

**How do executive pay and its gap with employee pay influence corporate performance?
Evidence from Thailand tourism listed companies**

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Abstract

Purpose- We investigate how executive pay and its gap with employee pay influence the performance of Thailand tourism listed companies.

Design/methodology/approach- We manually collect data on the executives' and employees' remunerations for Thailand tourism listed companies and use the data for our OLS regression analysis. To check the robustness of our results to potential endogeneity issues, we employ the two-stage least-squares regression analysis and the impact threshold for a confounding variable approach.

Findings- We find that short-term executive compensation enhances firm performance, and that long-term executive compensation reduces the likelihood of unfavorable corporate performance. We also find that the gap in short-term pay between executives and employees has an inverted-U relation with firm performance.

Originality/value- Our study sheds light on agency problems between executives and employees in tourism companies and provides new evidence and insights on compensation research in the tourism sector in emerging markets.

Research limitations/implications- Our study suggests that higher executive pay relative to employee pay could encourage executives to work hard to improve corporate performance, but that too large a pay gap between executives and employees could impair employees' morale and harm firm performance.

Practical implications- It is important for tourism companies to not only pay executives well but also avoid too large a pay gap between executives and employees.

Social implications- Our study implies the important role of compensation design in contributing to employee engagement and good performance for tourism firms.

Keywords: Executive compensation; Pay gap; Thailand tourism; Corporate performance

JEL Classifications: M12; L25; G34

Introduction

This paper examines how executive compensation and its gap with the compensation of non-executive employees (hereafter, employees) affect the performance of Thailand tourism companies. Tourism is a core economic pillar industry for the Kingdom of Thailand. The National Economic and Social Development Council of Thailand announced that the tourism industry contributes to 20% of the gross domestic product (GDP) in 2019 for Thailand, making it rank top 3 in the Asia-Pacific area in terms of the contribution to GDP. Thailand has rich natural and cultural resources and strong price competitiveness in the tourism sector, attracting a great deal of foreign tourists every year. The World Tourism Organization reports that the international tourism income of Thailand grows to 60,521 million U.S. dollars in 2019 and is ranked as the highest tourism earner in the Asia-Pacific area for the year (see Figure 1). Thailand is not a high-income economy but stands out in the tourism sector around the globe, suggesting that the tourism sector in Thailand should be paid great attention for academic research.

Compensation is an essential issue for corporate governance as it influences the performance and growth of a firm. On the one hand, human resource theory emphasizes the importance of talented executives to a firm (Collings and Mellahi, 2009) and suggests that talented executives should be paid high as an incentive for them to contribute to good performance of their firm (Anginer *et al.*, 2019). On this basis, high executive compensation is expected to be beneficial to firm performance (Carpenter *et al.*, 2001). On the other hand, agency theory and stakeholder theory suggest that high compensation for executives compared with that for employees might negatively affect the employees' morale, dedication, and creativity and thereby lower the productivity and performance of a firm. As such, a high pay for executives could be detrimental to firm performance

(Core *et al.*, 1999). We shed light on these mixed views when examining how executive compensation influences the performance of Thailand tourism companies.

Our research differs substantially from the related literature in the following ways. First, the existing literature investigates the aggregate compensation of executives and finds mixed results for its economic effects on firms. Our study probes different components of executive compensation. We study short-term *vis-a-vis* long-term compensation to see whether they have differential influences on firm performance. The short-term compensation in Thailand tourism firms encompasses salaries and bonuses, while the long-term compensation comprises pension and other deferred compensation which includes social security, provident funds, and retirement benefits.

Second, our study focuses on tourism industry. It has its distinct characteristic regarding personnel relations of firms. Specifically, relative to executives, employees play a pivotal role in the daily operations and customer services of tourism firms. Overpay for executives could impair the employees' incentives to work hard for customers and might even induce employees to expropriate customer resources for their own private benefits. As such, the agency problem between executives and employees is particularly pronounced in the tourism sector. While the previous literature emphasizes the agency conflict between executives and shareholders, our research makes an incremental contribution to the literature by shedding light on the potential agency conflict between executives and employees, particularly for the tourism industry.

Third, we also study how the performance of tourism firms would be influenced by the pay gap between executives and employees. A reasonable design of compensation scheme for executives and employees would incentivize them to work hard and coordinately to maximize

firm value (Firth *et al.*, 2006). Therefore, it is of practical significance to investigate whether and how executive pay and its gap with employee pay would affect the performance of tourism firms.

We manually collect the data on the short-term and long-term pay for executives and employees for the period 2002-2018 from the annual reports of Thailand tourism listed companies. Using the data and OLS regression analysis, we find that the short-term executive compensation improves firm performance, and that the long-term executive compensation reduces the likelihood of unfavorable corporate performance. We also find that the gap in short-term pay between executives and employees has an inverted U-shaped association with firm performance. This suggests that higher executive pay relative to employee pay could encourage executives to work hard to improve firm performance, but that too large a pay gap between executives and employees could undermine employees' morale, increase conflicts between executives and employees, and thereby harm corporate performance. We find no significant result for the gap in the long-term pension pay, suggesting that the gap in the deferred compensation has no immediate influence on incentive (mis)alignment between executives and employees and thus no impact on firm performance. We also utilize the two-stage least-squares regression analysis (2SLS) and the impact threshold for a confounding variable (ITCV) approach to check the robustness of our results to potential endogeneity issues, and our inferences continue to hold under the application of both approaches.

Our paper makes several contributions to the literature: First, to the best of our knowledge, this study is the first to use Thailand, a country world-renowned for travel and tourism, to examine the impact of compensation on the performance of tourism companies. Since tourism is such an economically important and world-class industry for Thailand, it provides a nice setting for us to shed light on the compensation issues for tourism firms in emerging markets. Second, prior

research focuses on the traditional agency conflict between executives and shareholders (Jensen and Meckling, 1976). We extend this literature by illuminating another agency conflict --- the conflict between executives and employees in tourism companies. Third, we contribute to the executive compensation literature by looking at different components of compensation and at the executive-employee pay gap for tourism firms. The executive- and employee-compensation data are unique in our study. We find all the annual reports from each company's website and manually collect all the remuneration information, and thereby enrich the prior compensation research with the new dataset.

Background, theory, and hypotheses

Background

For the tourism industry, Thailand is famous for its cultural and natural sites, five of which are included in the world heritage list by the United Nations Educational, Scientific, and Cultural Organization (UNESCO). The religious architectures, archeological museums, royal palaces, and monumental ruins in Thailand are among the most significant cultural patrimonies in Southeast Asia, attracting tons of foreign tourists from both the Eastern and Western countries. The number of foreign tourists in Thailand reaches 35.35 million, 38.28 million, and 39.80 million in the years 2017, 2018, and 2019, respectively, contributing to 64.9%, 63.7%, and 64.1% of the total tourism revenue for Thailand. According to the Global Destination Cities Index, Bangkok has 22.78 million foreign tourism visitors, surpassing Paris and London and ranking 1st among cities worldwide, in 2019.

Tourism is also a major engine of Thailand's economic growth and accounts for a substantive portion of Thailand GDP. Figure 2 shows that the contribution of tourism to GDP is continuously

going up for Thailand in the past 10 years. The Thailand government predicts that the tourism sector will account for 30% of GDP by year 2030, up from 20% in the year 2019. Given that Thailand is not highly developed in the economy but still globally remarkable in the tourism sector, it is important to investigate governance and compensation issues for Thailand tourism companies.

Theories

Human resource theory

Human resource (HR) theory emphasizes the importance of talented executives for a firm, contending that talented executives are valuable, inimitable, and irreplaceable (Wright *et al.*, 1994). Talented executives could contribute to a sustainable competitive advantage through developing self-competence, generating tacit organizational knowledge, and building strong social relationship (Lado and Wilson, 1994). Brilliant executives have the capability of maximizing firm value and should thus be entitled to a large remuneration accordingly (Rosen, 1981). Prior literature (Carpenter *et al.*, 2001) stresses the importance of human capital and reasonable remunerations for maintaining and developing a firm's competitive advantage, and argues that a capable, talented manager or employee performing better for her/his job should deserve receiving a higher pay.

Agency theory

Traditional agency theory pinpoints the concern that executives might not have the incentive to serve the interests of shareholders. In this study, we extend the literature by illuminating another agency conflict --- the conflict between executives and employees. In specific, for firms in the tourism industry, the agency conflict is manifested primarily in the incentive misalignment

between executives and employees. Since tourism is a service- and labor-intensive industry, managers are often not involved in daily affairs for their company, and employees are delegated to perform the tasks instead. If employees feel unfair with their compensation, they might expropriate corporate resources for their own private benefits rather than maximizing the value of their firm. For example, instead of focusing on serving tourists for sightseeing, a tourism guide may spend more time guiding tourists to shop in luxurious stores so as to reap more rebates for himself/herself from the tourist purchases. Employees might even steal client resources for self-serving incentives such as pursuing personal merchandising business and setting up their own companies in private. This agency problem is commonly seen, particularly in tourism companies, and could substantially deteriorate firm performance.

Stakeholder theory

Stakeholder theory pinpoints that stakeholder engagement that involves employees would help a firm enhance its performance (Freeman, 1984). Employees are increasingly regarded as the most important stakeholder of a tourism firm and the key for commercial success (Pfeffer, 1995). The attitudes, emotions, and behaviors of employees, especially those on the frontline, would largely determine the extent to which tourism services make customers satisfied. For instance, employees in Disney are expected to show a cheerful mood and an enjoyable appearance in their works, just as visitors are enjoying their time in the theme park (Bryman, 1999). Prior studies (e.g., Agyeiwaah *et al.*, 2021) document that compensation is an important channel through which to motivate employees to establish and enhance customers' attitudinal loyalty. The employees, if getting fair financial remunerations, will exhibit diligence, loyalty, enthusiasm, and generosity (Harrison and Wicks, 2013), which are conducive to firm performance. By contrast, overpay for

executives would generate a sense of inequity to employees and impair their incentives to serve their customers well, resulting in less satisfaction and loyalty of customers and thus worsening firm performance (Harrison and Wicks, 2013). Therefore, on top of agency theory, stakeholder theory also plays an important role in explaining how the pay for executives *versus* employees influences the performance of tourism companies.

Hypotheses

Short-term executive compensation

Compensation is rewarded to executives or employees based on their contributions to creating value for their firm. Short-term compensation for Thailand tourism firms consists of salaries and bonuses, which give executives an incentive to work hard for their firm. Human resource theory suggests that high short-term compensation is an effective mechanism to attract, retain, and incentivize talented executives and thereby boosts firm performance (Lado and Wilson, 1994; Carpenter *et al.*, 2001). Thus, capable executives should be entitled to a large remuneration for purpose of enhancing firm performance (Rosen, 1981). Consistent with this view, prior studies (e.g., Gibbons and Murphy, 1990; Matolcsy, 2000; Jensen and Murphy, 1990) provide evidence of a positive relation between short-term executive compensation and firm performance. Based on the above discussion and the related literature, we put forward the following hypothesis:

H1: Short-term executive compensation is positively associated with the performance of Thailand tourism companies.

Long-term executive compensation

Long-term executive compensation for Thailand tourism companies is composed of pension, social security funds, provident funds, and retirement benefits. These resemble “inside” debt, representing a firm’s obligation to make future payments for executives (He, 2015). Executives might lose part, or even all, of the pension and deferred compensation if the firm goes bankrupt. Therefore, executives who hold large amounts of these long-term compensations are averse to default risk and have incentives to prevent poor performance and bankruptcy of their firm (He, 2015). To this end, they tend to adopt conservative investment and financial strategies to avoid firm risks (Cassell *et al.*, 2012). In line with this proposition, the related literature provides evidence that the pension and deferred compensation lower financial risk (Sundaram and Yermack, 2007), reduce the probability of accounting fraud or tax sheltering (He, 2015), and help firms to withstand adverse exogenous shocks (Bennett *et al.*, 2015). On this basis, we expect that the pension and deferred compensation granted to executives in the Thailand tourism firms would help reduce the likelihood of corporate misconduct, default, and unfavorable performance. Accordingly, we propose the second hypothesis as follows:

H2: Long-term executive compensation in the form of pension and deferred compensation reduces the likelihood of unfavorable performance for Thailand tourism firms.

Short-term pay gap

We further probe the effect of executive-employee pay gap on firm performance. The short-term pay gap is defined as *per capita* short-term annual compensation for executives *vis-a-vis* employees. Executives are in charge of formulating and implementing corporate strategies and internal controls. Talented and capable executives could do a good job in expanding business and creating value for their firms, and in return, receive a large remuneration (Rosen, 1981). Previous

literature (Lazear, 1979; Rosen, 1982) shows that, when the senior leadership by talented executives is scant in a firm, an increased pay gap between employees and talented executives could generate better firm performance.

On the other hand, although talented executives are worth every penny, a growing discrepancy between executive compensation and employee compensation might induce a sense of unfairness to employees and discourage them from working efficiently and cooperatively with executives to improve firm performance (Cowherd and Levine, 1992). Charness and Kuhn (2007) find evidence that employees tend to shirk their works and responsibilities in cases when paid less than their co-workers. For tourism companies, executives often entrust employees with the tasks of serving tourists. Good and fair employee treatments are conducive to ameliorating the attitudes, emotions, and serving behavior of employees to their customers. Fair employee compensation is also regarded as an integral part of organizational culture that helps enhance firm performance (Tajeddini and Trueman, 2012; Oh and Han, 2020; Reino *et al.*, 2020; Seidu *et al.*, 2021). Too high an executive pay relative to the employee pay could impair employees' morale, increase agency conflicts between executives and employees, and thereby harm corporate performance. Or rather, employees are discouraged from serving customers well, and might even divert client resources from the company to serve their own interests, making their firm lose its competitive advantage and value. Based on the above discussion, we hypothesize the following:

H3: The gap in short-term pay between executives and employees has an inverted U-shaped relationship with the performance of Thailand tourism companies.

Long-term pay gap

The long-term pay gap is defined as *per capita* long-term compensation for executives *vis-a-vis* employees. Both executives and employees will not get the long-term pay (which consists of pension and deferred compensation) until a plausibly distant future point when they retire or when their firm goes bankrupt. Furthermore, the pension and deferred compensation are subject to adjustments during the period leading up to the retirement of executives and employees. Therefore, unlike the foregoing short-term pay gap, the long-term pay gap is likely to have no immediate influence on incentive (mis)alignment between executives and employees and thus no impact on the performance of tourism firms. Accordingly, we put forth our fourth hypothesis as follows:

H4: The gap in long-term pay between executives and employees has no relationship with the performance of Thailand tourism companies.

Data and research design

Data

Referring to the Industry Classification Benchmark (ICB) of Thailand, we seek the data on Thailand listed firms in the Travel and Leisure industries, covering hotels, restaurants, airlines, gambling, recreational services, travel, and tourism. We manually collect annual reports from each company's website and get every data for the executives' and employees' remunerations during the period 2002-2018. There are 224 firm-year observations that have disclosed compensation information. Since our sample size is relatively small, any outliers existing in our sample are likely to bias our multivariate results. We drop 6 observations for "Nok airlines" which have extremely low return on equity. We exclude 4 observations with extremely high *per capita* long-term executive compensation; these observations are "Asia aviation" for the year 2012 and "Dusit thani" for the years 2008, 2016, and 2017. We delete 2 observations with missing values in the book-to-

market ratio for “Raja ferry port”. After removal of these outliers, we obtain 212 firm-year observations for 29 firms in the tourism sector. Further, we manually collect corporate governance data, including the number of directors and the percentage of independent directors on the board of a tourism firm. For other financial information, we get the data from the Bloomberg database and the website of the Stock Exchange of Thailand (SET). Following common practice (e.g., He *et al.*, 2019), we winsorize all the continuous variables at the 1% and 99% levels, respectively, for our multivariate tests.

Models

To test the hypothesis H1 regarding whether short-term executive compensation is positively associated with firm performance, we employ an ordinary least squares (OLS) regression model: The dependent variable is *ROA*, *ROE*, or *Tobin_Q*, which is our proxy for firm performance. Since remunerations are paid on a monthly basis for executives and employees, the compensation paid to executives in a year should affect firm performance for the same year. Hence, we measure executive compensation and firm performance to be in the same year for our regression analysis, as does the related literature (Coughlan and Schmidt, 1985; Jensen and Murphy, 1990). The key independent variable is *MST*, defined as *per capita* short-term annual compensation, consisting of salaries and bonuses, for executives. If the coefficient of *MST* is positive and statistically significant at a conventional level, the hypothesis H1 is supported.

To test the hypothesis H2 --- that long-term executive compensation reduces the likelihood of unfavorable corporate performance, we apply a probit regression model: The dependent variable is *DummyROA* (*DummyROE* or *DummyTobin_Q*), which equals 1 if return on assets (return on equity or Tobin’s Q) for a tourism firm in a year is below its sample median, and 0 otherwise. We

use this binary variable to capture the likelihood of unfavorable firm performance. The key independent variable is *MLT*, defined as *per capita* long-term executive compensation, comprising pension, provident funds, social security, and retirement funds, for executives. If the hypothesis H2 holds, the coefficient of *MLT* should be negative and statistically significant at a conventional level.

To test the hypothesis H3 --- that the gap in short-term pay for executives *vis-a-vis* employees has an inverted-U relationship with corporate performance, we use an OLS regression model: The dependent variable is *ROA*, *ROE*, or *Tobin_Q*. The key independent variables are *PayGap_ST* and *PayGap_ST_SQ*. *PayGap_ST* is the short-term executive-employee pay gap, calculated as *per capita* short-term annual compensation for executives, divided by that for employees; *PayGap_ST_SQ* is the square of the short-term pay gap (*PayGap_ST*). If the short-term pay gap has an inverted-U relation with firm performance, the coefficient of *PayGap_ST* (*PayGap_ST_SQ*) should take on a positive (negative) sign and statistically significant at a conventional level.

To test the hypothesis H4 --- that the gap in long-term pay for executives *vis-a-vis* employees has no relation with firm performance, we utilize a probit regression model: The dependent variable is *DummyROA*, *DummyROE*, or *DummyTobin_Q*, which are as defined previously. The key independent variables are *PayGap_LT* and *PayGap_LT_SQ*. *PayGap_LT* is the long-term executive-employee pay gap, calculated as *per capita* long-term compensation for executives, divided by that for employees; *PayGap_LT_SQ* is the square of the long-term pay gap (*PayGap_LT*). The hypothesis H4 predicts that neither *PayGap_LT* nor *PayGap_LT_SQ* is statistically significant at a conventional level.

For all the foregoing four regressions, we follow related literature (Al-Najjar, 2015; Aboody et al., 2010) to control for a series of financial and governance characteristics that are likely to be

related to firm performance. These characteristics include firm size (*Size*), financial leverage (*Leverage*), the book-to-market ratio (*BM*), the number of board directors (*BoardSize*), and the percentage of independent board directors (*IndepBoard*). All these control variables are defined in Appendix 1. We also include year dummies in all the regressions, and cluster the standard errors of coefficients by firms to control for potential time-series correlation among residuals (Petersen, 2009).

Empirical results

Univariate results

Table 1 reports descriptive statistics of the variables used for the regression analysis. The mean value of *MST* is 5.621, suggesting that the *per capita* short-term executive compensation, including salaries and bonuses, is on average 5.621 million baht for the Thailand tourism firms. The mean of *MLT* is 0.262. This statistic suggests that the *per capita* executive long-term compensation, including pension, social security funds, provident funds, and retirement funds, amounts to 0.262 million, equivalent to around 4.67% of the average of the *per capita* short-term executive compensation. The mean values of the short-term pay gap (*PayGap_ST*) and the long-term pay gap (*PayGap_LT*) are 20.79 and 24.22, respectively.

Multivariate results

Table 2 reports the results for the tests of the hypothesis H1. Columns (1), (2), and (3) present the results of the regressions where the dependent variables are *ROA*, *ROE*, and *Tobin_Q*, respectively. In Column (1), the coefficient on *MST* is 0.206 with the statistical significance level of 5%. This indicates that the short-term executive compensation is positively associated with

return on assets. In Column (2), *MST* is positively associated with *ROE* with the statistical significance level of 1%. In Column (3), *MST* and *Tobin_Q* are positively correlated, with a *t* value of 1.72. A one-standard-deviation increases in *MST* leads to an increase of 21.95%, 26.59%, and 16.65% of the sample mean values of *ROA*, *ROE*, and *Tobin_Q*, respectively. Thus, the results are not only statistically significant but also economically significant in supporting our hypothesis H1, and suggest that the short-term compensation in the form of salaries and bonuses motivates executives to work hard for improving firm performance.

Table 3 presents the results for the tests of the hypothesis H2. Columns (1), (2), and (3) present the results of the regressions where the dependent variables are *DummyROA*, *DummyROE*, and *DummyTobin_Q*, respectively. From Column (1), we see that *MLT* is negatively related to *DummyROA* with the statistical significance at the 1% level. This result suggests that long-term executive compensation in the form of pension and deferred compensation decreases the probability of unfavorable firm performance. In Columns (2) and (3), the coefficients on *MLT* are also negative and statistically significant. The marginal effects of *MLT* for the probit regressions of *DummyROA*, *DummyROE*, and *DummyTobin_Q* are -0.231, -0.196, and -0.201, respectively. This suggests that a one-standard-deviation increase in *MLT* decreases 14.61%, 12.4%, and 12.46% of the sample mean values of *DummyROA*, *DummyROE*, and *DummyTobin_Q*, respectively. Hence, the results are both statistically and economically significant in supporting the hypothesis H2. For robustness check, we re-define the dependent variable as equal to 1 if return on assets (return on equity or Tobin's Q) is ranked within the bottom three deciles in our sample, and equal to 0 otherwise. We find that *MLT* is negatively correlated with the re-defined dependent variables, with a *t* value equal to -1.59 (-1.20 or -2.04). This finding (available upon request) adds to the robustness of our baseline results for the hypothesis H2.

Table 4 shows the results for the tests of the hypothesis H3. In Column (1), *PayGap_ST* is significantly, positively correlated with *ROA*, while *PayGap_ST_SQ* is significantly, negatively related to *ROA*. This indicates an inverted U-shaped relationship of *PayGap_ST* with *ROA*. Similar results are found in Columns (2) and (3): The coefficients on *PayGap_ST* (*PayGap_ST_SQ*) are positive (negative) and statistically significant in explaining *ROE* and *Tobin_Q*. All these results support the hypothesis H3 --- that the gap in short-term pay for executives *vis-a-vis* employees has an inverted U-shaped relationship with the performance of Thailand tourism listed companies. Our hypothesis H4 predicts that the gap in long-term pay for executives *vis-a-vis* employees has no relationship with firm performance. In Table 5, neither *PayGap_LT* nor *PayGap_LT_SQ* has a statistically significant coefficient, which is thus consistent with the hypothesis H4. Lastly, the values of variance inflation factors (VIFs) of the regressors used for the tests of the hypotheses H1-H4 are all below 10, suggesting no multicollinearity issue with our regression analyses.

Robustness tests

Two-stage Least Squares regression analysis

Executive compensation and firm performance could be endogenously correlated (Palia, 2001). To enhance our inference on their causal relationship, we use two-stage least squares (2SLS) regression to re-test our hypotheses. Majority of the tourism literature employs lagged independent variables as the instrumental variable for 2SLS regression to address potential reverse-causality problems (e.g., Yeh, 2018; Al-Najjar, 2014). Thus, following the literature, we take one-year lag of our compensation variables and control variables, and use them (i.e., the variables measured at year $t-1$) as instrumental variables in our 2SLS regression. We also include in the first-stage regression the control variables measured at year t , such that the control variables at year $t-1$ would

not have further direct impact on firm performance at year t (i.e., the dependent variable in the second-stage regression), except indirectly through the compensation variables at year t (i.e., the dependent variable in the first-stage regression). Furthermore, remunerations are paid every month for executives and employees in a year and thus have an immediate, direct impact on firm performance for the same year, whereas the compensation for the previous year should not directly influence the current year's firm performance. Therefore, the variables as to the compensation and control variables in year $t-1$ should be the valid instruments for use in our 2SLS regression analysis.

Panel A in Table 6 presents the 2SLS regression results for the hypotheses H1 and H2. In Columns (1-3), *MST* is significantly, positively correlated with *ROA*, *ROE*, and *Tobin_Q*, thus supporting the hypothesis H1. From Columns (4) and (5), where the results for the regressions of *DummyROA* and *DummyROE* are tabulated, we find *MLT* has statistically negative coefficients, thus consistent with the hypothesis H2. But we find no statistically significant correlation of *MLT* with *DummyTobin_Q* in Column (6), probably because of the limited power of Tobin's Q in capturing the degree of firm performance (Engel *et al.*, 2003). Panel B shows the results for the hypotheses H3 and H4. In Columns (1-3), the coefficients on *PayGap_ST* are positive and statistically significant, while the coefficients on *PayGap_ST_SQ* are significantly negative. These results support the hypothesis H3. In Columns (4-6), the coefficients for *PayGap_LT* and *PayGap_LT_SQ* are not statistically significant. Thus, the hypothesis H4 is confirmed. All the partial *F*-statistics, shown beneath the 2SLS regression results in both panels of Table 7, are above the cutoff points specified by Stock *et al.* (2002), thereby negating the weak instrument issue with our 2SLS regression analysis.

Analysis of the impact threshold for a confounding variable

There might be some variables that we do not include in the regressions and that are correlated with both executive compensation and firm performance. Such omitted variables might bias our regression results. To address this concern, we apply the impact threshold for a confounding variable (ITCV) approach to check whether our results are subject to correlated-omitted-variable(s) bias (e.g., He and Marginson, 2020; He *et al.*, 2021). Using this approach, we can gauge how strong the omitted-variable(s) bias would be to invalidate our results (Frank, 2000). The greater the ITCV value for the independent variable, the less likely our results are biased by a potential omitted variable.

Table 7 reports the results for ITCV analysis of all our baseline hypothesis tests. Columns (1)-(3) of Panel A presents the ITCV results for the hypothesis H1. The value of ITCV is 0.1474 in Column (1), suggesting that the impact of an omitted variable must be at least 0.1474 to invalidate our inference drawn from the *ROA* regression. However, we find no control variable that has partial impact with its absolute value higher than 0.1474. This implies that our *ROA* regression result is immune from potential correlated-omitted-variable(s) bias. Similar ITCV results are found for the *ROE* regression and the *Tobin_Q* regression in Columns (2) and (3), respectively, thereby providing further support for the robustness of our regression results for the hypothesis H1. Columns (4)-(6) show the ITCV results for the hypothesis H2. We find that no control variable, except *IndepBoard* in Column (5), has partial impact greater than the absolute value of ITCV. This lends support to the robustness of our results for the hypothesis H2.

Columns (1)-(3) of Panel B show the ITCV results for the hypothesis H3. The ITCV values for *PayGap_ST* are 0.2526, 0.1824, and 0.2587 for the *ROA*, *ROE*, and *Tobin_Q* regressions, respectively. The partial impacts of all the control variables are lower than the ITCV threshold, suggesting that an omitted variable, even if existing, is unlikely to pose a threat to our regression

analysis of the hypothesis H3. Columns (4)-(6) report the ITCV results for the hypothesis H4. The ITCV value for *PayGap_LT* is significantly larger in magnitude than the partial impacts of all control variables, except *BM* in Columns (5) and (6). This offers assurance for the validity of our baseline regression results for the hypothesis H4. Overall, the ITCV results in Table 7 suggest that our results presented in Tables 2-5 are free from potential correlated-omitted-variable(s) bias.

Our results of the 2SLS regressions and ITCV tests mitigate potential endogeneity concerns with our baseline regression results and thereby lend support to the causal inferences for our hypotheses. Theoretically, our baseline regression analyses should not be confounded by endogeneity concern for two reasons. First, the short-term compensation for Thailand tourism firms contains salaries and bonuses. The salaries are generally fixed over the tenure term. The bonuses are often paid once a year before the annual report comes out, and thus are not necessarily tied to firm performance. Furthermore, the bonus-to-salary ratio for our sample averages around 30%, which is relatively low compared with the bonus-to-salary ratios for U.S. firms and U.K. firms (Bruce et al., 2007; Cheng et al., 2015). Therefore, overall, the short-term compensation in Thailand tourism companies is less affected by firm performance, making endogeneity less of a concern to our study. Second, the labor unions in developed countries provide support for employees to bargain and negotiate for fair compensation based on firm performance. However, we do not find any information about labor unions for the Thailand tourism companies from their annual reports. Moreover, most of the reports show “*no complaint on the unfair treatment*”, “*no serious labor dispute*”, “*no critical conflict of labor*”, etc. From this, we posit that the employees in Thailand have less say on their compensation. As such, it is unlikely that firm performance, in turn, affects executive/employee compensation in the context of our study. In all, both our

robustness tests and conceptual arguments confute the possibility that our regression results reported in Tables 2-5 are driven by endogeneity.

Conclusion

We examine how executive compensation influences the performance of Thailand tourism companies. Based on the sample of Thailand tourism listed companies and our hand-collected data on executives' and employees' remunerations, we find a positive impact of short-term executive compensation on firm performance, and that the pension and deferred compensation for executives reduce the likelihood of unfavorable corporate performance. These findings underscore the importance of executive compensation in contributing to the performance of tourism companies. We also find that the gap in short-term pay for executives *vis-a-vis* employees has an inverted U-shaped association with firm performance. This finding is consistent with our contention that higher executive compensation relative to employee pay helps improve corporate performance, but that too large the pay gap increases the agency problems between executives and employees and thus harms firm performance.

Theoretical implications

Fair compensation is a key dimension in measuring organizational culture, the most significant attribute of excellent businesses for tourism companies (e.g., Seidu *et al.*, 2021). An appropriate salary for employees helps a firm to build a harmonious culture environment and to achieve a high level of success in marketplaces (Elkhwesky *et al.*, 2019). Though high compensation could encourage executives to work hard for their firm, too high a pay for executives relative to employees could impair employees' morale due to inequity aversion. In consequence,

employees would not maximize the interest of their firm. They might even expropriate the client resources of their company for their own purposes and thereby grab private benefits. We highlight this type of agency problem in our research, and thereby complement the prior literature on agency theory which focuses predominantly on the agency conflicts between shareholders and executives. We also link stakeholder theory to our study. In specific, to develop business well, a firm should take responsibility for, and care of, its stakeholders including employees. Overpay for executives are at odds with this tenet and would thus undermine firm performance. Overall, our study provides new insights on compensation research for the tourism sector in emerging markets.

Practical implications

Our study implies to boards of directors and compensation committees of tourism firms the importance of avoiding too large a pay gap between executives and employees. When designing the compensation contracts, the boards of directors and compensation committees should account for both the executive compensation and its gap with that the employee compensation, not just the former. Or rather, while raising the pay for executives to incentivize them to serve their company better, it is crucial to lift the pay for employees as well.

Limitation and future research

Our study is subject to a limitation. There are only 33 tourism listed companies in Thailand. We manually collect the compensation and governance data from the annual reports from each of the tourism companies' websites. But quite a few companies do not make voluntary disclosure of their compensation and governance information. As a result, the sample size of our study is relatively small. Nevertheless, our paper should represent an important step forward in

understanding the compensation incentives of executives and employees and the economic consequences of such incentives. Future research might further investigate how the disparity of executive pay and that of employee pay affect the performance of tourism companies.

Appendix 1: Summary of variable definitions

Variables	Definitions
ROA_t	Net income (in hundreds), divided by the average total assets, in year t .
ROE_t	Net income (in hundreds), divided by the average total common equity, in year t .
$Tobin_Q_t$	(Total asset – the book value of equity + the market value of equity)/total assets in year t .
$DummyROA_t$	1 if return on assets is below the sample median, and 0 otherwise, in year t .
$DummyROE_t$	1 if return on equity is below the sample median, and 0 otherwise, in year t .
$DummyTobin_Q_t$	1 if the Tobin's Q is below the sample median, and 0 otherwise, in year t .
MST_t	Per capita short-term annual compensation (in millions) for executives, which comprises salaries and bonuses, in year t .
MLT_t	Per capita long-term annual compensation (in millions) for executives, which consists of pension, provident fund, social security, and retirement fund, in year t .
EST_t	Per capita short-term annual compensation (in millions) for employees, which consists of salaries and bonuses, in year t .
ELT_t	Per capita long-term annual compensation (in millions) for employees, which comprises pension, provident fund, social security, and retirement fund, in year t .
$PayGap_ST_t$	Per capita short-term annual compensation for executives, divided by per capita short-term annual compensation for employees, in year t .
$PayGap_LT_t$	per capita long-term annual compensation for executives, divided by per capita long-term annual compensation for employees, in year t .
$PayGap_ST_SQ_t$	The square value of $PayGap_ST$ in year t .
$PayGap_LT_SQ_t$	The square value of $PayGap_LT$ in year t .
$LnSize_t$	The natural logarithm of total assets in year t .
$Leverage_t$	Total debt (in hundreds), divided total assets, in year t .
BM_t	The book value of equity divided by the market value of equity in year t .
$BoardSize_t$	The total number of directors on the board of a firm in year t .
$IndepBoard_t$	The total number of independent directors (in hundreds) on the board of a firm, divided by the total number of directors, in year t .
$Yeardummies$	Year dummies for the period 2002-2018.

Figure 1: International tourism income in the Asia-Pacific area in the year 2019

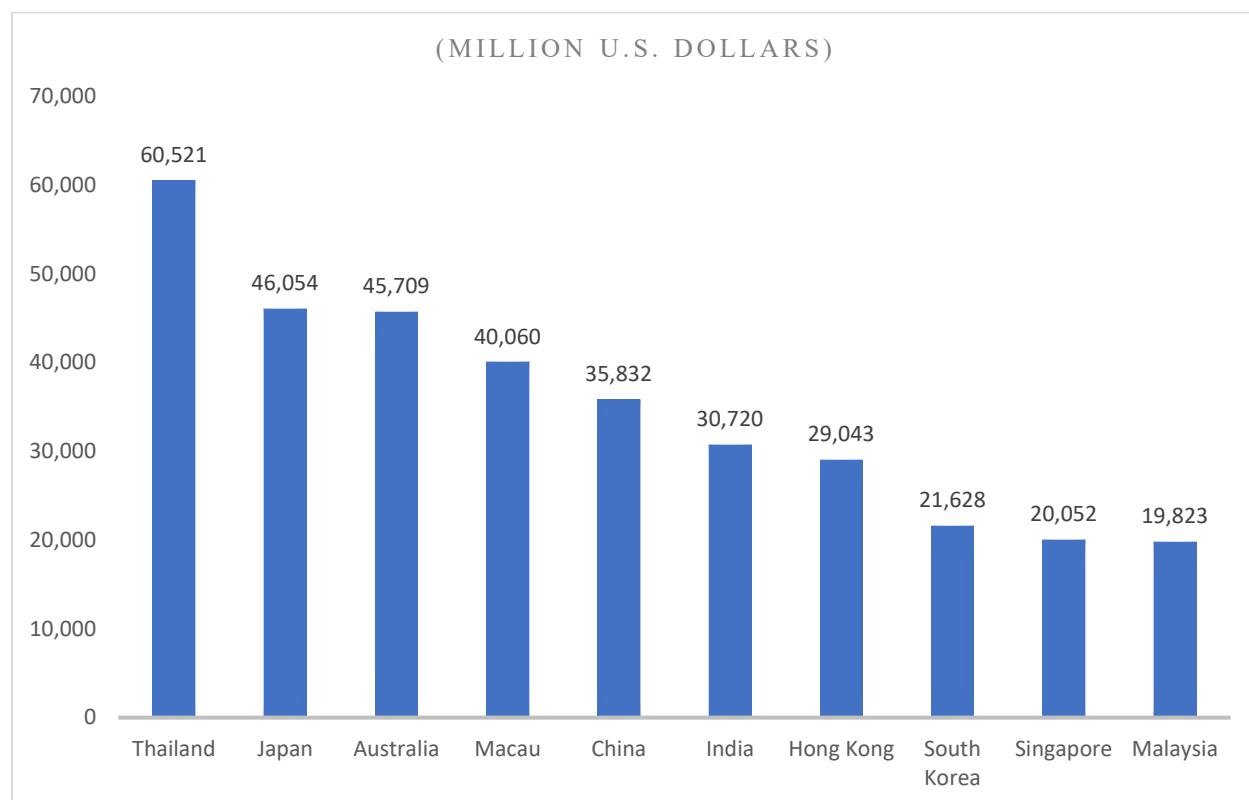


Figure 2: The contribution of tourism to GDP in Thailand in the years 2010-2019

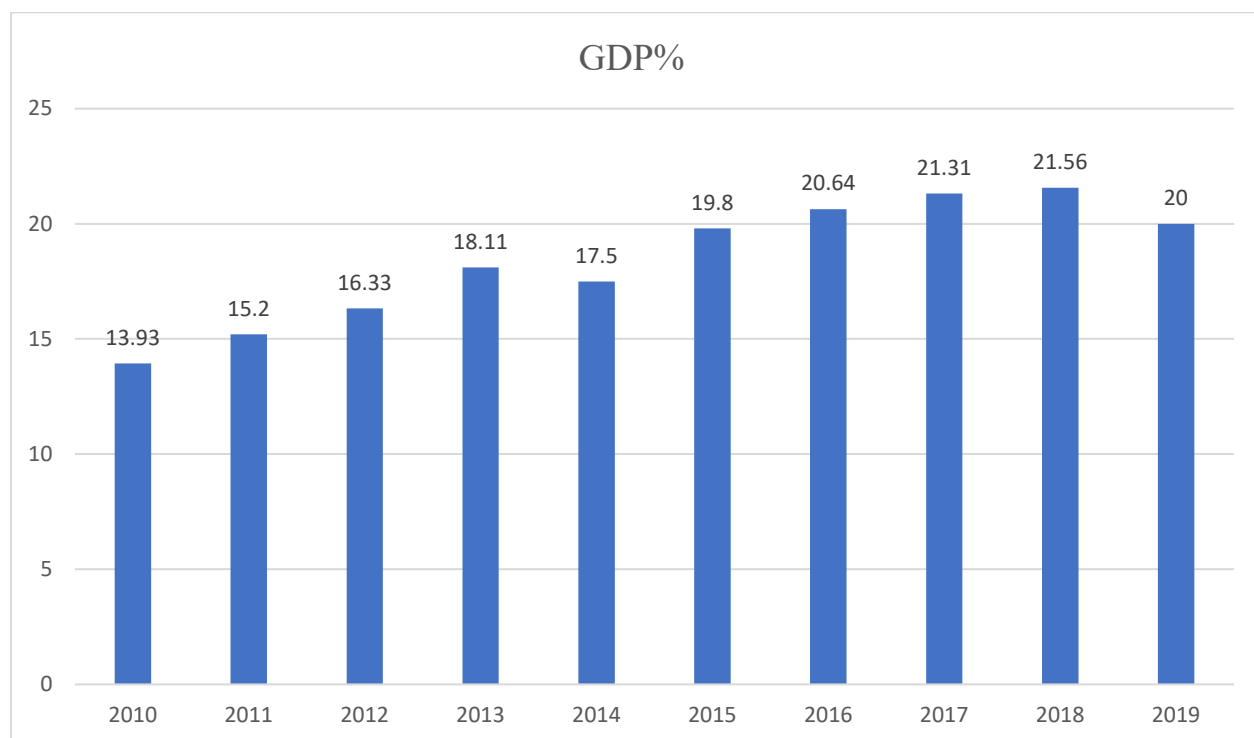


Table 1: Descriptive statistics

Variable	N	Mean	Std.	Min.	25%	50%	Max.
ROA_t	212	5.532	5.552	-6.740	1.853	4.589	21.82
ROE_t	212	10.51	12.16	-31.85	2.962	9.954	43.19
$Tobin_Q_t$	212	1.703	1.359	0.207	0.937	1.157	8.150
$DummyROA_t$	212	0.491	0.501	0	0	0	1
$DummyROE_t$	212	0.486	0.501	0	0	0	1
$DummyTobin_Q_t$	212	0.495	0.501	0	0	0	1
MST_t	205	5.621	5.895	0.821	2.309	3.697	30.61
MLT_t	160	0.262	0.310	0	0.0493	0.151	1.671
EST_t	197	0.493	0.501	0.103	0.167	0.261	1.861
ELT_t	172	0.0455	0.0657	0.000427	0.00455	0.0150	0.239
$PayGap_ST_t$	190	20.79	30.97	1.028	5.404	11.16	185.5
$PayGap_LT_t$	126	24.22	40.38	0.279	1.652	7.162	249.4
$LnSize_t$	212	9.470	1.432	6.590	8.500	9.355	12.62
$Leverage_t$	212	31.04	19.88	0	16.45	31.82	76.72
BM_t	212	1.326	3.832	0.0907	0.270	0.664	32.55
$BoardSize_t$	212	11.18	2.570	6	9	11	19
$IndepBoard_t$	212	0.397	0.103	0.105	0.333	0.400	0.733

Notes: Table 1 shows the descriptive statistics of all the variables used for the regression analysis. All the variables are defined in Appendix 1.

Table 2: Tests of the hypothesis H1

The effect of short-term executive compensation on firm performance

	(1)	(2)	(3)
	ROA_t	ROE_t	$Tobin_Q_t$
MST_t	0.206** [2.71]	0.474*** [3.46]	0.0481* [1.72]
$LnSize_t$	-1.243*** [-2.91]	-1.964** [-2.42]	-0.386** [-2.13]
$Leverage_t$	-0.108*** [-3.21]	-0.106 [-1.49]	-0.00784 [-1.01]
BM_t	-0.578*** [-4.44]	-0.854*** [-3.05]	-0.102*** [-2.80]
$BoardSize_t$	0.169 [0.93]	0.509 [1.04]	0.0596 [0.82]
$IndepBoard_t$	6.072 [1.04]	9.125 [0.94]	1.270 [0.88]
$Yeardummies$	included	included	included
$_cons$	16.68*** [3.59]	27.60*** [2.93]	4.423** [2.76]
Adj.R ²	0.303	0.128	0.162
N	205	205	205

Notes: Table 2 reports the OLS regression results for the tests of the effect of short-term executive compensation on firm performance. Both the dependent variable and independent variables are measured in the same year (t). All the variables are defined in Appendix 1. After dropping the missing values in MST , 205 observations remain for the hypothesis tests. ***, **, * denote the two-tailed statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 3: Tests of the hypothesis H2
The effect of long-term executive compensation on firm performance

	(1) <i>DummyROA_t</i>	(2) <i>DummyROE_t</i>	(3) <i>DummyTobin_Q_t</i>
<i>MLT_t</i>	-1.095*** [-2.98]	-0.967** [-2.19]	-1.436*** [-2.69]
<i>LnSize_t</i>	0.00870 [0.05]	-0.110 [-0.59]	0.474** [2.34]
<i>Leverage_t</i>	0.0281** [2.32]	0.0116 [1.05]	-0.0160 [-1.15]
<i>BM_t</i>	1.676*** [5.05]	2.254*** [4.95]	3.498*** [3.81]
<i>BoardSize_t</i>	0.00793 [0.09]	0.00523 [0.05]	0.0157 [0.14]
<i>IndepBoard_t</i>	-2.476* [-1.83]	-5.365*** [-3.05]	-2.929 [-1.33]
<i>Yearummies</i>	included	included	included
<i>_cons</i>	-0.795 [-0.68]	1.750* [1.68]	-4.191*** [-2.88]
<i>Marginal effect</i>	-0.231*** [-3.24]	-0.196*** [-2.39]	-0.201*** [-3.37]
Pseudo R ²	0.445	0.480	0.652
N	156	158	153

Notes: Table 3 reports the probit regression results for the tests of the effect of long-term executive compensation on firm performance. Both the dependent variable and independent variables are measured in the same year (*t*). All the variables are defined in Appendix 1. After dropping the missing values in *MLT*, 156, 158, and 153 observations remain for running the regressions of *DummyROA*, *DummyROE*, and *DummyTobin_Q*, respectively. ***, **, * denote the two-tailed statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 4: Tests of the hypothesis H3

The effect of short-term executive-employee pay gap on firm performance

	(1)	(2)	(3)
	ROA_t	ROE_t	$Tobin_Q_t$
$PayGap_ST_t$	0.169** [2.56]	0.293*** [2.86]	0.0411** [2.38]
$PayGap_ST_SQ_t$	-0.000772* [-1.93]	-0.00118* [-1.84]	-0.000193* [-1.86]
$LnSize_t$	-1.137* [-2.02]	-1.413* [-1.80]	-0.270* [-1.71]
$Leverage_t$	-0.118*** [-3.87]	-0.134* [-1.81]	-0.0104 [-1.67]
BM_t	-0.513*** [-4.89]	-0.713*** [-3.23]	-0.0790** [-2.49]
$BoardSize_t$	0.345 [1.54]	0.750 [1.51]	0.0715 [1.24]
$IndepBoard_t$	6.986 [1.53]	9.895 [1.12]	1.334 [1.33]
$Yeardummies$	included	included	included
$_cons$	10.88** [2.34]	12.95* [1.98]	2.603* [1.72]
Adj.R ²	0.390	0.195	0.256
N	190	190	190

Notes: Table 4 reports the OLS regression results for the tests of the effect of the short-term executive-employee pay gap on firm performance. Both the dependent variable and independent variables are measured in the same year (t). All the variables are defined in Appendix 1. After dropping the missing values in $PayGap_ST$, 190 observations remain for the hypothesis tests. ***, **, * denote the two-tailed statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5: Tests of the hypothesis H4

The effect of long-term executive-employee pay gap on firm performance

	(1)	(2)	(3)
	<i>DummyROA_t</i>	<i>DummyROE_t</i>	<i>DummyTobin_Q_t</i>
<i>PayGap_LT_t</i>	0.0198 [1.45]	0.00348 [0.30]	0.000145 [0.01]
<i>PayGap_LT_SQ_t</i>	-0.000142** [-1.97]	-0.0000413 [-0.68]	0.00000425 [0.09]
<i>LnSize_t</i>	-0.0215 [-0.10]	-0.178 [-0.85]	0.250 [1.12]
<i>Leverage_t</i>	0.0270** [2.12]	0.0140 [1.35]	-0.0122 [-1.05]
<i>BM_t</i>	1.874*** [3.24]	2.424*** [3.17]	2.837*** [3.09]
<i>BoardSize_t</i>	-0.00648 [-0.06]	0.0187 [0.15]	0.0299 [0.26]
<i>IndepBoard_t</i>	-3.410** [-2.35]	-6.008*** [-3.05]	-2.600 [-1.25]
<i>Yeardummies</i>	included	included	included
<i>_cons</i>	-0.771 [-0.65]	1.865* [1.92]	-2.486 [-1.40]
Pseudo R ²	0.449	0.462	0.571
N	112	118	115

Notes: Table 5 reports the probit regression results for the tests of the effect of the long-term executive-employee pay gap on firm performance. Both the dependent variable and independent variables are measured in the same year (*t*). All the variables are defined in Appendix 1. After dropping the missing values in *PayGap_LT*, 112, 118, and 115 observations remain for running the regressions of *DummyROA*, *DummyROE*, and *DummyTobin_Q*, respectively. ***, **, * denote the two-tailed statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 6: Robustness tests of the hypotheses H1, H2, H3, and H4 using 2SLS regression analysis

Panel A											
2SLS test of the hypothesis H1						2SLS test of the hypothesis H2					
First-stage regression		Second-stage regression				First-stage regression		Second-stage regression			
	MST_t		(1) ROA_t	(2) ROE_t	(3) $Tobin_Q_t$		MLT_t		(4) $Dummy\ ROA_t$	(5) $Dummy\ ROE_t$	(6) $Dummy\ Tobin_Q_t$
MST_{t-1}	0.953*** [22.74]	MST_t	0.212*** [3.69]	0.493*** [3.33]	0.0427*** [3.22]	MLT_{t-1}	0.732*** [7.38]	MST_t	-0.376** [-2.20]	-0.298* [-1.67]	-0.171 [-1.00]
$LnSize_{t-1}$	-1.250*** [-2.34]	$LnSize_t$	-1.193*** [-3.69]	-1.797* [-1.80]	-0.304*** [-4.03]	$LnSize_{t-1}$	-0.237*** [-3.80]	$LnSize_t$	0.0385 [0.94]	-0.00891 [-0.19]	0.100** [2.23]
$Leverage_{t-1}$	0.0209 [0.99]	$Leverage_t$	-0.125*** [-7.16]	-0.167*** [-3.64]	-0.00892** [-2.35]	$Leverage_{t-1}$	-0.008** [-2.14]	$Leverage_t$	0.00198 [0.96]	-0.00293 [-1.17]	-0.00664*** [-2.69]
BM_{t-1}	0.106 [0.34]	BM_t	-0.631*** [-6.18]	-0.951*** [-4.09]	-0.106*** [-3.79]	BM_{t-1}	-0.053 [-1.15]	BM_t	0.0291*** [3.35]	0.0266*** [2.78]	0.0277*** [3.11]
$BoardSize_{t-1}$	-0.225 [-1.28]	$BoardSize_t$	0.269* [1.88]	0.726* [1.67]	0.0451 [1.27]	$BoardSize_{t-1}$	0.042* [1.67]	$BoardSize_t$	-0.00072 [-0.03]	0.0105 [0.37]	0.00472 [0.17]
$IndepBoard_{t-1}$	-0.718 [-0.27]	$IndepBoard_t$	7.396** [2.03]	11.83 [1.08]	1.334* [1.88]	$IndepBoard_{t-1}$	-0.653 [-1.63]	$IndepBoard_t$	-0.419 [-0.96]	-0.740 [-1.48]	-0.371 [-0.83]
$Controls_t$	included					$Controls_t$	included				
$Yeardummies$	included	$Yeardummies$	included	included	included	$Yeardummies$	included	$Yeardummies$	included	included	included
$_{cons}$	0.248 [0.23]	$_{cons}$	18.40*** [5.26]	42.00** [2.51]	3.730*** [5.18]	$_{cons}$	-0.077 [-0.55]	$_{cons}$	0.808** [2.27]	0.841* [1.73]	0.375 [1.17]
N	175	N	175	175	175	N	134	N	134	134	134
Partial F -statistics			185.41	185.41	185.41	Partial F -statistics			31.07	31.07	31.07
Under-identification Wald statistics			34.92***	34.92***	34.92***	Under-identification Wald statistics			23.72***	23.72***	23.72***
P -value			(0.0000)	(0.0000)	(0.0000)	P -value			(0.0006)	(0.0006)	(0.0006)

Table 6: Continued

Panel B											
2SLS test of the hypothesis H3						2SLS test of the hypothesis H4					
First-stage regression		Second-stage regression				First-stage regression		Second-stage regression			
<i>PayGap_ST_t</i>		(1)	(2)	(3)		<i>PayGap_LT_t</i>		(4)	(5)	(6)	
		<i>ROA_t</i>	<i>ROE_t</i>	<i>Tobin_Q_t</i>				<i>Dummy ROA_t</i>	<i>Dummy ROE_t</i>	<i>Dummy Tobin_Q_t</i>	
<i>PayGap_ST_{t-1}</i>	0.497*** [7.93]	<i>PayGap_ST_t</i>	0.198*** [4.75]	0.391*** [4.41]	0.0465*** [5.51]	<i>PayGap_LT_{t-1}</i>	0.200** [2.52]	<i>PayGap_LT_t</i>	0.00106 [0.27]	-0.00009 [-0.02]	-0.00346 [-0.64]
		<i>PayGap_ST_SQ_t</i>	-0.00093*** [-3.54]	-0.0017*** [-3.16]	-0.00023*** [-4.05]			<i>PayGap_LT_SQ_t</i>	-0.00001 [-0.64]	-0.000005 [-0.26]	0.000011 [0.47]
<i>LnSize_{t-1}</i>	-2.371 [-1.43]	<i>LnSize_t</i>	-0.988*** [-3.09]	-1.219 [-1.37]	-0.252*** [-3.31]	<i>LnSize_{t-1}</i>	-15.997*** [-3.36]	<i>LnSize_t</i>	-0.0548 [-1.32]	-0.110** [-2.41]	0.00725 [0.16]
<i>Leverage_{t-1}</i>	0.058 [0.67]	<i>Leverage_t</i>	-0.141*** [-8.29]	-0.203*** [-4.18]	-0.0122*** [-3.72]	<i>Leverage_{t-1}</i>	0.233 [0.97]	<i>Leverage_t</i>	0.00823*** [3.16]	0.00535* [1.75]	-0.000609 [-0.17]
<i>BM_{t-1}</i>	0.052 [0.05]	<i>BM_t</i>	-0.528*** [-7.19]	-0.707*** [-4.06]	-0.0806*** [-3.64]	<i>BM_{t-1}</i>	-1.640 [-0.71]	<i>BM_t</i>	0.335*** [5.14]	0.378*** [5.28]	0.362*** [4.99]
<i>BoardSize_{t-1}</i>	0.237 [0.42]	<i>BoardSize_t</i>	0.435*** [2.76]	0.946* [1.89]	0.0815** [2.44]	<i>BoardSize_{t-1}</i>	-1.025 [-0.74]	<i>BoardSize_t</i>	0.0229 [1.01]	0.0328 [1.30]	0.0196 [0.73]
<i>IndepBoard_{t-1}</i>	-5.795 [-0.76]	<i>IndepBoard_t</i>	8.118** [2.41]	10.18 [0.84]	1.466*** [2.61]	<i>IndepBoard_{t-1}</i>	8.362 [0.44]	<i>IndepBoard_t</i>	-0.380 [-0.90]	-0.659 [-1.51]	-0.268 [-0.69]
<i>Controls_t</i>	included					<i>Controls_t</i>	included				
<i>Yearummies</i>	included	<i>Yearummies</i>	included	included	included	<i>Yearummies</i>	included	<i>Yearummies</i>	included	included	included
<i>_cons</i>	10.016** [2.06]	<i>_cons</i>	12.37*** [2.65]	30.99 [1.60]	2.337** [2.57]	<i>_cons</i>	21.986** [2.43]	<i>_cons</i>	0.650** [2.15]	0.181 [0.57]	0.463* [1.68]
N	163	N	163	163	163	N	104	N	104	104	104
Partial <i>F</i> -statistics			29.72	29.72	29.72	Partial <i>F</i> -statistics			5.01	5.01	5.01
Under-identification Wald statistics			28.43***	28.43***	28.43***	Under-identification Wald statistics			24.93***	24.93***	24.93***
<i>P</i> -value			(0.0001)	(0.0001)	(0.0001)	<i>P</i> -value			(0.0004)	(0.0004)	(0.0004)

Notes: Table 6 shows the first-stage and second-stage regression results of 2SLS for the tests of the hypotheses H1, H2, H3, and H4. All the variables are defined in Appendix 1. *Controls_t* in the first-stage regressions indicates the control variables that are measured at year *t* and are the same as those controlled in the second-stage regressions. Other independent variables in the first-stage regressions are measured at year *t-1*, one year lagged behind the measurement window for the dependent variable. Both the independent variables and dependent variables in the second-stage regressions are measured in the same year (*t*). ***, **, * denote the two-tailed statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 7: Robustness tests for the hypotheses H1, H2, H3, and H4 using ITCV analysis

Panel A						
	ITCV test of the hypothesis H1			ITCV test of the hypothesis H2		
	(1) <i>Impact ROA_t</i>	(2) <i>Impact ROE_t</i>	(3) <i>Impact Tobin_Q_t</i>	(4) <i>Impact DummyROA_t</i>	(5) <i>Impact DummyROE_t</i>	(6) <i>Impact DummyTobin_Q_t</i>
<i>LnSize_t</i>	-0.0898	-0.0374	-0.1246	0.013	0.0007	0.0351
<i>Leverage_t</i>	0.0037	0.0016	0.0011	-0.0136	0.0096	0.031
<i>BM_t</i>	0.0313	0.0206	0.0223	-0.0238	-0.02	-0.0228
<i>BoardSize_t</i>	0.004	-0.0039	-0.0083	-0.0005	-0.0003	0.0004
<i>IndepBoard_t</i>	-0.0152	-0.0045	-0.0107	0.0106	0.0232	0.0078
<i>Impact threshold for confounding variable (ITCV)</i>	0.1474	0.1021	0.1359	-0.0385	0.0222	0.0642
Panel B						
	ITCV test of the hypothesis H3			ITCV test of the hypothesis H4		
	(1) <i>Impact ROA_t</i>	(2) <i>Impact ROE_t</i>	(3) <i>Impact Tobin_Q_t</i>	(4) <i>Impact DummyROA_t</i>	(5) <i>Impact DummyROE_t</i>	(6) <i>Impact DummyTobin_Q_t</i>
<i>LnSize_t</i>	0.0076	0.0041	0.0076	0.0052	0.017	-0.0061
<i>Leverage_t</i>	-0.0107	-0.0053	-0.0041	0.1092	0.0593	-0.0289
<i>BM_t</i>	0.0924	0.0592	0.0684	-0.15	-0.1567	-0.1743
<i>BoardSize_t</i>	-0.0005	-0.007	-0.0062	-0.0006	-0.0001	-0.0021
<i>IndepBoard_t</i>	0.0018	0.001	0.0014	0.0167	0.0256	0.0049
<i>Impact threshold for confounding variable (ITCV)</i>	0.2526	0.1824	0.2587	-0.0522	-0.1523	0.1607

Notes: Table 7 reports the impact threshold for confounding variables (namely, ITCV) for the multivariate tests of the hypotheses H1, H2, H3, and H4. The calculation of the ITCV value, and of the partial impact factors of control variables, follow Frank (2000). All the variables are defined in Appendix 1.

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