Pay Regulation – Is More Better?

By

Jenny Chu
Judge Business School
University of Cambridge
j.chu@jbs.cam.ac.uk

Aditi Gupta*
King's Business School
King's College London
aditi.gupta@kcl.ac.uk

and

Gilad Livne
University of Exeter Business School
University of Exeter
g.livne@exeter.ac.uk

* Corresponding author.

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Abstract

From October 2013, UK law and regulations (the *Reform*) require periodic binding shareholders' approval of executive directors' remuneration policy, as well as enhanced disclosure in remuneration reports. These requirements supplement an ongoing requirement for an annual non-binding vote on compensation outcomes that are detailed in the remuneration report. Using a large sample of listed companies from 2010–2017 we investigate whether the *Reform* has affected pay levels, pay-performance sensitivity, the pay gap between the CEO and other employees, the amount of cash returned to shareholders, and dissent voting on the remuneration report. We find little evidence that the *Reform* has affected these variables in our sample firms. Using market-based tests we find that market participants anticipated an improvement in corporate governance for some key dates before the *Reform* came into force. Taken together, the paper's evidence suggests the *Reform* has not met its stated objectives.

Keywords: Remuneration Reporting, Governance Disclosure, Executive Remuneration, Pay-performance Sensitivity, Corporate Governance, Binding Say on Pay

1. Introduction

"Compelling evidence of a disconnect between pay and performance in large UK listed companies and the call for action has been loud and clear. Business leaders and investors now recognise the issues: that the link between pay and performance has grown weak; and the constant, ratcheting up of executive pay is unsustainable."

The Rt Hon Dr Vince Cable MP, 2012, Secretary of State for Business, Innovation and Skills (The Department for Business, Innovation and Skills [BIS], 2012a)

As overall levels of remuneration, complexity of pay structures and wage disparity between executives and workers continue to rise (Murphy, 2012), executive pay has been the subject of active debate and criticism by investors, the media, governments and the wider public. To address these concerns, in 2013 the UK government set new rules concerning executive pay and related disclosures. Specifically, under Section 79 of Chapter 24 of the Enterprise and Regulatory Reform Act of 2013, the compensation policies of directors of exchange-listed companies must be approved at least once every three years by shareholders. In addition, Schedule 8 of the Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 was amended to include new enhanced disclosure requirements in director remuneration reports (DRRs). Schedule 8 required disclosure regarding top executives' pay in comparison to a broad market index and to employee pay and a new comparison of relative total spend on pay compared to dividends and buybacks among other items. These two pieces of regulation (which we henceforth collectively refer to as the *Reform*) were motivated by political dissatisfaction with ever-increasing patterns in top executives' pay, as the quote at the start of this section suggests. The UK government's perception that executives enrich themselves at the expense of shareholders and employees had been bolstered by investors' and commentators' views that there was a misalignment between executive pay, dividends and re-investment into the company (e.g., Lucas & Parker, 2012). In addition, political pressure was building in the years prior to the *Reform* over the increasing pay gap between executives and

other employees, a gap that was not justified by performance (Stephens, 2012; Montagnon, 2013).[1]

The *Reform* attempted to remedy the agency problem between managers and shareholders and growing discontent with executive pay (Jensen & Meckling, 1976). The government believed "that these measures will give shareholders more leverage on executive pay and encourage improved pay discipline" (BIS, 2012a). Although the government had felt shareholders did not have sufficient power, several CEOs were forced to resign in 2012 (prior to the *Reform*) under pressure from shareholders over pay, in what was dubbed as the 'shareholder spring' (Stephens, 2012).

We argue that, if market forces and disclosure requirements were not sufficiently effective to overcome the agency problem by means of efficient contracting before the *Reform*, its passage would have empowered shareholders by furnishing them a binding vote on the company's remuneration policy and better disclosure of remuneration outcomes. In other words, a successful *Reform* should have shifted the power balance between managers and shareholders in the direction of the latter group. If this is the case, one would expect to see changes in a number of spheres of the shareholder-management relationship. First, better remuneration contracts subject to stringent shareholder approval with transparent disclosures should result in a better link between pay and performance, as rent extraction by executives is reduced. Second, we would expect to see a reduction over time in dissent voting over pay reports following the *Reform* (i.e., in the annual non-binding vote),[2] as shareholders become more satisfied with remuneration contracts. In particular, if shareholders express dissent over excessive pay, it is expected that the positive link between excess pay and dissent voting weakens post-*Reform*. Third, the *Reform's* disclosure requirements may have increased pay

[1] This was not only a UK phenomenon, and was also noted in the US (see Bebchuk & Fried, 2003; Murphy, 2012).
[2] In the UK, since 2002 shareholders can vote in the annual general meeting on the remuneration report. This vote is non-binding and is done ex-post (that is, after the executives were paid). This requirement is retained after the 2013 *Reform,* and so ex-post remuneration reports are still subject to a non-binding vote.

transparency, alongside the "shame factor" for boards associated with a large gap between top executive pay and average employee pay. If transparency and "shame" discipline CEO pay arrangements, we would expect to observe a reduction in the CEO-employee pay gap after the *Reform*. Fourth, mitigating the extent of the agency problem should also be reflected in a reduction in the excess cash problem (Jensen & Meckling, 1976; Jensen, 1986). Specifically, we would expect to see more cash returned to shareholders via dividends and stock repurchases after the *Reform*.

We investigate whether these possible effects of the *Reform* have taken place using a sample of 1,892 firm-year observations drawn from the FTSE 350 index for the period from 2010 to 2017. Univariate analyses reveal that total CEO pay has increased following the *Reform*, although we do not find that CEO pay relative to employee pay has changed. Using return on assets (ROA) and stock returns as the two main pay-related performance measures, we establish in multivariate analyses a positive link between pay and contemporaneous ROA, but not between pay and stock returns. Pay is also higher at FTSE 100 firms, because complexity and size likely drive pay levels. However, we do not find the relation between pay and ROA is stronger post-*Reform*. These analyses also confirm higher levels of pay post-*Reform*, controlling for other known determinants of pay. Non-binding dissent voting on the remuneration report (i.e., the annual vote) is about 10% on average before the *Reform* and 8% post-*Reform*. This suggests that there has been an increase in overall satisfaction with executive pay following the *Reform*. However, although we find that non-binding dissent voting is negatively related to ROA, this negative relation is similar pre- and post-*Reform*. We find no evidence that excess pay increases non-binding dissent voting, and this has not been changed by the *Reform*. Binding dissent voting on the remuneration policy (the periodic vote) is positively related to stock returns and the percentage of independent directors, is higher in FTSE 100 firms but is unrelated to excess pay. Examining the ratio of CEO pay to average

employee pay, we find this ratio to be positively related to excess pay, growth opportunities and firm size. However, we do not find the ratio declined after the *Reform*. That the relation between pay ratio and excess pay did not become negative post-*Reform* indicates that boards are not reluctant to offer CEOs pay packages that are high relative to average pay. This, in turn, suggests that any "shame factor" intended by mandating improved disclosures of CEO and employee pay arrangements has not been effective. Examining the amount of cash paid to shareholders via dividends and share buybacks, we find no evidence that the amount paid as a percentage of profit (i.e., the payout ratio) differs between the two periods examined either for dividends or buybacks. However, we do find that the buyback payout ratio is positively related to excess pay. This is consistent with the view that highly paid managers try to deflect shareholders' criticism of high pay by buying back shares, perhaps because this payback method supports high share prices.

Our final analysis focuses on market participants' perceptions of the expected effectiveness of the *Reform* during the legislative process. Following Kim and Klein (2017) and Horton, Tsipouridou and Wood (2018), we identify eight key events during this process. We examine the market reactions around these events for our sample firms, and find positive and statistically significant reactions around five event dates and negative and significant reactions around two event dates. In particular, we find that the strongest market reaction occurs around the date of publication of the recommendations by the government and the second strongest is around the date of Royal Assent. However, we also find a negative reaction when the regulation was enacted, five months after Royal Assent. This evidence suggests that investors were initially expecting, or perhaps hoping, that the *Reform* would strengthen corporate governance in the UK.

Taken together, our results suggest the *Reform* has had limited success in ameliorating perceived agency problems associated with executive pay.[3] One interpretation of these findings is that the measures put in place were not sufficiently effective to resolve the problems the government believed were present prior to the *Reform*. An alternative explanation is that CEO pay was already well regulated by market forces and so any effect of the *Reform* could have been marginal at best. One caveat to note is that if the effects were very small, it is possible our research design has not detected these effects.

Our paper extends the literature on the roles of shareholder voting and increased pay disclosure in corporate governance. The Say-on-Pay (SOP) literature has largely focused on the effects of advisory (non-binding) voting and, in the case of binding voting, on certain elements of pay (e.g., equity-based pay).[4] In contrast, to the best of our knowledge we are among the first to study a regime that furnishes shareholders a *binding* vote over pay policy and which requires greater pay disclosures. Non-binding votes have been studied in the UK (Conyon & Sadler, 2010; Ertimur, Ferri & Oesch, 2013; Ferri & Maber, 2013; Alissa, 2015) and in the US (Cai & Walkling, 2011; Kimbro & Xu, 2016). Although the settings examined in prior studies vary, prior literature finds little evidence to support the notion that non-binding voting improves contracting. Because, by definition, non-binding votes carry no legal enforceability, it is difficult to generalise prior findings to a regime that obliges directors to seek approval for pay policies from shareholders. Prior research provides only limited evidence on such binding votes, which is confined to voting on the equity-based remuneration element of the pay scheme (Conyon & Sadler, 2010; Armstrong, Gow & Larcker, 2013; Gregory-Smith & Main, 2013).[5] In addition, the set of disclosures available to shareholders after the *Reform* is

[3] Note we do not argue that reducing the pay gap is justified on economic grounds. However, it seems that the government and regulators have maintained that it may be socially desirable.
[4] As we discuss in Section 2, in the UK and US, shareholders' approval of equity-based compensation has been required for many years.
[5] There is also literature on shareholder-sponsored plans, but because the *Reform* concerns management-sponsored proposals, evidence from this literature is of limited relevance to our study.

arguably richer than that available before. To the extent that disclosures matter, prior research may thus be less informative as to what one can expect to find under the *Reform*.

The remainder of this paper is organised as follows. Section 2 reviews the development of remuneration reporting in the UK and prior literature on SOP and disclosure, followed by our hypotheses. Section 3 outlines the sample and data collection procedure. The main results are reported in Section 4 and Section 5 concludes the paper.

2. Institutional background, prior literature and hypotheses

2.1 Remuneration regulation in the UK

Outrage over excessive pay, generous share option grants and severance packages in the 1990s triggered the commissioning of the Greenbury Report (1995). This report focused on strengthening accountability by the formation of remuneration committees, closer links between performance and rewards, and transparent reporting to shareholders. Nonetheless, executive remuneration kept rising and the existing 'comply or explain' disclosure regime was criticised as lacking in informativeness. In response, the UK government enacted the Director Remuneration Report Regulations (DRRR, 2002).[6] The DRRR (2002) required companies to disclose a separate, partly-audited, director remuneration report (DRR), as a part of their annual report and to submit it to a non-binding shareholder vote at the annual general meeting (AGM). This reform was welcomed by shareholder activism, led by the well-known rejection of GlaxoSmithKline's DRR in the initial year (Gordon, 2009)[7] and an increase in sensitivity of CEO remuneration to negative performance, consistent with widespread calls for lesser "rewards for failure" (Ferri & Maber, 2013). However, the percentage of votes cast against

[6] DRRR 2002, Section 234B Schedule 7A specifies remuneration reporting requirements. This section was re-issued as separate statutory instruments, namely the Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008. This regulation was the first step towards audited and mandatory remuneration reporting.

[7] 50.7% of shares voted were cast against approval of GlaxoSmithKline's DRR. Shareholders challenged the huge severance arrangements, minimally challenging performance targets and retesting provisions in the stock option plans.

remuneration resolutions in AGMs declined in subsequent years (Conyon and Sadler, 2010) and rising CEO remuneration was not reigned in.

In response to continued growth in executive pay levels, the "The Future of Narrative Reporting – A Consultation" (BIS, 2010) and the "Executive Remuneration: Discussion Paper" (BIS, 2011) were published in an effort to further improve reporting transparency. Among other information, companies would be required to disclose a single total pay figure for each director; the percentage change in CEO remuneration compared to the percentage change in pay of employees; a statement of relative importance of spend on pay, setting out the percentage spend on profits distributed as dividends or share buybacks and overall expenditure on pay; and a ten-year performance graph providing the CEO's realised remuneration and percentage of the maximum amount that could have been paid.

The Discussion Paper (BIS, 2011) proposed to arm shareholders with more detailed disclosure on pay-performance linkages and binding say on pay votes. The consultation on this plan, as well as media interest, led to a period of rising shareholder activism, dubbed as the "shareholder spring", and to the formulation of statutory instruments (Burgess & McCrum, 2012). In 2013, Schedule 8 of the Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 was amended to include new disclosure requirements, and the Enterprise and Regulatory Reform Act 2013 (ERRA) introduced a binding vote on remuneration policy.[8] The revamped disclosure requirements apply to listed companies for financial years ending on or after 30th September 2013. The *Reform* aimed to "restore a stronger, clearer link between pay and performance, reduce rewards for failure, and promote better engagement between companies and shareholders." (BIS, 2012b). To achieve these objectives, attention was given to ensure "greater transparency so that what people are paid is

[8] The remuneration report continues to be subject to an advisory vote. However, if this advisory vote does not achieve a majority, the policy must be brought to a binding vote at the next AGM.

clear and easily understood" (BIS, 2011). The *Reform* prescribes several new disclosure requirements including, inter alia, splitting the Director's remuneration Report (DRR) into a forward-looking policy report subject to a binding vote (not subject to audit) and a backward looking annual implementation report subject to an advisory vote (elements of which are subject to audit) to clearly separate future policy and current implementation (BIS, 2012c). Importantly, a listed company's directors' remuneration policy must be approved by shareholders' resolution (i.e., a binding vote) at least every three years [s439A CA 2006]. The remuneration report continues to be subject to a mandatory, advisory vote. However, if this advisory vote does not achieve a majority, the policy must be brought to a binding vote at the next AGM. Table 1 summarises the key requirements under the Reform and contrasts them with previous requirements.

[Insert Table 1 here]

2.2 The need for pay regulations

Efficient remuneration contracts are designed to minimise the cost of the agency problem between managers and shareholders (Murphy, 2002, 2012). Whereas the term "agency problem" encompasses several possible consequences of the separation of ownership from management, in our context we refer to the link between pay and performance, as well as to the distribution of cash to owners (Jensen, 1986; Renneboog & Trojanowski, 2011).[9] One school of thought maintains that market forces can, and do, shape efficient contracting, implying that governmental intervention is largely unneeded (Edmans & Gabaix, 2016). Under this view, the labour market works efficiently in matching managerial talent with firms, and contracts elicit optimal effort, albeit at a price of pay premium that compensates for the risk imposed on managers. Under this theory there is no need to furnish investors with further voting powers or better disclosures because shareholders already contract efficiently with

[9] In the following subsection we discuss the agency problem known as the free cash flow problem (Jensen, 1986).

managers. An opposing school of thought acknowledges that there may be market failures owing to, among other things, information asymmetry, market irrationality and externalities. Government intervention over pay arrangements is therefore required to fix market failures (Stiglitz, 2008). Such fixes can be based on requiring better and transparent disclosures, restricting certain pay contracts and mandating binding shareholder vote on pay policies.

Supporting the idea that investors need a greater say over pay and other corporate matters is the CEO power view of remuneration, which maintains that managers are too influential in the design of their own contracts. Managerial power, therefore, implies self-serving contracts that weaken the link between pay and performance and allow managers to retain excess cash when the firm does not have viable growth opportunities (Bebchuk & Fried, 2003; Bebchuk & Fried, 2004; Chu, Faasse & Rau, 2018).[10] Pay and corporate governance regulations are therefore needed to shift power back to shareholders and yield more efficient pay contracts.

The analysis performed in Dicks (2012), however, generates a cautionary note regarding the ability of corporate governance enhancing regulation to equally benefit all firms. Strong corporate governance is likely to be more costly for small firms, which therefore prefer to offer pay incentives over fixed pay. In contrast, at larger firms where monitoring is relatively cheap, fewer and proportionally smaller pay incentives are used. Small firms therefore create a negative externality in that large firms need to pay more to attract managers in equilibrium. Regulation that enhances costly shareholder monitoring therefore may harm smaller firms and benefit larger firms.

2.3 Prior evidence on Say-on-Pay

[10] Chang (1997) also advocates government regulation as opposed to self-regulation. However, he also cautions that it is not clear whether the government can correctly identify public interest, and even if it can, it is unclear whether it is able to properly regulate the private sector.

Shareholders may particularly object to pay packages when pay is not justified by performance.[11] Non-passive (typically large) shareholders often try to influence corporate governance via private rather than public channels. In the US, shareholder activism is subject to several legal restrictions and is largely non-binding (Becht, Franks, Mayer, & Rossi, 2008).[12] Until the Dodd-Frank Act, there was no legal requirement for SOP mechanism. Evidence from the US evidence indicates limited success of shareholder activism in linking pay to performance (Ertimur, Ferri, & Muslu., 2011).[13] Furthermore, even when such efforts are successful, the actual changes are small in magnitude (Clifford & Lindsey, 2016). Evidence from non-binding SOP in the US since 2011 under the Dodd-Frank Act indicates that changes influenced by non-binding voting were ineffective (Ertimur et al., 2013).

Although there are fewer obstacles in the UK for public shareholder activism, most attempts to change pay structures are carried out privately, with little or no public exposure. Nevertheless, such engagements also have limited success in changing pay practices (Becht et al., 2009). Filtatochev and Dotsenko (2015) examine 270 public events of shareholder activism, of which only 22% target pay issues. They found no significant market response to attempts to change pay. This may be interpreted either as failure of activists to focus on substantial issues, or as advancing ineffectual proposals.

In 2002, UK regulators, perceiving market failure in executive pay, intervened to add Section 439 to the Companies Act (2006), which requires an annual non-binding vote on the remuneration report and increased disclosures via the DRRR (2002). The 2013 Reform has added to this a periodic binding vote on pay policy, while maintaining the annual advisory vote

[11] See also Section 2.5.

[12] US anti-director rights and the ability to nominate directors are relatively limited. As a result, "naming and shaming" and letter writing are popular methods for activism (Becht et al., 2009). Unlike UK shareholders, US investors cannot call for special meetings. UK shareholders can nominate own directors by a simple majority vote and can pass binding resolutions (Filatotchev & Dotsenko, 2015). See also Bainbridge (2006) for a review of limited shareholder voting rights in the US.

[13] Ertimur et al. (2011) find that only 7.4% of shareholder proposals that link pay to performance were fully or partially implemented.

on past pay. It is important to note that even before the 2013 *Reform*, a binding vote over equity-based pay plans was in existence.[14] Although significant in magnitude, cash pay (salary and bonus) are similar in magnitude to equity-based pay. Descriptive statistics reported in Alissa (2015) for 2002–2012 suggest that average non-equity-based remuneration, which has not been subject to binding voting, is slightly higher than average equity-based compensation. This evidence implies that until the *Reform*, a large component of executive pay was not subject to binding shareholders' approval. The US also introduced a non-binding vote on executive pay in 2011 under the Dodd-Frank Wall Street Reform and Consumer Protection Act (Ertimur et al., 2013). However, since 2003, the NYSE and NASDAQ have required a binding vote on executive option plans and Securities and Exchange Commission (SEC) approval (Balachandran, Joos & Webber, 2012).

Consistent with having two voting categories – binding and non-binding – there are two separate strands in prior research examining the determinants and consequences of shareholder voting. Starting by exploring the evidence on non-binding voting, markets seem to welcome SOP legislation (Cai & Walkling, 2011; Ferri & Maber, 2013): this suggests that markets perceived giving shareholders a voice, even if advisory, as helpful in mitigating the agency problem. Most other studies on non-binding votes examine realised outcomes and find that higher executive pay explains greater dissent voting (e.g., Conyon & Sadler, 2010; Alissa, 2015; Kimbro & Xu, 2016), while good performance increases SOP approval (Kimbro & Xu, 2016). Some studies find that dissent voting reduces future compensation and increases CEO turnover (Alissa, 2015; Kimbro & Xu, 2016), suggesting that shareholder power can lead to more efficient contracts. However, Conyon and Sadler (2010) do not find that SOP influences

[14] This vote has been long required under the anti-dilution requirements of the Companies Act, as well as by more recent regulation including Section 9.4 of the London Stock Exchange Listing Rules and Section D.2.4 of the FRC's Corporate Governance Code (Gregory-Smith & Main, 2013).

future pay. There is also some evidence that the introduction of the DRRR in 2002 increased pay sensitivity to poor performance in the UK (Ferri & Maber, 2010).

The second strand of the literature examining binding voting (on the equity-based component of pay) is relatively scant. Conyon and Sadler (2010) find that UK shareholders tend to dissent more with respect to proposals on equity-based compensation than non-compensation proposals. They do not find any relation between the fraction of equity-based compensation and dissent on the annual remuneration report. A possible explanation for this is that because shareholders pre-approve equity-based schemes, they find little reason to dissent ex-post. Gregory-Smith and Main (2013) find no relation between pay and dissent voting on equity-based pay in the UK, while Armstrong et al. (2013) find no relation in the US between voting to approve equity-based compensation and the amount of equity pay awarded to managers.

2.4 Prior evidence on disclosure

A key assumption in economics-based accounting research is that mandatory disclosure reduces information asymmetry and improves capital market efficiency (Healy & Palepu, 2001). Similarly, the theoretical intuition underlying our hypothesis follows that of agency theory, whereby shareholders and managers have different information sets and interests. Improved disclosure can therefore reduce this information asymmetry and allow for more accurate estimation of the pay-performance relation, thereby better aligning the interests of managers and shareholders.

Firms can engage in voluntary disclosure of remuneration to minimise agency costs and to gain legitimacy (Melis, Gaia & Carta, 2015). If market forces can shape pay disclosure practices, no regulatory intervention may be required. Alternatively, additional disclosure may simply be used as window dressing rather than providing useful insight or effecting real change

on pay-performance sensitivity (Larcker, Tayan & Xiao, 2015). If this is the case, then regulation may be helpful.

Bebchuk and Fried (2013) argue that greater transparency of pay arrangements may have a significant effect on their efficiency. One possible channel for such an effect is that enhanced disclosure under the *Reform* could increase public scrutiny and boards' sensitivity to pay issues. In particular, the highlighted information could discipline boards and managers. An embarrassment effect may also ensue, especially when pay is high either in absolute terms or relative to employee pay (the latter being an objective of the *Reform*). Consistent with this theory, empirical studies document that enhanced remuneration disclosure improves the link between pay and performance (Vafeas & Afxentiou, 1998; Craighead, Magnan & Thorne, 2004; Clarkson, Walker & Nicholls, 2011; Wang, Wang & Wangerin, 2018), suggesting that mandated remuneration disclosure can reduce agency costs.

2.5 Hypotheses development

2.5.1 The effect of the Reform on pay-performance sensitivity

Early theoretical papers provide the underlying theory regarding the relation between pay and performance (Holmstrom, 1979). Holmstrom and Milgrom (1987) show that pay is optimally linear in observable performance measures such as sales, earnings and stock returns. The weight placed on each signal is a function of its information-to-noise ratio (Lambert & Larcker, 1987). Lambert (1983) further shows that pay is positively related to current and *past* performance. These theoretical arguments notwithstanding, it is not clear that markets can drive efficient contracting in practice (Stiglitz, 2008).

Prior UK evidence on pay and performance is mixed. Some studies find a positive association (e.g., Ozkan, 2011; Ferri & Maber, 2013), consistent with the idea that accounting-based and market-based performance measures affect pay. However, it is impossible to infer

from this evidence whether pay contracts are optimal or to what extent the agency problem is associated with pay optimality (Edmans & Gabaix, 2015). Several studies find a limited link between pay and performance. Li and Young (2016, 32) find that total realised pay for the median FTSE 350 CEO rose by a much greater percentage than actual economic profits during 2003–2014, and conclude that "despite relentless pressure from regulators and governance reformers over the last two decades to ensure closer alignment between executive pay and performance in the UK, the strength of the association between CEO pay and measures of fundamental value creation remains negligible at best"

To the extent that the *Reform* has furnished shareholders with a greater power to negotiate efficient contracts, one would expect to observe a stronger link between pay and performance post-*Reform*. Increased disclosure requirements such as the ten-year performance graph with the CEO's realised remuneration were a direct response to critics of weak pay and performance linkage among FTSE 350 companies (BIS, 2011, paragraph 45–46).

Given that non-binding SOP operated for more than a decade prior to the 2013 *Reform* in the UK, and that there has been mandatory approval for equity-based pay, the aforementioned evidence suggests the previous voting and disclosure regime has been moderately ineffective. In other words, it is possible there was a market failure in pay arrangements (Stiglitz, 2008). Insofar as the introduction of a binding vote on pay policy and enhanced disclosure requirements provide much stronger power to shareholders, we would expect the *Reform* to strengthen the pay-performance relation. Our first hypothesis is therefore:

H1: The sensitivity of CEO pay to firm performance has increased after the Reform.

2.5.2 Effects of the Reform on shareholders' dissatisfaction

If shareholders remain opposed to what managers are paid, they can use their annual non-binding voting on the remuneration report to express their view, albeit ex-post. Alissa (2015), using a pre-*Reform* sample, finds that excess pay drives dissent voting. Similarly, we expect

that both before and after the *Reform* shareholders will express dissatisfaction with past executive pay through a higher rate of dissent in the non-binding vote than when not dissatisfied. However, if the *Reform* enabled shareholders to affect executive compensation in ways that were not possible beforehand, higher-than-usual pay is less likely to be perceived negatively and is likely more a reflection of market forces. We therefore expect a positive relation between excess pay and non-binding dissent voting that weakens after the *Reform* as remuneration contracts become more transparent.

H2a: There is a positive relation between excess CEO pay and non-binding dissent voting on the remuneration report.

H2b: The positive relation between excess CEO pay and non-binding dissent voting on the remuneration report declines after the Reform.

Whereas the vote on the report is non-binding and relates to past pay, the vote on the periodic pay policy is forward looking. Having observed excess pay, shareholders are more likely to object to a proposed pay policy that entitles managers to unjustified pay. If shareholders are more empowered under the *Reform*, the proposed policy is more likely to be pre-agreed with shareholders. Additionally, dissent voting on past pay, even though only advisory in nature, would exert pressure on members of the board who wish to maintain good reputation as internal monitors of the CEO (Fama & Jensen, 1983). Hence, moving forward, board members will also press for better pay policies, also being aware of enhanced pay disclosures. If the *Reform* has resulted in improved remuneration policies, which are mandatorily approved by shareholders from 2014, high levels of past excess pay should not drive dissent (binding) voting on pay policy.

H2c: There is no relation between excess CEO pay and binding dissent voting on the remuneration policy.[15]

2.5.3 CEO pay relative to employee pay following the Reform

Under the *Reform*, firms are required to disclose the percentage change in CEO remuneration and the percentage change in pay of employees of the company. This disclosure requirement is aimed at addressing public outrage on the increasing pay disparity between CEOs and their employees.[16] Consistent with a negative view of large pay differentials, prior literature finds that excessively large differentials negatively impact the quality of employee relationships and incentivise dysfunctional employee behaviours (Pfeffer & Langton, 1993). Better pay disclosures, such as the new requirement under the *Reform*, would also enable the comparison of growth rates of CEO remuneration across firms. Hence if better disclosure does not curtail large pay differentials, it may lead to greater employee discontent. Perhaps this concern is reflected in a letter recently written by BlackRock (an institutional stakeholder in many companies, including each of the FTSE 100 companies) to the bosses of more than 300 UK companies saying it would only approve salary increases for top executives if the companies increased workers' wages by a similar amount (Financial Times, 20th January 2017). Similar legislation to increase transparency in disclosure of pay ratios has been passed in the US.[17]

[15] As explained in Section 2.1 and reported in Table 1, under the *Reform* the DRR now requires a forward-looking policy component which is subject to a binding SOP vote at least once every three years. H2c can therefore only be tested for observations *post-Reform* and only for the subset of firms that have passed a resolution on remuneration policy in their AGMs.

[16] We hand collect data on a sample of FTSE 100 firms in 2014 (the first *Reform* year) and find the average change in CEO (employees') salary and bonus was 0.2% (3.64%) and 14.03% (22.66%) respectively. This disclosure suggests that CEO cash pay (salary and bonus) was not growing out of line with workers' pay; however, CEOs' increase in benefits was almost six times that of employees (9.5% vs 1.6%), which may translate into a considerable increase in absolute levels of remuneration. Further, because this comparison does not include equity-linked pay, reported figures for CEOs are likely to be biased downwards.

[17] In 2015 in the US, the SEC required public companies to disclose the annual total compensation of its median employee, as well as the ratio of such compensation to the annual total compensation of its principal executive officer. Although the 2013 *Reform*s in the UK fell short of asking companies to disclose a pay ratio, despite the idea being discussed as part of the consultation, statutory pay ratio disclosure regulations will apply to UK listed companies with over 250 employees from the start of 2020.

We hypothesise that by increasing transparency, the *Reform* will potentially lead to a reduction in excess CEO pay and, consequently, reduce the pay gap between CEOs and their employees. We base this hypothesis on management studies that argue that social norms and "the need to avoid provoking social outrage" would constrain excessive pay (e.g., Bruce, Buck & Main, 2005, p. 1495). Insofar as better pay disclosures have the potential to generate outrage when pay is perceived as unfair, following the *Reform,* boards and managers would constrain the total amount of pay and relative pay, in order to avoid such adverse consequences.

H3: The ratio of CEO pay relative to employee pay decreases after the Reform.

However, it may also be argued that even under disclosure requirements prior to the *Reform*, it was possible to calculate a 'pay ratio' measure based on CEO remuneration and the total wages and salaries bill that appear in the notes to the financial statements. Moreover, it is far from clear that a large pay gap is not justified on economic grounds. Better managers likely attract higher pay and yet may be perceived by the public to be paid "unfair" compensation. If managers and employees are efficiently compensated in relation to their ability and productivity, we would not expect the *Reform* to influence the pay gap. Although egalitarian notions of social justice and equality permeate much of the popular debate on CEO pay ratios, an important issue from an investor's point of view is whether the large disparity between senior executives and average workers adversely affects firm value. Empirical evidence shows that industry-adjusted pay ratios are positively associated with both firm value and performance (Cheng et al., 2017) and not linked to perverse incentives or lower employee productivity (Faleye, Reis & Venkateswaran, 2013).

The new disclosure rules are not precise and leave room for discretion. This, in turn, may obscure real pay differentials. Our examination of hand-collected data of FTSE 100 firms in 2014 reveals that firms had a high degree of flexibility and variation in their selection of comparator groups, with some firms choosing an arbitrary percentage of employees, only

certain levels of workers or workers in certain geographical areas only. Nearly 30% of the FTSE 100 firms did not include employees from all levels in their comparator group. In other words, selective disclosures may shield managers from the public scrutiny intended by the *Reform*.

2.5.4 Payouts and the Reform

One of the aims of the *Reform* was to empower shareholders by providing better disclosure of pay and arming them with a binding say on future pay policy, thereby attempting to mitigate the agency problem. One aspect of the agency problem is the tendency of managers to benefit themselves by means other than compensation. One notable example is the empire-building motivation, whereby managers inefficiently hoard cash and other assets under their control, because controlling larger entities enhances reputation and confers other personal benefits (Jensen, 1986). Dividends and share buybacks have been identified as ways to reduce this agency problem.[18] The *Reform* has also tried to address this issue by requiring firms to provide a statement on spending on pay relative to cash used for dividends or share buybacks (the Regulations, paragraph 20). The aim of this additional disclosure requirement is to reveal the fairness of distribution of firms' profits (BIS, 2011).[19] As the *Reform* attempts to improve the link between pay and performance and improve pay transparency, management may come under increased pressure to return cash to shareholders. In other words, if the *Reform* has helped to mitigate the agency problem by empowering shareholders, one would also expect to see more cash returned by managers after the *Reform*. On the other hand, if shareholders were able to demand and receive the desired level of dividends and cash from share repurchases before

[18] There is a vast literature on how dividends and share repurchases alleviate the agency problem. Oswald and Young (2008) and Renneboog and Trojanowski (2011) provide evidence that specifically pertains to the UK.

[19] Hand collected data on FTSE 100 companies for the first year of the *Reform* show that in the first year of mandated disclosure, the percentage of profits distributed to shareholders increased by 47% (dividends and buybacks; 32% if we exclude two big shares repurchases in Amec and Experian that skew the data upwards) compared to a 6% change in spend on pay. Untabulated analysis suggests that for a majority of the firms (74%) shareholder distributions were made through dividends. For the remaining firms the disclosures differ: some firms report dividends and share buybacks separately whereas some provide a composite figure, making comparison across firms challenging.

the *Reform*, there is no reason to expect a change in the level of dividends and share repurchases. This leads to our fourth hypothesis, stated in a null form:

H4: The magnitude of dividends and share repurchases is unaffected by the Reform.

Prior research has also linked shareholder payouts with executive pay. Predictions as to the nature of the relations are, however, mixed. Chang (1993) develops a model in which managers seek both higher compensation and to keep more resources under their control. Managers know what the optimal payout is, whereas shareholders do not. To induce managers to pay optimal dividends, pay is positively linked to payout. The model analysed by Bhattacharyya (2007) builds on the idea that better managers create better growth opportunities. The compensation contract therefore rewards good managers for investing in growth and poor managers for returning cash to shareholders. The equilibrium pay, in contrast to Chang (1993), is negatively related to payout. Bhattacharyya et al. (2008) report evidence consistent with Bhattacharyya's (2007) model.

The prior research reviewed above does not distinguish between normal pay and excess pay. However, Young and Yang (2011) find that the likelihood of stock repurchases is greater in firms that tie cash bonuses to EPS. To the extent that cash bonuses are a major driver of excess pay, this evidence is broadly consistent with a positive link between payout and excess pay. We add to this literature the conjecture that overpaid managers may attempt to deflect shareholder criticism over excess pay by increasing the amount of payouts. If the *Reform* has resulted in better contracts for shareholders, the need to appease shareholders is likely to decline. This is reflected in the last hypothesis, again stated in a null form:

H5: The link between excess pay and payout, if any, is unaffected by the Reform.

3. Sample selection, data sources and research design

3.1 Sample selection and data sources

Our sample consists of all FTSE 350 listed companies in the UK. We select all companies that are constituents of the FTSE 350 between 31st December 2009 and 31st December 2017. After deleting missing observations, our sample consists of 386 unique companies and 1,802 firm-year observations for 2010–2017. That is, our sample encompass four years prior to the *Reform* and four years following the *Reform*. Final Director pay governance data and AGM dissent rates are collected from Manifest, accounting and ownership data from Worldscope and stock returns data from Datastream. We winsorise all continuous financial variables except stock returns at the 1st and 99th percentiles.

3.2 Research design

To investigate our first hypothesis regarding possible effects of the *Reform* on the pay-performance relation we build on Core, Guay and Larcker (2008), using model 1 as follows (omitting the subscript *t* for current variables and indicating lagged variables with the prefix *L*):

$$\begin{aligned} Log(Total\_Pay) = {} & \alpha + \beta_1 Reform + \beta_2 Roa + \beta_3 Ret + \beta_4 Roa * Reform \\ & + \beta_5 Ret * Reform + \beta_6 LRoa + \beta_7 LRet + \beta_8 LTenure \\ & + \beta_9 FTSE100 + \beta_{10} LMtb + \beta_{11} LSize \\ & + \beta_{12} LFor\_Sales\_Pct + Fixed\ Effects + \varepsilon \end{aligned} \quad (1)$$

where *Total_Pay* is the sum of cash and equity pay received by the CEO. To capture post-regulation changes we include *Reform* as an indicator variable that equals one if the observation is from 2013 onward, and zero otherwise. Our accounting-based measure of firm performance, *Roa*, is return on assets, defined as net income divided by total assets at year end, and *LRoa* is the lagged value of *Roa*. *Ret* and *LRet* capture current and lagged stock returns, measured over the previous financial year, respectively. If the reform has resulted in higher (lower) pay, on average, post-*Reform*, β_1 is expected to be positive (negative). If pay is positively related to performance, we expect β_2 and β_3 to be positive. Furthermore, if the pay-performance sensitivity has increased (decreased) after the *Reform*, β_4 and β_5 are expected to be positive

(negative).We include firm and director level control variables consistent with prior studies. *LTenure* is the lagged log of the CEO's length of service in the company and proxies for his or her expertise and experience. Prior literature also finds that the influence and power of CEOs over boards increases with CEO tenure, thereby leading to better pay outcomes for CEOs (e.g., Hill & Phan, 1991). Prior literature consistently finds firm size to be the most important determinant of pay.[20] To capture firm size and complexity we include *FTSE100* (an indicator variable set equal to one if the firm belongs to the FTSE 100 index, and zero otherwise), *LMtb* (lagged market-to-book value of equity), *LSize* (natural log of lagged sales) and *LFor_Sales_Pct* (lagged percentage of foreign sales). We also control for fixed effects including firm, industry membership and year. The residual from model 1, but without the *Reform* variable and its interactions, is our measure of excess pay (*Expay*), which we use in the models described below.

We also estimate this model separately using a sub-sample characterised by high dissent voting on pay, following Ferri and Maber (2013). A high level of dissent voting is defined as when 20% or more dissent on remuneration reports. This is captured in an indicator variable coded as one if this condition is fulfilled, and zero otherwise. Thirteen percent of our sample fall into the high dissent category, which is consistent with prior studies.

To examine if excess CEO pay leads to dissent voting and whether this relation is weaker after the *Reform* (H2a-H2c), building on Alissa (2015), we use model 2:

$$\begin{aligned} Rep\_Diss/Pol\_Diss = {} & \alpha + \beta_1 Reform + \beta_2 Expay + \beta_3 Expay * Reform + \beta_4 Roa + \beta_5 LRoa \\ & + \beta_6 Ret + \beta_7 LRet + \beta_8 Blockh + \beta_9 INdepdir + \beta_{10} LInsth \\ & + \beta_{11} LTenure + \beta_{12} FTSE100 + \beta_{13} LMtb + \beta_{14} LSize \\ & + \beta_{15} LFor\_Sales\_Pct + Fixed\ Effects + \varepsilon \end{aligned} \quad (2)$$

[20] A meta analytical review of the literature on the determinants of executive pay finds that firm size accounts for more than 40% of the variation in total pay, whereas firm performance accounts for less than 5% of the variance (Tosi, Werner, Katz & Gomez-Mejia, 2000).

Rep_Diss is the percentage of "against" votes out of total number of votes cast in relation to the approval of the annual remuneration report. *Pol_Diss* is the percentage votes against the remuneration policy. Because the binding vote for remuneration policy was introduced in 2013 and only occurs intermittently (required at least once every year three years), we have a reduced sample of firm-year observations for which a policy vote took place during our sample period. If the *Reform* has, on average, reduced dissent voting on remuneration reports (non-binding), we expect β_1 to be negative when *Rep_Diss* is the dependent variable. If excess pay drives dissent voting on the report, we expect β_2 to be positive when *Rep_Diss* is the dependent variable (H2a). If this positive relation is weaker post-*Reform*, β_3 is expected to be negative (H2b). If there is no relation between excess pay and dissent voting on remuneration policy (binding), β_2 is expected to be statistically insignificant when *Pol_Diss* is the dependent variable (H2c).

In addition to the previously defined variables, the model includes the lagged percentage of shareholdings that constitute block-holdings (*LBlockh*); the lagged percentage of independent directors on the remuneration committee (*LIndepdir*); and the lagged percentage of institutional holdings (*LInsth*) as proxies of governance and monitoring variables.[21] Institutional holders, included in the model as the sum of the percentage of the firm's common equity held by pension funds and investment funds (*LInsth*), act as monitors of management, and institutional ownership has been found to be positively related to pay-performance sensitivity and negatively related to level of pay (Hartzell & Stark, 2003).

To test our third hypothesis regarding the effect of the enhanced disclosure rules on the pay gap between the CEO and other employees, we use a model similar to model 2 above, wherein the dependent variable is the ratio of CEO pay to average employee wage (*Pay_Ratio*). In an

[21] In alternative specifications of the models we also included CEO duality as a control variable. However because 98% of CEO and chairman roles are split we have excluded this variable from the main model.

alternative specification of the model we also estimate the dependent variable as the change in CEO pay over the change in employee pay (*ΔPay_Ratio*) to capture the disclosure requirement under the *Reform* (see Table 1 for details).

$$\begin{aligned} Pay\_Ratio / \Delta Pay\_Ratio = {} & \alpha + \beta_1 Reform + \beta_2 Expay + \beta_3 Expay * Reform + \beta_4 Roa \\ & + \beta_5 LRoa + \beta_6 Ret + \beta_7 LRet + \beta_8 LBlockh + \beta_9 LIndepdir \\ & + \beta_{10} LInsth + \beta_{11} LTenure + \beta_{12} FTSE100 + \beta_{13} LMtb \\ & + \beta_{14} LSize + \beta_{15} LFor\_Sales\_Pct \\ & + Fixed\ Effects + \varepsilon \end{aligned} \quad (3)$$

If the *Reform* has constrained the pay gap, we expect to find that β_1 is negative for both dependent variables (H3). If CEO excess pay drives a higher pay gap, we expect β_2 to be positive. If the *Reform* has delivered more contracting power to shareholders, we expect to find a weaker relation between *Expay* and pay gap, implying we expect β_3 to be negative.

Our fourth and fifth hypotheses posit, respectively, that the magnitude of dividends and share repurchases is unaffected by the *Reform* and that any relation between payouts andexcess pay is unaffected by the *Reform*. We test these hypotheses using model 4.

$$\begin{aligned} Log\_Total\_Payout / Total\_Payout\_Ratio = {} & \\ & \alpha + \beta_1 Reform + \beta_2 Expay + \beta_3 Expay * Reform + \beta_4 Roa \\ & + \beta_5 LRoa + \beta_6 LSize + \beta_7 LFor\_Sales\_Pct + \beta_8 LCfo \\ & + \beta_9 LDiv\_Ratio + \beta_{10} LMtb + \beta_{11} LLev + \beta_{12} LAge \\ & + \beta_{13} FTSE100 + \Sigma Year + \Sigma Industry + \varepsilon \end{aligned} \quad (4)$$

Model 4 builds on Von Eije and Megginson's (2008) estimation strategy. We use two alternative measures of the dependent variable. The first, *Log_Total_Payout*, is the log transformation of total amount of dividends and stock repurchases during the year. The second, *Total_Payout_Ratio*, is *Total_Payout* divided by net income. We also perform tests for dividends and repurchases separately because shareholders may value them differently owing to, among other things, tax effects and pricing effects. The independent variables include several variables previously defined and the following additional variables. *LDiv_Ratio* is the lagged dividend payout ratio (cash dividend/earnings) and is included to control for managers'

objective of maintaining a payout ratio (Brav, Graham, Harvey & Michaely, 2005; Oswald & Young, 2008). *LLev* is the lagged debt-to-equity and is included for the constraining effect high leverage may have on payouts. *LAge* is the lagged log of age of the company and is included because mature firms tend to distribute more cash (DeAngelo, DeAngelo & Skinner, 2009). *LCfo* is the lagged operating cash flows, and is included because dividends are likely to be a function of free cash flows.[22] If the level of payout, or payout ratio, is higher post-*Reform*, β_1 is expected to be positive. To the extent that excess pay is associated with higher payouts, as managers attempt to appease shareholders with a higher payout, β_2 is expected to be positive. If the reform has attenuated the relation between excess pay and payouts, we expect to find that β_3 is negative.

We also run this model for separate subsamples of share repurchases and dividends because dividends tend to be sticky, as firms are reluctant to change their dividend policies, whereas repurchases are more flexible. Furthermore, related managerial incentives may not be the same for dividends and repurchases. Young and Yang (2011) provide evidence that pay contracts that feature EPS as a performance target motivate repurchases. They also find that UK repurchasers return more cash to shareholders and that there is little substitution effect with dividends. However, dividends are the main channel for returning cash to shareholders (see also Table 2). [23]

4. Findings

4.1 Descriptive statistics

Panel A of Table 2 presents descriptive statistics for firm, governance and CEO characteristics for our samples pre- and post-*Reform*. The differences in the distributions of

[22] If managers do not distribute free cash to shareholders, the coefficient on *LCfo* is expected to be negative.
[23] Share buybacks may also occur due to stock undervaluation, or may be used to prop up share prices, and are not necessarily motivated by the wish to return cash to shareholders.

characteristics before and after the *Reform* are assessed using standardised differences and two-sample tests (parametric *t*-tests).

Average CEO pay is higher in the post-*Reform* period. The difference in average *Total_Pay* is £425,657 and is significant at the 0.2% level. Most of this difference stems from the rise in equity-based pay (untabulated). The CEO-employee pay ratio (*Pay_Ratio*) has decreased from 163 (pre) to 155 (post), but this decrease is not statistically significant. Given the widespread criticism of high CEO pay and the emphasis on giving shareholders a 'say on pay', it is interesting to note that dissent voting rates on the annual remuneration reports have declined from 10% to 8% over the period of reform, on average (and from 6% to 4% at the median) which provides some support for H2b. In our pre- and post-*Reform* sample, the average CEO tenure is just over six years.

The average firm in our sample pre- (post-) *Reform* has mean sales of just over £5 billion, due to the inclusion of non-FTSE100 firms, which constitute about 70% of the sample and have over 50% in foreign sales. *Roa*, our measure of accounting profitability, is 7.5% (6.9%), and the difference is significant at the 8% level. The market-to-book ratio is higher in the post-*Reform* period and the difference is moderately significant (3.54 vs. 3.18). This suggests the latter period offered better growth opportunities to our sample firms. Surprisingly, the independence of remuneration committees decreases after the *Reform* (from 92.2% to 90.4%). *Total_Payout* (in £) significantly increases post-*Reform* which may suggest that the *Reform* has been successful in increasing payouts to shareholders and mitigating some agency problems. Note also that the dividend payout ratio is over four times larger than buyback payout ratio, consistent with dividends being the main channel in the UK for returning cash to shareholders.

Examining correlation coefficients for our key variables we find that many of the coefficients are either small or medium in magnitude (untabulated). As would be expected, total pay and cash are highly and positively correlated. Total pay is also highly correlated with

excess CEO pay. Both types of dissent voting (on reports and policies) are correlated, with a coefficient of 0.53. Firm size (measured in sales) is highly correlated with FTSE100 membership.

[Insert Table 2 about here]

4.2 Pay-performance sensitivity

Table 3 reports the results for the estimation of model 1, which explores the effects of the *Reform* on the pay-performance relation (H1). Panel A reports the results for the entire sample. Column 1 provides the average coefficients across eight annual regressions, without distinguishing between the pre- and post-*Reform* periods. Logged total CEO pay, the dependent variable, is positively related both to the accounting-based performance measure (*Roa*), and to share return (*Ret*). Column 2 reports the results when the eight years are pooled but with adding year and industry fixed effects. As in column 1, we find a positive relation between pay and the two performance measures, and with higher significance (at the 1% level). Column 3 reports results for the pooled sample that distinguish between the two periods, maintaining the same fixed effects as used in column 2. In particular, it tests if the coefficients on *Roa* and *Ret* differ between the two periods. The coefficient for the *Reform* indicator is not statistically significant, suggesting that CEO pay has not changed after the reform, on average, after controlling for other factors affecting pay. The coefficient on *Roa* is positive and highly significant (at the 1% level). However, because the coefficient on the interaction *Roa***Reform* is not statistically significant, we infer that the pay-performance sensitivity for *Roa* has not changed after the *Reform*. Additionally, in column 3 we find no relation between *Ret* and pay for the pre-*Reform* period, and that the *Reform* has not changed this, as is indicated by the coefficients on *Ret* and *Ret***Reform*, respectively. Column 4 reports a similar specification to column 3, but here we use firm fixed effects instead of industry fixed effects. The results remain largely the same, except that the coefficient on *Reform* is now positive and statistically

significant, consistent with notion that average total pay is higher post-*Reform*, controlling for other pay determinants. Consistent with prior literature, we find that pay is higher in FTSE 100 firms.

In Panel B we restrict the sample to firms where the lagged non-binding voting on the renumeration report is characterised by high dissent (equal to or more than 20%), and rerun the specification used in columns 3 and 4 in Panel A. In doing so we are motivated by the notion that firms with high levels of dissent voting on the renumeration report may be characterised with persistent and severe agency problems and so should benefit the most from the *Reform*. Consistent with this idea, and unlike what is reported in columns 3 and 4 in Panel A, we find no relation between pay and performance. Nor do we find that the *Reform* has affected the pay-performance relation or pay levels.

Overall, finding no change in the pay-performance sensitivity is consistent with the view the *Reform* has not enabled shareholders to ensure more efficient pay contracts.

[Insert Table 3 about here]

4.3 Dissent voting

Table 4 reports the results for estimating model 2, which explores the effects of the *Reform* on dissent voting and on the link between excess pay and dissent voting (H2a–H2c). In columns 1–4 (5–6) the dependent variable is the percentage of annual, non-binding (periodic and binding) dissenting vote on remuneration reports. Excessive CEO pay (*Expay*) is the residual from column (1) in Panel A of Table 3 and captures pay over and above several economic determinants of pay. As such, it captures abnormal pay, high levels of which may anger shareholders. If shareholders are unable to ensure satisfactory contracts with managers owing to managerial power, then we would expect that excess pay attracts more dissent voting. As reported in column 1, for the entire sample period this conjecture is supported by the positive coefficient on *Expay*. However, when we replace industry fixed effects with firm fixed effects

(column 3), the coefficient on *Expay* becomes non-statistically significant. This suggests that unobserved firm-level factors that drive non-binding dissent voting are also correlated with excess pay. Examining the dissent voting in periodic binding votes on remuneration policy (columns 5 & 6), we find no evidence that dissent voting is influenced by the level of excess pay. Columns 2 and 4 indicate that the Reform did not have an effect on the relation between excess pay and non-binding dissent voting. Moreover, we do not find the average rate of dissent voting has changed after the reform, as the coefficient on *Reform* is not statistically significant.

Inspecting the controls, dissent voting decreases with good accounting performance. The coefficient on *Roa* is negative and highly significant in columns 1–4.

Overall, this table does not support the idea the *Reform* has reduced the extent of the pay-related agency problem. Shareholders' rate of dissatisfaction with pay packages remains unchanged, on average. This is likely indicative of boards not changing the design of pay incentives following the *Reform*. These results also triangulate well with the finding in Table 2 that pay-performance sensitivity has not changed following the *Reform*.

[Insert Table 4 about here]

4.4 CEO-employee pay gap

Next we test whether the *Reform* has reduced the pay gap between managers and average employees (H3). In addition, we are interested in exploring whether excess CEO pay explains the pay gap. Table 5 reports the results of model 3 using the pay ratio as the dependent variable in columns 1 and 2 and the relative change in CEO pay and average wage in columns 3 and 4. For the entire period we find a strong positive relation between excess CEO pay and pay gap (column 1), but not between excess CEO pay and the relative change (column 3). The effect of the *Reform* on the relation with excess pay for both measures of pay gap is non-statistically significant, as reported in columns 2 and 4. The coefficient on *Expay* in column 2 remains positive, albeit with a lower significance level (*t*-stat = 1.96). Using relative change in pay as

the dependent variable, *Expay* is not statistically significant (column 3). We also find from the interaction *Expay*Reform* (columns 2 & 4) that the *Reform* has not changed the relation between excessive CEO pay and measures of the pay gap.

As to control variables, we find the relative pay measure is lower in FTSE 100 firms, but is higher for longer-serving CEOs and larger firms (columns 1 & 2). Surprisingly, the pay gap is larger in firms with more independent directors on the compensation committee. Examining the controls in columns 3 and 4 reveals that the rate of change in CEO pay relative to that of the average employee declines with share performance, firms reporting larger sales and firms headed by longer-serving CEOs.

Overall, the results for the relation between excess pay and pay gap fail to detect a constraining effect of the additional disclosures required by the *Reform* on relative pay or relative change in pay.

[Insert Table 5 about here]

4.5 Shareholder payouts

Our fourth and fifth hypotheses concern the effect of the *Reform* on the magnitude of payout to shareholders and the relation between excess CEO pay and payout, respectively. The results of the analysis of model 4 are reported in Table 6. In Panel A the dependent variable is either the total amount of payout (in log transformation) (columns 1 & 2) or the total payout ratio (columns 3 & 4). For the entire period (columns 1 & 3), excess CEO pay (*Expay*) is positively related to total payout (column 1), but not to payout ratio (column 3). This is partially consistent with the view that managers attempt to deflect criticism of high pay by rewarding shareholders with more cash. In columns 2 and 4 we differentiate between the two periods by adding the indicator *Reform* and the interaction *Expay*Reform*. The coefficient on *Reform* is non-statistically significant in both columns, suggesting that, on average and after controlling for other determinants of payout, similar levels of cash are returned to shareholders before and

after the *Reform*. Furthermore, the coefficient on the interaction between *Expay* and *Reform* is non-statistically significant in both columns 2 and 4. The positive and significant coefficient on prior year's dividend payout ratio (*Ldiv_Ratio*) in columns 1–3 is consistent with stickiness of dividend policies.

Panel B repeats the above analysis separately for repurchases (columns 1 & 2) and dividends (columns 3 & 4). Expay is positively related to the total amount of repurchases and their payout ratio, but not to dividends. This is consistent with the notion that dividend payout policies are sticky and so offer restricted flexibility for managers to adjust the amount paid in relation to their excess pay. Nevertheless, this pattern is similar for the two periods.[24]

Taken together, the results are consistent with managers returning similar amounts of cash to shareholders after the *Reform* as before it.

[Insert Table 6 about here]

4.6 Additional *analyses*

To verify the robustness of the findings presented in Tables 3 to 6 we conduct tests with alternative specifications for our models. First, we use CEO cash pay instead of total pay to assess whether the cash component of pay yields different results. Second, we control for CEO turnover to examine if the presence of an incumbent CEO changes the dynamics of pay arrangements. Third, we define the *Reform* variable as one for fiscal years ending in or after 2014, and zero otherwise. As the disclosure requirements were introduced for most firms for fiscal years ending in 2013, but the associated AGMs would have taken place in 2014, we want to ensure the robustness of our results to using a later year of commencement of the post-*Reform* period. In the alternative specifications of the model our main results remain largely unchanged.

[24] We also run these specifications with firm fixed effects instead of industry fixed effects. Results remain qualitatively the same (untabulated).

We also create three subsamples of firms with: (i) stronger agency problems (SOP dissent voting greater than 20%); (ii) higher levels of monitoring (institutional ownership greater than the annual median); and (iii) better governance practices (remuneration committee independence greater than the annual median) to check the robustness of our results reported in Tables 3–6. We do not find that the impact of the *Reform* has been stronger for these subsets of firms.

4.6.1 Market reaction to the Reform

Overall our results indicate that the *Reform* was partially successful at best. It is therefore intriguing to investigate what market perceptions of the *Reform* were during the legislative process. To do this we have identified key events in the regulatory process leading up to the enactment of the new rules in 2013.[25] Specifically using government official announcements with additional verification from the Department for Business, Energy and Industrial Strategy (BEIS, formerly BIS) website, FT.com and other press releases, we identify eight relevant events starting in 2nd August 2010 with the publication of a consultation paper on narrative reporting by BIS suggesting more detailed disclosures for executive remuneration, but without a mention of a binding vote. This was followed in September 2011 with the publication of a discussion paper that for the first time floats the idea of a binding shareholder vote on pay. In January 2012 BIS published a summary of the responses to the discussion paper. Although the majority of respondents objected to a binding vote, the revised version of the proposed regulation for the purpose of further consultation, published in June 2012, kept this requirement. This was followed by the necessary steps in the legislative process taken by parliament, for the legislation to receive royal assent and culminating in 1st October 2013 with the enactment of the rules in the Enterprise and Regulatory Reform Act (ERRA).

[25] We focus only on authoritative announcements, although we have taken efforts to identify any pre-announcements and leakages and could not identify any. Events described in Appendix 2.

To assess market the reaction to these events and examine whether investors expected to benefit from the *Reform* by enhanced disclosure rules and the binding SOP vote on policy, we follow the methodology of Kim and Klein (2017) and Horton et al. (2018). Specifically, for each one of the eight events we construct three event windows at, or around, the event date (date 0), as follows: [0] and [0,1] and [-1, 0, +1]. Table 7 reports the average market reaction for our sample firms during these windows. We deduct the return for the FTSE All Share index (proxy for market return) to test if the market-adjusted return for our sample firms is statistically different from zero on those key dates.

For brevity we focus our discussion on the [-1, 0 +1] window, a three-day window, to capture possible leakage before and processing time after the event. In five of the identified events the adjusted return is positive and statistically significant. Of the three other events, the adjusted return is negative, although is statistically significantly on the publication of the consultation paper (date 3) and Enactment date (date 8) . On the whole, therefore, it seems that market participants expected the *Reform* to have a value enhancing effect. That we find limited evidence suggests that investors might have been optimistic at the time.

[Insert Table 7 about here]

5. Summary

It is not unusual for politicians to enact new regulations in response to public outcry. Nevertheless, public outcry need not justify new rules. In the UK, following public pressure, successive changes to corporate governance have attempted to deliver more power to shareholders over managers in the belief that the agency problem needs remedying. In this paper we examine a recent round of regulation that aims at achieving this goal. Specifically, concerns over weak pay-performance relation led the UK government to enact several remuneration reporting reforms including DRRR (2002), but none of these have curbed

excessive CEO pay. In 2013 new statutory instruments that require more detailed disclosure were enacted with the aim of improving the pay-performance link and accountability to shareholders (the *Reform*).

Using several indicators to assess whether the *Reform* has mitigated the perceived agency problem in UK firms, we largely fail to find evidence supporting the idea the *Reform* has met its stated objectives. In particular, we find no evidence of improvement in pay-performance sensitivity and no statistically significant change in dissent voting. We find no evidence that managers return more cash to shareholders and no evidence that the *Reform* has reduced the pay gap between managers and employees. A recent paper by Harvey, Maclean and Price (in press) suggests that disclosure may not be a panacea for all failings in corporate governance, and that disclosure is a poor substitute for real engagement by owners in corporate governance. Therefore, one can speculate that in this case increasing the amount of disclosure, and hence *perceived* accountability, did not lead to better corporate governance.

There are two possible interpretations of our findings. First, it may be the case that deficiencies in the UK's regime of corporate governance require legislative intervention, but that the specific requirements of the *Reform* have been ineffective. An alternative interpretation is that there was no need for regulatory intervention in the first place, because shareholders have always been able to ensure satisfactory contracts with managers. We leave it to future research to explore which interpretation is more valid.

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Appendix 1

Variable Name	Definition
Dependent variables:	
Buyback_Ratio	Amount spent on share buybacks divided by net income
Div_Payout_Ratio	Cash dividends divided by net income
Pay_Ratio	Total CEO pay (sum of cash and equity pay) divided by average employee pay. Average employee pay is calculated as total wages and salaries divided by the number of employees.
Pay_Chg_Ratio	Change in total CEO pay divided by change in average employee pay
Payout	Log of the sum of dividends and share buybacks
Payout_Ratio	Payout divided by net income
Pol_Diss	The percentage of votes cast against the remuneration policy (binding)
Rep_Diss	The percentage of votes cast against the annual remuneration report (non-binding)
Total_Pay	Total CEO pay including equity pay
Independent variables:	
Expay	Excess pay measured as the residual from the regression specification in column 1 of Table 3
FTSE100	An indicator variable set equal to one if the firm belongs to the FTSE 100 index, and zero otherwise
LAge	Log of lagged firm age
LBlockh	Lagged percentage of common equity shares held by strategic holders
LDiv_Ratio	Lagged cash dividend divided by net income
LInsth	Lagged percentage of sum of the firm's common equity held by pension funds and investment funds
LIndepdir	Lagged percentage of independent directors serving on the remuneration committee
LLev	Lagged total debt-to-equity ratio
LMtb	Lagged market-to-book value at year-end
LRet	Lagged *Ret*
LRoa	Lagged *Roa*
LSize	Natural log of lagged sales (in thousands)
LFor_Sales_Pct	Lagged percentage of foreign sales
LCfo	Lagged operating cash flow
LTenure	Lagged CEO log of tenure (years in service in current firm)
Reform	An indicator variable that equals one if the year is 2013 or later, and zero if not.
Ret	Stock return, calculated as (share price at financial year end + dividend – share price at previous financial year end)/share price as previous financial year-end
Roa	Profit for the year divided by total assets at year-end
Market-Adjusted Returns	Raw returns for the different return windows minus 1, 2 and 3 day accumulated returns for the market daily average return between 1/1/2010 and 31/12/2013.

Appendix 2

Date	Event
1: 02/08/2010	The Future of Narrative Reporting — A consultation paper published by BIS suggesting more detailed disclosures for executive remuneration (but without a mention of a binding vote). Responses were due by 19/10/2010. (*Consultation 1.*)
2: 19/09/2011	Narrative Reporting and the Discussion Paper were published seeking views on wide-ranging proposals on how to link executive pay more closely to company performance and for the first time proposing a binding vote on remuneration. Responses were due by 25/11/11. (*Consultation 2*.)
3: 23/01/2012	Executive Remuneration — Summary of responses to the 9/2011 discussion paper were published. A majority of respondents objected to a binding vote on remuneration.
4: 14/03/2012	Executive pay: consultation on enhanced shareholder voting rights started. (*Consultation 3*.)
5: 20/06/2012	Directors'pay: consultation on revised remuneration reporting regulations. Draft regulations published by BIS containing reforms of directors' pay, aiming to give shareholders binding votes on pay policy and exit payments and to boost transparency so that what people are paid is easily understood. Based on Consultations 1, 2 and 3.
6: 11/03/2013	Draft Statutory Instrument on Directors' Remuneration: the Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013 published.
7: 25/04/2013	Enterprise and Regulatory Reform Act (ERRA) received Royal Assent.
8: 1/10/2013	The ERRA and the Regulations were both enacted and applied to quoted companies in respect of financial years ending on or after 30th September 2013.

Table 1: Key disclosure requirements of the *Reform*

Director Remuneration Report Regulations (DRRR) 2002	**The *Reform* (2013)**
Disclose total amount of salary, bonus, expense allowance and termination fee.	Disclose a single total figure, including share value and pensions.
Publish a single Director Remuneration Report (DRR).	Split DRR into three reports—a statement from the chair, a forward looking policy report and an annual report on implementation of the policy for the reporting year.
Present companies' performance graph for five years prior to the current reporting period.	Alongside a ten-year performance graph, provide CEO's actual remuneration and percentage of maximum that could have been paid each year.
Disclosure of AGM voting outcomes: No requirement.	Disclose AGM voting results (votes cast, percentage of votes for, against and number of abstentions) in respect of the resolutions to approve the remuneration report and policy.
Non-binding SOP vote: Advisory annual SOP vote on remuneration report.	Non-binding SOP vote: Advisory annual SOP vote on remuneration report.
Binding vote: No requirement.	Mandatory, binding SOP vote (once every three years) on pay policy.
Disclosure of CEO pay in comparison to employee pay: No requirement.	Disclose the change in CEO compensation and compare to the change in overall employees' pay.
Spend on pay relative to other spends: No requirement.	Provide a statement of relative importance of spend on pay.

Table 2: Panel A. Descriptive statistics for the sample of 386 firms. Differences in means (*t*-tests) between the pre-*Reform* period of 2008–2012 and the post-*Reform* period of 2013–2017 are presented. *, ** and *** represent statistical significance at the 10%, 5% and 1% levels respectively (two-tailed). Refer to Appendix 1 for variable definitions.

	Pre-*Reform*: 2008-12			**Post-*Reform*: 2013-2017**			**Post-Pre**	
Variable	**Mean**	**Median**	**Std Dev**	**Mean**	**Median**	**Std Dev**	**Mean**	
Total_Pay (unlogged)	3,781,035	2,677,142	3,523,465	4,206,692	3,100,517	3,618,278	425,657	***
Pay_Ratio	163	72	426	155	75	382	-8.00	
Pay_Chg_Ratio	2.02	0.19	44.11	2.10	0.11	40.57	0.08	
Rep_Diss	0.10	0.06	0.11	0.08	0.04	0.11	-0.01	***
Pol_Diss	0.02	0.01	0.02	0.08	0.04	0.09	0.06	***
Total_Payout (unlogged)	238,290	34,600	735,230	308,605	53,050	811,560	70,315	**
Total_Payout_Ratio	0.40	0.39	2.11	0.36	0.48	7.63	-0.04	
Buyback_Ratio	0.07	0.00	0.20	0.07	0.00	0.20	0.00	
Div_Payout_Ratio	0.33	0.35	2.08	0.29	0.41	7.63	-0.04	
Roa	0.08	0.07	0.08	0.07	0.06	0.09	-0.01	*
Ret	0.38	0.16	2.77	0.54	0.12	14.29	0.16	
LBlockh	0.16	0.12	0.13	0.16	0.11	0.14	0.00	
LIndepdir	0.92	1.00	0.13	0.90	1.00	0.17	-0.02	***
LInsth	0.07	0.05	0.08	0.08	0.06	0.08	0.01	***
LTenure (unlogged)	6	4	6	6	5	6	0.00	
LSales (unlogged)	5,047,955	994,164	10,892,572	5,416,893	1,151,948	11,394,217	368,938	
LFor_Sales_Pct	0.54	0.50	0.35	0.55	0.50	0.37	0.01	
LCFO	0.10	0.09	0.08	0.09	0.08	0.08	-0.01	***
LMtb	3.18	2.11	4.85	3.54	2.38	4.61	0.36	*
LLev	0.85	0.49	1.86	0.86	0.51	1.67	0.01	
Firm_Age (unlogged)	64.77	38.00	59.74	69.63	41.00	65.96	4.86	**
FTSE100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Table 3: Regression results of the effect of reform on CEO pay

This table presents coefficient estimates and *t*-statistics (in parentheses) from ord
squares regressions of logged total CEO pay using the following model (omitting th
t for current variables and indicating lagged variables with the prefix *L*):

$$Log(Total\_Pay) = \alpha + \beta_1 Reform + \beta_2 Roa + \beta_3 Ret + \beta_4 Roa * Reform + \beta_5 Ret * Reform + \beta_6 LRoa + \beta_7 LRet + \beta_8 LTenure + \beta_9 FTSE + \beta_{10} LMtb + \beta_{11} LSize + \beta_{12} LFor\_Sales\_Pct + Fixed\ Effec$$

Panel A. Full sample regressions.

	(1)		**(2)**		**(3)**	
	Total_Pay		***Total_Pay***		***Total_Pay***	
Roa	1.49	**	1.82	***	1.54	***
	(2.70)		(6.16)		(3.51)	
Ret	0.16	**	0.00	***	-0.01	
	(3.25)		(5.09)		(-0.42)	
Reform					0.08	
					(1.04)	
*Roa*Reform*					0.01	
					(0.02)	
*Ret*Reform*					0.01	
					(0.44)	
LRoa	-0.93		-0.08		-0.36	
	(-1.17)		(-0.29)		(-1.23)	
LRet	0.08		0.00		0.00	
	(1.73)		(1.60)		(0.55)	
LTenure	0.03		0.00		0.04	***
	(1.73)		(0.06)		(3.05)	
FTSE100	0.55	***	0.29	***	0.53	***
	(10.31)		(4.15)		(10.84)	
LMtb	0.00		0.00		0.00	
	(0.89)		(-0.13)		(1.25)	
LSize	0.15	***	0.03		0.14	***
	(9.09)		(0.51)		(9.31)	
LFor_Sales_Pct	-0.27	***	0.02		-0.31	***
	(-5.22)		(0.12)		(-6.22)	
Intercept	12.47	***	16.31	***	12.70	***
	(43.52)		(19.55)		(54.05)	
Regression	Annual		Pooled		Pooled	
Fixed effects	Industry		Firm, Year		Industry, Year	
Clustered errors	Firm, Year		Firm, Year		Firm, Year	
Adjusted R^2	NA		0.65		0.36	
N	8 Annual Regs		1,802		1,802	

Panel B. High dissent sample regressions.

	(1)		(2)	
	Total_Pay$_t$		***Total_Pay$_t$***	
Roa	1.03		1.23	
	(1.05)		(0.54)	
Ret	-0.06		-0.30	
	(-0.40)		(-1.55)	
Reform	0.26		-0.24	
	(1.25)		(-0.95)	
*Roa*Reform*	0.67		0.06	
	(0.64)		(0.03)	
*Ret*Reform*	0.11		0.31	
	(0.64)		(1.54)	
LRoa	0.05		-1.02	
	(0.06)		(-0.85)	
LRet	0.03		-0.03	
	(0.90)		(-0.80)	
LTenure	0.04		-0.02	
	(1.19)		(-0.33)	
FTSE100	0.46	***	0.08	
	(4.20)		(0.25)	
LMtb	0.02		0.00	
	(1.81)		(-0.08)	
LSize	0.19	***	0.14	
	(5.78)		(0.60)	
LFor_Sales_Pct	-0.41	***	-0.95	*
	(-2.97)		(-1.91)	
Intercept	12.00	***	13.81	***
	(20.68)		(4.22)	
Regression	Pooled		Pooled	
Fixed effects	Industry, Year		Firm, Year	
Clustered errors	Firm, Year		Firm, Year	
Adjusted R^2	0.47		0.81	
N	244		244	

High dissent is defined as lagged percentage of dissent voting on the pay report (the non-binding vote) being larger than or equal to 20%. *, ** and *** represent statistical significance at the 10%, 5% and 1% levels, respectively, based on two-tailed *p*-values. Refer to Appendix 1 for variable definitions.

Table 4: Regression results of the effect of reform on shareholder dissent

This table presents coefficient estimates and *t*-statistics (in parentheses) from ordinary least squares regressions of percentage of dissent voting using the following model (omitting the subscript *t* for current variables and indicating lagged variables with the prefix *L*):

$$Rep\_Diss/Pol\_Diss = \alpha + \beta_1 Reform + \beta_2 Expay + \beta_3 Expay * Reform + \beta_4 Roa + \beta_5 LRoa + \beta_6 Ret + \beta_7 LRet + \beta_8 Blockh + \beta_9 INdepdir + \beta_{10} LInsth + \beta_{11} LTenure + \beta_{12} FTSE100 + \beta_{13} LMtb + \beta_{14} LSize + \beta_{15} LFor\_Sales\_Pct + Fixed\ Effects + \varepsilon$$

	(1)		(2)		(3)		(4)		(5)		(6)	
	Rep_Diss		***Rep_Diss***		***Rep_Diss***		***Rep_Diss***		***Pol_Diss***		***Pol_Diss***	
Expay	0.02	***	0.01	*	0.00		-0.01		0.01		0.00	
	(3.39)		(1.68)		(-0.26)		(-0.69)		(1.57)		(0.22)	
Reform			-0.01				-0.02					
			(-0.70)				(-1.42)					
*Expay*Reform*			0.00				0.01					
			(0.19)				(0.71)					
Intercept	0.08	*	0.08	**	-0.07		-0.06		0.06		-0.17	
	(1.90)		(2.11)		(-0.42)		(-0.35)		(1.05)		(-0.45)	
Roa	-0.16	***	-0.16	***	-0.15	***	-0.15	***	-0.12		-0.06	
	(-3.23)		(-3.23)		(-2.68)		(-2.70)		(-1.61)		(-0.44)	
LRoa	-0.02		-0.02		-0.09		-0.09		0.02		0.01	
	(-0.50)		(-0.50)		(-1.62)		(-1.64)		(0.23)		(0.08)	
Ret	0.00	*	0.00	**	0.00		0.00		0.00		0.00	**
	(-2.06)		(-2.06)		(-0.83)		(-0.83)		(1.25)		(2.03)	
LRet	0.00		0.00		0.00		0.00		0.00		0.00	
	(-0.83)		(-0.83)		(-0.60)		(-0.60)		(-0.35)		(-0.09)	
LBlockh	-0.04	**	-0.04	**	-0.03		-0.03		-0.03		-0.16	

	(-2.34)		(-2.34)		(-0.66)		(-0.62)		(-1.13)		(-1.32)	
LIndepdir	0.01		0.01		0.00		0.01		0.03		0.09	**
	(0.32)		(0.33)		(0.17)		(0.20)		(1.14)		(2.11)	
LInsth	-0.01		0.00		0.00		0.00		-0.04		-0.11	
	(-0.14)		(-0.13)		(-0.03)		(0.00)		(-0.85)		(-1.12)	
LTenure	0.00		0.00		0.01	**	0.01	**	0.00		0.00	
	(-0.20)		(-0.20)		(2.47)		(2.47)		(1.07)		(-0.43)	
FTSE100	0.00		0.00		0.00		-0.01		0.00		0.08	***
	(-0.02)		(-0.02)		(-0.35)		(-0.40)		(-0.30)		(2.89)	
LMtb	0.00		0.00		0.00		0.00		0.00		0.00	
	(1.42)		(1.42)		(1.06)		(1.05)		(-0.48)		(-0.92)	
LSize	0.00		0.00		0.01		0.01		0.00		0.02	
	(0.54)		(0.54)		(0.99)		(0.98)		(0.40)		(0.55)	
LFor_Sales_Pct	-0.03	***	-0.03	***	-0.04		-0.04		-0.04	***	-0.06	
	(-3.07)		(-3.06)		(-1.37)		(-1.34)		(-2.85)		(-1.01)	
Intercept	0.08	*	0.08	**	-0.07		-0.06		0.06		-0.17	
	(1.90)		(2.11)		(-0.42)		(-0.35)		(1.05)		(-0.45)	
Fixed effects	Industry, Year		Industry, Year		Firm, Year		Firm, Year		Industry, Year		Firm, Year	
Clustered errors	Firm, Year		Firm, Year		Firm, Year		Firm, Year		Firm, Year		Firm, Year	
Adjusted R^2	0.03		0.03		0.21		0.21		0.06		0.31	
N	1,688		1,688		1,688		1,688		551		551	

Columns 1 and 3 (3 & 4) report the results for the above model without (with) the interactions with *Reform* for dissent voting on the annual non-binding remuneration report (*Rep_Diss*). Columns 5–6 are for the periodic binding vote on the remuneration policy (*Pol_Diss*). *, ** and *** represent statistical significance at the 10%, 5% and 1% levels, respectively, based on two-tailed *p*-values. Refer to Appendix 1 for variable definitions.

Table 5: Regression results of the effect of reform on CEO/Employee pay ratios

This table presents coefficient estimates and *t*-statistics from ordinary least squares regressions of CEO/Employee pay ratios using the following model (omitting the subscript *t* for current variables and indicating lagged variables with the prefix *L*):

$$Pay\_Ratio / \Delta Pay\_Ratio = \alpha + \beta_1 Reform + \beta_2 Expay + \beta_3 Expay * Reform + \beta_4 Roa + \beta_5 LRoa + \beta_6 Ret + \beta_7 LRet + \beta_8 LBlockh + \beta_9 LIndepdir + \beta_{10} LInsth + \beta_{11} LTenure + \beta_{12} FTSE100 + \beta_{13} LMtb + \beta_{14} LSize + \beta_{15} LFor\_Sales\_Pct + Fixed\ Effects + \varepsilon$$

	(1) *Pay_Ratio*		(2) *Pay_Ratio*		(3) *ΔPay_Ratio*		(4) *ΔPay_Ratio*	
Expay	101.34	***	84.57	*	0.24		1.96	
	(5.14)		(1.96)		(0.12)		(0.48)	
Reform			21.75				-1.17	
			(0.45)				(-0.24)	
*Expay*Reform*			23.65				-2.43	
			(0.50)				(-0.52)	
Roa	-164.50	*	-164.52	*	9.29		9.29	
	(-1.65)		(-1.65)		(0.69)		(0.69)	
LRoa	-155.33		-154.94		-20.11		-20.15	
	(-1.32)		(-1.31)		(-1.17)		(-1.17)	
Ret	0.13		0.12		-0.06	***	-0.06	***
	(1.16)		(1.15)		(-4.96)		(-4.95)	
LRet	0.03		0.02		0.07		0.07	
	(0.16)		(0.16)		(0.88)		(0.88)	
LBlockh	37.38		36.53		12.01		12.10	
	(0.65)		(0.63)		(1.24)		(1.24)	
LIndepdir	209.89	***	211.98	***	0.70		0.48	
	(4.17)		(4.25)		(0.09)		(0.06)	
LInsth	105.20		107.36		5.44		5.22	
	(0.76)		(0.78)		(0.39)		(0.37)	
LTenure	18.66		18.63		-3.49	**	-3.49	**
	(1.52)		(1.52)		(-2.26)		(-2.26)	
FTSE100	-127.27	***	-127.26	***	-0.88		-0.88	
	(-2.87)		(-2.87)		(-0.30)		(-0.30)	
LMtb	14.73	***	14.73	***	0.19		0.19	
	(4.37)		(4.37)		(0.87)		(0.87)	
LSize	82.24	***	82.24	***	-1.90	**	-1.90	**
	(5.49)		(5.49)		(-2.33)		(-2.33)	
LFor_Sales_Pct	155.06	***	155.03	***	-2.77		-2.77	
	(4.97)		(4.97)		(-0.83)		(-0.83)	
Intercept	-1,444.56	***	-1,467.99	***	41.27	**	42.61	***
	(-5.68)		(-5.68)		(2.56)		(2.62)	

Fixed effects	Industry, Year	Industry, Year	Industry, Year	Industry, Year
Clustered errors	Firm, Year	Firm, Year	Firm, Year	Firm, Year
Adjusted R^2	0.12	0.12	0.01	0.01
N	1,701	1,701	1,701	1,701

Columns 1 and 3 (2 & 4) report the results for the above model without (with) the interactions with *Reform*. *, ** and *** represent statistical significance at the 10%, 5% and 1% levels, respectively, based on two-tailed *p*-values. Refer to Appendix 1 for variable definitions.

Table 6: Regression results of the effect of reform on shareholder payout

This table presents coefficient estimates and *t*-statistics (in parentheses) from ordinary least squares regressions of total payout of dividends and share repurchases (logged), the total payout as a percentage of annual profit (Panel A), share repurchases as percentage of annual profit and dividends as a percentage of annual profit (Panel B).

Panel A. Regressions of total payout and payout ratios.

We estimate this model (omitting the subscript *t* for current variables and indicating lagged variables with the prefix *L*):

$$Log\_Total\_Payout / Total\_Payout\_Ratio = \alpha + \beta_1 Reform + \beta_2 Expay + \beta_3 Expay * Reform + \beta_4 Roa + \beta_5 LRoa + \beta_6 LSize + \beta_7 LFor\_Sales\_Pct + \beta_8 LCfo + \beta_9 LDiv\_Ratio + \beta_{10} LMtb + \beta_{11} LLev + \beta_{12} LAge + \beta_{13} FTSE100 + \Sigma Year + \Sigma Industry + \varepsilon$$

	(1) *Total_ Payout (logged)*		(2) *Total_ Payout (logged)*		(3) *Total_ Payout_Ratio*		(4) *Total_ Payout_Ratio*	
Expay	0.31	**	0.52	**	0.04		-0.01	
	(2.23)		(2.38)		(0.84)		(-0.16)	
Reform			-0.07				0.09	
			(-0.24)				(0.40)	
*Expay*Reform*			-0.29				-0.27	
			(-1.05)				(-0.58)	
Roa	3.41	**	3.42	**	-0.36		1.40	
	(2.49)		(2.49)		(-0.64)		(0.74)	
LRoa	11.72	***	11.72	***	1.12	**	2.64	
	(7.08)		(7.10)		(2.08)		(1.50)	
LSize	0.87	***	0.87	***	0.07	***	-0.01	
	(13.60)		(13.61)		(2.92)		(-0.14)	
LFor_Sales_Pct	-0.97	***	-0.97	***	0.16	*	0.31	**
	(-4.93)		(-4.94)		(1.72)		(2.00)	
LCfo	-1.68		-1.67		0.25		-0.66	
	(-1.35)		(-1.34)		(0.53)		(-0.40)	
LDiv_Ratio	0.42	***	0.42	***	0.12	***	0.25	
	(5.67)		(5.72)		(2.57)		(1.36)	
LMtb	0.01		0.00		0.02	***	0.03	*
	(0.34)		(0.31)		(2.71)		(1.91)	
LLev	-0.06		-0.06		-0.07	***	-0.07	
	(-1.00)		(-0.97)		(-3.34)		(-1.28)	
LFirm_Age (logged)	0.20	***	0.20	***	0.03		-0.10	
	(3.01)		(3.00)		(1.13)		(-0.81)	
FTSE100	1.07	***	1.08	***	-0.02		-0.34	
	(6.57)		(6.58)		(-0.27)		(-0.89)	

Intercept	-2.49	**	-2.42	**	-0.75		0.96
	(-2.31)		(-2.30)		(-1.74)		(0.55)
Fixed effects	Industry, Year		Industry, Year		Industry, Year		Industry, Year
Clustered errors	Firm, Year		Firm, Year		Firm, Year		Firm, Year
Adjusted R^2	0.41		0.40		0.03		0.03
N	1,779		1,779		1,779		1,779

Panel B. Regressions of share repurchases (buyback) and dividend payout ratios.

We estimate this models (omitting the subscript *t* for current variables and indicating lagged variables with the prefix *L*):

$$Buyback\_Ratio / Dividend\_Payout\_Ratio = \alpha + \beta_1 Reform + \beta_2 Expay + \beta_3 Expay * Reform + \beta_4 Roa + \beta_5 LRoa + \beta_6 LSize + \beta_7 LFor\_Sales\_Pct + \beta_8 LCfo + \beta_9 LDiv\_Ratio + \beta_{10} LMtb + \beta_{11} LLev + \beta_{12} LAge + \beta_{13} FTSE100 + \Sigma Year + \Sigma Industry + \varepsilon$$

	(1)		**(2)**		**(3)**		**(4)**	
	Buyback_Ratio$_t$		***Buyback_Ratio$_t$***		***Div_Payout_Ratio$_t$***		***Div_Payout_Ratio$_t$***	
Expay	0.03	***	0.02	**	-0.23		-0.04	
	(4.18)		(1.65)		(-0.77)		(-0.46)	
Reform			-0.07				0.16	
			(-4.04)				(0.70)	
*Expay*Reform*			0.01				-0.28	
			(0.46)				(-0.59)	
Roa	0.20	**	0.20	**	1.20		1.21	
	(2.00)		(2.00)		(0.63)		(0.63)	
LRoa	0.15		0.15	***	2.49		2.49	
	(1.35)		(1.35)		(1.42)		(1.42)	
LSize	0.01	***	0.01	***	-0.03		-0.03	
	(3.36)		(3.37)		(-0.28)		(-0.29)	
LFor_Sales_Pct	-0.03	**	-0.03	***	0.34	**	0.34	**
	(-2.01)		(-2.01)		(2.22)		(2.21)	
LCFO	0.04		0.04		-0.70		-0.69	
	(0.48)		(0.47)		(-0.43)		(-0.43)	
LDiv_Ratio	0.01		0.01	***	0.24		0.25	
	(1.36)		(1.36)		(1.33)		(1.32)	
LMtb	0.01	***	0.01		0.02		0.02	
	(3.01)		(3.02)		(1.56)		(1.53)	
LLev	-0.01		-0.01		-0.07		-0.06	
	(-1.31)		(-1.32)		(-1.28)		(-1.19)	
LFirm_Age (logged)	0.01		0.01	***	-0.11		-0.11	
	(1.01)		(1.02)		(-0.87)		(-0.86)	
FTSE100	0.01		0.01	***	-0.36		-0.35	

	(0.93)			(0.92)		(-0.92)	(-0.93)
Intercept	-0.25	***		-0.18	**	1.29	1.13
	(-4.03)			(-3.02)		(0.73)	(0.66)
Fixed effects	Industry, Year			Industry, Year		Industry, Year	Industry, Year
Clustered errors	Firm, Year			Firm, Year		Firm, Year	Firm, Year
Adjusted R^2	0.08			0.08		0.01	0.01
N	1,780			1,780		1,779	1,779

In both panels columns 1 and 3 (2 & 4) report the results for the above model without (with) the interactions with *Reform.* *, ** and *** represent statistical significance at the 10%, 5% and 1% levels, respectively, based on two-tailed *p*-values. Refer to Appendix 1 for variable definitions.

Table 7: Market reaction to key events in the reform legislation process.

Event #	Description	Date	Market-Adjusted Returns (t-stat) [0]		[0,+1]		[-1,+1]	
1	Consult 1 start	02/08/2010	0.0215	***	0.0204	***	0.0106	***
			(19.19)		(12.89)		(5.94)	
2	Consult 2 start	19/09/2011	-0.0208	***	-0.0107	***	-0.0017	
			(16.92)		(6.93)		(0.92)	
3	Consult 2 published	23/01/2012	0.0054	***	-0.0054	***	-0.0044	**
			(4.79)		(3.60)		(2.51)	
4	Consult 3 start	14/03/2012	0.0016		-0.0002		0.0149	***
			(1.48)		(0.15)		(7.84)	
5	Recommendations announced	20/06/2012	0.0121	***	0.0050	***	0.0200	***
			(8.27)		(3.28)		(10.12)	
6	Draft regulations	11/03/2013	0.0003		0.0002		0.0032	*
			(0.27)		(0.10)		(1.87)	
7	Royal assent	25/04/2013	0.0070	***	0.0025	**	0.0107	***
			(6.27)		(2.02)		(6.13)	
8	Regulation enacted	01/10/2013	0.0031	***	-0.0014		-0.0041	***
			(3.24)		(1.16)		(3.01)	

Detailed descriptions of each event are in Appendix 2. Variable definition for market-adjusted returns is in Appendix 1. Detailed descriptions of each event are in Appendix 2. Variable definition for market-adjusted returns is in Appendix 1. *, ** and *** represent statistical significance at the 10%, 5% and 1% levels, respectively, based on two-tailed p-values.