The Effects of Ownership Concentration on Managerial Discretion of the Non-Life Insurance Businesses in Thailand

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Abstract

Intrigued by managerial discretion's vital role in Thailand's non-life insurance businesses, this study embarks on a compelling investigation into the interplay between ownership concentration and decision-making autonomy. Collected with the utmost care from diverse sources such as the Stock Exchange of Thailand (SET), the Office of Insurance Commission (OIC), and the Department of Business Development (DBD), the financial and ownership data form a robust foundation for our analysis, ensuring unwavering data integrity. The study scrutinizes 45 non-life insurance companies operating in Thailand between 2012 and 2016, revealing a captivating insight - the ownership structure is a linchpin in shaping managerial discretion. The findings illuminate an alluring inverted U-shaped relationship between ownership concentration and managerial discretion. When owners focus intensely on their enterprises, the discretion of managers experiences a decline, unveiling the delicate balance governing corporate decisions. However, the narrative takes an intriguing twist as owners exceed the optimal share threshold, triggering a surge in managerial discretion. This study's fascinating results shed light on the potential agency conflicts between owners and policyholders, offering valuable insights into the entrenchment behavior linked to Agency theory. With its fresh perspective on the dynamics between ownership and discretion, this research inspires a reevaluation of corporate governance practices within the non-life insurance sector, piquing the curiosity of industry insiders and researchers alike.

Keywords: Ownership Concentration; Insurance Business; Managerial Discretion

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Introduction

Previous research has extensively studied ownership concentration and its impact on firm-specific outcomes. Studies such as Kang and Kim (2012), Bouvatier, Lepetit and Strobel (2014), and Nguyen, Locke and Reddy (2015) have examined the relationship between ownership structure and various firm performance indicators in different countries.

Ownership concentration is closely related to different countries' investor protection and legal systems. Richter and Weiss (2013) found that common law countries with high investor protection tend to have lower ownership concentration compared to civil law countries with low investor protection. La Porta, Lopez-de-Silanes and Shleifer (1999) classified countries based on anti-director rights, revealing dominance by companies without controlling shareholders in countries with high anti-director indices, while closely held family-controlled companies dominate countries with low anti-director indices. In the context of East Asian countries, Carney and Child (2013) observed a separation of ownership and control rights. They found that Thailand experienced a notable increase in ownership separation. Thailand has ownership separation degree increased by approximately 0.13, going from 0.94 in 1996 to 0.82 in 2008, as indicated by their results. This implies a more diffuse ownership structure over the observed period. Therefore, highlights the need for control mechanisms such as corporate governance to address potential agency conflicts in Thai companies.

A diffuse ownership structure in a company, characterized by the separation of ownership and control rights, can contribute to agency conflicts. This relationship is supported by several reasons identified in the literature. Firstly, the separation of ownership and control in companies with diffuse ownership creates a principal-agent relationship, where managers act as agents for the shareholders. This separation of interests between shareholders and managers can lead to agency conflicts (Berle & Means, 1932). Secondly, diffuse ownership structures often grant managers greater discretion in decision-making, allowing them more freedom to pursue their own interests instead of solely focusing on shareholders' interests. This increased managerial discretion can result in conflicts of interest and potentially harm firm performance (Mayers & Smith, 1994). Additionally, with a diffuse ownership structure, it becomes more challenging for shareholders to monitor and hold managers accountable for their actions effectively. The dispersed ownership makes it difficult to coordinate collective action and exert control over management, leading to accountability and monitoring challenges (Shleifer & Vishny, 1997).

Furthermore, the lack of alignment among shareholders in a diffuse ownership structure can hinder effective corporate governance and increase agency conflicts. Shareholders may have diverse and conflicting interests, challenging reaching a consensus and enforcing governance mechanisms. Moreover, individual shareholders in companies with diffuse ownership may have limited incentives to actively engage in corporate governance, monitor management, or challenge their decisions. This lack of active shareholder participation further exacerbates agency conflicts.

Managerial discretion is a crucial aspect of the insurance industry, and its relationship with ownership structure has been examined by Mayers and Smith (1994). They found that widely-held insurance stock companies tend to require greater managerial discretion due to their specialization. However, high levels of discretion may lead to conflicts of interest and harm firm performance. Their study emphasizes the influence of ownership structure on managerial discretion in the insurance industry.

The unique characteristics of the insurance business result in distinct agency conflicts compared to other companies. Insurance companies' liabilities come from technical reserves due to insurance premiums, unlike liabilities from bank loans or debentures for other companies. Insurance firms receive upfront premiums, unlike others that earn money after product or service sales. Their focus on invested assets, particularly financial securities, differs from other businesses' investments in inventories and fixed assets. Moreover, insured individuals become primary creditors of the insurance business, giving them priority in claiming liabilities. Due to these differences, managerial discretion is crucial in the insurance industry, as excessive discretion may negatively impact policyholders and the company's confidence. High discretion may lead to risky investments and affect insured individuals' trust in the business.

This research focuses specifically on the non-life insurance business in Thailand, which consists of stock insurance companies with varying ownership concentrations. The study aims to uncover agency conflicts and their implications by examining the relationship between ownership structure, managerial discretion, and agency issues. Notably, the financial and insurance activities contribute significantly to Thailand's GDP, ranking fourth after agricultural activities. Although not the highest, these activities are essential for the country's economy. In 2021, the insurance business was the most prominent financial sector, contributing twice the GDP of other financial sectors, as the National Statistical Office (Thailand) (NESDC) reported. Studying agency conflicts in insurance is crucial for insurance companies and Thailand's economy, considering the sector's impact and unique nature compared to non-insurance businesses.

Therefore, this study contributes to understanding ownership structure, managerial discretion, and agency conflicts in the insurance industry, particularly in Thailand. The research addresses the distinct agency conflicts between owners and policyholders and their impact on firm outcomes. The study's findings have implications for insurance companies and provide insights into the dynamics of ownership structure and agency issues in the insurance industry.

Literature Review

The relationship between principals and agents within organizations, with a separation of ownership and control, was presented by Jensen and Meckling (1976). This separation gives rise to agency problems, as managers, acting as agents, make independent controlling decisions without fully considering the owners' wealth-maximizing goals. In particular, decision-making managers who do not possess a significant ownership stake may diverge from ownership interests, leading to agency conflicts. Effective control procedures are necessary to mitigate such conflicts.

In the context of agency theory, Mayers and Smith (1986) provide insights into various functions within the insurance business, including managerial discretion, ownership/risk-bearing, and customer/policyholder diversification. Conflicting stakeholder interests can result in agency costs or risks, ultimately reducing firm performance and value.

The ownership structure plays a crucial role as a corporate governance mechanism in insurance businesses, helping to mitigate agency conflicts between different parties, such as owners versus managers, controlling shareholders versus non-controlling shareholders, or shareholders versus policyholders (Mayers & Smith, 1986, 1994). According to agency theory, a high degree of separation between ownership and control increases the likelihood of agency

conflicts. Managers who do not bear a substantial share of the wealth may avoid taking justifiable risks, resulting in lower firm performance. On the other hand, closely held companies, with close monitoring of managers, may adopt riskier strategies in anticipation of higher returns. However, these companies may also exhibit risk aversion due to limited risk diversification, leading to lower returns.

In the insurance industry, stock insurers that completely separate managerial decisions/discretion, ownership/risk-bearing, and customers/policyholders can benefit from specialization, which helps lower costs. However, the difference in objectives and the fact that managers do not fully reap the benefits of wealth can lead to conflicts between owners and managers. Additionally, agency conflicts can arise between stockholders and policyholders as wealth transfers from the latter to the former after policies are sold.

Managerial discretion, defined as the latitude of action authorized by an agent, is a key concept in understanding agency costs. Miller (2011) argues that granting agents more discretion may lead them to act in their own interests rather than the owners', resulting in agency costs of managerial discretion that ultimately impact firm performance. The foundation of these costs lies in the separation of ownership and control.

Mayers and Smith (1981) further develop the managerial discretion hypothesis (MDH) in the context of ownership structure choices within the insurance industry. They classify ownership into six categories and examine the relationship between ownership structure and managerial discretion. The degree of managerial discretion is proxied by activity choice (e.g., lines of business, lines-of-business specialization, geographic concentration, and firm size) and operating costs (i.e., loss-to-premium ratios). The results indicate that mutual firms and mutual-owned stock firms face similar managerial discretion problems, while Lloyd's and closely-held stock companies share similar characteristics. Additionally, loss-to-premium ratios differ across ownership structures, with Lloyd's Associations exhibiting the smallest ratios, followed by closely-held stocks, widely-held stocks, mutual-owned stocks, association-owned stocks, and mutual insurance companies.

Miller (2011) extends the relationship between managerial discretion and governance controls within publicly traded insurance companies. They find that firms with more stringent governance controls tend to specialize in lines of insurance requiring higher managerial discretion. Moreover, firms with higher levels of CEO ownership are more likely to engage in lines of insurance with greater levels of managerial discretion. However, the positive relationship between CEO ownership and managerial discretion weakens as CEO ownership increases.

Therefore, previous studies support the idea that the degree of separation between ownership and control influences the degree of managerial discretion. Firms with more stringent governance controls tend to specialize in lines of insurance requiring higher managerial discretion. Understanding these relationships is vital for assessing agency conflicts and designing effective governance mechanisms in the insurance industry.

Kinds of Ownership Concentration related to the Conflicts of interests

Ownership concentration can give rise to conflicts of interest within an organization across different stakeholder groups. Owners and managers may have divergent interests, leading to agency problems and misaligning ownership goals (Jensen & Meckling, 1976). Similarly, conflicts can arise between controlling shareholders and minority shareholders, with controlling shareholders potentially prioritizing their own interests over those of the minority

shareholders. In the insurance industry, conflicts can emerge between shareholders and policyholders, where increased ownership concentration may result in wealth transfers from policyholders to shareholders. Additionally, the level of ownership concentration can impact a company's risk-taking behavior, with closely-held companies exhibiting risk aversion due to limited risk diversification and widely-held companies being more willing to take risks (Mayers & Smith, 1986). These conflicts of interest can lead to agency costs, reduced firm performance, and a misalignment of interests among stakeholders. Therefore, effective corporate governance mechanisms are essential for managing these conflicts and ensuring the alignment of interests within the organization.

Executive behavior in insurance firms related to agency conflicts

Conflicts of interest in the insurance industry can be addressed through various executive behaviors (Mayers & Smith, 1986). Executives should uphold ethical standards, promote transparency, and act in the best interests of policyholders and shareholders. They should ensure the presence of independent directors on the board to provide checks and balances. Compensation structures should be aligned with the interests of policyholders and shareholders, discouraging excessive risk-taking. Executives should establish and enforce conflicts of interest policies and prioritize fair treatment of policyholders. Regulatory compliance and stakeholder engagement are also essential aspects. These behaviors contribute to insurance firms' effective conflict management, governance, and value creation.

Types of Conflicts of Interests

According to the agency theory proposed by Jensen and Meckling, conflicts of interest can arise between business owners (principals) and managers (agents), leading to agency conflicts. Type-I agency conflicts occur between the owners and managers responsible for running the company, stemming from the separation of ownership and control within organizations. Managers may prioritize their self-interests over the owners' interests, leading to misalignment and conflicts. Type-II agency conflicts arise between controlling shareholders and minority shareholders, where the former's decision-making can disadvantage the latter. Concentrated ownership and weak investor protection can exacerbate Type-II conflicts. Actions such as favoritism, excessive compensation, and special dividends by controlling shareholders can harm minority shareholders and diminish the firm value. These conflicts of interest incur costs such as monitoring, bonding, and residual loss (Jensen & Meckling, 1976). The agency theory provides insights into the nature of conflicts that can occur between principals and agents in business organizations.

Corporate Governance and Monitoring Mechanism

Corporate governance is an essential element of organizational management, involving practices and mechanisms that promote accountability, transparency, and effective decision-making. Tricker and Tricker (2015) identify several commonly used corporate governance practices to address agency conflicts and ensure sound governance. These practices include having a competent and independent board of directors, aligning executive compensation with company performance, employing external auditors for financial reporting, promoting shareholder activism, implementing internal controls and risk management systems, and complying with relevant regulations.

Organizations can enhance their monitoring mechanisms and reduce agency conflicts by implementing these practices. However, it is essential to recognize that the effectiveness of these practices may vary depending on industry and context. Incorporating these corporate

governance practices strengthens governance structures, improves transparency, and aligns stakeholders' interests.

Corporate Governance in the Insurance Business

Corporate governance is crucial in the insurance industry, ensuring effective oversight, transparency, and accountability. Research conducted by Garven and Lamm-Tennant (2011) highlights the significance of corporate governance in insurance and its impact on firm performance and risk management. Critical elements of corporate governance in the insurance sector include a well-functioning board of directors, robust risk management practices, transparency and disclosure, regulatory compliance, internal controls, and stakeholder engagement.

These corporate governance mechanisms are essential for addressing agency conflicts and promoting sound governance practices in the insurance industry. Independent directors on the board provide impartial oversight, while transparent financial reporting enhances the confidence of shareholders and stakeholders. Regulatory compliance is vital in ensuring ethical behavior and adherence to governance standards, with regulatory oversight playing a critical role in monitoring and enforcing compliance.

Engaging with stakeholders, such as policyholders, investors, and regulators, is crucial for effective corporate governance in insurance. By considering the interests and perspectives of stakeholders, insurance companies can enhance transparency, responsiveness, and trust. Stakeholder engagement also helps identify and manage potential conflicts of interest.

Therefore, corporate governance is paramount in the insurance industry, ensuring trust, stability, and effective risk management. Robust governance mechanisms and practices, including board involvement, risk management, regulatory compliance, internal controls, and stakeholder engagement, contribute to transparency, accountability, and performance within the insurance sector.

Managerial Discretion

Business line concentration often measures managerial discretion in the insurance industry, which provides insights into managers' decision-making power and autonomy. The Herfindahl-Hirschman Index (HHI), as highlighted by Adams (1996) and Mayers and Smith (1994), is a commonly used metric to quantify business line concentration. The HHI is calculated based on the annual premium written in ten significant lines of insurance, including fire, boat, cargo, car, asset, people, engineer, accident, health, and miscellaneous insurance. The formula for calculating the HHI is as follows:

$$BLINE\_CON_{i,t} = \sum_{l=1}^{10} S_l^2 \qquad (1)$$

where l is the line of business (1,2,3,…,10); $S_l = \frac{PI_l}{TPI}$; PI_l is the amount of annual premium written in a particular line of insurance, and TPI is the total value of annual premium income for all ten lines. The computed value ranges from 0 to 1. A value close to 1 indicates a very high business line concentration. The very high business line concentration means the company underwrites only a few types of lines.

Companies with high business line concentration tend to specialize in a few types of insurance, simplifying premium determination and claims management. Consequently, managers in these companies may have less discretion as their decision-making is confined to a narrower scope (Adams, 1996; Mayers & Smith, 1994).

Managerial discretion refers to the degree of decision-making authority granted to managers (Miller, 2011). Higher managerial discretion gives executives more opportunities to act in their own interests, potentially deviating from the owners' interests (Mayers & Smith, 1988). Ownership structure serves as a control mechanism to address managerial discretion issues (Mayers & Smith, 1981). Mayers and Smith (1994) suggest that insurance companies with high ownership concentration are less likely to experience managerial discretion problems than those with dispersed shareholders.

Thus, business line concentration, as measured by the HHI, offers insights into the level of managerial discretion in insurance companies. Higher concentration leads to specialization, simplification of operations, and potentially less managerial discretion. Ownership structure significantly mitigates managerial discretion problems, with high ownership concentration associated with lower discretion issues (Mayers & Smith, 1994).

Ownership Concentration

The ownership concentration is measured by the Herfindahl-Hirschman Index (HHI), calculated by summing the squared percentage of shares controlled by each shareholder's percentage of shareholding of shareholders (Bouvatier, Lepetit, & Strobel, 2014; Demsetz & Lehn, 1985; Richter & Weiss, 2013). The computed value ranges from 0 to 1. A value close to 1 indicates a very high ownership concentration where most shares are held only by one person or group, with no shareholding distribution. The Herfindahl-Hirschman Index (HHI) of ownership concentration (OWNCON) is calculated for each company as follows:

$$OWNCON_{i,t} = \sum_{i=1}^{n} S_i^2 \qquad (2)$$

where S_i is the percentage of shareholding of each shareholder

Alternatively, as measured by voting rights (*VR*), the definitions of ownership concentrate on voting rights and have been a significant focus in the study of corporate governance. La Porta et al. (1999) examined the ownership structures of large businesses in 27 developed nations and found that family and state control dominated the sample. Baek, Kang and Park (2004) investigated the relationship between corporate governance and firm value in Korean nonfinancial companies. They discovered that higher concentrations of unaffiliated foreign investors in company ownership were associated with lesser share price declines during the 1997 Korean financial crisis. Conversely, companies with concentrated ownership by dominant family shareholders, such as Chaebol companies, experienced a more significant decline in share value. Lower returns were also observed in businesses where controlling shareholders' voting rights exceeded their cash flow rights.

Considering several control variables, this study explores the relationship between business line concentration and managerial discretion in the insurance industry. The control variables considered are:

Leverage *(LEVER):* Higher leverage is expected to limit managerial discretion and reduce investment in harmful projects, restricting free cash flow (Ahn et al., 2006; Amira et al., 2013).

Underwriting Risk (URISK): Elevated underwriting risk is associated with reduced cash flow due to increased capital requirements to meet regulatory demands. Bhatti and Sajid (2014) find that higher underwriting risk leads to lower managerial discretion and can create agency conflicts.

Reinsurance (REINS): Reinsurance is a risk management tool that enhances financial stability and reduces underwriting risk and agency costs (Cummins et al., 2008). The relationship between business line concentration and reinsurance is expected to be negative.

Board Size (BSIZE): As Fama and Jensen (1983) discussed, larger boards may face increased agency conflicts, reducing monitoring effectiveness and potentially harming corporate performance. In line with this argument, Singh and Davidson III (2003) document that outside block ownership is found to have a limited impact on reducing agency costs. Moreover, although smaller boards serve a similar function, having independent outsiders on the board does not effectively protect the firm from agency costs.

Premium Growth (PGROWTH): Premium growth in insurance companies has been a subject of interest due to its impact on financial performance. Research by Cummins and Nini (2002) reveals that larger companies are more cost-effective and revenue-efficient, suggesting they may experience higher premium growth. Insurance companies also influence premium growth by expanding their underwriting across various insurance lines. This revenue growth increase affects cash flow, giving rise to the agency costs of the free cash flow hypothesis proposed by Jensen (1986). These dynamics highlight the intricate relationship between premium growth, financial performance, and agency costs in the insurance industry.

Firm Size (FSIZE): Larger firms may face challenges aligning ownership interests but benefit from economies of scale, leading to an expected negative relationship with business line concentration (Mayers & Smith, 1994).

Firm Age (FIRMAGE): The evolution of ownership structures over time may impact control mechanisms, resulting in an expected negative relationship with business line concentration (Mayers & Smith, 1994).

Research Methodology

Hypothesis Development

The separation of ownership and control in common stock insurance companies can lead to benefits in specialization and risk-bearing, particularly in widely-held stock companies (Fama & Jensen, 1983; Mayers & Smith, 1988). With the complete separation of ownership/risk-bearing, managerial, and customer/policyholders, these widely-held stock companies tend to require more managerial discretion (Mayers & Smith, 1988, 1994). Managers in such companies hold decision-making power with high discretion, which may result in managerial discretion costs. Allowing managers greater discretion can lead to actions prioritizing their interests over those of the owners.

The insurance business is intricate and unique, emphasizing policyholders rather than shareholders or debtholders. Additionally, the revenue sources come from different business

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lines, requiring distinct managerial discretion. Most funds are invested in securities like government bonds, common stocks, and unit trusts. Consequently, the ownership structure differences in these companies entail diverse governance tools to mitigate agency costs. We then hypothesize that:

Hypothesis: Higher ownership concentration results in lower management discretion in the Thai non-life insurance business.

Model Specification

The sets of key variables and control variables used in regression models to test the effects of ownership concentration *(OWNCON)* on managerial discretion *(BLINE_CON)* are as follows:

$$
\begin{aligned}
BLINE_{CON_{i,t}} = \ & \beta_0 + \beta_1 OWNCON_{i,t} + \beta_2 LEVER_{i,t} + \beta_3 URISK_{i,t} \\
& + \beta_4 REINS_{i,t} + \beta_5 BSIZE_{i,t} + \beta_6 PGROWTH_{i,t} + \beta_7 FSIZE_{i,t} \\
& + \beta_8 AGE_{i,t} + \beta_9 YEAR_{i,t} + \varepsilon_{i,t}
\end{aligned}
\tag{3}
$$

The study by Miller (2011) observed that when a CEO owns more equity in the firm, their incentives align better with those of shareholders. This alignment reduces contracting costs and gives the firm a competitive edge in focusing on business lines with high managerial discretion. However, as CEO ownership continues to increase, this contracting advantage diminishes as the CEO may become entrenched and risk-averse. In addition, other research studies' results support a non-linear relationship between ownership structure and firm performance (Arvanitis, Stamatopoulos, & Terzakis, 2018; Gharbi & Othmani, 2022; Welch, 2003).

Our study aimed to investigate this relationship to determine whether ownership concentration has a non-linear impact on management's discretion. We developed the following model to explore the potential complexities in this association.

$$
\begin{aligned}
BLINE_{CON_{i,t}} = \ & \beta_0 + \beta_1 OWNCON_{i,t} + \beta_2 OWNCON_{i,t}^2 + \beta_3 LEVER_{i,t} + \beta_4 URISK_{i,t} \\
& + \beta_5 REINS_{i,t} + \beta_6 BSIZE_{i,t} + \beta_7 PGROWTH_{i,t} + \beta_8 FSIZE_{i,t} \\
& + \beta_9 AGE_{i,t} + \beta_{10} YEAR_{i,t} + \varepsilon_{i,t}
\end{aligned}
\tag{4}
$$

Also, Cox and Roden (2002) examine the relative share pricing of 98 U.S. firms with two classes of common stock featuring differential voting rights and, in some cases, differential dividend rights. They find that the observed voting premiums are higher than previously reported, and these premiums depend on the form of dividend promise to low-vote shareholders. The voting premium is higher when there is a control threat; insiders lack controlling voting power during periods of poor firm performance.

Furthermore, research by Berle and Means (1932) and Shleifer and Vishny (1986) supports the notion that ownership concentration aids in overcoming free-riding problems and facilitates managerial monitoring. Outsiders are incentivized to become large blockholders due to concentrated control and its private benefits. These blockholders gain significant control over the company through heavy voting rights, enabling them to influence operating decisions and access private benefits. Thus, we propose the model to test the relationship between voting rights *(VR)* and managerial discretionary *(BLINE_CON)*.

$$BLINE_{CON_{i,t}} = \beta_0 + \beta_1 VR_{i,t} + \beta_2 LEVER_{i,t} + \beta_3 URISK_{i,t}$$
$$+\beta_4 REINS_{i,t} + \beta_5 BSIZE_{i,t} + \beta_6 PGROWTH_{i,t} + \beta_7 FSIZE_{i,t}$$
$$+\beta_8 AGE_{i,t} + \beta_9 YEAR_{i,t} + \varepsilon_{i,t} \tag{5}$$

Contrarily, Cho and Kim (2007) found a non-linear relationship between ownership concentration and firm performance in their study of 600 Korean firms. A moderate increase in ownership aligns management and ownership interests, leading to beneficial outcomes for the firm. However, a substantial increase in ownership eventually has a negative impact as dominant shareholders become less accountable to external market discipline.

In light of these findings, the proposed study aims to test the non-linear relationship between voting rights and managerial discretion through the use of specific models.

$$BLINE_{CON_{i,t}} = \beta_0 + \beta_1 VR_{i,t} + \beta_2 VR_{i,t}^2 + \beta_3 LEVER_{i,t} + \beta_4 URISK_{i,t}$$
$$+\beta_5 REINS_{i,t} + \beta_6 BSIZE_{i,t} + \beta_7 PGROWTH_{i,t} + \beta_8 FSIZE_{i,t}$$
$$+\beta_9 AGE_{i,t} + \beta_{10} YEAR_{i,t} + \varepsilon_{i,t} \tag{6}$$

where $BLINE\_CON_{i,t}$ is business line concentration. Business line concentration is measured by the Herfindahl-Hirschman Index (HHI) (Adams, 1996; Mayers & Smith, 1994); $OWNCON_{i,t}$ is the ownership concentration measured by the Herfindahl-Hirschman Index (HHI), calculated by summing the squared percentage of shares controlled by each shareholder's portion of shareholding of shareholders (Bouvatier et al., 2014; Demsetz & Lehn, 1985; Richter & Weiss, 2013); $OWNCON_{i,t}^2$ is the square of ownership concentration ($OWNCON_{i,t}$); $VR_{i,t}$ is the voting rights of the ultimate owners (La Porta et al., 1999); $VR_{i,t}^2$ is the square of voting rights of the ultimate owner; $LEVER_{i,t}$ is leverage risk measured by one minus the surplus-to-assets ratio (Ho et al., 2013); $URISK_{i,t}$ is underwriting risk measured by the standard deviation of the loss ratio (loss ratio = reinsurance ceded to total premiums) (Ho et al., 2013); $REINS_{i,t}$ is reinsurance measured by the ratio between reinsurance paid and premium income (Cole et al., 2011; Ho et al., 2013; Shiu, 2019; Yanase & Limpaphayom, 2017) ; $BSIZE_{i,t}$ is board size measured by a natural logarithm of the number of board directors; $PGROWTH_{i,t}$ is the premiums growth rate calculated by taking the current value of the premiums and subtracting that from the previous value, then dividing this result by the previous value. $FSIZE_{i,t}$ is firm size measured by a natural logarithm of the total assets; $AGE_{i,t}$ is firm age measured by a natural logarithm of the number of years since the firm's established;

Data

This study employs panel data, which combines time-series and cross-sectional data, to comprehensively understand the ownership structures of 45 non-life insurance companies in Thailand from 2012 to 2016. The study excludes certain firms that have incomplete data, have been discontinued, operate as overseas insurance branches, are health insurance firms, or are unique companies established under the Thai Protection for motor vehicle victims Act B.E. 2540.

To collect ownership structure data, the study utilizes information from multiple sources. The ownership information is sourced from Thailand's Stock Exchange (SET), which provides data on shareholders holding at least 0.5% of shares. Additionally, ownership data are manually collected from the Department of Business Development (DBD), a sub-department

of the Ministry of Commerce. The DBD database allows tracking of the proportion of shares held by all shareholders.

Financial data covering the study period from 2012 to 2016 are gathered from both the SET and the Office of Insurance Commission (OIC). The OIC database provides specific financial information unavailable from the SET and DBD. This includes data on the number of policyholders, premiums from each business line, reinsurance assumed premiums, retrocession premiums, and details of incurred losses. By combining financial data from multiple sources, the study ensures the availability of a comprehensive dataset for analysis.

In every study, outliers can be disruptive elements that introduce uncertainty and distort results. They lurk at the fringes, impacting measures like the mean and potentially leading to misleading interpretations. To tame this risk, the researchers wisely implement the winsorization technique, capping extreme values at specific percentiles and safeguarding the data against outlier effects. This proactive step enhances the reliability and accuracy of the statistical analyses, ensuring the study captures the true essence of the insurance industry.

By fortifying their position with robust standard errors, the researchers overcome data complexities and provide valuable insights into the intricate relationships within the insurance sector. Through thoughtful approaches and dedication, this study offers meaningful conclusions and a solid foundation for understanding ownership concentration and managerial discretion in non-life insurance companies.

Research Findings

Descriptive Statistics

In the insurance industry context, the descriptive statistics of Thai non-life insurance companies' firm characteristics (as shown in Table 1) reveal significant diversity, particularly in business line concentration *(BLINE_CON).*

Business line concentration, measured by the Herfindahl-Hirschman Index (HHI), indicates that the mean value is 0.434, while the median value is 0.367. The HHI ranges from a minimum of 0.177 to a maximum of 0.897, displaying a substantial variation across different insurance companies. The deviation of 0.194 signifies a wide dispersion between the minimum and maximum values, highlighting the significant differences in business line concentration among these companies. This wide range in business line concentration suggests that some non-life insurance companies have a more diversified portfolio of business lines, while others are more concentrated in specific lines. A high HHI value indicates a more concentrated business structure, possibly specializing in specific insurance products. In contrast, a lower HHI value reflects a more diversified business approach, offering a broader range of insurance services.

The mean and median of the Herfindahl-Hirschman Index (HHI) for ownership concentration are 0.503 and 0.433, respectively. This indicates that, on average, ownership is somewhat concentrated, with a relatively large portion of shares controlled by a limited number of shareholders. The minimum and maximum values of 0.042 and 1.000 show a wide range of ownership concentration among non-life insurance companies. The deviation of 0.291 further emphasizes the substantial variation in ownership concentration, indicating that some companies have highly concentrated ownership while others have more dispersed ownership. Comparison with European Commercial Banks: The distribution of ownership concentration

in Thai non-life insurance companies is broader than in European commercial banks (Bouvatier et al., 2014). This suggests that the level of ownership concentration in Thai insurance companies exhibits more diversity than in European banks.

Table 1: Descriptive Statistics

Variable	N	Mean	Median	Minimum	Maximum	Std. Dev.
BLINE_CON	225	0.434	0.367	0.177	0.897	0.194
OWNCON	225	0.503	0.433	0.042	1.000	0.291
VR	225	0.581	0.510	0.153	1.000	0.235
LEVER	225	0.712	0.745	0.286	0.975	0.160
URISK	135	0.111	0.062	0.005	0.833	0.148
REINS	225	0.312	0.300	0.001	0.785	0.216
BSIZE	225	2.198	2.197	1.609	2.708	0.289
PGROWTH	180	0.041	0.029	-0.411	0.843	0.177
FSIZE	225	15.047	15.073	11.888	18.001	1.436
AGE	225	3.875	4.159	1.946	4.454	0.618

Notes: The sample comprises 45 non-life public companies limited from 2012 to 2016. Variables have winsorized the tails of distribution at the 1% and 99% levels. *BLINE_CON* is the Herfindahl–Hirschman index calculated based on the business line. *OWNCON* is the HHI calculated based on the shareholding percentage. *VR.* is the voting rights of the ultimate owner. *LEVER* is leverage risk measured by one minus the surplus-to-assets ratio. *URISK* is underwriting risk measured by the standard deviation of the loss ratio (loss ratio = reinsurance ceded to total premiums). *REINS* is the reinsurance premiums ceded to total premiums income. *BSIZE* is the natural logarithmic transformation of board size. *PGROWTH* is growth in direct premiums. *FSIZE* is the natural logarithmic transformation of the total assets. *AGE* is the natural logarithmic transformation of the firm age. The number of *URISK* observations was reduced to 135. It results from calculating the underwriting risk from the standard deviation of the loss ratio of 225 observations over three years. The number of *PGROWTH* observations was reduced to 180. It results from calculating premium growth from a premium value of 225 observations. To calculate premium growth, subtract the prior period sales from the current period sales, and divide by the prior period sales.

The voting rights of ultimate owners show a high distribution with an average value of 0.235. The minimum and maximum values of 0.153 and 1.000 indicate that some ultimate owners have significant voting power, potentially influencing strategic decisions and corporate governance.

In the dynamic world of non-life insurance companies, the average leverage Risk (*LEVER*) stands at 0.712, showcasing a prudent and balanced approach to financing and risk management. Moreover, the lower average Underwriting Risk (*URISK*) at 0.111 reveals insurance companies' cautious and calculated stance in selecting and pricing their policies, mitigating potential risks. Strikingly, the average Reinsurance Demand (*REINS*) of 0.312 highlights the strategic use of reinsurance as a risk management tool, reinforcing financial stability and reducing underwriting risk. The substantial average Firm Size (*FSIZE*) of 15.047 is a testament to these insurance giants benefiting from economies of scale in their expansive operations. The average Firm Age (*AGE*) of 3.875, indicating around 55 years of establishment, reflects the rich heritage and experience of the sampled non-life insurance companies. Lastly, with a modest average Premium Growth Rate (*PGROWTH*) of 0.041, the non-life insurance market exhibits a stable and sustainable growth trajectory. These statistics provide a fascinating glimpse into the calculated and strategic decisions made by insurance companies to navigate the intricacies of the insurance landscape while ensuring long-term prosperity and resilience.

Correlation Matrix

The correlation matrix was examined to assess the presence of multicollinearity among the variables. Multicollinearity occurs when there are high correlations between independent variables, which can affect the reliability and interpretability of the regression results. The correlation matrix for the variables included in the analysis is presented in Table 2.

When examining the correlation matrix, it is evident that the variables used in the study have relatively low correlations. The results indicate that analyzing the relationship between ownership structure and management discretion is not affected by the multicollinearity problem. The highest correlation coefficient observed was -0.396 between URISK and SIZE. While the correlation coefficient between OWNCON and VR was relatively high at 0.832, these two variables were treated separately in the regression equations, mitigating the issue of multicollinearity. Therefore, the study's findings can be interpreted confidently, as multicollinearity is not a significant concern.

Multivariate Analysis

The regression results offer intriguing insights into the relationship between ownership concentration and managerial discretion in the dynamic world of the insurance business. The *F*-tests' significance underscores the superiority of the fitted models with explanatory variables, validating the study's robustness. The adjusted *R*-squared values, ranging from 0.154 to 0.267, reveal the models' ability to explain a substantial portion of the variance, bolstering the credibility of the findings.

In Model 1, intriguing patterns emerge. Ownership concentration does not directly influence managerial discretion, as measured by business line concentration. Instead, it is the risk factors that hold significance. Higher leverage and underwriting risks lead to lower managerial discretion (higher business line concentration), aligning with the theory that debt use curtails agency problems by committing to fixed interest payments (Jensen, 1986). Conversely, reinsurance demand, firm size, and premium growth exhibit negative significance, indicating that they contribute to higher managerial discretion (lower business line concentration). A possible explanation is that greater reinsurance demand, firm size, and premium growth give insurance companies the resources and flexibility to engage in diverse business lines.

The non-linear relationship between ownership concentration and business line concentration, tested in Model 2, yields intriguing results. The coefficient of *OWNCON* demonstrates a positive relationship with business line concentration, showcasing that as ownership concentration increases, managerial discretion decreases, in line with agency theory. However, the relationship turns negative with the coefficient of *OWNCON^2*, suggesting an inverted U-shaped relationship. This phenomenon indicates that while increasing ownership concentration initially aligns manager incentives with shareholders, reaching a tipping point leads to heightened managerial discretion as managers become entrenched or more risk-averse. he inflection point 0.597[1] highlights that most firms in the sample are likely under their respective inflection points.

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[1] The inflection point is where the second derivative of a ownership concentration (*OWNCON*) with respective to business line concentration index is zero, alternatively, where $\beta_1 + 2\beta_2 OWNCON = 0$. Thus, $-\beta_1/(2\beta_2) = -(0.948/(2*(-0.794))) = 0.597$.

Table 2: Correlation Matrix

	BLINE_CON	OWNCON	VR	LEVER	URISK	REINS	BSIZE	PGROWTH	FSIZE
BLINE_CON									
OWNCON	0.109								
VR	0.150*	0.832***							
LEVER	-0.062	0.129	0.105						
URISK	0.104	0.056	0.142	-0.251**					
REINS	-0.257***	-0.128	-0.019	0.229***	0.477***				
BSIZE	-0.04	-0.234***	-0.125	-0.035	0.067	0.086			
PGROWTH	-0.109	0.099	-0.018	0.14	-0.097	-0.064	0.044		
FSIZE	-0.266***	0.089	-0.017	0.258***	-0.396***	-0.024	0.349***	0.197**	
FIRMAGE	-0.001	-0.086	0.08	-0.223***	-0.009	0.001	0.337***	-0.043	0.237***

Notes: This table shows correlation coefficients among variables used in this study. The sample consists of 45 non-life insurance companies in Thailand during 2012-2016. *, **, and *** denote statistical significance at the 10, 5, and 1 per cent levels, respectively. Correlation coefficients above 0.70 are considered high.

These intriguing findings align with prior studies showcasing the inverse U-shaped relationship between ownership structures and firm performance. As ownership concentration rises, the convergence of manager and shareholder interests leads to enhanced firm performance. However, excessive ownership concentration may lead to entrenchment and reduced performance beyond a certain threshold.

In this study, we adopt an alternative approach to enhance the robustness of our findings. Instead of relying solely on ownership concentration as a proxy of governance control mechanism, we introduce the voting rights of the ultimate owner as a key variable. This additional dimension allows us to gain deeper insights into how ownership influences managerial decision-making in the insurance industry. By analyzing the intricacies of voting rights, we aim to shed light on the relationship between ownership structure and business line concentration. Through this robustness test, we validate and strengthen our argument that ownership concentration significantly impacts managerial discretion in insurance companies. This multi-faceted analysis contributes to a comprehensive understanding of the factors influencing firm performance and strategic decision-making in the insurance business domain.

The regression results in models 3 and 4 shed light on the relationship between the voting rights of the ultimate owner and business line concentration in the insurance industry. Interestingly, while the voting right variable is found to be statistically insignificant in Models 3 and 4, the relationship exhibits an intriguing inverted U-shaped pattern in Model 4. This suggests that the voting rights of the ultimate owner do have some influence on managerial discretion, but this relationship is non-linear.

Specifically, when the voting rights of the ultimate owner are below the inflection point of 0.643^2, there is a positive relationship with business line concentration. This indicates that owners with moderate voting rights may align management's discretion with shareholder interests, resulting in lower business line concentration. However, when the voting rights exceed this inflection point, there is a negative relationship with business line concentration, indicating an increase in managerial discretion.

The implications of these findings align with agency theory, where higher ownership concentration tends to align manager incentives with shareholders' interests. However, as ownership concentration reaches extreme levels, managerial discretion increases, potentially leading to entrenchment and risk-averse behaviour among managers. Owners holding very high stakes, such as more than 64% of voting rights, may become entrenched, creating agency conflicts and potentially lowering firm performance and value.

Overall, these results provide valuable insights into the complex dynamics of ownership structures and their impact on managerial discretion in the insurance industry. The non-linear relationship between voting rights and business line concentration underscores the importance of balancing ownership concentration to ensure optimal firm performance and strategic decision-making.

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[2] The inflection point is where the second derivative of voting rights (VR) with respective to business line concentration index is zero, alternatively, where $\beta_1 + 2\beta_2 VR = 0$. Thus, $-\beta_1/(2\beta_2) = -(1.549/(2*(-1.204))) = 0.643$.

Table 3: Regression Results of the Effects of Ownership Concentration on Managerial Discretion

	Dependent variable: *BLINE_CON*			
	Model 1 **OLS with Robust std. error**	**Model 2** **OLS with Robust std. error**	**Model 3** **OLS with Robust std. error**	**Model 4** **OLS with Robust std. error**
OWNCON	0.043	0.948***		
	(0.057)	(0.202)		
OWNCON^2		-0.794***		
		(0.180)		
VR			0.029	1.549***
			(0.068)	(0.306)
VR^2				-1.204***
				(0.236)
LEVER	0.186*	0.162	0.189*	0.175
	(0.112)	(0.109)	(0.113)	(0.106)
URISK	0.280**	0.339***	0.297**	0.370***
	(0.130)	(0.120)	(0.130)	(0.115)
REINS	-0.357***	-0.358***	-0.369***	-0.377***
	(0.095)	(0.092)	(0.094)	(0.087)
BSIZE	0.041	0.065	0.030	0.024
	(0.076)	(0.072)	(0.073)	(0.066)
PGROWTH	-0.201**	-0.192**	-0.193*	-0.227***
	(0.101)	(0.093)	(0.099)	(0.086)
FSIZE	-0.031**	-0.017	-0.029**	-0.015
	(0.014)	(0.013)	(0.014)	(0.013)
AGE	0.049*	0.043*	0.047*	0.041*
	(0.027)	(0.026)	(0.028)	(0.023)
Constant	0.551**	0.125	0.554**	-0.024
	(0.233)	(0.218)	(0.234)	(0.216)
Year Effect	Yes	Yes	Yes	Yes
Number of Obs.	135	135	135	135
R^2	0.220	0.302	0.217	0.328
Adjusted R^2	0.157	0.240	0.154	0.267
F Statistic	3.492***	4.840***	3.443***	5.449***
Avg. VIF	1.253	3.065	1.244	3.640

Notes: The sample consists of 45 non-life insurance companies in Thailand during 2012-2016. The number in parentheses is the robust standard error. *, **, and *** denote statistical significance at the 10, 5, and 1 per cent levels, respectively.

Discussions

Our research results highlight the importance of alternative corporate governance mechanisms in countries with ineffective investor protection laws. Jensen and Smith (2000) argue that organizations in these countries rely on substitution mechanisms such as the board of directors, professional partnerships, decision-making by claim holders, compensation structures, and the market for takeovers to control agency conflicts and protect firm value. Ownership structures play a crucial role as a corporate governance mechanism in such contexts (La Porta et al., 1998; Richter & Weiss, 2013).

Consistent with this notion, our findings demonstrate that heterogeneous ownership structures among Thai non-life insurance companies result in variations in firm-specific characteristics. This supports the idea that ownership structures serve as critical corporate governance mechanisms in the absence of effective investor protection laws (Bouvatier et al., 2014; Kang & Kim, 2012; La Porta et al., 1999; La Porta et al., 1998; Richter & Weiss, 2013).

Specifically, our results indicate that companies can effectively manage the costs associated with managerial discretion when they are controlled through optimal ownership concentration, such as holding more than 64% of the voting rights in the company.

Furthermore, our study reveals an inverted U-shaped relationship between ownership concentration and managerial discretion. As owners become more focused on their firms, managerial discretion decreases. However, if ownership concentration continues to increase beyond a certain point, it leads to higher levels of managerial discretion due to entrenchment or risk aversion effects. This suggests an optimal level of ownership concentration at which managerial discretion is minimized, potentially aligning owners' interests and the overall business strategy.

The observed relationship between ownership concentration and managerial discretion aligns with existing corporate governance and agency theory literature. It indicates that concentrated ownership can effectively curb agency conflicts and control managerial behavior. However, excessive concentration beyond the optimal point can lead to new conflicts and challenges, potentially hindering firm performance. In addition, we provide valuable insights for policymakers, regulators, investors, and companies operating in such contexts by highlighting the significance of ownership structures and their relationship with managerial discretion. Our results suggest that promoting a balanced ownership structure and optimizing ownership concentration can help mitigate agency conflicts and enhance firm performance.

Theoretical contributions

Theoretical frameworks established by Jensen and Meckling (1976) and Mayers and Smith (1986) provide insights into agency problems and conflicts of interest between owners and managers in organizations, including insurance companies. Ownership structure serves as a crucial corporate governance mechanism to mitigate agency conflicts in the insurance industry. However, agency conflicts in insurance businesses differ from those in non-insurance businesses, focusing on the relationship between owners and policyholders. Our research findings reveal an inverted U-shaped relationship between ownership concentration and managerial discretion, highlighting the complexities of agency relationships within insurance companies.

Managerial Implications

Our research findings have significant implications for insurance regulators, such as the Thai Office of Insurance Commission (OIC), and investors in the insurance industry. The OIC can leverage the results to strengthen the industry and protect policyholders' interests. Regulatory implications include creating a conducive legal environment, developing regulatory policies targeting ownership structures, and prioritizing enforcement activities related to ownership concentration. These measures will enhance the stability and integrity of the insurance sector. The study provides practical implications for investors for performance forecasting and shareholder structure analysis. Investors can utilize the insights to better evaluate a company's performance, predict potential agency conflicts, and assess investment risks more effectively.

Conclusion

This study investigates the impact of ownership structure on managerial discretion and agency conflicts in the insurance industry. The findings suggest that ownership concentration

follows an inverse U-shaped pattern concerning managerial discretion. The study highlights the unique nature of agency conflicts in the insurance sector and emphasizes the importance of balancing risk-taking and value creation. The results have implications for practitioners and regulators in designing effective corporate governance mechanisms and risk management strategies. However, further research is needed to explore the effects of ownership structures on risk-taking and firm performance in the insurance industry and to conduct comparative studies across different countries and regulatory frameworks. Overall, the study contributes to understanding the relationship between ownership structure, agency conflicts, and managerial discretion in the insurance sector.

Brief Summary

This study examines the relationship between ownership structures, specifically ownership concentration, and managerial discretion in the non-life insurance business. It applies agency theory frameworks to understand the agency problems that arise when ownership and control are separated. The study finds an inverse U-shaped relationship between ownership concentration and managerial discretion, indicating that managerial discretion decreases as owners concentrate more on their companies. However, excessive discretion beyond the optimal level can lead to agency conflicts. The findings have implications for regulators in monitoring insurance companies' ownership structures and provide insights for investors in assessing company performance. Overall, the study contributes to understanding the complex dynamics between ownership structures, managerial discretion, and agency conflicts in the insurance industry.

Limitations and Directions of Future Research

This study has provided valuable insights into the relationship between ownership structures and managerial discretion in the insurance industry. However, the study has acknowledged its limitations and highlighted opportunities for future research. Future studies should investigate the effects of ownership structures on risk-taking in the insurance sector, considering the unique nature of insurance companies and their focus on risk management. Additionally, exploring the role of regulatory frameworks and governance mechanisms in shaping the relationship between ownership structures, risk-taking, and performance would provide deeper insights. Comparative studies across different countries with varying levels of investor protection and regulatory frameworks are also suggested to enhance understanding. By addressing these limitations, researchers can contribute to a more comprehensive understanding of the complex dynamics between ownership, risk-taking, and performance in the insurance industry.

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