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Abstract

This paper analyses whether the transition from the 2004 CLERP 9 advisory Say-on-Pay regime to the ‘Two Strikes’ rule in 2012 influenced CEO pay in Australian firms. Analysing a panel of 2,074 firm-years (2005-2015), we find that: (i) CEO pay is a positive predictor of shareholder dissent; (ii) firm performance has a reducing effect on shareholder dissent (iii) excessive shareholder dissent moderated CEO pay under the ‘Two Strikes’ rule relative to the CLERP 9 regime and (iv) the market responded favourably to the introduction of the ‘Two Strikes’ rule and negatively to ‘strike’ instances after its introduction.

Key words: Say on Pay; Two Strikes; Executive Compensation; Shareholder Dissent

JEL classification: K22, G38, M50, M52

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1. Introduction

CEO pay growth across the developed world has remained at exceedingly high levels even after controlling for institutional differences in contract-setting environments. Murphy (2013) indicates that from 1983 to 1991, median total CEO pay in S&P 500 companies achieved an inflation-adjusted growth rate of approximately 4.3% per annum. From 1991 to 2001 growth averaged 15.7%; with the issuing of stock option grants to CEOs as the main contributor. For the period 2002 to 2011, the rate of growth in pay declined alongside a shift in remuneration design from stock options to restricted stock. In Australia, Shan and Walter (2016) indicate that between 2001 and 2012 CEO pay growth was markedly higher than inflation, with the Global Financial Crisis contributing to lower, but still positive growth after 2007.

Academic debate and public perception remains divided in terms of the causes and the costs associated with the growth of executive pay as well as the effectiveness any additional reforms to corporate governance practice and regulation may have. Regardless, there is an expectation that additional mechanisms are put in place to increase the likelihood that senior executives in large corporations are remunerated based more closely on the performance of the firms they lead.

Shareholder voting on remuneration reports (hereafter referred to as ‘Say-on-Pay’) has been introduced in many countries and enables shareholders to indicate to boards either their approval or disapproval of executive pay design at annual general meetings. Given that Say-on-Pay differs significantly between legislatures, we define a Say-on-Pay regime as having the following features: “(1) a recurring, mandatory, (2) binding or advisory shareholders’ vote, (3) provided by law, that (4) directly or indirectly through the approval of the remuneration system, remuneration report or remuneration policy, (5) governs the

individual or collective global remuneration package of the executives or managing directors of the corporation.” (Thomas and Van der Elst, 2015, p. 653).

Advisory Say-on-Pay was first introduced as legislation in the United Kingdom in 2002. Subsequently, advisory Say-on-Pay was introduced in Australia with the passage of the *Corporate Law Economic Reform Program (Audit Reform and Corporate Disclosure) Act 2004* (Cth) (Austl.) (‘CLERP 9’). Following the Global Financial Crisis, the Australian Government endorsed several corporate governance reform measures proposed in a 2009 Productivity Commission report titled *Review into the Regulation of Director and Executive Remuneration in Australia*. The most significant of these reforms, and the one that is the focal point of this paper, was the change to shareholder voting legislation, widely referred to as the ‘Two Strikes’ rule. The ‘Two Strikes’ rule was introduced as part of the *Corporations Amendment (Improving Accountability on Director and Executive Remuneration) Act 2011* (Cth) (Austl.). Under this regime, shareholders vote on the remuneration report at the annual general meeting and if 25% of the votes are against the remuneration report, the firm receives a first ‘strike’. If a second ‘strike’ against the remuneration report is incurred in the following year for the same firm, this triggers a ‘spill resolution’. If the ‘spill resolution’ is then passed by a majority of votes, the board of directors excluding the CEO must face re-election at an extraordinary general meeting within 90 days after the annual general meeting. This measure represents a significant shift in comparison to the Say-on-Pay regime under CLERP 9, where shareholder voting on the remuneration report was advisory.

Given that Australia has transitioned away from the CLERP 9 regime to the ‘Two Strikes’ rule, this unique regulatory setting presents us with an opportunity to examine how a within-country transition to an arguably ‘stronger’ form of Say-on-Pay influenced executive pay design. In particular, we consider whether the ‘Two Strikes’ rule implemented in 2012 was more successful in moderating CEO pay relative to the CLERP 9 advisory voting regime

introduced in 2004. We believe this type of two-regime comparison within a single country has yet to be conducted in the existing literature and makes an important contribution to our understanding of Say-on-Pay. Furthermore, this study expects to minimise the potential for the results to be influenced by confounding institutional and country-specific factors which might be present if we were to study either different regimes in a multi-country study or a single regime where no other Say-on-Pay regime had been previously implemented.

For our analysis we consider a sample of ASX 300 firms from 2005 to 2015 (2,074 firm-years). The sample includes shareholder dissent and CEO remuneration characteristics as well as vectors of financial, CEO-specific and corporate governance variables.¹ Ordinary least-squares and quantile regression techniques are employed to examine the determinants of shareholder dissent, as well as the degree to which CEO pay was moderated by shareholder voting behaviour.² In addition, event studies are conducted to measure market reactions to the introduction of the ‘Two Strikes’ rule and first and second ‘strike’ instances after 2012.

Our findings suggest that CEO pay is a positive and statistically significant determinant of shareholder dissent for the entire sample period. Surprisingly, this relation is not as apparent post-2012. This lack of association may indicate that the ‘Two Strikes’ rule had a disciplining effect on shareholder voting behaviour. Given the significant costs to the board (and the firm as a whole) of consistently high dissent levels under the ‘Two Strikes’ rule, shareholders may have behaved more prudently in their allocation of negative votes after 2012. Furthermore, the results may also suggest that the ‘Two Strikes’ rule could have had a legitimising effect on shareholder perceptions of ‘high’ CEO pay levels regardless of the degree to which pay departed from acceptable levels.

¹ Refer to Appendix 1 for a full listing of variables used in regression analysis.

² Quantile regression is included as an empirical method for the purposes of developing a more flexible and detailed understanding of the relationship between CEO pay and shareholder dissent across the sample distribution.

This study contributes to the literature in at least two important ways. It is the first to our knowledge that analyses the impact of a Say-on-Pay regime transition within a single institutional context. In particular, the ‘Two Strikes’ rule is unique insofar as it empowers minority shareholders with a 25% negative vote requirement for a ‘strike’. This low threshold for dissent and the fact that the regulation only becomes ‘binding’ on the firms board after a series of steps including two consecutive ‘strikes’ and the passing of a ‘spill resolution’ (requiring a 50% threshold to pass), makes it unique amongst other Say-on-Pay regimes around the world. This study therefore provides a bridge between the CLERP 9 analysis of Clarkson *et al.* (2011) and studies of the ‘Two Strikes’ rule by Monem and Ng (2013), Bugeja *et al.* (2017) and Grosse *et al.* (2017). Additionally and unique to the Australian literature, we consider market reactions to the passage of the ‘Two Strikes’ rule, from its conception to its final implementation. This aligns our study with similar studies which measure investor perceptions of the introduction of Say-on-Pay in other contexts. The findings from this paper therefore provide some insights to policymakers in terms of the benefits and costs associated with modifying extant advisory Say-on-Pay regimes to further strengthen the voting power of minority shareholders.

Furthermore, our sample includes only large listed-firms that are members of the ASX 300 index. The benefits of focusing exclusively on large firms are twofold. Firstly, it facilitates the generalisability of the results to other institutional contexts with larger mean firm sizes including the US and UK. Secondly, the ASX 300 index comprises approximately 81% of Australian equity market capitalisation, thereby accounting for the majority of influential firms in the marketplace. In addition, the results indicate that following the introduction of the ‘Two Strikes’ rule, shareholder dissent in previous periods moderated executive pay relative to the CLERP 9 regime. What is particularly interesting is that there is only a negative and statistically significant association between dissent and CEO pay when

shareholder dissent either resulted in a first ‘strike’ or was greater than the sample mean level. This finding may be an indication that, given the stringent regulatory environment post-2012, boards were more responsive to reforming CEO pay design based on shareholder dissent.

The remainder of the paper is structured as follows. Section 2 provides a background on agency theoretic interpretations of executive pay and findings in the empirical literature. Based on the literature and theory, hypotheses are developed in Section 3. Section 4 outlines the sample selection and methodology, and our results are provided in Section 5. We conclude with Section 6 and discuss the implications of the study as well as its limitations.

2. Background

2.1 Optimal contracting and managerial power

Optimal contracting is based on the notion that managers and boards negotiate remuneration contracts at an arms-length, and executive remuneration is set at a level which incentivises CEOs to behave in a way that maximises shareholder wealth (Hölmstrom, 1979; Murphy, 1999). The establishment of efficient contracts however is subject to internal and external constraints.³ Government regulation serves as one form of external constraint. Opponents to additional corporate governance regulation suggest that it reduces board decision-autonomy, increases compliance costs and decreases the speed at which boards are able to adjust to changes in their business environments. Bainbridge (2008) and Mangel and Magnan (2011) voice this concern with respect to greater shareholder influence in board decision-making. They argue that shareholder voting is likely to increase governance costs, with limited or no

³ From an internal perspective, asymmetric information reduces the ability of the board to monitor executive behaviour. With executives holding more knowledge regarding the true nature of business dealings, the executive may be incentivised to behave in a way that maximises their own personal utility. A primary external constraint on the contract setting is the ‘market for executives’ (Rosen, 1992).

real impact on executive pay levels. Optimal contracting stresses that it is not the general magnitude of executive pay that is the real concern, but the relationship between CEO pay and firm performance (Jensen and Murphy, 1990). In this context, increased regulation over corporate governance could potentially inhibit the creation of efficient contracts. The addition of shareholder voting rights on executive pay can also be seen as problematic when taking into account the characteristics of the modern shareholder. With modern shareholders as liquid and amorphous collectives, there are important informational and organisational limitations placed on their effectiveness as monitors of management.⁴ The inclusion of the shareholder ‘collective’ in voting on executive pay essentially shifts the balance of decision-making power in a firm from director primacy to board-shareholder consensus (Arrow, 1974; Hölmstrom, 2005; Bainbridge, 2008; Armstrong *et al.*, 2013).

In contrast, the managerial power approach,⁵ developed by Lucian Bebchuk in collaboration with other authors, questions the credibility of arms-length monitoring and negotiating between CEOs and boards.⁶ Managerial power theorists posit that powerful CEOs are able to extract sub-optimal rents in the contracting process due to their ability to exert influence over boards through various structural and psycho-social channels (Bebchuk and Fried, 2004). The primary tenets of the managerial power approach include; rent-seeking, the outrage constraint⁷ and the incentive to camouflage⁸ rent-seeking behaviour. These components attempt to describe the dynamics of executive and board interactions in the pay-setting process (see also Bertrand and Mullainathan, 2001, and Bebchuk and Fried, 2003).

⁴ Informational issues relate to the opportunity costs to a shareholder of becoming informed. This is important in large firms where single shareholder votes may be so insignificant so as to not influence the voting outcome. Organisational limitations include free-riding and the lack of centralised leadership in a shareholder group.

⁵ Otherwise referred to as rent extraction or board capture theory.

⁶ See also Bebchuk and Fried, 2003; Bebchuk and Cohen, 2005; Bebchuk *et al.*, 2011.

⁷ The outrage constraint is the theoretical upper threshold for executive pay, where remuneration levels above the constraint increases the likelihood for shareholder activism and negative media attention. This notion is of particular importance in the study of shareholder voting (Bebchuk and Fried, 2003).

⁸ Camouflage strategies are defined by Bebchuk and Fried (2003) as measures used by executives to reduce the likelihood of firm outsiders from recognising rent seeking behaviour.

With this in mind, the managerial power approach advocates for greater shareholder rights in corporate governance, above and beyond those provided under Say-on-Pay regimes already in place in the US, UK and other countries (Bebchuk, 2005).⁹ From a managerial power perspective, Say-on-Pay regimes, and especially binding regimes, could be seen as one of several other partial solutions to the pervasive problems facing modern corporate governance.

2.2 Empirical evidence: the United Kingdom and United States

UK Say-on-Pay studies have focused on market reactions to the introduction of Say-on-Pay legislation, the determinants of shareholder dissent, board responsiveness to high levels of shareholder dissent, the influence of voting outcomes on the pay-performance relationship and CEO pay growth. Ferri and Maber (2013) analyse market reactions to the passage of Say-on-Pay in the UK and find that investors reacted positively to its introduction. Carter and Zamora (2009), Conyon and Sadler (2010) and Gregory-Smith *et al.* (2014) find that high CEO remuneration is a key determinant of shareholder dissent. In addition, Alissa (2015) finds that dissent is higher in firms with poor performance. With respect to board responsiveness to high dissent, Alissa (2015) and Carter and Zamora (2009) observe that boards respond selectively to negative Say-on-Pay. In particular, Carter and Zamora (2009) find that boards are selective in how they respond to negative voting results when there is a weak relationship between CEO bonus and firm performance. Regarding the pay-performance relationship, Ferri and Maber (2013) observe a strengthening of the pay-performance relation after the implementation of Say-on-Pay in the UK. This is in contrast with the earlier finding by Thompson (2005), which suggested minimal change as a result of the new regulation. Further, Ferri and Maber (2013) find that this strengthening of the pay-performance relation did not reduce CEO pay growth in the UK. In contrast, Gregory-Smith

⁹ Reform recommendations proposed by Bebchuk (2005) centre on providing shareholders with the right to both initiate and vote on key business arrangements.

et al. (2014) indicate that in high-dissent firms, where shareholder dissent is above 10%, dissent does moderate CEO pay in future periods.

Prior to the introduction of the Dodd-Frank Act 2010, a number of studies considered the role that shareholder activism, in general, played in corporate governance.¹⁰ Since then, studies of US Say-on-Pay have considered market reactions to the introduction of the Dodd-Frank Act 2010, the determinants of shareholder dissent, the influence of dissent on the pay-performance relation and CEO pay growth. Cai and Walkling (2011) measure market reactions to a series of events on and around the announcement of the Dodd-Frank Act 2010. Their results suggest that poorly performing firms with weak pay-performance sensitivity reacted positively to announcements. They caution, however, that in the presence of misplaced shareholder activism, Say-on-Pay may unjustly punish firms based solely on their size. Zhang *et al.* (2014) find shareholder dissent to be decreasing in the quality of pay disclosure and increasing in total and abnormal CEO pay. Iliev and Vitanova (2015) indicate that firms compliant to the new Say-on-Pay regime simultaneously increased both total remuneration and the sensitivity of the pay-performance relationship. They therefore conclude that the Say-on-Pay regime had a minimal impact in actually curbing the growth of executive pay in the US. Conversely, Kimbro and Xu (2016) find support for the notion that Say-on-Pay can indeed moderate the growth of CEO pay in future periods. The curbing of pay is found to be strongest when shareholder dissent is high in poorly performing firms and where shareholders strongly reject a remuneration report. In an interesting study, Balsam *et al.* (2016) find that firms pre-emptively reduced CEO pay levels prior to the introduction of the legislation in 2010 and introduced additional performance-based pay in their contract design as a result.

¹⁰ For further details on shareholder activism prior to the introduction of the Dodd-Frank Act (2010) in the US refer to Thomas and Martin (1999), Ertimur *et al.* (2010) and Ertimur *et al.* (2011).

Outside of the UK, US and Australia, Say-on-Pay has been implemented in other countries, including but not limited to, the Netherlands in 2004, Sweden in 2005, Germany in 2009, Belgium in 2010, and France and Switzerland in 2013. Making comparisons between national regimes is difficult given the differences in board structure,¹¹ voting frequency¹² and whether the results are binding or non-binding. Nevertheless, Correa and Lel (2016) analyse Say-on-Pay in a sample of firms in 38 countries. By employing a difference-in-differences fixed effects design they find that Say-on-Pay increased the sensitivity of the pay-performance relationship and observe a decline in the growth rate of CEO pay in countries where Say-on-Pay legislation is present. Consistent with the non-uniformity of the extant literature, studies of Australian Say-on-Pay has also produced mixed results.

2.3 Australian Say-on-Pay: empirical evidence

In Australia, the introduction of the ‘Two Strikes’ rule was primarily driven by a high proportion of negative advisory votes against the remuneration reports of large firms in the lead up and during the Global Financial Crisis. For example, during the 2009 Annual General Meeting period (October to December 2009), under the advisory regime, 30 of the 157 ASX 200 firms received dissenting votes of 25% or more from their shareholder base (‘Prudence holds Sway on Pay’, 2010). Given this backdrop, the ‘Two Strikes’ regime was proposed by the Productivity Commission in November 2009, and later formally endorsed (amongst other recommendations) by the Australian Government in April 2010. Following a formal legislative process, the *Corporations Amendment (Improving Accountability on Director and Executive Remuneration) Act 2011* (Cth) (Austl.) was introduced; with the Act coming into effect at the commencement of the 2012 fiscal year.

¹¹ Two-tier boards are prevalent in Germany, the Netherlands and France.

¹² In the Netherlands, voting on remuneration only occurs when the board proposes a change in remuneration policy, and in the US, non-binding votes must be taken every three years at a minimum (Thomas and Van der Elst, 2015).

Prior to the ‘Two Strikes’ rule, Byrnes and Chapple (2009) and Clarkson *et al.* (2011) examine the impact of advisory voting under CLERP 9. Byrnes and Chapple (2009) find that boards in high dissent firms (i.e., the proportion of ‘no’ to total votes was greater than 10%), were motivated to make significant changes to CEO pay design. Clarkson *et al.* (2011) find a relative strengthening of the pay-performance relationship as a result of the CLERP 9 legislation.

In their analysis of the ‘Two Strikes’ rule, Monem and Ng (2013) find that the pay-performance relation improved in firms who received a first ‘strike’ on their remuneration report, but who then avoided a second ‘strike’ in the subsequent year. Furthermore, they suggest that shareholders in first ‘strike’ firms may have been “over-enthusiastic” when first provided with their voting rights. Bugeja *et al.* (2017) conclude that ‘strike’ incidents moderate CEO pay in future periods and result in changes to the composition of CEO pay. In addition, CEO turnover increases as a result of high shareholder dissent, however, directors do not seem to bear equivalent costs in terms of their tenure as directors in other firms. Grosse *et al.* (2017) study 248 rejections of remuneration reports between 2011 and 2012, and find no association between any constituent of executive pay and the likelihood of a firm receiving a ‘strike’. They conclude that it is not pay design *per-se* which dictates negative Say-on-Pay results, but poor firm performance. Kent *et al.* (2016) consider the role that shareholder dissent plays in the adoption of ASX recommendations of good corporate governance. They find that dissent is lower in firms with remuneration committees that are at least partially independent and are sufficiently large (three or more members).

Given that Australia has transitioned away from the CLERP 9 advisory regime to the ‘Two Strikes’ rule, an important policy question to address is whether this change further moderated executive pay. In addition, given that both the UK and US persist with maintaining ‘advisory’ Say-on-Pay regimes, there is a pertinent need to understand how

further empowerment of minority shareholders, as is the case with the ‘Two Strikes’ rule, might influence Say-on-Pay in these contexts. Addressing these two questions empirically is the primary motivation of this paper.

3. Hypothesis development

3.1 The determination of shareholder dissent

Say-on-Pay regimes are designed to provide a legislative mechanism through which shareholders are able to express their views on executive pay. Thus, it can be assumed that CEO pay will be a positive and statistically significant determinant of shareholder dissent. In this paper, CEO remuneration is defined as the natural logarithm of total remuneration, inclusive of salary, bonus, options and share issuances. A significant proportion of studies in the literature find that CEO pay is positively correlated with shareholder dissent (Thomas and Martin, 1999; Conyon and Sadler, 2010; Gregory-Smith *et al.*, 2014). Conyon and Sadler (2010), in their study of the UK context, find that shareholder dissent is increasing in excess CEO pay. Further, they compare different types of shareholder proposals and find that shareholders are more likely to vote negatively towards remuneration proposals. Similarly, Gregory-Smith *et al.* (2014) in their analysis of UK Say-on-Pay before and after the Global Financial Crisis, find a positive correlation between CEO pay and shareholder dissent. Therefore, it is expected that shareholder dissent is increasing in CEO pay and that this relationship is strengthened with the adoption of the ‘Two Strikes’ rule. Based on key results in the empirical literature the following hypotheses are made:

H₁: CEO Pay is a positive and statistically significant determinant of shareholder dissent under both the CLERP 9 and ‘Two Strikes’ rule shareholder voting regimes.

H₂: The positive effect of CEO pay on shareholder dissent is an order of magnitude higher when firms are subject to the 'Two Strikes' rule relative to the CLERP 9 shareholder voting regime.

The primary purpose of Say-on-Pay is to provide an outlet for shareholders to indicate to the board, either their acceptance or rejection of executive pay design. However, findings in the literature suggest that shareholders may deviate from this objective and deploy their votes to punish poorly performing firms. Thomas and Martin (1999) find that firms exhibiting poor performance and high CEO remuneration are often targets of shareholder activism. Cai and Walkling (2011), who study the market reaction to the introduction of US Say-on-Pay, conclude that firms with poor performance reacted positively to announcements. Furthermore, Grosse *et al.* (2017), although they find no correlation between dissent and executive pay, highlight that firm performance indicators are key determinants of shareholder dissent. In order to analyse this expected relationship, this study employs industry-adjusted total shareholder return as a proxy for firm performance, measured as the inflation and industry return-adjusted annual holding period return using adjusted closing prices (*Industry-adjusted Mean TSR*).¹³ Given the evidence in the literature, it is hypothesised that:

H₃: Firm performance is a negative and statistically significant determinant of shareholder dissent, with this association persisting under both the CLERP 9 and the 'Two Strikes' Say-on-Pay regimes.

3.2 The determination of CEO pay

The role of shareholder dissent in moderating future CEO pay design is a core focus of this paper. Byrnes and Chapple (2009) indicate that in instances where shareholder dissent,

¹³ We thank Professor Terry Walter for his suggestions on the use of industry-adjusted returns as a measure of firm performance.

measured as ‘no’ votes as a proportion of total votes, was greater than 10%, boards acted to reform CEO pay structure and performance incentives in future periods. Ertimur *et al.* (2010) find that shareholder activism is more effective in influencing board decision-making relative to conventional measures of good corporate governance. Furthermore, Gregory-Smith *et al.* (2014) and Kimbro and Xu (2016) present evidence to suggest that shareholder dissent moderates future executive pay in instances where shareholder dissent is excessive. As a result, the following hypothesis is made:

*H₄: Shareholder dissent in the previous financial year had a negative and statistically significant influence on CEO pay levels and that this correlation is strongest in instances where dissent is excessive.*¹⁴

Given the negative ramifications on boards for sustained shareholder dissent under the ‘Two Strikes’ rule when compared to the advisory regime instituted as part of the CLERP 9 legislation, an additional hypothesis is made regarding the relationship between shareholder dissent and CEO pay:

H₅: Boards were more likely to constrain CEO pay when faced with excessive levels of shareholder dissent under the ‘Two Strikes’ rule relative to the CLERP 9 shareholder voting regime.

3.3 Market reactions to the ‘Two Strikes’ rule

3.3.1 The ‘Two Strikes’ rule implementation

Larcker *et al.* (2011) and Hitz and Müller-Bloch (2015) in their studies of US and German Say-on-Pay respectively, find negative market reactions to the introduction of Say-on-Pay. Their results support the notion that the market perceived additional regulation of executive

¹⁴ In our main regression analysis, ‘excessive’ shareholder dissent is defined as dissent levels above the mean level observed in the panel.

pay as a constraint on the contracting process. In contrast, Ferri and Maber (2013) measure market reactions to the passage of advisory Say-on-Pay in the UK and find that shareholders generally perceived Say-on-Pay as value-increasing. In the US, Cai and Walkling (2011) find that investors reacted positively to the introduction of advisory Say-on-Pay, with the magnitude of positive reactions being highest for firms with poor governance characteristics. Consistent with Cai and Walkling (2011) and Ferri and Maber (2013) our study considers market reactions to the introduction of Say-on-Pay legislation. We consider market reactions to events leading up to and including the introduction of the ‘Two Strikes’ rule in Australia, and hypothesise that:

H₆: The market responded positively to events leading up to and including the introduction of the ‘Two Strikes’ rule.

3.3.2 First and second ‘strikes’ on the remuneration report

In addition to an analysis of market reactions to the implementation of the ‘Two Strikes’ rule we consider investor reactions to first and second ‘strikes’. Bugeja *et al.* (2017) produce a similar analysis where they consider market reactions to high dissent (strikes) after the introduction of the ‘Two Strikes’ rule and observe negative reactions to ‘strike’ instances overall. We differentiate our analysis from Bugeja *et al.* (2017) by comparing market reactions to high shareholder dissent in both the pre-regulation (‘CLERP 9’) and post-regulation (‘Two Strikes’) periods. For the purposes of comparability with ‘strikes’ in the post-regulation period, we regard instances of ‘high’ dissent in the pre-regulation period as instances where voting is greater than or equal to 25% at the firm-level. With respect to market reactions to first and second ‘strikes’, we hypothesise that:

H₇: The market responded negatively to high levels of shareholder dissent and this negative reaction is strongest after the introduction of the ‘Two Strikes’ rule.

4. Methodology and data collection

4.1 The sample

Our sample is an unbalanced panel covering 2005 to 2015 fiscal years for Australian listed firms in the ASX 300.¹⁵ The sample period selected is an important feature of this study, as it spans the introduction of CLERP 9,¹⁶ the improved remuneration disclosure requirements for listed firms in 2005 and 2009 (AASB, 1046; AASB, 124), the Global Financial Crisis and post-crisis changes to corporate governance regulation. The main addition to corporate governance regulation after the Global Financial Crisis was the introduction of the ‘Two Strikes’ rule at the commencement of the 2012 fiscal year.¹⁷

Variables for the analysis were both hand-collected as well as retrieved from the *Thomson Reuters Connect4*, *Morningstar DatAnalysis*, *Bloomberg LP* and *Bureau van Dijk OSIRIS* databases. The *Thomson Reuters Connect4* database provided CEO remuneration and corporate governance data for Australian-listed firms. Annual report data for the firms in the sample was collected from the *Morningstar DatAnalysis* database. *Bureau van Dijk OSIRIS* provided data on investor concentration and shareholder returns data used to calculate industry-adjusted annual firm stock returns was collected from the *Bloomberg LP* database. Pre-2012 advisory shareholder voting data was hand-collected from mandatory annual general meeting disclosures in *Morningstar DatAnalysis* and the *Bloomberg LP* database provided the shareholder voting data from 2012 onwards. The final sample consists of 2,074

¹⁵ ASX 300 is a float –adjusted market capitalisation index of 300 largest companies listed in Australia from Standard & Poor’s and comprises approximately 81% of Australian equity market capitalisation.

¹⁶ CLERP 9 introduced advisory voting on the remuneration report amongst other measures including, increased powers provided to ASIC for breaches of continuous disclosure requirements, heightened financial reporting and auditing requirements, financial services licencing as well as changes to fundraising provisions.

¹⁷ The ASX Listing rule 12.8 was also introduced at the commencement of the 2012 financial year and required ASX 300 firms to have remuneration committees which were wholly composed of non-executive directors. The regression models included in this paper account for this by incorporating a remuneration committee independence variable (*Remuneration Committee Inside/Outside Ratio*) as a constituent of the vector of corporate governance indicators.

firm-years for the 11 year period under analysis. Appendix 1 provides a list and detailed description of variables used in this study.

In instances where the CEO was in their last year of tenure with the firm they were excluded from the final data set. This is because the inclusion of termination payments in total pay would have biased remuneration levels upwards.¹⁸ If the CEO was only at the helm for a proportion of a whole financial year they were also excluded so as not to bias remuneration values downward. Furthermore, the sample was adjusted to account for the availability of shareholder voting data in both the *Bloomberg LP* and *Morningstar DatAnalysis* databases. *Bloomberg LP* provided voting data for ASX 300 firms after the implementation of the ‘Two Strikes’ rule. Voting data for the advisory period (2005-2011) was then hand-collected using the *Morningstar DatAnalysis* database. To ensure that ‘real’ value changes are captured in the analysis, financial and compensation data is deflated to 2005 dollars and exchange rate adjusted in instances where executives were remunerated in a currency other than Australian dollars. Inflation and exchange rate data was sourced from the Australian Bureau of Statistics.

This study considers the shareholder voting behaviour for large firms only and as a result diverges somewhat from the studies completed by Clarkson *et al.* (2011), Monem and Ng (2013) and Bugeja *et al.* (2017). Monem and Ng (2013) consider first and second ‘strikes’ on remuneration reports to measure their impact on executive pay and the pay-performance relationship. They find that the likelihood of receiving a ‘no’ vote on a remuneration report of 25% or more decreases with size due to smaller firms tending to have relatively weaker governance structures. Bugeja *et al.* (2017) find that first ‘strike’ firms tend to be relatively larger in size whilst second ‘strike’ firms tend to be smaller than first ‘strike’ firms. Clarkson

¹⁸ Termination payments, despite being made at the conclusion of employment should theoretically be amortised over the entire employment horizon of the CEO. Thus, by excluding final year payments, this decreases the likelihood of misrepresenting remuneration figures for individual executives (Merhebi *et al.*, 2006; Bushman *et al.*, 2010; Duong and Evans, 2015).

et al. (2011) consider a sample of Australian-listed firms of various sizes for the period 2000 to 2009, with 240 firms identified as having complete data for the full sample period.

With the ASX 300 capturing approximately 81% of equity market capitalisation in Australia, the sample employed in this study considers a significant proportion of the impact of Say-on-Pay on the Australian corporate landscape. Furthermore, CEO pay growth in Australia prior to the implementation of the ‘Two Strikes’ rule was concentrated in the largest Australian-listed firms and gives further impetus to this sample selection. According to the Productivity Commission (2009), in the lead up to the financial crisis, CEO remuneration in the top 100 companies grew at approximately 13% per year in real terms from 1990 to 2000, with growth slowing to 6% per annum to 2007. Further, in the 2008 financial year, average remuneration for the top 20 CEOs was \$7.2M when compared to \$0.26M for the smallest firms. Given that the recommendations made by the Productivity Commission of a ‘Two Strikes’ shareholder voting regime was predicated on the notion that excessive executive pay was one of the main contributors to the Global Financial Crisis, it is imperative to measure the impact of the ‘Two Strikes’ rule on the largest Australian-listed firms. In addition, and importantly, ASX 300 firms from the commencement of the 2012 financial year are subject to ASX Listing Rule 12.8 while smaller firms are not. Therefore, selecting a sample of only ASX 300 firms also captures the effect of mandated remuneration committee structure. In doing so, it more closely ensures homogeneity with respect to the corporate governance regulations that the constituents of the sample are subject to; reducing the likelihood of bias in the estimation of relationships.

4.2 Research method

In order to address hypothesis 1 to 5 of this paper, we consider a series of regressions to establish the relation between shareholder dissent and firm-specific variables. The particular

approach used is consistent with the work of Gregory-Smith *et al.* (2014) in two ways. Firstly, Gregory-Smith *et al.* (2014) consider the impact of the Global Financial Crisis on shareholder dissent in the UK by double-interacting a 2008 year dummy with independent variables. In this way, they measure the effect of the crisis on shareholder dissent levels. Similarly, this paper considers a policy-change dummy at the commencement of the 2012 financial year; gauging the impact of the ‘Two Strikes’ rule on shareholder dissent levels. The impact of the Global Financial Crisis on shareholder dissent is also captured in this study through the inclusion of year effects. Secondly, Gregory-Smith *et al.* (2014) employ multivariate quantile regression analysis with and without linear splines, thereby facilitating the interpretability of baseline regression results. Fitting a linear spline at the sample mean level of dissent, provides an indication of how boards respond to negative voting when dissent levels are either above or below the sample mean.

This paper employs the use of median quantile regressions in addition to mean regression analysis to develop an understanding of the relationship between shareholder dissent and CEO pay. Conventional regression models including ordinary least-squares and fixed effects focus on the central tendency of the distribution. Quantile regression provides an opportunity to analyse how relationships differ across the distribution of both shareholder dissent and CEO pay. This particular regression approach elucidates additional information from the analysis and allows the measurement of any threshold effects, as well as providing the opportunity to examine the uniformity of relationships across quantiles. In this study quantile regressions are taken at the 10th, 25th, 50th, 75th and 90th percentiles.

In terms of research design, this paper diverges significantly from the work of Monem and Ng (2013) and Clarkson *et al.* (2011) in that the pay-performance relationship is not directly addressed. Nor is there a central focus on measuring the impacts of ‘strikes’ on firms, as is the case in Monem and Ng (2013), Bugeja *et al.* (2017) and Grosse *et al.* (2017). Instead

we consider shareholder dissent under both pre and post-2012 regimes and investigate the influence of enhanced shareholder voting rights on financial, governance and CEO attributes.¹⁹

In order to test hypothesis 6 and 7 we conduct event studies to analyse market reactions to both the introduction of the ‘Two Strikes’ rule and instances of firm-level first and second ‘strikes’ against remuneration reports. We utilise the market model and the daily adjusted-closing prices from firms in our panel to measure the significance of cumulative average abnormal returns (CAARs) to identified events.

5. Empirical analysis

5.1 Descriptive statistics

Table 1 provides detailed descriptive statistics of shareholder dissent, CEO pay and control variables. Panel A indicates that shareholder dissent for the entire sample period is 8.22%, with a median of 3.44%. This skewness in the distribution of shareholder voting is consistent across all years in the sample, and indicates that the majority of shareholder voting outcomes are concentrated at the lower levels of dissent. Further, from 2008 onwards, mean dissent levels fluctuate between 7% and 11%; consistent with both the Australian and UK Say-on-Pay literature. In the Australian context, Clarkson *et al.* (2011) report mean dissent levels for the period 2005 to 2009 of between 5% and 12% with median annual dissent levels significantly lower than their associated means. Similarly, splitting their sample summary statistics into ‘strike’ and ‘control’ samples, Monem and Ng (2013) indicate that their ‘non-strike’ sample-subset averaged dissent below 5% for both 2011 and 2012 financial years. ‘Strike’ firms, where dissent levels are already greater than a 25% level of dissent, had an

¹⁹ Results presented in Table 9 present propensity score matched results of the impact of ‘strikes’ on CEO pay and are consistent with findings in the main analysis.

average dissent level of 45%.²⁰ To illustrate these findings, Figure 1 provides a visual representation of the extent to which shareholder dissent deviated throughout the sample period. Initial indications of a shift in voting behaviour caused by regulatory change are limited when viewing the year-on-year changes in voting behaviour.

< INSERT FIGURE 1 HERE >

< INSERT TABLE 1 HERE >

Panel B presents descriptive statistics on CEO pay for all years in the sample. Mean and median total remuneration fluctuates to a substantially greater extent when compared to changes in shareholder voting behaviour. Total remuneration grew from an average of \$1.53M in 2005 to \$2.19M in 2011. Following the introduction of the ‘Two Strikes’ rule in 2012, total mean remuneration peaked at \$2.31M with pay growth stagnating for the period 2013 to 2015. Equity remuneration increased substantially to \$0.72M in 2012 and then declined to almost pre-regulation levels with average equity remuneration equal to \$0.57M in 2015. Non-equity remuneration in the sample fluctuated less than equity remuneration as a proportion of total pay. Consistent with other Australian studies, non-equity remuneration constituted the majority of CEO pay for all years in the sample. Matolcsy and Wright (2007) and Bugeja *et al.* (2012) highlight that the primary reason for this relates to the tax treatment of equity remuneration in Australia, when compared to the US and UK systems. In the Australian context, salary and bonus payments are considered tax-deductible whereas option issuances are not. In comparison, the taxation systems in the US and UK, are favourable towards the use of equity payments as incentivising forms of remuneration for employees. Furthermore, the Australian government, following the Global Financial Crisis, introduced additional tax measures to discourage firms from engaging in equity-based remuneration schemes.

²⁰ Our study utilises the same metric for shareholder dissent as both Clarkson *et al.* (2011) and Monem and Ng (2013) to facilitate comparability with the Australian literature. Monem and Ng (2013) include shareholder dissent as a continuous variable to supplement their analysis of the impact of ‘strikes’ on CEO pay levels.

Lastly, Panel C provides summary statistics of all other firm-specific, CEO-specific and corporate governance control variables incorporated in the regression analysis. The results obtained are consistent with other contemporary empirical studies of corporate governance in Australia (see also Matolcsy and Wright, 2007; Clarkson *et al.*, 2011; Matolcsy and Wright, 2011; Monem, 2013; Monem and Ng, 2013; Duong and Evans, 2015).

5.2 Univariate analysis

To supplement the regression analysis, tests of mean and median differences for all variables, including analyses of how shareholder dissent and CEO remuneration varied across industries before and after the implementation of the ‘Two Strikes’ rule are provided in Table 2. Table 2 Panel A indicates that overall shareholder dissent did not deviate significantly from a mean dissent level of approximately 8% between the two regulatory periods. Further, the analysis in Table 2 Panel B indicates that the only statistically significant fluctuations in shareholder dissent were in the Industrials and Health Care industries, with dissent levels in Industrials declining from a mean value of 10.67% to 7.25% and dissent increasing in the Health Care industry from 6.37% to 9.41%. Despite mean voting behaviour not changing significantly between the two periods, mean total remuneration in Table 2 Panel A did increase substantially between pre and post regulatory periods from \$1.85M to \$2.05M. When considering industry-level tests of difference in Table 2 Panel C, mean remuneration growth was highest in the Industrials (\$1.47M to \$1.92M) and Health Care (\$1.26M to 2.02M) industries. This is an interesting result, especially with respect to Industrials, as total remuneration increased alongside an overall decline in shareholder dissent levels.

< INSERT TABLE 2 >

Importantly, when considering the non-equity and equity components of executive remuneration, there is evidence to suggest that increases in equity remuneration were the

main contributor to growth in total remuneration in the post-2012 period. According to Table 2 Panel A, mean equity remuneration increased from \$0.47M to \$0.63M, an increase that is statistically significant at the 1% level. In comparison, there is no indication that the mean level of non-equity remuneration shifted significantly following the introduction of the ‘Two Strikes’ rule. With respect to equity remuneration, the results in Table 2 Panel C indicate that there were statistically significant increases in four of the ten industries included in the sample. This phenomenon may indicate that boards shifted their preferences in contract design towards greater performance-based remuneration in the post-2012 period, alongside a relative stagnation in the growth of non-equity remuneration. These findings also reinforce the notion that non-equity remuneration remained the most significant component of CEO pay in large Australian firms, in contrast to executive pay design in the larger economies of the US and UK.

In addition to univariate tests of dissent and remuneration, tests of mean and median differences are also conducted for the control variables included in regression models. Mean and median industry-adjusted TSR did not fluctuate significantly between pre and post regulatory periods. This is in direct contrast to the increase in mean remuneration observed over the sample period. Further, key governance variables including Board independence, Remuneration Committee Inside/Outside ratio and Director Busyness strengthened. The ratio of ‘insider’ to ‘outsider’ board members sitting on the remuneration committee declined to almost zero in the post-regulation period. This result aligns with expectations, as the ASX listing rule 12.8, which mandated that remuneration committees be solely composed of non-executive directors, was introduced at the same time as the ‘Two Strikes’ legislation. This control variable is important in capturing the effect of shifting structural changes in remuneration committees on shareholder dissent levels. Director Busyness also declined in the post-regulation period. This is an interesting finding given that there was no

commensurate decline in the mean number of total directors sitting on boards. In the context of this study, director busyness acts as a proxy for the capacity of directors to act as effective monitors in a given firm vis-à-vis their directorial obligations in other firms. Thus, a declining director busyness value may indicate a heightened propensity for directors to behave as effective monitors of executive management (Perry and Peyer, 2005; Jiraporn *et al.*, 2009).

5.3 Univariate Tests of Strikes

In support of our findings in Table 2, Table 3 provides useful insights into the general difference between ‘strike’ and ‘non-strike’ firms for both periods. For the purposes of comparison with *actual* strikes in the post-regulation period, we construct ‘artificial’ first and second ‘strikes’ in the pre-regulation period and identify them as instances where dissent was greater than or equal to 25%. In support of our main findings, the univariate analysis in Table 3 Panel A indicates that mean and median total and non-equity remuneration is higher in high dissent firms in the pre-regulation period. In addition, the results in Table 3 Panel A suggest that *Industry-adjusted Median TSR* was lower in high dissent firms. Table 3 Panel B presents opposing results to those found in Panel A and indicate that mean and median, total, non-equity and equity remuneration is lower for ‘strike’ firms relative to ‘non-strike’ firms. This result for total CEO pay after 2012 is consistent with the univariate analysis between non-strike and strike firms in Bugeja *et al.* (2017). Our results provide an initial indication of the influence of the ‘Two Strikes’ rule in dampening CEO pay levels relative to the pre-regulation period. The results from propensity score matching in Table 8 reinforce the notion that ‘strikes’ after the introduction of the ‘Two Strikes’ rule did result in proportional declines in CEO pay. In terms of corporate governance characteristics, the results in Table 3 Panel B

indicate that mean board size was marginally lower in ‘strike’ firms compared to non-strike firms (7.8 to 6.7) consistent with lower levels of director busyness.

<INSERT TABLE 3 HERE>

5.4 The impact of CEO remuneration on shareholder dissent

Table 4 includes a set of regressions to gauge the influence of shareholder voting on CEO pay for the entire sample period (2005 to 2015). Regression (1) in Table 4 is an ordinary least-squares analysis of the hypothesised relationship, and regressions (2) to (6) provide regression analysis across the quantiles of dissent. In this respect, Table 4 serves as the baseline model employed to examine the extent to which CEO pay and other control variables are correlated with shareholder dissent for all years in the sample.

The results in Table 4 support our hypothesis 1 and indicate that CEO pay is a positive and statistically significant determinant of shareholder dissent. This result is present in regression (1) and across all the quantiles of dissent. The coefficient estimate in regression (1) suggests that for a 10% increase in total CEO remuneration, there is an expected corresponding increase in shareholder dissent of 0.139%, *ceteris paribus*.²¹ The quantile regressions (2) to (6), indicate that the economic impact of total CEO remuneration on shareholder dissent is concentrated in the upper 75th and 90th quantiles of dissent. The 90th quantile regression (6), suggests that a *ceteris paribus* increase in total remuneration of 10% is expected to increase shareholder dissent by 0.298%. Notwithstanding the generally low economic significance of the associations, the results do provide an indication that shareholders did, to a certain degree, react negatively towards perceived excessive executive pay levels.

²¹ In this case, the effect of percentage changes in total remuneration on shareholder dissent were calculated as $\hat{\beta} \cdot \ln\left(\frac{100+p}{100}\right)$ where $\hat{\beta}$ is the coefficient on $\ln(\text{Total Remuneration})$ and p is the $p\%$ increase in x (in this case $p = 0.1$).

Regression (1) in Table 4 provides limited evidence to suggest that CEO tenure, internal (board characteristics) and external (*Investor Concentration*) governance variables significantly influence shareholder voting behaviour. Nevertheless, firm performance (*Industry-adjusted Mean TSR*) is a negative and statistically significant determinant of shareholder dissent in regression (1) and at the upper quantiles of dissent, lending support to hypothesis 3. The result suggests that for a 1% increase in *Industry-adjusted Mean TSR*, dissent is expected to decline by 0.60%, ceteris paribus, indicating that shareholders are more likely to vote positively on remuneration reports when the firm is performing well.

Firm Size ($\ln(\text{Total Assets})$) is an insignificant determinant of dissent in regression (1) and the statistical significance and directionality of the relationship varies substantially across the quantiles of dissent. This does not support the notion of a size effect that has been found in the extant literature (Smith, 1996; Cai and Walkling, 2011; Cziraki *et al.*, 2010; Goranova *et al.*, 2017).

< INSERT TABLE 4 >

5.4.1 The impact of CEO pay on shareholder dissent: The ‘Two Strikes’ rule

In order to measure the effect of the ‘Two Strikes’ rule on the relationship between CEO pay and shareholder dissent, Table 5 replicates mean and quantile regression analysis provided in Table 4 with the addition of post-2012 dummy interactions. The coefficient on the *Post2012* dummy variable, measuring the mean difference in dissent levels between the CLERP 9 and ‘Two Strikes’ regimes, is positive and statistically significant at the one percent level. This effect is strongest in the upper 75th and 90th quantiles of dissent. The economically large effect indicates that, in general, shareholders tended to express higher levels of dissent towards remuneration reports in the post-2012 period.

Despite a positive and significant mean difference in dissent after the implementation of the ‘Two Strikes’ rule, the coefficient on the *Post2012*Ln(Total Remuneration)* interaction is negative and statistically significant in regression (1); contrary to hypothesis 2. The negative coefficient on this interaction indicates that after 2012, firms experienced lower levels of shareholder dissent with respect to CEO pay relative to when they were subject to the CLERP 9 legislation. The results align somewhat with Monem and Ng (2013), who find that following the introduction of the ‘Two Strikes’ rule, shareholders were more judicious in their voting behaviour. The significant and negative result on the *Post2012*Ln (Total Remuneration)* interaction may be an indication of this, in that, for fear of introducing increased risk and instability in the corporate governance of the firm, shareholders as rational investors, moderated their voting behaviour. Bainbridge (2008) questioned the efficiency of Say-on-Pay, and the findings in this study may lend some support to this notion. It may however be the case that shareholders behaved more deliberately and carefully in their allocation of dissenting votes in the post-regulation period, lest a series of strikes on the remuneration report destabilised the governance of the firm. Another interpretation of the result is that, following the introduction of the ‘Two Strikes’ rule, shareholders may have perceived higher CEO pay as more legitimate, given the greater consequences on boards for flawed remuneration design. This is to say that, if the legislation did constrain the decision-making of boards on pay practices, higher CEO remuneration after the introduction of the ‘Two Strikes’ rule may have provided an indication to the shareholders of a given firm that CEO pay levels were indeed optimal, or at least legitimate, relative to other comparable firms in the marketplace.

The coefficient on the *Post2012* Industry-adjusted Mean TSR* interaction is negative and statistically insignificant. This result may indicate that shareholders, under the more stringent ‘Two Strikes’ rule, are less likely to vote positively on remuneration reports as a

result of good firm performance, and instead focus more attention on the appropriateness of executive pay. Similarly, the effect of firm size on shareholder dissent levels for the pre-2012 period is minimal; consistent with the baseline estimates in Table 4. However, the coefficient on the *Post2012* Ln (Total Assets)* variable is negative and statistically significant in Table 5. This result suggests that shareholders of smaller firms have a tendency to express higher levels of dissent relative to larger firms after the introduction of the ‘Two Strikes’ rule. This result is consistent with the findings presented in Monem and Ng (2013), who suggest that smaller firms are more likely to receive a ‘strike’ on their remuneration report given their tendency to have weaker corporate governance structures.

< INSERT TABLE 5 >

Analysing the impact of internal corporate governance control variables on shareholder dissent produced mixed results, with *Board Independence* and *Non-Executive Percentage* having a minimal impact on shareholder dissent levels in both the ordinary least-squares analysis and across quantiles in Tables 4 and 5. The only exception, and one that conforms to expectation, is the statistically significant and negative coefficient on the *Non-Executive Percentage* variable at the 50th quantile of dissent in regression (4) of Table 4. Nevertheless, the coefficient on the *Post2012*Ln (Total Directors)* interaction is positive and statistically significant in regression (1) of Table 5. This result indicates that after 2012, firms experienced higher levels of shareholder dissent with respect to board size relative to the pre-regulation period. Alongside the ordinary least-squares regression, the positive influence of board size on dissenting votes is present in the 50th and 75th quantiles of dissent. This may indicate that shareholders are more sensitive to the implications that larger boards may have on the achievement of effective contract design under the ‘Two Strikes’ rule. There is evidence in the literature to indicate that investors are justified in taking the view that large boards have a value-reducing effect. Yermack (1996) highlights that there is a negative

association between board size and a firms market value. Furthermore, Dalton *et al.* (1998) indicate that larger boards are generally more inefficient in their decision-making capability due to free-riding problems.

5.5 The influence of dissent on CEO pay

Given the finding that CEO pay is a positive and statistically significant predictor of dissent, it is important to identify whether or not shareholder dissent in previous financial years moderated CEO pay. Further, and in particular, it is important to estimate how the shift in shareholder voting regimes influenced this relationship. In order to measure the effect of lagged dissent on CEO remuneration, we follow Gregory-Smith *et al.* (2014) and fit a linear spline in both ordinary least-squares and quantile regressions, with a knot at the sample mean value of dissent.²² The spline and knot are identified by $Dissent_{t-1} \leq 8.22\%$ and $Dissent_{t-1} > 8.22\%$, and indicate the effect of dissent levels in the previous financial year on $Ln(Total\ Remuneration)$, in instances where dissent is below and above the sample mean, respectively. In addition, Tables 6 and 7 examine the relationship between conventional determinants of CEO remuneration in the corporate governance literature. The purpose of setting a mean knot on the linear spline is to gauge the effectiveness of above mean dissent on CEO pay. Furthermore, this approach facilitates comparability between the pre-regulation and post-regulation panels given that prior to 2012 voting was advisory and therefore there were no ‘strikes’ against remuneration reports.

< INSERT TABLE 6 >

< INSERT TABLE 7 >

²² The knot is set at 8.22% in accordance with the sample mean level of dissent in Table 1 Panel A. Given the skewness of the data, as illustrated in Figure 1, we conduct additional regressions with the knot set at the median level of dissent (3.44%) and find no material differences in the results. For brevity, the results for the additional regressions are not presented, but are available on request.

With respect to the key relationship under consideration, the coefficients on $Dissent_{t-1} \leq 8.22\%$ for the ordinary least-squares, 50th, 75th and 90th quantile regressions in Table 6 indicate a positive relationship between dissent in the previous financial year and CEO pay in instances where dissent was below the sample mean level. This positive relationship at lower levels of dissent, despite not supporting hypothesis 4, may indicate that boards viewed relatively low levels of dissent as an indication that shareholders were supportive, or at the very least apathetic, towards CEO pay levels. Low dissent, therefore, essentially granted boards with license to increase CEO pay in subsequent periods. This finding is consistent with that observed by Gregory-Smith *et al.* (2014), who also find that low levels of shareholder dissent do not constrain executive pay growth. Table 7 presents results on the impact of the ‘Two Strikes’ rule on the determination of CEO pay. The coefficient on the $Post2012 * Dissent_{t-1} > 8.22\%$ interaction is negative and statistically significant in regression (1). This result supports hypothesis 5, and suggests that under the ‘Two Strikes’ rule, CEO pay is decreasing in shareholder dissent in instances where dissent is above the sample mean level relative to the CLERP 9 regime. Thus, there is evidence to suggest that following the introduction of the ‘Two Strikes’ rule in Australia, boards were more responsive in reforming CEO pay practices relative to the CLERP 9 regime.

According to Tables 6 and 7, coefficient estimates on CEO, board and firm control variables produce mixed results. The coefficients on firm and CEO controls in Tables 6 and 7 including firm performance (*Industry-adjusted Mean TSR*), firm size ($\ln(\text{Total Assets})$) and CEO tenure ($\ln(\text{CEO Tenure})$) concur with expectations established in the extant literature. The positive and statistically significant coefficient on the firm performance variable suggests there is some degree of alignment between pay and performance for firms in the sample. The coefficient on firm size, as expected, indicates a positive and statistically significant impact

of firm size on CEO pay.²³ Furthermore, CEO tenure is a positive and statistically significant determinant of CEO pay; consistent with the notion of ‘board capture’ (Bebchuk and Fried, 2004). Main *et al.* (1995) present evidence to suggest that as tenure increases, CEOs are able to obtain greater influence over the remuneration committee and Bebchuk and Fried (2004) indicate that relationships between the CEO and board members strengthen over time, further increasing the influence of the CEO over the board.

With respect to internal corporate governance, results in Table 6 indicate that *Ln(Total Directors)*, the board size indicator, is a positive and statistically significant determinant of CEO pay in the upper quantiles. This concurs with key empirical findings in the literature suggesting that CEO pay is increasing in board size, and supports the notion that larger boards lead to decreases in efficient decision-making and increased free-riding behaviour (Yermack, 1996; Dalton *et al.*, 1998; Core *et al.*, 1999). Similarly, the effects of director busyness (*Ln (Director Busyness)*) conform to expectation. Director busyness in Table 6 and 7 has a positive and statistically significant effect on CEO remuneration. This result is consistent with other empirical findings in the literature and indicates that, as the number of outside board positions held by board members increases, the monitoring capability of the board as a whole declines (Core *et al.*, 1999; Perry and Peyer, 2005; Fich and Shivdasani, 2006; Jiraporn *et al.*, 2009).

Conventional theory and findings in the empirical literature indicate that increased board independence and lower levels of managerial and ‘insider’ presence on boards and board committees are expected to aid in constraining CEO remuneration. Nevertheless, the results provided in Tables 6 and 7 suggest a positive and statistically significant relationship between the measures of board independence (*Board Independence* and *Non-Executive Percentage*) and CEO pay. At the same time, Remuneration committee independence

²³ Larger firms are able to procure more talented (and therefore more expensive) CEOs within the ‘market for executives’ (Rosen, 1992).

(*Remuneration Committee Inside/Outside Ratio*) is found to be a negative and statistically significant determinant of CEO pay. This result suggests that an increased proportion of ‘insider’ directors on the remuneration committee (relative to ‘outsiders’) aids in constraining CEO pay. Fama and Jensen (1983) indicate that the ability for ‘outsider’ board members to execute their roles effectively is hampered by their lack of information regarding the functioning of the firm (and the firm’s management) relative to ‘insider’ appointees. This earlier literature supports more recent suggestions that structural board (and board committee) independence may act as a form of ‘window dressing’, allowing firms to adhere to specified corporate governance principles, whilst simultaneously electing outsider directors who are sympathetic to management (Romano, 2005). In the Australian context, Capezio *et al.* (2011) find that firms which exhibit structural board independence are no more effective in monitoring CEO pay, relative to boards dominated by executives. Interestingly, when the firm, CEO and corporate governance control variables are interacted with the *Post2012* dummy variable in Table 7, the incremental effects of these variables are insignificant. This result might indicate, that following the introduction of the ‘Two Strikes’ rule, shareholder voting behaviour, as a constraining force, may have had a more substantive influence on CEO pay determination, relative to the conventional determinants of pay. This notion is supported by the statistically significant and negative coefficient on the $Post2012 * Dissent_{t-1} > 8.22\%$ interaction in regression (1) of Table 7. Comparing this result, with the positive and statistically significant coefficient on $Dissent_{t-1} > 8.22\%$ in regression (1) of Table 7, might indicate the relative inability of the CLERP 9 advisory voting regime to constrain CEO pay prior to 2012.

5.5.1 The influence of ‘strikes’ on CEO pay

Given the mixed results in the literature on the influence of shareholder dissent on CEO pay, matching methods seem an appropriate approach for testing the robustness of the main findings in this paper.²⁴ Propensity score matching, as a means by which to measure average treatment effects in applied econometrics, has developed substantially since the work of Rubin (1980) and Rosenbaum and Rubin (1984, 1985).²⁵ The use of propensity score matching techniques on observational data overcomes the ‘curse of dimensionality’ in the measurement of treatment effects (Ho *et al.*, 2007). Another advantage to this method is that it facilitates the measurement of average treatment effects on an outcome (in this case, changes to CEO pay) in instances where there is potential for selection bias in the assignment of treatments (‘strike’ occurrences). Our set of propensity score analyses are presented in Table 8 and measure whether first and second ‘strikes’ in the previous financial year resulted in a change in total CEO pay on treated firms.²⁶ We follow a similar approach to that of Stathopoulos and Voulgaris (2016), in that we employ several algorithms including kernel, radius and nearest neighbor (one-to-one and one-to-many) to match treatment and control groups. In our analysis, propensity scores are estimated before the treatment effect, and therefore all standard errors of the treatment effect estimate are bootstrapped.²⁷

< INSERT TABLE 8 >

In Table 8, we replace above-mean dissent with binary variables for both first and second ‘strikes’. Results in Table 8 Panel A and B are consistent with our main results and suggest that there was minimal change to total CEO pay as a result of high dissent against

²⁴ We thank the anonymous reviewer(s) for their suggestions in this section.

²⁵ See also Imbens (2004), Ho *et al.* (2007), Stuart (2010) and Brooks and Ohsfeldt (2013) for recent developments on propensity score matching methods.

²⁶ Given that the ‘strikes’ in Panel A and B occur during the pre-regulation period, they are identified as instances where shareholder dissent against the remuneration report was greater than or equal to 25%.

²⁷ Given the uncertainty associated with estimating propensity scores, the bootstrapping of standard errors reduces the likelihood that standard errors are biased in the estimation of the average treatment effect on the treated (ATT) (Austin, 2009; Abadie and Imbens, 2016).

remuneration reports in the pre-regulation period. Further, Table 8 Panel C presents results which lend support to the main finding that the introduction of the ‘Two strikes’ rule did result in boards curbing CEO pay following instances of high shareholder dissent at the previous annual general meeting. Nevertheless, the results in Table 8 Panel D suggest no subsequent reduction in CEO pay in firms incurring a second ‘strike’. This result contrasts substantially with the findings in Monem and Ng (2013) where second ‘strike’ firms reduced CEO pay by a significantly greater margin relative to first ‘strike’ firms. The results in Panel D may be due to the small number of second ‘strike’ firms in the post-regulation panel and the fact that none of the observed second ‘strike’ firms passed a ‘spill resolution’ at the same annual general meeting. Our results from propensity score matching align with our main findings which suggest that the ‘Two Strikes’ rule had a disciplining effect on board decision-making with respect to CEO pay.

5.6 Market reactions

5.6.1 Market reactions up to and including the introduction of the ‘Two Strike’ rule

In order to examine investor perceptions of the introduction of the ‘Two Strikes’ rule, conventional event studies analysing cumulative average abnormal returns (CAARs) are considered. Cumulative abnormal returns are calculated using the market model, with an estimation window of 120 days to 10 days prior to the event dates. This event study approach is also employed to measure market reactions to first and second ‘strikes’.²⁸ We avoid using average buy-and-hold returns (ABHARs) to measure the long-run implications of the ‘Two Strikes’ rule introduction for a number of reasons. The most immediate issue with studying long-event windows is the difficulty in controlling for confounding events. Secondly, the potential for correlations amongst residuals increases with long-event windows, resulting in a

²⁸ We thank the anonymous reviewer(s) for their suggestions in this section.

downward bias in standard errors. Furthermore, there is the general lack of power in testing longer event windows, which can lead to either over or under rejection of the null hypothesis (McWilliams and Siegel, 1997).

Table 9 presents market reactions to the introduction of the ‘Two Strike’ rule as well as three other key events leading up to its implementation date. Event one, titled ‘PC Report Released’ is the date the Productivity Commission released their findings from their report on the regulation of director and executive remuneration. The second event titled ‘Public Consultation’ is the date at which the draft amendments to the *Corporations Act 2011* (Cth) (Austl.) were released for public consultation. The third event titled ‘Bill Registered’ is the date at which the bill was registered (indicating its approval by the Senate). The fourth and final event, is the date of the introduction of the ‘Two Strikes’ rule, at the commencement of the 2012 financial year. Table 9 presents cumulative average abnormal returns (CAARs) for these four events.

< INSERT TABLE 9 >

The results from Table 9 indicate that the events were generally perceived as beneficial by the market. Event 1, the release of the Productivity Commissions corporate governance reform recommendations, garnered positive and statistically significant CAARs of between 10.18% and 11.81%. Furthermore, events 3 and 4, which indicate the approval and implementation of the *Corporations Amendment (Improving Accountability on Director and Executive Remuneration) Act 2011* (Cth) (Austl.), resulted in positive and statistically significant CAARs, despite the magnitude of the reaction being significantly lower when compared to the CAARs measured for event 1. The positive market reaction to the introduction of the ‘Two Strikes’ rule support hypothesis 6 and are consistent with findings in Cai and Walkling (2011) and Ferri and Maber (2013). The results are however, in direct contrast to findings in Larcker *et al.* (2011) and Hitz and Müller-Bloch (2015). Both studies

reinforce the arguments of Bainbridge (2008) and Mangen and Magnan (2011) which regard further regulation of executive pay as a constraint on the contracting process. The finding of a positive reaction to the instalment of the ‘Two Strikes’ rule is unique in the literature and supports the notion that investors perceived enhanced shareholder voting powers over executive remuneration as value-increasing.

5.6.2 Market reactions to first and second ‘strikes’

To ensure consistency and comparability between market reactions to dissent under both the CLERP 9 and ‘Two Strikes’ regimes we construct, what we term, ‘artificial strikes’ for the pre-regulation period. We define ‘artificial strikes’ as instances where shareholder dissent was greater than or equal to 25%, which is consistent with the definition of ‘strike’ under the ‘Two Strikes’ rule. Given the advisory nature of voting in the years prior to the introduction of the ‘Two Strikes’ rule we do not observe significant reactions to high dissent against remuneration reports at AGMs prior to 2012 in Panel A of Table 10. Considering the nature of shareholder voting under the CLERP 9 advisory regime, it could be assumed that substantially negative votes towards remuneration reports would not trigger strong negative market reactions. In contrast, after the imposition of the ‘Two Strikes’ rule in 2012, we observe significant and negative CAARs for all event windows for first ‘strike’ firms in Panel B of Table 10. Interestingly, firms experiencing a second ‘strike’ are not faced with significantly negative CAARs. This may be due to the low number of observed second ‘strike’ firms in the dataset, as well as the fact that none of the second ‘strike’ firms in the post-regulation panel passed ‘spill resolutions’ at the same annual general meeting. This demonstrates to the market that, despite a second ‘strike’ against the remuneration report, a majority of shareholders did not believe that perceived failures in executive pay design warranted a board ‘spill’.

< INSERT TABLE 10 >

In general, the results in Table 10 provide evidence to suggest that the market viewed ‘strike’ instances as value-destroying in the post-regulation period. Furthermore, prior to the introduction of the ‘Two Strikes’ rule, there was a general lack of negative investor sentiment towards instances of high dissent against remuneration reports. Both findings lend support to hypothesis 7.

6. Conclusion

Our regression results suggest that CEO pay is a positive and statistically significant determinant of shareholder dissent across all regression specifications. Interestingly, the incremental effect of CEO pay on shareholder dissent after 2012 is found to be negative and statistically significant. This could suggest that the ‘Two Strikes’ rule may have reduced the tendency for shareholders to exercise their voting rights as liberally as they had done under CLERP 9. In terms of the moderating role of shareholder dissent, the evidence highlights that during the advisory voting period (2005-2011) shareholder dissent did not aid in constraining CEO pay and at lower levels of dissent may have encouraged boards to increase it. In contrast, dissent constrained CEO pay after 2012, conditional on high dissent (above the sample mean level). Additional analysis of first and second ‘strikes’ after 2012 support these findings. Our analysis of market reactions to events leading up to and including the introduction of the ‘Two Strikes’ rule indicate that the market perceived this change in Say-on-Pay regime as value-increasing. In addition, the ‘Two Strikes’ rule generated negative market reactions for firms experiencing first ‘strikes’ after 2012.

In terms of significance, this paper is the first to our knowledge that considers the implications of a transition from advisory Say-on-Pay to a more stringent regime within a single country. The key finding being that once boards were faced with greater penalties due

to substantially negative Say-on-Pay results, they curbed CEO pay subject to high levels of shareholder dissent. Furthermore, we expand on existing ‘Two Strikes’ studies by measuring the market reaction to events leading up to and including the regulations introduction. The results suggest that, in general, investors perceived the ‘Two Strikes’ rule to be a value-increasing regulation. These two findings coupled together, are of particular importance to policymakers in the larger UK and US economies which may seek to modify their existing advisory Say-on-Pay regimes in a similar fashion.

Say-on-Pay in Australia may, however, have additional consequences for the agency relationship in firms. The role of proxy advisors, remuneration consultants, CEO turnover and changes to shareholder wealth, as determinants or consequences of shareholder dissent are beyond the scope of this study, but serve as potential areas for future research. From our results we find that the market did respond positively to the announcement and eventual introduction of the ‘Two Strikes’ rule. This finding however, should not imply that the introduction of this type of regulation necessarily enhances shareholder wealth. Göx *et al.* (2014) conduct a laboratory experiment on the trade-off between incentive alignment and hold-up problems brought about by binding Say-on-Pay. They find that binding Say-on-Pay has the potential to diminish ex-ante CEO incentives and impair firm value. Wagner and Wenk (2017) test this trade-off in their study of Say-on-Pay in Switzerland. The unique regulatory setting in Switzerland, where shareholders are able to engage in both ex-post voting on executive pay and ex-ante bonus allotments facilitated this study. They find that increasing shareholder power for the purposes of incentive alignment may also induce hold-up problems, and conclude that unabated increases in shareholder power over the contracting process may be sub-optimal. Although analysing this trade-off is a compelling avenue for empirical research, it has not been pursued in this paper as there seem to be no distinct or collectively acknowledged measures of the magnitude of the hold-up problem in the

empirical literature. Secondly, the channel has received little attention outside of exercises in theory, as it is highly contingent on data availability and an appropriate regulatory setting.

In addition, the association between CEO turnover and shareholder dissent is a factor worthy of further exploration. Alissa (2015) and Bugeja *et al.* (2017) suggest that the probability of CEO turnover is increasing in shareholder dissent. However, given the general inability to establish the causal mechanisms for CEO departure, either forced or voluntary, an analysis of CEO turnover is beyond the scope of this study. Despite the limitations, it is hoped this paper provides some early insights for policymakers on the implications of implementing changes to advisory shareholder voting regimes.

Appendix 1: Variable definitions

Variable	Definition	Source
Dissent	To ensure consistency with Clarkson <i>et al.</i> (2011) and Monem and Ng (2013) in the Australian literature, shareholder dissent is calculated as the number of ‘no’ votes divided by the summation of ‘no’ and ‘yes’ votes on the remuneration report in a given firm-year. Voting data prior to the commencement of the 2012 financial year was hand-collected from the Morningstar DatAnalysis database and post-2012 voting data was accessed from Bloomberg LP. Dissent is expressed as a percentage in all regressions.	Bloomberg LP Morningstar DatAnalysis
Total Remuneration	The summation of Salary, Bonus, Equity and Option remuneration received by the CEO in a given firm-year, expressed as a natural logarithm in all regressions. Values are adjusted for inflation. Exchange rate adjustments were made when remuneration figures were quoted in currencies other than Australian dollars.	Thomson Reuters Connect4 Boardroom
Non-Equity Remuneration	The summation of Salary and Bonus remuneration received by the CEO in a given firm-year, expressed as a natural logarithm in regressions. Values are adjusted for inflation. Exchange rate adjustments were made when remuneration figures were quoted in currencies other than Australian dollars.	Thomson Reuters Connect4 Boardroom
Equity Remuneration	The summation of Equity and Option remuneration received by the CEO in a given firm-year, expressed as a natural logarithm in regressions. Values are adjusted for inflation. Exchange rate adjustments were made when remuneration figures were quoted in currencies other than Australian dollars.	Thomson Reuters Connect4 Boardroom
Tenure	The number of years since the appointment of the CEO, expressed as a natural logarithm in all regressions.	Thomson Reuters Connect4 Boardroom
Industry-adjusted Mean TSR	Industry-adjusted total shareholder return, calculated as the inflation and industry return-adjusted mean annual holding period return of adjusted closing prices.	Bloomberg LP

Industry-adjusted Median TSR	Industry-adjusted total shareholder return, calculated as the inflation and industry return-adjusted median annual holding period return of adjusted closing prices.	Bloomberg LP
Total Assets	The inflation-adjusted balance sheet value of total assets. Total asset figures were exchange rate adjusted when they were quoted in currencies other than Australian dollars. Total Assets was expressed as a natural logarithm in all regressions.	Morningstar DatAnalysis
Total Directors	The total number of directors on the board, expressed as a natural logarithm in all regressions.	Thomson Reuters Connect4 Boardroom
Board Independence	The total number of independent directors as a proportion of total directors.	Thomson Reuters Connect4 Boardroom
Remuneration Committee Inside/Outside Ratio	The number of insider directors on a firm's remuneration committee as a proportion of total remuneration committee positions.	Thomson Reuters Connect4 Boardroom
Director Busyness	The number of outside directorship positions held by board members in a given firm, expressed as a natural logarithm in all regressions. Variable construction is consistent with Perry and Peyer (2005) and Jiraporn <i>et al.</i> (2009).	Thomson Reuters Connect4 Boardroom
Investor Concentration	The Herfindahl–Hirschman Index of the top 20 shareholders for a given firm.	Bureau van Dijk OSIRIS

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Figure 1: Shareholder dissent: Median trends

Figure 1 presents stem and leaf plots of shareholder dissent levels for the entire sample period. The vertical axis is the percentage of shareholder dissent and the horizontal axis denotes financial year. This figure is a visual representation of the summary statistics on shareholder dissent provided in Table 1 Panel A. The distribution of dissent is significantly positively skewed for each year in the sample, with skewness decreasing prior to and during the Global Financial Crisis (2007-2009). In addition, the positive skewness of the distribution of dissent declines at and around the introduction of the ‘Two Strikes’ rule in 2012 (2011-2013).

Table 1: Summary statistics

Panel A: Shareholder Dissent						
	Year	Mean	Median	SD	10th Percentile	90th Percentile
Dissent	2005	0.0461	0.0188	0.0747	0.0004	0.1091
	2006	0.0634	0.0246	0.1011	0.0007	0.1763
	2007	0.0724	0.0300	0.1150	0.0019	0.1658
	2008	0.0972	0.0485	0.1302	0.0038	0.2764
	2009	0.0965	0.0428	0.1356	0.0079	0.2831
	2010	0.0874	0.0396	0.1317	0.0034	0.2305
	2011	0.1095	0.0517	0.1420	0.0080	0.3181
	2012	0.0792	0.0352	0.0996	0.0072	0.2170
	2013	0.0762	0.0332	0.1183	0.0089	0.1746
	2014	0.0818	0.0336	0.1216	0.0056	0.2199
	2015	0.0815	0.0280	0.1286	0.0035	0.2530
	Total	0.0822	0.0344	0.1217	0.0034	0.2220
Panel B: CEO Remuneration divided into Total, Equity and Non-Equity Remuneration						
Remuneration Type	Year	Mean	Median	SD	10th Percentile	90th Percentile
Total Remuneration (\$M)	2005	1.527	0.699	1.979	0.218	4.167
	2006	1.607	0.778	1.876	0.283	4.017
	2007	1.927	0.876	2.523	0.251	4.530
	2008	1.919	0.880	2.590	0.245	4.902
	2009	1.851	0.935	2.191	0.279	4.745
	2010	1.867	1.007	2.219	0.294	4.796
	2011	2.186	1.308	2.032	0.447	5.073
	2012	2.308	1.484	2.178	0.511	5.713
	2013	1.847	1.087	1.915	0.364	4.269
	2014	2.136	1.238	2.311	0.475	5.046
	2015	1.945	1.149	2.233	0.453	4.455
	Total	1.925	1.063	2.212	0.319	4.855
Equity Remuneration (\$M)	2005	0.262	0.013	0.575	0.000	0.826
	2006	0.353	0.084	0.647	0.000	0.921
	2007	0.462	0.104	0.886	0.000	1.223
	2008	0.497	0.118	0.933	0.000	1.451
	2009	0.492	0.087	0.992	0.000	1.318

	2010	0.509	0.112	0.996	0.000	1.584
	2011	0.636	0.193	1.016	0.000	1.808
	2012	0.717	0.207	1.189	0.000	2.194
	2013	0.568	0.206	0.991	0.000	1.648
	2014	0.677	0.204	1.262	0.000	1.853
	2015	0.570	0.135	1.282	0.000	1.502
	Total	0.528	0.139	1.016	0.000	1.542
Non-Equity Remuneration (\$M)	2005	1.265	0.544	1.716	0.181	3.719
	2006	1.254	0.589	1.490	0.196	3.097
	2007	1.464	0.677	1.973	0.236	3.613
	2008	1.422	0.674	1.918	0.220	3.492
	2009	1.359	0.757	1.407	0.252	3.542
	2010	1.358	0.823	1.396	0.234	3.353
	2011	1.550	1.049	1.242	0.436	3.510
	2012	1.591	1.064	1.234	0.476	3.439
	2013	1.279	0.866	1.086	0.337	2.886
	2014	1.460	0.936	1.233	0.455	3.218
	2015	1.375	0.921	1.200	0.402	2.963
	Total	1.397	0.831	1.466	0.283	3.378
Panel C: Control Variables						
Control Variables	N	Mean	Median	SD	10th Percentile	90th Percentile
Investor Concentration (HIH Index)	2083	0.057	0.0257	0.091	0.003	0.131
Remuneration Committee Inside Outside Ratio (%)		0.046	0.0000	0.129	0	0.250
Director Busyness (#)		14.494	14.0000	8.385	4	25
Total Directors (#)		7.734	7.0000	2.584	5	11
Board Independence (%)		0.523	0.5714	0.249	0.143	0.833
Tenure (Years)		7.716	6.3288	4.916	2.459	14.373
Total Assets (\$M)		13981	451.4	71343	28.935	9458
Industry Adjusted Median TSR (%)		0.0997	0.0000	0.7158	-0.3604	0.5600
Industry Adjusted Mean TSR (%)		-0.0137	-0.0537	0.7086	-0.5591	0.4632

Table 2: Tests of difference between ‘Post’ and ‘Pre’ regulation samples

Panel A: All Variables						
Variable	Post-2012 (n = 776)		Pre-2012 (n = 1307)		Tests of Difference	
	Mean	Median	Mean	Median	Paired t-stat	Z test
Dissent (%)	0.0795	0.0325	0.0837	0.0361	-0.76	0.3
Total Remuneration (\$M)	2.0479	1.2147	1.8521	0.9481	1.96**	5.53***
Non-Equity Remuneration (\$M)	1.4184	0.9409	1.3842	0.7315	0.52	5.76**
Equity Remuneration (\$M)	0.6295	0.1919	0.4679	0.0989	3.52***	5.38***
Tenure (Years)	6.5448	5.4658	8.4119	7.1808	-8.52***	-10.10***
Industry-adjusted Median TSR (%)	0.0921	0.0000	0.1042	0.0000	0.3719	-0.5024
Industry-adjusted Mean TSR (%)	-0.0144	-0.0437	-0.0133	-0.0608	0.0335	0.1994
Total Assets (\$M)	16770	604	12324	328	1.38	6.70***
Total Directors (#)	7.7229	7.00	7.7399	7.00	-0.14	0.55
Board Independence (%)	0.5674	0.60	0.4968	0.50	6.31***	7.00***
Remuneration Committee Inside Outside Ratio (%)	0.0144	0	0.0644	0	-8.72***	-8.63***
Director Busyness (#)	11.7474	12	16.1255	15	-11.90***	-10.63***
Investor Concentration (HIH Index)	0.0605	0.0298	0.0545	0.0241	1.46	2.72***

This panel presents the results of Paired t-tests and Wilcoxon rank-sum tests between pre and post regulatory periods, with the units of measure for each variable provided in parentheses. The pre-regulatory period includes financial years from 2005 to 2011 and the post-regulatory period extends from 2012 to 2015. The figures presented in bold identify statistically significant t and Z-test results when comparing the sub-samples over time. Significance levels are identified with the following notation *, ** and *** which indicate significance at the 10%, 5% and 1% levels, respectively.

Panel B: Shareholder Dissent by Industry for ‘Post’ and ‘Pre’ regulation samples								
Two-Digit GICS Industry Sector	Post-2012			Pre-2012			Tests of Difference	
	N	Mean	Median	N	Mean	Median	Paired t-stat	Z test
Consumer Staples	38	0.0593	0.0339	70	0.0866	0.0424	-1.3	-1.02
Consumer Discretionary	121	0.0828	0.0331	187	0.0813	0.0467	0.11	-0.52
Industrials	113	0.0725	0.0262	188	0.1067	0.0452	-2.24**	-2.14**
Materials	180	0.0841	0.0334	313	0.0817	0.0246	0.19	2.25**
Financials	133	0.0759	0.0280	210	0.0802	0.0452	-0.35	-1.68

Health Care	62	0.0941	0.0446	107	0.0637	0.0279	2.08**	2.81***
Utilities	9	0.0983	0.0873	12	0.134	0.0723	-0.52	0.71
Information Technology	32	0.0797	0.0433	64	0.0777	0.0292	0.06	0.82
Energy	78	0.078	0.0342	143	0.0753	0.0309	0.17	0.07
Telecommunication Services	10	0.0654	0.0137	13	0.1205	0.0095	-0.71	0.12

This panel presents the results of Paired t-tests and Wilcoxon rank-sum tests for shareholder dissent by industry, between pre and post regulatory periods, with mean and median figures expressed as the number of ‘no’ votes on a given remuneration report as a proportion of the sum of ‘yes’ and ‘no’ votes. The pre-regulatory period includes financial years from 2005 to 2011 and the post-regulatory period extends from 2012 to 2015. The figures presented in bold identify statistically significant t and Z-test results when comparing the sub-samples over time. Significance levels are identified with the following notation *, ** and *** which indicate significance at the 10%, 5% and 1% levels, respectively.

Panel C: CEO Remuneration by Industry for ‘Post’ and ‘Pre’ regulation samples								
Two-Digit GICS Industry Sector	Post-2012			Pre-2012			Tests of Difference	
	N	Mean	Median	N	Mean	Median	Paired t-stat	Z test
<i>Total Remuneration</i>								
Consumer Staples	38	2.1781	1.0610	70	2.3892	1.1078	-0.44	-0.03
Consumer Discretionary	121	1.5563	1.2774	187	1.3835	0.9902	1.11	2.00**
Industrials	113	1.9184	1.3348	188	1.4654	0.9542	2.61***	4.46***
Materials	180	1.9949	0.8928	313	1.7981	0.7106	0.83	2.36**
Financials	133	2.8721	2.1378	210	3.1381	2.2317	-0.83	0.13
Health Care	62	2.0168	1.0108	107	1.2591	0.6222	2.81***	2.86***
Utilities	9	2.4522	1.0731	12	2.4978	1.2753	-0.04	0.78
Information Technology	32	1.1777	0.9488	64	0.9721	0.6823	1.41	2.44**
Energy	78	1.9471	1.2201	143	1.5803	0.7934	1.43	2.48**
Telecommunication Services	10	2.3608	0.7398	13	3.4213	0.6476	-0.67	0.19
<i>Non-Equity Remuneration</i>								
Consumer Staples	38	1.8146	0.9709	70	1.8954	0.8492	-0.21	-0.04
Consumer Discretionary	121	1.2168	1.0222	187	1.1617	0.8300	0.54	1.71*
Industrials	113	1.4265	0.9978	188	1.1884	0.8218	1.85*	3.99***
Materials	180	1.2609	0.7575	313	1.2846	0.5421	-0.16	3.54***
Financials	133	1.8752	1.6195	210	2.2842	1.6972	-1.91*	-0.61
Health Care	62	1.3765	0.7485	107	0.9056	0.4484	2.78***	2.91***
Utilities	9	1.6709	0.6811	12	1.5254	0.6752	0.24	0.92
Information Technology	32	0.8841	0.7902	64	0.7019	0.6473	2.69***	2.62***
Energy	78	1.3116	0.8444	143	1.146	0.5351	0.96	2.56***
Telecommunication Services	10	1.5979	0.6673	13	2.312	0.6476	-0.73	0.00

<i>Equity Remuneration</i>								
Consumer Staples	38	0.3635	0.1325	70	0.4938	0.0998	-0.89	-0.28
Consumer Discretionary	121	0.3393	0.1683	187	0.2218	0.0695	1.54	2.73***
Industrials	113	0.4918	0.2158	188	0.277	0.0661	3.12***	4.48***
Materials	180	0.7341	0.1129	313	0.5137	0.0593	1.78*	0.9
Financials	133	0.9968	0.5780	210	0.854	0.2703	1.02	1.74*
Health Care	62	0.6403	0.2263	107	0.3535	0.0697	2.22**	2.04**
Utilities	9	0.7814	0.4408	12	0.973	0.4464	-0.32	0.21
Information Technology	32	0.2936	0.1274	64	0.2703	0.0281	0.23	2.44*
Energy	78	0.6354	0.2369	143	0.4343	0.1709	1.95*	2.09**
Telecommunication Services	10	0.7629	0.0842	13	1.1074	0.0000	-0.45	0.86

This panel presents the results of Paired t-tests and Wilcoxon rank-sum tests between pre and post regulatory total, non-equity and equity remuneration by industry with mean and median figures in \$M. Firm industries are identified at the two-digit GICS classification level. The pre-regulatory period includes financial years from 2005 to 2011 and the post-regulatory period extends from 2012 to 2015. The figures presented in bold identify statistically significant t and Z-test results when comparing the sub-samples over time. Significance levels are identified with the following notation *, ** and *** which indicate significance at the 10%, 5% and 1% levels, respectively.

Table 3: Tests of difference between strike and non-strike firms

Panel A: 'Pre' regulation univariate tests						
Variable	Non-Strike (n = 1189)		Strike (n = 118)		Tests of Difference	
	Mean	Median	Mean	Median	Paired t-stat	Z test
Total Remuneration (\$M)	1.8145	0.9291	2.2301	1.3107	-1.92*	-2.97***
Non-Equity Remuneration (\$M)	1.3552	0.7124	1.6763	1.006	-2.07**	-2.56**
Equity Remuneration (\$M)	0.4594	0.0989	0.5539	0.1023	-1.09	-0.88
Tenure (Years)	8.4723	7.2164	7.8028	6.3781	1.43	1.32
Industry-adjusted Median TSR (%)	0.1118	0	0.027	-0.0148	1.34	2.17**
Industry-adjusted Mean TSR (%)	-0.0077	-0.0578	-0.0702	-0.0841	1.01	1.42
Total Assets (\$M)	13168	307	3818	524	1.58	-2.06**
Total Directors (#)	7.7267	7	7.8729	8	-0.56	-0.58
Board Independence (%)	0.4937	1	0.5282	0.5635	-1.46	-1.4
Remuneration Committee Inside Outside Ratio (%)	0.064	0	0.0682	0	-0.28	-0.75
Director Busyness (#)	16.0093	15	17.2966	15	-1.67*	-2.01**
Investor Concentration (HIH Index)	0.0552	0.0246	0.0471	0.0216	0.93	0.17
Panel B: 'Post' regulation univariate tests						
Variable	Non-Strike (n = 714)		Strike (n = 62)		Tests of Difference	
	Mean	Median	Mean	Median	Paired t-stat	Z test
Total Remuneration (\$M)	2.1141	1.2347	1.2862	1.1122	2.91***	2.35**
Non-Equity Remuneration (\$M)	1.4524	0.9466	1.0271	0.8443	2.71***	2.08**
Equity Remuneration (\$M)	0.6616	0.1999	0.259	0.107	2.59***	2.55**
Tenure (Years)	6.4777	5.4521	7.3173	5.5836	-1.32	-1.04
Industry-adjusted Median TSR (%)	0.0975	0	0.0303	-0.0377	0.63	1.34
Industry-adjusted Mean TSR (%)	-0.0076	-0.0422	-0.0927	-0.0851	0.79	1.06
Total Assets (\$M)	18144	633	947	263	1.52	3.77***
Total Directors (#)	7.8067	7	6.7581	6	3.36***	3.28***
Board Independence (%)	0.5679	1	0.5615	1	0.2	0.02

Remuneration Committee Inside Outside Ratio (%)	0.0144	0	0.014	0	0.06	0.3
Director Busyness (#)	12.0826	12	7.8871	9	3.84***	3.99***
Investor Concentration (HH Index)	0.0607	0.0308	0.0586	0.0205	0.17	0.97

This table presents the results of Paired t-tests and Wilcoxon rank-sum tests between ‘non-strike’ and ‘strike’ firms in both pre and post-regulation timeframes. The pre-regulation first and second ‘strikes’ represent instances where firms received dissent on their remuneration reports of 25% or higher, commensurate with actual strike occurrences in the post-regulation period. The pre-regulatory period includes financial years from 2005 to 2011 and the post-regulatory period extends from 2012 to 2015. The figures presented in bold identify statistically significant t and Z-test results. Significance levels are identified with the following notation *, ** and *** which indicate significance at the 10%, 5% and 1% levels, respectively.

Table 4: The impact of CEO remuneration on shareholder dissent

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable: Dissent (%)	OLS	Quantile .10	Quantile .25	Quantile .50	Quantile .75	Quantile .90
Ln (Total Remuneration)	0.0146 ^{***} (0.0044)	0.0023 ^{***} (0.0008)	0.0028 ^{***} (0.0009)	0.0058 ^{**} (0.0023)	0.0130 ^{***} (0.0050)	0.0313 [*] (0.0175)
Ln (CEO Tenure)	-0.0005 (0.0045)	-0.0003 (0.0006)	0.0005 (0.0008)	0.0010 (0.0022)	0.0010 (0.0061)	-0.0036 (0.0204)
Industry-adjusted Mean TSR	-0.0060 ^{**} (0.0028)	0.0000 (0.0007)	-0.0007 (0.0010)	-0.0004 (0.0014)	-0.0034 [*] (0.0020)	-0.0139 ^{**} (0.0059)
Ln (Total Assets)	-0.0018 (0.0020)	0.0010 ^{***} (0.0003)	0.0013 ^{***} (0.0004)	0.0011 (0.0009)	-0.0004 (0.0032)	-0.0127 (0.0078)
Board Independence	-0.0096 (0.0131)	-0.0001 (0.0019)	0.0005 (0.0024)	0.0039 (0.0062)	-0.0259 (0.0275)	-0.0056 (0.0613)
Ln(Total Directors)	-0.0036 (0.0125)	0.0024 (0.0021)	0.0052 [*] (0.0029)	0.0116 (0.0072)	-0.0071 (0.0231)	-0.0558 (0.0745)
Non-Executive Percentage	-0.0212 (0.0246)	-0.0025 (0.0032)	-0.0046 (0.0044)	-0.0344 ^{***} (0.0117)	-0.0388 (0.0325)	0.0106 (0.0752)
Ln (Director Busyness)	-0.0069 (0.0083)	-0.0024 [*] (0.0013)	-0.0026 (0.0017)	-0.0068 (0.0041)	-0.0162 (0.0157)	0.0480 (0.0397)
Remuneration Committee Inside/Outside Ratio	0.0250 (0.0197)	0.0035 (0.0034)	0.0090 [*] (0.0048)	0.0290 [*] (0.0153)	0.0395 (0.0414)	0.0684 (0.0692)
Investor Concentration	-0.0466 (0.0309)	-0.0114 ^{***} (0.0037)	-0.0243 ^{***} (0.0052)	-0.0418 ^{***} (0.0086)	-0.0785 ^{**} (0.0312)	-0.1567 (0.1290)
Industry Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-0.0379 (0.0461)	-0.0320 ^{***} (0.0107)	-0.0262 [*] (0.0140)	-0.0330 (0.0237)	0.0095 (0.0643)	-0.0463 (0.1776)
Observations	2074	2074	2074	2074	2074	2074
<i>R</i> ² and <i>Pseudo-R</i> ² for <i>Quantiles</i>	0.029	0.009	0.010	0.016	0.018	0.020

This table presents mean and quantile regression results on shareholder dissent, expressed as a percentage. The sample of 2074 observations is from 2005 to 2015. Robust standard errors are provided in parentheses. Each regression also includes year and industry effects. Significance levels are identified with the following notation *, ** and *** which indicate significance at the 10%, 5% and 1% levels, respectively.

Table 5: The impact of the ‘Two Strikes’ rule on the relationship between shareholder dissent and total CEO pay

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable: Dissent %	OLS	Quantile .10	Quantile .25	Quantile .50	Quantile .75	Quantile .90
Ln (Total Remuneration)	0.0174^{***} (0.0054)	0.0021^{**} (0.0009)	0.0026^{**} (0.0011)	0.0040 (0.0026)	0.0164^{**} (0.0074)	0.0458^{***} (0.0157)
Ln (CEO Tenure)	-0.0128^{**} (0.0064)	-0.0010 (0.0009)	-0.0017 (0.0014)	0.0009 (0.0029)	-0.0128[*] (0.0074)	-0.0508 (0.0442)
Industry-adjusted Mean TSR	-0.0022 (0.0046)	0.0003 (0.0006)	0.0002 (0.0007)	0.0019 (0.0033)	0.0091[*] (0.0047)	-0.0063 (0.0114)
Ln (Total Assets)	0.0014 (0.0023)	0.0014^{***} (0.0004)	0.0022^{***} (0.0005)	0.0033^{***} (0.0012)	0.0050 (0.0033)	-0.0012 (0.0101)
Board Independence	0.0007 (0.0161)	0.0022 (0.0025)	0.0023 (0.0033)	0.0075 (0.0068)	-0.0211 (0.0371)	0.0119 (0.0480)
Ln (Total Directors)	-0.0330^{**} (0.0135)	-0.0014 (0.0023)	-0.0006 (0.0031)	-0.0004 (0.0057)	-0.0456[*] (0.0259)	-0.0648 (0.0723)
Non-Executive Percentage	-0.0041 (0.0261)	-0.0020 (0.0036)	-0.0040 (0.0051)	-0.0089 (0.0117)	-0.0216 (0.0399)	0.0302 (0.1064)
Ln (Director Busyness)	0.0143^{**} (0.0070)	0.0003 (0.0011)	0.0017 (0.0014)	0.0043 (0.0028)	0.0159 (0.0116)	0.0232 (0.0275)
Remuneration Committee Inside/Outside Ratio	0.0391[*] (0.0215)	0.0052[*] (0.0031)	0.0095^{**} (0.0047)	0.0275 (0.0177)	0.1009^{**} (0.0480)	0.1197 (0.0902)
Investor Concentration	-0.0633^{**} (0.0297)	-0.0134^{***} (0.0050)	-0.0240^{***} (0.0076)	-0.0500^{***} (0.0153)	-0.0636^{**} (0.0270)	-0.1562^{**} (0.0680)
Post2012	0.3339^{***} (0.0846)	0.0146 (0.0151)	0.0339[*] (0.0179)	0.1029^{***} (0.0363)	0.4023^{***} (0.1176)	1.1237^{***} (0.3623)
Post2012 * Ln (Total Remuneration)	-0.0147[*] (0.0086)	0.0003 (0.0016)	0.0014 (0.0021)	0.0009 (0.0043)	-0.0173 (0.0120)	-0.0901^{**} (0.0401)
Post2012 * Ln (CEO Tenure)	0.0215^{**} (0.0089)	0.0020 (0.0013)	0.0024 (0.0018)	0.0017 (0.0039)	0.0346^{***} (0.0099)	0.0851[*] (0.0480)
Post2012 * Industry-adjusted Mean TSR	-0.0087 (0.0058)	-0.0013 (0.0022)	-0.0010 (0.0029)	-0.0050 (0.0037)	-0.0161^{***} (0.0049)	-0.0126 (0.0113)
Post2012 * Ln (Total Assets)	-0.0074[*] (0.0040)	-0.0011 (0.0007)	-0.0027^{***} (0.0010)	-0.0047^{**} (0.0019)	-0.0121^{**} (0.0048)	-0.0031 (0.0152)
Post2012 * Board Independence	-0.0190 (0.0260)	-0.0033 (0.0039)	-0.0041 (0.0050)	-0.0091 (0.0103)	-0.0177 (0.0420)	0.0313 (0.1288)
Post2012 * Ln (Total Directors)	0.0087^{***} (0.0032)	0.0005 (0.0006)	0.0012 (0.0008)	0.0025[*] (0.0014)	0.0112^{**} (0.0050)	0.0220 (0.0161)
Post2012 * Non-Executive Percentage	-0.0409	-0.0036	-0.0091	-0.0431[*]	0.0236	-0.0525

	(0.0559)	(0.0076)	(0.0106)	(0.0251)	(0.1066)	(0.1775)
Post2012 * Ln (Director Busyness)	-0.0035***	-0.0000	-0.0002	-0.0008**	-0.0039***	-0.0081*
	(0.0010)	(0.0002)	(0.0002)	(0.0004)	(0.0012)	(0.0042)
Post2012 * Rem Committee Inside/Outside Ratio	-0.1070*	-0.0054	-0.0130	0.0112	-0.1864	-0.4435
	(0.0631)	(0.0124)	(0.0139)	(0.0311)	(0.1200)	(0.8801)
Post2012 * Investor Concentration	0.0267	0.0030	-0.0023	-0.0019	-0.0110	0.0654
	(0.0620)	(0.0067)	(0.0113)	(0.0191)	(0.0416)	(0.2927)
Industry Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	No	No	No	No	No	No
Constant	-0.0903*	-0.0320***	-0.0322**	-0.0482**	-0.0847	-0.2388
	(0.0508)	(0.0112)	(0.0163)	(0.0225)	(0.0893)	(0.2363)
Observations	2074	2074	2074	2074	2074	2074
<i>R² and Pseudo-R² for Quantiles</i>	0.037	0.011	0.011	0.017	0.025	0.028

This table presents mean and quantile regression results on shareholder dissent, expressed as a percentage. A post-regulation dummy (*Post2012*) is included as an interaction term to account for the introduction of the ‘Two Strikes’ rule at the commencement of the 2012 financial year. The sample of 2074 observations is from 2005 to 2015. Robust standard errors are provided in parentheses. Each regression includes industry effects only, due to collinearity with the *Post2012* dummy. Significance levels are identified with the following notation *, ** and *** which indicate significance at the 10%, 5% and 1% levels, respectively.

Table 6: The impact of lagged shareholder dissent on total CEO pay

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable: Ln(Total Remuneration)	OLS	Quantile .10	Quantile .25	Quantile .50	Quantile .75	Quantile .90
Dissent _{t-1} ≤ 8.22%	1.2670** (0.5585)	0.3050 (0.8040)	0.7977 (0.6450)	1.5007** (0.6181)	1.5879*** (0.6142)	2.8215*** (0.9327)
Dissent _{t-1} > 8.22%	0.2154 (0.1706)	-0.0050 (0.2827)	0.2990 (0.2090)	0.1615 (0.1966)	0.3548 (0.3760)	0.3131 (0.2184)
Ln (CEO Tenure)	0.1666*** (0.0222)	0.1992*** (0.0500)	0.1763*** (0.0256)	0.1303*** (0.0239)	0.1136*** (0.0255)	0.1046*** (0.0288)
Industry-adjusted Mean TSR	0.0998*** (0.0353)	0.0296 (0.1379)	0.0830*** (0.0161)	0.1401*** (0.0485)	0.1733*** (0.0394)	0.2070*** (0.0627)
Ln (Total Assets)	0.2944*** (0.0093)	0.3009*** (0.0183)	0.2991*** (0.0109)	0.3115*** (0.0105)	0.2925*** (0.0136)	0.2560*** (0.0179)
Board Independence	0.2945*** (0.0624)	0.3415*** (0.1280)	0.3647*** (0.0697)	0.3292*** (0.0776)	0.2145*** (0.0753)	0.2498** (0.1182)
Ln (Total Directors)	0.0872 (0.0723)	-0.0608 (0.1091)	0.0995 (0.0790)	0.1873** (0.0820)	0.3048*** (0.0815)	0.2719** (0.1372)
Non-Executive Percentage	0.7585*** (0.1221)	1.2538*** (0.2610)	0.8126** (0.1450)	0.6464*** (0.1574)	0.4392*** (0.1291)	0.3280* (0.1992)
Ln (Director Busyness)	0.1303*** (0.0435)	0.1394* (0.0788)	0.0971* (0.0530)	0.0946* (0.0489)	0.1400*** (0.0475)	0.2104*** (0.0724)
Remuneration Committee Inside/Outside Ratio	-0.4737*** (0.1692)	-0.6129* (0.3419)	-0.3198** (0.1476)	-0.2454* (0.1455)	-0.2065 (0.1422)	-0.0004 (0.2220)
Investor Concentration	-0.0901 (0.1884)	-0.5602* (0.2899)	-0.4470 (0.2732)	-0.0114 (0.2405)	0.2839 (0.1838)	0.1843* (0.1009)
Industry Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Constant	6.3942*** (0.1731)	5.7792*** (0.3525)	6.0875*** (0.2168)	5.9040*** (0.1874)	6.4959*** (0.2759)	7.4690*** (0.3493)
Observations	2074	2074	2074	2074	2074	2074
<i>R</i> ² and Pseudo- <i>R</i> ² for Quantiles	0.650	0.631	0.645	0.644	0.633	0.605

This table presents mean and quantile regression results on total CEO remuneration, expressed as a natural logarithm. Regressions include lagged values of shareholder dissent, expressed as a percentage. The sample of 2074 observations is from 2005 to 2015. Robust standard errors are provided in parentheses. Each regression also includes year and industry effects. Significance levels are identified with the following notation *, ** and *** which indicate significance at the 10%, 5% and 1% levels, respectively.

Table 7: The impact of the ‘Two Strikes’ rule on the relationship between total CEO pay and lagged shareholder dissent

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable: Ln(Total Remuneration)	OLS	Quantile .10	Quantile .25	Quantile .50	Quantile .75	Quantile .90
Dissent _{t-1} ≤ 8.22%	1.0062 (0.7562)	1.3920 (1.1342)	0.8132 (0.8496)	1.6249** (0.7193)	1.6019** (0.7610)	2.5801** (1.1222)
Dissent _{t-1} > 8.22%	0.4225* (0.2345)	-0.0094 (0.2879)	0.3522 (0.2383)	0.3971 (0.2766)	0.6336* (0.3578)	0.5683* (0.3306)
Post2012	0.1589 (0.2657)	0.5495 (0.4685)	0.0748 (0.3038)	-0.2655 (0.3445)	-0.1244 (0.3348)	0.4011 (0.5085)
Post2012 * Dissent _{t-1} ≤ 8.22%	0.4071 (1.0781)	-2.0496 (1.6914)	0.2622 (1.4084)	0.2851 (1.1411)	0.2047 (1.3865)	0.0372 (1.6563)
Post2012 * Dissent _{t-1} > 8.22%	-0.6273** (0.3040)	0.1703 (0.3908)	-0.5202 (0.3554)	-0.5820 (0.4035)	-1.1859 (0.7827)	-0.9569* (0.5296)
Ln (CEO Tenure)	0.1766*** (0.0355)	0.2431*** (0.0660)	0.1586*** (0.0435)	0.1237*** (0.0325)	0.0949** (0.0442)	0.0494 (0.0476)
Industry-adjusted Mean TSR	0.1458*** (0.0341)	0.0860 (0.0811)	0.0927*** (0.0253)	0.1443*** (0.0553)	0.1767*** (0.0407)	0.2171*** (0.0658)
Ln (Total Assets)	0.2999*** (0.0117)	0.3069*** (0.0251)	0.3066*** (0.0132)	0.3187*** (0.0112)	0.2947*** (0.0183)	0.2879*** (0.0210)
Board Independence	0.2457*** (0.0873)	0.3926** (0.1579)	0.3723*** (0.1044)	0.2704*** (0.0866)	0.0720 (0.1154)	0.0411 (0.1753)
Ln (Total Directors)	-0.0139 (0.0952)	-0.1384 (0.1352)	0.0535 (0.1105)	0.1222 (0.0955)	0.1924 (0.1271)	0.0961 (0.2042)
Non-Executive Percentage	0.7280*** (0.1544)	1.2156*** (0.3493)	0.7810** (0.1979)	0.4633*** (0.1511)	0.5163*** (0.1535)	0.1499 (0.3138)
Ln (Director Busyness)	0.1820*** (0.0560)	0.1733* (0.0898)	0.0912 (0.0672)	0.1380** (0.0538)	0.2178*** (0.0837)	0.2791*** (0.1056)
Remuneration Committee Inside/Outside Ratio	-0.5136*** (0.1839)	-1.0741 (1.3314)	-0.3874** (0.1557)	-0.3378** (0.1508)	-0.2179 (0.1842)	-0.0445 (0.2187)
Investor Concentration	-0.2030 (0.2615)	-0.5568 (0.4274)	-0.4540 (0.3084)	-0.2334 (0.3065)	0.1614 (0.3388)	0.1281 (0.1334)
Post2012 * Ln (CEO Tenure)	-0.0089 (0.0446)	-0.1124 (0.0809)	0.0161 (0.0553)	0.0229 (0.0422)	0.0663 (0.0556)	0.0919 (0.0566)
Post2012 * Industry-adjusted Mean TSR	-0.0953* (0.0523)	-0.0759 (0.0815)	-0.0110 (0.0352)	-0.0599 (0.0590)	-0.0305 (0.1641)	-0.1301 (0.0797)
Post2012 * Ln (Total Assets)	-0.0218 (0.0174)	-0.0126 (0.0262)	-0.0128 (0.0169)	0.0008 (0.0227)	-0.0048 (0.0247)	-0.0745** (0.0320)

Post2012 * Board Independence	0.1223 (0.1200)	-0.0050 (0.2106)	-0.0927 (0.1663)	0.0164 (0.1214)	0.2876** (0.1448)	0.3944* (0.2086)
Post2012 * Ln (Total Directors)	0.3263** (0.1331)	0.2609 (0.1982)	0.1985 (0.1690)	0.0280 (0.1557)	0.2394 (0.1621)	0.6019** (0.2339)
Post2012 * Non-Executive Percentage	0.1204 (0.2526)	-0.3408 (0.5118)	0.0853 (0.3451)	0.7488*** (0.2859)	0.0330 (0.3256)	0.5231 (0.4596)
Post2012 * Ln (Director Busyness)	-0.1760*** (0.0590)	-0.0997 (0.0948)	-0.0791 (0.0694)	-0.1234** (0.0576)	-0.2007** (0.0856)	-0.3192*** (0.1074)
Post2012 * Rem Committee Inside/Outside Ratio	0.2641 (0.3555)	1.1995 (1.4290)	0.1979 (0.4373)	0.3562 (0.3691)	-0.3219 (0.3044)	0.2365 (0.9469)
Post2012 * Investor Concentration	0.3249 (0.3606)	0.1809 (0.5484)	-0.1043 (0.7124)	0.7293 (0.4496)	0.3787 (0.3903)	0.2897 (0.2353)
Industry Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	No	No	No	No	No	No
Constant	6.4018*** (0.1891)	5.7175*** (0.3962)	6.1369*** (0.2698)	5.9732*** (0.2305)	6.5458*** (0.2609)	7.2690*** (0.3061)
Observations	2074	2074	2074	2074	2074	2074
<i>R² and Pseudo-R² for Quantiles</i>	0.651	0.629	0.645	0.646	0.634	0.614

This table presents mean and quantile regression results on total CEO remuneration, expressed as a natural logarithm. Regressions include lagged values of shareholder dissent, expressed as a percentage. A post-regulation dummy (*Post2012*) is included as an interaction term to account for the introduction of the ‘Two Strikes’ rule at the commencement of the 2012 financial year. The sample of 2074 observations is from 2005 to 2015. Robust standard errors are provided in parentheses. Each regression includes industry effects only, due to collinearity with the *Post2012* dummy. Significance levels are identified with the following notation *, ** and *** which indicate significance at the 10%, 5% and 1% levels, respectively.

Table 8: The average treatment effect (ATT) of both first and second ‘strikes’ on total remuneration

Panel A: Pre-regulation - Single Strikes		(1)	(2)	(3)	(4)
Dependent Variable:	Matching Type	Treatment	Control	Difference	t-statistic
ΔLn(Total Remuneration)					
First Strike (t-1)	Kernel	-0.0401	0.0793	-0.1194	-1.7815* (0.067)
First Strike (t-1)	Radius	-0.0401	0.0613	-0.1014	-1.4294 (0.0709)
First Strike (t-1)	1-Nearest Neighbour	-0.0419	0.0638	-0.1057	-1.1051 (0.0956)
First Strike (t-1)	2-Nearest Neighbour	-0.0401	0.0478	-0.088	-0.9492 (0.0927)
First Strike (t-1)	3-Nearest Neighbour	-0.0401	0.0379	-0.078	-0.8185 (0.0954)
First Strike (t-1)	4-Nearest Neighbour	-0.0401	0.0462	-0.0863	-0.9669 (0.0893)
First Strike (t-1)	5-Nearest Neighbour	-0.0401	0.0197	-0.0598	-0.6957 (0.086)
Panel B: Pre-regulation - Two Strikes		(1)	(2)	(3)	(4)
Dependent Variable:	Matching Type	Treatment	Control	Difference	t-statistic
ΔLn(Total Remuneration)					
Two Strikes (t-1)	Kernel	0.039	0.0976	-0.0587	-0.403 (0.1456)
Two Strikes (t-1)	Radius	0.039	0.078	-0.0391	-0.2676 (0.146)
Two Strikes (t-1)	1-Nearest Neighbour	0.039	-0.2741	0.313	1.2902 (0.2426)
Two Strikes (t-1)	2-Nearest Neighbour	0.039	-0.1496	0.1886	0.7428 (0.2539)
Two Strikes (t-1)	3-Nearest Neighbour	0.039	-0.1204	0.1593	0.6925 (0.2300)
Two Strikes (t-1)	4-Nearest Neighbour	0.039	-0.0627	0.1017	0.5069 (0.2005)
Two Strikes (t-1)	5-Nearest Neighbour	0.039	-0.0293	0.0683	0.3717 (0.1837)
Panel C: Post-regulation - Single Strikes		(1)	(2)	(3)	(4)
Dependent Variable:	Matching Type	Treatment	Control	Difference	t-statistic
ΔLn(Total Remuneration)					
First Strike (t-1)	Kernel	-0.1939	0.0302	-0.2242	-2.4194** (0.0927)
First Strike (t-1)	Radius	-0.201	0.0326	-0.2336	-2.4237** (0.0964)
First Strike (t-1)	1-Nearest Neighbour	-0.201	-0.0199	-0.181	-1.5376 (0.1177)
First Strike (t-1)	2-Nearest Neighbour	-0.201	-0.0208	-0.1801	-1.4213 (0.1267)
First Strike (t-1)	3-Nearest Neighbour	-0.201	-0.0087	-0.1923	-1.7130* (0.1122)

First Strike (t-1)	4-Nearest Neighbour	-0.201	-0.0039	-0.197	-1.8088* (0.1089)
First Strike (t-1)	5-Nearest Neighbour	-0.201	0.0225	-0.2235	-2.2590** (0.0989)
Panel D: Post-regulation - Two Strikes		(1)	(2)	(3)	(4)
Dependent Variable:	Matching Type	Treatment	Control	Difference	t-statistic
$\Delta \text{Ln}(\text{Total Remuneration})$					
Two Strikes (t-1)	Kernel	-0.0881	0.014	-0.1021	-0.4176 (0.2444)
Two Strikes (t-1)	Radius	-0.0881	0.0718	-0.1599	-0.3822 (0.4184)
Two Strikes (t-1)	1-Nearest Neighbour	-0.0881	-0.1225	0.0345	0.0707 (0.4876)
Two Strikes (t-1)	2-Nearest Neighbour	-0.0881	0.2952	-0.3833	-0.7219 (0.531)
Two Strikes (t-1)	3-Nearest Neighbour	-0.0881	0.1918	-0.2799	-0.583 (0.48)
Two Strikes (t-1)	4-Nearest Neighbour	-0.0881	0.1293	-0.2173	-0.4814 (0.4514)
Two Strikes (t-1)	5-Nearest Neighbour	-0.0881	0.0716	-0.1597	-0.3704 (0.4312)

This table presents propensity score matching results employing several different matching algorithms on the relationship between first and second ‘strikes’ in previous financial years on $\Delta \text{Ln}(\text{Total Remuneration})$. All independent variables employed in the main quantile regression models were used to establish propensity score matches, with the exception of the Director Busyness variable. The Director Busyness variable was excluded as a matching criterion as it did not satisfy the balancing property in both panels. Common support and a caliper of 0.01 is imposed for each matching algorithm. As propensity scores were estimated, standard errors are calculated using bootstrapping with 1000 replications. Panel A and B measure the effect of shareholder dissent above 25%, a measure which is equivalent to an actual ‘strike. Second ‘strike’ firms were identified in the pre-regulation period as having two consecutive instances of shareholder dissent above 25%. Panel C and D isolate the ATT effect for firms actually receiving first and second ‘strikes’ under the ‘Two strikes’ regime. Bootstrapped standard errors are provided in parentheses. Significance levels are identified with the following notation *, ** and *** which indicate significance at the 10%, 5% and 1% levels, respectively.

Table 9: Market reaction to the implementation of the ‘Two Strikes’ rule

Event	Grouping Variable	Date of Event	Event Window	Negative %	CAAR	t-statistic
1	PC Report Released	4 January 2010	[-1, 1]	41.18%	10.18%	1.9211*
1	PC Report Released		[-2, 2]	28.57%	11.81%	2.5694**
1	PC Report Released		[-5, 5]	37.82%	10.73%	2.1547**
1	PC Report Released		[-10, 10]	51.26%	8.21%	1.097
2	Public Consultation	20 December 2010	[-1, 1]	45.83%	-0.46%	1.4636
2	Public Consultation		[-2, 2]	49.17%	-0.66%	0.8572
2	Public Consultation		[-5, 5]	45.00%	0.56%	2.2947**
2	Public Consultation		[-10, 10]	46.67%	3.46%	1.4923
3	Bill Registered	29 June 2011	[-1, 1]	39.17%	1.21%	3.1545***
3	Bill Registered		[-2, 2]	51.67%	0.08%	0.6638
3	Bill Registered		[-5, 5]	40.83%	1.01%	2.313**
3	Bill Registered		[-10, 10]	47.50%	-1.72%	0.7788
4	Legislation Effective	1 July 2011	[-1, 1]	25.83%	2.47%	6.3091***
4	Legislation Effective		[-2, 2]	35.00%	2.31%	4.6286***
4	Legislation Effective		[-5, 5]	36.67%	1.63%	3.4812***
4	Legislation Effective		[-10, 10]	48.33%	-0.80%	0.8546

Table 11 presents cumulative average abnormal returns (CAAR) around events leading up to and including the introduction of the Two Strikes rule. Significance levels from two-tailed t-tests are identified with the following notation *, ** and *** which indicate significance at the 10%, 5% and 1% levels, respectively. The non-parametric generalised rank test (GRANKT) is employed as the test statistic to account for the cross-correlation and the serial correlation of returns and volatility induced by event clustering (Kolari and Pynnönen 2011). Event one is the date the Productivity Commission publically released their report on the regulation of director and executive remuneration in Australia. Event two is the date that draft revisions to the *Corporations Act 2011* (Cth) (Austl.) were released for public consultation. Event three is the date of the registration of the bill, with event four being the date the legislation first came into effect.

Table 10: Market reaction to instances of first and second strikes on remuneration reports**Panel A: Pre-regulation**

Strikes	N	Event Window	CAAR	Negative %	t-statistic
First Strike	97	[-1, 1]	11.46%	47.42%	1.0906
		[-2, 2]	14.47%	48.45%	1.3097*
		[-5, 5]	12.84%	48.45%	1.1661
		[-10, 10]	12.02%	54.64%	1.0773
Second Strike	20	[-1, 1]	2.99%	45.00%	1.6616*
		[-2, 2]	2.17%	45.00%	0.9754
		[-5, 5]	0.98%	50.00%	0.4483
		[-10, 10]	2.22%	45.00%	0.7364

Panel B: Post-regulation

Strikes	N	Event Window	CAAR	Negative %	t-statistic
First Strike	52	[-1, 1]	-1.38%	60.38%	-1.3445*
		[-2, 2]	-2.76%	62.26%	-2.2045**
		[-5, 5]	-1.57%	57.69%	-2.0102**
		[-10, 10]	-4.14%	55.77%	-1.8445**
Second Strike	9	[-1, 1]	-0.31%	55.56%	-0.2041
		[-2, 2]	1.31%	44.44%	0.6272
		[-5, 5]	-1.97%	66.67%	-0.9494
		[-10, 10]	-6.02%	66.67%	-1.3686

Table 10 presents cumulative average abnormal returns (CAAR) around first and second strike instances. First and second ‘strikes’ in the pre-regulation period represent instances where shareholder dissent was greater than 25%. Significance levels for one-tailed cross-sectional t-statistics are identified with the following notation *, ** and *** which indicate significance at the 10%, 5% and 1% levels, respectively.