

# **Community and Compensation Director Remuneration in Thailand**

Budsaratragoon, Pornanong; Lhaopadchan, Suntharee; Thomsen, Steen

**Document Version** Accepted author manuscript

Published in: Research in International Business and Finance

DOI: 10.1016/j.ribaf.2019.101124

Publication date: 2020

License CC BY-NC-ND

Citation for published version (APA): Budsaratragoon, P., Lhaopadchan, S., & Thomsen, S. (2020). Community and Compensation: Director Remuneration in Thailand. Research in International Business and Finance, 52, Article 101124. https://doi.org/10.1016/j.ribaf.2019.101124

Link to publication in CBS Research Portal

#### **General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy If you believe that this document breaches copyright please contact us (research.lib@cbs.dk) providing details, and we will remove access to the work immediately and investigate your claim.

Download date: 03. Jul. 2025











# **Community and Compensation: Director Remuneration in** Thailand

Pornanong Budsaratragoon, Suntharee Lhaopadchan, and Steen Thomsen

Journal article (Accepted manuscript\*)

# Please cite this article as:

Budsaratragoon, P., Lhaopadchan, S., & Thomsen, S. (2020). Community and Compensation: Director Remuneration in Thailand. *Research in International Business and Finance, 52*, [101124]. https://doi.org/10.1016/j.ribaf.2019.101124

DOI: https://doi.org/10.1016/j.ribaf.2019.101124

\* This version of the article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the publisher's final version AKA Version of Record.

Uploaded to CBS Research Portal: July 2020

© 2019. This manuscript version is made available under the CC-BY-NC-ND 4.0 license http://creativecommons.org/licenses/by-nc-nd/4.0/







#### **Community and Compensation: Director Remuneration in Thailand**<sup>123</sup>

Pornanong Budsaratragoon<sup>4</sup> Chulalongkorn University

Suntharee Lhaopadchan<sup>5</sup> Kasetsart University

Steen Thomsen<sup>6</sup> Center for Corporate Governance Copenhagen Business School and ECGI

July 6, 2020

#### Abstract

We propose a new theoretical perspective based on mimesis (peer group imitation) to explain nonexecutive director pay. Arguing that peer group effects may be reinforced by Thai business culture, we test and support our hypothesis on a sample of 523 listed Thai companies from 2010-2015. We find that peer group pay is by far the most important and robust determinant of director pay in our sample. Simple peer effects explain almost half of the variation in director pay, and director pay converges to the peer group level over time. A discontinuity regression – a jump in director pay observed when companies are admitted to the SET50 stock market index – indicates a causal effect from peer group pay to director pay.

Keywords: director compensation; peer group effects; agency theory; managerial power

<sup>&</sup>lt;sup>1</sup>Revision submitted to Research in International Business and Finance. We are grateful for helpful comments by our discussant, Assistant Professor Dr. Kanyarat Sanoran, and the other participants at the Corporate Governance Workshop, Chulalongkorn Business School, and May 1 2017. We are also grateful for inspiring comments at a seminar with the Thai SEC 15 May 2018. Finally, we acknowledge helpful comments at the annual meeting of the International Corporate Governance Society in Shanghai, 13-14 October 2018.

<sup>&</sup>lt;sup>2</sup> Third revision requested, Research in International Business and Finance.

<sup>&</sup>lt;sup>3</sup> Thanks to the editor and the reviewers at Research in International Business and Finance. It is customary to thank the editor and the referees for their helpful inputs to the paper, but in this case we are particularly grateful for their support and guidance in very considerably improving the paper. In particular, we would like to highlight the contribution of our first reviewer.

<sup>&</sup>lt;sup>4</sup> Associate Professor of Banking and Finance, Faculty of Commerce and Accountancy, Chulalongkorn University, Thailand, e-mail pornanong@cbs.chula.ac.th.

<sup>&</sup>lt;sup>5</sup> Assistant Professor, Department of Finance and Accounting, Faculty of Management Sciences, Kasetsart University, Thailand, e-mail suntharee.l@ku.th.

<sup>&</sup>lt;sup>6</sup> Corresponding author. Novo Nordisk Foundation Professor, Ph.D., Center for Corporate Governance, Copenhagen Business School, Denmark, email st.ccg@cbs.dk. Financial support from Chulalongkorn Business School and the Novo Nordisk Foundation is gratefully acknowledged.

#### **1. Introduction**

Compared to the enormous amount of literature on executive compensation, non-executive director compensation has received little attention in academic research.<sup>7</sup> And yet directors are superior in rank to the executives, whom they hire and fire, and who must have their approval for all major decisions. The historical view of non-executives as symbolic figureheads - pawns rather than potentates (Lorsch and MacIver 1989) - has been replaced by a view that sees them as empowered and active (Lorsch, 2017). The new view is supported both by the management literature (Charam, et al., 2013; Conger, 2009) and financial research (Guo and Masulis, 2015; Masulis and Mobbs, 2016). If boards matter, it matters who is on the board, and board composition could be influenced by director pay. Moreover, the structure of director pay is likely to influence what boards do.

The theory of director pay is not well developed, so most work on director compensation is informed by the adjacent executive compensation literature, which is divided into two major theoretical perspectives: "optimal contracting" and "managerial power" (Conyon, 2006). The "optimal contracting perspective" views director pay as an efficient response to the costs and benefits of contracting. Director pay is set to maximize firm value and will reflect the costs and benefits of bargaining between shareholders and board members (Hölmstrom, 1979, 2005; Murphy, 2002; Conyon, 2006; Weisbach, 2007; Core and Guay, 2010; Kaplan, 2013). In contrast, the "managerial power" perspective views excessive CEO pay as an expression of CEO power resulting from agency problems (Bebchuk & Fried, 2004, 2005, Van Essen et al., 2015). By analogy, high levels of director compensation could reflect "director power," which enables directors to manipulate the pay-setting process. Director compensation would depend on the severity of the agency problems in different companies. Boivie et al. (2015) go so far as to say that non-executive directors effectively set their own pay since shareholders often accept their proposals.

However, neither of these perspectives seems adequate for explaining director compensation, particularly outside the US. In the rest of the world, equity compensation for directors is rare (Burns et al., 2015) and directors are typically held in check by powerful controlling shareholders (La Porta et al., 1999). In this paper, we, therefore, develop and test a new theory of director pay as determined by social conventions (Young 1996; McAdams & Rasmussen, 2005). The key idea is that shareholders will react to fundamental uncertainty about the behavior and performance of non-executive directors<sup>8</sup> by *mimesis*, i.e., by imitating pay levels in peer-group companies. We build on previous research in sociology and management, particularly institutional theory (DiMaggio and Powell, 1991) and equity theory (Adams, 1963), which emphasize the role of norms and standards in social processes. More recently, several finance papers have pointed to imitation of peer groups in financial decision making (Kose & Kadyrzhanova, 2008; Leary and Roberts 2014; Bursztyn et al., 2014, Kaustia & Rantala, 2015; Grennan, 2019). In the adjacent field of executive compensation, peer group effects are highly significant (Bizjak et al., 2008; Faulkender & Yang, 2010; Bizjak et al.,

<sup>&</sup>lt;sup>7</sup> Hahn and Lasfer (2011) provide a literature review.

<sup>&</sup>lt;sup>8</sup> For convenience we will, henceforth, talk of non-executive directors as "directors" and executive directors as "executives" or "managers". For the same reason, we use the term "director pay" to indicate the pay of non-executive directors.

2011). Boivie et al. (2015) apply a similar perspective to non-executive director compensation in US firms.

We test the mimesis (peer group) hypothesis on a Thai dataset arguing that Thai business culture (based on community and seniority) may reinforce the social determinants of director pay. According to the management culture theorist Geert Hofstede (Hofstede, 1994; Hofstede et al., 2010) Thailand *"is a highly collectivist country."*<sup>9</sup>A strong sense of community implies that individuals identify with the group (family, clan, village, and organization) and are reluctant to stand out. Thailand has the lowest masculinity ranking among the Asian countries, which is indicative of a society with low assertiveness and competitiveness.<sup>10</sup> These characteristics make Thai boards particularly sensitive to peer group effects. The importance of cultural factors is consistent with Grenness (2011), who finds that culture is a strong predictor of international pay differences. Thus, the motivation for our paper is twofold. We develop a new theoretical perspective concerning the determinants of director compensation, and we test it in a setting (Thailand) in which it appears particularly appropriate.

We find strong support for our hypothesis on a sample of 523 listed Thai firms over the period 2010-2015. Peer group effects are highly significant in Thailand and explain almost 50% of the variation in director pay. Changes in peer pay are associated with changes in director pay. We also find evidence of dynamic adjustment to peer group benchmarks. Pay increases are smaller when director pay exceeds the peer group level and larger when director pay is lower than in the peer group. We show that neither efficient contracting nor the power perspective are successful in terms of explanatory power. Finally, we employ a regression discontinuity design to study the effect of peer group pay on director pay when companies are admitted to the SET50 index. We identify a positive and significant causal effect from peer group director pay to director pay.

#### 2. Context, Literature Review, and Theory Development

#### 2.1 The Thai Business Context

Thailand has a large, vibrant stock market, which is comparable in relative size to the markets in developed economies. According to the World Bank, there were 639 domestic companies listed in Thailand in 2015 and market capitalization stood at 88% of GDP, which is below the US (139%), but above the European level (65%). About one-third of the market is held by foreign investors.

Following the critique of crony capitalism during the 1997 South East Asian debt crisis, Thai corporate governance underwent a number of significant reforms, which have contributed to the resurgence of the stock market (World Bank, 2013). In 1998, the Stock Exchange of Thailand (SET) issued new listing requirements and a code of best practice for listed companies. A National Corporate Governance Committee was set up in 2002, which issued 15 principles of corporate governance

<sup>&</sup>lt;sup>9</sup> https://www.hofstede-insights.com/country/thailand/

<sup>&</sup>lt;sup>10</sup> https://www.hofstede-insights.com/country/thailand/

including recommendations for independent directors on the board, separating the chair and CEO functions, and the disclosure of compensation for executives and directors (the Stock Exchange of Thailand, 2006). These principles were implemented on a comply-or-explain basis. Corporate gov-ernance rules were also issued by the Thai SEC on an "apply or explain" basis. Overall compliance was 78% in 2016 (Thai Institute of Directors, 2016).

To be sure, founding families remain a dominant force in Thai corporate governance as in other Asian economies (Dhnadirek and Tang, 2003; Prommin, et al., 2016; Sitthipongpanich, 2017). The financial distress during the 1997 Asian debt crisis led to some dilution of concentrated ownership because of the need to attract outside equity, but in most companies, family owners appear to continue to exert ultimate control, albeit in less transparent forms such as pyramids, cross-holdings or ownership alliances with third parties (Theeravanich, 2013). Arguably, more opaque ownership structures of this kind have strengthened the need for good corporate governance. The dominance of founding families can influence director compensation in various ways. For example, it seems unlikely that large director pay increases would escape their attention. Kanchappomi (2005) pointed out that Thai family owners reinforce their control over the company by informal alliances. Family members and friends are often placed on boards.

Thai corporate governance may be influenced by Thai culture (Pornpitakpan, 2000; Chaithanakij, 2006). We emphasize community as an important part, which implies that individuals identify with the group (family, clan, village, or organization). As mentioned above, Thailand is characterized by the cultural theorist Geert Hofstede (e.g., Hofstede, 1994; Hofstede et al., 2010) as having a collectivist and feminine culture which makes individuals reluctant to stand out. Researchers have argued that Thai culture prioritizes "the harmony of the group over the needs of the individual" (Andrews 2001), that Thai culture is more relationship than task oriented (Runglertkrengkrai & Engkaninan, 1987) and that Thais tend to avoid criticisms and confrontations (Chaisilwattana & Punnakitikashem, 2017). Thai corporate governance is described as "relationship-capitalism" that relies on long-standing relationships (Kanchanapoomi, 2005). Task achievement may be inhibited by social relationships (Komin, 1990). National culture has previously been found to influence pay practices (Adithipyangkul & Prasarnphanich, 2008; Grenness 2011).

The Thai corporate governance code explicitly recommends that directors should be paid a standard rate. "Board remuneration should be comparable to the industry level in which the company operates, reflect experience, obligations, scope of work, accountability, and responsibilities and contributions of each director." We propose that this attitude will reinforce peer group effects so that director pay is largely determined by peer group imitation rather than firm-specific conditions. We speculate that peer group benchmarking helps to align director pay with the Thai concept of harmony.

Some might also claim that Buddhist influence could deemphasize monetary compensation as a sign of "greed." As we shall see, only a small minority (1%) of Thai directors are remunerated with warrants or equity-based compensation. However, fixed director pay is almost universal outside the

US. For example, the UK corporate governance code recommends that "*Remuneration for non-executive directors should not include share options or other performance-related elements.*"

#### 2.2 Literature Review and Theory Development

Compared to the enormous amount of literature on executive compensation, there has been little research on the compensation of non-executive directors. We review some relevant theory and empirical literature below.

**Country effects**. US Research is not necessarily representative of the rest of the world, including emerging markets like Thailand. For example, as mentioned, unlike in the rest of the world, equity compensations is common for non-executive directors in the US (Yermack, 2004; Fich and Shivdasani, 2005). Moreover, ownership structures tend to be more dispersed in the US than in the rest of the world, including Thailand (La Porta et al., 1999). Collin et al. (2017) find that concentrated ownership is associated with lower director pay. Director liability is another special characteristic of the US governance system, which appears to be associated with director pay (Aguir et al., 2014). The importance of national differences in director pay is further underlined by Burns et al. (2015), who find that director compensation is higher in countries with higher GDP per capita and a higher level of corruption. Similarly, Grenness (2011) finds that national culture is a strong predictor of international pay differences. All these factors indicate that the national context influences director compensation.

Nevertheless, as mentioned, most past research on director compensation has explicitly or implicitly relied on theories developed mainly in the US. The two dominant paradigms - efficient contracting and managerial power (Conyon, 2006) - have been developed from the literature on executive compensation. The efficient contracting view (associated contributions to agency theory by Hölmstrom 1979, 2005; Murphy, 2002, Weisbach, 2007, and Kaplan 2013) regards executive compensation as an outcome of market forces (supply and demand). The more recent managerial power view (associated with Bebchuk & Fried 2004, 2005) asserts that executives who abuse their power extract higher pay at the expense of shareholders. By inference, this perspective implies that director pay would tend to be higher the more power the non-executive directors have relative to shareholders and executive management.

**Efficient contracting**. Most of the empirical research on director compensation has relied on efficient contracting and agency theory. The early US studies (e.g., Yermack, 2004, Fich & Shivdasani, 2005) focus on equity incentives for directors, which are found to be widespread and economically important. This approach is consistent with the efficient contracting perspective since it indicates that director pay is linked to shareholder value creation and will vary across firms as predicted by agency theory depending on stock performance. Nominally fixed director pay does not preclude some economic incentive, for example, in the form of attendance fees (Adams & Ferreira 2008) or ex-post rewards for good company performance (Fama, 1980; Andreas et al., 2012). Haron & Akhtaruddin (2013) find that director pay in Malaysia is positively influenced by firm profitability but

negatively influenced by ownership concentration. Chia-Wei et al. (2015) find that director pay in Taiwan is positively associated with firm performance. Similarly, empirical studies find that director compensation varies with variables like firm size (Haron & Akhtaruddin, 2013; Burns et al., 2015), financial leverage, and legal risk (Theeravanich, 2013, Aguir et al., 2014), which appear consistent with adaptation to firm-specific conditions under efficient contracting.

**Director power**. Other studies are consistent with corporate governance and director power as the source of variation in director pay. Concentrated ownership is associated with lower director pay (Collin et al., 2017; Haron & Akhtaruddin, 2013). Brick et al. (2006) find a significant and positive association between executive pay and director pay among 1163 US firms over the period from 1992-2001, which they interpret as evidence of collusion between the two parties (i.e., director power). Ye (2014) finds that earnings management (discretionary accruals) increases with director cash compensation in a sample of 1407 Chinese companies from 2002-2008.

**Peer group effects**. Finally, some papers are consistent with the peer group perspective that we develop below. Boivie et al. (2015) argue, theoretically, that director compensation will be influenced by "social comparisons" – for example to director pay in the companies, from which the directors have experience as executives or directors - or to CEO pay in the firm, in which they currently serve. In a study of 281 S&P firms 1998-2005, they find that changes in director compensation are influenced by changes in the hypothesized benchmarks. Similarly, Farrell et al. (2008) find that director compensation in 237 Fortune 500 firms 1998-2004 adjusts to a measure of the normal rate over four years.

The peer group perspective is consistent with a growing number of finance papers which have suggested that firms imitate the financial policies of peer firms in other areas. Peer effects have been found to influence headquarter locations and takeover defenses (John & Kadyrzhanova 2008), capital structure (Leary & Roberts, 2014), investments (Bursztyn et al., 2014), dividend policies (Grennan, 2019), and stock splits (Kaustia and Rantala, 2015). Fairhurst & Nam (2018) find that peer effects on capital structure are stronger for companies with weak corporate governance, which are less subject to capital market discipline.

To our knowledge, Theeravanich (2013) is the only published study on director compensation in Thailand. The findings seem broadly consistent with both complete contracting and director power. Theerevanich (2013) studies 363 listed Thai firms over the period from 2002-2008. Consistent with efficient contracting theories, he finds that average director compensation increases with firm value, firm size (total assets) and decreases with financial leverage. Support for the director power view appears to be more tenuous. Director power is positively associated with split chair/CEO functions (consistent with the greater director power), but is positively associated with family ownership and negatively associated with director ownership, which seems inconsistent with the managerial power view. We note however that Theeravanich (2013) relies exclusively on OLS regressions which cannot take into consideration firm specific heterogeneity and does not test for the direction of causality.

#### 2.3 Theory Development and Hypotheses

In this section, we develop an alternative theoretical perspective on the determination of director pay. We start by arguing that non-executive director compensation differs from executive compensation in important ways and can, therefore, be expected to be determined by different forces.

First, non-executive directors carry a diffuse legal responsibility to act in the best interest of the company, rather than being held accountable for shareholder value creation. It is not clear what they are supposed to do, which makes it difficult to assess their contribution to the company. Multi-task agency theory advises that principals may be better off with fixed pay for agents that face multiple complex tasks (Pendergast, 1999), and in fact, most directors outside the US are compensated by a fixed fee (Burns et al., 2015).

Secondly, the collective responsibility of board members implies significant free-rider problems since the contribution of individual members will be equally shared by the other members. All else equal, the members of a board have the same rights and responsibilities and are typically paid the same regardless of their qualifications and effort level (although chairs, vice-chairs and committee members are paid more). For example, Koch & Stadtmann (2013) study individual-level determinants of director pay on the supervisory boards of the 30 largest listed German firms. They observe that differences in pay are attributable to board functions like chairmanship or committee membership rather than to personal characteristics like board experience or education. Moreover, Koch & Stadtmann (2013) document that board members tend to be paid the same regardless of qualifications, which seems inconsistent with optimal contracting and managerial power, but consistent with the social conventions perspective.

Thirdly, the non-executive directors are part-time and often assumed to be motivated by their reputation rather than monetary rewards (Fama & Jensen, 1983). Their pay is typically much lower than executive pay, and so is their time commitment. It is less costly to the company and attracts less public scrutiny than CEO compensation.

Considering the difficulties of the setting of director pay in an objective way, we suggest that it will be determined by mimesis (peer group imitation). In other words, we suggest that companies will pay their boards the same as other similar companies rather than by individual bargaining and fine-tuning. Peer group determination is subject to interpretation, but we will use firm size and industry as empirical proxies. Mimesis may or may not be consistent with efficient contracting depending on whether peer group pay reflects the marginal value of director services, but it could also be influenced by social status and fairness considerations. Our approach is in line with the emerging peergroup imitation literature in finance (Leary & Roberts 2014), sociological institutional theory (Di-Maggio & Powell, 1983, 1991), equity theory (Shin, 2016) and the theory of social conventions in institutional economics (Schotter 1981; Elster, 1989).

We take this research one step further by proposing that director pay is effectively set by social convention as proposed in institutional economics (Young, 1996; McAdams & Rasmussen 2005; Schotter, 1981, Elster, 1989). A convention is a pattern of behavior that is customary, expected, and

self-enforcing (Young, 1996): "*Everyone conforms, everyone expects others to conform*." Conforming is in everybody's interest, given that everybody else conforms. In game theory terms, conformance is a Nash equilibrium. In our case, we propose that director compensation is set by a benchmark, which depends on firm size, industry, executive compensation, and other observable indicators. We expect general conformance to this norm.

A major advantage of a social convention is simplification: "*out of a host of conceivable choices, only once is actually used*" (Young, 1996). Simplification is beneficial because it reduces transaction costs related to information gathering, bargaining, and enforcement. We propose that these costs are high for setting director compensation since it is difficult to determine the marginal product of individual directors and no less difficult to determine the contribution of the board as a whole to corporate value creation. Moreover, given the confidential and indirect nature of board work, it is difficult for shareholders to verify how much the board contributes. It is easier to set director pay using benchmarking than to set it by fine-tuning incentives to maximize value creation in the individual firm.

According to institutional sociological theory (DiMaggio & Powell 1983, 1991), the homogeneity of organizational structure can result from coercive pressures (the law and regulation), mimetic pressures (the imitation of successful firms) and normative standards (of professionals like auditors and lawyers). The tendency towards conformity is believed to be particularly strong under high uncertainty and ambiguity, which is arguably the case for company boards whose impact on the company is highly uncertain. Similar pressures are predicted to lead to "symbolic" compensation practices (Fernandez-Alles et al., 2006; Tenhiälä & Vuori, 2012).

Social conventions may arise in two distinct ways: central authority or local custom (Young, 1996). In the case of director compensation, local customs play a role by determining what is considered usual. However, central authorities (like the Thai SEC or the Stock Exchange of Thailand working through the Thai corporate governance code) help to set the tone, for example by proposing that directors should be paid what is customary for the position and no more (as we described above).

We argue that director pay is an example of "*distributive bargaining*" (Young, 1996) between shareholders and board members. Social conventions "*point the bargainers towards particular so-lutions*," i.e., a split of revenues which is customary and expected for the parties in a particular bargaining situation. With experience and practice, the convention "*becomes a norm that the subjects rationalize afterward as fair*" (Young, 1996).

Social conventions are connected to equity theory (Adams, 1963, Huseman et al., 1987, Martin & Peterson, 1987; Pepper et al., 2015) because they constitute the standard, by which equity and fairness are judged. According to equity theory, individuals who perceive themselves as under-rewarded or overrewarded experience psychological distress, which leads to efforts to restore equity (Huseman et al., 1987). Equity theory has been successfully applied to executive and director compensation, demonstrating that over- and underpay relative to peer group pay will lead to subsequent convergence to the benchmark (Shin, 2016; Ezzamel & Watson, 2002). However, the speed of the

adjustment may be faster for underpay than for overpay (Ezzamel & Watson, 2002) and may also be influenced by managerial power relative to the board (Shin, 2016).

Pay by social convention can be seen as a second-best solution to efficient contracting when uncertainty is high, and marginal productivity is difficult to assess. Adherents of the managerial power view might also see it as confirmation that director compensation may be out of line with basic economic fundamentals. In any case, the view of the social convention predicts that decision-makers will revert to some common heuristics or yardsticks when there is uncertainty about marginal products. It is striking, for example, that members of a given board tend to be paid the same regardless of their individual qualifications and contributions as long as they are ordinary board members.

**Peer pay as a determinant**. We test the social conventions view empirically by examining whether director pay is influenced by remuneration in peer-group companies. Such peer-group imitation may be especially strong in a community-oriented Thai business culture as we have argued above. The higher the peer pay, the higher director pay we would expect to observe. We propose hypothesis 1 for empirical testing.

# *Hypothesis 1. We expect director pay to be positively influenced by compensation in peer-group companies.*

We proxy peer companies by companies in the same industry and size group (using market capitalization as the size measure). We calculate the average pay of other companies in these benchmark groups and use this measure to explain variations in director pay in each of the companies in our sample. This definition of peer group appears to be fairly standard,<sup>11</sup> although one can discuss the company size measure (some use revenue or assets instead of market capitalization) and how finegrained the industry categories should be. More fine-grained measurement could include geography (regional differences), perceived competitors, international peers, controlling ownership, (e.g. state vs. private) and "talent" (e.g., average compensation for directors with audit, finance or law backgrounds).<sup>12</sup>

**Executive pay as a determinant**. Another benchmark for director pay is executive pay (Brick et al., 2006, Boivie et al., 2015). Arguably, the directors should have a level of expertise at least equivalent to the executives they are supposed to monitor and, therefore, a comparable pay level adjusted for their lower workload as part-time directors. So, for example, if non-executive directors on average spend one work-month a year on a board position, we would expect director pay to be around 1/12 of executive pay in the company, in which they serve – with allowance for legal liability, risk, and other factors. We, therefore, propose hypothesis 2 for empirical testing.

<sup>&</sup>lt;sup>11</sup> This definition of peer group seems to be standard practice in finance. According the on-line financial encyclopedia (<u>https://www.in-vestopedia.com/terms/p/peer-group.asp</u>): "In the context of financial markets, a peer group refers to companies that are competitors in the same industry sector and are of similar size."

<sup>&</sup>lt;sup>12</sup> See the blog post by Louisa Lahn from Equilar for alternative peer group indicators: <u>https://corpgov.law.harvard.edu/2019/02/09/industry-as-peer-group-criterion/</u>.

# *Hypothesis 2. Director compensation will be positively influenced by executive pay in the same company.*

Hypothesis 2 is equivalent to hypothesis 1 with the qualification that executives can also be regarded as a peer group, whose pay is a relevant benchmark for setting director pay. Brick et al. (2006) find the expected positive correlation (as high as 0.51) between executive compensation and director compensation in a US dataset (S&P 500). Using multiple regression analyses and Granger causality tests, they find that CEO compensation has a positive effect on director pay. They interpret this finding as a sign that executives collude against the best interest of shareholders based on the finding that excess director compensation is negatively associated with stock performance. A positive association between director pay and executive pay can, therefore, also be regarded as evidence of management and director power. Boivie et al. (2015) also find a positive effect of change in CEO compensation on non-executive director compensation in the S&P 500, but they interpret this as evidence of social comparison processes and reciprocity between CEOs and the board.

**Dynamic adjustment**. Finally, we propose that there will be a dynamic adjustment of the peer group compensation levels. According to the mimesis (peer group imitation) perspective, director pay should converge to the peer group level over time. This suggestion implies that director pay should increase if it is lower than the peer group level and decrease if it is higher than the peer group level. If we define overcompensation as average director pay minus average director pay in the peer group, we can summarize the convergence hypothesis as the expectation that director pay will decrease with overcompensation. It should increase when overcompensation is negative (and director pay is lower than peer group level) and decrease when overcompensation is positive (and director pay is higher than the peer group level). When director pay is equal to the average peer group pay, we would expect to have an equilibrium with no impetus to change.

Moreover, we can reasonably expect the pull of the mimetic pressures to be stronger the more director pay in a company deviates from the pay level in its peer group. If the deviations from the norm (peer group average) are small, they are likely to be considered trivial and not lead to significant change, but the larger they are, the more change pressure there is likely to be from directors (if their pay is lower than normal) or from shareholder (if director pay is higher than normal).

Based on these considerations, we propose hypothesis 3 for empirical testing.

Hypothesis 3. Increases in director pay will be a negative function of overcompensation. Pay increases will be smaller in companies with above-peer director pay and larger in companies with below-peer director pay.

As mentioned in the literature review, Farrell et al. (2008) apply a similar approach on a US dataset (the S&P 500) and find that director compensation converges to the normal rate over four years.

**Country effects**. We note as an afterthought that the social conventions view is consistent with the strong nation effects found in previous research. Arguably, if director pay was fully determined by economic factors like firm size, industry, capital structure, and corporate governance, there would be no differences across nations once these other variables account for these firm-specific effects. In

contrast, the social convention perspective predicts that companies will tend to stick to convergence on pay levels which have come to be perceived as normal for historical or other reasons. However, since we have a single-country dataset, we are unable to test this hypothesis in the present paper.

#### 3. Data and Methods

#### 3.1 Data and variables

Our data consists of all firms listed on the Stock Exchange of Thailand (SET) and the Thai Market for Alternative Investment (mai) over the period from 2010-2015, for which unique hand-collected data on director compensation was graciously made available to us by the SET. The SET graciously provided us with three proprietary datasets for individual companies:

- Director & management compensation,
- Governance ratings of individual companies by the Thai Institute of Directors
- Board composition.

Director & management compensation for 2014-2015 was manually collected from the companies' annual registration statement (the so-called 56-1 form) as an outcome of a collaborative project between the SET, Chulalongkorn University, and Kasetsart University, whereas the data for 2010-2013 was generously supplied by SET. The accounting and financial data was collected from Datastream.

Our initial selection criteria were that the company had information on market value and industry and that a company must have data on director pay available for at least two consecutive firm-years to allow us to analyze changes and lagged effects. We, therefore, selected all listed Thai firms 2010-2015 with the following filters:

- 1. Director pay is available (non-missing for at least two years).
- 2. Market value data is available.
- 3. Industry affiliation is available.

4. We omitted firms in rehabilitation (subject to possible delisting for non-compliance with the listing requirements), for which corporate governance ratings were not available.

We give an overview of the key variables below and provide a more detailed explanation in the appendix.

**Director pay** is our key outcome variable. It is calculated as total non-executive director pay (measured in 1000 baht) divided by the number of non-executive directors (logarithmic values). We also analyze changes in director pay (first differences) to examine whether they are associated with changes in the explanatory variables.

**Peer Pay** is our key explanatory variable (according to hypothesis 1). It is calculated as the average non-executive director pay of peer companies in the same industry and size group (excluding the company itself) and measured in logarithmic values. We calculate the peer group average for each

firm, excluding the firm itself. This variable captures the "social influence" on director pay, i.e., the extent to which boards and shareholders are influenced by comparable firms when setting director compensation. We use a detailed classification with 32 industry categories and 11 size groups.

**Executive Pay** is the average pay of executive directors in the same company (logarithmic values). Executive pay also measures social influence on director pay to the extent that firms and their owners consider take executive pay into consideration when setting non-executive director pay (Brick et al., 2006). The idea is that higher executive pay will be associated with higher pay for non-executive directors (hypothesis 2).

**Overpay** is director pay relative to the peer group. It is measured as the difference between director pay and peer director pay (director pay minus peer pay). Our hypothesis (hypothesis 3) is that director pay will increase less in companies whose boards are paid more than their peer group and increase more in companies whose boards are paid less than their peers so that there will be convergence to the peer group level over time (Farrell et al., 2008).

**Size** (log assets) is a key control variable used in most empirical studies of director compensation (e.g., Burns et al., 2015). It is measured as the logarithm of total company assets and lagged one period to reduce the potential effects of endogeneity and reverse causality.

**ROA** - winsorized and lagged return on assets – is another important control variable. Lagged ROA is intended to capture the extent of ex post settling up (Fama, 1980) so that directors in profitable firms are rewarded by increases in pay and, thus, have an incentive to make decisions that increase accounting profitability (Andreas et al., 2012; Haron & Akhtaruddin, 2013; Chia-Wei et al., 2015).

 $\mathbf{Q}$  (firm value) is winsorized and lagged to reduce reverse causality. It is measured in the conventional way as "small q" (market value plus debt over total assets). The idea is again that directors may be rewarded for a higher firm value by increasing director pay (Andreas et al., 2012).

**Rating** is a numeric corporate governance assessment from 0 (low) to 3 (high) (i.e. the four levels 0, 1, 2, 3) by the Thai Institute of Directors. According to the managerial power hypothesis (Conyon, 2006), higher corporate governance ratings should be associated with lower director pay since better governance would make it more difficult for directors to expropriate shareholder wealth by increasing their own pay. However, according to the efficient contracting perspective, we might expect the opposite result. Better governance could allow for greater board efficiency and value creation by the board, which would enhance the value and pay of non-executive directors.

**Debtpct** is total debt over total assets (%). More debt could make it more risky for directors to take on board positions because of the risk of financial distress. They could respond to greater risk by demanding higher cash compensation (Aguir et al., 2014).

**Capex** is capital expenditures over total assets (%). Higher capital expenditure could increase the demand for board monitoring and lead to higher director pay.

**Numeric growth** is the absolute growth rates of total assets. High numeric growth rates can come about as a result of M&A, divestiture, or financial distress, which could increase both financial risk and the demand for board monitoring - and therefore increase director pay.

### 3.2 Data Description

In Table 1, we provide descriptive statistics. We observe that average director remuneration is about ThB700.000 Baht or US\$20.000. As mentioned previously, the level is somewhat below the international level of about US\$80.000 for developed countries (Burns et al., 2015) which reflect Thailand's status as an emerging economy and partly a bias towards large companies in calculating the global average. In fact, at 1:4 (20.000/80.000) to the international level Thai director pay is somewhat higher than might be expected from Thailand's per capita GDP of US\$5700 compared to an OECD average of US\$37.000 (a ratio of 1:6).

There is a large variance between firms – i.e., a factor 10.000 between the minimum of about ThB5.000 and the maximum of Thb50 million. The distribution is skewed (the median director pay is around Th.B. 500.000, smaller than the mean) so we take logarithms, which appear to be approximately normally distributed, although the density around the mean is higher than would be expected in a normal distribution (and normality is actually rejected by standard normality tests like Shapiro Wilks). This result is in accordance with the hypothesized tendency to adjust director pay to the norm.

The average firm has assets of around ThB41 billion (1.3 billion \$). Firm size variables tend to be skewed, so we use logs for statistical analysis. Average ROA is an acceptable 4.6% with a mean firm value (q) of 1.6, which is relatively high. We winsorize the two variables at the 1% level to remove the impact of the outliers. The average governance rating is 1.3 on a scale from 0 to 3, which indicates that there is still room for improvement in Thai corporate governance. Average executive pay is ThB4.4m or 7.3 times higher than average director pay, which is low compared to a ratio of 15.3 in the international data used by Burns et al. (2015). This finding reinforces the impression that Thai director pay is relatively high in international comparison. We take logs for statistical analysis. Debt as a percentage of total assets is around 45% winsorized. Peer pay is the average remuneration of the other firms in the same industry and index category (excluding the company in question). We use it as a benchmark for normal director pay. It is, by construction, very close to overall mean director pay. We also log this variable for statistical analysis.

**Correlations**. Table 2 reproduces the correlation matrix with asterisks indicating significance at the 5% level.

We note that average director pay is positively correlated with firm size (log assets, log sales), average executive remuneration, and peer pay. Because these correlations are relatively high, we examined the variance inflation factors (vifs) which were, in all cases, less than 10, and the highest vifs (3.7 to 7.7) were found among the industry dummies that are not reported in the correlation matrix. Interestingly, director pay is also significantly positively correlated with accounting profitability, but not with firm value.

When we decompose the variance of director pay into within-firm variance over time and the crosssectional variance between firms, we observe that the standard deviation between firms is double the standard deviation within firms. In other words, most of the variance in director remuneration is between firms. Director remuneration is relatively stable over time. The mean change per year is 0.002%, with a standard deviation of 0.02%. Even if we consider numerical (absolute value) percentage change, the average is only 3% a year. In contrast, firm fixed effects explain 84% of the variance in director compensation using a simple OLS regression analysis.

This finding is consistent with the hypotheses that director compensation is set by social convention rather than economic calculation. Moreover, the stability has implications for our estimation strategy since standard fixed-effects models neutralize between-firm variance and, therefore, arguably remove too much of the variance. On the other hand, simple OLS models fail to control for a range of unobserved firm specifics that could influence both director compensation and company performance. We, therefore, report both fixed effects, random effects, and OLS models.

It is difficult to see a clear time trend in director pay, and only a few companies (around 1% over the period) use equity-linked pay for non-executive directors. However, there are significant industry effects. Directors of financial firms get more than double the fees of consumer or service firms. As we would expect, there are also rather large index effects so that directors in SET50 firms get more than 50% more than directors in the SET50-100 firms, which get more than directors in the smaller listed companies (SET100+), which again get more than directors do in the alternative market index (MAI) for smaller companies. The same pattern (i.e., the index effect) is visible within industries as well. Firm size is another relevant determinant of director and peer group pay. Director pay is about six times higher in the highest asset decile than in the smallest. While not completely monotonous, director pay generally increases with asset decile, and the pattern is fairly stable over time.

#### **3.3 Statistical Models**

Our general model format is quite standard. We estimate the following equation:

3.3.1 Director  $pay_{[i,t]} = a + Peer Pay_{[i,t]} * b + \sum_{[j]} X_{[j, i,t-1]} * c_{[j]} + \sum_{[k]} T_{[k]} * d_{[k]} + u_{[i]} + v_{[i,t]},$ 

where a, b, c, d and  $u_{[i]}$  are estimated coefficients. Director pay is the response variable of firm i at time t. Peer pay is our key explanatory variable for firm i at time t.  $\sum_{[j]} X_{[j, i, t]} * c_{[j]}$  is the list of control variables presented above,  $u_{[i]}$  is the fixed or random firm effect for firm i and  $v_{[i,t]}$  is the pure residual.  $\sum_{[k]} T_{[k]}$  are the six time dummies (k=2010,.., 2015) and  $d_{[k]}$  are the estimated time effects.

We start with standard OLS models with standard errors clustered by firm but without the firm effects u<sub>[i]</sub>:

3.3.2. Director  $pay_{[i,t]} = a + Peer Pay_{[i,t]} + \sum_{[j]} X_{[j,i,t]} + c_{[j]} + \sum_{[k]} T_{[k]} + d_{[k]} + \sum_{[l]} I_{[l]} + r_{[i,t]}$ 

We believe that the simple OLS model is very useful since it includes the important cross-sectional (between firms) variance in director pay, which is more important than the time-series variance. However, OLS does not allow us to take into consideration the potentially important unobservable heterogeneity between firms. We, therefore, also present fixed or random firm effects models to demonstrate that our results are robust to econometric specification.  $\sum_{[1]} I_{[1]}$  are industry dummies, and  $f_{[1]}$  are the estimated industry effects.

In the panel data regressions, the industry dummies are replaced by the firm effects u<sub>[i]</sub>:

3.3.3 Director  $pay_{[i,t]} = a + Peer Pay_{[i,t]} * b + \sum_{[j]} X_{[j, i,t-1]} * c_{[j]} + \sum_{[k]} T_{[k]} * d_{[k]} + u_{[i]} + v_{[i,t]},$ 

which is equivalent to 3.3.1.

In the fixed-effects model,  $u_{[i]}$  is an unvarying dummy variable characterizing observations belonging to firm i. Along with the other variables, the fixed effect controls for the average director pay of firm i over the period, so the fixed effects model explains the variations around this level.

In the random-effects model, the firm effect  $u_{[i]}$  is regarded as the outcome of a random variable that is not correlated with the explanatory variables. We use the Hausman test to guide us in the choice of preferred models.

Since both director pay and peer pay are measured in logarithms, we can interpret the coefficient b as an elasticity: the percentage increase in director pay for one percentage point increase in peer pay.<sup>13</sup>

Following Boivie et al. (2015), we also run regression models on changes in director compensation to probe deeper into the short-term effects of the independent variables:

3.3.4 ADirector  $pay_{[i,t]} = \Lambda Peer Pay_{[i,t]} * b + \sum_{[j]} \Lambda X_{[j, i,t]} * c_{[j]} + v_{[i,t]}$ ,

where  $\Lambda$  signifies changes (first differences) and the firm effects  $u_{[i]}$  cancel out because they are unchanged over time. Taking the first differences removes the firm-level effects and heterogeneity from both the dependent and the independent variables. We estimate the change effect for both variables as a simple OLS model and with fixed firm effects  $u_{[i]}$  added

Finally, to test for the direction of causality we use a regression discontinuity design (RDD) to identify the causal effect of changes in peer-group pay around the threshold of inclusion in the SET50 index which encompasses the 50 largest Thai companies by market value. On the assumption that firms in the SET50 will compare themselves to other SET50 companies, we expect to see a significant jump in director compensation for firms at the lower end of the SET50 compared to the firms which are just too small to be admitted into the index.

<sup>&</sup>lt;sup>13</sup> Strictly speaking this holds only for constant elasticity relationships, which is a convenient assumption which we cannot verify. For example, linear relationships would not necessarily have a constant elasticity.

Given a running variable (market value rank), a threshold (market value rank=50), a treatment indicator (inclusion in the SET50 index) and the outcome (director compensation), regression discontinuity models identify a treatment effect by associating a jump in mean director compensation with a jump in the probability of treatment (SET50 membership) when market value crosses the threshold (market value rank = 50).

The regression discontinuity model estimates the size and significance of the director pay difference between treated and untreated firms, in this case between firms which are and are not members of the SET50. There are several ways to estimate this effect empirically, but a simple linear specification is the following:

3.3.5 Director  $pay_{[i,t]} = a + b*SET50_{[i,t]} + c (Mv rank_{[i,t]} - 50) + v_{[i,t]}$ 

where a, b and c are estimated parameters. b is the "treatment effect" of SET50 membership and c measures the general effect of increasing market value rank. Mv is Market value rank which has a value of 50 at the threshold, the effect of which we capture with the SET effect b. To avoid mistaking a non-linearity for a jump it is customary to estimate the relationship between dependent and independent variables around the discontinuity using a polynomium (Angrist & Pischke, 2009).

#### 4. Results

In this section, we provide statistical results. We analyze the determinants of director pay in crosssectional and panel data models (table 3), determinants of changes in director pay (Table 4) and finally exploit a regression continuity design to check for causal effects (Table 5).

# 4.1 Level effects

Table 3 reports the regression results for the determinants of director compensation. We report the OLS, fixed effects, random effect, and Tobit estimates. Fixed effects models control for unobserved firm heterogeneity but at the cost of eliminating some of the variance in which we are interested. We, therefore, find it best to report several sets of results. Tobit models can take into consideration the lower bound to director compensation that cannot go below zero, but in panel data, they are only available for random-effects models. Throughout, we lag the explanatory variables for one period to counter the reverse effect from the response variable (director pay) to the explanatory variables.

Table 3 model 1 is a simple OLS model with standard errors clustered by firm. We observe a strong and significant effect of Peer Pay following hypothesis 1. Because both Director Pay and Peer Pay are measured in logarithms, the coefficient 0.477 can be interpreted as an elasticity which implies that a one percent increase in peer pay is associated with an increase of about half a percentage (0.47%) in director pay. We also observe a significant, but somewhat weaker effect of lagged executive pay (0.133) that can be regarded as an additional benchmark effect. The control variables have the expected positive and significant effects, except firm value, debt, and numeric growth, which turn out to be insignificant. The average board pay is higher in large firms, in profitable firms, in

firms with a higher governance rating, and firms with high capital expenditures, but the elasticities are lower than for peer pay. All told, the findings are supportive of our hypotheses. However, the positive Hausman test indicates that we are better off with a fixed-effect model.

The Hausman test is based on differences between the coefficients estimated using fixed and random effects, which will occur if the firm effects influence the coefficients (i.e., co-vary with the explanatory variables). If the test is significant, the coefficients are influenced by the fixed firm effects and should be taken into account (i.e., the fixed effects model is preferred).

Table 3, Model 2 is a fixed firm effects model. Only two explanatory variables have a significant effect. Lagged peer pay has a significant and positive effect on director pay following hypothesis 1, whereas lagged executive pay does not (rejecting hypothesis 2). The effect of peer pay is significant at the 5% level, although much weaker (an elasticity of 0.119) than in the OLS regression. ROA also has a significant effect at the 5% level, but it is economically weak. A one percentage point higher ROA is associated with log director pay that is only 1000 baht higher, compared to average director pay of 736.000. As mentioned, the significant Hausman test indicates that this model is more convincing than a random-effects model, and the Hausman test of Model 1 tells us that the FE model is also preferable to the OLS model, entirely without firm effects.

Table 3, Model 3, is a random-effects model. Again peer pay is found to have a strong, significant effect on director pay (an elasticity of 0.26). Some control variables - executive pay, firm size, ROA, and governance rating - are also found to have positive and significant effects. Firm size has an equally important positive effect (an elasticity of 0.24). ROA retains a significant effect of about the same size (0.006) as in the fixed regression, which is not economically significant. As mentioned, the significant Hausman test indicates that the fixed effect model (Model 2) is preferable.

Table 3, Model 4 goes on to use a random effect Tobit model, which take into account that director pay must be non-negative (and therefore has a lower boundary). The same variables as in model 3 are significant with about the same numerical coefficients. This indicates that the results of models 1-3 are not materially affected by the lower boundary of director compensation. Peer Pay, Executive Pay, Company Size, ROA, and governance ratings are positively associated with director pay.

Table 3, Models 5 and 6 compare the explanatory power of the benchmark variables – peer pay and executive pay – to the control variables. In control group model (5) only ROA is significant with an economically insignificant coefficient. In model 6 only Peer pay is significant with a coefficient of 0.193. We note that the peer group effect explains about 45% of the variation in director pay (i.e. have an R-square of 0.4549) and that executive pay does not appear to have a significant impact. In contrast, the control variables explain only 19% of the variation. We can conclude that peer group pay makes an important contribution to the explanation of director pay. In both models 5 and 6, the Hausman effect is significant, confirming use of the fixed-effects model.

Altogether, peer pay comes out as by far the most significant an important determinant of director pay (hypothesis 1 is supported). However, executive pay is not associated with director pay in any of the panel data models presented (Hypothesis 2 is not supported).

#### 4.2 Changes in director pay

To test the dynamic validity of the peer group effect, Table 4 goes on to examine determinants of changes (first differences) in director compensation as a function of changes in the explanatory variables used in table 3. We test whether changes in the explanatory variables used in table 3 influence changes in director pay.

In addition, we introduce a new explanatory variable - overcompensation - defined as log director pay minus log peer group pay. This variable is not in first differences but a level. The idea is to examine whether there is adjustment towards the peer group benchmark so that over- or under-compensation are reduced over time (Shin, 2016; Ezzamel & Watson, 2002).

In the OLS model Table 4.1, we find that changes in none of our explanatory variables except peer pay (in accordance with hypothesis 1) and firm size predict changes in director compensation, but the effects are only significant at the 10% level. A one percent increase in peer pay is associated with an increase of only 0.06. We also find that higher increases in firm size are associated with higher increases in current director pay, but this effect is only significant at the 10% level.

Overpay has a very significant negative effect of 0.307. The more overpaid directors are compared to their peers, the smaller the pay raise they can expect in the subsequent year. In other words, there is some dynamic adjustment to the peer group level. However, the significant Hausman test indicates that a fixed-effect model (as seen in model 4.2) is more appropriate than the OLS model.

In the fixed-effects model, Table 4.2, only peer pay change, ROA change, and overpay are found to have significant effects (as in the OLS regression 4.1). The ROA change effect is only significant at the 10% level, it is negative, indicating paradoxically that directors are punished for higher profitability, and it is too weak to be economically meaningful. An economically meaningful one percentage point increase in ROA is associated only with a 1000 baht drop in average director remuneration (exp (-0.00346). In contrast, the peer group effect is large and economically as well as statistically significant (an elasticity of 0.378). A one percent increase in peer pay is found to be associated with a 0.376 percent increase in director pay (i.e., the elasticity is 0.376). Hypothesis 1 is, therefore supported.

In contrast, changes in executive pay are not significantly associated with changes in director compensation, so hypothesis 2 is not supported. Moreover, overpay has a very strong and very significant negative effect on director pay. The elasticity is -0.88 so close to 1 that director pay above the peer group level is very nearly offset by a similar lower pay increase (or higher pay decline) in the next period. Hypothesis 3 is, therefore, strongly supported.

#### 4.3 Regression discontinuity

To test the expected causal connection from peer group to director pay we examine the change in director pay following admission to the SET50 index, which encompasses the 50 largest Thai companies by market value. We checked for a regression discontinuity (Lee & Lemieux 2010) on the assumption that firms just below and just above the SET50 cut-off will be relatively similar in size and other characteristics and that a jump in director pay when companies are admitted to the index will be attributed to peer group effects, rather than other firm characteristics. The hypothesis is that there will be a benchmark-induced increase in director compensation for SET50 companies in addition to a positive firm size (market value) effect. Given the hypothesis, director compensation in the top 50 firms will be disproportionally influenced by the SET50 benchmark-level even in smaller companies with ranks just under 50.

The regression discontinuity design is held to allow more credible causal inferences than other contemporary identification strategies like difference-in-differences or instrumental variables because of the agents' inability to precisely control the assignment variable near the cut-off point (Lee & Lemieux 2010). In this case, Thai directors are presumably unable to influence whether their firm is admitted into the SET50 index.

In figure 1, we illustrate the discontinuity.

```
**** Figure 1. Regression discontinuity: Average Board Remuneration by Market Value Rank ***
```

We have drawn a scatterplot of the data with average board remuneration on the vertical (y) axis and market value rank on the horizontal (x) axis. To this drawing, we add the average board remuneration of the largest 50 companies by market value, the second-largest 50-100 companies by market value, and so on. We observe that average director compensation tends to be somewhat higher the larger the company, in terms of market value. However, the average board remuneration jumps by more than 50% from SET 50-100 to SET50. This result is the discontinuity which we aim to document statistically by the regression discontinuity.

In Table 5, we report the statistical regression discontinuity tests using the Stata add-in program package RD-Robust.

\*\*\*\*\*Table 5. Sharp Regression Discontinuity estimates using local polynomial regression \*\*\*\*

We ran two tests – one for the entire sample and one for size ranks between 25 and 75. We use a sharp (rather than a fuzzy) design because the treatment (index association) is a deterministic function of their market value rank. Firms whose market value increases to be among the 50 largest are automatically included in the SET50 index. The default association between market value rank and director pay is fitted using three different econometric specifications: conventional, bias-corrected, and robust.

We find a significantly negative effect on all statistical tests. A negative effect is what is expected since market value rank is a field rank measure, where firms with higher market value have lower

numerical ranks (for example the largest company in terms of market value has rank 1, the lowest numerical rank number). This effect implies that there is an expected disproportionate increase in director compensation when companies are admitted into the SET50 index.

The program reports three different econometric specifications of the relationship between market value rank and director pay– conventional, bias-corrected, and robust – but the estimated effect is statistically significant in all cases at the 5% level. Log director compensation is estimated to increase by around 0.7 or around 5% of average log director compensation by admission to the SET50 index.

We regard this increase as caused by a change of the peer group, to which director pay of the company board is compared. Since the new peer group (SET50) is paid considerably better, director pay in the focal company increases significantly after admission. A causal effect of peer group membership (hypothesis 1) is, therefore, supported.

#### 5. Discussion

We found strong support for peer group effects (hypotheses 1 and 3). Director pay is robustly and significantly associated with peer (director) pay in all of our statistical models. Higher lagged peer pay is associated with higher director compensation in the pooled OLS, random firm effects, and fixed firm effect models. Changes in peer pay are related to changes in director pay in both the OLS and fixed-effects models. (Hypothesis 1 was supported.) A regression discontinuity test indicated a significant causal effect from peer pay to director pay when a company is included in the SET50 index. An additional supportive finding was the dynamic stability of the director pay relative to the peer group. Boards with higher pay than their peer group experienced lower subsequent pay increases, while boards with lower pay than their peer group experienced higher pay increases. (Hypothesis 3 was supported.) In the preferred fixed-effect analysis (Table 4.2), we found that director pay higher than peer group pay was almost entirely neutralized by lower pay increases in the next period. In contrast, executive pay appears not to be a systematic driver of director pay (Hypothesis 2 was rejected).

As an explanatory variable, peer pay outperforms all of our control variables, none of which were nearly as robust or significant. Moreover, peer pay is highly economically significant, explaining up to 50% of the variance in director pay and changes in director pay. The elasticity of director pay with regard to peer pay - i.e., the estimated percentage increase in the director pay in response to a one percentage point increase in peer (director) pay - ranged from about 0.1 to about 0.5 depending on the specification.

Our paper contributes to the literature by proposing and testing a new theoretical perspective on director compensation: mimesis (peer group imitation). We show that peer pay outcompetes the other determinants of direction compensation identified in previous research such as firm size, past performance, and financial leverage. We were able to replicate many findings from the previous literature - including significant size effects - in our first OLS regression, but with the exception of an economically weak effect of past profitability, they became insignificant in fixed-effect panel data regressions, which control for firm heterogeneity. Thus, our results indicate that many previous findings are not robust for the standard, state-of-the-art statistical techniques such as fixed-effect estimation. Moreover, the previous research on director compensation relies on the associations identified in conventional regression analysis but fails to address the issue of causality, which we tackle through a regression discontinuity analysis. We, therefore, also contribute to the literature methodologically.

Essentially, our most carefully controlled estimates (panel data and change effects) indicate that there are only two significant determinants of director pay among listed Thai firms: peer group pay and past profitability. The effect of past profitability is consistent with efficient contracting and director incentives to maximize profits, but the effect is too weak to have any material impact even though it is statistically significant. This result means that peer pay is effectively the sole important driver of director compensation in listed Thai firms. The mimesis (peer group imitation) approach developed in this paper, therefore, compares favorably to the other main perspectives derived from the executive compensation literature, i.e., the efficient contracting and the managerial power perspectives.

Previous research on US data (Yermack, 2004; Fich & Shivdasani, 2005) has found support for efficient contracting to incentivize directors, although peer effects also seem to matter there (Boivie, et al., 2015, Farrell et al., 2008). Similarly, there is evidence that director pay in the US is influenced by factors like legal risk or default risk (Aguir et al., 2014) as contacting theory would predict.

Firm size is expected to be positively related to director compensation according to the efficient contracting perspective. We observe that this fact is the case in cross-sectional OLS regressions, but not in our panel data regressions or regressions on director pay change. In other words, the effect of firm size appears to be uncertain.

Moreover, according to the efficient contracting perspective, lagged ROA or firm value would be expected to be positively associated with director pay as a sign of ex-post settling up (Fama, 1980), but this turned out not to be the case in our data, at least not systematically. The debt level would be another relevant aspect of the contracting environment, but appears not to co-vary with director compensation in any of our benchmark regressions. The same goes for measures of complexity like the numeric growth rate or capital expenditures. We interpret these findings to indicate that shareholders and boards do not tailor director pay to such complex and uncertain characteristics, but use simpler benchmarks. One reason may be that size and industry are easier to communicate and less easily manipulated.

The lack of support for efficient contracting in the Thai data could be attributable to the communityoriented Thai business culture which implies an aversion to standing out. As we have argued, such preferences are likely to strengthen the peer group effect. However it could also be attributed to the continuing dominant role of founding families in Thai business. If most or all major decisions are made by the founding family, who have strong ownership incentives, there is little reason to incentivize non-executive directors or fine-tune their compensation to specific parts of the contracting environment. Such contracting might on occasion, conflict with the objectives of the founding family vis-à-vis outside investors.

We do not find any systematic evidence of director power. The effect of executive pay on director pay has been associated with the managerial power perspectives as well as peer group imitation in previous research (Brick et al., 2006). However, in our most carefully controlled fixed effects or change models, there is no significant effect of executive pay on director pay, although there is an effect in the simple OLS model. Moreover, according to director power theory, director pay should be higher when corporate governance is worse, giving directors more of a chance to expropriate the shareholders. But in our data, there is no such effect. The opposite is the case in the simple correlations and the OLS model. The better corporate governance, the higher director pay. However, the effect becomes insignificant in panel data models

Overpay can also be regarded as sign of director power. According to the director power perspective, overpay should be negatively correlated with corporate governance quality, which would make it more difficult for directors to expropriate wealth from shareholders by raising their fees. But this turns out not to be the case. The correlation between corporate governance rating and overpay turns out to be positive (0.15\*\*) and significant at the 5% level. Better governed companies tend to pay their directors more, which could reflect that they take governance more seriously.

An additional test of the managerial power perspective is asymmetries in the dynamic adjustment of overpaying to normal (peer group) pay. Following Shin (2016), we tested whether there was a systematic difference between over- and under-normal director pay. According to the managerial power perspective, the speed of adjustment might be faster if boards are under-compensated than if they are overcompensated since the board members are reluctant to accept pay cuts and have the power to resist them. But this turned out not to be the case. Both over- and under normal director pay appears to lead to subsequent reversal to the mean (peer group benchmark). Following Shin (2016) we also examined whether the adjustment process was influenced by board size (another – negative - measure of board power), but this was not the case either: neither lagged board size nor the interaction effect with over normal director pay had any significant effect on changes in average board compensation. In both cases, it appears that director compensation in our study is little influenced by director power.

The lack of support for the director power theory could be attributable to the community-oriented Thai business culture, which implies a preference not to stand out. However it could also be attributable to other aspects of the Thai business environment. For example, the dominant role of founding families could mean that Thai directors are effectively controlled with little chance of raising their own pay at the shareholders' expense.

#### 6. Conclusion

#### 6.1 The purpose of the study

In this paper, we have developed and successfully tested a new theoretical perspective on non-executive director compensation. We propose that director pay is set by mimesis (peer group imitation) rather than individual bargaining or power relations. We test our hypotheses on a dataset from Thai companies which (we argue) may be particularly susceptible to peer group pressure because of a community-oriented business culture.

#### 6.2 Key results

We found strong support for mimesis (peer group imitation) in setting director pay in listed Thai firms. Director pay is significantly associated with peer (director) pay in all of our statistical models, while the control variables associated with the other theoretical perspectives come out statistically or economically insignificant. Overpaid boards (compared to the peer group) get lower subsequent pay increases, while underpaid boards got higher pay increases. A regression discontinuity test indicates a significant causal effect from peer pay to director pay. The R-squares of around 50% that we obtain are high for social science and constitute a significant improvement over previous research.

#### **6.3 Implications**

Our findings leave some interesting questions for policymakers to ponder because they raise the possibility that director pay can deviate from its marginal product. If every board wants to pay its directors the same as the peer group, what determines the going rate? In the absence of director performance indicators, there is a risk that the going rate may drift away from economic fundamentals. For example, in international comparison the ratio of Thai director pay to CEO pay is quite high (1:7). This ratio compares to an international average of 1:15 (Burns at al., 2015). Is it possible that Thai directors are overpaid? If peer-group imitation rather than market forces is the dominant determinant of director pay, the differences can persist for a long time in the absence of policy intervention.

Another concern is that the concentration of director compensation around the peer group mean may weaken the price mechanism. If mimesis (peer group imitation) dictates identical pay for boards in similar firms, this may prevent the price mechanism from helping to attract qualified directors to the boards where they are most needed.

Finally, it seems possible that fixing director pay in a way which has little to do with the company itself may provide too little incentive for Thai directors to contribute to value creation, including shareholder value.

Policymakers can influence the intensity of peer group pressure in various ways if they deem it to be undesirable. For example, paradoxically, it may be beneficial to relax disclosure of director pay so that the ratchet effect of peer group comparison is limited by the absence of information. Another

option would be nudging. For example, the wording of the Thai corporate governance code could be changed to make it clear that it is legitimate for director pay to deviate from the peer group. Finally, the authorities could try to stimulate the use of incentive pay for directors, by, for example, the tax treatment of stock options.

#### 6.4 Limitations and future research.

The most obvious limitation of this paper is that it is a single country study. We do not know to what extent our results are generalizable outside Thailand, which we have argued to be particularly susceptible to peer group effects because of a community-oriented culture. It is not possible to identify the precise impact of Thai culture in a single country study, but we know from other studies that cultural factors do, in fact, influence pay Grenness (2011). However, Boivie et al. (2015) and Farrell et al. (2008) have found evidence of peer effects in US director compensation so it is possible that our findings are more generally applicable although we would expect them to be weaker in countries with pay for performance like the US. A logical next step would be to test whether the peer group effect holds internationally and to what extent the peer group effect is stronger in Thailand. Based on our findings in this paper, and previous research we would expect to find differences in the determinants of director pay as a result of differences in corporate governance, including ownership structure, incentive systems, and national business culture, but to test this hypothesis requires a multi-country study.

It seems interesting to extend the study of peer group effects to related areas, for example, by examining connections to the research on peer group effects in executive compensation (for example Bizjak et al., 2008). Strong peer effects may raise doubts about the efficiency of compensation and other financial policies.

Thirdly, even though our paper is an improvement over previous research, we have only explained about half of the variation in Thai director compensation. There is more work to be done in this area. We suggest that it may be valuable to study director pay close to the extremes, i.e. of zero at the lowest extreme to several million baht at the upper end. What characterizes these firms? Do they appear to suffer from their deviation from the mean? More work can also be done concerning equity-linked pay using a differences-indifferences methodology since we have several change events which could be matched by similar non-changing firms.

#### References

- Adams, J. S., 1963. Toward an understanding of inequity. J. Abnormal Psychology 67, 422-436. http://dx.doi.org/10.1037/h0040968.
- Adams, R., & Ferreira D., 2008. Do directors perform for pay? J. Account. Econ. 46, 154-171. https://doi.org/10.1016/j.jacceco.2008.06.002.
- Adithipyangkul, P. & Prasarnphanich, P., 2008. Descriptive case study of the use of non-cash and informal compensation in Thailand, J. Res Pract. Human Resour. Manag. 16 (2), 62-80. https://scholars.cityu.edu.hk/en/publications/descriptive-case-study-of-the-use-of-non-cashand-informal-compensation-in-thailand(df43b3df-6197-4f18-8c56-21bffc667447).html
- Aguir, I., Burns, N., Mansi, S. A., & Wald, J. K., 2014. Liability protection, director compensation, and incentives. J. Financ. Intermed. 23 (4), 570-589. https://doi.org/10.1016/j.jfi.2013.04.001.
- Andreas, J., Rapp, M. S., & Wolff, M., 2012. Determinants of Director Compensation in Two-Tier Systems: Evidence from German Panel Data. Rev. Manag. Sci. 6 (1), 33-79. https://doi.org/10.1007/s11846-010-0048-z.
- Andrews T. G., 2001. Downsizing the Thai subsidiary corporation: a case analysis, Asia Pac. Bus. Rev. 8(2), 149-168. https://doi.org/10.1080/713999139.
- Angrist, J. D., & Pischke, J., 2009. Mostly Harmless Econometrics: An Empiricist's Companion. Princeton University Press, New Jersey.
- Bebchuk, L. A., & Fried, J. M., 2004. Pay without performance: The unfulfilled promise of executive compensation. Harvard University Press, Cambridge.
- Bebchuk, L. A., & Fried, J. M., 2005. Pay without performance: Overview of the issues. J. Appl Corp. Financ. 17 (4), 8–23. https://doi.org/10.1111/j.1745-6622.2005.00056.x.
- Bizjak, J., Lemmon, M., Naveen, L., 2008. Does the use of peer groups contribute to higher pay and less efficient compensation? J. Financ. Econ. 90(2), 152–168. https://doi.org/10.1016/j.jfineco.2007.08.007
- Bizjak, J., Lemmon, M., Nguyen, T., 2011. Are all CEOs above average? An empirical analysis of compensation peer groups and pay design. J. Financ. Econ. 100, 538–555. https://doi.org/10.1016/j.jfineco.2011.02.007
- Boivie, S., Bednar, M. K. & Barker, S. B., 2015. Social comparison and reciprocity in director compensation. J. Manage, 41 (6): 1578-1603. https://doi.org/10.1177/0149206312460680.
- Brick, I. E., Palmon, O., & Wald, J. K., 2006. CEO compensation, director compensation, and firm performance: Evidence of cronyism? J. Corp. Finance. 12 (3), 403-423. https://doi.org/10.1016/j.jcorpfin.2005.08.005.

- Burns, N., Kapalczynski, A., & Wald, J. K., 2015. Director compensation: An international comparison. Paper Presented to the International Corporate Governance Society Conference in Copenhagen September 2015. http://www.fmaconferences.org/Orlando/Papers/Director\_Compensation\_An\_International\_Comparison.pdf
- Bursztyn, L., Ederer, F., Ferman, B. & Yuchtman, N., 2014. Understanding mechanisms underlying peer effects: Evidence from a field experiment on financial decisions. Econometrica. 82(4), 1273-1301. https://doi.org/10.3982/ECTA11991.
- Chaisilwattana, R. & Punnakitikashem, P., 2017. Thai culture and its effects on organizational engagement in Thai privately held companies. UTCC Int. J. Bus. Econ. 9(2), 117-136. http://utcc2.utcc.ac.th/utccijbe/\_uploads/InProcess/201702/THAI%20CUL-TURE%20AND%20ITS%20EFFECTS%20ON%20ORGANIZATIONAL%20ENGAGE-MENT%20IN%20THAI%20PRIVATELY%20HELD%20COMPANIES.pdf
- Chaithanakij, S., 2006. Cultural effects on corporate governance in Thailand: A study through the three-pillared model. https://ssrn.com/abstract=938375.
- Chia-Wei, C., Lin, J. B., & Bingsheng, Y., 2015. Director compensation and corporate governance -A unique examination of unpaid corporate boards in Taiwan. J. Appl. Financ. Res. 1, 18-17. http://web.b.ebscohost.com/ehost/detail/detail?vid=0&sid=0248a122-76aa-456d-b1df-9d486fb4e7f9%40pdc-v-sessmgr06&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#AN=115719792&db=bth
- Charan, R., Carey, D., & Useem, M., 2013. Boards that lead: When to take charge, when to partner, and when to stay out of the way. Harvard Business Press.
- Collin, S., Ponomareva, S., Ottesen, S., & Sundberg, N., 2017. Governance strategy and costs: board compensation in Sweden. J. Manag. Gov. 21(3), 685-713. https://doi.org/10.1007/s10997-016-9359-z
- Conger, J. A., 2009. Boardroom realities: Building Leaders across Your Board. Jossey-Bass, San Francisco.
- Conyon, M. J., 2006. Executive compensation and incentives. Acad. Manage. Perspect. 20 (1), 25-44. https://www.jstor.org/stable/4166217?seq=1#metadata\_info\_tab\_contents,
- Core, J. E., & Guay, W. R. 2010. Is CEO pay too high and are incentives too low? A wealth-based contracting framework. Acad. Manage. Perspect, 24 (1), 5–19.
- Dhnadirek, R. & Tang. J., 2003. Corporate governance problems in Thailand: Is ownership concentration the cause?. Asia Pac. Bus. Rev. 10(2), 121-138. https://doi.org/10.1080/13602380410001677173.

- DiMaggio, P. J., & Powell, W.W., 1983. The iron cage revisited: institutional isomorphism and collective rationality in organizational fields. Am. Sociol. Rev. 48: 147-60. https://doi.org/10.17323/1726-3247-2010-1-34-56.
- DiMaggio, P. J., & Powell, W.W., 1991. The new institutionalism and organizational analysis. University of Chicago Press, Chicago.
- Elster, J., 1989. Social Norms and Economic Theory. J. Econ. Perspect. 3 (4), 99-117. https://doi.org/10.1257/jep.3.4.99.
- Ezzamel, M., & Watson, R., 2002. Pay comparability across and within UK boards: An empirical analysis of the cash pay awards to CEOs and other board members. J. Manage Stud. 39 (2), 207-232. https://doi.org/10.1111/1467-6486.00289.
- Van Essen, M., Otten, J., & Carberry, E. J., 2015. Assessing managerial power theory: A meta-analytic approach to understanding the determinants of CEO compensation. J. Manage. 41 (1), 164-202. https://doi.org/10.1177/0149206311429378.
- Fairhurst, D. J. & Nam, Y., 2018. Corporate Governance and Financial Peer Effects (May 2, 2018). https://ssrn.com/abstract=3172390.
- Fama, E., 1980. Agency problems and the theory of the firm. J. Poli. Econ. 88, 288–307. http://dx.doi.org/10.1086/260866.
- Fama, E., Jensen, M., 1983. Separation of ownership and control. J. Law and Econ. 26, 301-325. http://dx.doi.org/10.1086/467037.
- Farrell, K., Friesen, G., & Hersch, P., 2008. How do firms adjust director compensation?. J. Corp. Financ. 14: 153–162. http://doi.org/10.1016/j.jcorpfin.2008.02.004.
- Faulkender, M. & Yang, J., 2010. Inside the black box: the role and composition of compensation peer groups. J. Financ Econ. 96(2), 257–270. https://doi.org/10.1016/j.jfineco.2010.01.006.
- Fernandez-Alles, M., Cuevas-Rodrígue, C., & Valle-Cabrerm, R., 2006. How symbolic remuneration contributes to the legitimacy of the company: An institutional explanation. Hum. Relat. 59 (7), 961-992. https://doi.org/10.1177/0018726706067598.
- Fich, E. M., & Shivdasani, A., 2005. The impact of stock-option compensation for outside directors on firm value. J. Bus. 78 (6), 2229-2254. https://doi.org/10.1086/497048
- Grennan, J.P., 2019. Dividend payments as a response to peer influence. J. Financ. Econ. 131(3), 549-570. https://doi.org/10.1016/j.jfineco.2018.01.012.
- Grenness, T., 2011. The impact of national culture on CEO compensation and salary gaps between CEOs and manufacturing workers. Compens Benefits Rev. 43(2), 100-108. https://doi.org/10.1177/0886368710393136.

- Guo, L., & Masulis, R.W., 2015. Board structure and monitoring: new evidence from CEO turnovers. Rev. Financ Stud. 28(10), 2770-2881. https://doi.org/10.1093/rfs/hhv038.
- Hahn, P., & Lasfer, M. 2011. The compensation of non-executive directors: rationale, form, and findings. J. Manage. Gov. 15 (4): 589-601. https://doi.org/10.1007/s10997-010-9134-5.
- Haron, H., & Akhtaruddin, M., 2013. Determinants of directors' remuneration in Malaysian public listed companies. Indian J. Corp. Gov. 6 (2), 17-41. https://doi.org/10.1177/0974686220130202.
- Hofstede, G., Hofstede, G. J., & Minkov, M., 2010. Cultures and organizations: Software of the mind. Revised and Expanded 3rd Edition. McGraw-Hill.
- Hofstede, G., 1994. The business of international business is culture. Int. Bus. Rev. 3(1), 1-14. https://doi.org/10.1016/0969-5931(94)90011-6.
- Holmstrom, B., 1979. Moral hazard and observability. Bell J. Econ. 10 (1), 74–91. https://doi.org/10.2307/3003320.
- Holmstrom, B. 2005. Pay without performance and the managerial power hypothesis: A comment. J. Corp. Law. 30 (4), 703-715. https://doi.org/10.2139/ssrn.899096.
- Huseman, R. C., Hatfield, J. D., & Miles, E. W., 1987. A new perspective on equity theory: The equity sensitivity construct. Acad. Manage Rev. 12 (2), 222-234. http://dx.doi.org/10.2307/258531.
- John, K. & Kadyrzhanova, D., 2008. Peer effects in corporate governance (January 1, 2008). https://ssrn.com/abstract=1108860.
- Kanchanapoomi, N., 2005. Accelerating corporate governance reform in Thailand: The benefits of private reform mechanisms. South. Calif. Interdisc. Law J. 15, 165-197. http://wwwbcf.usc.edu/~idjlaw/PDF/15-1/15-1%20Kanchanapoomi.pdf.
- Kaplan, S. N., 2013. CEO pay and corporate governance in the U.S.: Perceptions, facts, and challenges. J. Appl. Corp. Financ. 25 (2), 8-25. https://doi.org/10.1111/jacf.12013.
- Kaustia, M., & Rantala, V., 2015. Social learning and corporate peer effects. J. Financ. Econ. 117(3), 653-669. https://doi.org/10.1016/j.jfineco.2015.06.006
- Koch, R., & Stadtmann, G., 2013. Determinants of supervisory board compensation in Germany. Int. J. Econ. Manag. Eng. 3 (2), 56-67.
- Komin, S., 1990. Culture and work related values in Thai organization, Int. J. Psychol. 25(3), 681-704. https://doi.org/10.1080/00207599008247921.
- Kose, J. & Kadyrzhanova, D., 2008. Peer effects in corporate governance. https://ssrn.com/abstract=1108860.

- La Porta, R., Lopez-de-Silanes, F. & Shleifer, A., 1999. Corporate Ownership around the World, J. *Finance*, 54 (2): 471-517. https://doi.org/10.1111/0022-1082.00115.
- Leary, M.T. & Roberts, M.R., 2014. Do peer firms affect corporate financial policy?. J. Financ. 69, 139-178. https://doi.org/10.1111/jofi.12094.
- Lee, D. & Lemieux, T., 2010. Regression discontinuity designs in economics. J. Econ. Lit. 48, 281-355. https://doi.org/10.1257/jel.48.2.281
- Lorsch, J. W., & MacIver, E., 1989. Pawns and potentates: The reality of America's corporate boards. Harvard Business School Press, Boston.
- Lorsch, W., 2017. Understanding boards of directors: A systems perspective. Ann. Corp. Gov. 2(1), 1-49. http://dx.doi.org/10.1561/109.0000006.
- Martin, J. E., & Peterson, M. M., 1987. Two-tier wage structures: Implications for equity theory. Acad. Manage. J., 30 (2), 297-315. https://doi.org/10.5465/256275.
- Masulis, R.W., & Mobbs, S., 2016. Supply and demand for independent director services: Major board decisions and corporate outcomes. ECGI - Finance Working Paper No. 353. http://ssrn.com/abstract=2222783.
- McAdams, R.H., & Rasmusen, E.B., 2005. Norms in law and economics. Polinsky A. M., & Shavell, S. eds. Handbook of Law and Economics. https://ssrn.com/abstract=580843.
- Murphy, K.J., 2002. Explaining executive compensation: Managerial power versus the perceived cost of stock options. University Of Chicago Law Review. 69(3), 847-869. https://chicagounbound.uchicago.edu/uclrev/vol69/iss3/4.
- Pendergast, C.,1999. The provision of incentives in firms. J. Econ. Lit. 37, 7–63. https://doi.org/10.1257/jel.37.1.7
- Pepper, A., Gosling, T., & Gore, J., 2015. Fairness, envy, guilt and greed: Building equity considerations into agency theory. Hum. Relat. 68 (8), 1291-1314. https://doi.org/10.1177/0018726714554663.
- Pornpitakpan, C., 2000. Trade in Thailand: A three way cultural comparison, Bus. Horizons. 43(2), 61-70. https://doi.org/10.1016/S0007-6813(00)88562-6.
- Prommin, P., Jumreornvong, S., Jiraporn, P., & Tong, S., 2016. Liquidity, ownership concentration, corporate governance, and firm value: Evidence from Thailand. Glob. Financ J. 31, 73-87. https://doi.org/10.1016/j.gfj.2016.06.006.
- Runglertkrengkrai, S., & Engkaninan, S., 1987. The pattern of managerial behavior in Thai culture. Asia Pac. J. Manage. 5(1), 8-14. https://doi.org/10.1007/BF01712571.

- Schotter, A. R., 1981. The Economic Theory of Social Institutions. Cambridge University, Cambridge.
- Shin, T., 2016. Fair pay or power play? Pay equity, managerial power, and compensation adjustments for CEOs. J. Manage. 42 (2), 419-448. https://doi.org/10.1177/0149206313478186.
- Sitthipongpanich, T., 2017. Family ownership and free cash flow. Int. J. Manage. Financ. 13(2), 133-148. https://doi.org/10.1108/IJMF-06-2014-0088.
- Tenhiälä, A., & Vuori, T., 2012. Decoupling compensation practices from human resource management. Int. Stud. Manage. Organ. 42 (1), 7-23. https://doi.org/10.2753/IMO0020-8825420101.
- Thai Institute of Directors., 2016. Corporate Governance Report of Thai Listed Companies 2016. http://www.thai-iod.com/imgUpload/CGR%202016%20Report(1).pdf.
- The Stock Exchange of Thailand., 2006. The Principles of Good Corporate Governance for Listed Companies. http://www.ecgi.org/codes/documents/cg\_principles\_thailand\_2006\_en.pdf.
- Theeravanich, A., 2013. Director compensation in emerging markets: A case study of Thailand. J. Econ. Bus. 70, 71-91. https://doi.org/10.1016/j.jeconbus.2013.05.001.
- Weisbach, M.S., 2007. Optimal executive compensation versus managerial power: A review of Lucian Bebchuk and Jesse Fried's pay without performance: The unfulfilled promise of executive compensation. J. Econ. Lit. 45 (2), 419-428. https://doi.org/10.1257/jel.45.2.419.
- World Bank., 2013. Report on the Observance of Standards and Codes (ROSC). Corporate Governance Country Assessment. Thailand. https://siteresources.worldbank.org/FINANCIALSEC-TOR/Resources/ROSC\_Thailand\_web.pdf.
- Ye, K., 2014. Independent director cash compensation and earnings management. J. Account Publ. Pol. 33 (4), 391-400. https://doi.org/10.1016/j.jaccpubpol.2014.04.001.
- Yermack, D., 2004. Remuneration, retention, and reputation incentives for outside directors. J. Financ. 59 (5), 2281-2308. https://doi.org/10.1111/j.1540-6261.2004.00699.x.
- Young, H. P., 1996. The economics of convention. J. Econ. Perspect. 10 (2), 105-122. https://doi.org/10.1257/jep.10.2.105

### **Table 1. Descriptive Statistics**

Variable	Obs	Mean	Std. Dev.	Min	Max
Director pay (mb)	2777	0.7366422	1.391413	0.0062	50.45067
Assets (Billion Baht)	3030	44.81833	235.5505	0.056129	2835.852
Sales (Billion Baht)	3013	18.94717	120.1184	-0.037165	2842.688
Roa (Winsorized)	3027	6.857838	11.13095	-84.09578	59.7368
Q (Winsorized)	3030	1.565845	1.4	0.3384338	44.41662
Rating	3034	1.138431	1.003761	0	3
CEO pay	2772	4.668156	5.260174	0.0025638	49.19832
Market Value (bb)	3034	20.22335	72.20165	0.0109288	948.2915
Debt (billion baht)	3034	33.74222	202.2455	0.00366	2565.032
Peer Pay	2760	0.7380583	0.7308241	0.0181818	6.28008
Non Exec directors	2749	7.362677	2.96335	0	28
Asset Growth %	2457	11.61609	32.02429	-76.63012	457.8891
Capex %	3013	0.4372043	8.901681	-35.74825	348.6842
Log director pay	2777	12.93405	1.039*977	8.732305	17.73651
Log assets	3030	8.40766	1.716344	4.027653	14.85785
Winsorised ROA	3027	6.943817	9.796718	-35.63048	34.96428
Winsorized Q	3030	1.529157	1.003963	0.5188276	6.624586
Winsorized Debtpct	2998	45.43953	22.51721	2.53245	92.84479
Log CEO pay	2775	14.99194	0.825863	7.849251	17.71137
Log Peer Pay	2760	10.86986	0.8003935	7.505592	13.35031
Director pay change	2128	0.3260445	4.507776	-25.34688	40.32988

	Dir Pay	Logassets	Logsales	wq	Wroa	wdebtpct	Rating
Director Pay	1						
Size (assets, log)	0.6524*	1					
Sales (log)	0.5734*	0.8137*	1				
Q winsorized	0.0262	-0.1019*	-0.0101	1			
ROA winsorized	0.1563*	0.0376*	0.1777*	0.3262*	1		
Debtpct Winsorized	0.2349*	0.4178*	0.3448*	-0.1143*	-0.2717*	1	
Rating	0.4547*	0.4641*	0.4091*	0.0017	0.1596*	0.1512*	1
Log CEO Pay	0.5179*	0.5945*	0.5606*	0.0674*	0.1562*	0.1995*	0.3594*
Log Peer Pay	0.6360*	0.7582*	0.5999*	0.1265*	0.1452*	0.2582*	0.4341*
No of directors	0.2347*	0.3770*	0.3265*	-0.0265	0.014	0.0644*	0.2529*
Growth %	0.0549*	0.0886*	0.0014	0.0543*	0.0923*	0.1237*	0.0234
Capex %	0.009	-0.0039	-0.1339*	-0.0093	-0.0073	-0.0145	-0.0275
	CEO Pay log	Peer Pay log	No of dir	Asset gr	Capex		
Log CEO pay	1						
Log Peer Pay	0.5254*	1					
No of directors	0.2231*	0.2774*	1				
Asset Growth %	-0.0051	0.1042*	-0.0216	1			
Capex %	0.0018	0.0244	-0.0124	0.0369	1		
Notes: *** p<0.01, **	Notes: *** p<0.01, ** p<0.05, * p<0.1						

### **Table 2. Correlation Matrix**

		Ν	MODEL			
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable and estimation	Director Pay (OLS)	Director Pay (FE)	Director Pay (RE)	Director Pay (RE Tobit)	Director Pay (FE)	Director Pay (FE)
Peer Pay	0.477***	0.119**	0.263***	0.261***		0.193***
	(0.0562)	(0.0560)	(0.0492)	(0.0351)		(0.0469)
Executive Pay	0.133***	0.00508	0.0778***	0.0774***		-0.00808
	(0.0462)	(0.0250)	(0.0269)	(0.0263)		(0.0272)
Size (log assets)	0.137***	-0.0387	0.237***	0.238***	0.0412	
	(0.0291)	(0.0897)	(0.0255)	(0.0237)	(0.0754)	
ROA	0.00848***	0.00608**	0.00674***	0.00672***	0.00546**	
	(0.00287)	(0.00247)	(0.00222)	(0.00199)	(0.00232)	
Q (firm value)	0.00423	-0.0120	0.0241	0.0241	0.00931	
	(0.0303)	(0.0282)	(0.0242)	(0.0220)	(0.0231)	
Rating	0.137***	0.0114	0.0895***	0.0889***	0.00897	
	(0.0299)	(0.0260)	(0.0237)	(0.0229)	(0.0255)	
Debtpct	0.00108	-0.00217	-0.000490	-0.000508	-0.00244*	
	(0.00152)	(0.00146)	(0.00113)	(0.00120)	(0.00145)	
Capex	0.00194**	-0.000302	6.81e-05	6.14e-05	-1.24e-05	
	(0.000924)	(0.000401)	(0.000686)	(0.00131)	(0.000380)	
Numeric growth	-7.00e-06	0.001000	8.18e-05	8.25e-05	0.000650	
	(0.000584)	(0.000616)	(0.000438)	(0.000410)	(0.000488)	
Constant	3.246***	11.70***	6.099***	6.119***	12.62***	10.56***
	(0.720)	(1.023)	(0.593)	(0.502)	(0.663)	(0.744)
Observations	1,563	1,563	1,563	1,563	1,705	2,073
Firms	500	500	500	500	514	528
R-squared	0.562	0.0537	0.5426	NA	0.1900	0.4549
Hausman Test	80.19***	104,83***	104.83***	NA	73.31***	210.71***
Industry effects	Yes	No	No	Yes	No	No
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm effects	No	Yes	Yes	Yes	Yes	Yes

**Table 3. Determinants of Average Director Compensation** 

Notes: Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Director pay is (log) total non-executive director pay divided by the number on non-executive directors. Peer Pay is (log) average non-executive director pay of peer companies in the same industry and size group. Executive Pay is log average pay of executive directors in the same company. Size is log total assets. ROA is winsorized return on assets. Q is winsorized firm value (market value and debt over total assets).Rating is numeric corporate governance rating from 1 (low) to 4 (high) based on work by the Thai Institute of directors. Debtpct is total debt over total assets (%). Capex is capital expenditures over total assets (%). Numeric growth is the absolute growth rate of total assets. More detailed information in the appendix.

	(1)	(2)
Dependent variable	Director Pay	Director Pay
and estimation	Change (OLS)	Change (FE)
Peer Pay change	0.0653*	0.378***
	(0.0356)	(0.0379)
Executive Pay change	0.00604	0.00747
	(0.0336)	(0.0214)
Size (log assets) change	0.200*	0.172
	(0.109)	(0.109)
ROA change	-0.00257	-0.00346*
	(0.00198)	(0.00206)
Q (firm value) change	0.0394	0.0308
	(0.0246)	(0.0197)
Rating change	0.0302	-0.000167
	(0.0233)	(0.0249)
Debtpct change	-0.000309	-0.000589
	(0.00203)	(0.00155)
Capex change	-0.000521	-0.000395
	(0.000680)	(0.000280)
Numeric growth change	-0.000391	-0.000491
	(0.000508)	(0.000377)
Overpay (lag)	-0.307***	-0.888***
	(0.0384)	(0.0491)
Constant	-0.150***	-0.188***
	(0.0381)	(0.0207)
Observations	1422	1422
Number of firm id	474	474
R-squared	0.199	0.496
Hausman Test	444.3***	418.3***
Industry effects	Yes	No
Year effects	Yes	Yes
Firm effects	Yes	Yes

#### **Table 4. Determinants of Changes in Director Compensation**

Notes: Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.Director pay is (log) total non-executive director pay divided by the number on non-executive directors. Peer Pay is (log) average non-executive director pay of peer companies in the same industry and size group. Overpay is director pay-peer pay. Executive Pay is log average pay of executive directors in the same company. Size is log total assets. ROA is winsorized return on assets. Q is winsorized firm value (market value and debt over total assets).Rating is numeric corporate governance rating from 1 (low) to 4 (high) based on work by the Thai Institute of directors. Debtpct is total debt over total assets (%). Capex is capital expenditures over total assets (%). Numeric growth is the absolute growth rate of total assets. More detailed information in the appendix.

Outcome: Director Pay (log)	(1)	(2)		
Running variable: Market value rank	Market value rank bandwidth around cut-off market value rank=50			
	All observations	25 < market value rank < 75		
Benchmark-induced increase for SET50 con	mpanies:			
Conventional	-0. 69759***	-0. 7092**		
	(-0. 1886)	(0. 30517)		
Bias-corrected	-0. 83072***	-0. 67572**		
	(0. 1886)	(0. 30517)		
Robust	-0. 83072***	-0. 67572**		
	(0. 21712)	(0. 36686)		
Observations	2777	284		
Robust standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

### Table 5. Sharp Regression Discontinuity estimates using local polynomial regression

Notes: The coefficients estimate the magnitude of the change in director compensation for SET50 companies



Fig. 1 Regression discontinuity: Average Board Remuneration (Scatterplot and Size Groups averages) by Market Value Rank.

Avrem= Average director remuneration (Baht), Index2rem=Average director pay by size group (50 largest, 50-100 largest, 100-150 third largest etc.).

Variable	Explanation	Measurement		
Year	2010-2015 (6 years)			
Company name	Firm id			
Director Pay	Average director pay (log). Non- executive director compensa- tion is reported by the company to the Stock Exchange of Thai- land. It includes both independ- ent director remuneration and the remuneration of non-inde- pendent non-executive directors (like family owners).	Log of (total non-executive director pay divided by the number of non-executive directors).		
Peer Pay	Average director pay in peer group firms (log)	For each firm we calculate the average non-executive director compensation of other firms in the same industry and size group based on market value. For econo- metric reasons we take logarithms.		
Overpay	Director pay relative to peer group	Director pay – Peer Group		
Executive Pay	Average executive pay (log)	Total executive remuneration in Bath di- vided by the number of executive manag- ers. For econometric reasons we take log- arithms.		
Size (log assets)	Log (total company assets)	TA (total accounting assets, in Thai Baht) is the sum of total current assets, long- term receivables, investment in unconsoli- dated subsidiaries, other investments, net property plant and equipment and other assets. We take logarithms of this variable to get Size (log assets).		
ROA	Winsorized return on assets	EBIT/Total assets in percent. EBIT is com- pany earnings before interest and taxes. We winsorize at the 1% level to reduce the impact of outliers.		
Q (firm value)	Winsorized firm value	(Market Value + Total Debt )/Total As- sets. To reduce the impact of outliers we winsorize g at the 1% level to get wg.		
Rating	Governance rating from 1 (low- est) to 4 highest. The ratings as- sess the corporate governance quality of a given Thai listed company in a given year based on its level of transparency and compliance with the corporate governance code. The ratings are based on publicly available information.	Based on the governance ratings from the Thai Institute of Directors IOD which score the corporate governance of Thai listed companies in 4 levels: - Level 5 equal to a score of 91-100 (excel- lent) - Level 4 equal to a score of 81-90 (very good) - Level 3 equal to a score of 71-80 (good) - Level 2 or lower equal to a score of fewer than 70 (needs improvement). We use this measure to create the numer- ical corporate governance rating of 1-4 with 1 being lowest (level 2 or lower) and 4 being highest (level 5 or lower).		

# Appendix Table 1. Variable List

Debtpct	Debt/Assets %	Total debt to total assets. I.e. total debt as a percentage of total assets Total debt is the sum of all interest bearing debt and capitalized lease obligations. It is the sum of long and short-term debt.
Сарех	Capital expenditure	Capital expenditure to total assets (%)
Numeric growth	Numeric asset growth	Absolute value of asset growth (%)
Industry Code	Industry code	16 dummy variables
SET50	Included in SET 50 Index	Dummy variable