Australia's 'two-strikes' rule and the pay-performance link: Are shareholders judicious?

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Abstract:

To improve accountability of executive compensation, Australia introduced the 'say-on-pay' legislation in 2011, which is widely known as the 'two-strikes' rule. We investigate the consequences of this new rule for the pay-performance link in Australian firms. Employing a matched-pair design, we find that pay changes of the chief executive officer and the key management personnel were not significantly positively related to the stock returns of the firms that registered a 'first strike' in 2011 under the 'two-strikes' rule. However, the relations improved significantly in 2012. Our results also suggest that the shareholders of the 'first-strike' firms may have been over-enthusiastic about their voting power in 2011 but exercised this power more judiciously in 2012. Our findings provide important insights for the global debate on governance of executive compensation.

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1. Introduction

In the Western world, executive compensation has been controversial since the 1990s (Jensen and Murphy, 2004) and has become more so with considerable media scrutiny and public anger toward executive compensation since the advent of the global financial crisis (e.g., Matolcsy *et al.*, 2012; *The Australian Financial Review,* 23 November, 2011 and 5 March, 2013; *The New York Times*, 4 February, 2009). With the apparent aim to restrain executive compensation, effective from 1 July 2011, Australia introduced new legislation, *Corporations Amendment (Improving Accountability on Director and Executive Remuneration) Act 2011* (*Remuneration Amendment Act*, hereafter). Under the new legislation, if the remuneration report of a firm receives 25% or more dissent votes for two consecutive years (hence, 'two strikes'), the board of directors except the CEO may face re-election. This voting right to reject the remuneration report is new for the shareholders of Australian firms because previously, shareholder voting on the remuneration report had no specific and predictable consequences.

Since its inception, the *Remuneration Amendment Act* has been heavily criticized by corporate Australia (e.g., *The Australian Financial Review,* 10 December, 2012 and 10 January, 2013). We provide the first piece of evidence on the consequences of this controversial legislation. Using newly available data of 2011 and 2012, we investigate the effect of the *Remuneration Amendment Act* on the pay-performance link in two Australian samples. The pay-performance link in Australian firms is expected to improve as a consequence of the *Remuneration Amendment Act*. We consider pay at two levels: the CEO's

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total annual remuneration (CEO pay) and the key management personnel's total annual remuneration (KMP pay).[1, 2] Particularly, we investigate whether shareholders exercise this newly acquired power judiciously[3] and whether the pay-performance link of the firms that received a 'strike' is weaker than that of a control group. Furthermore, we investigate whether the pay-performance link improves following the 'first strike'.[4] We also compare the pay-performance link of the 'first-strike' firms against that of the 'two-strike' firms.

A related study on shareholder oversight using the Australian setting is Clarkson *et al*., (2011). Clarkson *et al*. analyze a sample of 240 Australian Securities Exchange (ASX)-listed firms over the period 2001-2009 and find that increased shareholder oversight (through 'no' votes on the remuneration report) strengthens the pay-performance link and makes the pay setting process more accountable. A fundamental difference between this study and Clarkson *et al.* (2011) is that, prior to 1 July 2011, receiving 25% or more 'no' votes on remuneration reports did not have any predictable or specific consequence for the affected firms. In our sample, the firms that received 'two strikes' could be required to elect a new board of directors. Furthermore, all of the ASX firms with voting and remuneration data

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[1] We conducted a full analysis on both CEO pay and KMP pay; however, for brevity, we report only the results on CEO pay. The results based on KMP pay are qualitatively similar to those based on CEO pay. Hence, we discuss the KMP results only as part of robustness tests (Section 6). Full results on the KMP pay are available from the corresponding author on request.

[2] Section 300A of the *Corporations Act 2001* and *AASB 124 Related Party Disclosures* define key management personnel as 'persons having authority and responsibility for planning, directing and controlling the activities of the entity, directly or indirectly, including any director (whether executive or otherwise) of that entity'.

[3] We interpret the term 'judiciously' in a broader sense. Shareholders will be considered to be judicious if the level of shareholder dissent (proportion of 'no' votes on the remuneration report) reflects the weakness in the pay-performance link.

[4] The 'first strike' or a 'strike' occurs when 25% or more 'no' votes are cast against the adoption of a remuneration report in a company's annual general meeting (AGM) (Section 250U of the *Remuneration Amendment Act*). We use the terms 'strike' and 'first strike' interchangeably to refer to the same event. When a firm receives a 'strike' without any prior history, it is labeled as the 'first strike'.

available over the period 2001-2009 were potentially eligible to enter into Clarkson *et al.*'s sample. In contrast, only the firms that received 25% or more dissent votes ('no' votes) on the remuneration report qualified to enter into our treatment sample. Finally, the sample in Clarkson *et al.* (2011) potentially suffers from survivorship bias due to the requirement of data continuity over a nine-year period; hence, the evidence may not be generalizable to other samples. We conduct a cross-sectional study, and our samples comprise mostly small and less-profitable firms where the pay-performance link is plausibly indeterminate.

We identified a sample of 104 firms that received a 'first strike' in 2011, the very first year the new legislation was introduced. We identified another 105 firms that received a 'strike' in 2012. Incidentally, 22 firms were common in these two samples. That is, these 22 firms received a 'second strike' in 2012. We matched each 'strike' (treatment) firm with a control firm. Our purpose was to achieve control groups that were very similar to the treatment groups in terms of firm and industry economic environments so that the effect of confounding factors could be minimized in our study. Hence, we matched control firms first by GICS-based economic-sector classification[5], second by operating revenue, and third by fiscal year-end. We employed both multivariate and univariate tests to address our research questions.

We find that the CEO pay change was not significantly positively related to performance in the 'first-strike' firms in 2011. However, for these firms, CEO pay changes were negatively related to the level of shareholder dissent on the remuneration report. Furthermore, unlike in the control group, the pay-performance link has been increasing

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[5] The Global Industry Classification Standard (GICS) has been jointly developed by Standard and Poor's and Morgan Stanley Capital International. Sector is the first level of industry classification in the GICS, which comprises 10 economic sectors, 23 industry groupings, 59 industries, and 122 sub-industries.

with the level of shareholder dissent in the 'first-strike' firms. This result suggests that shareholders of the 'first-strike' firms in 2011 may have been over-enthusiastic in exercising their votes in the first year of implementation of the new legislation and 'punished' the 'first-strike' firms more severely than they deserved. In 2012, the pay-performance link was stronger compared with that in 2011 and positive both for the 'first-strike' firms and the control firms. The pay-performance link for the 'first-strike' firms of 2011 has been increasing in 2012 with lagged shareholder dissent. Furthermore, the firms that received the 'second strike' in 2012 had a weaker pay-performance link compared with that of the firms that received the 'first strike' in 2012. Finally, the pay-performance link in the 'second-strike' firms had been decreasing in the contemporaneous shareholder dissent level in 2012. Overall, our results provide evidence of the positive effect of the 'two-strikes' rule on the pay-performance link in Australian firms.

CEO compensation has received considerable attention from researchers in accounting, economics, finance, law, and management. Two strands of research that have emerged are as follows: the determinants of the level and structure of CEO compensation and the pay-performance link. It is documented that CEO pay is positively related to firm size (Core *et al.,* 1999; Merhebi *et al.*, 2006; Zhou, 2000), stock return (Clarkson *et al.*, 2011, Merhebi *et al.*, 2006; Zhou, 2000), and weak governance structure (Core *et al.*, 1999). However, CEO pay is negatively related to firm risk (Core *et al.*, 1999; Merhebi *et al.*, 2006), CEO share ownership, and the presence of a large blockholder (Core *et al.*, 1999). Higher CEO pay also suggests the demand for higher-quality CEOs (Chalmers *et al.*, 2006). Furthermore, externally hired CEOs are paid more than internally hired CEOs (Deckop, 1988), although the latter outperform the former in terms of accounting and market-based firm

performance (Ang and Nagel, 2013). In relation to CEO pay, although the pay-performance link is generally positive (Clarkson *et al.*, 2011; Jensen and Murphy, 1990; Merhebi *et al.*, 2006; Schaefer, 1998), the evidence is restricted to large and more successful firms. There is evidence that changing the CEO compensation structure from cash-based to equity-based compensation leads to a negative pay-performance link in the year following the change (Matolcsy *et al.*, 2012). Moreover, if the CEO compensation is inconsistent with firm characteristics, the pay-performance link is weak (Matolcsy and Wright, 2011).

We contribute to the CEO compensation literature in general and the pay-performance link literature in particular by investigating the pay-performance link in the 'first-strike' firms and the 'two-strike' firms. First, we demonstrate how mandated governance regulation in the form of shareholders' 'say on pay' can enhance the CEO pay-performance link. Second, unlike Clarkson *et al.* (2011) who provide evidence of the pay-performance link in large and potentially more successful firms, our evidence comes from small and less-profitable firms. Third, to the best of our knowledge, this study provides the first piece of evidence of the efficacy of the 'two-strikes' rule in Australia. Our study is also relevant for Australian listed companies that wish to avoid a 'strike' in the future. Finally, our findings provide important insights for the global debate on governance of executive compensation. Particularly, our study has important lessons for corporate regulators around the world.

The remainder of the paper is organized as follows. Section 2 discusses the regulatory setting for this paper. Section 3 develops the hypotheses. Research models and sample selection are discussed in Section 4. Section 5 discusses the empirical results. The

robustness tests are discussed in Section 6. Section 7 presents the summary and conclusions of the paper.

2. Background

Growing concerns surrounding "excessive" executive compensation have triggered new regulations in several countries. The UK is the first country to introduce a mandatory non-binding shareholder vote on executive pay through the passage of the Directors' Remuneration Report Regulations 2002 (Ferri and Maber, 2013). The non-binding nature of the vote means that firms are not required to respond to shareholder concerns about the executive pay even if the majority of the votes are cast against it. In 2010, the US introduced the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) to provide shareholders of public companies with an advisory 'say on pay' (Thomas *et al.*, 2012). Since 2011, the Dodd-Frank Act requires listed companies to provide their shareholders with the opportunity to cast non-binding votes on executive compensation at least once every three years. Under the Dodd-Frank Act, shareholders are asked to approve the compensation of the firm's CEO, CFO, and the three most-highly paid executives of the company.

Unlike the Anglo-Saxon model of a non-binding 'say on pay', several European countries (such as Norway, the Netherlands, and Sweden) have adopted mandated binding shareholder votes (Conyon and Sadler, 2010; Göx, 2012). In fact, a report of the European Commission (2010) identifies that 19 out of the 27 member states of the European Union have introduced either mandatory legal provisions or recommendations in local corporate governance codes requiring shareholder votes on executive pay. On 3 March 2013, the

Swiss voted in a referendum to impose arguably one of the most severe restrictions in the world on executive and director pay (*The Australian Financial Review*, 5 March, 2013). In that referendum, 69.7% of the Swiss voted to ensure that shareholders and pension funds of Swiss listed companies are given a binding say on the overall pay packages of executives and directors.

In Australia, a non-binding shareholder vote on remuneration reports was first introduced through the *Corporate Law Economic Reform (Audit Reform & Corporate Disclosure) Act 2004* (*CLERP 9*), which became effective on 1 July 2004. Subsequently, in March 2009, against a background of public outrage at excessive corporate executive compensation (see, for example, *Herald Sun*, 27 February, 2009), the Rudd Government requested the Australian Productivity Commission to undertake an inquiry into the existing regulatory framework around the remuneration of directors and executives. Although the Productivity Commission found that remuneration structures in Australia were "company and context-specific" (Productivity commission 2009, p. XLII, p. 382), it made 17 recommendations. These recommendations addressed a diverse range of issues, including the election of directors, voting rights, remuneration committees, remuneration reports and disclosure, and the adoption of the 'two-strikes' rule to engage shareholders in executive remuneration. On 16 April 2010, the Rudd government formally responded to the Productivity Commission's Report. On 20 December 2010, the Federal Treasurer released the *Remuneration Amendment Bill* for public consultation. The Bill was approved by the Senate in June 2011, and the new legislation became effective from 1 July 2011.

The key feature of the *Remuneration Amendment Act* is the introduction of the 'two-strikes' rule. Under the 'two strikes' rule,

(i) The 'first strike' occurs when a company's remuneration report receives 25% or more 'no' votes by shareholders at the company's AGM. The board is required to explain in the subsequent remuneration report how the shareholder concerns about the preceding remuneration report were addressed (Section 249L (2), the *Remuneration Amendment Act*).

(ii) The 'second strike' occurs when a company's remuneration report in the following year (after the 'first strike') also receives 'no' votes of 25% or more. If the 'second strike' occurs, the shareholders will vote in the same AGM to decide on a second resolution whether all of the directors (except the CEO) will need to stand for re-election (the 'spill' resolution) (Section 250V, the *Remuneration Amendment Act*). If the 'spill' resolution is carried with a simple majority of 50% or more of the eligible votes cast, an extraordinary general meeting of the shareholders (the 'spill' meeting) is to be held within 90 days of the 'spill' resolution. If, at the 'spill' meeting, all of the directors (except the CEO) are removed, there is a deeming provision to ensure that a minimum of three directors remain on the board (Section 250X, the *Remuneration Amendment Act*). If the 'spill' meeting is not held within 90 days of the 'spill' resolution, each person who is a director of the company at the close of those 90 days commits an offense of strict liability under the *Remuneration Amendment Act* (Section 250W, the *Remuneration Amendment Act*).

Figure 1 provides a schematic diagram of the 'two-strikes' process.

[Insert Figure 1 approximately here]

A fundamental difference between the 'two-strikes' rule and the previously enacted *CLERP 9* on non-binding shareholder votes is that even the 'first strike' requires listed Australian companies to respond to shareholder concerns (i.e., to restructure or justify the remuneration package) [Section 249L (2), the *Remuneration Amendment Act*]. A unique feature of the Australian legislation is that while the *Remuneration Amendment Act* prohibits the board and KMP from voting on the remuneration report, they are permitted to vote on the board re-election at the 'spill' meeting. This 'incongruity' of the two-strikes rule (MacMillan, 2012) became clear at the 2011 Crown Limited AGM. After its remuneration report received 55.72% 'no' votes, the Executive Chairman of Crown Limited (James Packer) told shareholders that in the event that Crown received the second strike in 2012 resulting in a board spill, he would use his 46% ownership to reappoint the exact same board (*The Australian Financial Review*, 29 October, 2011). Therefore, the 'two-strikes' rule may be ineffective for companies with controlling interests or large shareholders.

Nevertheless, the 'two-strikes' rule is arguably the most significant corporate governance reform that corporate Australia has seen since the ASX corporate governance principles were first implemented in 2003. After the passage of the *Remuneration Amendment Act*, Mr. David Bradbury, Parliamentary Secretary to the Federal Treasurer, hailed the reforms as "an internationally competitive system of executive remuneration that is transparent and accountable to shareholders" (Bradbury, 2011). However, there are claims that the reform has some unforeseen and unintended consequences.

The CEO of the Australian Institute of Company Directors (AICD), Mr. John Colvin, described the 'two-strikes' rule as "wreaking havoc" (*The Australian Financial Review*, 15

November, 2012) and a "new destabilizing force" that can be abused by shareholders with ulterior motives (*The Australian Financial Review*, 10 December, 2012). [6] Similarly, the Chartered Secretaries Australia (2010) claimed that the 'two-strikes' rule would "disenfranchise rather than empower shareholders". In this study, we provide evidence of the impact of the 'two-strikes' rule on the pay-performance link.

3. Hypotheses

3.1. Rational shareholders and pay-performance link

When ownership is separated from control, the relation between shareholders as owners and the CEO as the manager is the classic case of the principal-agent relationship. In this relationship, the fundamental challenge for the principals is to design compensation systems that induce self-interested, utility-maximizing, risk-averse agents to act in the best interest of the principals who want to maximize the value and performance of the firm (Bloom and Milkovich, 1998). When agent efforts are observable, the optimal compensation contracts are based on agent efforts (Demski and Feltham, 1978; Harris and Raviv, 1979; Holstrom, 1979). When agent efforts are not observable by the principals and information asymmetries are high (such as in publicly listed companies), incentive alignment is the most viable control mechanism to reduce agency costs (Henderson and Fredrickson, 1996; Tosi *et al.*, 1997; Tosi *et al.*, 2000). Furthermore, a pay-for-performance linkage transfers some of the risks the principals face onto a risk-averse agent (Tosi *et al.*, 2000). Thus, outcome-based compensation contracts solve the agency problem (Bloom and Milkovich, 1998).

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[6] This potential destabilization was evident in the 2011 AGM of Globe International Limited where the 'no' votes resulted from only 8.2% of the shareholder votes, 5.8% of which were owned by Solomon Lew (*The Australian Financial Review*, October 29, 2011).

Because the aim of the 'two-strikes' rule was "to enhance accountability and strengthen the non-binding vote" (*The Australian Financial Review*, 12 December 2012), it is likely that rational shareholders will reflect on the level of shareholder wealth created by firm managers while voting on executive pay. This is likely to occur for three reasons. First, from the shareholders' perspective, the primary responsibility of managers is to create wealth for shareholders. Second, shareholders' wealth is directly influenced by firm performance. Third, rational shareholders are likely to perceive firm performance as an increasing function of managerial efforts, which are unobservable to shareholders. Hence, in this paper, we focus on the executive pay-performance link in determining the efficacy of the 'two-strikes' rule.

3.2. Pay-performance link and the 'first strike'

Prior research suggests that executive compensation is relatively higher in firms with higher agency costs and that these firms perform poorly relative to other firms (Core *et al.*, 1999). Thus, the pay-performance link is likely to be weaker in firms with higher agency costs. When managers as agents set their own pay (as in listed public companies) and shareholders only get a 'say on pay' by approving or rejecting the remuneration report, shareholder votes are likely to reflect the extent to which they believe the pay is excessive relative to firm performance. Furthermore, if shareholders exercise their voting power judiciously, stronger shareholder dissent should be associated with a weaker pay-performance link. There is empirical evidence supporting this argument. Analyzing a sample of U.S. firms, Assayag and Miller (2011) document that firms that successfully

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demonstrate a strong pay-performance link are more likely to win shareholder votes. Thus, our first hypothesis is as follows:

H1: Compared with other firms, the pay-performance link is weaker in the 'first-strike' firms and *decreasing* in the *current* level of shareholder dissent.

As per the *Remuneration Amendment Act*, once a firm receives the 'first strike', it is imperative for the firm to address the shareholder concerns because the legislation requires the board of directors of the 'first-strike' firms to explain to shareholders in the next AGM how the shareholder concerns over the remuneration report were addressed. If shareholder concerns are not adequately addressed, it is highly probable that the firm would face the 'second strike', which could lead to a 'spill' motion and subsequent dissolution of the board of directors (other than the CEO). Hence, it is likely that once a firm faces the 'first strike', the board of directors will take actions, including enforcing pay cuts or making a greater proportion of the remuneration 'at risk' or performance based. Furthermore, the higher is the level of shareholder dissent, the more the 'first-strike' firms have to align pay to performance to avoid the 'second strike'. This will, in turn, make the future pay-performance link of these firms increasing in lagged shareholder dissent. Hence, we hypothesize the following:

H2: The pay-performance link in the 'first-strike' firms following the 'first strike' is *increasing* in *lagged* shareholder dissent.

3.3. Pay-performance link and the 'second strike'

If a firm receives the 'second strike', we interpret this outcome as evidence that shareholder concerns were not addressed after the 'first strike'. As a result, the poor pay-performance link will be reflected in the level of current shareholder dissent on the remuneration report for the second time in a row (the 'two strikes'). Furthermore, compared with the 'first-strike' firms that avoided the 'second strike', the pay-performance link of the 'two-strike' firms is expected to be weaker. Hence, our third hypothesis is as follows:

H3: Compared with the 'first-strike' firms, the pay-performance link is weaker in the 'two-strike' firms and *decreasing* in the current level of shareholder dissent.

Empirical results consistent with H1 and H3 would suggest that shareholders exercised their voting power judiciously. In contrast, empirical support for H2 would indicate the efficacy of the *Remuneration Amendment Act* in aligning executive pay with performance.

4. Research design

4.1. Models

Consistent with Clarkson *et al.* (2011), we begin our analysis by estimating annual regressions using the Jensen and Murphy (1990)-type base model. The Jensen-Murphy model captures the sensitivity of *changes* in the level of executive remuneration to changes in shareholder wealth. As a measure of executive remuneration, we focus on CEO pay because it is arguably the center piece of a firm's remuneration structure and potentially captures the essence of a firm's remuneration philosophy and structure. If this argument

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holds, the CEO pay changes would capture the shareholders' overall opinion on the remuneration report. However, unlike in Clarkson *et al.* (2011), our analysis is based on total remuneration, which is an all-inclusive measure, including termination benefits as well as post-employment benefits. We prefer this measure because shareholders are likely to consider the totality of the compensation package (for the CEO) instead of individual components in casting their votes on the remuneration report.[7] We do recognize that changes in the value of the CEO's stock and option portfolio might be a significant component of her total compensation (Core, Guay and Verrechia, 2003; Jensen and Murphy, 1990). However, we exclude such changes in the CEO's wealth in assessing the pay-performance link because in the context of a 'say on pay', rational shareholders are more likely to focus on compensation granted in the current year than on wealth accumulated through past equity and option grants. Thus, our parsimonious empirical model linking pay with performance is as follows:

$$CEO\ Pay\ Change_{i,t}\ =\ \alpha_i\ +\ \beta_1 RET_{i,t} + \varepsilon_{i,t} \tag{1}$$

where *CEO Pay Change$_{i,t}$* = Change in total all-inclusive annual remuneration for the CEO of firm *i* from year *t-1* to year *t* scaled by *MKTCAP$_{i,t-1}$*; *MKTCAP$_{i,t-1}$* = Market capitalization of firm *i* at year-end *t-1*; and *RET$_{i,t}$* = Market-adjusted annual buy and hold stock return of firm *i* in year *t*. Consistent with Clarkson *et al.* (2011), we use the ASX 200 as the proxy for the market portfolio.[8]

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[7] While we do recognize that our measure of total remuneration is biased against finding a significant pay-performance link, Clarkson *et al.*'s (2011) measure is potentially biased toward significant results because they consider only three components of compensation (fixed salary, bonus, and equity components of remuneration), which are directly linked to the incentive contracting aspects of compensation (p. 52).
[8] In Section 6, we check the robustness of our results by using industry-adjusted stock returns.

Theoretical arguments and empirical evidence (e.g., Clarkson *et al.*, 2011; Jensen and Murphy, 1990; Merhebi *et al.*, 2006; Schaefer, 1998; Zhou, 2000) suggest that executive pay is positively related to performance (i.e., $\beta_1 > 0$). Hence, to test H1, we extend model (1) as follows:

$$CEO\ Pay\ Change_{i,t} = \alpha + \beta_1 RET_{i,t} + \beta_2 STRIKE_{i,t} + \beta_3 RET * STRIKE_{i,t} + \beta_4 GOV_{i,t} + \epsilon_i \qquad (2)$$

where *STRIKE* represents shareholder dissent as a binary variable set equal to one for firms that received a 'first strike' in either 2011 or 2012, and zero otherwise; all other variables are as defined earlier. Our variable of interest is *RET*STRIKE*. To be consistent with H1, we expect $\beta_3 < 0$ and significant.

To test H1, we also employ shareholder dissent as a continuous variable and label the continuous variable as *DISSENT*. Consistent with Carter and Zamora (2009) and Clarkson *et al.* (2011), we measure *DISSENT* as the ratio of the number of 'no' votes to the sum of total 'no' and total 'yes' votes. Thus, we further test H1 via *RET*DISSENT*, an interaction term between *RET* and *DISSENT*. Hence, our second empirical model for testing H1 is as follows:

$$CEO\ Pay\ Change_{i,t}$$
$$= \alpha + \beta_1 RET_{i,t} + \beta_2 DISSENT_{i,t} + \beta_3 RET * DISSENT_{i,t} + \beta_4 GOV_{i,t} + \epsilon_{i,t} \quad (3)$$

where all variables are as defined earlier. To be consistent with H1, in model (3) we expect $\beta_3 < 0$, and the coefficient needs to be statistically significant.

In models (2) and (3), we incorporate *GOV* as a composite measure of corporate governance because of strong evidence that the pay-performance link is conditional on the corporate governance structure (e.g., Clarkson *et al.* 2011; Conyon and Peck, 1998; Core *et*

al., 1999; Schultz *et al.*, 2013). The variable *GOV* is based on six individual measures of good governance: two in relation to the general governance environment (namely, *CEO Duality* and board independence (*BoardIndep*) and four measures particularly related to the governance of executive remuneration (namely, the existence of a separate remuneration committee (*RemuCom*) and the proportion of non-executive members in the remuneration committee (*RemuIndep*), whether the CEO is a member of the remuneration committee (*CEORC*), and whether the chair of the remuneration committee is a non-executive director (*RemuChair*).

We operationalize all our corporate governance measures as dichotomous variables. *CEO Duality* is set equal to 1 if the board chair and the CEO roles are not held by the same individual. Board independence (*BoardIndep*) is set equal to 1 if >50% of the board members are non-executive directors. *RemuCom* is set equal to 1 if the firm has a remuneration committee. *RemuIndep* is set equal to 1 if >50% of the remuneration committee members are non-executive directors. *CEORC* is set equal to 1 if the CEO is *not* a member of the remuneration committee. *RemuChair* is set equal to 1 if the chair of the remuneration committee is a non-executive director. Then, to compute the aggregate *GOV* measure, we add the values obtained for the six governance measures and divide the sum by the number of attainable measures. Thus, if a firm does not have a remuneration committee, we divide the aggregate value by 3, and for other firms, we divide by 6. Consequently, *GOV* ranges from 0.000 to 1.000, with higher scores representing a stronger corporate governance environment. Our approach of computing the overall score for *GOV* is completely consistent with Clarkson *et al.* (2011).

We test H2 by employing a modified version of model (3) on the 2012 fiscal-year data of the 75 firms that received the 'first strike' in 2011 but avoided the 'second strike' in 2012 and their corresponding control firms. Regarding H2, we are interested in one-year *lagged* *DISSENT* rather than the current level of *DISSENT*. In particular, we are interested to know whether the pay-performance link in 2012 is increasing in the *lagged* level of *DISSENT* for the 'first-strike' firms of 2011. Hence, the empirical model for testing H2 is as follows:

$CEO\ Pay\ Change_{i,t}$

$$= \alpha + \beta_1 RET_{i,t} + \beta_2\ LAGDISSENT_{i,t-1} + \beta_3 RET_{i,t} * LAGDISSENT_{i,t} + \beta_4 GOV_{i,t} + \epsilon_{i,t}\ (4)$$

where $LAGDISSENT_{i,t}$ is the one-year *lagged* level of shareholder dissent; all other variables are as defined earlier. To be consistent with H2, we expect $\beta_3 > 0$.

To test H3, we employ the following model:

$$CEO\ Pay\ Change_{i,t} = \alpha + \beta_1 RET_{i,t} + \beta_2\ TWO\ STRIKE_{i,t}$$

$$+ \beta_3 RET * TWO\ STRIKE_{i,t} + \beta_4 GOV_{i,t} + \epsilon_i\ (5)$$

where *TWO STRIKE* is a binary variable set equal to one for the firms that received 'two strikes' (i.e., the 'first strike' in 2011 and the 'second strike' in 2012); *RET* TWO STRIKE* is an interaction variable between *RET* and *TWO STRIKE*; all of the other variables are as defined earlier. To be consistent with H3, we expect $\beta_3 < 0$ in model (5) and significant.

We further test H3 by employing the following model:

$$CEO\ Pay\ Change_{i,t} = \alpha + \beta_1 RET_{i,t} + \beta_2\ TWO\ STRIKE_{i,t} + \beta_3\ DISSENT_{i,t}$$

$$+ \beta_4 RET * TWO\ STRIKE * DISSENT_{i,t} + \beta_5 GOV_{i,t} + \epsilon_{i,t}\ (6)$$

where all of the variables are as defined earlier. To be consistent with H3, we expect $\beta_4 < 0$ and significant.

We estimate all our models using the ordinary least squares (OLS) estimation technique. We estimate models (1), (3), and (4) separately for the treatment groups (firms that received 25% or more 'no' votes on their remuneration report) and the control groups (firms that received less than 25% 'no' votes) of 2011 and 2012. The specification of model (2) requires that we estimate this model in each year on pooled samples (i.e., the treatment and the control groups combined). We estimate models (5) and (6) only on the treatment groups of 2011 and 2012.

4.2. Data

In the AGMs related to the firms' fiscal year 2011, a total of 111 firms received the 'first strike' since the *Remuneration Amendment Act* became effective on 1 July 2011. The 'first-strike' firms were identified by the Intelligence Unit of the *Australian Financial Review* (*AFR*). *AFR* collected voting data from first-hand sources, such as company secretaries and the reporting of AGM. We collected remuneration data mainly from the *Connect 4*'s *Boardroom* database. We hand-collected any missing remuneration data from company annual reports available from the *Connect 4* and *Aspect Huntley FinAnalysis* databases. All financial data were collected from the *Aspect Huntley FinAnalysis* database. All corporate governance data were hand-collected from company annual reports.

From the 111 firms that received the 'first strike' in 2011, we excluded seven firms in total (two firms with zero remuneration for the CEO, two firms with inconsistent data, one firm that had its AGM before 1 July 2011, one overseas firm, and one firm with negative

revenue). Thus, our final sample of 'first-strike' firms (treatment sample) in 2011 consists of 104 firms. In 2012, a total of 122 firms received a 'strike'. Of these firms, annual reports for the year 2012 were not available for nine firms, one was an overseas firm, two firms did not have any corporate governance information in their 2012 annual report, two firms could not be matched within their industry groups, and comparative remuneration data (for 2011) were not available for three firms. After excluding these 17 firms, the final treatment sample for 2012 consisted of 105 firms. A total of 22 firms received a 'strike' both in 2011 and 2012. Thus, these are the firms that received the 'two strikes' in two consecutive years. To mitigate the effect of outliers on our results, we winsorized both the top and the bottom 5% observations from the pooled sample in each year for the variables *RET*, *ROE*, *ROA*, leverage, market-to-book ratio, standard deviation of *ROE*, CEO ownership, and total assets.

In our matched-pair design[9], we adopted a three-way matching strategy. We matched our control firms first on GICS-based industry group membership, second on operating revenue, and third on fiscal year-end. We chose operating revenue instead of market capitalization or total assets to match the control firms because many treatment firms had zero or no revenues during the study period. After all, generating operating revenues is one of the vital signs of a healthy firm. We conjecture that firms with active operations will

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[9] An alternative to the matched-pair design (also known as partial match) is to use matched treatment and control observations based on propensity scores of the treatment variable. Propensity score-based matching has been done in recent compensation studies (e.g., Armstrong, Jagolinzer and Larcker, 2010). However, we do not employ this design for two reasons. First, as cited in Core (2010), Angrist and Pischke (2009, pp. 86-7) observe that "[t]he first reason we don't find ourselves on the propensity score bandwagon is practical: there are many details to be filled in when implementing propensity score matching, such as how to model the score and how to do inference; those details are not yet standardized. Different researchers might therefore reach different conclusions, even when using the same data and covariates." Second, the literature on 'say on pay' is only emerging, and it is not entirely clear what determines the level of shareholder dissent on the remuneration report.

generate operating revenue. Further, it is a key financial figure that investors and analysts focus on. We matched control firms on fiscal year-end because we expect that firms having similar fiscal year-ends will face a similar timeline to hold the AGM. Whether AGMs are held early or late in the season can be affected by market sentiments, and investors' voting behavior could be influenced by such market sentiments. Consistent with Clarkson *et al*. (2011), we collected voting results on remuneration reports for control firms from the company submissions of AGM results to the ASX.

Panel A of Table 1 shows the distribution of the treatment samples in 2011 and 2012 by GICS industry sectors. Of the 104 firms in 2011, 50% of the 'first-strike' firms came from only two sectors (Materials, 33.7%; Energy, 16.3%) and another 35% came from sectors comprising Consumer Discretionary, Financials, and Industrials. A similar pattern is observed in 2012. Except for minor variations, the sector composition of the 'first-strike' firms closely follows that of the ASX market in terms of listed companies. For example, at the end of December 2012, the materials and energy sectors comprised 52.4% of the listed companies in the ASX (ASX, 2013).

Panel B of Table 1 reports the key descriptive statistics for all of our variables in 2011 and 2012. The mean (median) level of shareholder dissent on the remuneration report in the 'strike' firms is 45.6% (40.6%) in 2011 and 45.3% (39.4%) in 2012. The mean (median) market capitalization of the 'strike' firms in 2011 was $A318.540 ($A41.286) million compared with $A170.397 ($A28.521) in 2012. The mean (median) CEO pay in the 'strike' firms in 2011 was $A902,964 ($A492,899) compared with $A612,907 ($A442,748) in 2012. As reported in Panel C of Table 1, 45% (46%) of the 'strike' firms were audited by the

Big 4, and 12.5% (21.0%) had CEO duality in 2011(2012). Furthermore, in 89.4% (51.4%) of the 'strike' firms, the CEO was a member of the remuneration committee in 2011 (2012).

[INSERT TABLE 1 APPROXIMATELY HERE]

To gauge the effectiveness of our matching process, we compared between our treatment sample and the control sample *for all of the variables* reported in Panels B and C of Table 1. Accordingly, we employed *t*-tests to compare the means, median tests to compare the sample medians, and the *Mann-Whitney U test* to compare the distributions between the treatment and the control samples. The un-tabulated results of the *t*-tests suggest that, *among all of the variables* in 2011, the two samples significantly differ from each other only on shareholder *DISSENT* ($p < 0.001$), *MKTBOOK* ($p = 0.041$), corporate governance score (*GOV*, $p = 0.045$), and whether the CEO is a member of the remuneration committee (*CEORC*, $p < 0.001$). Furthermore, the un-tabulated results of the non-parametric tests are consistent with the results of the *t*-tests. The un-tabulated test results in 2012 were consistent with those in 2011. Thus, it appears that the control firms were similar to the treatment firms along several key dimensions.

5. Results

5.1. 'First-strike' firms

Table 2 presents the results of estimating models (1), (2), and (3) on the 'strike' firms and the control firms in both 2011 and 2012. As seen in Table 2 (columns A and B), the pay-performance link in 2011 for both groups is positive but insignificant. However, columns C and D show that the pay-performance link is positive and significant in 2012 for

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both the 'strike' firms (RET = 0.006, p = 0.004) and the control firms (RET = 0.005, p = 0.010). Thus, the pay-performance link is stronger in the 2012-sample firms compared with that in the 2011-sample firms. The un-tabulated test based on the treatment firms only lends support to this notion (*RET*YearDummy 2012* = 0.011, p = 0.055). In pooled samples (the treatment and control firms combined; see columns E and F), the variable *RET* is significant in 2012 (RET = 0.005, p = 0.009) but insignificant in 2011 (RET = 0.000, p = 0.774). These results are consistent with those reported for model (1). Furthermore, there is no significant difference between the 'strike' and the control firms in the pay-performance link either in 2011(*RET*STRIKE* = 0.000, p = 0.649) or in 2012 (*RET*STRIKE* = 0.001, p = 0.674).

Table 2 also reports the results of estimating model (3) on the 'strike' and the control samples for the years 2011 and 2012 (columns G and H, respectively). In 2011, unlike the control firms, the 'strike' firms had a negative pay-performance link. The coefficient (p-value) of *RET* is -0.000 (0.097). Interestingly, in 2011, our proxy for the level of shareholder dissent (*DISSENT* = -0.001) is significantly *negative* (p = 0.006) for the 'strike' firms. This result is contrary to expectation because larger CEO pay rises were associated with a lower proportion of 'no' votes on the remuneration report. In contrast, in 2011, the level of shareholder dissent is increasing in CEO pay (*DISSENT* = 0.000; p = 0.070) in the control firms (column H). Furthermore, the positive and significant coefficient on the interaction term *RET*DISSENT* (coefficient = 0.000, p = 0.054) is contrary to expectation (H1) but consistent with the results on *DISSENT*. Finally, corporate governance matters for the 'strike' firms but not for control firms in that better corporate governance reduces CEO pay rises (*GOV* = -0.051, p = 0.005) in 2011.

In Table 2, results for the year 2012 (columns I and J) show that the pay-performance link is insignificant for the 'strike' firms but significantly positive for the control firms (*RET* = 0.009, *p* = 0.003). The coefficients of *DISSENT* are also insignificant in both samples. Furthermore, while the coefficient of *RET*DISSENT* is insignificant for the 'strike' firms, it is significantly negative for the control firms (*RET*DISSENT* = -0.055 *p* = 0.067). That is, the results of the control firms, but not of the 'strike' firms, are consistent with shareholders voting judiciously.

[INSERT TABLE 2 APPROXIMATELY HERE]

Now we turn to investigate whether the strength of the pay-performance link improved following the 'first strike' for the firms that received the 'first strike' in 2011 but avoided the 'second strike' in 2012. We identified 84 treatment firms that avoided the 'second strike'. Of these 84 firms, annual reports for the year 2012 were not available for nine firms, resulting in a final treatment sample of 75 firms.[10] We also identified the 75 corresponding control firms. Our expectation is that if the firms that avoided the 'second strike' had really responded to shareholder concerns, the pay-performance link in these firms should have improved following the 'first strike'.

Our analysis requires CEO pay data and shareholder return data of 2012 and lagged shareholder dissent votes (i.e., 2011 voting data). Furthermore, we used lagged corporate governance data (i.e., 2011 data) for this analysis. We did not collect 2012 corporate governance data of these sub-samples for two reasons. First, firms are unlikely to change

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[10] Of these nine firms, three firms were taken over and subsequently removed from the ASX listing, another two were delisted by the ASX, three firms' 2012 annual reports were not publicly available at the time of our data collection, and one firm was granted relief from issuing annual reports for 2012 and 2013 by the Australian Securities and Investments Commission.

their governance structure frequently (Brown *et al.*, 2011; Clarkson *et al.*, 2011). Second, a dissent vote on the remuneration report is unlikely to be interpreted as a vote on the governance structure of a firm. Hence, changes in governance structure are unlikely to be triggered by the 'first strike' in 2011. Furthermore, board independence and independence of the remuneration committee have been linked to the alignment of pay with performance (Conyon and Peck, 1998). Hence, we test our conjecture by exploring whether the 22 firms that did not have a separate remuneration committee in 2011 but avoided the second strike did indeed establish a separate remuneration committee in 2012. We found that only one out of the 22 firms did so. Thus, it appears to be reasonable to use the lagged corporate governance scores for this analysis.

Table 3 reports the results of estimating model (4). As reported in column A, unlike in the control firms, the pay-performance link in the firms that avoided the 'second strike' in 2012 is significantly increasing in lagged shareholder dissent (*RET*LAGDISSENT* = 0.026, *p* = 0.027). Thus, H2 is supported. The results for the treatment firms are consistent with the findings in Clarkson *et al.* (2011). Although the coefficient of *RET* (= -0.012) is negative and significant (*p* = 0.071), the aggregate *RET* coefficient is positive (-0.012 + 0.026 = 0.014). In 2012, the pay-performance link is negative and insignificant for the 75 control firms (column B). Furthermore, the un-tabulated results suggest that the pay-performance link in 2012 is not weaker in these firms compared with control firms' pay-performance link.

[INSERT TABLE 3 APPROXIMATELY HERE]

Next, using this sub-sample of 75 firms, we analyze which components of the CEO pay exhibit an improved pay-performance link following the 'first strike'. We estimate model

(2) using the change in short-term incentive-based payments including cash bonus (STI) as the dependent variable and the change in *ROA* as the proxy for performance. In the un-tabulated results, the coefficient on *ROA* is positive but statistically insignificant ($p = 0.515$). We also find no significant association between long-term incentives (LTI)-based payments (shares, options, and other long-term incentives) and firm performance. Further (un-tabulated) analysis of remuneration components suggests that this sub-sample had relatively larger proportions of both LTI and STI payments. Of the 75 firms, 26 firms paid a cash bonus in 2012 (28 in 2011) and 36 firms had LTI payments (34 in 2011). Furthermore, 37 (26) firms increased (reduced) their CEO's cash salary in 2012. Interestingly, the dollar amount of LTI declined in 21 firms, and STI payment declined in another 21 firms. For the 75 firms, all of these changes led to a mean increase in salary by A\$25,800, a mean decrease in STI by A\$44,300, a mean decrease of LTI payments by A\$47,472 and an overall mean decline in total CEO pay by 6.8%. Furthermore, Pearson's (Spearman's) correlation coefficient (un-tabulated) between the change in total CEO pay (scaled by lagged market capitalization) from 2011 to 2012 and the level of shareholder dissent in 2011 is -0.238 ($p = 0.043$) (-0.303 ($p = 0.009$)). Moreover, 41 of the 75 firms improved their market-adjusted stock return in 2012. Thus, arguably, for these 75 firms, improved firm performance coupled with an average remuneration reduction of 6.8% helped improve the overall pay-performance link and avoid the 'second strike'. We now focus on the pay-performance link of the 22 firms that received 'two strikes' in two consecutive years (2011 and 2012).

5.2. Comparison between 'two-strike' firms and 'first-strike' firms

Table 4, Panel A, reports the descriptive statistics for the key variables of the 'two-strike' firms in 2011 (column A) and 2012 (column C) and of the 'first-strike-only'[11] firms in 2011 (column B) and 2012 (column D). Panel A also compares the means between columns A and B and between columns C and D. As columns A and B show, in 2011, the two groups have similar levels of shareholder dissent: mean (median) *DISSENT* – 'two-strike' firms, 44.4 (41.3)%; 'First-strike-only' firms, 45.9 (40.0)%. Furthermore, the 'two-strike' firms have a much lower market capitalization and lower operating revenue than the 'first-strike' group [e.g., mean (median) *MKTCAP* - 'two-strike' firms, $A115 ($26) million; 'first–strike-only' firms, $A373 ($A63) million; similarly, mean (median) *REVENUE* – 'two-strike' firms, $A25 ($A3) million; 'first-strike-only' firms, $A353 ($A8) million]. In addition, the CEOs of the 'two-strike' firms earned much less in total pay than those in the 'first-strike-only' group [mean (median) *CEO Pay level* - 'two-strike' group, $A457,834 ($A339,661); 'first-strike-only' group, $A1,022,390 ($A519,545). Surprisingly, the 'two-strike' group had a much higher market performance compared with the 'first-strike-only' firms [mean (median) *RET*: 44.0 (24.6)% for the 'two-strike' group and 5.9 (-12.6)% for the 'first-strike-only' group].

Comparisons between the means (see column E) suggest that the 'two-strike' firms had significantly lower CEO pay ($p = 0.003$), lower market capitalization ($p = 0.040$), higher market return (*RET*) ($p = 0.083$), lower operating revenue ($p = 0.017$), higher CEO ownership ($p = 0.060$), a less-independent remuneration committee chair ($p = 0.095$), and

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[11] These are the firms that received only the 'first strike' either in 2011 or in 2012.

less independence of the remuneration committee (p = 0.054) than the 'first-strike-only' firms in 2011. In 2012 (see column F), the 'two-strike' firms had lower CEO pay (p = 0.083), lower operating revenue (p = 0.010) and a smaller proportion of CEO duality (p = 0.062).

In Table 4, Panel B (columns A and B) reports whether the pay-performance link is weaker in the 'two-strike' firms compared with the 'first-strike-only' firms in 2011 and 2012.[12] As revealed in column A, the pay-performance link in the 'two-strike' firms is not significantly weaker than that in the 'first-strike-only' firms in 2011 (*RET*TWO STRIKE* = -0.000, p = 0.168) but is significantly weaker in 2012 (*RET*TWO STRIKE* = -0.013, p = 0.002). Furthermore, results for 2011 (see column A) suggest the importance of good corporate governance in restraining CEO pay (*GOV* = -0.053, p = 0.006). This result is consistent with the findings of Core *et al.*, (1999). In the 2012 results (column B), although the overall pay-performance link is positive and significant (*RET* = 0.011, p = 0.000), the pay-performance link of the 'two-strike' firms is significantly weaker than that of the 'first-strike-only' firms (*RET*TWO STRIKE* = -0.013, p = 0.002).

[INSERT TABLE 4 APPROXIMATELY HERE]

In Table 4, Panel B (columns C and D) reports whether the strength of the pay-performance link in the 'two-strike' firms is decreasing *more* in the current level of shareholder dissent (*DISSENT*) than in the 'first-strike-only' firms. The coefficients (p-values) of *RET*DISSENT*TWO STRIKE* in 2011 and 2012 are -0.024 (0.294) and -0.045 (0.001), respectively. Thus, the strength of the pay-performance link in 2012 is significantly

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[12] We analyze 2011 data here to understand whether the firms that received the 'second strike' in 2012 had a weaker pay-performance link in 2011 (relative to the firms that avoided the 'second strike' in 2012). Thus, for the 2011 sample, this analysis is in retrospect.

more decreasing in the current level of shareholder dissent in the 'two–strike' firms compared with the 'first-strike-only' firms. Thus, H3 is supported in 2012 but not in 2011. This result difference can be explained by shareholders going through an 'error learning process' (Matolcsy *et al.*, 2012) in exercising their votes and firms playing 'cautious' in 2012 by restraining CEO pay rises following the voting experience of 2011. Furthermore, as the 2012 results show (column D), the 'two-strike' firms reduced their CEO pay in 2012 relatively more compared with the 'first-strike-only' firms (*TWO STRIKE* = -0.007, *p* = 0.063). That is, although the 'two-strike' firms tightened their belts more than the 'first-strike-only' firms in terms of CEO pay in 2012, their pay-performance link was still significantly weaker than that of the 'first-strike-only' firms.

Overall, the results reported so far suggest that shareholders of the 'first-strike' firms may have been over-enthusiastic in exercising their voting power during the 2011 AGM season and punished the 'first-strike' firms more than what they deserved. Nonetheless, the pay-performance link in 2012 was increasing in lagged shareholder dissent for the firms that received the 'first strike' in 2011 but avoided the 'second strike' in 2012. The firms that received the very 'first strike' in 2012 exhibited a stronger pay-performance link compared with the 'first-strike' firms in 2011. Furthermore, the firms that received the 'two strikes' in two consecutive years exhibited a weaker pay-performance link in 2012, and the pay-performance link was decreasing in the level of shareholder dissent. These results provide strong evidence of the efficacy of the 'two-strikes' rule in aligning CEO pay with firm performance and the shareholders exercising their voting power more judiciously in 2012 than in 2011.

Our results imply that the firms that wish to avoid a 'strike' in the future need to pay attention to improving their pay-performance link. Additionally, the firms that have a relatively weaker corporate governance structure need to adopt the 'best practice' corporate governance (e.g., the ASX Good Governance Principles, 2010). In particular, the absence of the CEO from the remuneration committee and the independence of the remuneration committee chair are important in gaining investors' confidence that managers are not engaged in 'self-dealing' behavior.

6. Robustness checks

In this section, we consider a battery of sensitivity tests to check the robustness of our results. Our sensitivity tests employ an alternative model, alternative measures for pay and performance, and alternative sample specifications. First, to be consistent with Clarkson *et al*. (2011), we extend model (3) to incorporate several other control variables that have been related to executive remuneration. Hence, our extended model is as follows:

$$CEO\ Pay\ Change_{i,t} = \alpha + \gamma_1 RET_{i,t} + \gamma_2 DISSENT_{i,t} + \gamma_3 RET * DISSENT_{i,t} + \gamma_4 GOV_{i,t}$$

$$+ \gamma_5 ASSET_{i,t} + \gamma_6 LEV_{i,t} + \gamma_7 MKTBOOK_{i,t} + \gamma_8 \sigma ROE_{i,t-1} + \gamma_9 CEOOWN_{i,t}$$

$$+ \gamma_{10} CEOCHANGE_{i,t} + \gamma_{11} BIG4_{i,t} + Industry\ fixed\ effects + \epsilon_i \ (7)$$

where *ASSET* is a proxy for firm size measured as the natural logarithm of total assets (Matolcsy and Wright, 2011); *LEV* (leverage) is the ratio of total liabilities to total equity (Klein, 2002); *MKTBOOK* is the ratio of market value of equity to book value of equity (Coulton *et al*., 2002); *σROE* is a proxy for a firm's operating risk measured as the standard deviation of firm *ROE* (return on equity) over the period *t-3* to *t-1* (Core *et al*., 1999;

Clarkson *et al.*, 2011); *CEOOWN* is the percentage of firm shares owned by the CEO; *CEOCHANGE* is a binary variable set equal to 1 if there was a change in the CEO role (Clarkson *et al.*, 2011); *BIG4* is a proxy for auditor quality set equal to 1 if the firm was audited by one of the BIG4 auditors; *Industry fixed effects* are the dummy variables to capture GICS-based industry-sector differences in the pay-performance link; the subscript i denotes firm; t is time represented by the financial year-end; and all other variables are as defined earlier.

Results of estimating model (7) are reported in Table 5. As Table 5 reveals, the coefficient (p-value) of stock return (*RET*) is -0.000 (0.081) in 2011 for the 'first-strike' firms whereas it is 0.011 (0.000) for the control firms in 2012. *RET* is positive but insignificant for the control firms in 2011 and the 'first-strike' firms in 2012. Consistent with the results in Table 3, we find that, in 2011, the variable *DISSENT* is negative (= -0.001) and significant (p = 0.010) for the 'first-strike' firms but positive (= 0.000) and significant (p = 0.071) for the control firms. Furthermore, the strength of the pay-performance link is increasing in the level of current shareholder dissent for the treatment firms in 2011 but decreasing for the control firms in 2012. The interaction between *RET* and *DISSENT* is positive and significant (p = 0.053) for the 'first-strike' firms in 2011 confirming prior findings that shareholders of these firms punished them more than what they deserved. Consistent with Clarkson *et al.* (2011), we find much weaker results for the control variables; only the strength for corporate governance (*GOV*), firm size (*ASSET*), firm risk (σROE), and CEO ownership (*CEOOWN*) are significant at times. We modified model (7) to test for all of the other hypotheses. We obtained results (not tabulated) that are consistent with prior results.

Second, we re-estimated all of the models using total remuneration change (scaled by lagged market capitalization) for the KMP. Our rationale is, in rejecting the adoption of a remuneration report, that shareholders might be considering the overall remuneration package offered to the KMP. All of the test results based on KMP pay changes are broadly consistent with the results based on CEO pay changes. The similarity of the results between the CEO pay change and the KMP pay change is consistent with the findings of Schaefer (1998) that CEO pay-performance sensitivity and 'executive team' pay-performance sensitivity exhibit similar characteristics.

Third, for comparison with Clarkson *et al.* (2011), we implemented their definition of total remuneration (i.e., incorporating only fixed salary, short-term incentives and long-term incentives in total pay for the CEO). Results (not tabulated) based on this measure of CEO total remuneration are consistent with the reported results. Fourth, un-tabulated further tests suggest that, when we use return on equity (*ROE*) or return on assets (*ROA*) as alternative proxies of firm performance, our results are qualitatively similar to prior results. Fifth, we re-estimated all of the models using GICS-based industry-sector-adjusted stock returns. Our key results remain qualitatively similar. Sixth, our results do not alter when we exclude firms that experienced CEO changes. Finally, our results remain unaltered when we exclude firms that did not have any remuneration committee.

6. Conclusion

Over the last two decades, there has been a growing global concern over "excessive" executive pay, and governments have been under mounting pressure to take measures to

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reign in executive remuneration. In 2011, Australia introduced new legislation for regulating executive remuneration. Under the new legislation, if a firm receives 25% or more 'no' votes on the remuneration report in two consecutive years, the legislation provides for a 'spill' motion to dissolve the existing board and re-elect a new board (the 'two-strikes' rule).

In this paper, we investigated whether shareholders exercised this new power judiciously. In particular, we examined the CEO pay-performance link of the firms that registered 25% or more dissent votes on the remuneration report the first time since the passage of the legislation (the 'first-strike' firms), and whether the level of shareholder dissent was associated with CEO pay changes. Furthermore, we investigated whether the pay-performance link of the 'first-strike' firms of 2011 that avoided the 'second strike' in 2012 indeed improved in 2012. Finally, we investigated whether the pay-performance link of the 'two-strike' firms was different from that of the 'first-strike' firms. We analyzed the most recent data available (2011 and 2012) since the passage of the new legislation.

Our analysis reveals that approximately 50% and 58% of the 'first-strike' firms in 2011 and 2012, respectively, came from only two industry sectors: Materials (2011: 33.7%; 2012: 38.1%) and Energy (2011: 16.3%, 2012: 20%). Empirical results suggest that shareholders may have over-reacted in exercising their voting power the first time since the new legislation was introduced in 2011. The contemporaneous shareholder dissent level was not only negatively related to CEO pay changes but also positively related to the pay-performance link. However, the pay-performance link of the firms that received the 'first strike' in 2011 had been increasing in lagged shareholder dissent in the following

year. Furthermore, the pay-performance link appears to have improved between 2011 and 2012 for the control firms as well. Thus, the level of dissent votes exercised by shareholders in 2011 may have sent a signal to all firms to align CEO pay with firm performance. Finally, the firms that received 'two strikes' in two consecutive years had a weaker pay-performance link, and the strength of the pay-performance link was decreasing in the current level of shareholder dissent compared with the 'first-strike' firms in 2012.

Compared with the results reported in Clarkson *et al.* (2011), our results on the pay-performance link may appear subdued. In Clarkson *et al.*, the strongest pay-performance link has been observed in the latter years of their sample period. Moreover, the sample firms in Clarkson *et al.* (2011) are much larger and financially much more successful than the sample firms in this study. In particular, the mean (median) market capitalization of our sample firms at the 2011 fiscal year-end was $A318.540 ($A41.286) million compared with $A4586.343 ($A281.815) million in 2009 in the Clarkson *et al.* (2011) sample. The mean (median) *ROE* in our sample in 2011 was -20.28% (-6.78%) compared with 7.5% (9.9%) in 2009 in Clarkson *et al.*'s (2011) sample. The mean (median) shareholder dissent votes ('no' votes) on the remuneration report in 2011 was 45.6% (40.6%) compared with 11.4% (4.0%) in Clarkson *et al.*'s sample.[13] Given such extreme firm characteristics, it is highly unlikely that we will observe the same pay-performance link as reported in Clarkson *et al.* (2011).

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[13] We compare our sample characteristics with those of 2009 in Clarkson et al. (2011) because 2009 is the closest year to our sample period and because several of the characteristics (such as CEO remuneration and dissent votes) in Clarkson et al. are increasing over time. A comparison between our sample and Clarkson *et al.*'s sample in other years will show stronger differences.

However, results reported in this paper are consistent with non-Australian studies. For example, Jensen and Murphy (1990) document that the pay-performance link has been declining in the U.S. since the 1930s. Using meta-analysis, Tosi *et al.* (2000) conclude that firm performance accounts for less than 5% of the variation in total CEO pay. Our results are also consistent with Conyon and Sadler (2010) who find that firms with higher CEO pay attract higher shareholder voting dissent. However, unlike Conyon and Sadler (2010), we find evidence that CEO pay declines and that firm performance improves in the 'first-strike' firms following the 'first strike'. These are the firms that subsequently avoid the 'second strike'.

Our results further imply that, all else being equal, smaller firms are more likely than larger firms to face a 'strike'. Smaller firms are likely to have weaker governance structures (Link, Netter and Young, 2008; Monem, 2013). Corporate governance structure is considered to be weak in the presence of CEO duality, lack of board independence, absence of the remuneration committee, non-independence of the remuneration committee chair, and the CEO being a member of the remuneration committee. Smaller firms that received a 'strike' were characterized by these governance features. Thus, good governance of remuneration demonstrating that CEOs and senior executives are not engaged in self-dealing behavior is particularly important for gaining shareholder confidence.

In sum, this study provides some evidence on the efficacy of the newly introduced legislation on executive remuneration. Since the introduction of the new legislation, the pay-performance link improved in the firms that received a 'first strike' in 2011 but avoided a 'second strike' in 2012. Furthermore, shareholders appear to have exercised

their voting power more judiciously in 2012 than in 2011, suggesting that they were going through a learning process. Thus, the findings of this paper have important insights for the global debate on reigning in executive remuneration.

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Figure 1
Time line of key events under the 'two-strikes' rule

Year 1

Annual General Meeting (**AGM**)
Meeting papers
- Vote on remuneration report

Vote on Remuneration Report

'no' votes <

'no' votes ≥

No further action

**Engage, explain, and
modify remuneration**

AGM

Year 2

AGM Meeting papers
- Vote on remuneration report
- Resolution for re-election of directors (excluding the CEO)

Vote on Remuneration Report and Resolution

'no' votes <

'no' votes ≥ 25%

Resolution not activated

Resolution activated

vote ≤ 50%

vote > 50%

No further action

Extraordinary
General Meeting
(**EGM**)

Within
90 days

EGM meeting papers
- Re-election of directors,
subject to resolution

Sources: Adapted from Productivity Commission (2009: XXXII)

Table 1

Industry distribution and characteristics of 104 'strike' firms in 2011 and 105 'strike' firms in 2012 and characteristics of matched-pair control firms

Panel A: Industry-sector (GICS) distribution of 'strike' firms

Industry sector	Year: 2011 Freq. (Proportion)	Year: 2012 Freq. (Proportion)
Energy (10)	17 (16.3%)	21 (20.0%)
Materials (15)	35 (33.7%)	40 (38.1%)
Industrials (20)	12 (11.5%)	13 (12.4%)
Consumer Discretionary (25)	13 (12.5%)	12 (11.4%)
Consumer Staples (30)	2 (1.9%)	0 (0.0%)
Health Care (35)	6 (5.7%)	6 (5.7%)
Financials (40)	11(10.6%)	6 (5.7%)
Information Technology (45)	6 (5.7%)	6 (5.7%)
Telecommunications (50)	2 (1.9%)	1 (1.0%)
Utilities (55)	0 (0.0%)	0 (0.0%)
Total	104 (100%)	105 (100%)

Panel B: Descriptive statistics

	Sample year: 2011		Sample year: 2012	
	'Strike' sample	Control sample	'Strike' sample	Control sample
	n = 104	n = 104	n = 105	n = 105
Dissent votes:				
Mean	0.456	0.049	0.453	0.048
Median	0.406	0.025	0.394	0.027
Std. dev.	0.172	0.063	0.181	0.055
Minimum	0.255	0.000	0.003	0.000
Maximum	0.961	0.249	0.951	0.240
MKTCAP ($A million):				
Mean	318.540	406.756	170.397	240.501
Median	41.286	48.198	28.521	51.080
Std. dev.	859.910	932.443	492.874	627.399
Minimum	2.277	2.401	0.000	1.172
Maximum	6,221.587	4,869.768	4,085.642	5,325.948
Total asset ($A million):				
Mean	445.986	409.559	188.670	280.843
Median	43.766	53.950	33.805	38.256
Std. dev.	1,365.610	1,175.250	472.355	882.771
Minimum	0.718	0.314	0.245	1.433
Maximum	7,987.644	9,138.300	4,006.572	7,013.400
Revenue ($A million):				
Mean	283.856	317.855	164.105	159.025
Median	6.347	6.842	0.562	0.000
Std. dev.	1,084.718	1,082.527	530.349	515.913
Minimum	0	6.000	0.000	0.000

Maximum	9,153.100	8,846.800	3,243.200	3,500.900
CEO Pay level ($A):				
Mean	902,964	825,323	612,907	709,011
Median	492,899	451,926	442,748	458,841
Std. dev.	1,322,046	1,160,097	640,792	744,733
Minimum	0	0	1.0	1.0
Maximum	7,710,275	6,464,583	4,256,144	4,607,311
KMP Pay level ($A):				
Mean	2,968,831	3,402,521	2,188,327	2,397,227
Median	1,670,742	1,484,277	1,480,780	1,318,415
Std. dev.	3,956,671	6,417,194	2,181,148	2,711,570
Minimum	84,500	0	94,997	0
Maximum	24,855,128	54,508,256	13,025,858	13,824,000
CEO Pay Change:				
Mean	-0.00209	0.00027	0.00018	0.00129
Median	0.00015	0.00021	0.00018	0.00038
Std. dev.	0.03944	0.01063	0.01519	0.01561
Minimum	-0.32906	-0.07549	-0.06384	-0.09443
Maximum	0.16616	0.05005	0.09347	0.06763
KMP Pay Change:				
Mean	0.00311	0.00136	0.01032	0.00032
Median	0.00155	0.00099	0.00207	0.00054
Std. dev.	0.05381	0.02567	0.06213	0.02440
Minimum	-0.27430	-0.18297	-0.25912	-0.10853
Maximum	0.32115	0.05699	0.35736	0.08734
ROE (%):				
Mean	-20.282	-12.632	-23.881	-20.863
Median	-6.780	-2.555	-8.100	-6.050
Std. dev.	42.670	39.150	89.408	76.715
Minimum	-139.170	-139.170	-534.650	-534.650
Maximum	25.950	25.950	144.800	219.460
Leverage:				
Mean	0.659	0.702	1.361	1.459
Median	0.304	0.377	1.203	1.201
Std. dev.	2.082	1.833	1.619	0.852
Minimum	-11.320	-7.120	-8.436	-1.942
Maximum	13.480	9.720	8.108	6.424
MKTBOOK:				
Mean	1.595	1.996	1.546	2.092
Median	1.235	1.595	0.930	1.220
Std. dev.	1.220	1.573	4.397	4.356
Minimum	0.190	0.190	-7.040	-6.010
Maximum	5.420	5.420	42.940	41.560
σROE:				
Mean	0.438	0.537	0.645	1.284
Median	0.107	0.116	0.127	0.120
Std. dev.	0.986	1.117	1.575	9.619
Minimum	0.010	0.010	0.003	0.003
Maximum	4.597	4.597	11.580	98.694
RET (%)				
Mean	14.039	35.047	-5.557	5.698
Median	-7.130	-0.698	-18.859	-11.081
Std. dev.	80.653	103.066	70.993	82.721
Minimum	-76.827	-76.827	-.88.860	-108.130

Maximum	292.870	292.870	416.140	494.470
CEO ownership (*CEOOWN*)%:				
Mean	5.293	5.959	5.450	4.703
Median	1.330	0.841	0.690	0.740
Std. dev.	9.141	10.938	11.089	9.417
Minimum	0.000	0.000	0.000	0.000
Maximum	34.938	34.938	67.500	54.250
Governance (*GOV*):				
Mean	0.700	0.766	0.648	0.691
Median	0.833	0.833	0.667	0.667
Std. dev.	0.203	0.262	0.246	0.175
Minimum	0.000	0.000	0.000	0.000
Maximum	1.000	1.000	1.000	1.000

Panel C: Mean values of binary variables

Variable	Sample year: 2011		Sample year: 2012	
	'Strike' sample	Control sample	'Strike' sample	Control sample
	n = 104	*n* = 104	*n* = 105	*n* = 105
BIG4	0.452	0.452	0.457	0.476
CEO Duality	0.125	0.096	0.210	0.058
CEO Change	0.250	0.240	0.190	0.248
RemuCom	0.702	0.625	0.610	0.583
CEORC	0.894	0.067	0.514	0.505

Variable definitions: *DISSENT* is the level of shareholder dissent with executive remuneration, measured as the proportion of 'no' votes divided by the sum of 'no' and 'yes' votes. *MKTCAP* is the total market capitalization at the beginning of the year; Total assets is the book value of total assets at year-end; Revenue is total annual operating revenue for the year; *CEO Pay level* is the CEO's all-inclusive total annual remuneration including fixed salary, short-term incentives (bonus), post-employment benefits, termination benefits and long-term incentives (equity) payments; *KMP Pay level* is the total all-inclusive annual remuneration for the key management personnel (KMP); *CEO* (*KMP*) *Pay Change* is the *CEO* (*KMP*) *Pay level* at t less *CEO* (*KMP*) *Pay level* at $t-1$ scaled by *MKTCAP* at the beginning of the year; *ROE* is the return on equity; *Leverage* is the ratio of total liabilities to book value of equity at year-end; *MKTBOOK* is the market value of equity at year-end divided by the book value of equity at year-end; *σROE* is the standard deviation of ROE over the period $t-3$ to $t-1$; Market-adjusted shareholder returns (*RET*) is the annual buy and hold security returns adjusted for the ASX 200 returns (as a proxy for the market portfolio); *CEOOWN* is the percentage of shares owned by the CEO in the firm; *GOV* is the composite score of firm corporate governance based on six individual measures of corporate governance (namely, *CEO duality*, *board independence*, existence of *remuneration committee*, *remuneration committee independence*, *CEO membership in remuneration committee*, and *remuneration committee chaired by non-executive director*); *BIG4* is a binary variable set equal to 1 if the firm is audited by a Big 4 auditor; *CEO Duality* is a binary variable set equal to 1 if the CEO is not also the board chair; *CEO Change* is a binary variable set equal to 1 if there has been a change in the CEO role; *RemuCom* is a binary variable set equal to 1 if the firm has a remuneration committee; and *CEORC* is a binary variable set equal to 1 if the CEO is not a member of *RemuCom*.

Table 2

Annual regression results of comparing the pay-performance link between 'strike' firms and control firms

$$CEO\ Pay\ Change_{i,t} = \alpha_i + \beta_1 RET_{i,t} + \varepsilon_{i,t} \tag{1}$$

$$CEO\ Pay\ Change_{i,t} = \alpha + \beta_1 RET_{i,t} + \beta_2 STRIKE_{i,t} + \beta_3 RET * STRIKE_{i,t} + \beta_4 GOV_{i,t} + \epsilon_i \tag{2}$$

$$CEO\ Pay\ Change_{i,t} = \alpha + \beta_1 RET_{i,t} + \beta_2 DISSENT_{i,t} + \beta_3 RET * DISSENT_{i,t} + \beta_4 GOV_{i,t} + \epsilon_{i,t} \tag{3}$$

	Model (1) 'Strike' firms 2011 Coeff. (p-value) Column A	Model (1) Control firms 2011 Coeff. (p-value) Column B	Model (1) 'Strike' firms 2012 Coeff. (p-value) Column C	Model (1) Control firms 2012 Coeff. (p-value) Column D	Model (2) Pooled sample 2011 Coeff. (p-value) Column E	Model (2) Pooled sample 2012 Coeff. (p-value) Column F	Model (3) 'Strike' firms 2011 Coeff. (p-value) Column G	Model (3) Control firms 2011 Coeff. (p-value) Column H	Model (3) 'Strike' firms 2012 Coeff. (p-value) Column I	Model (3) Control firms 2012 Coeff. (p-value) Column J
Intercept	-0.003 (0.524)	-0.000 (0.990)	0.000 (0.738)	0.001 (0.500)	0.013 (0.082)	-0.001 (0.815)	0.062 (0.000)	-0.003 (0.365)	0.000 (0.943)	-0.003 (0.667)
RET	0.000 (0.526)	0.000 (0.423)	**0.006** **(0.004)**	**0.005** **(0.010)**	0.000 (0.774)	**0.005** **(0.009)**	**-0.000** **(0.097)**	0.000 (0.269)	0.001 (0.793)	**0.009** **(0.003)**
STRIKE					-0.004 (0.395)	0.000 (0.884)				
RET*STRIKE					0.000 (0.649)	0.001 (0.674)				
DISSENT							**-0.001** **(0.006)**	**0.000** **(0.070)**	-0.003 (0.676)	0.027 (0.320)
RET*DISSENT							0.000 (0.054)	-0.000 (0.605)	0.010 (0.287)	**-0.055** **(0.067)**
GOV					-0.016 (0.056)	0.003 (0.580)	**-0.051** **(0.005)**	0.002 (0.657)	0.002 (0.681)	0.003 (0.689)
Adj. R²	-0.006	-0.003	0.069	0.055	0.004	0.055	0.123	0.006	0.054	0.070
n	104	104	105	105	208	210	104	104	105	105

Variable definitions: *CEO Pay Change$_{i,t}$*= Change in total all-inclusive annual remuneration for the CEO of firm i from year t-1 to year t scaled by *MKTCAP$_{i,t-1}$*; *MKTCAP$_{i,t-1}$* is the total market capitalization of firm i at the end of year t-1; Market-adjusted shareholder returns (*RET*) is the annual buy and hold security returns adjusted for the ASX 200 returns (as a proxy for the market portfolio); *STRIKE* is a

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binary variable set equal to 1 for treatment firms (firms that received 25% or more 'no' votes on the remuneration report) and 0 for the control firms; *DISSENT* is the magnitude of shareholder dissent with executive remuneration, measured as the proportion of 'no' votes divided by the sum of 'no' and 'yes' votes. *RET* DISSENT* is the interaction variable between *RET* and *DISSENT*; *GOV* is the composite score of firm corporate governance based on six individual measures of corporate governance (namely, CEO duality, board independence, existence of remuneration committee, remuneration committee independence, CEO membership in remuneration committee, and remuneration committee chaired by non-executive director).

Table 3

Comparing the pay-performance link of the 75 firms in 2012 that received the 'first strike' in 2011 but avoided the 'second strike' in 2012 with the matched control firms

$$CEO\ Pay\ Change_{i,t} = \alpha + \beta_1 RET_{i,t} + \beta_2\ LAGDISSENT_{i,t} + \beta_3 RET_{i,t} * LAGDISSENT_{i,t} + \beta_4 GOV_{i,t} + \epsilon_{i,t}\ (4)$$

	Model (4) 'Strike' firms 2012 Coeff. (p-value) Column A	Model (4) Control firms 2012 Coeff. (p-value) Column B
Intercept	-0.009 (0.121)	-0.014 (0.004)
RET	**-0.012 (0.071)**	-0.002 (0.646)
LAGDISSENT	0.004 (0.549)	-0.001 (0.945)
RET*LAGDISSENT	**0.026 (0.027)**	0.037 (0.472)
GOV	0.007 (0.258)	**0.013 (0.013)**
Adj. R^2	0.039	0.041
n	75	75

Variable definitions: *CEO Pay Change$_{i,t}$* = Change in total all-inclusive annual remuneration for the CEO of firm *i* from year *t-1* to year *t* scaled by *MKTCAP$_{i,t-1}$*; *MKTCAP$_{i,t-1}$* is the total market capitalization of firm *i* at the end of year *t-1*; *RET* is the annual buy and hold security returns adjusted for the ASX 200 returns (as a proxy for the market portfolio); *LAGDISSENT* is the one-year *lagged* level of shareholder dissent with executive remuneration, measured as the proportion of 'no' votes divided by the sum of 'no' and 'yes' votes; *RET* *LAGDISSENT* is the interaction variable between *RET* and *LAGDISSENT*; *GOV* is the composite score of firm corporate governance based on six individual measures of corporate governance (namely, CEO duality, board independence, existence of remuneration committee, remuneration committee independence, CEO membership in remuneration committee, and remuneration committee chaired by non-executive director).

Table 4

Comparison of 22 firms that received 'two strikes' in two consecutive years (2011 and 2012) with the unique 'first-strike' firms of 2011 and the unique 'first-strike' firms of 2012

Panel A: Descriptive statistics of key variables and comparison between the means

Year	Column A	Column B	Column C	Column D	Column E	Column F
	'Two-strike' firms Mean (Median) 2011	'First-strike-only' firms Mean (Median) 2011	'Two-strike' firms Mean (Median) 2012	'First-strike-only' firms Mean (Median) 2012	Comparison of means between Columns A & B t-statistic (p-value)	Comparison of means between Columns C & D t-statistic (p-value)
DISSENT	0.444 (0.413)	0.459 (0.400)	0.423 (0.387)	0.462 (0.417)	-0.411 (0.683)	-0.850 (0.402)
CEO Pay level ($A)	457,834 (339,661)	1,022,390 (519,545)	444,806 (382.234)	663,389 (487,031)	**-3.098 (0.003)**	**-1.767 (0.083)**
MKTCAP ($A million)	115.272 (25.906)	373.075 (63.462)	112.341 (18.134)	188.051 (35.524)	**-2.083 (0.040)**	-0.811 (0.421)
CEO Pay/MKTCAP (%)	2.140 (1.550)	1.800 (0.720)	2.280 (1.410)	2.110 (0.930)	0.757 (0.453)	0.301 (0.765)
CEO Pay Change	-0.070 (0.025)	-0.246 (0.013)	-0.216 (0.043)	0.093 (0.001)	0.249 (0.804)	-0.986 (0.331)
ROE (%)	-22.750 (-9.840)	-19.620 (-5.720)	-22.856 (-4.790)	-24.110 (-12.405)	-0.331 (0.743)	0.048 (0.962)
RET	0.440 (0.246)	0.059 (-0.126)	-0.046 (-0.212)	-0.052 (-0.179)	**1.795(0.083)**	0.054 (0.958)
MKTBOOK	1.318 (1.225)	1.669 (1.245)	0.681 (0.760)	1.790 (1.030)	-1.546 (0.124)	-1.636 (0.105)
σROE (%)	41.762 (8.600)	44.396 (11.262)	38.083 (12.981)	72.308 (12.733)	-0.111 (0.913)	-1.419 (0.159)
Revenue ($A million)	25.196 (2.900)	353.256 (7.577)	26.431 (0.617)	203.043 (0.990)	**-2.440 (0.017)**	**-2.648 (0.010)**
CEO OWN (%)	8.546 (1.580)	4.421 (1.245)	6.507 (0.820)	5.209 (0.680)	**1.903 (0.060)**	0.505 (0.617)
BIG4	0.409 (0.000)	0.463 (0.000)	0.409 (0.000)	0.476 (0.000)	-0.450 (0.656)	-0.504 (0.618)
GOV	0.667 (0.667)	0.709 (0.833)	0.644 (0.667)	0.650 (0.667)	-1.019 (0.314)	-0.093 (0.927)
BoardIndep	0.688 (0.694)	0.667(0.750)	0.671 (0.690)	0.683 (0.750)	-0.150 (0.882)	-0.263 (0.794)
CEO Duality	0.091 (0.000)	0.134 (0.000)	0.091 (0.000)	0.244 (0.000)	-0.590 (0.559)	**-1.911 (0.062)**
RemuCom	0.545 (1.000)	0.707 (1.000)	0.455 (0.000)	0.646 (1.000)	-1.668 (0.102)	-1.624 (0.114)
CEORC	0.909 (1.000)	0.890 (1.000)	0.409 (0.000)	0.537 (1.000)	0.263 (0.794)	-1.104 (0.278)
RemuChair	0.500 (0.500)	0.707 (1.000)	0.409 (0.000)	0.610 (1.000)	**-1.724 (0.095)**	-1.609 (0.117)
RemuIndep	0.545 (1.000)	0.744 (1.000)	0.424 (0.000)	0.585 (1.000)	**-2.003 (0.054)**	-1.018 (0.316)
n	22	82	22	83		

Table 4 (continued)

Panel B: Annual regressions to test whether 'two-strike' firms have a weaker pay-performance link compared with 'first-strike' firms and whether the pay-performance link of the 'two-strike' firms is decreasing in the current level of shareholder dissent compared with the 'first-strike'-only firms

$$CEO\ Pay\ Change_{i,t} = \alpha + \beta_1 RET_{i,t} + \beta_2\ TWO\ STRIKE_{i,t} + \beta_3 RET*TWO\ STRIKE_{i,t} + \beta_4 GOV_{i,t} + \epsilon_i \quad (5)$$

$$CEO\ Pay\ Change_{i,t} = \alpha + \beta_1 RET_{i,t} + \beta_2\ TWO\ STRIKE_{i,t} + \beta_3\ DISSENT_{i,t}$$

$$+ \beta_4 RET*TWO\ STRIKE*DISSENT_{i,t} + \beta_5 GOV_{i,t} + \epsilon_{i,t} \quad (6)$$

	Model (5) 'Strike' firms 2011 Coeff. (*p*-value) Column A	Model (5) 'Strike' firms 2012 Coeff. (*p*-value) Column B	Model (6) 'Strike' firms 2011 Coeff. (*p*-value) Column C	Model (6) 'Strike' firms 2012 Coeff. (*p*-value) Column D
Intercept	0.035 (0.016)	0.000 (0.955)	0.060 (0.001)	0.005 (0.392)
RET	0.000 (0.249)	**0.011 (0.000)**	0.000 (0.450)	**0.001 (0.000)**
TWO STRIKE	0.004 (0.715)	-0.004 (0.222)	0.001 (0.878)	**-0.007 (0.063)**
DISSENT			**-0.055 (0.013)**	-0.008 (0.285)
RET*TWO STRIKE	-0.000 (0.168)	**-0.013 (0.002)**		
RET*DISSENT* TWO STRIKE			-0.024 (0.294)	**-0.045 (0.001)**
GOV	**-0.053 (0.006)**	0.002 (0.732)	**-0.054 (0.005)**	0.001 (0.907)
Adj. R^2	0.047	0.138	0.091	0.151
n	104	105	104	105

Variable definitions: *DISSENT* is the level of shareholder dissent with executive remuneration, measured as the proportion of 'no' votes divided by the sum of 'no' and 'yes' votes. *CEO Pay Change$_{i,t}$* = Change in total all-inclusive annual remuneration for the CEO of firm *i* from year *t-1* to year *t* scaled by *MKTCAP$_{i,t-1}$*; *MKTCAP$_{i,t-1}$* is the total market capitalization of firm *i* at the end of year *t-1*; *ROE* is the return on equity; *RET* is the annual buy and hold security returns adjusted for the ASX 200 returns (as a proxy for the market portfolio); *MKTBOOK* is the market value of equity at year-end divided by the book value of equity at year-end; *σROE* is the standard deviation of ROE over the period *t-3* to *t-1*; *Revenue* is the total annual operating revenue for the year; *CEO OWN* is the percentage of shares owned by the CEO in the firm; *BIG4* is a binary variable set equal to 1 if the firm is audited by a Big 4 auditor; *GOV* is the composite score of firm corporate governance based on six individual measures of corporate governance (namely, CEO duality, board independence, existence of remuneration committee, remuneration committee independence, CEO membership in remuneration committee, and remuneration committee chaired by non-executive director); *BoardIndep* is the proportion of non-executive directors in the board; *CEO Duality* is a binary variable set equal to 1 if the CEO is not also the board chair; *RemuCom* is a binary variable set equal to 1 if the firm has a remuneration committee; *CEORC* is a binary variable set equal to 1 if

the CEO is not a member of *RemuCom*; *RemuChair* is a binary variable set equal to 1 if the chair of the remuneration committee is a non-executive director; *RemuIndep* is the proportion of non-executive directors on the remuneration committee; $TOTREMU_{i,t}$ is the total remuneration of the CEO in firm *i* in year *t* less the total remuneration of the CEO at year *t-1*; *TWO STRIKE* is a binary variable set equal to 1 for the firms where *DISSENT* ≥ 25% both in 2011 and 2012; *RET*TWO STRIKE* is an interaction variable between *RET* and *TWO STRIKE*; and *RET*DISSENT*TWO STRIKE** is a three-way interaction variable among *RET, DISSENT* and *TWO STRIKE*.

Table 5

Annual regressions using the full model to test the relation between shareholder dissent and the pay-performance link

$$CEO\ Pay\ Change_{i,t} = \alpha + \gamma_1 RET_{i,t} + \gamma_2 DISSENT_{i,t} + \gamma_3 RET * DISSENT_{i,t} + \gamma_4 GOV_{i,t}$$

$$+ \gamma_5 ASSET_{i,t} + \gamma_6 LEV_{i,t} + \gamma_7 MKTBOOK_{i,t} + \gamma_8 \sigma ROE_{i,t-1} + \gamma_9 CEOOWN_{i,t}$$

$$+ \gamma_{10} CEOCHANGE_{i,t} + \gamma_{11} BIG4_{i,t} + Industry\ fixed\ effects + \epsilon_i\ (7)$$

Year	2011		2012	
	'Strike' firms Coeff. (p-value)	Control firms Coeff. (p-value)	'Strike' firms Coeff. (p-value)	Control firms Coeff. (p-value)
Intercept	0.044	0.002	-0.039	-0.034
	(0.518)	(0.915)	(0.120)	(0.110)
RET	**-0.000**	0.000	0.003	**0.011**
	(0.081)	(0.716)	(0.607)	**(0.000)**
DISSENT	**-0.001**	**0.000**	-0.001	0.020
	(0.010)	**(0.071)**	(0.933)	(0.461)
RET*DISSENT	**0.000**	0.000	0.006	**-0.061**
	(0.053)	(0.458)	(0.553)	**(0.046)**
GOV	**-0.048**	0.003	0.001	0.003
	(0.041)	(0.490)	(0.873)	(0.760)
ASSSET	0.001	**-0.001**	**0.002**	0.001
	(0.724)	**(0.042)**	**(0.075)**	(0.428)
LEV	-0.008	0.000	-0.002	0.002
	(0.642)	(0.836)	(0.152)	(0.445)
MKTBOOK	0.000	0.001	0.000	-0.000
	(0.972)	(0.260)	(0.397)	(0.805)
σROE	-0.002	**-0.004**	0.001	-0.000
	(0.678)	**(0.000)**	(0.590)	(0.590)
CEOOWN	0.000	0.000	0.000	**0.000**
	(0.676)	(0.695)	(0.609)	**(0.080)**
CEOCHANGE	0.006	-0.001	0.000	-0.002
	(0.562)	(0.653)	(0.920)	(0.539)
BIG4	-0.002	0.001	-0.002	0.000
	(0.870)	(0.596)	(0.584)	(0.993)
Industry fixed effects	Yes	Yes	Yes	Yes
Adj. R^2	0.032	0.118	0.032	0.126
n =	104	104	105	105

Variable definitions: *CEO Pay Change*$_{i,t}$ = Change in total all-inclusive annual remuneration for the CEO of firm *i* from year *t-1* to year *t* scaled by *MKTCAP*$_{i,t-1}$; *MKTCAP* is the total market capitalization at the beginning of the year; *RET* is the annual buy and hold security returns adjusted for the ASX 200 returns (as a proxy for the market portfolio); *DISSENT* is the level of shareholder dissent with executive remuneration, measured as the proportion of 'no' votes divided by the sum of 'no' and 'yes' votes. *RET* DISSENT* is the interaction variable between *RET* and *DISSENT*; *GOV* is the composite score of firm corporate governance based on six individual measures of corporate governance (namely, CEO duality, board independence, existence of remuneration committee, remuneration committee independence, CEO membership in remuneration committee, and remuneration committee chaired by non-executive director); *ASSET* is the book value of total assets at the beginning of the year; *LEV* is the ratio of total liabilities to book value of equity at year-end; *MKTBOOK* is the market value of equity at year-end divided by the book value of equity at year-end; *σROE* is the standard deviation of ROE over the period *t-3* to *t-1*; *CEO OWN* is the percentage of shares owned by the CEO in the firm; *CEO CHANGE* is a binary variable set equal to 1 if there has been a change in the CEO role; *BIG4* is a binary variable set equal to 1 if the firm is audited by a Big 4 auditor; *Industry fixed effects* are dummy variables to capture industry differences in the pay-performance link; Industry categories are based on 10 industry sectors as per GICS.