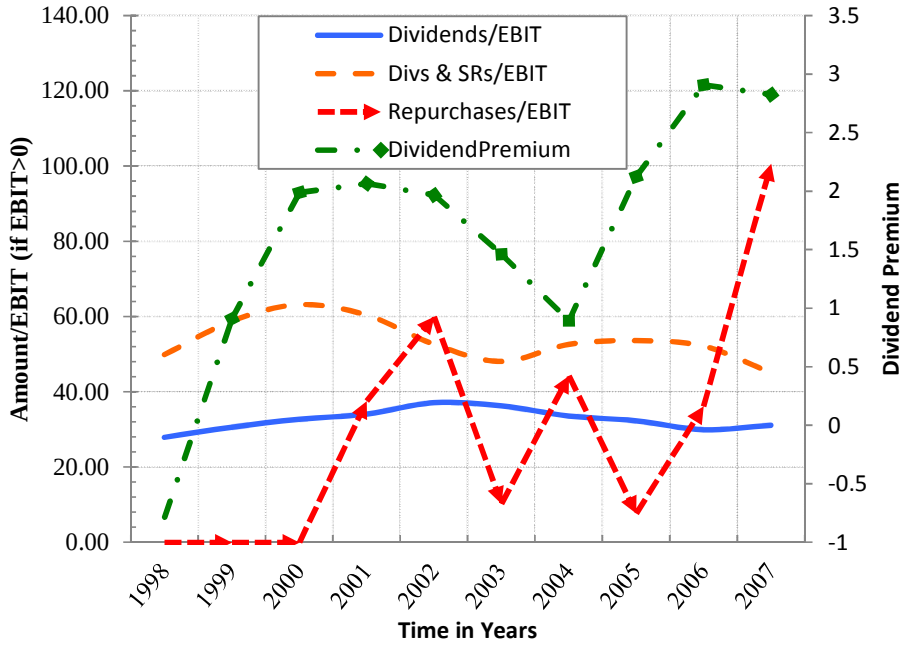
The figure presents the number of observations per payout channel: no payout, dividends, share repurchases, combined payout (i.e. both dividends and share repurchases) over time. Source: Datastream, Manifest, and Zephyr.

Figure 3 Average Composition of CEO Remuneration 1996-2007.



The table shows the average level (in GBP) and mixture of the different components of CEO pay, as well as total pay over the years 1996-2007. The figures are unconditional, i.e. missing values are treated as zeros. The data are extracted from Boardex, Datastream, and Manifest.

Figure 4 The Dividend Premium.



The dividend premium is the difference between the natural log of the market-to-book ratio of dividend payers and that of non-payers (see right-hand side axis). Market-to-book is (marketcap of equity + book value of debt) / book value of total assets (Baker and Wurgler, 2004a). The data are extracted from Datastream, Manifest, and Zephyr.

Table 1 The Nested Logit Specification: Payout Channel Choice Based on Payout Policy.

The table details the different levels of the nested logit model. After opting to pay out funds, the first level is the payout policy choice (increase payout, keep payout stable, and decrease the payout) while the second level details which payout channel has been chosen: dividends (Div) or share repurchases (SR), dividends and share repurchases (Div & SR). The number of observations per nest and alternative are given in brackets.

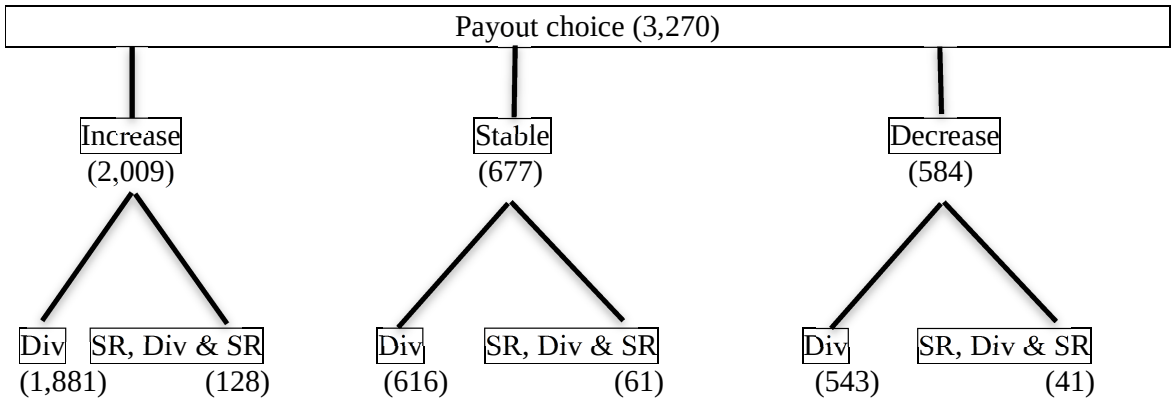


Table 2 Composition of CEO Remuneration.

The table shows the different components of CEO pay in the sample from 1996 to 2007. The bold figures are unconditional statistics (missing values are treated as zeros), while the remaining figures are conditional (i.e. based on non-zero observations). The numbers of observations for sub-categories are actual observations, and do not necessarily add up to the respective total figure. The remuneration data are extracted from Manifest, share prices from Datastream (in GBP).

		N	Mean	S.D.	Minimum	25%	Median	75%	Maximum
Salary		**15693**	**180,000**	**200,000**	**0**	**0**	**140,000**	**270,000**	**2,400,000**
	Shares	8	21,412	27,830	2,993	2,999	5,000	41,374	69,554
	Cash	3,095	310,000	220,000	1,093	150,000	250,000	400,000	2,000,000
Fees		**15693**	**3,695**	**43,157**	**0**	**0**	**0**	**0**	**4,900,000**
	Shares	1	760,000	.	760,000	760,000	760,000	760,000	760,000
	Cash	678	32,276	50,456	504	19,000	23,000	29,602	1,000,000
Bonus		**15693**	**110,000**	**330,000**	**0**	**0**	**0**	**97,787**	**10,000,000**
	Shares	64	270,000	500,000	2,997	67,670	120,000	240,000	3,100,000
	Cash	6,992	220,000	400,000	130	50,000	110,000	240,000	10,000,000
	Bonus vdf	72	300,000	310,000	6,445	91,000	170,000	420,000	1,300,000
	Bonus mdf	377	390,000	560,000	2,296	90,000	190,000	460,000	4,400,000
Equity		**15693**	**270,000**	**2,900,000**	**0**	**0**	**0**	**42,300**	**280,000,000**
	Options	2,407	730,000	6,300,000	0	86,657	200,000	430,000	280,000,000
	Restricted Stock	2,605	960,000	3,300,000	3	140,000	350,000	780,000	94,000,000
Miscellaneous		**15693**	**5,370**	**91,969**	**0**	**0**	**0**	**0**	**6,300,000**
	Transaction bonus	19	750,000	1,200,000	25,014	77,208	160,000	890,000	4,700,000
	deferred cash bonus	73	340,000	800,000	573	71,000	150,000	300,000	6,300,000
	loss of office	80	440,000	550,000	20,775	160,000	300,000	450,000	3,400,000
	recruitment bonus	30	750,000	1,500,000	4,556	87,500	290,000	600,000	6,400,000
	relocation expenses	29	130,000	170,000	5,000	36,813	70,000	130,000	770,000
Others		**15693**	**21,603**	**95,909**	**0**	**0**	**6,000**	**18,000**	**6,600,000**
Total		**15693**	**590,000**	**3,000,000**	**0**	**15,000**	**200,000**	**530,000**	**280,000,000**

Table 3 Ownership Concentration over Time.

The table details the percentage of ownership concentration over time. The table distinguishes between insiders (CEOs, executives, and non-executive directors), and outside owners (such as nominee accounts, financial institutions (banks, insurance companies, investment trusts and pension funds), individuals and families, as well as corporations). The last row shows the total number (#) of observations; the last column details the average values over the sample period. The data are extracted from Boardex, Manifest, and annual reports.

Characteristic	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**Total**
CEO	1.35	1.60	3.16	3.37	3.35	3.01	2.80	2.92	3.32	2.68	2.76
Executive directors (excl. CEO)	1.35	1.64	3.44	3.41	3.07	2.52	2.26	2.16	2.55	2.60	2.50
Non-executive directors	1.03	1.07	2.47	2.67	2.94	2.45	2.64	2.36	2.44	2.66	2.27
Insider Total	**3.73**	**4.30**	**9.06**	**9.45**	**9.36**	**7.97**	**7.70**	**7.44**	**8.31**	**7.94**	**7.53**
Nominee accounts	0.48	0.97	1.02	1.15	0.96	0.84	1.05	1.26	1.75	1.90	1.14
Institutions	18.31	18.25	19.99	19.49	20.06	22.13	18.44	18.73	20.24	21.65	19.73
Banks	3.12	2.76	1.52	1.05	1.21	1.56	1.44	1.69	1.68	1.81	1.78
Insurance companies	6.58	5.65	6.34	4.38	3.53	3.27	2.48	2.31	2.17	2.21	3.89
Investment trusts	8.41	9.65	11.91	13.77	15.09	16.96	14.09	14.36	16.03	17.24	13.75
Pension funds	0.19	0.19	0.22	0.30	0.23	0.33	0.42	0.38	0.36	0.39	0.30
Individuals & Families	4.75	3.23	1.66	1.70	1.86	1.98	1.76	1.52	1.37	1.52	2.14
Corporations	11.38	8.88	9.17	7.05	7.03	7.02	6.38	6.41	7.47	8.81	7.96
Outsider Total	**34.92**	**31.33**	**31.84**	**29.40**	**29.91**	**31.96**	**27.63**	**27.91**	**30.83**	**33.87**	**30.96**
Total	348	540	631	742	759	772	894	1,001	1,061	1,052	7,800

Table 4 The Payout Preferences of Major Shareholder Types by Tax Regime.

The table differentiates between six tax regimes and indicates the payout preferences by type of shareholder (individuals, pension funds, corporations). SR refers to share repurchases. While individuals should always prefer off-market share repurchases, corporations value the after-tax value of dividends the most. Pension funds' preferences change from dividends to no preference in July 1997. Source: own calculations and Geiler and Renneboog (2010)

Regimes	**Individuals**	**Pension funds**	**Corporations**
Prior to 1994	Share repurchases	Dividends	Dividends
1994-1996	Share repurchases	Dividends, Share repurchases	Dividends
1996-1997	Share repurchases	Dividends	Dividends
Since July, 1997	Share repurchases	Neutral	Dividends
Since April, 1999	Share repurchases	Neutral	Dividends
Since 2003	Share repurchases	Neutral	Dividends

Table 5 Quantile Regressions on Dividends/Assets

The table presents three quantile regressions on dividends over assets at the 25th, 50th, and 75th percentile at the CEO level. The table shows the coefficients and p-values, as well as the significance of the results at the 10%, 5%, or 1% level, denoted with *, **, and ***, respectively. The independent variables include remuneration, ownership, taxation, sentiment and other determinants. The coefficients are multiplied by 10^2. Data are from Datastream, Manifest, and Zephyr.

	25th percentile		50th percentile		75th percentile	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
Remuneration						
Salary/Assets	0.00469*	0.055	0.00120	0.263	0.00608***	0.000
Bonus/Assets	0.00234	0.739	0.00301	0.375	0.01947***	0.000
Option/Assets	-0.00101***	0.000	-0.00068***	0.007	-0.00058**	0.032
Restricted Stock/Assets	-0.00027	0.599	0.00000	0.995	-0.00016	0.727
Miscellaneous/Assets	0.00529	0.554	0.00042	0.926	-0.00336	0.507
Other/Assets	-0.06015***	0.000	-0.00040	0.936	-0.00037	0.949
Ownership						
CEO ownership	-0.00561***	0.000	-0.00165**	0.030	-0.00150	0.204
Non-executive ownership	0.00025	0.862	0.00039	0.607	-0.00058	0.609
Executive ownership (excl. CEO)	0.00092	0.616	-0.00023	0.781	0.00161	0.184
Institutional ownership	-0.00105	0.143	-0.00016	0.639	0.00032	0.541
Individual & Families ownership	0.00539**	0.011	0.00077	0.443	0.00128	0.368
Corporate ownership	-0.00561***	0.000	-0.00188***	0.000	-0.00095	0.147
Pension fund ownership	-0.00120	0.865	-0.00410	0.237	-0.00281	0.583
Taxation						
Tax Period 1999-2001	-0.14698**	0.025	-0.06299*	0.054	-0.08445*	0.085
Tax Period 2002-2007	-0.10300	0.117	-0.03194	0.326	-0.09324*	0.055
Sentiment						
Dividend Premium	-0.02169	0.108	-0.01246*	0.064	-0.00931	0.359
Trading Vol. /Sh. Out	0.00087***	0.000	0.00012***	0.007	0.00004	0.601
Momentum (t-1)	-0.49110	0.132	-0.31013*	0.053	-0.39820*	0.089
Other Determinants						
FTSE100	0.32314***	0.000	0.13433***	0.000	0.14774***	0.000
FTSE250	0.15994***	0.000	0.06306***	0.000	0.09337***	0.000
FTSE Small Cap	0.08343***	0.003	0.02366*	0.079	0.04608**	0.022
ROA	0.67295***	0.000	0.15103***	0.000	0.17330***	0.001
Free Cash Flow/Assets (t-1)	0.29508***	0.000	0.05281	0.120	0.13056**	0.022
Market-to-book	-0.00025	0.518	0.00002	0.920	0.00028	0.451
Debt/Assets	-0.29086***	0.000	-0.15843***	0.000	-0.07135	0.133
Var(CF)	0.00374	0.436	0.00270	0.235	0.00385	0.229
Past Dividend/Assets	50.65847***	0.000	86.51803***	0.000	96.87649***	0.000
Boardsize	0.00477	0.309	0.00433*	0.071	0.00415	0.262
Female (%)	0.08203	0.598	0.02653	0.734	0.09360	0.414
CEO gender	-0.00085	0.992	-0.06265	0.138	-0.10022	0.107
CEO age	0.00671***	0.000	0.00313***	0.000	0.00114	0.365
CEO tenure	0.00642***	0.001	0.00251**	0.010	0.00209	0.165
Dividend Surprise	0.00000	0.998	-0.00002	0.445	-0.00010**	0.013
Constant	0.28187*	0.082	0.08719	0.279	0.34222***	0.004
Pseudo R-squared	0.279		0.464		0.509	
Industry dummies	Yes		Yes		Yes	
Number of observations	4385		4385		4385	

Table 6 Quantile regressions on Total Payout/Assets.

The table presents three quantile regressions on total payout over assets at the 25th, 50th, and 75th percentile at the CEO level. The table shows the coefficients and p-values, as well as the significance of the results at the 10%, 5%, or 1% level, denoted with *, **, and ***, respectively. The independent include remuneration, ownership, taxation, sentiment and other determinants. The coefficients are multiplied by 10^2. Data are from Datastream, Manifest, and Zephyr.

	25th percentile		50th percentile		75th percentile	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
Remuneration						
Salary/Assets	0.01828***	0.000	0.05735***	0.000	0.22313***	0.000
Bonus/Assets	0.00699	0.516	0.04486***	0.002	0.07595***	0.001
Option/Assets	-0.00111***	0.006	-0.00218***	0.000	-0.00358***	0.001
Restricted Stock/Assets	0.00010	0.905	0.00022	0.880	0.00524**	0.024
Miscellaneous/Assets	0.00232	0.876	0.00029	0.986	-0.02434	0.349
Other/Assets	-0.10227***	0.000	-0.04594**	0.027	-0.06408**	0.020
Ownership						
CEO ownership	-0.01143***	0.000	-0.01147***	0.000	-0.00642	0.260
Non-executive ownership	-0.00111	0.610	0.00328	0.285	0.00694	0.255
Executive ownership (excl. CEO)	-0.00042	0.869	-0.00036	0.918	-0.00240	0.707
Institutional ownership	-0.00131	0.241	-0.00046	0.744	0.00180	0.472
Individual & Families ownership	0.00771**	0.014	0.00608	0.141	0.01140*	0.087
Corporate ownership	-0.01121***	0.000	-0.01327***	0.000	-0.01604***	0.000
Pension fund ownership	0.00010	0.993	-0.03291**	0.021	-0.04715*	0.076
Taxation						
Tax Period 1999-2001	-0.14915	0.142	-0.28636**	0.033	-0.44433*	0.066
Tax Period 2002-2007	-0.22712**	0.026	-0.43661***	0.001	-0.69137***	0.004
Sentiment						
Dividend Premium	-0.04360**	0.037	-0.03253	0.241	0.01760	0.725
Trading Vol. /Sh. Out	0.00279***	0.000	0.00415***	0.000	0.00380***	0.000
Momentum (t-1)	-0.40185	0.422	-0.30209	0.647	-0.93199	0.418
Other Determinants						
FTSE100	0.49560***	0.000	0.71149***	0.000	1.42991***	0.000
FTSE250	0.27127***	0.000	0.33505***	0.000	0.76405***	0.000
FTSE Small Cap	0.09951**	0.024	0.17927***	0.001	0.45390***	0.000
ROA	1.47855***	0.000	1.94562***	0.000	2.81978***	0.000
Free Cash Flow/Assets (t-1)	2.01504***	0.000	3.81399***	0.000	5.22439***	0.000
Market-to-book	-0.00027	0.662	-0.00017	0.855	0.00178	0.306
Debt/Assets	-0.42197***	0.000	-0.69596***	0.000	-0.48355**	0.050
Var(CF)	0.01682**	0.030	0.02881***	0.002	0.01705	0.293
Past Payout/Assets	0.00126***	0.000	0.00085***	0.000	0.00014	0.253
Boardsize	0.02813***	0.000	0.02376**	0.016	0.01959	0.285
Female (%)	0.49753**	0.043	1.07777***	0.001	2.99536***	0.000
CEO gender	-0.40179***	0.002	-0.53374***	0.002	-0.31822	0.300
CEO age	0.01369***	0.000	0.01383***	0.000	0.01604**	0.011
CEO tenure	0.00927***	0.002	0.00993**	0.014	0.01253*	0.093
Dividend Surprise	-0.00001	0.935	-0.00012	0.286	-0.00041**	0.035
Constant	0.94157***	0.000	1.86644***	0.000	1.39115**	0.025
Pseudo R-squared	0.172		0.190		0.169	
Industry dummies	Yes		Yes		Yes	
Number of observations	4376		4376		4376	

Table 7 Multinomial Logit on the Payout Channel Choice.

This table presents a multinomial logit regression of the payout channel choice on remuneration, ownership, taxation, sentiment and other determinants. Panel A assumes no payout as the base category and presents the results for dividends and the combined payout choice (share repurchases, dividends & share repurchases). Panel B assumes dividend payout as base category. Standard errors are clustered on a firm level. A Hausman Test reveals that the differences in coefficients of the full model and a restricted version are not systematic, i.e. the results do not suffer from IIA. The data are from Datastream, Manifest, and Zephyr.

	Panel A: Base Outcome is no payout				**Panel B:** Base Outcome is dividends	
	Dividends		SR/Dividends + SR		SR/Dividends + SR	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
Remuneration						
Salary/Assets	-0.065***	0.006	-0.215**	0.023	-0.152	0.155
Bonus/Assets	-0.030	0.416	-0.130	0.265	-0.138	0.281
Option/Assets	-0.023**	0.010	0.001	0.706	0.052***	0.006
Restricted Stock/Assets	-0.010*	0.077	-0.033	0.200	-0.013	0.348
Miscellaneous/Assets	-0.128	0.467	-0.123	0.715	0.164	0.440
Other/Assets	-0.117*	0.063	-0.065	0.456	0.066	0.226
Ownership						
CEO ownership	-0.021**	0.031	-0.019	0.144	0.001	0.933
Non-executive ownership	0.000	0.975	0.001	0.949	0.001	0.938
Executive ownership (excl. CEO)	0.012	0.281	0.002	0.931	-0.010	0.712
Institutional ownership	-0.004	0.332	-0.009	0.241	-0.005	0.476
Individual & Families ownership	0.028**	0.050	-0.029	0.285	-0.054**	0.034
Corporate ownership	-0.025***	0.000	-0.021**	0.023	0.004	0.588
Pension fund ownership	-0.001	0.978	0.036	0.590	0.033	0.566
Taxation						
Tax Period 1999-2001	-0.426	0.230	-3.139***	0.000	-2.682***	0.000
Tax Period 2002-2007	-0.723*	0.054	-0.833	0.101	-0.057	0.878
Sentiment						
Dividend Premium	-0.062	0.308	0.091	0.384	0.148*	0.099
Trading Vol. /Sh. Out	-0.170**	0.011	0.019***	0.000	0.247***	0.003
Momentum (t-1)	0.402	0.768	0.771	0.761	0.648	0.780
Other Determinants						
FTSE100	1.114**	0.017	2.117***	0.000	1.059***	0.002
FTSE250	0.669***	0.002	0.474	0.107	-0.153	0.495
FTSE Small Cap	0.406**	0.016	-0.168	0.572	-0.566**	0.043
ROA	3.843***	0.000	8.906***	0.000	4.714***	0.000
Free Cash Flow/Assets (t-1)	8.280***	0.000	9.311***	0.000	2.428**	0.048
Market-to-book	0.006***	0.004	0.003	0.512	-0.003	0.285
Debt/Assets	0.600	0.302	-0.682	0.375	-1.380**	0.017
Var(CF)	0.053	0.112	0.032	0.540	-0.025	0.544
Past Payout	0.012	0.712	0.006	0.862	-0.010	0.528
Boardsize	0.041	0.245	0.040	0.482	-0.004	0.935
Female (%)	0.616	0.590	0.783	0.612	0.196	0.874
CEO gender	0.344	0.449	-0.737	0.237	-1.108**	0.043
CEO age	0.037***	0.001	0.006	0.715	-0.032**	0.013
CEO tenure	0.044**	0.011	0.049**	0.047	0.011	0.556
Dividend Surprise	-0.002	0.144	0.001	0.140	0.027	0.213
Log-Likelihood		-1879.718			-653.534	
R-squared		0.609			0.721	
Industry dummies		Yes			Yes	
Number of observations		4376			3386	

Table 8 Nested Logit: First Payout Policy, then Payout Channel Choice.

This table presents a nested logit regression of the choice between an increasing, stable and decreasing payout policy and then in a second step on the alternatives: (1) dividends, (2) share repurchases, dividends and share repurchases, and (3) no payout. The independent variables are remuneration, taxation, sentiment and other determinants. Stable and dividend is assumed to be the base category/alternative. The data are extracted from Datastream, Manifest, and Zephyr.

	Increase				**Decrease**				**Stable**			
	Dividend		**SR/Dividends + SR**		**Dividend**		**SR/Dividends + SR**		**Dividend**		**SR/Dividends + SR**	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
Remuneration												
Salary/Assets	-0.150	-2.10**	0.420	0.36	0.010	0.34	-1.000	-1.29			-40.430	-3.33***
Bonus/Assets	0.310	3.28***	-6.510	-3.18***	0.040	0.52	-0.150	-0.24			24.360	2.80***
Option/Assets	-0.090	-1.81*	1.060	2.56**	0.020	0.78	-2.420	-0.84			3.320	0.90
Restricted Stock/Assets	0.050	0.75	1.520	1.99**	0.040	0.85	0.010	0.02			-7.340	-1.91*
Fees/Miscellaneous/Other	Yes		Yes		Yes		Yes				Yes	
Ownership												
CEO ownership	0.010	0.52	0.100	0.35	0.000	-0.06	0.110	1.52			-0.550	-0.32
Non-executive ownership	-0.040	-2.48**	0.660	3.47***	0.010	0.89	-0.090	-0.68	(Base Case)		1.270	3.25***
Executive ownership (excl. CEO)	-0.020	-1.06	0.470	1.80*	0.010	0.78	0.170	2.59***			0.090	0.18
Institutional ownership	-0.010	-1.07	0.050	0.42	0.000	0.00	-0.030	-0.67			-0.090	-1.09
Individual & Families ownership	-0.030	-1.53	-0.200	-0.67	-0.010	-0.63	-0.310	-1.69*			-17587.650	.
Industrial ownership	-0.020	-2.36**	0.330	2.26**	0.010	1.63	0.050	1.23			-0.160	-1.46
Pension fund ownership	0.120	1.87*	-0.640	-0.60	0.100	2.19**	0.090	0.23			-35.000	-0.05
Taxation												
Tax Period 1999-2001	0.380	0.50	-37.850	-3.16***	-0.940	-2.04**	-10.990	-1.93*			-24.810	-3.52***
Tax Period 2002-2007	-1.020	-1.35	-15.400	-1.34	-1.770	-3.86***	-2.040	-0.44			-13.590	-2.31**
Sentiment												
Dividend Premium (t-1)	0.010	0.05	4.490	1.84*	0.030	0.40	2.000	2.62***			3.580	2.50**
Trading Volume	-1.130	-5.04***	14.880	4.82***	0.160	1.27	2.380	3.15***			5.010	2.80***
Momentum (t-1)	-0.820	-0.30	-3.450	-0.07	-0.440	-0.23	-10.570	-0.56			-42.160	-1.28
Constant	2.580	2.01**	-206.400	-4.48***	2.220	3.17***	-44.160	-0.29			-40.750	-2.34**
increase_tau/stable_tau/ decrease_tau	58.090 (6.35***)/12.130 (4.32***)/4.150 (3.93***)											
Other Determinants	Yes											
Log-Likelihood	-3080.378											
Number of cases	3317											

Variable	Description and source
Panel A: Financial, performance, and sentiment characteristics (Source: Datastream)	
Assets (in £ '000)	Book value of total assets.
Debt ratio	Total debt divided by total assets.
Market cap (in £'000)	Market capitalization of equity.
Sales (in £'000)	Value of total net sales.
Size (log Sales)	Logarithm of total net sales.
EBIT (in £'000)	Earnings before interest and taxes.
EBIT/Sales (if EBIT>0)	Earnings before interest and taxes divided by sales.
Market-to-book	Market capitalization of equity divided by book value of equity.
ROE / ROA (in %)	Return on equity/assets.
ROAadj.	Return on assets adjusted for industry performance.
FTALLSH	FTSE All Share Total Return Index.
Debt/Equity	Total debt divided by common equity.
Trading Vol./Shares	Trading volume divided by shares outstanding.
Var(CF)	The variance of cash flow per shares.
Momentum	Lagged momentum variable, calculated as pseudo (calculated on nested sorts) Fama-French-Carhart factor. Source: *Style Research* Ltd. (London)
Panel B: Corporate governance characteristics (Source: *Boardex, Manifest, and own calculations*)	
Boardsize	Number of directors on the board.
Executive directors	Executive directors (excluding the CEO) serving on the board.
Non-executive directors	Non-executive directors serving on the board
Female	A binary variable on the gender of the director. Female is coded as 1, male as zero.
CEO/Chairman duality	A dummy variable equal to one if chairman also serves as CEO.
AuditComm Presence	A dummy variable equal to one if an audit committee is present.
NominComm Presence	A dummy variable equal to one if a nomination committee is present.
RemunComm Presence	A dummy variable equal to one if a remuneration committee is present.
CEO gender	Dummy variable equals one if CEO is male and zero if female.
Executive tenure	Tenure in years of an executive director in this position.
Panel C: Remuneration characteristics (Source: *Boardex, Manifest, and own calculations*)	
Salary	Fixed remuneration of executive director.
Fee	Fixed remuneration (paid to non-executive directors).
Bonus	Remuneration based on performance; paid out annually.
Equity-based compensation	Remuneration consisting of stock options and restricted shares, granted in one year.
Miscellaneous	Sum of transaction bonus, deferred cash bonus, severance pay, recruitment bonus and relocation bonus.
Other	Sum of additional remuneration components, such as insurance payments.
Total compensation	Sum of all aspects of remuneration.
Option/Assets	Value of stock options awarded (BS-value) divided by total assets.
Restricted stock/Assets	Value of total restricted shares divided by total assets.
Panel D: Payout and taxation characteristics (Source: *Manifest* and *Zephyr)*	
No payout	Multivariate variable indicating no payout (Y=0).
Dividend	Multivariate variable indicating a dividend payout (Y=1).
Share repurchase	Multivariate variable indicating share repurchases (Y=2).
Divs & SRs	Multivariate variable indicating dividends and share repurchases (Y=3).
Totalpayout	Total value of dividends and share repurchases.
Dividends/EBIT	Value of dividend payout divided by EBIT.
Share repurchases/EBIT	Value of share repurchases divided by EBIT.
Divs & SRs/EBIT	Value of dividends and share repurchases divided by EBIT.
Past Payout	Value of lagged total payout divided by lagged EBIT (lag is one year).
DivPremium	Log of average market-to-book-ratio of dividend payers minus that of non-dividend payers. Source: Own calculations
Tax Period 97-98	Dummy equal to one for the period 1997-1998.
Tax Period 02-07	Dummy equal to one for the period 2002-2007.

Panel E: Indices and sector information (Source: *Boardex, Manifest*)

FTSE 100	Dummy equal to one if a company is member of the FTSE100.
FTSE 250	Dummy equal to one if a company is member of the FTSE250.
FTSE Small Cap	Dummy equal to one if a company is member of the FTSE Small Cap.
FTSE Fledgling	Dummy equal to one if a company is member of the FTSE Fledgling.
LSE	Dummy equal to one if a company is listed on the London Stock Exchange.
AIM	Dummy equal to one if a company is listed on the Alternative Investment Market.
Fin. Sector	Dummy equal to one if a company is operating in the financial sector.

Panel F: Ownership characteristics (Source: *Boardex, Manifest*)

CEO ownership	Percentage of stock held by the CEO.
Executive ownership	Percentage of stock held by the executive directors.
Non-executive ownership	Percentage of stock held by the non-executive directors
Insider ownership	Cumulative percentage of share stakes held by executive- & non-executive directors.
Nominee account ownership	Cumulative percentage of share stakes (>3%) held in nominee accounts.
Institutional ownership	Percentage of stock held by financial institutions.
Bank ownership	Percentage of stock held by banks.
Insurance ownership	Percentage of stock held by insurance companies.
Investment trust ownership	Percentage of stock held by investment trusts.
Pension fund ownership	Percentage of stock held by pension fund.
Individuals & families ownership	Percentage of stock held by individuals and families.
Corporate ownership	Percentage of stock held by corporations.
Outsider ownership	Cumulative percentage of share stakes held by outside owners.

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