TOP-MANAGEMENT COMPENSATION AND SURVIVAL LIKELIHOOD OF TOURISM AND LEISURE FIRMS IN THE USA

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A B S T R A C T

This study examines the impact of top-management compensation on the survival likelihood of US publicly listed firms in the tourism and leisure sector, and the mediating effect of profit distribution policy on that relationship. It uses a panel dataset of 55 US listed S&P1500 firms from 2006 to 2019. The analyses show that firms with higher top-management compensation packages exhibit a significantly lower risk of bankruptcy through higher levels of retained earnings. The findings support the agency and incentive alignment theories. They offer new and strong empirical evidence on the links between compensation, corporate governance and financial risks. The policies derived can be implemented to increase the probability of survival of tourism and leisure firms in the USA.

Keywords: Top-Management Compensation; Profit Distribution Policy; Survival; Altman-Z Scores, Mediating Effect, USA.

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1. INTRODUCTION

The remarkable growth in top-management compensation (i.e., rewarding senior executives with cash salaries, bonuses and other benefits) and the volume of studies in this area in recent years have drawn substantial public scrutiny, not only among academics but also regulators and the public at large (see among others, Al-Najjar, 2017; Elnahass et al., 2020). Previous examples of related literature have focused on investigating the direct links between executive compensation, the effectiveness of governance and the performance of listed firms (e.g., Jensen & Murphy, 1990; Cyert et al., 2002). In addition, the tenuous connection between remunerations for top senior executives/managers and the risk of corporate default (e.g., Jensen & Murphy, 1990) has raised further concerns. In the tourism and leisure context, the issues surrounding governance are investigated by Skalpe (2007) and Al-Najjar (2017) but there is still very limited empirical evidence to associate top-management compensation with survival likelihood of tourism and leisure firms. This study will therefore address this crucial void.

The system of governance of firms, which includes the board and senior executives plays a vital role in aligning firms' activities with shareholders' interests (Al-Najjar, 2017; Elnahass et al., 2020). Therefore, its characteristics, functions and attributes are expected to relate to agency problems which arise through the separation of ownership and control rights especially considering that such separation can create self-interested behaviour from senior executives (Jensen & Meckling, 1976). The first aim of this paper is to investigate the direct effects of top-management compensation on profit distribution decision and on the survival likelihood of tourism and related businesses. Additionally, this paper postulates that the compensation paid to top managers can indirectly influence the survival outcome of firms through their profit distribution strategies. It is hypothesised that the interest of managers who are paid higher, are aligned to those of stakeholders and therefore, they maintain a higher level of retained earnings in the business which reduces the risk of financial distress and therefore, risk of default. The second aim of the paper is to verify the role of profit distribution strategies as a mediating factor on the relation between top-management compensation and the likelihood of a firms' survival using data from 55 firms listed in the S&P1500 stock market.

The research contributes in advancing knowledge in the field of tourism and leisure and beyond. It is one of the few studies which applies the agency and incentive alignment theories to study the sector and the first to provide a thorough analysis of their profit distribution policies and risk of financial distress. It investigates the mechanism through which compensation paid to CEOs influence the firms' outcomes directly and indirectly by applying the four-step mediation model of Baron and Kenny (1986) which is a novel method within the tourism and leisure context. While the study of the effect of top-management compensation on profit distribution strategies and on insolvency positions advances the literature on the tourism and leisure industry, the analysis of the mediating effect of profit on this relationship contributes to the wider literature on governance. The findings of the research provide vital implications for regulators, investors, and the tourism and leisure sector.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. *Top-management compensation and survival of firms*

The survival of firms is of prime importance and it is not surprising that it is one of the more prolific areas of research in the field of finance. The role of governance on survival has obtained much attention in the literature. This paper focusses on one aspect of governance which is the compensation paid to top management and its effect on the survival of firms. This relationship can be explained by the agency and incentive alignment theories. The agency theory argues that without proper incentives, executives are not inclined to act in the best interests of the shareholders (Jensen & Meckling, 1976). Top management can act opportunistically and make decisions based on their self-interest rather than the interests of the principals, thereby putting firms at risk. The quality of executive directors and their corporate value creation are the core functions of their compensation which includes basic pay, pensions, in-kind benefits, and performance-related compensation such as bonuses and share options (Frydman & Saks, 2010).

Top-management compensation is therefore used as an internal governance mechanism to mitigate conflicts of interest between managers and shareholders (Jensen & Meckling, 1976). It can also attract and retain experienced and well-connected board directors which reduces the risk of default. Andreas et al. (2012) have empirically confirmed that higher remuneration generally reduces agency problems and motivates directors to perform better. This effect can also be explained through the incentive alignment theory (Al-Najjar, 2017; Steinback et al., 2017). Proponents of this theory propose that interests are aligned by paying higher compensations to top managers that link them to observable corporate performance including risks of defaulting (Eisenhardt, 1989). It can motivate inherently "self-interested managers to enhance their personal wealth through investments that increase shareholder wealth" (Steinback et al., 2017, p.1702). For instance, De Cesari and Ozkan (2015) find that managerial equity-based compensation and share ownership align the interests of shareholders with those of top managers and reduce agency problems in publicly listed firms.

Steinbach et al. (2017) show that management incentives have a strong bearing on how decisions regarding investments are made. Higher incentives are associated with higher levels of scrutiny and a more thorough examination of opportunities which lead to less risky decisions and better outcomes for firms. This increases the probability of survival. Cesari et al. (2020) provide evidence of links between CEO compensation and levels of risk taking in the banking sector. Elnahass et al. (2020) find a positive effect of directors' compensation on the bank's market value which is indicative of lower risk of default. Datta et al. (2001) and Devers et al. (2008) show that top managers who do not enjoy a higher level of incentives may act in their self-interest rather than the owners' goals which results in misaligned interests. This can be harmful for the firms' survival. Elnahass et al. (2020) further add that there compensation paid to directors have a positive effect on the value of firms.

2.2. *Profit distribution strategies and firm's survival*

The survival of firms is also linked to their liquidity. The reduced flexibility hypothesis states that overpayment of dividend can lead to a substantial reduction in retained earnings and liquidity, which reduces financial flexibility and increases the risk of default (Denis, 2011). This occurs for two reasons. The first is related to the pecking order theory which states that higher level of retained earnings implies higher levels of free cash flows, which may lead to better liquidity positions and in turn, lower likelihood of bankruptcy. The second reason is that a higher level of retained earnings tends to prevent firms from using a higher percentage of debt financing within their capital structure (i.e., mix of debt and equity). This may result in lower financial leverage risk (low debt to equity ratio) and lower probability of default. The theoretical model proposed by Braouezec and Lehalle (2010) shows that the value of the firm is inversely related to its dividend policy. Andriosopoulos et al. (2019) find

that financially distressed US firms have lower levels of retained earnings. Their risk of failure is higher because they are less prepared to face unforeseen events.

2.3. *Top-management compensation and profit distribution strategies*

Geiler and Renneboog (2016) state that in the UK, the type of compensation offered to the executives influences the amount of the dividend pay-out and the channel through which it is done. Indeed, when the top management is paid partly in stock, firms tend to pay lower dividends and total pay-outs. Grey et al. (2020) confirm that firms which pay their executives with executive stock options tend to distribute fewer dividend payments, as such, have higher retained earnings. This behaviour may be explained by the pecking order theory. Frank and Goyal (2003) state that the cost of internal financing sources (retained earnings) is lowest so it should be prioritised by management. For this reason, internal capital is often referred to as free cash (Denis, 2011) and therefore there is a strong incentive for maintaining higher levels of earnings. This is in line with Trinh et al. (2020) who find that lower agency problems improve the quality of governance quality which then leads higher retained earnings levels.

2.4. *Governance and the tourism and leisure industry*

Governance and firms' survival are not areas which have received much coverage in tourism literature. Al-Najjar (2017) analyses British tourism firms and provides evidence that the amount of compensation paid to executives depends on their age and the size and independence of the board. The study also finds a positive relationship between their tenure and firms' performance. However, it did not explore the link between top-management compensation and risks or profit distribution policies. Ruhanen et al. (2010) identify 40 governance dimensions which are present in the tourism firms, while Beaumont and Dredge (2010) look into dimensions of governance such as transparency, accountability, vision and leadership in tourism firms. Valente et al. (2015) explore six dimensions of governance including participation, legitimacy, accountability, transparency, efficiency, and efficacy in the context of regional tourist organisations. Spasojevic et al (2019) study leadership and governance in air route development and find a significant difference in the approach of large enterprises to those of small and medium firms. None of these studies looked into the effect of the dimensions of governance on firms' survival and profit distribution policy.

On the other hand, studies which did look into risk and the survival of tourism and leisure firms ignored the important roles of governance, top-management decision-making and compensation paid. For example, Kaniovski et al. (2008) study the accommodation sector of Austria and find that the initial size of firms, their market shares and the rate at which the market grows influence their survival. Falk (2013) who studies ski lift companies in Austria, compared permanent and temporary closures. He concludes that early investment in snowmaking machines increases the chances of survival while factors which influence permanent closures include size, location, competition, and other regional characteristics. Brouder and Eriksson (2013) analyse micro tourism firms in Sweden and conclude that previous work experience and local knowledge of the entrepreneur determine the likelihood of survival. Firms which do survive in the short run improve their performance overtime. Lado-Sestayo et al. (2016) find that occupancy rates of Spanish hotels and their profitability are crucial factors in determining survival.

Türkcan and Erkuş-Öztürk (2019) study hotels, restaurant, travel agencies and spas in the Antalya region of Turkey and conclude that age and size increase rates of survival. They also state that hotels and travel agencies are more sensitive to macroeconomic and political shocks than restaurants and spas. Gémar et al. (2016) propose that the survival of hotels in Spain is dependent on their size, location, management and launch in a time of prosperity and Gémar

and Guzman-Parra (2019) postulate that these factors are important predictors of the closure of resorts in Spain. They advance that the financial structure of the firms does not influence the risk of closure. More recently, Sharma et al. (2021) show that during the COVID-19 pandemic, health related innovations implemented by firms in the US, have increased their market values.

2.5. *Summary of finding from the literature*

The literature on top-management compensation, profit distribution and firm's survival likelihood presented in this review links the variables as follows. Compensation paid to top managers has a bearing on the survival likelihood of firms. In turn, the profit distribution policies of firms also influence the likelihood of the survival of a firm. However, according to the literature presented in *Section 2.2*, the top-management compensation also influences the corporate profit distribution policies. These findings lead to the question of whether the top-management compensation can influence survival indirectly though the effect it has on the profit distribution policies of firm. The idea that profit distribution has a mediation effect on the relationship between compensation paid to top managers and the survival of firms is a gap in the literature which this paper seeks to analyse. This study advances the line of work on incentives-risk nexus by moving beyond direct effects (e.g., Lado-Sestayo et al., 2016; Al-Najjar, 2017) and complement other tourism governance research presented in *Section 2.4*. Therefore, this paper seeks to analyse the relationship between top-management compensation, profit distribution and the survival of tourism and leisure firms.

2.6. *Hypothesis development*

The three key findings from the literature are the basis for the development of the hypothesis. Each corresponds to one of the steps of the mediation model of Baron and Kenny (1986) which is the data analysis method employed in this paper. The hypotheses are presented according to the methodological order employed in Baron and Kenny (1986).

Top-management compensation and profit distribution decision

The first step corresponds to the relationship between top-management compensation and profit distribution decisions of the firm. As seen in *Section 2.3*, higher compensations to management can reduce agency costs in firms and align their interests to those of shareholders (Steinback et al., 2017). Paying the executive of tourism and leisure firms' higher salaries, therefore, should encourage them to act more shrewdly. It follows from the pecking order theory, discussed in *Section 2.2*, that they should then, favour retaining more net profits for future reinvestment because it is the cheapest form of capital. Therefore, higher compensation should lead to more conservative distribution policies in tourism and leisure firms. The following hypothesis is proposed:

Hypothesis 1: There is a positive and significant relationship between top-management compensation and the retained earnings levels of firms.

Profit distribution policy and survival likelihood of firms

In the second step, it is assumed that there is a positive relationship between firms' profit distribution policies and their default risk (or, survival likelihood). According to the literature presented in *Section 2.2*, this occurs because higher levels of retained earnings imply higher levels of free cash flows, which leads to higher liquidity positions and lower propensity to bankruptcy. A firm with higher liquidity is in a stronger position to cope with unforeseen

crisis requiring fast and easy access to cash (Denis, 2011) which increases the likelihood of their survival. Hence, the following hypothesis is proposed:

Hypothesis 2: There is a positive relationship between the profit distribution policy and the survival likelihood of firms.

Top-management compensation and survival likelihood of firms

In the third step, the effect of top-management compensation on the survival of tourism and leisure firms is analysed. *Section 2.1* of this paper uses the agency theory and incentive alignment theory in order to illustrate that higher top-management compensation is related to higher survival likelihood. The predictions are also in line with several findings from literature (e.g., Steinbach et al., 2017; Elnahass et al., 2020). Accordingly, the third hypothesis in the alternative form is set as below:

Hypothesis 3: There is a positive and significant relationship between top-management compensation and the survival likelihood of firms.

The mediating effect of profit distribution decision on the impact of top-management compensation on the survival likelihood of firms

Given the hypotheses one to three which are three theoretical connected mosaics (i.e., mosaic 1: positive linkage between top-management compensation and profit distribution decision; mosaic 2: positive linkage between profit distribution policy and firms' survival likelihood; mosaic 3: positive linkage between top-management compensation and firms' survival likelihood), this paper proposes that levels of retained earnings (or dividend pay-outs) influence the association between incentives for top senior managers and the likelihood for the firms to survive. Firms with higher top-management compensation are likely to exhibit lower default risk through increasing levels of retained earnings. The fourth hypothesis is established as follows:

Hypothesis 4: Firms with top-management compensation exhibit higher survival likelihood through increasing retained earnings.

3. METHODOLOGY

3.1. *Data and sample*

A sample of listed tourism and leisure firms (e.g., hotels, entertainment facilities and transportation linked to tourism) in the US stock market (S&P1500) for the period spanning from 2002 to 2019. The period is chosen due to the availability of data. All governance and financial/accounting data are collected from DataStream. The initial sample includes a list of 58 tourism and leisure US firms listed in S&P1500. However, because only firms with at least three years of consecutive data are considered, three were dropped. The ultimate sample is an unbalanced panel which represents 326 firm-year observations (55 firms). The corporate governance variables are annual data which is associated with the corporate accounting year. The financial and accounting variables are end of accounting and tax year figures.

3.2. *Empirical models*

The Ordinary Least Square (OLS) approach with robust standard errors is used to examine the impacts of top-management compensation on firm's profit distribution policy and firm's survival likelihood . A poolability test is conducted and it rejects the null hypothesis that all fixed effects are jointly zero which confirms that the panel framework needs to be specified

because individual variables are not sufficiently homogeneous. The results from a Hausman test returned a p-value of zero implying a rejection of the null hypothesis and therefore, a fixed effect formulation model is adopted (Hausman, 1978). The baseline models which correspond to Hypothesis 1 and 3 are specified in Eq.1 and 2 as illustrated below:

$$PDPolicy_{it} = \{\text{SeExCom/TA}_{it}, \theta_{it}\} + u_{it} \quad (1)$$
$$LnAZscore_{it} = \{\text{SeExCom/TA}_{it}, \theta_{it}\} + u_{it} \quad (2)$$

where subscript *i* denotes i^{th} firm (i = 1, …55), subscript *t* denotes t^{th} year (t = 2006, …2019). $PDPolicy_t$ represents profit distribution policy which is measured by retained earnings to total assets. $LnAZscore_t$ represents firm default risk which is estimated by the natural logarithm of overall index of Altman Z-score. SeExCom/TA_t represents top-management compensation measured by top-management compensation scaled by total assets and θ_{it} represents a set of control variables. u_{it} is known as the disturbance term which represents the one-way error component model ($u_{it} = \lambda_t + v_{it}$) including time-specific effects (λ_t) and the remainder disturbance (v_{it}).

The Altman Z-score measures the risk of default (or, survival likelihood) for public firms. It was introduced in Altman (1968). This research follows Altman and employs the discrimination function in the natural logarithm form. For an application of the Altman Z-score to measure risk of default of tourism and leisure firms see Zheng, Li and Wu (2021).

$$LnAZscore_t = Ln \sum_{n=1}^{5} (0.012X_1, 0.014X_2, 0.033X_3, 0.006X_4, 0.999X_5)$$

where X_1, X_2, X_3, X_4, X_5 are estimated by working capital over total assets (*WC/TA*); retained earnings over total assets (*RE/TA*); Earnings before Interests and Taxes over total assets (*EBIT/TA*); market value of equity (market capitalisation) over book value of total liabilities (*MV/TL*); and total sales over total assets (*SALES/TA*), respectively. Higher value of $LnAZscore$ implies lower default risk or higher likelihood to survive. If the Altman Z-score value is lower than 1.8, the firm tends to be on its way to bankrupt (i.e., lower survival likelihood). If it is higher than 3.0, the firm is less likely to go into a default period (i.e., higher survival likelihood). If it falls within the range of {1.8; 3.0}, the firm tends to enter into a "gray" area.

The Altman Z-score is used as a proxy for firm's survival likelihood because it is viewed as the output of a credit-strength test which could gauge a listed non-financial firm's likelihood of bankruptcy. It is comprehensively constructed by compiling 22 potentially crucial financial ratios which are grouped into the following five main indicators: liquidity, profitability, leverage, solvency, and activity to predict if a firm has a high probability of becoming insolvent. The term "*survival likelihood*" is used by Boyd and Graham (1989) and Spong and Sullivan (2012; p.14). It implies the default, insolvency or bankruptcy risk.

To test for the hypothesis developed in Section 3, the empirical design of Baron and Kenny (1986), which involves a four-step mediation model, is used. This is specified as follows by Eq.3 to Eq.6:

Step 1: Effect of top-management compensation on firm's profit distribution policy

$$PDPolicy_{it} = \{SeExCom/TA_{it}, \theta_{it}\} + u_{it} \quad (3)$$

Step 2: Effect of profit distribution policy on firm's survival likelihood

$$LnAZscore_{it} = \{PDPolicy_{it}, \theta_{it}\} + u_{it} \quad (4)$$

Step 3: Effect of top-management compensation on firm's survival likelihood

$$LnAZscore_{it} = \{SeExCom/TA_{it}, \theta_{it}\} + u_{it} \quad (5)$$

Step 4: Profit distribution policy, top-management compensation and firm's survival likelihood

$$LnAZscore_{it} = \{SeExCom/TA_{it}, PDPolicy_{it}, \theta_{it}\} + u_{it} \quad (6)$$

The Breusch-Pagan / Cook-Weisberg test is performed to test for heteroscedasticity and it returns p-values of 0.000 (Eq.3); 0.9172 (Eq.4); 0.0459 (Eq.5) and 0.6293 (Eq.6). This suggests that there exists heteroscedasticity in Eq.3 and Eq.5. The Wooldridge test with the null hypothesis: "no first-order autocorrelation" is performed. The p-value obtained for Eq.3 is 0.3306 while p-values of Eq.4-6 are 0.0040, 0.0056 and 0.0096 respectively showing the existence of autocorrelation in Eq.4-6. Moreover, the Variance Inflation Factor (VIF) was performed for all models and it did not reveal any issues with multicollinearity. Robust standard errors are used to control for heteroscedasticity and autocorrelation.

The Sobel test, Aroian test and Goodman test (Sobel, 1982; Baron & Kenny, 1986; Goodman, 1960) are performed in order to ascertain whether the indirect influences of top senior executives' compensation on firm's survival likelihood through corporate profit distribution decisions are significantly different from zero. Because a causal step method is adopted, the Sobel test will determine the size and significance of the indirect mediator by testing the null hypothesis of "no difference between the total effect and the direct effect" (Sobel, 1982). The two other tests can confirm the mediation effect of profit distribution policy in the relationship between top-management compensation and firm's survival likelihood. The four-step mediation analysis is consistent with the study conducted by Nath and Pradhan (2012).

In addition to the set of variables of interest, a number of control variables are also used. The details are provided in italic in Table 1. Table 1 also presents the statistical descriptions of all of the variables used in this study. The mean and median of LnAZscore are -0.007 and -0.129 respectively. This shows, on average, a low survival likelihood of US tourism firms, with its min value of -6.619 and max value of 6.003. Regarding profit distribution policy, the mean (median) of 0.003 (0.0002) of PDPolicy or retained earnings over assets are observed. The mean of top senior executives' compensation to total assets is 0.081 with a value range of (0.0003; 1.133). This indicates a large gap of pay among firms. Descriptive statistics for other variables will be provided upon request.

[**Insert Table 1**]

Table 2 presents the Pearson correlation matrix among all independent variables employed in this study. The value of significant coefficients between pairs of variables are lower than 0.8. It is therefore concluded that the models do not suffer from serious issues relating to multicollinearity.

[**Insert Table 2**]

4. EMPIRICAL RESULTS

Table 3 reports the results for the Baron and Kenny's (1986) 4-step mediation model.

4.1. *Hypothesis 1: The effect of top-management compensation on profit distribution policy*

The primary empirical OLS results for the effect of top-management compensation (*SeExCom/TA*) on profit distribution policy (*PDPolicy*) are reported Model 1. A positive and significant relationship between top-management compensation and firm's profit distribution policy measured by the ratio of retained earnings ($\beta_{SeExCom/TA}$ = 0.071; p-value = 0.019) is found. This suggests that higher level of compensation paid is likely to increase corporate

retained earnings, which supports Hypothesis 1. A 1% rise in top senior executives' remunerations leads to a 0.071% increase in retained earnings level (scaled by total assets).

[**Insert Table 3**]

4.2. *Hypothesis 2: The effect of profit distribution policy firm's survival likelihood*

The firms' default risk (LnAZscore) are regressed on the profit distribution policy (PDPolicy). The findings are reported as Model 2 and they show a significantly positive association (βPDPolicy = 0.197; p-value = 0.000) strongly supporting Hypothesis 2. It means that a one percent increase in retained earnings firms can increase the survival likelihood of firms by 0.197%.

4.3. *Hypothesis 3: The effect of top-management compensation on firm's survival likelihood*

Model 3 reports the OLS results for the impact of top-management compensation on firm's survival likelihood. Result shows a positive and significant link between *SeExCom/TA* and *LnAZscore* ($\beta_{SeExCom/TA}$ = 0.019; p-value = 0.015). Therefore, a positive relationship suggests that higher payment to top senior executives increases the firm likelihood for survival or lower risk of defaulting. This provides a strong evidence for *Hypothesis 3*. In term of economic significance, the coefficient of 0.019 implies that if compensation of top senior executives is increased by 1%, the survival likelihood index of the US tourism firms will increase by 0.019%.

4.4. *Hypothesis 4: The mediation effect of profit distribution policy on the linkage between top-management compensation and firm's survival likelihood*

In the fourth step (Model 4), the effect of top-management compensation on firm's survival likelihood while including profit distribution policy as an additional control variable is tested. The findings reveal that the sign and significance level of profit distribution policy variable (*PDPolicy*) and the significance level of top-management compensation (*SeExCom/TA*) variable from the third step (Model 3) becomes statistically insignificant. This is highly supportive of Hypothesis 4. Taken together, the results for Models 2 and 4 indicate that there is a full mediating effect of profit distribution decisions regarding the relationship between top senior executives' compensations and firm's survival likelihood. The findings support the notion that firms with top-management compensation exhibit a higher likelihood for survival through the increasing of the retained earnings level. The Sobel, Aroian and Goodman tests confirm that the indirect influence of top-management compensation on firms' survival through profit distribution decision is significantly different from zero.

The control variables present findings which are consistent with prior studies (e.g., Pathan, 2009; Spong & Sullivan, 2012). For example, it is found that a larger board size (LnBsize) and more independent boards of directors (%Ind) have positive and significant impacts on *LnAZscore*, implying a lower firm default risk. It is argued that larger and more independent boards have better oversight and control over the managers' decisions and hence, prevent managers from engaging in risky behaviour. In addition, it is found that more frequent board meetings (*LnBM*) and a higher proportion of internal auditors with financial expertise assist in enhancing the firm's survival likelihood.

5. SENSITIVITY TESTS AND ROBUSTNESS CHECKS

5.1. *Alternative measures of top-management compensation*

To test the robustness of the results in Table 3, alternative measures for top-management compensation are used. A top senior management compensation dummy variable (Dummy-

SeExCom = 1 is top management salary is high; SeExCom = 0, otherwise) is created. The cut-off of the mean of *SeExComTA* (0.081) to distinguish between high and low remuneration. The four steps of Section 5 are re-run and the results are illustrated in Table 4. The key findings remain unchanged across all models, confirming the robustness of the results.

[**Insert Table 4**]

5.2. *The impacts of institutional characteristics on the mediating effects of profit distribution policy*

Next, the impacts of institutional characteristics (i.e., size, age and leverage) on the mediating effects of profit distribution policy are examined. This is accomplished by bifurcating the full sample into sub-samples of large and small tourism firms using the cut-off of the mean of LnTA (14.987), of mature and young firms using the cut-off of the mean of LnAge (2.461), and of high-levered and low-levered firms using the cut-off of the mean of Debt/Equity (0.405). From Table 5 (Panels I, II and III), it is apparent that the main results from Table 3 (i.e., the positive effect of top-management compensation on the corporate survival likelihood through higher levels of retained earnings) are driven by (i) larger firms; (ii) mature firms; and (ii) high-levered firms.

[**Insert Table 5**]

5.3. *Instrumental variables approach I: two-step system generalized models of moments*

According to Adams and Ferreira (2007), the characteristics of boards and directors are not random because they are endogenously chosen by companies to suit their operating and contracting environment. This implies that there can be at least two sources of endogeneity which can bias the estimates presented in this study. The first is omitted unobservable firm characteristics which are likely to simultaneously influence both the top-management payment process and the firm survival/default risk. As such, the empirical models may not capture all of the variables which affect the firms' survival because there are other factors (both observable and unobservable) that are associated with both compensation payment process and firm survival that have not been accounted for.

The second is the direction of causality between firm survival/risk and top-management payment decisions. Instead of influencing the firm survival/risk factor, top-management compensation decisions may be influenced by the former because high-paid top-managers may self-select into firms with a higher survival likelihood position. Furthermore, due to their strong position, firms with a lower risk of default may be in better positions to offer higher levels of compensations to top managers thereby attracting more talented executives, as purported by Wintoki et al. (2012). To address the problems associated with endogeneity, the two-step system generalized models of moments (GMM) regression technique is employed (Arellano & Bover 1995; Blundell & Bond 1998). The four steps models using GMM are specified in Eq.7 to Eq.10 as illustrated below:

Step 1: Effect of top-management compensation on firm's profit distribution policy

$$PDPolicy_{it} = \{PDPolicy_{it-1}, SeExCom/TA_{it}, \theta_{it}\} + u_{it} \quad (7)$$

Step 2: Effect of profit distribution policy on firm's survival likelihood

$$LnAZscore_{it} = \{LnAZscore_{it-1}, PDPolicy_{it}, \theta_{it}\} + u_{it} \quad (8)$$

Step 3: Effect of top-management compensation on firm's survival likelihood

$$LnAZscore_{it} = \{LnAZscore_{it-1}, SeExCom/TA_{it}, \theta_{it}\} + u_{it} \quad (9)$$

Step 4: Profit distribution policy, top-management compensation and firm's survival likelihood

$$LnAZscore_{it} = \{LnAZscore_{it-1}, SeExCom/TA_{it}, PDPolicy_{it}, \theta_{it}\} + u_{it} \quad (10)$$

Table 6 presents these results for four-step mediation models, and the findings are consistent with those presented above. AR(1), AR(2) and Hansen test (p-value) are used to ascertain the validity and reliability of instruments. All results are satisfactory, and it is concluded that the GMM results are robust.

[**Insert Table 6**]

5.4. *Instrumental variables approach II: Three-stage least square*

Additionally, the three-stage least square (3SLS) regression results for the four-step mediation models are performed. 3SLS is an advanced method which can address the potential issues of endogeneity problems of the main independent corporate governance variables. To run 3SLS tests, four groups of models are constructed as below:

Step 1: Effect of top-management compensation on firm's profit distribution policy

$$PDPolicy_{it} = \{SeExCom/TA_{it}, LnBsize_{it}, \%Ind_{it}, \theta_{it}\} + u_{it} \quad (11)$$
$$LnBsize_{it} = \{SeExCom/TA_{it}, \%Ind_{it}, \theta_{it}\} + u_{it} \quad (12)$$
$$\%Ind_{it} = \{SeExCom/TA_{it}, LnBsize_{it}, \theta_{it}\} + u_{it} \quad (13)$$

Step 2: Effect of profit distribution policy on firm's survival likelihood

$$LnAZscore_{it} = \{PDPolicy_{it}, LnBsize_{it}, \%Ind_{it}, \theta_{it}\} + u_{it} \quad (14)$$
$$LnBsize_{it} = \{PDPolicy_{it}, \%Ind_{it}, \theta_{it}\} + u_{it} \quad (15)$$
$$\%Ind_{it} = \{PDPolicy_{it}, LnBsize_{it}, \theta_{it}\} + u_{it} \quad (16)$$

Step 3: Effect of top-management compensation on firm's survival likelihood

$$LnAZscore_{it} = \{SeExCom/TA_{it}, LnBsize_{it}, \%Ind_{it}, \theta_{it}\} + u_{it} \quad (17)$$
$$LnBsize_{it} = \{SeExCom/TA_{it}, \%Ind_{it}, \theta_{it}\} + u_{it} \quad (18)$$
$$\%Ind_{it} = \{SeExCom/TA_{it}, LnBsize_{it}, \theta_{it}\} + u_{it} \quad (19)$$

Step 4: Profit distribution policy, top-management compensation and firm's survival likelihood

$$LnAZscore_{it} = \{SeExCom/TA_{it}, PDPolicy_{it}, LnBsize_{it}, \%Ind_{it}, \theta_{it}\} + u_{it} \quad (20)$$
$$LnBsize_{it} = \{SeExCom/TA_{it}, PDPolicy_{it}, \%Ind_{it}, \theta_{it}\} + u_{it} \quad (21)$$
$$\%Ind_{it} = \{SeExCom/TA_{it}, PDPolicy_{it}, LnBsize_{it}, \theta_{it}\} + u_{it} \quad (22)$$

The above equations are built following the research design of Mollah and Zaman (2015). The 3SLS regression results for Eq. (11) to Eq. (22) are reported in Table 7. The findings are consistent to those reported in Table 3 supporting Hypothesis 1 to 4.

[**Insert Table 7**]

5.5. *Propensity Score Matching*

Finally, the three-step process of propensity score matching technique to solve potential sample selection bias is performed. For the first step, an estimation of propensity score through a use of probit approach of a dummy variable of top-management compensation (i.e., denoting 1 if high compensation and zero otherwise is conducted. The cut-off to classify high or low compensation is the mean of SeExCom/TA (0.081)). Although it may be argued that larger firms may have higher capacity for offering better packages as opposed to smaller firms, the variable SeExCom/TA includes observations of high paid executives from both small and large firms. For the second step, the propensity score of treated (i.e., tourism firms with high compensation package for top senior executives) and control group (i.e., tourism firms with low compensation package for top senior executives) are matched.

Four different matching techniques are employed. They are a) 1:1 matching without replacement; (b) 1:1 matching with replacement; (c) Nearest neighbour (n=2) with replacement; and (d) Nearest neighbour (n=3) with replacement (Trinh et al., 2020). Appendix 1 presents the quality of matching. For the final step, univariate and multivariate tests are performed. The former is reported in Panel A and Panel B (average treatment effects on the treated estimation with bootstrapping of standard errors), while the latter is presented in Panel C of Table 10. Results show that firms' retained earnings levels are higher with higher payment to top managers (treated group) than their counterparts with lower compensation (control group). The findings are consistent across all four techniques of matching. The multivariate results indicate positive effects of top-management compensation on firm retained earning level and firm's survival likelihood. These results reflect the robustness of the main findings of the paper.

[**Insert Table 8**]

6. DISCUSSIONS

Arguments around compensation paid to top management have been quite caustic in recent years especially following the global financial crisis of the 2008/9. The gap between top management salary and that of other employees are wider and justifications for the higher compensation paid to CEOs are required. This paper applies the four-step mediation model of Baron and Kenny (1986) which is a novel method used the tourism and leisure context to analyse whether the compensation paid to top management is justified. The method used allows for the generation of four hypotheses (Section 2.6) that are thoroughly tested.

The results obtained from this paper support all four hypotheses, thus, providing strong contribution to the literature on the governance of firms in the tourism and leisure industry. It has generated new knowledge. According to Hypothesis 1, CEOs who earn more are more conservative in their profit distribution policies. This finding supports those of Elnahass et al. (2020), Grey et al. (2020) and Trinh et al. (2020). According to Hypothesis 2, because firms are more conservative, they are able to maintain a higher level of retained earnings which increases their chances for survival supporting the arguments forwarded by Denis (2011).

The above occurs first because tourism and leisure firms who have higher level of retained earnings can keep adequate liquidity to cover immediate costs. Higher levels of retained earnings imply that their need for borrowing capital from the market is lower which enables them to save on the cost of acquiring capital from other sources. It can be further argued that cash reserves are more easily accessible for lucrative investment projects especially when needed at short notice. Moreover, the firms will be less constrained by collateral and conditions normally attached to capital obtained from the market. This offers them greater flexibility to deal with unforeseen circumstances which is highly relevant for the sector. Keeping higher liquidity also builds in resilience in the firms enabling them to cope with crisis better. The demand for tourism and leisure products are very sensitive to crisis and

shocks (see for example, Gozgor et al., 2021 and wu et al. 2021). An unforeseen crisis may suddenly reduce demand to the point where firms experience sudden and acute shortfalls in revenue. Having quick access to liquid assets to cover immediate cost becomes crucial for short-term survival. This is a situation which many tourism and leisure firms are currently facing due to the COVID-19 pandemic which reduced global demand for international travel by 80%. Firms, which were financially distressed before the COVID crisis were the first to declare bankruptcy (Scigliuzzo et al., 2020).

The findings also support Hypothesis 3. Tourism and leisure firms which offer higher compensations have higher Altman-Z scores indicating lower risk of default. This is in accordance with Eisenhardt (1989), Datta et al. (2001) and Devers et al. (2008). It is shown that higher payments are pertinent incentives for top managers in tourism and leisure firms to work more effectively and take decisions in favour of the interest of shareholders, which in turn, assist the firms in increasing their survival likelihood. It motivates executives to act with more caution. The empirical evidence provided through Hypotheses 2 and 4 taken together, identify the profit distribution policy as an indirect channel through which higher salaries impact on firms' survival. The paper shows that profit distribution policies have full mediating effects on the relationship between top-management compensation and firms' default risks. Compensation paid to top management has an indirect and positive effect on the survival of firms through their conservative profit distribution policies. This represents a significant contribution of the paper to the wider literature on governance of firms.

Delving deeper into the findings, it is apparent that the positive effect of top-management compensation on the corporate survival likelihood through higher levels of retained earnings are driven by larger firms while the mediation effects in smaller firms is unclear. It may be that larger firms are more profitable and are therefore, more likely to offer higher levels of compensation and higher incentives for reducing the risk of default. The study finds that more mature firms tend to retain a higher level of earnings than newer ones. This confirms the findings of Türkcan and Erkuş-Öztürk (2019). It is expected that older firms have more significant mediating effects of the profit distribution policy. This paper also finds that the mediating effect of profit distribution decisions are driven by high-levered firms.

Theoretical implications

This paper confirms the agency and alignment theories and further advances knowledge on governance by proposing that profit distribution policies have full mediating effect on the nexus between compensation of top management and firm's riskiness. This is an important advancement in the theory with explains the effect of compensation on the survival of firms. Offering higher pay rates is an incentive which may be impacting on the dimensions of good governance of the firms, identified in Beaumont and Dredge (2010) and Valente et al. (2015). This includes better risk management, greater accountability, having a highly effective board, applying good management techniques, operating ethically and with integrity, and having clear goals and related strategies for the firm.

Policy implications

The policy implications of these findings are twofold. At firms' level, it is clear that those who pay higher compensation should continue to do so as it directly affects their survival. It is a governance tool which can minimise the agency conflicts, risks and enhance the financial stability of firms. It is also recommended that having a more conservative approach to profit distribution is important because it allows firms to avoid financial distress. At a national level, the findings provide some vital information for regulators. The evidence provided in this paper suggests that regulations which seek to address the issue of the widening pay gap within

the US tourism related firms, such as imposing a salary cap, may have detrimental effect on the survival of firms and risks of bankruptcy. They will act as a disincentive to top management. Indeed, salaries of senior management personnel are not currently regulated and result from personal negotiations between the employee and the recruiting firm interference in this process may increase the risk within the tourism and leisure firms of the USA.

7. CONCLUSION

Issues related to governance, top-management compensation, and the firm's performance in terms of survival and profitability are themes which recur in academic literature on finance. However, tourism finance is a branch of research which is still nascent as evidenced by the limited but growing number of papers which are dedicated to the topic, in spite of the importance of the subject for tourism and leisure firms. These firms are important for destinations not only because they generate economic growth through the creation of consumption opportunities for tourists but also because the industry which is labour-intensive is a major source of employment and livelihood. Their survival has serious implications for destinations. This paper investigates the direct and indirect channels through which compensation paid to top management impact on firms' survival using data from 55 listed tourism and leisure firms in the US and the four-step mediation model from Baron and Kenny's (1986). The results support the hypothesis that profit distribution decisions have full mediating impacts on the nexus of top-management compensation and survival likelihood which is a key contribution of the paper. Top-management compensation positively and significantly affects firm retained earnings level. Higher retained earnings lead to higher likelihood for survival and higher top-management compensation enhances firm's survival likelihood.

The analysis of the paper is restricted to the US which has a highly deregulated market and the extent to which the findings can be generalised can be limited in other contexts. The paper also examines the tourism and leisure industry as an amalgam made up of different types of firms. It may be that the different industries operate under different market conditions. Therefore, the findings need to be more disaggregated. For example, an airline company may face less competition than a hotel, and therefore, their governance structure and ability to make profit may differ. However, the data set is not sufficiently large to allow for the analysis of separate industries within the sample. Finally, although this paper supports higher compensation for top management, it nevertheless acknowledges the fact that a significant section of the industry is made up of small and medium enterprises. These are often family-owned businesses which are unable to compete with large corporations by paying comparable compensations. In terms of methodology, it is believed that endogeneity issues can be better addressed with an experimental research design, for example, putting the context under the market competition pressure.

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DECLARATION OF INTEREST

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Table 1
Descriptive Statistics and Measurements

	N	Mean	Median	sd	Min	Max	Description
LnAZscore	645	-0.007	-0.129	1.812	-6.619	6.003	*The natural logarithm of overall index of Altman Z-score measuring firm's survival likelihood Higher value implies higher likelihood to survive*
PDPolicy	656	0.003	0.0002	0.017	-0.091	0.186	*Retained earnings to total assets*
SeExCom/TA	412	0.081	0.028	0.146	0.0003	1.133	*Top senior executives' compensation to total assets*
LnBsize	445	2.277	2.303	0.246	0.693	2.773	*The natural logarithm of board size measured by the total number of directors*
%Ind	448	0.798	0.833	0.137	0	1	*The percentage of independent directors serving on board*
Dual	448	0.641	1	0.480	0	1	*Taking value of one if Chair and CEO is the same person, zero otherwise*
%Female	812	0.093	0	0.113	0	0.539	*The percentage of female directors serving on board*
LnBM	434	1.980	1.946	0.382	0.693	3.714	*The natural logarithm of the number of board meeting*
%BMAttend	429	0.793	0.75	0.086	0.75	1	*The percentage of directors attending board meeting on average*
%BCDiversity	760	0.016	0	0.073	0	1	*The percentage of directors having different cultures to the US*
%AuditExpert	450	0.969	1	0.174	0	1	*The percentage of audit directors with expertise*
%AuditInd	450	0.990	1	0.057	0.25	1	*The percentage of independent audit directors*
LnTA	744	14.987	15.065	1.580	10.692	17.983	*The natural logarithm of total assets*
LnAge	662	2.461	2.708	0.924	0	3.829	*The natural logarithm of firm age*
Capex/TA	808	0.050	0.029	0.078	0	0.805	*Capital expenditure to total assets*
Sales/TA	744	0.036	0.004	0.183	0	4.040	*Total sales to total assets*
Debt/Equity	812	0.405	0.419	0.122	0.026	1.115	*Debt to Equity*
MV/BV	730	3.894	2.18	18.841	-137.480	444.080	*Market value to book value*

Note: This table presents the descriptive statistics of all variables.

Table 2
Pearson Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
PDPolicy	1																
SeExCom/TA	0.473*	1															
LnBsize	-0.014	0.056	1														
%Ind	-0.078	-0.022	0.232*	1													
Dual	0.059	-0.001	0.064	0.070	1												
%Female	0.062	0.077	0.024	-0.010	-0.036	1											
LnBM	0.092	0.116	0.003	-0.051	-0.067	0.046	1										
%BMAttend	0.040	0.086	0.061	-0.023	0.013	-0.032	-0.028	1									
%BCDiversity	-0.002	0.022	0.019	-0.049	-0.074	0.153*	-0.129*	-0.050	1								
%AuditExpert	0.048	0.030	-0.039	0.055	-0.074	0.070	0.008	-0.028	0.015	1							
%AuditInd	0.026	0.036	0.014	0.024	0.003	0.064	0.053	0.051	0.053	0.081	1						
LnTA	-0.629*	-0.074	0.096	0.105	-0.103	0.236*	-0.087	-0.026	0.080	0.013	0.015	1					
LnAge	-0.087	-0.063	-0.019	-0.001	-0.018	0.067	0.028	0.004	0.010	-0.088	0.026	0.163*	1				
Capex/TA	0.040	0.015	-0.068	-0.025	0.104	0.015	0.023	-0.027	-0.039	0.073	0.009	-0.068	-0.013	1			
Sales/TA	0.236*	0.125*	0.028	0.049	0.089	0.101*	0.034	-0.004	-0.001	0.019	0.009	-0.161*	0.012	-0.012	1		
Debt/Equity	0.031	0.004	-0.011	-0.035	-0.041	-0.034	0.064	0.038	0.000	-0.006	-0.011	-0.076	0.002	-0.013	0.008	1	
MV/BV	-0.048	0.000	-0.049	-0.040	0.023	-0.041	0.001	-0.021	-0.002	0.020	0.006	0.053	-0.007	-0.041	-0.011	0.010	1

Note: This table presents correlation matrix of all independent variables used in this study.

Table 3:
Effect of Top-Management Compensation on Firms' Survival Likelihood through Profit Distribution Policy

VARIABLES	(1) Step 1 *PDPolicy*	(2) Step 2 *LnAZscore*	(3) Step 3 *LnAZscore*	(4) Step 4 *LnAZscore*
SeExCom/TA	0.071**		0.019**	0.008
	(0.019)		(0.015)	(0.136)
PDPolicy		0.197***		0.175***
		(0.000)		(0.000)
LnBsize	0.503	1.931***	1.949***	1.911***
	(0.447)	(0.000)	(0.000)	(0.000)
%Ind	0.002	0.009	0.011*	0.010*
	(0.796)	(0.118)	(0.068)	(0.084)
Dual	-0.043	0.077	0.074	0.083
	(0.705)	(0.537)	(0.559)	(0.504)
%Female	-0.002	0.001	0.001	0.001
	(0.805)	(0.844)	(0.854)	(0.847)
LnBM	0.404**	0.373**	0.369**	0.373**
	(0.025)	(0.025)	(0.026)	(0.025)
%BMAttend	1.252	0.557	0.348	0.549
	(0.359)	(0.405)	(0.611)	(0.409)
%BCDiversity	0.004	-0.002	0.000	-0.001
	(0.306)	(0.807)	(0.965)	(0.889)
%AuditExpert	0.173	0.803**	0.782*	0.780*
	(0.710)	(0.042)	(0.064)	(0.053)
%AuditInd	0.560	-0.481	-0.469	-0.524
	(0.308)	(0.528)	(0.550)	(0.488)
LnTA	0.122	-0.917***	-0.799***	-0.867***
	(0.502)	(0.000)	(0.000)	(0.000)
LnAge	0.093	0.045	0.032	0.048
	(0.493)	(0.549)	(0.707)	(0.538)
Capex/TA	0.013	0.001	0.004	0.002
	(0.198)	(0.903)	(0.534)	(0.761)
Sales/TA	-0.007	0.016***	0.015***	0.015***
	(0.194)	(0.002)	(0.001)	(0.002)
Debt/Equity	-0.000	-0.000	-0.000	-0.000
	(0.958)	(0.504)	(0.701)	(0.534)

MV/BV	0.001	0.002**	0.002**	0.002**
	(0.275)	(0.049)	(0.044)	(0.050)
Constant	-6.319***	7.677***	5.717***	6.810***
	(0.006)	(0.000)	(0.001)	(0.000)
Year fixed effect	Yes	Yes	Yes	Yes
Observations	326	311	321	310
R-squared	0.295	0.708	0.660	0.710
Wald Chi 2 (p-value)	0.000	0.000	0.000	0.000

Note: This table presents the *four-step* mediation regression results for the mediating impact of profit distribution decisions on the association between top-management compensation and firm's survival likelihood . *** p<0.01, ** p<0.05, * p<0.1. See definitions of all variables in Table 1.

Table 4:
Alternative measures for Top-Management Compensation

VARIABLES	(1) Step 1 PDPolicy	(2) Step 2 *LnAZscore*	(3) Step 3 *LnAZscore*	(4) Step 4 *LnAZscore*
Dummy-SeExCom	0.930**		0.467**	0.353*
	(0.033)		(0.024)	(0.052)
PDPolicy		0.197***		0.187***
		(0.000)		(0.000)
Controls	Yes	Yes	Yes	Yes
Constant	-2.066	7.677***	6.276***	6.492***
	(0.264)	(0.000)	(0.001)	(0.000)
Year fixed effect	Yes	Yes	Yes	Yes
Observations	327	311	322	311
R-squared	0.139	0.708	0.653	0.712
Wald Chi 2 (p-value)	0.000	0.000	0.000	0.000

Note: This table presents the sensitivity tests using an alternative measure for top-management compensation (i.e., a dummy variable taking value of 1 if the firm has high top-management compensation and 0 otherwise). *** p<0.01, ** p<0.05, * p<0.1. See definitions of all variables in Table 1.

Table 5:
Impacts of Institutional Characteristics on the Mediating Effect of Profit Distribution Policy

Panel I: Large vs Small firms

	Large Firms				Small Firms			
VARIABLES	Step 1 PDPolicy	Step 2 *LnAZscore*	Step 3 *LnAZscore*	Step 4 *LnAZscore*	Step 1 PDPolicy	Step 2 *LnAZscore*	Step 3 *LnAZscore*	Step 4 *LnAZscore*
SeExCom/TA	0.030***		0.103***	-0.009	0.087**		0.036***	0.022***
	(0.000)		(0.000)	(0.793)	(0.037)		(0.000)	(0.000)
PDPolicy		3.625***		3.786***		0.221***		0.166***
		(0.000)		(0.000)		(0.000)		(0.000)
Constant	0.183	5.819**	6.795**	5.825**	-31.018***	3.041	-8.325***	-3.551
	(0.248)	(0.018)	(0.012)	(0.015)	(0.006)	(0.264)	(0.005)	(0.200)
Observations	228	213	212	212	98	98	109	98
R-squared	0.632	0.666	0.636	0.667	0.391	0.725	0.618	0.768

Panel II: Matured vs Young firms

	Matured Firms				Young Firms			
VARIABLES	Step 1 PDPolicy	Step 2 *LnAZscore*	Step 3 *LnAZscore*	Step 4 *LnAZscore*	Step 1 PDPolicy	Step 2 *LnAZscore*	Step 3 *LnAZscore*	Step 4 *LnAZscore*
SeExCom/TA	0.088***		0.018*	0.006	0.073		0.015	-0.011
	(0.000)		(0.074)	(0.464)	(0.184)		(0.352)	(0.116)
PDPolicy		0.174***		0.157***		0.282***		0.322***
		(0.000)		(0.000)		(0.000)		(0.000)
Constant	-8.258**	8.829**	7.050*	8.356**	-4.647	6.391**	5.563**	7.741***
	(0.012)	(0.016)	(0.067)	(0.026)	(0.250)	(0.015)	(0.044)	(0.003)
Observations	210	202	211	202	116	109	110	108
R-squared	0.384	0.738	0.688	0.739	0.399	0.787	0.727	0.788

Panel III: High-Levered vs Low-Levered firms

	High-Levered Firms				Low-Levered Firms			
VARIABLES	Step 1 PDPolicy	Step 2 *LnAZscore*	Step 3 *LnAZscore*	Step 4 *LnAZscore*	Step 1 PDPolicy	Step 2 *LnAZscore*	Step 3 *LnAZscore*	Step 4 *LnAZscore*

SeExCom/TA	0.090*		0.029**	0.016**	0.055***		0.009	-0.011
	(0.070)		(0.017)	(0.021)	(0.003)		(0.469)	(0.319)
PDPolicy		0.201***		0.162***		0.307***		0.373***
		(0.000)		(0.000)		(0.000)		(0.000)
Constant	-7.665**	5.361***	2.823	3.940*	-0.696	11.774***	11.743***	12.829***
	(0.011)	(0.006)	(0.167)	(0.052)	(0.759)	(0.002)	(0.008)	(0.001)
Observations	182	173	179	172	144	138	142	138
R-squared	0.341	0.734	0.695	0.740	0.526	0.769	0.708	0.771
Controls	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Year fixed effect	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

Note: This table presents the sensitivity tests by comparing two subsamples of large and small firms, those of matured and young firms, and those of high-levered and low-levered firms. *** p<0.01, ** p<0.05, * p<0.1. See definitions of all variables in Table 1.

Table 6:
Robustness: Generalized Method of Moments (GMM)

VARIABLES	(1) Step 1 *PDPolicy*	(2) Step 2 *LnAZscore*	(3) Step 3 *LnAZscore*	(4) Step 4 *LnAZscore*
SeExCom/TA	0.110***		0.053***	0.022
	(0.000)		(0.000)	(0.246)
PDPolicy		0.262***		0.218**
		(0.000)		(0.026)
Controls	Yes	Yes	Yes	Yes
Constant	0.312	3.597	0.121	0.532
	(0.342)	(0.270)	(0.213)	(0.302)
Year fixed effect	Yes	Yes	Yes	Yes
Observations	300	265	274	264
Wald Chi 2 (p-value)	0.000	0.000	0.000	0.000
AR (1) (p-value)	0.039	0.033	0.052	0.028
AR (2) (p-value)	0.641	0.284	0.305	0.866
Hansen test (p-value)	0.964	0.162	0.826	0.100

Note: This table presents the robustness check using GMM approach. *** p<0.01, ** p<0.05, * p<0.1. See definitions of all variables in Table 1.

Table 7:
Robustness: Three-stage Least Square (3SLS)

VARIABLES	(1) Step 1 *PDPolicy*	(2) Step 2 *LnAZscore*	(3) Step 3 *LnAZscore*	(4) Step 4 *LnAZscore*
SeExCom/TA	0.068***		0.031***	0.007
	(0.000)		(0.006)	(0.518)
PDPolicy		0.112*		0.102*
		(0.057)		(0.090)
Controls	Yes	Yes	Yes	Yes
Constant	-24.880***	-3.194	-14.533***	-4.210
	(0.000)	(0.393)	(0.000)	(0.290)
Year fixed effect	Yes	Yes	Yes	Yes
Observations	326	310	310	310
Wald Chi 2 (p-value)	0.000	0.000	0.000	0.000

Note: This table presents the robustness check using 3SLS approach. *** p<0.01, ** p<0.05, * p<0.1. See definitions of all variables in Table 1.

Table 8:

Robustness: Propensity score matching (PSM)

Panel A: Average treatment effects with nearest neighbour matching method						
		Treated	**Control**	**Δ**	**S.E.**	**T-stat**
I - Dependent variable: PDPolicy						
1:1 matching without replacement						
	Unmatched	1.356	0.130	1.225***	0.236	5.19
	Matched	1.967	0.514	1.453***	0.675	2.15
1:1 matching with replacement						
	Unmatched	1.356	0.130	1.225***	0.236	5.19
	Matched	1.967	0.540	1.430*	0.886	1.61
Nearest neighbour (n=2)						
	Unmatched	1.356	0.130	1.225***	0.236	5.19
	Matched	1.967	0.329	1.638***	0.737	2.22
Nearest neighbour (n=3)						
	Unmatched	1.356	0.130	1.225***	0.236	5.19
	Matched	1.967	0.772	1.195*	0.679	1.76
II - Dependent variable: LnAZscore						
1:1 matching without replacement						
	Unmatched	1.974	-0.284	2.258	0.185	12.18
	Matched	1.786	0.871	0.914***	0.234	3.91
1:1 matching with replacement						
	Unmatched	1.974	-0.284	2.258	0.185	12.18
	Matched	1.786	0.818	0.967***	0.292	3.31
Nearest neighbour (n=2)						
	Unmatched	1.974	-0.284	2.258	0.185	12.18
	Matched	1.786	0.668	1.118***	0.262	4.26
Nearest neighbour (n=3)						
	Unmatched	1.974	-0.284	2.258	0.185	12.18
	Matched	1.786	0.851	0.934***	0.253	3.70
Panel B: Average treatment effect on the treated with 1:1 nearest neighbour matching and bootstrapping of standard errors						
III- Dependent variable: PDPolicy						
	No of treated obs.	**Replications**	**Observed (Δ)**	**Bias**	**S.E.**	**T-stat**
	82	100	0.490*	0.211	0.742	1.661

	82	1000	0.490*	0.234	0.738	1.665
	82	10000	0.490*	0.256	0.706	1.694
IV- Dependent variable: LnAZscore						
	No of treated obs.	**Replications**	**Observed (Δ)**	**Bias**	**S.E.**	**T-stat**
	82	100	1.670***	-0.220	0.467	3.578
	82	1000	1.670***	-0.257	0.475	3.515
	82	10000	1.670***	-0.256	0.468	3.569

Panel C: Regressions on matched samples

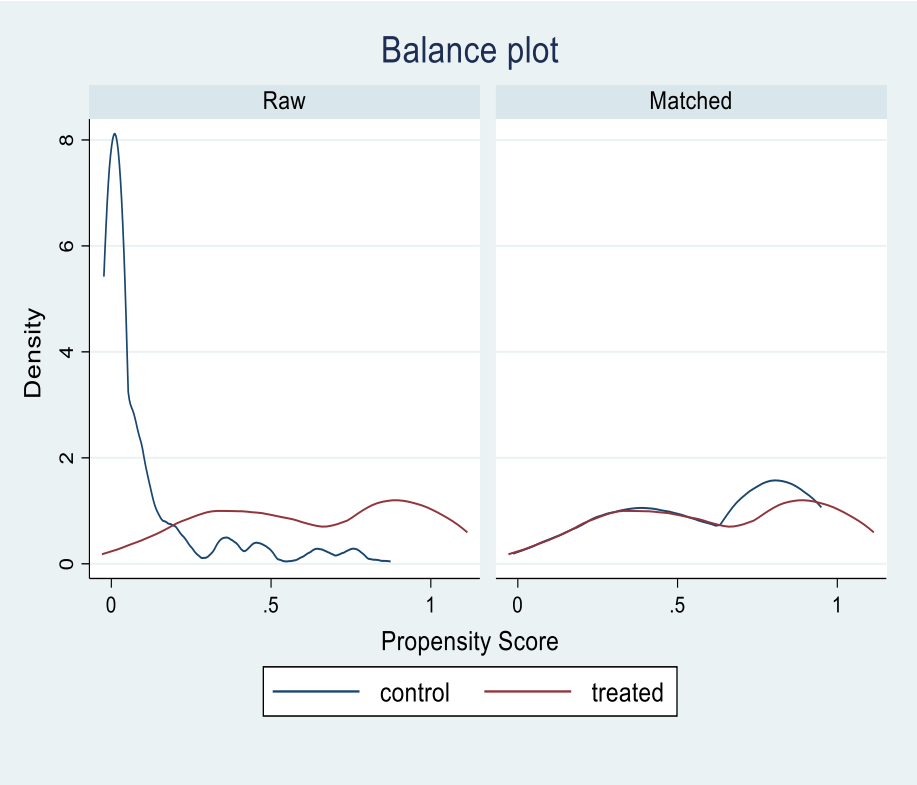
V- Dependent variable: PDPolicy				
	(1)	(2)	(3)	(4)
	1:1 matching without replacement	1:1 matching with replacement	Nearest neighbour (n=2)	Nearest neighbour (n=3)
Dummy-SeExCom	1.433**	1.473**	1.578***	1.117*
	(0.028)	(0.028)	(0.010)	(0.089)
Controls	Yes	Yes	Yes	Yes
Constant	4.568***	39.157***	35.502***	42.767***
	(0.007)	(0.003)	(0.004)	(0.000)
Adjusted R-squared	0.158	0.166	0.183	0.211
Observations	94	94	93	102

VI- Dependent variable: LnAZscore				
Panel C: Regressions on matched samples				
	(1)	(2)	(3)	(4)
	1:1 matching without replacement	1:1 matching with replacement	Nearest neighbour (n=2)	Nearest neighbour (n=3)
Dummy-SeExCom	0.867***	0.743***	0.956***	0.880***
	(0.000)	(0.000)	(0.000)	(0.000)
Controls	Yes	Yes	Yes	Yes
Constant	2.273	2.434	2.123	2.289
	(0.468)	(0.434)	(0.520)	(0.449)
Adjusted R-squared	0.457	0.469	0.459	0.464
Observations	112	112	103	115

Note: This table presents the robustness check using PSM approach. *** p<0.01, ** p<0.05, * p<0.1. See definitions of all variables in Table 1.

Appendix 1:
Propensity score matching distribution for samples before and after matching

(a) Profit distribution polity



(b) Firm's survival likelihood