The impact of say on pay votes on firms' strategic policies: Insights from the Anglo-Saxon economy

Abstract

This study examines evidences of executive reactions to say-on-pay (SOP) votes in terms of strategic policies which could affect firms' long-run growth and eventual survival. We employed an unbalanced panel data from 1,932 firms taken from four countries in the Anglo-Saxon economy, covering periods when different forms of SOP were implemented in these countries. Using Limited Information Maximum Likelihood estimator to gauge the simultaneous determination of SOP votes and firm strategic policies, we find that, in line with shareholders preferences, US firms had increased capital expenditure ratio; Australian and US firms had reduced reliance on debt financing; US managers had shifted focus on current rather than long-term profit, but evidences emerged from other countries are unclear. Corroborations also suggest that excess liquidity was shunned by Canadian shareholders, but the reactions of their company executives were overly disproportionate. UK firm policies did not appear to have been affected by SOP, and vice versa. Overall, the varying effects of SOP votes on firms' strategic policies might be ascribed to either the adoption of a specific SOP practice or the effectiveness of the board.

Keywords: Say-on-pay; investment; financing; profitability; liquidity.

JEL codes: G38, G31, G32, G34

1. Introduction

Executive compensation has been a controversial issue since the 1990s. The advent of the 2008 global financial crisis has further subjected CEO pay to a greater degree of media scrutiny and soaring public anger (Monem and Ng, 2013). Consequently, many countries started adopting say-on-pay (SOP) regulation, which enables stockholders to vote on the suitability of CEO pay at annual general meeting (AGM). For that purpose, executives must make sufficient relevant information available to enable shareholders to evaluate the fairness and appropriateness of their pay policies (Alissa, 2015). The UK was the first country in the world to embrace an *advisory* SOP rule in 2002. In 2013, the *Enterprise and Regulatory Reform Act* made SOP voting *binding* rather than *advisory*, thus providing shareholders the capability to block a proposed excessive managerial compensation package. Other countries such as Australia, the Netherlands, Japan, South Africa, and the USA followed the UK's lead with the approval of similar legislations, in 2004, 2004, 2005, 2009 and 2011 respectively (Stathopoulos and Voulgaris, 2016).[1]

Evidence on the effectiveness of say-on-pay is unclear to date. Existing studies typically concentrate on the impact of this regulation on CEO compensation, stock price reaction, or firm performance of various measures, ignoring the underlying mechanisms through which such influence may propagate and culminate (Carter et al., 2007, Ferri and Maber, 2013, ARMSTRONG et al., 2013). In a recent study, (Murphy and Jensen, 2018) argue that the proponents of say-on-pay are likely to be disconcerted with the outcome of this regulation – more than 98% of the Russell 3,000 firms, that reported SOP votes in the year ending April 2017, had received a more than 50% approval rate; while the approval rate had exceeded 90% for over 70% of these companies. Such finding raises serious doubts about the efficacy of say-on-pay regulation. It is possible that firms' top executives may, in reaction to this regulation,

[1] In Canada, SOP has been adopted as policy not regulation in 2012 (Stathopoulos and Voulgaris, 2016).

pursue specific strategies which are more likely to lead to shareholders' support for higher pay but detrimental to firms' long-term growth. In other words, the adoption of say-on-pay rule may impact on the behaviour of the managers who are often perceived as having their own *"styles"* when making financing, investment, and other strategic decisions (Bertrand and Schoar, 2003). Recent literature in financial economics also shows that individual executives have a significant influence on the strategic directions of companies in terms of accruals (Dejong and Ling, 2013). This line of investigation, looking into the mechanisms beneath rather than at the surface symptoms, is desirable but scarce to date. Thus, in the current study, we aim to shed new light on the virtue of say-on-pay regulation through examining whether major firm policies have been affected by the adoption of this new rule; and if so, in what way.

In the context of the USA, Brunarski et al. (2015) investigate how overcompensated managers responded to low SOP support. By using a sample of firms from S&P 1,500 over 2011-2012, they show that managers had avoided low SOP support through raising dividends, reducing leverage, and increasing corporate investment. Their study, however, only covers the US market, where SOP vote is *advisory*, different from those adopted in other countries. Evidence in this regard from other parts of the world, which have introduced different types of the SOP, is still lacking as far as we are aware. In the UK, for example, the type of vote is *binding*, in Australia *advisory two-strike rule*, and in Canada, *voluntary & advisory* (Stathopoulos and Voulgaris, 2016). Mason et al. (2016) argue that a major factor that hinders the success of SOP research is the *'many forms'* in which it is implemented. Furthermore, their evidence comes from cross-sectional regression, which will not capture the longer-term impact of SOP votes on firm strategies. The current study, thus, endeavours to fill this gap and examines, in an international context, how different forms of SOP affects firm strategic policies involving investment, financing, profitability horizon and liquidity.

Motivated by recent changes in SOP regulation in Australia and in the UK, and by the lack of evidence coming from the international context, the current study asks the question whether SOP regulation induces certain managerial behaviour that may increase shareholders' approval rate but hinder firms' long-term growth potential; and whether the form of SOP regulation makes any difference. More specifically, we ask (under four sampled types of SOP) *i)* does SOP reduces managers' appetite for business risk, reflected by lower long-term investments? *ii)* does SOP lessens managers' appetite for financial risk, exemplified by lower leverage ratio hence potentially more expensive investment capital? *iii)* does SOP encourages myopia behaviour, epitomised by a focus on short-term profitability? And *iv)* does SOP attenuate managers' exposure for operational risk, manifested by higher level of liquidity?

To pursue the above questions, the researchers selected an unbalanced panel data of 1,932 publicly listed firms from four countries: 170 firms listed on S&P/ASX200; 97 on S&P/TSX250; 316 on FTSE 350, and 1,349 on S&P 1,500. There are several reasons for choosing these four countries. First, these countries have approved different forms of SOP regulation, each of which has its own characteristics. For example, advisory SOP is very different from binding SOP. The latter requires companies to respond to stockholder concerns regarding CEO pay, whereas the former does not (Monem and Ng, 2013). Second, the levels of senior executive pay in these countries were higher compared to those in other countries, making them more interesting subjects of study (Lu and Melin, 2016). Third, they have a high standard of corporate governance, which will potentially enhance the efficacy of SOP regulation. Fourth, they all reflect the Anglo-Saxon model and have analogous characteristics, such as a single tier-board, a common law system, and a well-developed capital market, hence eliminating potential differences accounted for by such institutional variances.

The term Anglo-Saxon economy refers to an economic model of capitalism emerged from the Chicago School of Economics and is primarily practiced in English-speaking countries.

Anglo-Saxon capitalism contrasts with the Rhine capitalism of the German Model and the Nordic Model practiced in the Scandinavian nations (the latter two will together be referred to as the European Model). In the Anglo-Saxon model, the levels of taxes are low, the regulations loose, and the provision of public services is lower than in the other models. Stock markets are central for raising investment capitals in Anglo-Saxon model. In Contrast, the European Model favours having knowledgeable bankers making decisions regarding investment financing.

Some researchers suggest that there are sub-types and variations of the Anglo-Saxon capitalism practiced throughout English-speaking countries. These variations include the neoclassical model adopted in the UK and the US and the balanced model in Australia and Canada. Differing interpretations of the Anglo-Saxon economic school of thought led to policy differences within these countries in respect to the relationship between the public and private sectors. In the United States, for example, the government enforces lower tax rates, invests less money on welfare programs and social services than in Australia, Canada, and the UK. While there are variations, the Anglo-Saxon capitalism in general focuses on the interests of the shareholders. Such focus may force company executives to be more responsive to shareholder voices hence adopting policies that are more likely to win support for their pay at the AGM.

We employed Limited Information Maximum Likelihood (LIML) estimator in the model estimation. Traditionally, two-stage least squares (2SLS) has been favoured by researchers over LIML as an instrumental variable method dealing with endogeneity (Ullah et al., 2020). Recent studies (for example, Hahn and Inoue 2002) have however found that LIML performs better than 2SLS in situations where there are many "weak" instruments. (Nagar, 1959) shows that LIML has excellent small-sample qualities vis-à-vis 2SLS. Wansbeek and Prak (2017) also demonstrate that LIML performs better relative to 2SLS when there are many instruments. Generalized method of moments (GMM) is another popular instrumental variable method in

applied finance (Ullah et al., 2018) but Bascle (2008) recommended against the use of GMM method in small samples.

Our empirical analyses indicate that, with the regulatory change, US firms had tilted towards long-term investment. This practice necessitated managers to take more profitable projects, thereby raising their level of pay, but it also led to increased business risk. We also find that the leverage ratio, a proxy for financial risk, had been notably reduced in Australia and the USA, despite the fact that the average leverage levels were already low in these four countries compared to others. The regression results further indicate that top executives in the USA favoured strategies promoting short-term profitability; while evidence emerged from the other three countries are unclear. Additionally, firm's liquidity had a slight negative impact on SOP voting outcome in Canada, but this negative impact on Canadian firms' liquidity was substantial to say the least. UK firm policies did not appear to have been affected by say-on-pay, nor had their shareholders voting outcomes been affect by these policies.

The current research makes several contributions to the literature. *First*, to the best of our knowledge, this study is the first attempt to examine the influence of SOP on the strategic policies of a firm that may have important ramifications on its long-term growth. *Second*, we emphasise the international context that allows the researchers to compare different forms of SOP, which Mason et al. (2016) argue are vital determinants of research outcomes. Furthermore, our evidence comes after the subsequent changes in SOP legislation, notably in Australia and the UK. *Third*, unlike the prior related literature (Brunarski et al., 2015), this research has adopted a panel data rather than cross-sectional regression approach, as it provides more informative data, more variability, less collinearity among variables, more degrees of freedom and more efficiency (Gujarati, 2012). *Finally*, as far as we are aware, this is the first study in this branch of literature adopting LIML estimators, which is less biased compared to

GMM and 2SLS estimators, especially when instrumental variables are weak and sample sizes small (Bascle, 2008, Baltagi, 2013).

The remainder of the study is organised as follows. Section 2 comprises a literature review and hypothesis development. Section 3 discusses the data and methodology. Section 4 presents the empirical outcomes, and finally, we discuss and conclude the paper in Section 5.

2. Literature review and hypotheses development

2.1. Literature review

The shareholder-CEO conundrum has been rigorously scrutinized in the corporate finance literature. The *agency theory* argues that, with the separation of ownership and management, a company's executive director may take actions that are beneficial to him/herself but detrimental to the stockholders when the two parties hold unaligned goals or have different levels of risk aversion (Tricker and Tricker, 2012). The *optimal contract theory* nevertheless suggests that the pay package, if appropriately designed, may incentivise the CEO to align his/her interest with that of the shareholders hence encouraging him/her to implement good corporate policies (O'Reilly et al., 2014, Balsam et al., 2011, DOW and RAPOSO, 2005). In contrast, the *managerial power theory* recognizes that corporate executives have certain degree of control over boards of directors who set executives' pay. Furthermore, powerful executives have a significant influence over how their pay packages are set, partly via manipulating corporate performance, managerial turnover, and the strategic decision-making process (Finkelstein, 2009, Hutzschenreuter et al., 2012).

Numerous academic studies have tested the relationship between corporate strategies and CEO compensation. Balkin et al. (2000) find evidence that CEO compensation is related to innovation and R&D expenditure. Bertrand and Schoar (2003) show that management style, which greatly influences various corporate strategies, is a significant fixed effect in explaining CEO compensation. DOW and RAPOSO (2005) points out that the pay contract of a CEO is

adjusted over time to reflect the evolution of the strategic direction of the company he/she serves. Balsam et al. (2011) also show that compensation committees link managers' pay-packages to firm strategies.

There is also a sizable literature regarding the executive impact on firm policies. For example, (Balsam et al., 2011) argue that CEOs - in practice rather than theory - have a role in setting company policies. Wasserman et al. (2010) and Dejong and Ling (2013) show that managers have a strong likelihood of causing significant changes in corporate policies when needed. Similar reports were given by Rotemberg and Saloner (2000), Graham and Harvey (2001), and MALMENDIER and TATE (2005). It is thus perceivable that, after the adoption of say-on-pay regulation, executives may select strategic policies that lead to higher shareholder support for their compensation packages (DOW and RAPOSO, 2005). Some evidence supporting the above conjecture has emerged from Brunarski et al. (2015), who find that overcompensated executives in the USA react to low SOP support by lowering leverage, lifting investment, and raising dividends (*possibly beyond the optimal levels*).

In Figure 1, we depict the interactive process between the shareholders and the CEO of a hypothetical company and how that process results in corporate policy changes after the implementation of say-on-pay regulation. To begin, shareholders hire executives to run corporates on their behalf. While shareholders aim to increase return to their capitals hence their wealth, managers seek to increase return to their labour input through obtaining higher compensation. Conflict may arise between shareholders and managers because of their unaligned goals or differences in risk aversion. Shareholders voice their concerns via say-on-pay votes; managers seek shareholder support for higher pay via changing corporate strategies that improve shareholders' wealth.

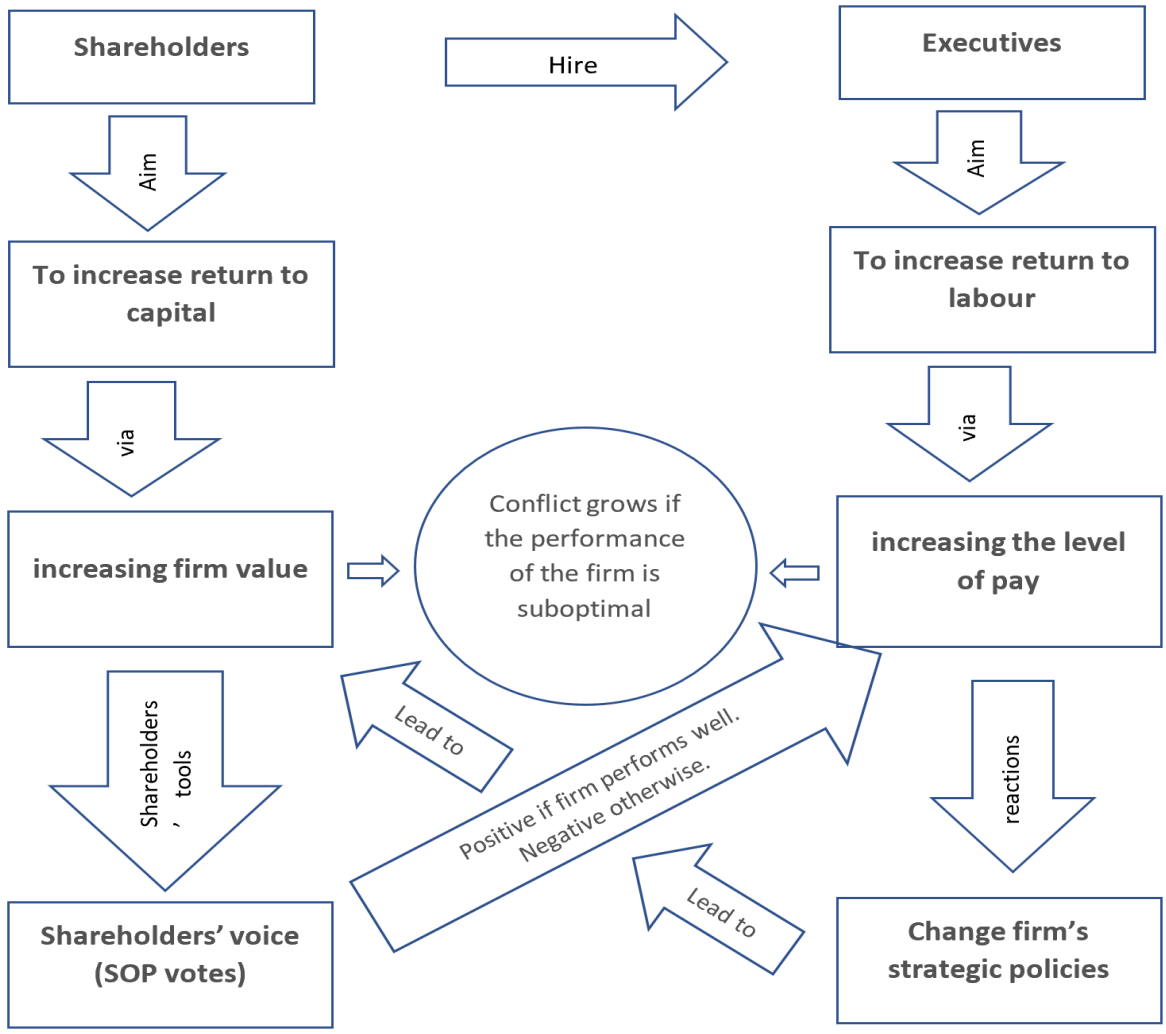

Figure 1 The relation between SOP votes and the firm's strategic policies as designed by authors

While the literature recognizes that corporate strategies have a crucial influence on a firm's key performance indicators (Mallette, 2006), corporate practices and accounting policies vary significantly across companies. Some argues that such differences are attributable to managers' personal styles. Bertrand and Schoar (2003), for instance, demonstrate that a significant of the heterogeneity in investment, financial and organizational practices can be explained by differences in "style" across managers. In the same vein, Dittmar and Duchin (2015) found that corporates run by managers who experienced distress before saved more cash, incurred less debt, and invested less than other companies.

it is thus not unreasonable to argue that managers may respond differently to say-on-pay regulation, depending on their personal styles. We further argue that differences in managerial response may arise from variations in the form of SOP regulation and from dissimilarities in institutional environment (such as the effectiveness of the board). These two aspects are little explored in the SOP literature, and we endeavour in this study to provide some evidence.

2.2.Hypotheses development

In the previous section, we argued that managers may follow specific strategies in order to gain shareholders support for their pay packages. These strategies may undermine the ultimate objective of SOP – encouraging managers to act in the best interests of the owners. According to agency theory, CEO pay incentives and firm strategic policies are endogenously determined. Fundamental conflicts regarding these strategies exist between shareholders and executives because of incongruities in risk preferences. Further, moral hazard may increase agency dilemma and thereby influencing firm policies when firm performance relies on costly but unobservable managerial effort. Conflicts may also arise when firm performance influences executive's reputation in terms of their ability or capacity (Kang et al., 2006). It is thus perceivable that, after SOP adoption, managers have become more vigilant of firm policies that may result in disapproval of executive pay packages. Evidences regarding these are so far sparse, inconclusive, and mostly related to the US companies.

In this study, we examine in an international context four aspects of firm strategic policies: long-term investment, leverage ratio, profitability horizon, and liquidity.

2.2.1. SOP vote and long-term investment

The strategic polices related to a company's long-term investments have a crucial influence on its performance (Liao et al., 2016). An increase in capital expenditure can improve the value of a company if funds are invested rationally. At the same time, rising capital expenditure will

affect the business risk of the company. Consequently, investment decisions may influence SOP voting outcomes at the AGM. Brunarski et al. (2015) show that agency problems were exacerbated among US firms following the introduction of SOP, as overpaid managers made suboptimal investment decisions in order to win higher SOP support. Based on S&P 1500 companies between 2010 and 2015, Fisch et al. (2018) indicate that SOP votes can contribute to excessive risk-taking due to positive correlation between risk and stock market performance. Based on the above, we hypothesize the following:

H1a: SOP vote discourages managers from engaging in long-term investment, which increases business risk but is crucial for firm growth.

H1b: Riskier long-term investment discourages shareholders from supporting executives' compensation at AGM.

H1c: The influences of SOP on long-term investment varies by the type of SOP regulation.

H1d: The influences of SOP on long-term investment is affected by the effectiveness of the board.

2.2.2. SOP vote and leverage

Financial risk, arising from the use of debt financing, can influence the agency relationship between managers and shareholders and thereby affecting managers' pay packages. Earlier researchers argue that debt can mitigate agency problems by inducing lenders to monitor managers, and hence discouraging the latter group from adopting value-destroying corporate strategies (Grossman and Hart, 1982, Jensen, 1986, Ortiz-Molina, 2005). JOHN and JOHN (1993) also suggest that when stockholder-bondholder conflicts regarding risk choices are severe, shareholders of a leveraged firm may design a compensation package with low pay-performance sensitivity, to reduce the agency cost of debt. Ortiz-Molina (2005) finds that financial leverage indeed plays an important role in the determination of the pay-performance sensitivity of managerial compensation packages. For example, the pay of a CEO in a debt-

free firm is much more responsive (positively) to performance in comparison with a peer in a leveraged firm. That is, more leveraged firms have lower pay-performance sensitivities. It is thus perceivable that leverage level is an important instrument for top executives who wish to increase SOP support.

Evidence in this regard is inconclusive and sparse so far and concentrated on the US firms. Fisch et al. (2018) report that the leverage ratio has no significant influence on the institutional shareholder services (ISS) recommendation among the S&P 1500 companies. Brunarski et al. (2015), on the other hand, find that CEOs among the S&P 1500 companies tend to reduce leverage to avoid low SOP support. Kimbro and Xu (2016) also document that leverage as a firm risk is negatively related to SOP support among the Russell 3000 companies. To offer further evidence in an international context, the current study examines the following hypotheses:

H2a: SOP vote discourages managers from taking financial risks, which leads to lower leverage ratio.

H2b: Adopting a lower level of leverage leads to a higher rate of SOP approval at the AGM.

H2c: The influences of SOP on financial risk-taking varies by the type of SOP regulation.

H2d: The influences of SOP on financial risk-taking is affected by the effectiveness of the board.

2.2.3. SOP vote and profitability horizon

Profitability is an important determinant of firm value. It is widely acknowledged that pay-for-performance is the key to ensure executives to pursue value-enhancing strategies (Jensen and Murphy, 1990, Core et al., 1999, Clarkson et al., 2011, Monem and Ng, 2013, Amzaleg et al., 2014, Balsam et al., 2016, Kimbro and Xu, 2016). Agency theory, which relies on the assumption of rational utility maximising decision-making, suggests that shareholders' voting decisions are strongly influenced by the alignment between CEO pay and performance.

Accordingly, shareholders are less likely to vote in favour of a manager's pay package that has a weak pay-performance alignment than for one with a strong pay-performance link (Liang et al., 2020). Fong et al. (2010) argue that overpaid managers tend to increase effort toward profitability, as such an action is congruous not only with norms of fairness but also with their motivational needs. Yet, evidences are sparse as to how firm profitability affects shareholders' voting outcomes, and vice versa.

Moreover, Dill et al. (2014) debate that companies exposed to the Anglo-Saxon capital markets may be pressured to concentrate on short-term profitability instead of long-term value. Kang et al. (2006) show that US executives overemphasise short-term profits at the expense of long-term value creation in order to push up the current price of the stock and to reduce the risk of takeover. In the same line, Fisch et al. (2018) report that stockholders who unduly focus on short-term profitability might put pressure on managers to cut R&D cost, which is crucial for long-run value-creation. However, Brunarski et al. (2015) suggest that low SOP support is an ineffective means of improving short-term profitability. Based on the above discussion, we develop our third hypotheses below:

H3a: SOP vote encourages managers to focus on strategies generating short-term profit rather than creating long-term value.

H3b: A firm's short-term profitability plays an essential role in approving its executive's compensation package.

H3c: The influence of SOP on a firm's profit strategy varies by the type of SOP rule implemented.

H3d: The influence of SOP on a firm's profit strategy is affected by the effectiveness of the board.

2.2.4. SOP vote and liquidity

Liquidity management is another vital part of company policy (Ghosh et al., 2011). For example, CEOs tend to arrange companies liquidity management strategies to provide the flexibility and capacity of reacting to unexpected changes in their company's cash flows or investment opportunities, and hedging different risks (Lins et al., 2010, Denis, 2011). Opler et al. (1999) indicate that managers may hold excess liquidity to achieve their own interests at the expense of stockholders (if the design of their pay contract fail to discourage such behaviour). The Senior Supervisors Group (SSG) on the other hand suggests that, as a result of weak compensations design, executives have the tendency to expose companies to high liquidity risk which influence negatively on business performance (SSG, 2009, Grant, 2011).

Empirical evidences seem to suggest that existing compensation mechanisms encourage executives to take lower liquidity risk. Elyasiani and Zhang (2015) show that executives tend to adopt strategies that diminish the liquidity and default risk of their corporate, in quest of a secured job and safer assets that they hold in the form of stocks and stock options of the firm they manage. In this view, Yun (2008) argues that CEOs will attempt to hold as much liquidity as possible as long as they can avert takeovers. Higher liquidity also gives executives more discretion by authorising the using of funds without necessitating stockholders' preapproval.

It is not clear from the literature whether shareholders view the existing level of liquidity risk acceptable. We expect that shareholders will express their views through say-on-pay and, anticipating this, executives will forestall unwelcoming voting outcome by adjusting company policies on liquidity risk. Our final hypotheses are proposed as follows:

H4a: SOP vote encourages managers to choose a more liquid balance sheet in order to reduce a key source of operational risks.

H4b: A more liquid balance sheet leads to a higher rate of SOP approval at the AGM.

H4c: The influence of SOP on a firm's liquidity position varies by the type of SOP rule implemented.

H4d: The influence of SOP on a firm's liquidity position is affected by the effectiveness of its board.

3. Data and methodology

3.1. Sample selection

Our initial sample covers all firms included in S&P/ASX 200, S&P/TSX, FTSE 350, S&P1500. Most of our data were gathered from *Bloomberg.* When there were missing observations on some variables, such as CEO total pay and corporate governance mechanisms, the missing values were collected from other sources such as *DataStream* or the corresponding firm's annual report.[2] In addition, to cut the influence of outliers, the value of each variable included in the statistical analysis is restricted between the 1st and the 99th percentile. The final sample consists of an unbalanced panel with 170 firms from Australia, 97 from Canada, 316 from the UK and 1349 from the USA. Further, to standardise the sample and to facilitate comparison, variables which were not denominated in local currencies, are converted into local currencies. The sample selection is shown in Table 1.

(Insert Table 1 about here)

The sample period for each country starts from the time of a major SOP regulatory change and ends at the most recent year when data were available at the time of collection. In the UK, the nature of shareholders' vote changed from *advisory* to *binding* since October 2013, the selected sample period covers three years after the change. Canada adopted *voluntary & advisory* SOP votes policy in 2012.[3] The corresponding sample period spans four years after

[2] For US companies, the missing data of CEO compensation is obtained from SEC filings and for Canadian firms, CEO pay and governance mechanisms are collected from management information circular.

[3] Stathopoulos and Voulgaris (2016) point out that SOP policy was adopted by Canadian firms in 2012, although the SOP votes policy was recommended by the Canadian Coalition for Good Governance (CCGG) in September 2010. However, the number of companies that adopted this policy was smaller in 2011 compared to 2012. Thus, 2012 is documented as the year of SOP policy adopting in Canada.

this adoption. In Australia, *Mandatory & nonbinding* votes on pay package reports became effective on 1 July 2004, but from 1 July 2011 a new legislation called *two-strikes law*[4] became active. Our sample covers four years after the two-strike rule became effective. In the USA, The Dodd-Frank law asked large publicly traded firms to provide their shareholders with the opportunity to cast an advisory vote on executive compensation from January 2011 onwards (smaller companies, which have less than $75 million of the market value of common equity, were allowed a two-year delay until 2013 to implement SOP). Moreover, under this rule, companies are required to provide the remuneration information of the company's CEO, the chief financial officer (CFO), and three other most highly paid executives of the firm (Balsam et al., 2016, Stathopoulos and Voulgaris, 2016). The US sample covers five years after the implementation of non-binding SOP votes.

3.2.Models specification and variables construction:

SOP voting outcomes may influence firms' strategic policies. On the other hand, the voting results may in turn depend on company strategies. Therefore, we formulate five pairs of simultaneous equations, respectively corresponding to the four sets of hypotheses to explore whether voting outcomes impact on firms' practices and vice versa.

(1) Long-term investment and say-on-pay

$$CAPEX_{it} = a_0 + a_1 SOPfor_{it} + a_2(\text{SOPfor} * \text{LnCEOpay}) + a_3 FsFC_{it} + a_4 CGM_{it} + a_5 LnSMI_{it} + a_6 lnCEOpay_{it} + e_{it} \quad (1a)$$

$$SOPfor_{it} = a_0 + a_1 CAPEX_{it} + a_2 FsFC_{it} + a_3 CGM_{it} + a_4 LnSMI_{it} + a_5 lnCEOpay_{it} + e_{it} \quad (1b)$$

(2) Financial risk and say-on-pay

[4] Two strike' happens when a firm's compensation report in the following year (after the 'first strike') also receives 'no' votes of 25% or more (Monem and Ng, 2013).

$$LEV_{it} = a_0 + a_1 SOPfor_{it} + a_2(\text{SOPfor} * \text{LnCEOpay}) + a_3 FsFC_{it} + a_4 CGM_{it} + a_5 LnSMI_{it} + a_6 lnCEOpay_{it} + e_{it} \quad (2a)$$

$$SOPfor_{it} = a_0 + a_1 LEV_{it} + a_2 FsFC_{it} + a_3 CGM_{it} + a_4 LnSMI_{it} + a_5 lnCEOpay_{it} + e_{it} \quad (2b)$$

(3) Profitability and say-on-pay

$$ROA_{it} = a_0 + a_1 SOPfor_{it} + a_2(\text{SOPfor} * \text{LnCEOpay}) + a_3 FsFC_{it} + a_{43} CGM_{it} + a_5 LnSMI_{it} + a_6 lnCEOpay_{it} + e_{it} \quad (3a)$$

$$SOPfor_{it} = a_0 + a_1 ROA_{it} + a_2 FsFC_{it} + a_3 CGM_{it} + a_4 LnSMI_{it} + a_5 lnCEOpay_{it} + e_{it} \quad (3b)$$

(4) Liquidity and say-on-pay

$$CROA_{it} = a_0 + a_1 SOPfor_{it} + a_2(SOPfor * LnCEOpay) + a_2 FsFC_{it} + a_3 CGM_{it} + a_4 LnSMI_{it} + a_5 lnCEOpay_{it} + e_{it} \quad (4a)$$

$$SOPfor_{it} = a_0 + a_1 CROA_{it} + a_2 FsFC_{it} + a_3 CGM_{it} + a_4 LnSMI_{it} + a_5 lnCEOpay_{it} + e_{it} \quad (4b)$$

$$Liquidity_{it} = a_0 + a_1 SOPfor_{it} + a_2(SOPfor * LnCEO\ pay) + a_3 FsFCs_{it} + a_4 CGM_{it} + a_5 LnSMI_{it} + a_6 lnCEOpay_{it} + e_{it} \quad (5a)$$

$$SOPfor_{it} = a_0 + a_1 Liq_{it} + a_2 FsFCs_{it} + a_3 CGM_{it} + a_4 LnSMI_{it} + a_5 lnCEO\ pay_{it} + e_{it} \quad (5b)$$

where e_{it} is the regression residual. Variable abbreviations are explained in Table 2, along with their definitions, measures, and sources. The above formulation allows us to capture the direct impact of SOP votes on the various company policies, a_1. It also helps the researchers to gauge the mitigating effect of the existing level of CEO pay on the SOP-policy relation, $a_2(LnCEO\ pay)$.

(Insert Table 2 about here)

3.4 Estimation methods

The simultaneous equations specified in the previous section will be estimated using panel data. The simultaneity of the equations brings in the issue of endogeneity. Endogeneity issue occurs when one or more variables on the right-hand side are correlated with the error term (Baltagi, 2008, Gujarati, 2012). There are four reasons why endogeneity may come about, with simultaneous equation bias being one of them (Gujurati, 2012: 300). Durbin–Wu–Hausman (DWH) test is usually utilised to disclose endogeneity among explanatory variables in OLS regression. According to the DWH test, the endogeneity issue is existent in our empirical model.

When endogeneity problem exists (Baltagi, 2008), the outcome of Ordinary Least Squares (OLS) regression, fixed effect (FE) model and random effect (RE) model may be unreliable. The common approach to mitigate this problem is employing GMM or 2SLS estimators, but both need instrumental variables to work effectively. In theory, a good instrument should have a strong correlation with the endogenous variable while having no correlation with the error term of the original equation (Chen et al., 2010). In practice, finding good instruments can be challenging. Earlier authors have attempted to circumvent this issue by deploying the lagged valued of dependent and independent variable (Andres and Vallelado, 2008, Nguyen et al., 2014). Ammann et al. (2011) argue that utilising lagged values as instruments controls for potential simultaneity and reverse causality. In this study, we shall follow this approach using the lags of the endogenous variable and other independent variables as instruments.

The over-identifying restrictions test however indicates that these instruments are weak (see Pflueger and Wang (2015) for a discussion). When instruments are weak, the results of GMM and 2SLS will be inconsistent. Bascle (2008) also recommended against the use of GMM method when the sample has less than 700 observations.

As a remedy for both endogeneity and weak instruments, the authors adopted limited information maximum likelihood (LIML) estimator (see Arellano (2004), Baltagi (2013) for details). LIML was pioneered by (Anderson and Rubin, 1949, Anderson and Rubin, 1950) for the classical simultaneous equation problem (Akashi and Kunitomo, 2012). Bascle (2008) reports that the advantage of the LIML estimator is that (i) it is median unbiased: the median of its sampling distribution is generally close to the population parameter; (ii) it is unbiased with weak instruments; and (iii) it performs better than 2SLS estimator when there are many instrumental variables (also see (Bascle, 2008, Wansbeek and Prak, 2017).

For the results of LIML to be unbiased, instrument (s) must satisfy two requirements: it must be associated with the endogenous variable(s), and orthogonal to the error process. The former condition might be readily examined by testing the fit of the first-stage regressions. A statistic commonly used for this is the *F test* of the joint significance of the Z instruments in the first-stage regression (Baum et al. 2003). Anderson and Rubin's (AR) test[5] is another one for checking the validity of the instruments. A statistically significant test statistic always indicates that the instrument (s) may not be valid. *Thus both F test and AR test test the validity of the instruments.*

To satisfy the second requirement, the instrumetns should also pass a "weak instruments test" (different from the over-identifying restrictions test discussed about). Stock and Yogo (2002) proposed commonly utilised pretests for weak instruments under the assumption of conditionally homoskedastic, serially uncorrelated estimation errors. The test rejects the null hypothesis of weak instruments when the minimum eigenvalue statistics exceeds the critical values[6] (Vieira et al., 2012). Weak instrumetns can be defined in terms of either estimation

5 The Anderson–Rubin (1950), AR test of overidentifying restrictions for use after the LIML estimator

6 The critical values for the Stock and Yogo (2002) test depends on the IV estimator used, the number of endogenous regressors, the number of instruments, and how much bias or size distortion the researcher is willing to accept.

bias or test size distortion. In the current study, the results are based on test size distortions.In the following section, we present the econometric estimation results.

4. Empirical findings

4.1.Descriptive statistics

This section summarises the descriptive statistics of the variables used in the econometric analysis below. Table 3 shows that the median support rate for executive pay stood at 94% or above in each of the four countries. The avearge support rate was lower, especially for the Canadian sample. Given the exobitant executive pay in countries such as the US, these statistics immediately raises doubts on the effectiveness of say-on-pay regulations. The mean/median capital expenditures lratios were similar in these countries, with that of the Canadian firms being slightly higher than their peers in the other three countries. Both the mean and the median levrage ratios were low in these four countries, with the US firms having the lowest levearge. This observtion raises doubt on the optimality of the captial structure of the concerned firms. Movinging to proxies of profitability, the mean and median (M&M) Canadian firm was not doing any better in both the short- and the long-term, measured respectively by ROA and cumulative ROA, in comparison with their peers in the other three countries. This is perhaps not surprising given the higher capital expenditure spending that the mean/median Canadian firm incurred. The mean current ratios suggest that the average Canadain and US firms had higher ability than their peers in Australian and UK to pay short-term obligations, hence had exposed themselves to lower liquidty risks.

Among the corporate governance control variables, the average US firm had a CEO duality ratio of 45%, compared to 4% in Australia, 10% in Canada and 1% in the UK. The differences in M&M board size, independent director ratio, and audit committee independence were less visible, though the M&M Australian firms had a board which was 20-30% smaller than their peers, while the M&M UK firms had slightly lower ratios of independent directors on the

boards. In addition, the interaction variable between transparency information index (TII) and compensation committee independence (CCI) had a higher value in the UK samples (on average, 1.63, 1.26, 2.28, and 1.36 in Australia, Canada, the UK and the USA), implying a lower information asymmetry in the UK firms.

In the selected set of controlling financial characteristics, the mean firms across the four countries had a similar size as measured by ln total asset and a similar CEO pay and stock volatility. Nevertheless, the average Canadian firm had a far higher Tobin's Q (6.93, compared to less than three among its peers), and also a far higher annual rate of stock return (46% as compared to 22% or less). The free cash flow of the mean Canadian firm was much lower than their peers (1% compared to 5%), again understandable given its high capital expenditure. The stock market index on average, a measurement of the movement and performance of market segments, was also slightly lower in the USA (7.02) than those in the other three countries. Finally, dividend per share was higher for the Canadian firms ($1.01), while the UK companies had the lowest dividend (£0.29) among the four countries.

(Insert Table 3 about here)

Untabulated Searman rank correlation between dependent and independent variables show that some of the correlation coefficients are statistically significant at 5%. According to Gujarati and Porter (2010), multicollinearity might threaten or damage the regression analysis if the degree of correlation exceeds 80%. Our results indicate that the highest simple correlation coefficient is less than the recommended threshold of 80%. The Variance Inflation Factor (VIF) and tolerance tests also show that multicollinearity is not a concern (O'brien, 2007)..

4.2. The impact of SOP votes on firms' long-term investments

Table 4 reports the results for model 1a and 1b. In panel (a), the dependent variable is capital expenditure ratio (CAPEX), which captures a firm's long-term investment, while panel (b) has

SOP-vote-for as the explained variable. As shown in table 4(a), only among the US firms did SOP support had a direct positive and significant impact on capital expenditure. The indirect impact of say-on-pay on CAPEX via the interaction between SOP and CEO pay was negative for the US firms but insignificant for the rest. This indicates that, in the US, while the implementation of say-on-pay encourages long-term investment, high executive pay tends to attenuats this effect. The higher the CEO pay, the larger this attenuation effect. On the other hand, CAPEX significantly and positively affect SOP voting outcome in Australia and in the US. This suggests that *capital expenditure, as an essential growth factor, is a key aspect accounted by shareholders when casting votes at AGM, and this factor to a certain extent affect managerial decision on capital expenditure at least in the USA.*

This finding is in line with Brunarski et al. (2015) who argue that managers in the USA increased capital expenditure to avoid low SOP disapproval. Thus, we reject H1a for the US sample and H1b for Australia and the USA samples. We cannot, however, reject H1b for the UK and the Canadian sample. In addition, the results in Table 4 suggest that the influence of SOP vote on long-term investment differs in the four countries which adopted different types of SOP rules. H1c cannot, hence, be rejected.

When it comes to the effect of corporate governance (CG) mechanism on firm long-run investment (Table 4), only *ln board size* is significant at 1% for the USA sampel, with a negative sign. None of the CG variables appeared to matter for long-run investment among UK companies. CEO duality was significant at 1%, with a positive sign, for the Australian sample but negative for the Canadian sample at 10 %. In addition, the interaction term between transparency of information index (TII) and compensation committee independence (CCI) is also significant and positive at 5% in Australia and 10% in the USA, indicating that *information transparency promotes long-run investment, possibly because it allows independent*

compensation committee members to better read into companies' situations when designing pay packages for top executives.

The above findings in part agree with Kor (2006) who debates that healthy negotiations between executives and directors can contribute to the quality of the strategic decisions, while conflicts and power struggles can create negative dynamics and an inappropriate decision-making environment. *Thus, H1d cannot be rejected for Australian and the US samples but evidence for Canada and the UK is unclear.*

(Insert Table 4 about here)

Concerning firm financial characteristics and long-term investment, there is little difference between the UK and the US companies. We notice that firm size (as measured by ln total assets), stock return, free cash flow (FCF), and current ratio were all negatively and significantly associated with capital expenditure ratio. On the other hand, stock volatility and leverage were positively and significantly associated with CAPEX. Among all coefficients, however, only that of FCF was economically significant. For example, the coefficient of ln total asset was but -0.002 while that of FCF stood at -0.298 in the USA. The outcome for UK firms was very similar to those of the US firms, except that the current ratio was insignificant. The outcomes for the Canadian and Australian firms had less similarity to the above discussed. Only firm size and FCF were statistically significant for the Canadian firms, and only FCF and current ratio were significant for the Australian firms. These results strongly suggest that *FCF was the key financial variable closely linked to firm long-term investment*. Such is consistent with Chen (2014) who also finds a negative relation between free cash flow and long-term investment. This is rather intuitive, as when more funds are tied up in illiquid long-term investment, the less will be available for distribution among all the shareholders.

While stock returns positively affected SOP voting outcomes in the US, Canada and Australia, it did not have any effect on such an outcome in the UK. Stock volatility on the other

hand negatively impact on the voting outcomes in Canada, the UK and the US. *In general, the stock return had a small positive effect while stock volatility had a relatively sizeable negative influence on pay-support*. These results largely hold true when leverage, profitability or liquidity replaces capital expenditure in the equation with SOP-vote-for as the dependent variable.

The general financing environment, captured by stock market index (SMI), was positively associated with CAPEX and significant at 1% in the US but insignificant in Canada and Australia. SMI's coefficient was negative, however, and significant at 5% in the UK. This suggests that *the general stock market performance had a positive role to play in promoting long-run investment in the USA only, but its impact was tiny* – for every 1% increase in SMI, the ratio of investment in fixed asset to total asset increased on average by 0.016% only among the US companies. *Similarly, SMI had a tiny positive impact on SOP voting outcome only in the US.*

Finally, Table 4 also reports the test of the relevance and validity of instruments. As can be seen from the last lines, AR is statistically insignificant, which indicates that the instruments used are valid. The relevance test statistics (F test) is also significant, indicating that instruments are related to the included endogenous variable(s). The last two lines of Table 4, display the outcomes of weak instruments test. The results show that the minimum eigenvalue statistic exceeds the critical value in all cases and thus our instruments are not weak.

4.3.The impact of SOP votes on firms' financial risk

Table 5 shows the results of SOP votes and their influence on financial risk, approximated by leverage. On the one hand, SOP votes had a negative impact on leverage in Australia and the USA at 10% and 1% significance level, respectively. On the other, SOP voting outcome was negatively affected by leverage only in Australia at 5% significance level. This suggests that *CEOs had become more vigilant when external funding decisions were made, as any*

increase in the level of debt may negatively affect shareholders' support for their pay. These findings are in agreement with Brunarski et al. (2015) and Kimbro and Xu (2016) who suggest that top executives were incentivized to transfer wealth from debt-holders to stockholders through lower leverage in order to receive more say-on-pay support.

(Insert Table 5 about here)

The coefficients of the interaction variable (SOP votes with ln CEO pay) were statistically insignificant among all samples, suggesting that the existing level of executive pay had no effect on the SOP-leverage relation. However, executive pay level had a statistically significant effect on leverage itself in Australia (positive) and in Canada (negative). This result is in the line of the number of prior studies (e.g., (Dee et al., 2005, Kim et al., 2017). *Therefore, H2a cannot be rejected in Australia and the USA*. Moreover, Table 5 shows that the impact of SOP votes on financial risk-taking varies by country which had adopted its own form of SOP regulation. Thus, *H2c cannot be rejected.*

Regarding, corporate governance variables, Table 5 shows that the impact of the board size on capital structure was negative and statistically significant in Australia and the USA at 5% and 1% level of significance, respectively. The negative coefficients are in line with prior studies (Cheng, 2008, Sila et al., 2016). A possible explanation for this is that decision made by a large board can lead to compromises and hence less debt. *Thus, H2d cannot be rejected in Australia and the USA*. The other two CG mechanisms, CEO duality and the interaction term between transparency of information index and compensation committee independence (TII*CCI), were statistically insignificant. The insignificance of TII*CCI suggests that neither information transparency nor compensation committee independence plays a significant role in the determination of firms' leverage level.

Earlier literature suggests a negative association between leverage and CEO duality under the managerial power theory (Kim and Buchanan, 2008). Jiraporn et al. (2012) suggest that

powerful CEOs may deliberately avoid debt for two reasons: (i) CEOs may adopt lower leverage to reduce firm financial risk for fear of losing their jobs; (ii) CEOs may lower leverage to reduce the disutility from being subject to the performance pressure that large fixed payments entail.

Concerning firm financial characteristics, the outcome from the US sample in general disagrees with those from the other three countries. For example, firm size had a positive and significant effect on leverage in all countries except for the USA, indicating that larger firms had more debts in these countries. In line with our finding for the US firms, earlier studies frequently found a negative relation between leverage and firm size (Delgado-García et al., 2013, Kimbro and Xu, 2016, Dang et al., 2018). On the other hand, the relation between Tobin's Q and leverage was positive and significant among the US samples, negative and significant in the Canadian samples, but insignificant in the rest. Stock variability was only significant only for the US sample, with a positive sign. This is in contrast with the prior study of Kim and Yasuda (2019) which find a negative link between firm market performance and leverage. The association between free cash flow ratio and leverage was negative and significant in Australia and the UK at 1% and 5% but positive in Canada and the USA at 5% significance level. The negative FCF sign is consistent with Jiraporn et al. (2012). Chao et al. (2017) also argue that, to mitigate agency problem, executives may pursue lower leverage level to avoid the disciplining role of debt which thus lead to free cash flow. We also find that current ratio had a negative and significant relation with leverage among all samples at 1% except for the Canadian sample, which was insignificant. This suggests that a firm's short-term liability is not an insignificant part of its overall debt liabilities. Consequently, raising a firm's current ratio reduces its overall financial risk. Finally, the overall market financing environment approximated by LnSMI only had a significant positive relationship with leverage in the US

sample, suggesting that stock market condition was not an important determinant for leverage decision among company executives in the other three countries.

To check if the instruments are valid and strong or not, AR test and weak instrument test were applied. From Table 5, the AR test indicates that the instrumental variables are valid (p-value is insignificant). Furthermore, by comparing between minimum eigenvalue statistic and the critical value, the hypothesis of weak instruments is not supported because the minimum eigenvalue statistic is greater than the critical value of LIML size of nominal 5%.

4.4.The impact of SOP votes on firms' profitability horizon

Table 6 demonstrates the results related to the mutual impact of SOP votes and firms' short-run profitability (ROA), while Table 7 displays the estimated mutual impact of SOP votes and firms' long-run profitability (cumulative ROA). The estimates suggest that, in the US, the adoption of SOP regulation encourages managers to concentrate on short-run profitability at the cost of long-run profitability, even though both higher short-run and long-run profitability gain managers more shareholder support for their pay packages. The corresponding estimates for samples from the other three countries were statistically insignificant, suggesting that SOP regulation had no effect on firms' profitability strategies. Such findings partly support the view that short-run profitability is one determinant of CEO pay (Core et al., 1999, Balsam et al., 2016) . Thus, *H3a and H3b cannot be rejected* for the US sample but rejected for the rest. A statistically significant positive relation was found between firm's short-term profitability and Ln CEO compensation in all countries except for the Australian sample. The associates between Ln CEO compensation and long-term profitability was still positive in Canada, but negative in the US and insignificant for the rest. This again suggests that short-term profit plays an important role in approving executive pay packages. Furthermore, columns 2-5 in Table 6 indicates that the influence of SOP vote on firm profit strategy varied from country to country which had adopted different types of SOP rules. *Therefore, the H3c cannot be rejected.*

Regarding corporate governance mechanisms, board size had a significant and positive impact on short-term profitability only among the US firms. The impact of board size on long-run profit was nevertheless negative among the US and Australian firms, but significant and positive in the Canadian and the UK samples. The impact of independent directors on long-run profit was significant only for the Canadian and the US samples and negative in sign. The impact of independent directors on short-run profit was also negative and significant only for the UK and the US samples. These findings are in line with previous studies (see Wei (2007), Mersland and Øystein Strøm (2009), Carter et al. (2010)), indicating that there may exist information asymmetry between the board and the management as well as inefficient communication or cooperation among directors. Audit committee independence (ACI) only had a significant impact on US companies' short-run profit with a positive sign. (Wei, 2007) also found positive relation between ROA and the audit committee. The interaction variable (TII*CCI) had a positive and significant impact on firms' short-term profitability in the USA at 1%, indicating that information transparency and committee independence had some role to play in promoting short-run profit in the country. *Hence, H3d cannot be rejected, especially in Australia and the USA.*

(Insert Table 6 & 7 about here)

Unsurprisingly, most of the selected firm financial characteristics had a significant impact on firms' profitability both in the short- and the long-run. From Tables 6 and 7, a negative relationship existed between total assets and firm' profitability in both short- or long-term. These results are consistent with those of earlier studies (Hamadi and Heinen, 2015). Salama and Putnam (2013) suggest that managers tend to expand firm size rather than to enhance profitability because size is linked to prestige and power. The impacts of Tobin's Q (a market performance indicator) on both short- and long-term profits were significant in all cases, and positive in sign in Australia, the UK, and the US, but negative in Canada. This result agrees

with Carter et al. (2010) who suggested that increasing firms' profitability leads to increased market performance. The regression results also show that, while stock volatility is negatively related to firms' profitability for all samples, free cash flow had a positive impact on ROA and on cumulative ROA in Australia, the UK, and the USA. This result is consistent with Brush et al. (2000) and implies that CEOs in these three countries may use free cash flow to engage with shareholders' interests.

Another firm financial characteristic, leverage, had a negative relation with firm's long-run profitability in Australia, Canada, and the UK. This link was however positive in the USA at 1%. The link between leverage and short-run profitability was significant only for the Canadian sample and negative in sign. Negative coefficients agree with the study of Liu et al. (2015), while a positive sign is consistent with prior study of Isakov and Weisskopf (2014). These results suggest that higher leverage in the USA lead to increased firm profitability in the long-term (Krivogorsky, 2006). Finally, LnSMI had a negative link with companies' profit in all columns except column 5 in Table 6 and columns 3 and 5 in Table 7, which are positive. The tests results show that the instruments are relevant, valid, and strong.

4.5. The impact of SOP votes on firms' liquidity position

Table 8 shows that the SOP votes had a large negative influence on firms' liquidity (current ratio) in Canada and the USA at 1% and 5% significance level, respectively. The relationship between the interaction variable (SOPfor*LnCEOpay) and liquidity was positive in Canada at the 1% level, indicating that the negative impact of say-on-pay votes on current ratio was toned down in proportion to the level of CEO pay. These results suggest that higher liquidity was not accepted by shareholders in Canada and the USA because managers might not have been using their assets efficiently (from Table 3, the average current ratios were greater in Canada and in the USA than in the other two countries). (Feng and Rao, 2018) show that more risk averse CEOs offset the risk incentive effect of compensation by raising firm cash

holding (liquidity) possibly beyond the limit of optimality. Our results indicate that SOP appears to correct this incentive issue in Canada to certain extent. Yun (2008) argues that, with agency conflicts, executives and shareholders may disagree on corporates' liquidity choices since differences in the control rights of firms' liquidity and lines of credit may distort the distribution of *ex-post* surplus among shareholders. *Hence, H4a is rejected in Canada and the USA but cannot be rejected for the Australian and the UK samples.* Similarly, H4b is rejected for the Canadian sample but not for others, as liquidity was significant and negative in Panel B of Table 8 only for Canada. Moreover, results in Table 8 indicate that the influence of SOP votes on firms' liquidity differed by country with different types of SOP rules. *Thus, H4c cannot be rejected.*

On CG mechanisms, an outside director is negatively and significantly associated with liquidity in Australia. This relationship was insignificant for other samples. In contrast, Tang and Wang (2011) report a positive relationship between corporate governance index and firm's liquidity, highlighting that information asymmetry is existent between boards and managers. CEO duality as managerial power proxy had a significant negative relation with liquidity in Australia and Canada but not in the other two countries. *Thus, H4d cannot be rejected.*

Regarding firm financial characteristics, Table 8 shows that firm size is negatively associated with the current ratio, suggesting that firms may not have been managing their working capitals efficiently. In contrast, Tang and Wang (2011) find a positive association between firm size and liquidity. Table 8 also indicates a significant positive relationship between stock return and liquidity in Canada. The relation between market to book ratio and liquidity was significant and positive in Australia, but negative in the UK and the USA – the latter was in line with Yun (2008) who also find a negative relation between market to book ratio and liquidity. Moreover, A large negative association was found between free cash flow and liquidity for the Australian and the Canadian samples. This relation was positive in the US

but insignificant in the UK sample. Table 8 also reveals that stock volatility had positive and significant impact on firms' liquidity in all four countries, suggesting that higher market volatility encourages managers to maintain a more liquid balance sheet. Dividend also had a positive and significant association with liquidity in the UK at 5%. This suggests that less solvent firms tend to pay low dividends because of a shortage of cash. These outcomes are in line with the descriptive statistic in Table 3 which shows that UK firms had the lowest dividend per share compared to their peers in other countries.

The last control variable, lnSMI, had a significant positive association with liquidity in the USA, but the association was negative and significant in the UK. *Finally*, using AR test and weak instruments test, we find that the instruments used for this model are relevant, valid, and strong.

(Insert Table 8 about here)

4.6. Robustness test

Additional robustness checks were conducted using various variable measures and additional control variable. After checking for multicollinearity among the explanatory variables, we re-estimated the above models by using natural logarithm of market capitalisation as firm size proxy instead of natural logarithm of total assets. In addition, Regulatory Quality as one of the corporate governance indicators was included. Untabulated results (available upon request) show that the outcomes remain similar to and the signs are everywhere the same as in Tables 4-8.

5. Discussion and conclusion

The current study investigates the impact of say-on-pay votes on some important corporate policies and strategies. Recent studies suggest that say-on-pay is a less effective corporate governance mechanism because managers may adopt specific policies which raise shareholder support but at the same time reduce firm value. Evidences emerged from the

current study indicate that only for the US sample was the impact of say-on-pay support consistently significant on the full range of company policies considered – SOP had a positive explanatory power for long-term investment and short-term profitability, but its effect was negative on leverage, long-term profit, and firm liquidity. These results suggest that the adoption of SOP regulation encourages top US managers to focus on short-term profit and take on fewer financial risks. This is understandable since lower financial risk means more secured job and short-run profit may be attractive to market speculators. Long-term investment however can be more appealing to investors who are in for the long-run game. Reducing current assets relative to current liabilities is possibly another way of raising short-term profitability if firms have excess current assets. Outside the US, say-on-pay only had a significant liquidity-reducing effect in the Canadian sample, and a significant financial risk reduction effect in the Australian sample.

Apart from the direct impact of say-on-pay on firms' different strategic policies, we also considered the mitigating effect of the existing level of CEO pay on the SOP-policy relationship. A priori, we expect higher CEO pay leads to higher sensitivity of firm strategic policies to SOP votes. The empirical outcomes suggest that higher CEO pay tended to tone down the long-term profit reducing effect of SOP votes in the US. In Canada, higher CEO pay toned down the liquidity reducing effect of SOP.

To capture the simultaneous determination of corporate policies and SOP voting outcomes, an equation with SOPfor as the explained variable was simultaneously estimated along with an equation with policy instruments as the explained variables. The outcomes show that, in the USA, all policies considered in this study (apart from leverage) had a significant and positive impact on SOP support for executive pay packages. In terms of magnitude, short-term profit was much more important than long-term profit in wooing shareholder approval, with their coefficient respectively being 0.229 and 0.031. This perhaps partly explains why SOP

regulation directs US managers to focus on current ROA instead of cumulative ROA. It is however premature to conclude at this stage that SOP encourages myopic managerial behaviours among US firms, as our estimates also show that long-run investment had increased with SOP; and at the same time, long-run investment had raised SOP support by shareholders with a coefficient that is not only statistically but also economically significant (0.13). For the other three countries, long-run investment raised SOP support, but leverage reduced the support in Australia. Other than these, liquidity appeared to slightly reduce shareholder support for executive pay in Canada.

To sum up, evidences show discrepant impacts of say-on-pay regulation on companies' strategic policies in Australia, Canada, the UK, and the USA. We suggest that such discrepancy is at least partly attributable to the different forms of SOP regulation adopted by these countries. While changes were most visible among the US firms following the introduction of say-on-pay, it is not clear whether these changes were optimal for the shareholders. Future research may attempt to develop a framework which permits the researcher(s) to see the collective impact on a wider range of corporate policies of the different forms of say-on-pay regulation and to assess its optimality. This would require a sophisticated research design which can capture most if not all the elements of significance.

Table 1 Sample selection

	Australia	Canada	UK	USA
Initial sample	200	122*	350	1500
Firms with missing data**	30	25	34	151
Final sample	170	97	316	1349
Time period***	2012-2015	2012-2015	2014-2016	2011-2015

*Although the S&P/TSX index comprises 250 firms, the number of companies adopted SOP regulation was 122.

** Firms are excluded from the sample if SOP voting data are unavailable; if they were merged with other companies, or if they have been listed for one year only during the period of study.

*** The starting year of a sample is selected to reflect the year of SOP adoption or its subsequent change. In Australia, two-strike rule was active since July 2011; in Canada, advisory vote was approved from 2012; in the UK, binding vote became effective from October 2013; and in the USA, advisory vote was adopted from 2011.

Table 2 Variable description.

The columns in this table gives, in turn from the left to the right, the theoretical variable, its empirical representation, the abbreviation of the empirical variable, the definition of the empirical variable, and the source of the empirical variable.

Theoretical variable	**Empirical variable**	**Abbreviation**	**Definition**	**Source**
		(a) Dependent and independent variables		
Long-term investment	Capital expenditure ratio	CAPEX	$\frac{\text{Expenditure on tangible fixed assets}}{Total\ asset}$	Bloomberg database
Financial risk	Leverage ratio	LEV	$\frac{Total\ debt}{Total\ asset}$	Bloomberg database
Short-term profit	Return on assets	ROA	Rate of return to total assets. It indicates how efficient management is at using its assets to generate earnings.	Bloomberg database
Long-term profit	Cumulative return on assets	CROA	Accumulated profit or loss in the sample period.	Data-stream
Liquidity	Current ratio	CR	The current ratio is a liquidity ratio that measures a company's ability to pay short-term obligations due within one year.	Data-stream
SOP regulation	SOP votes for	SOPfor	$\frac{\text{Total votes for executive compensation}}{Total\ effective\ votes}$	Bloomberg database and firm's annual reports
		(b) Control variables		
Corporate governance mechanism (CGM)	Ln board size	LnBSIZE	The natural logarithm oft the number of directors on the company's board.	Bloomberg database and firm's annual reports

CGM	Independent directors	INDDIR	the percentage of independent directors on the board	
CGM	Audit committee independence	ACI	The percentage of independent audit committee on board size.	Bloomberg database and firm's annual reports
CGM	Compensation committee independence	CCI	The percentage of independent compensation committee on the board.	Bloomberg database and firm's annual reports
CGM	CEO duality	CEO duality	Indicates whether the company's Chief Executive Officer is also Chairman of the Board. Duality is coded one if the chair and CEO are the same person.	Bloomberg database
Firm financial characteristics (FsFC)	Total assets (Firm size)	LnTA	The natural logarithm of the all short and long-term assets..	Bloomberg database
FsFC	Stock return	SR	(stock price at the end of year *t* minus stock price at the end of year *t-1* plus dividend per share) / stock price at the end of year *t-1*	Bloomberg database
FsFC	Tobin's Q	Tobin's Q	The ratio of the market value of a firm to the replacement cost of the firm's assets. $\frac{Equity\ market\ value+Liability\ market\ value}{Equity\ book\ value+Liability\ book\ value}$	Bloomberg database
FsFC	Stock Volatility	SV	The standard deviation of the day to day logarithmic price changes.	Bloomberg database
FsFC	Free cash flow ratio	FCF	Free cash flow (FCF) represents the cash that a company can generate after laying out the money required to maintain or expand its asset base, scaled by total assets	Bloomberg database
FsFC	Dividend per share	DPS	Dividend per share	Bloomberg database
CEO compensation	Ln CEO total pay	LnCEOpay	The natural logarithm of CEO total pay (the sum of salary, bonus, other annual, the total value of restricted stock granted, stock options granted, Long-term incentive pay-outs, and others.)	Bloomberg database and firm's annual reports
Market environment	Ln market stock index (SMI)	LnSMI	S&P/ASX200, S&P/TSX250, FTSE 350, and S&P 1,500 were respectively used for the relative country.	Datastream database
Market environment	Transparency of information index	TII	The transparency of information index evaluates whether the land administration system makes land-related information publicly available. This is a proxy for gauging the transparency of information in a country for doing business.	Datastream database

Table 3 Descriptive statistics

	Australia					Canada					UK					USA				
Variables	mean	median	SD	min	max	mean	Median	SD	min	max	mean	Median	SD	min	max	mean	Median	SD	min	max
SOP Votes FOR	0.92	0.97	0.11	0.48	1	0.83	0.94	0.25	0.15	1	0.94	0.97	0.09	0.51	1	0.92	0.96	0.12	0.40	1
Capital expenditure	0.05	0.03	0.08	0	0.60	0.06	0.06	0.06	0	0.26	0.04	0.03	0.05	0	0.31	0.05	0.03	0.05	0	0.27
Leverage	0.22	0.21	0.15	0	0.65	0.20	0.18	0.17	0	0.63	0.19	0.17	0.18	0	0.84	0.11	0.07	0.13	0	0.68
Return on assets	0.05	0.05	0.11	-0.40	0.41	0.02	0.03	0.07	-0.30	0.22	0.06	0.05	0.08	-0.19	0.34	0.05	0.05	0.07	-0.19	0.27
Cumulative ROA	0.13	0.11	0.25	-0.66	1	0.07	0.06	0.15	-0.62	0.43	0.13	0.09	0.17	-0.33	0.80	0.22	0.15	0.30	-0.51	1.48
Current ratio	1.95	1.50	1.58	0.24	10.11	2.40	1.34	4.13	0.38	33.12	1.56	1.32	1.09	0.28	7.10	2.41	1.94	1.69	0.50	10.00
Ln board size	1.96	1.95	0.26	1.39	2.48	2.32	2.30	0.24	1.61	2.83	2.18	2.20	0.24	1.61	2.77	2.23	2.20	0.25	1.61	2.77
Independent director	0.73	0.78	0.16	0.25	1	0.84	0.89	0.09	0.55	0.94	0.63	0.64	0.13	0.25	0.89	0.82	0.86	0.10	0.54	0.93
Audit committee independence	0.49	0.50	0.14	0.20	0.83	0.44	0.43	0.10	0.25	0.78	0.43	0.43	0.11	0.20	0.73	0.43	0.43	0.11	0.23	0.80
TII*CCI	1.63	1.56	0.51	0.35	2.92	1.26	1.20	0.33	0.56	2.33	2.28	2.22	0.69	0.83	3.75	1.36	1.28	0.40	0.64	2.67
CEO duality	0.04	0	0.19	0	1	0.10	0	0.30	0	1	0.01	0	0.12	0	1	0.45	0	0.50	0	1
Ln total assets	21.56	21.42	1.92	17.76	27.42	22.96	22.57	1.68	20.32	27.57	21.78	21.50	1.76	18.23	27.43	21.98	21.88	1.68	18.70	26.39
Tobin's Q	1.95	1.42	1.60	0.64	9.39	6.93	1.36	9.39	0.89	25.41	1.89	1.50	1.27	0.76	8.91	1.89	1.52	1.15	0.81	7.38
M/B ratio	2.88	1.84	2.84	0.40	14.45	1.85	1.56	1.87	-0.40	12.03	3.99	2.54	5.33	0.41	37.72	0.92	0.16	1.94	-0.71	11.99
Stock return	0.22	0.18	0.47	-0.63	2.46	0.46	0.19	0.83	-1.34	3.71	0.10	0.06	0.35	-0.60	2.03	0.14	0.11	0.33	-0.58	1.32
Free cash flow	0.05	0.04	0.10	-0.30	0.39	0.01	0.01	0.06	-0.21	0.20	0.05	0.04	0.08	-0.17	0.38	0.05	0.05	0.07	-0.19	0.27
Dividend	0.38	0.20	0.57	0	3.30	1.01	0.88	0.82	0	3.80	0.29	0.15	0.37	0	1.88	0.67	0.37	0.87	0.00	4.60
Ln CEO total pay	14.66	14.66	0.88	12.39	16.51	15.47	15.45	0.75	13.63	17.17	14.42	14.41	0.83	12.33	16.50	15.42	15.47	0.93	12.84	17.45
Stock volatility	0.33	0.31	0.13	0.13	0.84	0.28	0.25	0.13	0.11	0.71	0.30	0.27	0.12	0.16	0.94	0.32	0.30	0.12	0.14	0.67
Ln stock market index	8.55	8.58	0.06	8.44	8.60	9.51	9.52	0.06	9.43	9.59	9.44	9.69	0.45	8.74	9.80	7.02	7.20	0.46	6.03	7.63

Note: all varible descriptions are given in Table 2.

Table 4 SOP votes and long-term investment

Panel A					Panel B				
	Australia	Canada	UK	USA		Australia	Canada	UK	USA
Dependent variable	capital expenditure				***Dependent variable***	SOPfor			
Independent variable					***Independent variable***				
SOPfor	0.040	0.009	-0.020	0.034***	CAPEX	0.135**	0.193	-0.049	0.129***
	-0.031	-0.017	-0.019	-0.007		-0.066	-0.205	-0.091	-0.033
SOPfor*LnCEOpay	-0.005	-0.003	-0.001	-0.001					
	-0.004	-0.004	-0.002	-0.001	***CG mechanisms***				
LnCEOpay	0.002	-0.004	-0.003	-0.002*	LnBSIZE	-0.030	0.155**	-0.045*	0.046***
	-0.006	-0.006	-0.003	-0.001		-0.034	-0.071	-0.026	-0.010
					INDDIR	0.038	0.201	-0.018	0.108***
CG mechanisms						-0.037	-0.134	-0.038	-0.019
LnBSIZE	-0.013	0.000	0.004	-0.012***	CEO duality	-0.031	-0.006	0.037	-0.012***
	-0.024	-0.019	-0.012	-0.004		-0.029	-0.042	-0.043	-0.003
CEO duality	0.058***	-0.020*	0.015	0.002	TII*CCI	0.006	-0.003	-0.007	0.0120**
	-0.018	-0.010	-0.018	-0.001		-0.013	-0.036	-0.008	-0.005
TII*CCI	0.019**	0.006	-0.005	0.004*	***Firm financial characteristics***				
	-0.009	-0.009	-0.003	-0.002	LnTA	0.006	0.008	0.002	0.002
Firm financial characteristics						-0.005	-0.011	-0.004	-0.002
LnTA	0.000	0.008*	-0.004**	-0.002*	SR	0.023*	0.0403**	-0.008	0.040***
	-0.004	-0.004	-0.002	-0.001		-0.012	-0.016	-0.011	-0.005
SR	0.003	0.000	-0.013***	-0.009***	M/B	0.000	-0.003	0.001	-0.002**
	-0.008	-0.004	-0.005	-0.002		-0.002	-0.007	-0.001	-0.001
SV	0.037	-0.021	0.057***	0.034***	SV	-0.051	-0.262***	-0.057*	-0.096***
	-0.031	-0.025	-0.014	-0.007		-0.047	-0.096	-0.032	-0.016
FCF	-0.310***	-0.544***	-0.260***	-0.298***	LEV	-0.071**	-0.068	-0.009	-0.017
	-0.041	-0.052	-0.032	-0.010		-0.033	-0.079	-0.022	-0.015
CR	-0.007***	0.001	0.000	-0.005***	***Market condition level***				

	-0.003	-0.001	-0.002	0.000	LnSMI	-1.169**	-1.570***	-0.008	0.023***
LEV	-0.009	-0.008	0.040***	0.031***		-0.571	-0.229	-0.012	-0.005
	-0.025	-0.019	-0.011	-0.006	***Pay level***				
Market condition level					LnCEOpay	-0.015*	-0.093***	-0.015**	-0.046***
LnSMI	0.221	0.054	-0.011**	0.016***		-0.009	-0.019	-0.007	-0.002
	-0.405	-0.069	-0.005	-0.002	Constant	11.09**	16.61***	1.327***	1.249***
Constant	-1.901	-0.556	0.297***	0.012		-4.912	-2.194	-0.187	-0.039
	-3.491	-0.671	-0.097	-0.020	Observations	495	259	577	4,806
Observations	406	204	472	3,907	R-squared	0.057	0.275	0.03	0.106
R-squared	0.184	0.425	0.241	0.25	***Valid instruments test***				
Valid instruments test					Anderson–Rubin test (p value)	0.82	0.52	0.78	0.58
Anderson–Rubin test (p value)	0.5	0.11	0.2	0.18	F-stat first stage (Prob)	0	0	0	0
F-stat first stage (Prob)	0	0	0	0					
					Weak instruments tests				
Weak instruments tests					Min eigenvalue statistics	4128	2299	6452	64999
Min eigenvalue statistics	2188	784	5257	36716	LIML size of nominal 5%	8.68	8.68	8.68	8.68
LIML size of nominal 5%	8.68	8.68	8.68	8.68					

*Notes. (i)This table reports the results of LIML estimation of the impact of SOP votes on long-term investment. (ii) In Panel A, the dependent variable is long-term investment as measured by capital expenditure; in Panel B, the dependent variable is SOPfor, the percentage of votes supporting executive pay at the AGM. (iii) All variables mentioned in this table are described in Table 2, and X*Y indicates an interaction term between variable X and Y. (iv) "Min eigenvalue statistics" tests the null hypothesis of weak instruments and "LIML size of nominal 5%" gives the critical values at 5% significance level (Stock and Yogo, 2002). (v) *, **, and *** denote significance at the 10%, 5%, and 1% levels respectively.*

Table 5 SOP votes and financial risk

Panel A					Panel B				
	Australia	Canada	UK	USA		Australia	Canada	UK	USA
Dependent variable	Leverage				***Dependent variable***	SOP votes			
Independent variable					***Independent variable***				
SOPfor	-0.112*	0.000	0.008	-0.052***	LEV	-0.071**	-0.068	-0.009	-0.017
	-0.061	-0.059	-0.079	-0.018		-0.033	-0.079	-0.022	-0.015
SOPfor*LnCEOpay	0.005	-0.005	-0.001	0.002	***CG mechanisms***				
	-0.007	-0.013	-0.007	-0.002	LnBSIZE	-0.030	0.155**	-0.045*	0.046***
LnCEOpay	0.032***	-0.040**	-0.021	0.000		-0.034	-0.071	-0.026	-0.010
	-0.012	-0.020	-0.014	-0.003	INDDIR	0.038	0.201	-0.018	0.108***
CG mechanisms						-0.037	-0.134	-0.038	-0.019
LnBSIZE	-0.120**	-0.047	-0.042	-0.042***	CEO duality	-0.031	-0.006	0.037	-0.012***
	-0.047	-0.065	-0.052	-0.011		-0.029	-0.042	-0.043	-0.003
CEO duality	-0.015	0.041	-0.094	-0.005	TII*CCI	0.006	-0.003	-0.007	0.012**
	-0.036	-0.035	-0.076	-0.004		-0.013	-0.036	-0.008	-0.005
TII*CCI	-0.001	-0.049	-0.017	-0.006	***Firm financial characteristics***				
	-0.017	-0.032	-0.014	-0.005	LnTA	0.006	0.008	0.001	0.002
Firm financial characteristics						-0.005	-0.011	-0.004	-0.002
LnTA	0.026***	0.037***	0.032***	-0.013***	SR	0.023*	0.040**	-0.008	0.040***
	-0.008	-0.014	-0.010	-0.002		-0.012	-0.016	-0.011	-0.005
Tobin's Q	0.001	-0.010***	0.002	0.008***	M/B	0.000	-0.003	0.001	-0.002**
	-0.006	-0.001	-0.008	-0.002		-0.002	-0.007	-0.001	-0.001
SV	0.001	0.015	0.031	0.112***	SV	-0.051	-0.262***	-0.057*	-0.096***
	-0.061	-0.085	-0.060	-0.018		-0.047	-0.096	-0.032	-0.016
FCF	-0.365***	0.365**	-0.279**	0.067**	CAPEX	0.135**	0.193	-0.049	0.129***
	-0.083	-0.174	-0.137	-0.029		-0.066	-0.205	-0.091	-0.033
CR	-0.023***	-0.001	-0.039***	-0.005***	***Market condition level***				
	-0.005	-0.003	-0.007	-0.001	LnSMI	-1.169**	-1.570***	-0.008	0.023***

Market condition level						-0.571	-0.229	-0.012	-0.005
LnSMI	0.019	-0.214	0.024	0.074***	***Pay level***				
	-0.800	-0.232	-0.024	-0.006	LnCEOpay	-0.015*	-0.094***	-0.015**	-0.046***
Constant	-0.557	2.292	-0.210	-0.041		-0.009	-0.020	-0.007	-0.002
	-6.892	-2.269	-0.432	-0.050	Constant	11.09**	16.61***	1.329***	1.249***
Observations	405	204	472	3,909		-4.912	-2.194	-0.187	-0.039
R-squared	0.213	0.37	0.139	0.083	Observations	495	259	577	4,806
Valid instruments test					R-squared	0.057	0.275	0.03	0.106
Anderson–Rubin test (p value)	0.28	0.13	0.13	0.4	***Valid instruments test***				
F-stat first stage (Prob)	0	0	0	0	Anderson–Rubin test (p value)	0.82	0.52	0.11	0.58
					F-stat first stage (Prob)	0	0	0	0
Weak instruments tests									
Min eigenvalue statistics	2082	798	3877	31767	***Weak instruments tests***				
LIML size of nominal 5%	8.68	8.68	8.68	8.68	Min eigenvalue statistics	4128	2299	6457	64999
					LIML size of nominal 5%	8.68	8.68	8.68	8.68

*Notes. (i) This table reports the results of LIML estimation of the impact of SOP votes on firms' financial risk as measured by leverage ratios. (ii) In Panel A The dependent variable is leverage; in Panel B, the dependent variable is SOPfor, the percentage of votes supporting executive pay at the AGM. (iii) All variables mentioned in the table are described in Table 2, and X*Y indicates an interaction term between variable X and Y. (iv) "Min eigenvalue statistics" tests the null hypothesis of weak instruments and "LIML size of nominal 5%" gives the critical values at 5% significance level (Stock and Yogo, 2002). (v) *, **, and *** denote significance at the 10%, 5%, and 1% levels respectively.*

Table 6 SOP votes and short-term profitability

Panel A					Panel B				
	Australia	Canada	UK	USA		Australia	Canada	UK	USA
Dependent variable	ROA				***Dependent variable***	SOPfor			
Independent variable					***Independent variable***				
SOPfor	0.021	0.025	0.032	0.037***	ROA	-0.023	0.030	0.049	0.229***
	-0.031	-0.023	-0.027	-0.007		-0.054	-0.182	-0.058	-0.026
SOPfor*LnCEOpay	-0.005	-0.002	0.000	0.000	***CG mechanisms***				
	-0.004	-0.005	-0.002	-0.001	LnBSIZE	-0.030	0.153**	-0.046*	0.040***
LnCEOpay	-0.001	0.019***	0.015***	0.005***		-0.034	-0.072	-0.026	-0.010
	-0.006	-0.007	-0.004	-0.001	INDDIR	0.036	0.202	-0.017	0.120***
CG mechanisms						-0.038	-0.134	-0.038	-0.018
LnBSIZE	-0.033	0.022	0.008	0.015***	CEO duality	-0.031	-0.006	0.037	-0.013***
	-0.024	-0.024	-0.017	-0.004		-0.029	-0.043	-0.043	-0.003
INDDIR	-0.033	-0.073	-0.063**	-0.059***	TII*CCI	0.007	-0.004	-0.008	0.009**
	-0.028	-0.047	-0.025	-0.008		-0.013	-0.036	-0.008	-0.005
ACI	-0.016	-0.013	0.040	0.0173*	***Firm financial characteristics***				
	-0.038	-0.050	-0.038	-0.009	LnTA	0.006	0.009	0.003	0.006***
TII*CCI	0.002	0.008	0.006	0.012***		-0.005	-0.011	-0.004	-0.002
	-0.010	-0.016	-0.007	-0.003	SR	0.024**	0.040**	-0.009	0.033***
Firm financial characteristics						-0.012	-0.016	-0.011	-0.005
LnTA	-0.010***	-0.022***	-0.009***	-0.004***	M/B	0.000	-0.003	0.001	-0.003**
	-0.003	-0.004	-0.003	-0.001		-0.002	-0.007	-0.001	-0.001
Tobin's Q	0.007***	-0.002***	0.032***	0.019***	SV	-0.057	-0.251**	-0.051	-0.067***
	-0.003	-0.001	-0.003	-0.001		-0.049	-0.117	-0.033	-0.016
SV	-0.337***	-0.366***	-0.089***	-0.080***	LEV	-0.074**	-0.066	-0.007	-0.019
	-0.031	-0.033	-0.020	-0.007		-0.034	-0.080	-0.022	-0.015
FCF	0.687***	0.040	0.089**	0.346***	CAPEX	0.134**	0.188	-0.051	0.121***
	-0.040	-0.067	-0.038	-0.012		-0.066	-0.208	-0.091	-0.032

LEV	-0.015	-0.054**	-0.020	0.007	***Market condition level***				
	-0.023	-0.027	-0.014	-0.006	LnSMI	-1.181**	-1.568***	-0.007	0.017***
Market condition level						-0.571	-0.229	-0.012	-0.005
LnSMI	-0.861**	0.015	-0.011	0.000	***Pay level***				
	-0.388	-0.085	-0.008	-0.002	LnCEOpay	-0.015*	-0.094***	-0.016**	-0.049***
Constant	7.808**	0.191	0.0848	-0.023		-0.009	-0.020	-0.007	-0.002
	-3.34	-0.836	-0.129	-0.0198	Constant	11.20**	16.59***	1.308***	1.233***
Observations	497	259	579	4,809		-4.918	-2.199	-0.188	-0.0382
R-squared	0.561	0.422	0.449	0.45	Observations	495	259	577	4,806
Valid instruments test					R-squared	0.057	0.275	0.032	0.12
Anderson–Rubin test (p value)	0.74	0.15	0.84	0.12	***Valid instruments test***				
F-stat first stage (Prob)	0	0	0	0	Anderson–Rubin test (p value)	0.82	0.51	0.11	0.65
					F-stat first stage (Prob)	0	0	0	0
Weak instruments tests									
Min eigenvalue statistics	4584	2214	5289	51283	***Weak instruments tests***				
LIML size of nominal 5%	8.68	8.68	8.68	8.68	Min eigenvalue statistics	4346	2178	5986	61640
					LIML size of nominal 5%	8.68	8.68	8.68	8.68

Notes. Tables 6 reports the results of LIML estimation of the impact of *SOP votes* on a *firm's short-term profitability*. *(ii) In Panel A, the dependent variable is ROA; in Panel B, the dependent variable is SOPfor, the percentage of votes supporting executive pay at the AGM. (iii) All variables mentioned in the table are described in Table 2, and X*Y indicates an interaction term between variable X and Y. (iv) "Min eigenvalue statistics" tests the null hypothesis of weak instruments and "LIML size of nominal 5%" gives the critical values at 5% significance level (Stock and Yogo, 2002). (v) *, **, and *** denote significance at the 10%, 5%, and 1% levels respectively.*

Table 7 SOP votes and long-term profitability

Panel A					Panel B				
	Australia	Canada	UK	USA		Australia	Canada	UK	USA
Dependent variable	Cumulative ROA				***Dependent variable***	SOP votes			
Independent variable					***Independent variable***				
SOPfor	-0.018	0.021	0.060	-0.051*	Cumulative ROA	-0.014	0.010	0.009	0.031***
	-0.076	-0.052	-0.063	-0.030		-0.023	-0.083	-0.025	-0.007
SOPfor*LnCEOpay	-0.015	0.006	-0.002	0.007**	***CG mechanisms***				
	-0.009	-0.011	-0.006	-0.003	LnBSIZE	-0.031	0.153**	-0.045*	0.046***
LnCEOpay	-0.006	0.013	0.034***	-0.024***		-0.034	-0.072	-0.026	-0.010
	-0.015	-0.016	-0.010	-0.005	IND DIR	0.036	0.202	-0.018	0.111***
CG mechanisms						-0.038	-0.134	-0.038	-0.019
LnBSIZE	-0.108*	0.101*	0.065*	-0.035*	CEO duality	-0.030	-0.006	0.036	-0.012***
	-0.060	-0.054	-0.039	-0.019		-0.029	-0.042	-0.043	-0.003
INDDIR	-0.021	-0.229**	-0.061	-0.108***	TII*CCI	0.006	-0.004	-0.007	0.012**
	-0.070	-0.106	-0.057	-0.036		-0.013	-0.036	-0.008	-0.005
ACI	-0.023	0.070	0.084	0.041	***Firm financial characteristics***				
	-0.094	-0.112	-0.087	-0.038	LnTA	0.006	0.009	0.002	0.004**
TII*CCI	-0.027	0.029	0.019	0.017		-0.005	-0.011	-0.004	-0.002
	-0.025	-0.035	-0.015	-0.011	SR	0.0223*	0.041**	-0.007	0.042***
Firm financial characteristics						-0.012	-0.016	-0.011	-0.005
LnTA	-0.033***	-0.054***	-0.027***	-0.021***	M/B	0.000	-0.003	0.001	-0.004***
	-0.008	-0.008	-0.007	-0.004		-0.002	-0.007	-0.001	-0.001
Tobin's Q	0.026***	-0.006***	0.068***	0.067***	SV	-0.064	-0.253**	-0.056*	-0.082***
	-0.006	-0.001	-0.006	-0.004		-0.052	-0.118	-0.032	-0.016
SV	-1.044***	-0.765***	-0.132***	-0.274***	LEV	-0.076**	-0.066	-0.007	-0.017
	-0.076	-0.074	-0.047	-0.031		-0.034	-0.081	-0.023	-0.015
FCF	1.274***	-0.041	0.359***	1.185***	CAPEX	0.135**	0.187	-0.049	0.125***
	-0.100	-0.151	-0.088	-0.050		-0.066	-0.213	-0.091	-0.033

LEV	-0.131**	-0.177***	-0.091***	0.135***	***Market condition level***				
	-0.058	-0.060	-0.032	-0.031	LnSMI	-1.221**	-1.564***	-0.007	0.017***
Market condition level						-0.577	-0.233	-0.012	-0.005
LnSMI	-4.228***	-0.379**	-0.017	0.126***	Pay level				
	-0.965	-0.191	-0.017	-0.010	LnCEOpay	-0.016*	-0.094***	-0.015**	-0.047***
Constant	37.80***	4.897***	0.094	0.223***		-0.009	-0.020	-0.007	-0.002
	-8.320	-1.869	-0.298	-0.085	Constant	11.56**	16.55***	1.322***	1.238***
Observations	497	258	579	4,806		-4.969	-2.254	-0.188	-0.039
R-squared	0.539	0.431	0.437	0.395	Observations	495	259	577	4,806
Valid instruments test					R-squared	0.057	0.275	0.031	0.11
Anderson–Rubin test (p value)	0.45	0.2	0.9	0.93	***Valid instruments test***				
F-stat first stage (Prob)	0	0	0	0	Anderson–Rubin test (p value)	0.51	0.23	0.11	0.4
					F-stat first stage (Prob)	0	0	0	0
Weak instruments tests									
Min eigenvalue statistics	4660	1495	5289	10241	***Weak instruments tests***				
LIML size of nominal 5%	8.68	6.46	8.68	8.68	Min eigenvalue statistics	4343	2032	6077	59924
					LIML size of nominal 5%	8.68	8.68	8.68	8.68

Notes. Tables 7 reports the results of LIML estimation of the impact of *SOP votes* on a *firm's long-term profitability*. *(ii) In Panel A, the dependent variable is cumulative ROA; in Panel B, the dependent variable is SOPfor, the percentage of votes supporting executive pay at the AGM. (iii) All variables mentioned in the table are described in Table 2, and X*Y indicates an interaction term between variable X and Y. (iv) "Min eigenvalue statistics" tests the null hypothesis of weak instruments and "LIML size of nominal 5%" gives the critical values at 5% significance level (Stock and Yogo, 2002). (v) *, **, and *** denote significance at the 10%, 5%, and 1% levels respectively.*

Table 8 SOP votes and liquidity

Panel A					Panel B				
	Australia	Canada	UK	USA		Australia	Canada	UK	USA
Dependent variable	Liquidity (current ratio)				***Dependent variable***	SOPfor			
Independent variable					***Independent variable***				
SOPfor	-0.304	-5.685***	0.481	-0.527**	Liquidity	-0.002	-0.010***	0.005	-0.001
	-0.621	-1.362	-0.483	-0.253		-0.004	-0.003	-0.004	-0.001
SOPfor*LnCEOpay	0.018	1.012***	-0.009	0.021	***CG mechanisms***				
	-0.074	-0.319	-0.0435	-0.027	LnBSIZE	-0.020	0.206**	-0.025	0.062***
LnCEOpay	0.179	0.290	-0.114	-0.068		-0.039	-0.083	-0.031	-0.011
	-0.125	-0.517	-0.084	-0.044	INDDIR	0.008	0.272*	0.012	0.059***
CG mechanisms						-0.041	-0.157	-0.044	-0.020
INDDIR	-1.034**	2.277	-0.553	-0.473	CEO duality	-0.032	-0.008	0.032	-0.012***
	-0.508	-2.968	-0.460	-0.288		-0.030	-0.045	-0.045	-0.004
CEO duality	-1.011***	-1.773**	0.747	0.067	TII*CCI	0.020	-0.013	-0.010	0.021***
	-0.363	-0.812	-0.466	-0.051		-0.015	-0.041	-0.009	-0.005
TII*CCI	0.151	-0.793	-0.024	-0.011	***Firm financial characteristics***				
	-0.155	-0.758	-0.078	-0.068	LnTA	0.008	0.001	-0.004	0.005**
Firm financial characteristics						-0.007	-0.018	-0.005	-0.002
LnTA	-0.376***	-0.738**	-0.221***	-0.397***	SR	0.020	0.053***	-0.007	0.040***
	-0.081	-0.327	-0.051	-0.030		-0.012	-0.017	-0.012	-0.005
SR	-0.207	1.200***	0.113	-0.118	M/B	0.000	-0.003	0.001	-0.002*
	-0.156	-0.325	-0.121	-0.075		-0.002	-0.008	-0.001	-0.001
M/B	0.059**	0.147	-0.038***	-0.042**	SV	-0.032	-0.165	-0.047	-0.120***
	-0.029	-0.130	-0.009	-0.016		-0.051	-0.110	-0.036	-0.017
FCF	-4.898***	-8.921**	0.195	1.544***	LEV	-0.064	-0.103	0.001	-0.026
	-0.809	-4.256	-0.783	-0.375		-0.039	-0.095	-0.028	-0.017

SV	1.309**	7.208***	0.757**	0.893***	CAPEX	0.118	0.237	-0.088	0.097***
	-0.641	-2.220	-0.375	-0.259		-0.074	-0.244	-0.107	-0.037
DPS	0.175	-0.651	0.265*	-0.047	***Market condition level***				
	-0.178	-0.419	-0.140	-0.034	LnSMI	-1.385**	-1.854***	-0.007	0.018***
Market condition level						-0.639	-0.266	-0.014	-0.006
LnSMI	4.076	-3.967	-0.403***	0.294***	***Pay level***				
	-8.126	-5.623	-0.143	-0.083	LnCEOpay	-0.019*	-0.092***	-0.012	-0.052***
Constant	-27.280	54.350	11.540***	10.600***		-0.010	-0.026	-0.008	-0.003
	-70.050	-54.940	-2.510	-0.694	Constant	12.92**	19.31***	1.340***	1.310***
Observations	406	207	488	3,906		-5.500	-2.556	-0.236	-0.044
R-squared	0.234	0.283	0.121	0.155	Observations	406	204	470	3,906
Valid instruments test					R-squared	0.065	0.335	0.033	0.121
Anderson–Rubin test (p value)	0.81	0.62	0.54	0.86	***Valid instruments test***				
F-stat first stage (Prob)	0	0	0	0	Anderson–Rubin test (p value)	0.69	0.92	0.78	0.69
					F-stat first stage (Prob)	0	0	0	0
Weak instruments tests									
Min eigenvalue statistics	2192	785	5603	39357	***Weak instruments tests***				
LIML size of nominal 5%	8.68	8.68	8.68	8.68	Min eigenvalue statistics	1849	753	4438	37549
					LIML size of nominal 5%	8.68	8.68	8.68	8.68

*Notes. (i) This table reports the results of LIML estimation of the impact of SOP votes on firm liquidity. (ii) In Panel A, the dependent variable is corporate liquidity as measured by current ratio; in Panel B, the dependent variable is SOPfor, the percentage of votes supporting executive pay at the AGM. (iii) All variables mentioned in the table are described in Table 2, and X*Y indicates an interaction term between variable X and Y. (iv) "Min eigenvalue statistics" tests the null hypothesis of weak instruments and "LIML size of nominal 5%" gives the critical values at 5% significance level (Stock and Yogo, 2002). (v) *, **, and *** denote significance at the 10%, 5%, and 1% levels respectively.*

References

AKASHI, K. & KUNITOMO, N. 2012. Some properties of the LIML estimator in a dynamic panel structural equation. *Journal of Econometrics,* 166**,** 167-183.

ALISSA, W. 2015. Boards' Response to Shareholders' Dissatisfaction: The Case of Shareholders' Say on Pay in the UK. *European Accounting Review,* 24**,** 727-752.

AMMANN, M., OESCH, D. & SCHMID, M. M. 2011. Corporate governance and firm value: International evidence. *Journal of Empirical Finance,* 18**,** 36-55.

AMZALEG, Y., AZAR, O. H., BEN-ZION, U. & ROSENFELD, A. 2014. CEO control, corporate performance and pay-performance sensitivity. *Journal of Economic Behavior & Organization,* 106**,** 166-174.

ANDERSON, T. W. & RUBIN, H. 1949. Estimation of the Parameters of a Single Equation in a Complete System of Stochastic Equations. *Ann. Math. Statist.,* 20**,** 46-63.

ANDERSON, T. W. & RUBIN, H. 1950. The Asymptotic Properties of Estimates of the Parameters of a Single Equation in a Complete System of Stochastic Equations. *Ann. Math. Statist.,* 21**,** 570-582.

ANDRES, P. D. & VALLELADO, E. 2008. Corporate governance in banking: The role of the board of directors. *Journal of Banking & Finance,* 32**,** 2570-2580.

ARELLANO, M. 2004. *Panel data econometrics: Advanced texts in econometrics* Oxford, Oxford University Press.

ARMSTRONG, C. S., GOW, I. D. & LARCKER, D. F. 2013. The Efficacy of Shareholder Voting: Evidence from Equity Compensation Plans. *Journal of Accounting Research,* 51**,** 909-950.

BALKIN, D. B., MARKMAN, G. D. & GOMEZ-MEJIA, L. R. 2000. IS CEO PAY IN HIGH-TECHNOLOGY FIRMS RELATED TO INNOVATION? *Academy of Management Journal,* 43**,** 1118-1129.

BALSAM, S., BOONE, J., LIU, H. & YIN, J. 2016. The impact of say-on-pay on executive compensation. *Journal of Accounting and Public Policy,* 35**,** 162-191.

BALSAM, S., FERNANDO, G. D. & TRIPATHY, A. 2011. The impact of firm strategy on performance measures used in executive compensation. *Journal of Business Research,* 64**,** 187-193.

BALTAGI, B. 2008. *Econometrics*, Springer-Verlag Berlin Heidelberg.

BALTAGI, B. 2013. *Econometric analysis of panel data*, John Wiley & Sons.

BASCLE, G. 2008. Controlling for endogeneity with instrumental variables in strategic management research. *Strategic Organization,* 6**,** 285-327.

BERTRAND, M. & SCHOAR, A. 2003. Managing with Style: The Effect of Managers on Firm Policies*. *The Quarterly Journal of Economics,* 118**,** 1169-1208.

BRUNARSKI, K. R., CAMPBELL, T. C. & HARMAN, Y. S. 2015. Evidence on the outcome of Say-On-Pay votes: How managers, directors, and shareholders respond. *Journal of Corporate Finance,* 30**,** 132-149.

BRUSH, T. H., BROMILEY, P. & HENDRICKX, M. 2000. The free cash flow hypothesis for sales growth and firm performance. *Strategic Management Journal,* 21**,** 455-472.

CARTER, D. A., D'SOUZA, F., SIMKINS, B. J. & SIMPSON, W. G. 2010. The Gender and Ethnic Diversity of US Boards and Board Committees and Firm Financial Performance. *Corporate Governance: An International Review,* 18**,** 396-414.

CARTER, M., ZAMORA, E. & L., V. Shareholder Remuneration Votes and CEO Compensation Design. AAA 2008 MAS Meeting Paper, 2007.

CHAO, C. C., HU, M., MUNIR, Q. & LI, T. 2017. The impact of CEO power on corporate capital structure: New evidence from dynamic panel threshold analysis. *International Review of Economics & Finance,* 51**,** 107-120.

CHEN, H.-L. 2014. Board Capital, CEO Power and R&D Investment in Electronics Firms. *Corporate Governance: An International Review,* 22**,** 422-436.

CHEN, W.-P., CHUNG, H., HSU, T.-L. & WU, S. 2010. External Financing Needs, Corporate Governance, and Firm Value. *Corporate Governance: An International Review,* 18**,** 234-249.

CHENG, S. 2008. Board size and the variability of corporate performance. *Journal of Financial Economics,* 87**,** 157-176.

CLARKSON, P. M., WALKER, J. & NICHOLLS, S. 2011. Disclosure, shareholder oversight and the pay–performance link. *Journal of Contemporary Accounting & Economics,* 7**,** 47-64.

CORE, J. E., HOLTHAUSEN, R. W. & LARCKER, D. F. 1999. Corporate governance, chief executive officer compensation, and firm performance1The financial support of Nomura Securities and Ernst & Young LLP is gratefully acknowledged. We appreciate the able research assistance of Dan Nunn. We acknowledge the helpful comments of Abbie Smith (the referee), Kevin Murphy, and workshop participants at Columbia University, the University of California – Los Angeles, the University of Colorado – Boulder, Harvard University, George Washington University, Massachusetts Institute of Technology, New York University, Stanford University, and Tempe University.1. *Journal of Financial Economics,* 51**,** 371-406.

DANG, C., LI, Z. & YANG, C. 2018. Measuring firm size in empirical corporate finance. *Journal of Banking & Finance,* 86**,** 159-176.

DEE, C. C., LULSEGED, A. & NOWLIN, T. S. 2005. Executive compensation and risk: The case of internet firms. *Journal of Corporate Finance,* 12**,** 80-96.

DEJONG, D. & LING, Z. 2013. Managers: Their Effects on Accruals and Firm Policies. *Journal of Business Finance & Accounting,* 40**,** 82-114.

DELGADO-GARCÍA, J. B., DE QUEVEDO-PUENTE, E. & DÍEZ-ESTEBAN, J. M. 2013. The Impact of Corporate Reputation on Firm Risk: A Panel Data Analysis of Spanish Quoted Firms. *British Journal of Management,* 24**,** 1-20.

DENIS, D. J. 2011. Financial flexibility and corporate liquidity. *Journal of Corporate Finance,* 17**,** 667-674.

DILL, V., JIRJAHN, U. & SMITH, S. C. 2014. Do foreign owners favour short-term profit? Evidence from Germany. *Cambridge Journal of Economics,* 40**,** 123-140.

DITTMAR, A. & DUCHIN, R. 2015. Looking in the Rearview Mirror: The Effect of Managers' Professional Experience on Corporate Financial Policy. *The Review of Financial Studies,* 29**,** 565-602.

DOW, J. & RAPOSO, C. C. 2005. CEO Compensation, Change, and Corporate Strategy. *The Journal of Finance,* 60**,** 2701-2727.

ELYASIANI, E. & ZHANG, L. 2015. CEO entrenchment and corporate liquidity management. *Journal of Banking & Finance,* 54**,** 115-128.

FENG, H. & RAO, R. P. 2018. Cash holdings and CEO risk incentive compensation: Effect of CEO risk aversion. *International Review of Financial Analysis,* 60**,** 162-176.

FERRI, F. & MABER, D. A. 2013. Say on Pay Votes and CEO Compensation: Evidence from the UK. *Review of Finance,* 17**,** 527-563.

FINKELSTEIN, S., HAMBRICK, D.C. AND CANNELLA, A.A., 2009. Strategic leadership: Theory and research on executives, top management teams, and boards. Oxford University Press.

FISCH, J., PALIA, D. & SOLOMON, S. D. 2018. Is Say on Pay All about Pay: The Impact of Firm Performance. *Harvard Business Law Review,* 8**,** 101-29.

FONG, E. A., MISANGYI, V. F. & TOSI, H. L. 2010. The effect of CEO pay deviations on CEO withdrawal, firm size, and firm profits. *Strategic Management Journal,* 31**,** 629-651.

GHOSH, C., GIAMBONA, E., HARDING, J. P. & SIRMANS, C. F. 2011. How Entrenchment, Incentives and Governance Influence REIT Capital Structure. *The Journal of Real Estate Finance and Economics,* 43**,** 39-72.

GRAHAM, J. R. & HARVEY, C. R. 2001. The theory and practice of corporate finance: evidence from the field. *Journal of Financial Economics,* 60**,** 187-243.

GRANT, J. 2011. Liquidity transfer pricing: a guide to better practice *Financial Stability Institute Occasional Paper No 10.* Financial Stability Institute.

GROSSMAN, S. & HART, O. 1982. Corporate financial structure and managerial incentives. *In:* MCCALL, J. (ed.) *The Economics of Information and Uncertainty.* University of Chicago Press.

GUJARATI, D. 2012. Econometrics by example.: Basingstoke: Palgrave Macmillan.

GUJARATI, D. N. & PORTER, D. C. 2010. *Essentials of econometrics. ,* Singapore, Irwin/McGraw-Hill.

HAMADI, M. & HEINEN, A. 2015. Firm performance when ownership is very concentrated: Evidence from a semiparametric panel. *Journal of Empirical Finance,* 34**,** 172-194.
HUTZSCHENREUTER, T., KLEINDIENST, I. & GREGER, C. 2012. How new leaders affect strategic change following a succession event: A critical review of the literature. *The Leadership Quarterly,* 23**,** 729-755.
ISAKOV, D. & WEISSKOPF, J.-P. 2014. Are founding families special blockholders? An investigation of controlling shareholder influence on firm performance. *Journal of Banking & Finance,* 41**,** 1-16.
JENSEN, M. C. 1986. Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. *The American Economic Review,* 76**,** 323-329.
JENSEN, M. C. & MURPHY, K. J. 1990. Performance Pay and Top-Management Incentives. *Journal of Political Economy,* 98**,** 225-264.
JIRAPORN, P., CHINTRAKARN, P. & LIU, Y. 2012. Capital Structure, CEO Dominance, and Corporate Performance. *Journal of Financial Services Research,* 42**,** 139-158.
JOHN, T. A. & JOHN, K. 1993. Top-Management Compensation and Capital Structure. *The Journal of Finance,* 48**,** 949-974.
KANG, S. H., KUMAR, P. & LEE, H. 2006. Agency and Corporate Investment: The Role of Executive Compensation and Corporate Governance. *The Journal of Business,* 79**,** 1127-1147.
KIM, H. & YASUDA, Y. 2019. Accounting information quality and guaranteed loans: evidence from Japanese SMEs. *Small Business Economics,* 53**,** 1033-1050.
KIM, K.-H. & BUCHANAN, R. 2008. CEO Duality Leadership And Firm Risk-Taking Propensity. *Journal of Applied Business Research,* 24.
KIM, K., PATRO, S. & PEREIRA, R. 2017. Option incentives, leverage, and risk-taking. *Journal of Corporate Finance,* 43**,** 1-18.
KIMBRO, M. B. & XU, D. 2016. Shareholders have a say in executive compensation: Evidence from say-on-pay in the United States. *Journal of Accounting and Public Policy,* 35**,** 19-42.
KOR, Y. Y. 2006. Direct and interaction effects of top management team and board compositions on R&D investment strategy. *Strategic Management Journal,* 27**,** 1081-1099.
KRIVOGORSKY, V. 2006. Ownership, board structure, and performance in continental Europe. *The International Journal of Accounting,* 41**,** 176-197.
LIANG, Y., MORONEY, R. & RANKIN, M. 2020. Say-on-pay judgements: the two-strikes rule and the pay-performance link. *Accounting & Finance,* 60**,** 943-970.
LIAO, L.-K., LIN, Y.-M. & LIN, T.-W. 2016. Non-financial performance in product market and capital expenditure. *Journal of Business Research,* 69**,** 2151-2159.
LINS, K. V., SERVAES, H. & TUFANO, P. 2010. What drives corporate liquidity? An international survey of cash holdings and lines of credit. *Journal of Financial Economics,* 98**,** 160-176.
LIU, Y., MILETKOV, M. K., WEI, Z. & YANG, T. 2015. Board independence and firm performance in China. *Journal of Corporate Finance,* 30**,** 223-244.
LU, W. & MELIN, A. 2016. *The best and worst countries to be a rich CEO.* [Online]. Bloomberg. Available: https://www.bloomberg.com/news/articles/2016-11-16/ranking-where-to-work-to-be-a-rich-ceo-or-richer-than-neighbors [Accessed].
MALLETTE, F. 2006. A framework for developing your financial strategy. . *Corporate Finance Review, ,* 10**,** 11.
MALMENDIER, U. & TATE, G. 2005. CEO Overconfidence and Corporate Investment. *The Journal of Finance,* 60**,** 2661-2700.
MASON, S., MEDINETS, A. & PALMON, D. 2016. Say-on-Pay: Is anybody listening? *Multinational Finance Journal,* 20**,** 273-322.
MERSLAND, R. & ØYSTEIN STRØM, R. 2009. Performance and governance in microfinance institutions. *Journal of Banking & Finance,* 33**,** 662-669.
MONEM, R. & NG, C. 2013. Australia's 'two-strikes' rule and the pay-performance link: Are shareholders judicious? *Journal of Contemporary Accounting & Economics,* 9**,** 237-254.

MURPHY, K. J. & JENSEN, M. C. 2018. The Politics of Pay: The Unintended Consequences of Regulating Executive Compensation. *Journal of Law, Finance, and Accounting,* 3**,** 189-242.
NAGAR, A. L. 1959. The Bias and Moment Matrix of the General k-Class Estimators of the Parameters in Simultaneous Equations. *Econometrica,* 27**,** 575-595.
NGUYEN, T., LOCKE, S. & REDDY, K. 2014. A dynamic estimation of governance structures and financial performance for Singaporean companies. *Economic Modelling,* 40**,** 1-11.
O'REILLY, C. A., DOERR, B., CALDWELL, D. F. & CHATMAN, J. A. 2014. Narcissistic CEOs and executive compensation. *The Leadership Quarterly,* 25**,** 218-231.
O'BRIEN, R. M. 2007. A Caution Regarding Rules of Thumb for Variance Inflation Factors. *Quality & Quantity,* 41**,** 673-690.
OPLER, T., PINKOWITZ, L., STULZ, R. & WILLIAMSON, R. 1999. The determinants and implications of corporate cash holdings. *Journal of Financial Economics,* 52**,** 3-46.
ORTIZ-MOLINA, H. 2005. Does capital structure matter in setting CEO pay? : Sauder School of Business Working Paper.
PFLUEGER, C. E. & WANG, S. 2015. A robust test for weak instruments in Stata. *Stata Journal,* 15**,** 216-225.
ROTEMBERG, J. J. & SALONER, G. 2000. Visionaries, Managers, and Strategic Direction. *The RAND Journal of Economics,* 31**,** 693-716.
SALAMA, F. M. & PUTNAM, K. 2013. The Impact of Corporate Governance on the Financial Outcomes of Global Diversification. *The International Journal of Accounting,* 48**,** 364-389.
SILA, V., GONZALEZ, A. & HAGENDORFF, J. 2016. Women on board: Does boardroom gender diversity affect firm risk? *Journal of Corporate Finance,* 36**,** 26-53.
SSG 2009. Senior Supervisors Group Report on Risk Management Lessons from the Global Banking Crisis of 2008. Financial Stability Board.
STATHOPOULOS, K. & VOULGARIS, G. 2016. The Importance of Shareholder Activism: The Case of Say-on-Pay. *Corporate Governance-an International Review,* 24**,** 359-370.
STOCK, J. H. & YOGO, M. 2002. Testing for Weak Instruments in Linear IV Regression.

NBER Technical Working Paper No. 284.
TANG, K. & WANG, C. 2011. Corporate Governance and Firm Liquidity: Evidence from the Chinese Stock Market. *Emerging Markets Finance and Trade,* 47**,** 47-60.
TRICKER, R. B. & TRICKER, R. I. 2012. *Corporate governance: Principles, policies, and practices*, Oxford University Press.
ULLAH, S, AKHTAR,P & ZAEFARIAN, G. 2018. Dealing with endogeneity bias: The generalized method of moments (GMM) for panel data. *Industrial Marketing Management,* 71 69-78.
Ullah, S., ZAEFARIAN, G, & ULLAH, F. 2020. How to use instrumental variables in addressing endogeneity? A step-by-step procedure for non-specialists, *Industrial Marketing Management*. https://doi.org/10.1016/j.indmarman.2020.03.006
VIEIRA, F., MACDONALD, R. & DAMASCENO, A. 2012. The role of institutions in cross-section income and panel data growth models: A deeper investigation on the weakness and proliferation of instruments. *Journal of Comparative Economics,* 40**,** 127-140.
WANSBEEK, T. & PRAK, D. 2017. LIML in the static linear panel data model. *Econometric Reviews,* 36**,** 385-395.
WASSERMAN, N., ANAND, B. & NOHRIA, N. 2010. *When does leadership matter*.
WEI, G. 2007. Ownership Structure, Corporate Governance and Company Performance in China. *Asia Pacific Business Review,* 13**,** 519-545.
YUN, H. 2008. The Choice of Corporate Liquidity and Corporate Governance. *The Review of Financial Studies,* 22**,** 1447-1475.