OWNERSHIP CONTROL INTENSITY, CORPORATE FINANCIAL PERFORMANCE AND REVENUE GROWTH SINCE THE GLOBAL FINANCIAL CRISIS

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Abstract

The 2008 global financial crisis showed that despite the corporate governance scholars and regulatory efforts of the past 30 years, shareholders' investments remain at risk due to poor or dishonest decisions made by some distinct groups of corporate stockholders. Using structural equation modeling (SEM), this study investigated the influence of ownership control on 222 public US companies' performance after the 2008 financial crisis. The authors identify a new construct representing a third dimension (control intensity) of ownership structure, whereas previous literature has identified only two dimensions: identity and concentration. The control intensity construct of managerial ownership was measured using the number of manager-owners among individual shareholders instead of using the traditional ownership concentration measurement method. The study indicates that the higher the individual ownership stake and the lower managerial ownership control intensity are in an organization, the stronger the negative influence of individual ownership on corporate performance and growth.

Keywords: Corporate Governance, Ownership Structure, Ownership Type, Ownership Control, Ownership Identity, Financial Performance, Revenue Growth

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1. INTRODUCTION

Bankruptcy, conflict, and declining profits marked the collapse of organizations after the 2008 global financial crisis. The crisis showed that despite scholarly and regulatory efforts over the past 30 years, shareholders are still at risk of losing their investments due to poor or dishonest decisions made by some stockholders, board members, or executive managers. The Enron scandal is one example of executive management's use of financial performance measures to manipulate stakeholders in medium- to short-term durations and led to the enactment of the Sarbanes-Oxley (SOX) Act in July 2002 (Ryu, Uliss, & Roh, 2009). Yet, in 2015, the board's lack of response was one reason for the Volkswagen emissions scandal. The board's involvement showed that the interests of the controlling shareholders are likely to conflict with those of the remaining minority shareholders in

ways that often reduce the value of their shares (Elson, Ferrere, & Goossen, 2015). The crisis magnitude and the diversity of participants who played a significant role in causing these scandals, opened a new path for research to inquire about the effect of management and ownership concentrations and their influence on organizational value, financial performance, and growth. Executive management was involved in these scandals through either direct board and managerial participation or through the indirect participation of major shareholders, external auditors, and regulators. Regulators and external auditors failed to impose the appropriate policies to hinder a large-scale crisis (such as the 2008 financial crisis) before it was too late.

Imperfect information and disclosures result in costly monitoring, as well as conflicts among managers, board members, and shareholders. However, agency theory recommends the application of monitoring mechanisms to alleviate conflicting interests and opportunistic behavior. One such mechanism is the ownership structure. Karaca and Ekşi (2012) and Nazir and Malhotra (2016) stated that ownership structure could be classified into two main dimensions, ownership concentration and owner identity, which influence corporate governance in varying ways, and in turn, impact the economic efficiency and growth of the organization. Ideally, intensifying ownership concentration in an organization eases agency conflict and facilitates major shareholders' ability to efficiently monitor management (Hawas & Tse, 2016). Thus, the mechanisms proposed by agency theory not only influence how to effectively manage but are also expected to facilitate corporate growth. In contrast, shareholders with a small stake in a company are more likely to experience the free-rider problem, which is associated with the wide dispersion of ownership and management. According to Zhuang (1999), the main issue with concentrated ownership is the conflict between major and minority shareholders. He argued that major shareholders might use their power over a firm to secure their interests at the expense of minority shareholders. Furthermore, Kazemian and Sanusi (2015) imply that some stakeholders perceive managers as being inclined to opportunistically control earnings so that they can optimize their welfare at the expense of managers.

This research suggests adding a third dimension to ownership structure, namely "control intensity". Although scholars generally argue that major shareholders might use their power over a firm to prioritize their interests at the expense of minority shareholders, this study argues that there is an inverse relationship, where minority shareholders with high control intensity are likely to pursue their interests at the expense of all other stakeholders.

Ownership concentration of all shareholder types has traditionally been measured, as a means of control, by considering the percentage of shares owned relative to the average outstanding shares of a company. In this study, the author measured managerial ownership control through the prism of manager-owners' control intensity. The assumption is that manager-owners could influence the direction of the company's decision making, despite their minority holdings, by interacting with external individual owners and\or their representatives in the board of directors. Other examples of ownership control intensity that are not based on the concentration of shares owned are when minority owners are also either a major lender, customer, or supplier of an organization. The control intensity construct of managerial ownership was measured using the number of manager-owners listed among the top 10 individual shareholders, regardless of their total fraction of shares compared to the organization's outstanding shares. We hypothesize that the number of manager-owners listed among the top 10 individual owners influences the individual ownership control level over the company. This approach to measuring managerial control intensity is novel; therefore, its use represents a valuable contribution to the literature as the study highlights the practical utility of this approach.

Furthermore, most researchers analyze the correlation between institutional, insider, government, family, and foreign ownership concentration and their relationship to organizational performance. There are a few studies that explore the relationships between different types of ownerships in the USA after the financial crisis, particularly individual and managerial ownerships. This gap is addressed by this research. Therefore, this study includes a quantitative analysis of individual and managerial ownership relationships and their influence on the US publicly traded corporations' value, financial performance, and revenue growth for the 10 years following the 2008 financial crisis. The researcher uses structural equation modeling (SEM) to address the following question: *What are the interactions and effects of individual and managerial ownership control intensity on corporate value, financial performance, and revenue growth?*

The remainder of the paper is structured as follows. Section 2 reviews the relevant literature. Section 3 presents the hypothesis developed. Section 4 presents the research methodology and results. Section 5 comments on the relevant results. Section 6 presents the discussion, and finally, Section 7 represents conclusion.

2. LITERATURE REVIEW

2.1. Corporate governance

Given the importance of corporations to every facet of economic activity, corporate governance has unsurprisingly become a primary research area covering the wide and diverse subject matter. This paper seeks to explore the relationship between ownership and control, in particular the effect of the balance between these factors and the incidence of corporate fraud, firm collapse, misuse of power, and corporate performance. Used effectively, corporate governance can assist to minimize these factors and can provide the correct balance between ownership and control in addition to that between the interest of shareholders and other stakeholders (Millstein, 1998).

The relationship between stockholders and managers is underpinned by the agency theory which states that managers are the agents and shareholders the principals. Its role in corporate governance not only defines the relationships

between the two parties, but also manages problems and areas of conflict (Jensen & Meckling, 1976; Ross, 1973) and highlights the contractual relationships between shareholders and managers and their interactions with other stakeholders (Khamis, Hamdan, & Elali, 2015).

Agency problems arise when the interests of managers do not align with those of shareholders (Tulung & Ramdani, 2018) and such problems can contribute to variations in the implementation of shareholder initiatives in various operational areas. Major concerns arise when agents misuse their authority to their own benefit creating conflict between the agent and principal. Problems are amplified when agents intentionally hide or limit principals' access to important information (Jensen & Meckling, 1976). Therefore, it is highly likely that an optimized ownership structure will increase specific operations to alleviate the potential decline of a firm's growth.

2.2. Ownership structure

Ownership structure undoubtedly has a critical role in corporate governance. Blair (1995) noted that corporate governance issues revolve around ownership and control and Zhuang (1999) stressed the importance of ownership structure in shaping the corporate governance system as the nature of the agency problem. It can also have a significant influence on firm performance and corporate governance (Fazlzadeh, Hendi, & Mahboubi, 2011).

Corporate scandals also raise awareness of the major influence of ownership structure on corporate governance. Specifically, that ownership concentration has two distinctive dimensions: ownership concentration and ownership identity (Thomsen & Conyon, 2012; Karaca & Ekşi, 2012; Nazir & Malhotra, 2016). Ownership concentration determines whether a firm is owned by one or a few large owners (concentrated) or by multiple smaller owners (dispersed), while ownership identity refers to owner types, such as individuals, families, institutions, or other firms. Karaca and Ekşi (2012) and Nazir and Malhotra (2016) identified the same two dimensions of ownership structure.

2.3. Ownership identity

Ownership identity refers to an owner type, such as individuals, families, and institutions. Institutional owners, who represent a new stratum in agency relationships, base their investment decisions on the level of financial disclosure, quality of corporate governance, and stock performance (Wang & Xu, 1999). By contrast, individual ownership is personal, in that stakeholders represent their interests directly. Individual owners tend to maintain a concentrated presence in a company to enhance monitoring (Dharwadkar, George, & Brandes, 2000). For operationalization purposes, it is critical to explore individual owners in detail, to which end Karaca and Ekşi (2012) divided individual owners into two classes: internal and external shareholders. The former are investors with management rights, while the latter are public shareholders without internal rights. For clarity, internal shareholders encompass managerial owners, as well as executive and non-executive directors. Conversely, external shareholders are public stakeholders with no internal benefits beyond their shares. Executive (managerial) ownership shows significantly higher organizational performance compared to board ownership in both emerging and mature markets, (Boyd & Solarino, 2016).

However, there are different views regarding the influence of managerial ownership on firm performance and value. Jensen and Meckling (1976) stated that managerial ownership increases firm performance by mitigating agency costs as managerial ownership is a mechanism to align the interests of both managers and shareholders, and Morck, Shleifer, and Vishny (1988) found a positive relationship between managerial ownership and firm performance.

2.4. Ownership concentration

Ownership concentration refers to shareholdings in terms of a percentage of total equity and blockholders refers to individuals holding 5% or more of equity (Heflin & Shaw, 2000). Studies suggest a correlation between ownership concentration and impact on firms at various levels including company objectives, behaviours, and outcomes (Wruck, 1989).

Ownership concentration may also influence agency costs. Zhuang (1999) observed that large shareholders may use their blockholdings to promote their interests at the expense of minorities. The presence of a controlling blockholder can lead to poor corporate governance, power abuses, conflicts of interest, and the exertion of private control (Choi, 2018). Large blockholders are influential because of the voting rights attached to their stocks or bonds to effectively influence publicly held companies (Edmans, 2014). Leech and Leahy (1991) investigated the relationship between ownership concentration and company behaviour and performance in the UK and indicated that this relationship depends on the definition of ownership concentration as either the total percentage of equity owned by the largest shareholder or the degree of control held by blockholders.

To further understand the influence of ownership structure, this study used an underutilized approach to measure the impact of ownership control on organizational performance. Specifically, we measure individual ownership control using the lens of manager-owners' control intensity, where individual public owners as minority manager-owners can influence the decision making of a company, despite having minority holdings. This approach to measuring managerial control intensity is novel, thus representing a valuable contribution to the literature and highlighting the practical significance of the issue.

3. HYPOTHESES DEVELOPMENT

3.1. Direct effects hypotheses

3.1.1. The relationship between individual ownership concentration, revenue growth, and financial performance

As discussed in the Literature Review section, there exist clear distinctions between individual and

institutional owners. Çelik and Isaksson (2014) considered the defining variable of ownership identity to be the quality or degree of its engagement, subject to its liability structure, business model, portfolio strategy, and purpose of ownership. Institutional owners tend towards maximizing profit and maintaining liquidity and are less directly involved in organizational control. In contrast, the personal nature of individual ownership manifests itself in terms of exerting organizational control. Individual owners have a greater direct concern over governance quality to protect their interests and a higher degree of engagement. These factors reflect a direct conflict of interest between individual owners and the other shareholders and can cause conflicts of interest during crises. It is thus logical to posit that individual owners may make more efforts than other shareholders to steer management decisions in their interest. Becker, Cronqvist, and Fahlenbrach (2011) found that blockholders systematically engaged in firms based on their ability to exert monitoring to obtain significant benefits, and found they have statistically significant economic effects by influencing firm policies to reduce investments and corporate cash holdings, increase distributions and reduce overall top-executive pay.

Significant shareholder control certainly has the propensity to create conflicts between majority and majority shareholder interests (Hawas & Tse, 2016). It can also result in such firms being more fiscally conservative than those without blockholders. Non-blockholder controlled boards have demonstrated a higher risk profile as far as the use of external finance to pursue investment opportunities is concerned (Harrison & Widjaja, 2014). In contrast, entrepreneurs have been found to be more reticent about the use of external debt, particularly during economically challenging times (Fraser, Bhaumik, & Wright, 2015). This would imply slower growth rates for entrepreneur-controlled firms. Upon investigating the capital structure determinants of S&P 500 331 firms before and after the global financial crisis, Harrison and Widjaja (2014) observed that firms relying on internal financing reported reduced profitability compared to those that used external financing.

We here argue that individual shareholders' self-interest could lead to deterioration in financial performance and revenue growth. This argument assumes that individual owners favour their self-interest to the detriment of the common interest of all shareholders, particularly during crises. They would reduce short-term financial costs preferring internal financing in place of cheaper long-term external financing. They may also cause investment decisions to be delayed if cash flow is preserved to maintain dividend distribution. These decisions can negatively impact the financial performance and growth of an organization in the long run. In other words, individual shareholders sacrifice long-term plans for quarterly gains, as they have the freedom to exit their investments at any time. Therefore, we hypothesize:

H1: Individual ownership concentration has a significant negative effect on financial performance.

H2: Individual ownership concentration has a significant negative effect on revenue growth.

3.1.2. The relationship between managerial and individual ownership

Managerial ownership extends the agency paradigm and the relationship between manager-owners and individual shareholders as an important and complex one. Jensen and Meckling (1976) showed that equity ownership by different groups has multiple effects on the firm's performance. The relationship is also influenced by the issue of ownership concentration due to conflicting interests of the parties. For example, large blockholders can effectively influence publicly held companies (Edmans, 2014).

Highly concentrated power by an individual owner could cause a free-rider problem for minority shareholders, particularly in relation to manager-owners who will tend to resist the influence where interests diverge. This is mainly true where the manager-owners have non-equity control mechanisms, for example, decision-making powers within the firm. They will also tend to be more short-term oriented with a focus on maximizing pay and share value. Significant manager-control has been shown to have a negative effect on firms as they are sheltered from market influences because of their equity position (Fama & Jensen, 1983), and a significant element of "empire building" takes place and resistance to supervision (Jensen & Ruback, 1983). Consequently, they tend to inflate their power and damage internal supervisory rules to pursue their interests (Gugler, Mueller, & Yurtoglu, 2008; Morck et al., 1988).

Therefore, we posit that there is an inverse relationship between the managerial ownership control intensity and the ownership concentration of blockholders. Specifically, we claim that the higher the control of one group is, the lower the control of the other group will be. Previous research typically measures the concentration of managerial ownership using the percentage of shares compared to the outstanding shares of an organization as a means of control. By itself, this measure does not show the level of control that manager-owners have over an organization when we consider the advantage they have over the rest of the shareholders for being insiders. We thus assume that the number of managers among the top individual blockholders represents a new construct and the third dimension of ownership structure, which we call control intensity. This construct is a controlling mechanism that can be used by manager-owners, regardless of their level of the stake of shares, as it recognizes the power manager-owners have in their conflict with other controlling shareholders. Therefore, we hypothesize:

H3: Individual ownership concentration has a significant negative relationship with managerial ownership control intensity.

3.1.3. The relationship between managerial ownership control intensity, organizational value, financial performance, and revenue growth

Many studies have investigated insider ownership as a separate characteristic of ownership structure. However, there is no empirical evidence for one exclusive testable hypothesis regarding the effects

of insider ownership, yet there are a number of competing theories. The convergence-of-interests argument suggests that high insider ownership aligns managers' interests with those of outside shareholders, resulting in a positive effect on firm performance. Jensen and Meckling (1976) asserted that managers are likely to become self-constrained and avoid consuming perquisites when they hold high stakes in the firm because they act in proportion to their shareholdings. As such, high insider ownership eliminates the problem of asymmetric information (DeAngelo & DeAngelo, 1985), reduces the agency costs of free cash flows (Jensen, 1986), and mitigates managerial myopia (Palia & Lichtenberg, 1999). Similarly, Wruck (1989) and Mehran (1995) provided empirical evidence on the existence of a positive relationship between insider ownership and firm performance.

On the other hand, the entrenchment argument suggests that insider ownership has a negative effect on firm performance because high insider shareholdings shelter insiders from the market influence of corporate control (Fama & Jensen, 1983). Morck et al. (1988), Gugler et al. (2008) and Ellili (2011) documented a nonlinear relationship between the ownership percentage of the manager and firm performance. That is, managers with ownership levels between 22.17% and 32.08% become more entrenched.

Chen, Guo, and Mande (2003) studied 123 Japanese firms to determine the relationship between managerial ownership and firm performance, measured by Tobin's Q. Using an ordinary least squares regression, they found a negative effect for low ownership levels and a positive effect for high ownership levels. However, when they controlled for ownership endogeneity using two-stage least squares, Tobin's Q increased with managerial ownership, and they concluded that managerial ownership and Tobin's Q should be treated as endogenous to each other.

In sum, the above studies show inconclusive results regarding the influence of managerial ownership concentration on organizational performance. We believe this is because researchers have measured managerial ownership concentration based on the size of the share stake, irrespective of the control they hold as insiders. Manager-owners could influence organization performance and value despite their ownership stakes due to their ability to influence firm decision-making in other ways. They also have access to information ahead of other shareholders.

Manager-owners thus focus on maximizing their pay and growing their share value and can lobby with other shareholders to sway voting in their favour. When they are minority owners, manager-owners can also gain more due to these advantages than they would from the appreciation of their shares' value. Therefore, during crises, manager-owners could make the selfish decision to serve their own interests at the expense of other shareholders, particularly when they sacrifice the organizations' strategic goals for quarterly gains, with no regard to other shareholders' interests. Therefore, we hypothesize:

H4: Managerial ownership control intensity has a significant negative effect on financial performance.

H5: Managerial ownership control intensity has a significant negative effect on organizational value.

H6: Managerial ownership control intensity has a significant negative effect on revenue growth.

3.2. Indirect effects hypotheses

Zwiebel (1995) has argued that control benefits are apportioned depending on the relative extent of investors' interests and where multiple blockholders in a firm have insufficient voting power to control on their own, these blockholders will tend to club together in controlling coalitions allowing them to maximize benefits. Hence, the impact on minority shareholders' wealth is conditional upon the outcome of the trade-off between large controlling shareholder monitoring and being a member of a coalition.

In their study on how ownership structure affects the dividend policy, Faccio, Lang, and Young (2001) found evidence that multiple controlling shareholders collude in expropriating minority shareholders in Eastern Asia, but they seem to help contain such expropriation in Western Europe. Maury and Pajuste (2005) focused on the interplay between the three largest shareholders using a sample of Finnish listed companies, showing that a strong third blockholder helps lessen expropriation, especially in high-control contestability situations when the two other major shareholders hold relatively similar voting stakes. Nevertheless, these two shareholders tend to collude when they jointly hold majority shares.

Javid and Iqbal (2008) found that manager-owners can propagate the negative impact of external stakeholders in several ways. First, through collaborations and agreements between internal and external stakeholders as they can jointly pursue their own interests at the expense of majority shareholders. This practice is common in the family- and institution-controlled companies.

For institution-controlled companies such as banks, shareholders and creditors can concurrently show control by forcing management to adopt investment plans that are not board sanctioned. Maury and Pajuste (2005) found that, when a family member is the CEO of a family business, the CEO will have a negative effect on firm value. Second, being in a position of authority, individual owners can employ incompetent executive members likely to mismanage the business; this is common for family-owned enterprises (Javid & Iqbal, 2008). Finally, individual ownership tends to have control over performance, even minority ownership and manager-owners are likely to influence the decision-making process by supporting or resisting decisions made by the majority shareholders (Javid & Iqbal, 2008).

Since the influence of two groups with conflicting interests depends on the levels of concentration and control, interference is expected to be high. As such, we assume that after a high level of conflict, one group will control the other. We also assume a conflicting relationship between managerial and individual ownership. The scale of this relationship is based on the levels of concentration and control exercised during managerial and individual owners' interactions. We argue that this conflict level will increase until it reaches lobbying, negotiations, and eventually agreement. Such an agreement will benefit the two

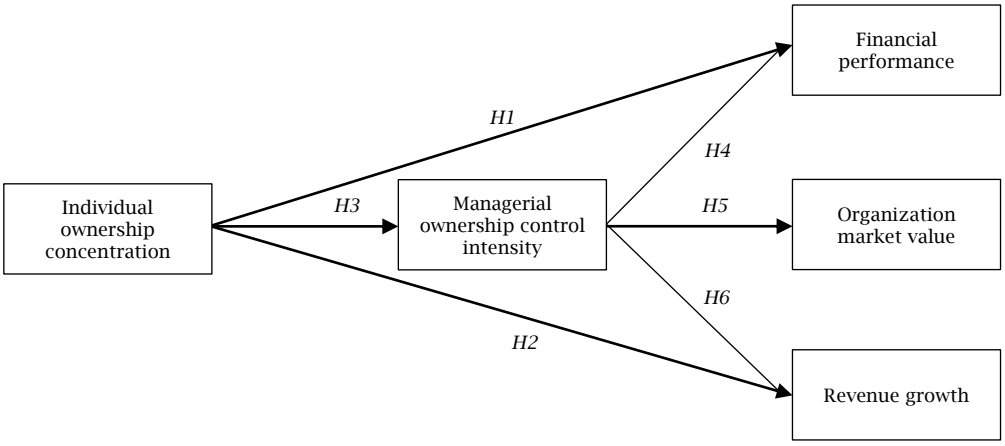
groups at the expense of other shareholders and will influence the performance of the organization negatively. Therefore, we hypothesize:

H7: Managerial ownership control intensity partially mediates the negative relationship between individual ownership concentration and financial performance.

H8: Managerial ownership control intensity partially mediates the negative relationship between individual ownership concentration and revenue growth.

Figure 1 below reflects the proposed conceptual model and hypotheses.

Figure 1. Proposed conceptual model and hypotheses (hypothesis model)



Note: The control variables are industry, CEO-chairperson role, institutional and funds ownership.

4. RESEARCH METHODOLOGY

This study aims to understand the association between individual and managerial ownership control intensity and their influence on financial performance, and revenue growth for US organizations after the global financial crisis of 2008. For this research, we define the individual owners as the top 10 external individual direct-shareholders who have no direct interest in the company beyond their holding shares. On the other hand, managerial ownership is defined as the insider managerial shareholders, despite the size of their ownership relative to the outstanding shares. The omnibus research question for this study is as follows: *What is the relationship between individual and managerial ownership control intensity and what influence do they have on corporate growth and performance in the USA following the 2008 global financial crisis?* That is, this study seeks to determine how the ownership control intensity of the US firms is associated with firm value, performance, and growth after the financial crisis. Reports following the financial crisis revealed how agency problems can affect the performance of an organization, which is why this study explores the relationship between individual ownership control intensity and organization performance. This section explains why a quantitative approach is appropriate to achieve the objectives of the study and describes the study's design, population, sample, data collection, and data analysis. Owing to this study's emphasis on determining the efficacy of ownership control intensity in facilitating performance in organizations after the 2008 global financial crisis, quantitative research using SEM tested the measurement, functional, predictive, and causal hypothesis models. Further, explanatory (EFA) and confirmatory (CFA) factor analyses were conducted and invariance at the individual and multigroup levels of reliability and validity was tested before testing the hypothesized model and representing the statistical results.

4.1. Data sources

We collected the financial data reported by firms listed on the US stock market, that is, pre-existing data for public US companies during 2009–2019 for valuation growth, financial performance, and revenue growth. The independent variables (IVs) are individual ownership control intensity and managerial ownership control intensity. The dependent variables (DVs) are valuation growth, financial performance, and revenue growth. Managerial ownership control intensity is the mediator variable. We also included control variables, namely industry, institutional ownership concentration, and combined CEO-chairperson roles to control for the existence of economies of scope and scale and their influence on the DVs.

Data sources were selected using Google Scholar based on relevance to the articles related to ownership structure and its relationship to organizational performance. In addition, the selection of the data was based on the number of citations per article. Recent articles with significant numbers of citations were given higher preference. Keywords and phrases used in the searches included "insider ownership", "managerial ownership", "block-shareholders ownership", "ownership structure", "ownership type", "ownership concentration", 'organization growth", "corporate growth", "profitability and revenue growth", "financial performance in organizations", and "post-financial crisis".

4.2. Construct operationalization

The measures are called indicators or scale items and can be distinguished either as measures that are influenced by (reflect) or influence (from) the latent variables (Bollen & Lennox, 1991). This study measures reflective constructs, where the indicators are considered to be a manifestation of the underlying construct and use the percentage of shares owned by the top 10 individual shareholders of a company compared to the average outstanding shares of the organization, regardless of ownership size. Managerial ownership control intensity is measured based on the number of manager-owners among the top 10 individual shareholders. Leech and Leahy (1991) investigated the relationship between ownership concentration and company behaviour and performance in the UK and indicated that this relationship depends on the definition of ownership concentration, that is, whether it is the total percentage of equity owned by the largest shareholder or the degree of blockholder control. They found that ownership concentration has significant effects on firm performance, regardless of the ownership concentration identification type.

The individual ownership control intensity variable is measured based on two items: the individual ownership shares concentration, as the percentage of shares owned by individuals out of the total shares outstanding, and the top 10 individual shareholders, as the percentage of shares owned by the top 10 individual direct holders, which must include the shares of at least one manager-owner (managerial ownership), relative to the total shares outstanding. However, the managerial ownership control intensity variable is measured based on the ratio of the number of manager-owners to the top 10 individual shareholders. The CEO-chairperson control variable is a binary variable that shows whether the individual simultaneously served as a firm's CEO and board chairperson. The remaining variables are measured by the items below and measured by the ratios in Table A.1 of Appendix. These variables are divided as follows: growth (RGPS3, RGPS5, RGPS10, RG3, RG5, and RG10), financial performance (ROA5, ROA10, ROE5, ROE10, ROC5, and ROC10), value-market cap (MCap1, MCap3, and MCap5), value-share buyback (SBback3, SBback5, and SBback10), individual ownership control intensity (Instship and T10VH), and managerial ownership control intensity (NEx).

We controlled for the effects of institutional ownership concentration and industry type to account for their influence on the relationships of individual and managerial ownership with performance and revenue growth. We also control for the combined roles of CEO and chairperson, as it is important to understand the influence of the managerial-ownership control-intensity variable.

Schmalensee (1985), Wernerfelt and Montgomery (1988), Rumelt (1991), and McGahan and Porter (1997) all examined the relative influence of industry membership, diversification (or corporate effects), and business strategy on business-unit performance outcomes. The more recent studies of Rumelt (1991) and McGahan and Porter (1997) demonstrated that most of the variance in overall performance levels could be traced to business-level effects and that industry membership and corporate parentage had a significantly lower impact on performance outcomes.

Pedersen and Thomsen (1999) studied the causes and effects of ownership concentration and firm performance in European countries and found that both economics and national systems have a significant effect on ownership concentration. Therefore, the sizes of firms decrease the ownership concentration, but profit volatility increases it. Furthermore, institutional differences, such as financial market size and the size of the banks involved, have strong effects on ownership concentration. Their study also showed that institutions, law, and culture have important roles in shaping ownership structure and corporate governance, but did not show any relationship between ownership concentration and firm performance when measuring the relationship using the return on assets (ROE). The authors thus believed a causal relationship between ownership structure and firm performance exists within national boundaries, knowing causal mechanisms may help firms find the best ownership structure.

Furthermore, the assignment of CEO and board chair roles to the same individual has preoccupied scholars and governance experts for decades (Boyd, 1995; Daily & Dalton, 1993; Lorsch & MacIver, 1989). Agency theory scholars hypothesized that firms with combined CEO and board chair roles underperform compared to firms that separate these roles (Daily & Dalton, 1994; Rechner & Dalton, 1991), while scholars who view the phenomenon from the unity of command perspective (Fayol, 1949) argued the opposite (Finkelstein & D'aveni, 1994). Overall, the empirical inquiry has consistently failed to determine any significant, systematic relationship between CEO duality and firm performance and has, thus, failed to support either theory (Dalton, Daily, Ellstrand, & Johnson, 1998; Dalton, Hitt, Certo, & Dalton, 2007).

4.3. Target population and sample

Many listed US public companies have different ownership structures and relatively close valuations. As such, these companies provide a fertile ground for the application of the variables under study: profitability growth, revenue growth, ownership type, ownership concentration, and financial performance.

Population. The population comprises 5,091 public companies listed in US stock markets from all industries, except the financial services industry. These organizations must have existed before and after the financial crisis. Financial data were collected for 2009–2019.

Sample. The sample includes only those organizations that meet the study's inclusion and exclusion criteria. The sample thus comprises organizations with different ownership types and concentrations. We randomly applied several criteria to narrow the number of organizations to acceptable sample size; these criteria are listed in Table A.2 of Appendix. Data were also collected through document review. That is, annual reports with information on the variables of interest were reviewed for the years that followed the global financial crisis.

After the random application of the criteria, 222 companies out of the 5,091 public companies remained. We used the US securities and exchange commission website (https://www.sec.gov/) and the Gurufocus website (https://www.gurufocus.com) to collect the data.

Data collection results and demographics. According to Hair, Ringle, and Sarstedt (2011) and Peng and Lai (2012), the 10-time rule method estimates the minimum sample size as greater than 10 times the maximum number of inner or outer model links pointing at any latent variable in the model. In this dataset, the maximum number of items that would load on factors is 20, which means the sample should include above 200 observations to fulfil the 10-items rule estimation. The dataset includes 222 respondents, after scanning and cleaning, which exceeds the recommended threshold. In addition, the 222 items are within the 100–500 item recommendation of MacKenzie, Podsakoff, and Podsakoff (2011). We examined the dataset to identify missing data and normality for testing the univariate level, then checked the dataset for outliers, correlations, and multicollinearity for testing the multivariate level.

4.4. Descriptive statistics

We used tables, graphs, and measures of dispersion and central tendency as descriptive statistics. The data in the tables are in the form of frequencies and percentages for variation.

4.5. Data screening and univariate (item-level) analysis

To clean and analyse the coded data, we used the SPSS software 2019 and performed an EFA, a CFA, and tested for common bias and invariance on the levels of reliability and validity before testing the hypothesized model and presenting the statistical quantitative results. The constructs in the hypothesized model show a common latent factor structure with reflective indicators. They also show that changes in the underlying latent construct are reflected by indicator changes.

Missing data. We used the descriptive statistical analysis in SPSS to check for missing values. No items were eliminated since there were no missing data; the data collection process was based on a specific filtering process from the Gurufocus website, as shown in Table A.2 of Appendix. The overall sample size was 222 items, as mentioned above.

Unengaged respondents. There was no need for the unengaged respondents' test, as the data used were pre-existing data collected from the financial markets, not a survey.

Skewness and kurtosis. We checked for data normality by assessing skewness and kurtosis, testing for skewness absolute values higher than (3.3) or less than (-3.3), as per the thresholds recommended by Sposito, Hand, and Skarpness (1983); none was found. Meanwhile, according to Kline (2011), problems with normality appear for kurtosis absolute values of 10; however, none of the items' kurtosis exceeded this threshold, as shown in Table A.3 of Appendix.

4.6. Multivariate (construct-level) analysis

Missing columns. We checked all columns to observe if any item was missing in any of the specified filters and found no indication of missing data.

Outliers. We checked for outliers of the two continuous variables — industry and number of owner-managers — and found no outliers in any of the items that required elimination. The histogram plots can be found in Appendix, see Figure A.1 and Figure A.2.

Correlation. We ran a correlation analysis of all IVs to detect high association levels. However, there were no high bivariate correlations among the variables that could indicate an issue as per the recommended 0.700 threshold of Hair, Black, Babin, and Anderson (2010). The highest association (0.399) was between the value-market cap and financial performance, as shown in Table 1.

Table 1. Pattern matrix extraction method: Principal component analysis

Pattern matrix[a]					
Factor name	***Financial performance***	***Individual ownership concentration***	***Growth***	***Value-market cap***	***Value-share buyback***
Cronbach alpha	**0.904**	**0.822**	**0.940**	**0.743**	**0.895**
ROA5	**0.897**				
ROA10	**0.898**				
ROE5	**0.818**			-0.112	
ROE10	**0.879**			-0.114	-0.112
ROC5	**0.858**				0.110
ROC10	**0.854**				
Instship		**0.932**			
T10VH		**0.936**			
RGPS3			**0.908**		0.227
RGPS5			**0.978**		0.177
RGPS10			**0.863**		0.232
RG3			**0.809**		-0.216
RG5			**0.876**		-0.282
RG10			**0.811**		-0.266
MCap1	0.116		-0.257	**0.823**	
MCap3	-0.103			**0.920**	0.132
MCap5			0.160	**0.829**	
SBback3				-0.110	**0.888**
SBback5					**0.932**
SBback10				0.161	**0.889**

Note: a. Rotation converged in five iterations.

Multicollinearity. We then calculated the variance inflation factor (VIF) to check for multicollinearity. Obviously, high VIFs indicate high multicollinearity. We kept all items for the CFA analysis and then re-checked the remaining items for multicollinearity. The VIF for the remaining six items was still higher than 5 for some items. This multicollinearity issue is a limitation of the data, resulting in the elimination of many items from the CFA to reach model fit and validity. Multicollinearity effects also appeared in the invariance multigroup analysis, which was conducted based on the CEO–chairperson variable; however, the results were not admissible. The data analysis summary for both the univariate and multivariate analyses is shown in Table A.4 of Appendix.

4.7. Exploratory factor analysis

We used EFA to define the underlying structure of the latent variables (Hair, Celsi, Ortinau, & Bush, 2008) using the principle components extraction method. Promax was the rotation method used, chosen for its simplicity and fast results in fitting a simple target matrix from a structural perspective. We chose to extract based on eigenvalues above 1, as per Hair et al.'s (2010) recommendation, and used 20 items to extract five factors for the EFA. These items were growth (RGPS3, RGPS5, RGPS10, RG3, RG5, and RG10), financial performance (ROA5, ROA10, ROE5, ROE10, ROC5, and ROC10), value-market cap (MCap1, MCap3, and MCap5), value-share buyback (SBback3, SBback5, and SBback10), and individual ownership control intensity (Instship and T10VH).

To check for suitability and adequacy, we used the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy to measure sampling adequacy and indicate the proportion of variance in the variables that might be caused by underlying factors; results below 0.500 indicated that the factor analysis is unlikely to be useful (Kaiser, 1970). Bartlett's test of sphericity tests the hypothesis that the correlation matrix is an identity matrix, which means the variables are unrelated and, therefore, unsuitable for structure selection; values below the 0.050 significance level indicate that factor analysis may be useful for the considered dataset (Matsunaga, 2010). The KMO was 0.607, Bartlett's test of sphericity Chi-square was 6,065.134; the degree of freedom 190, and p = 0.000, as shown in Table A.5 of Appendix. All these are acceptable threshold levels, indicating the data are appropriate for factor analysis (Baglin, 2014).

We then ran the EFA repeatedly using the trimming method to trim the least number of items to maintain at least two to predict each factor while also reaching an acceptable statistical level for the EFA; we followed an iterative procedure to remove items (Hair et al., 2008). Ultimately, CFA was conducted with all 20 items. The lowest item loadings were 0.809 and the average was above 0.857 for each of the five factors, as shown in Table 1.

The final EFA solution was a total variance explained analysis of the five factors of 81.170%, which is higher than the 60% threshold recommended by Hair et al. (2010). A summary of results appears in Table A.6 of Appendix. The non-redundant residuals were 0.0%, as shown in Table A.5 of Appendix, which represents less than the 5.0% threshold.

Discriminant validity. We checked the factor loading in the pattern matrix, which ranged from 0.809 to 0.978. The correlation matrix was then used to check for discriminate validity and to observe if any values exceed the 0.700 thresholds (Hair et al., 2010), which would indicate a majority of shared variance; Table 2 shows none were found. The highest correlation value — between the value-market cap and financial performance — was 0.339 which indicates that organization value likely increases with financial performance. The negative correlation (-0.264) between individual ownership control intensity and the value-market cap indicates that, when individual ownership control intensity is high, organization growth will likely deteriorate.

Table 2. Correlation analysis extraction method: Principal component analysis, rotation method — Promax with Kaiser normalization

Component	*Growth*	*Financial performance*	*Value-market cap*	*Individual ownership concentration*	*Value-share buyback*
Growth	1.000				
Financial performance	0.235	1.000			
Value-market cap	-0.161	0.399	1.000		
Individual ownership concentration	0.242	-0.021	-0.264	1.000	
Value-share buyback	-0.091	-0.139	-0.024	-0.041	1.000

4.8. Reliability

Internal consistency was tested using Cronbach's alpha for each competency using SPSS. If the alpha value was above 0.900, internal consistency was excellent and, if the alpha value was at least higher than 0.700, internal consistency was acceptable; excellent internal consistency means the data items tend to pull together (Blunch, 2008). Cronbach's alpha lowest value was 0.743, which is higher than Blunch's (2008) recommended 0.700 thresholds, as shown in Table 1.

4.9. Confirmatory factor analysis

Following Hair et al. (2008), we used CFA to measure how well the variables represent a smaller number of constructs. The EFA solution was used as input to develop a fitting CFA model with the maximum likelihood estimation approach using the AMOS software. The sample containing 222 data points after data screening and cleaning was large enough to conduct a meaningful CFA (Hair et al., 2008). We sought good model fit and validity. After running the CFA, we trimmed MCap1, MCap3, MCap5, SBback3, SBback5, SBback10, RGPS10, RG3, RG5,

RG10, ROE5, ROE10, ROC5, and ROC10 to produce a final CFA representing three factors loaded with six items, as shown in Figure A.3 of Appendix. Eliminating two factors and several other items' loadings on the remaining three factors was the result of the apparent multicollinearity for high VIF values. The multicollinearity issue represents a data limitation. However, the remaining factors were robust enough to test the hypothesized model because each factor was loaded by at least two items.

We checked the final CFA model fit indices and validity using AMOS. The overall Chi-square CMIN value was 8.305, the degrees of freedom were 6.000, and CMIN/DF = 1.384, which, according to Baumgartner and Weijters (2017), is good because it is between 1 and 3. CFI = 0.997, which is higher than the 0.950 threshold outlined by Hu and Bentler (1999). SRMS = 0.0226 and RMSEA = 0.042 are both below the 0.060 threshold of Hu and Bentler (1999), while PClose = 0.514 is higher than the 0.050 threshold of Farooq, Rupp, and Farooq (2017). The CFA model and model fit indices are shown in Table 3.

Table 3. CFA model fit indicators

Measure	*Estimate*	*Threshold*	*Interpretation*	*Source*
CMIN	8.305	--	--	Baumgartner and Weijters (2017)
DF	6	--	--	Baumgartner and Weijters (2017)
CMIN/DF	1.384	1–3	Excellent	Baumgartner and Weijters (2017)
CFI	0.997	> 0.95	Excellent	Hu and Bentler (1999)
SRMR	0.0226	< 0.08	Excellent	Hu and Bentler (1999)
RMSEA	0.042	< 0.06	Excellent	Hu and Bentler (1999)
PClose	0.514	> 0.05	Excellent	Farooq et al. (2017), Kline (2011)

Validity and reliability. We tested the validity and reliability of the CFA model using AMOS. The plugin produced an analysis of convergent validity (AVE) and reliability (CR) for the four constructs. The three constructs were individual ownership control intensity, financial performance, and growth. As shown in Table A.7 of Appendix, CR ranged from 0.863 to 0.974, exceeding the 0.700 threshold recommended by Hair, Anderson, Tatham, and Black (1998). All constructs had AVEs above 0.500, which indicates no validity issues (Rebelo-Pinto, Pinto, Rebelo-Pinto, & Pavia, 2014).

4.10. Structural equation modeling analysis

SEM was used to investigate the extent to which the different monitoring mechanisms (individual and managerial ownership control intensity, valuation growth, financial performance growth, and revenue growth) are complements or substitutes.

Model evaluation. Of primary interest in SEM is the extent to which a hypothesized model "fits" or adequately describes the sample data (Byrne, 2006, p. 66); three criteria for assessing model parameter estimates are the feasibility of the parameter interest, appropriateness of the standard errors, and statistical significance of the parameter estimates (Byrne, 2006, p. 67). To assess the modification indices, we monitored error covariance values significance, as well as the significance of the factor loading values (Byrne, 2006). We found no significance for these values since the minimum results were as per the indicators below. We then conducted the CFA using the five factors and 20 items from the EFA, which included three factors loaded with six items, as shown in Figure A.3 of Appendix.

We ran and checked the SEM fit based on the AMOS output and the model fit indices; the model diagram is shown in Figure A.4 of Appendix. The CFI, SRMR, and RMSEA show the model has an acceptable fit. The observed Chi-square CMIN value is 6.428 with 5.000 degrees of freedom and the CMIN/DF is 1.286. By contrast, CFI = 0.981 (> 0.950), SRMR = 0.028 (< 0.080), RMSEA = 0.036 (< 0.060), and PClose is 0.546 > 0.050, as shown in Table 4.

We assessed the size and significance of the correlation effect between the IVs and the DVs, including the mediator, in addition to the regression weights and p-values (see Table 5 and Figure 2).

Table 4. SEM fit indicators

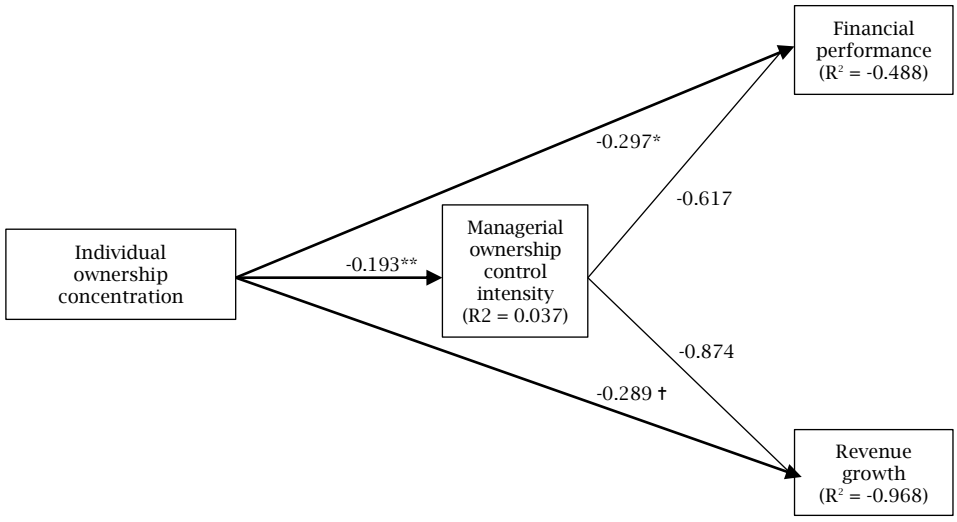
Measure	*Estimate*	*Threshold*	*Interpretation*	*Source*
CMIN	6.428	--	--	Baumgartner and Weijters (2017)
DF	5.000	--	--	Baumgartner and Weijters (2017)
CMIN/DF	1.286	1–3	Excellent	Baumgartner and Weijters (2017)
CFI	0.981	> 0.95	Excellent	Hu and Bentler (1999)
SRMR	0.028	< 0.08	Excellent	Hu and Bentler (1999)
RMSEA	0.036	< 0.06	Excellent	Hu and Bentler (1999)
PClose	0.546	> 0.05	Excellent	Farooq et al. (2017); Kline (2011)

Table 5. SEM merged regression weights

Predictor	*Outcome*	*Std. Beta*
Individual ownership control intensity	Financial performance	-0.297*
Individual ownership control intensity	Organization growth	-0.289 †
Individual ownership control intensity	Managerial ownership control intensity	-0.193**
Managerial ownership control intensity	Financial performance	-0.617
Managerial ownership control intensity	Organizational growth	-0.874

*Note: *** p < 0.001, ** p < 0.010, * p < 0.050, † p < 0.100.*

Figure 2. Conceptual model and hypotheses



Note: The control variables are industry, CEO-chairperson role, institutional and funds ownership concentration.

Individual ownership concentration has a negative significant correlation with financial performance (B = -0.297; p < 0.050), individual ownership concentration has a negative significant correlation with organization growth (B = -0.289; p < 0.100), and individual ownership concentration has a negative significant correlation with managerial ownership control intensity (B = -0.193; p < 0.010). However, managerial ownership control intensity does not have a significant relationship with financial performance or growth.

We extracted the estimates of the squared multiple/squared correlations for mediating the outcome variables (Hair et al., 2010, p. 205). R^2 measures all influences on the observed variables, including the effects of various latent or observed causes and correlated errors (Bollen, 1989). Here, 96.8% of the total variance of growth, 48.8 % of the total variance of financial performance, and 3.7% of the total variance of managerial ownership control intensity are explained by the hypothesized model, as shown in Table 6. It is worth mentioning the low total variance of the mediator variable, managerial ownership control intensity; however, this variable has significant two-tailed p-values below 0.010 with individual ownership control intensity. Therefore, despite the low R^2 value, this variable still has a significant effect on the relationships in the model.

Table 6. Squared multiple correlations: Direct effect hypotheses

Mediator and outcome variables	R^2
Managerial ownership control intensity	0.037
Revenue growth	-0.968
Financial performance	-0.488

We tested the direct effects hypotheses. *H1* is supported, with a significant relationship (B = -0.297; p < 0.050), as are *H2* (B = -0.289; p < 0.100) and *H3* (B = -0.193; p < 0.010). *H4–H6* are not supported. The hypotheses testing summary is shown in Table 7.

Table 7. Direct relationship hypothesis analysis

Direct hypotheses	*IV*	*DV*	*Regression weight (Betas)-estimate*	*Relationship significant*	*Hypothesis supported*
H1: Individual ownership control intensity has a negative effect on financial performance.	Individual ownership control intensity	Financial performance	-0.297*	Yes	**Yes**
H2: Individual ownership control intensity has a negative effect on revenue growth.	Individual ownership control intensity	Revenue growth	-0.289 †	Yes	**Yes**
H3: Individual ownership control intensity has a negative relationship with managerial ownership control intensity.	Individual ownership control intensity	Managerial ownership control intensity	-0.193**	Yes	**Yes**
H4: Managerial ownership control intensity has a negative effect on financial performance.	Managerial ownership control intensity	Financial performance	-0.617	No	No
H5: Managerial ownership control intensity has a negative effect on revenue growth.	Managerial ownership control intensity	Revenue growth	-0.874	No	No

*Note: *** p < 0.001, ** p < 0.010, * p < 0.050, † p < 0.100.*

4.11. Indirect (mediation) effects hypotheses

Mediation analysis was conducted to measure the causal relationships that financial performance and growth have with individual ownership control intensity. We hypothesized that managerial ownership control intensity partially affects the association between individual ownership

control intensity and financial performance and growth. Regression analysis was used to test this mediation using AMOS.

Specifically, to test *H7* and *H8*, we estimated the direct, indirect, and total effects of the mediator (managerial ownership control intensity) on the relationships among the IVs (individual ownership control intensity) and DVs (financial performance, value, and organization growth). We used AMOS with bootstrapping and two-tailed significance to determine the direct and indirect effects using the percentile method. Namely, we used 2,000 estimates and 90% confidence intervals to generate a confidence interval (CI) for estimation and hypothesis testing (Hayes, 2013). The CIs and the standardized model results are shown in Table A.8 of Appendix.

Since the direct relationships between individual ownership control intensity and both DVs (financial performance and growth) were negatively significant, while the indirect relationships were not significant, managerial ownership control intensity has no mediation relationship with individual ownership control intensity, and both DVs, financial performance, and growth, as shown in Table 8.

Table 8. Specific indirect effect of the managerial ownership control intensity mediation: *H7* and *H8*

Independent variable	*Dependent variable*	*Direct effect*	*Total indirect effect*	*Mediation type observed*
Individual ownership control intensity	Financial performance	-0.297*	0.119	No mediation
Individual ownership control intensity	Revenue growth	-0.289*	0.169	No mediation

*Note: *** p < 0.001, ** p < 0.010, * p < 0.050, † p < 0.100.*

4.12. Control variables

We included in the SEM the industry, institutional ownership concentration, investment fund ownership concentration, and combined CEO-chairperson roles variables as control variables, thus being considered extraneous variables not linked to the tested hypotheses.

We theorized that industry, institutional ownership concentration, and the combined CEO-chairperson roles affect organization performance, particularly the influence of ownership concentration and control intensity on organizational performance and growth. The results indicated a negative significant relationship between institutional ownership concentration and financial performance (B = -0.185; p < 0.050) and a positive significant relationship between institutional ownership concentration and revenue growth (B = 0.889; p < 0.100), as shown in Table 9. However, no other significant relationships were found for the rest of the control variables. The regression analysis between the control variables and organization performance is shown in Table 9 and Table A.9 of Appendix.

Table 9. Relationship between the dependent and control variables

Dependent variables	*Control variables*	*Estimate*	*Two-tailed p-value*
Financial performance			
	Top 20 fund holders	-3.374	-0.933
	Institutional ownership	-0.185	-0.029
	CEO-chairperson	-0.047	-0.460
	Industry	0.163	0.257
Revenue growth			
	Top 20 fund holders	4.835	0.866
	Institutional ownership concentration	0.889	0.089
	CEO-chairperson	-0.239	-1.513
	Industry	0.011	0.011

5. RESULTS

The individual ownership concentration had significant negative correlations with managerial ownership control intensity (B = -0.193; p < 0.010) and with both revenue growth (B = -0.289; p < 0.100) and financial performance (B = -0.297; p < 0.050). However, the managerial ownership control intensity showed no significant relationship with either financial performance or revenue growth. Furthermore, it does not mediate the relationship between individual ownership concentration and financial performance, or the relationship between individual ownership concentration and revenue growth. In summary, the higher the individual ownership stake and the lower the number of manager-owners in an organization are, the stronger is the negative influence of individual ownership on the organization's financial performance and revenue growth.

Concentrated ownership gives power to shareholders and allows them to control managers' activities, thereby enhancing management efficiency and improving firm performance and growth (Shleifer & Vishny, 1986). However, it is worth mentioning that the impact of ownership concentration varies based on its identity. Jensen and Meckling (1976) show that equity ownerships by different groups have multiple effects on the firm's performance. Besides, some scholars, such as Shleifer and Vishny's (1986) and Pound's (1988), McConnell and Servaes (1990), suggest that shareholders are differentiable and pursue various agendas. At the same time, ownership concentration would also be affected by the level of control and the influence of other shareholders' control levels. Leech and Leahy (1991) indicated that the relationship between ownership concentration and company behavior and performance depends on the definition used to identify the ownership concentration: whether it is the total percentage of equity owned by the largest shareholder or the degree of control held by blockholders. This study shows that ownership concentration is not

the only means of control over an organization. Control intensity of managerial ownership is measured using the influence of the number of manager-owners on performance and growth, despite their ownership concentration.

6. DISCUSSSION

This study makes valuable theoretical contributions as follows. First, it identified certain problematic areas of agency theory. Within this theory, managers are seen as agents that serve the interests of shareholders. The monitoring and controlling school argue that the free-rider problem will not arise in firms with ownership concentration. For instance, Khamis et al. (2015) explained that agency theory highlights the contractual relationships between shareholders and managers and their interactions with other stakeholders. Nevertheless, the study showed a high probability of conflict of interests when individual and managerial ownership interact. From the agency problem perspective, controlling individual and managerial ownerships has a negative impact on firm performance. This realization addresses the high agency costs related to the conflicting roles of managers, who are generally the agents in the contractual relationship between owners and managers, but when they become owners, they play the roles of both agent and principal at the same time. However, these two functions should be differentiated to allow shareholders to perform their monitoring duties.

Second, this study employed an underutilized approach for measuring the impact of ownership concentration on organizational performance. Most theoretical studies hitherto explored the relationship between minority and majority shareholders in terms of their conflicts, negotiation strategies, and other aspects. However, there exists a gap in the literature on the relationship between individual and managerial ownership based on control intensity. Ownership concentration for all types of shareholders has traditionally been measured by the percentage of shares owned relative to the average outstanding shares of a company. In this study, managerial ownership concentration is analysed through the lens of managerial control intensity as the number of manager-owners in the list of top 10 individual shareholders, regardless of their total fraction in the outstanding shares of an organization. The proposed construct and the approach to measuring managerial control intensity are thus novel. In other words, this study's use of this metric is a valuable theoretical contribution and highlights the practical utility of this approach. However, the control intensity construct is essential to assessing the control influence of any ownership type, not only managerial ownership. Other examples of ownership control intensity not based on the level of concentration are when minority owners are also either major lenders, customers, or suppliers of an organization. This type of control and influence cannot only be measured by ownership concentration.

Therefore, this study added a third dimension to ownership structure, namely "control intensity". Although scholars generally argue that major shareholders might use their power over a firm to prioritize their interests at the expense of minority shareholders, this study argued that there exists an inverse relationship, where minority shareholders with high control intensity, other than ownership concentration, can also pursue their interests at the expense of the other stakeholders.

The data showed linearity and multicollinearity for some variables, which led to regression issues between those variables. These issues reflect the limitations of the data, which also appeared in the invariance analysis for multigroup analysis, where the results were not admissible.

Measuring managerial ownership influence based on control intensity instead of the percentage of shares is central to this study's findings. Considering that most systemically important corporations are owned by institutional investors, assessing the relationship between managerial control intensity and institutional ownership concentration is an area of interest. Future research should also assess the moderating influence of managerial ownership control intensity, in addition to its role as a mediator.

This study's findings provide practical insights for different audiences, particularly regulators, investors, and leaders, in areas related to the impact of individual ownership concentration on manager-owners and organizational performance.

The findings do not offer regulators a reprieve, but rather challenge them to create better regulatory terms to protect the interests of common shareholders. Further, managerial and individual ownership monitoring mechanisms do not solve the agency problem and do not minimize agency costs. Therefore, regulators should be creative in developing policies that enhance corporate governance at the national level, specifically in relation to information disclosure and management stock option plans. Stock option plans should be regulated, bearing in mind the balance of ownership concentration and its influence on management to ease agency problems.

Meanwhile, investors should assess the influence of different ownership structures before making investment decisions. This research reveals that investment decisions should not be only based on historical data and future cash flows, but also on an assessment of the management's ability to handle the influence of ownership and its impact on future performance.

Leaders also should understand the influence of ownership structure before they assume responsibility in any organization. Specifically, they need to understand the conflict levels among the different ownership categories to assess the challenges they may face in dealing with all stakeholders. This study thus sheds light on another challenge that leaders may face when dealing with management teams, namely when some managers are also owners.

7. CONCLUSION

This study made two valuable theoretical contributions to agency theory in relation to ownership structure, in general, and to managerial ownership, in particular. First, the use of managerial ownership concentration through managerial control intensity — the number of manager-owners who are among the top 10 individual shareholders, regardless of their total fraction of shares compared

to institutional investors — highlights the practical utility of this approach. Therefore, we added a new dimension to the ownership structure mechanism, "control intensity", to the two main dimensions previously suggested by scholars: identity and concentration. This addition facilitates the utilization and understanding of the ownership mechanism for reducing agency costs.

Second, the findings shed light on the relationship between two categories of ownership structure — individual (external) shareholders and managerial (internal) shareholders — while most previous research focused on institutional ownership. This study revealed that even when controlling for the effect of institutional ownership concentration, the higher the individual ownership stake and the lower the number of manager-owners in an organization are, the stronger is the negative influence of individual ownership on organization performance and growth.

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APPENDIX

Table A.1. Measures and constructs (Part 1)

Variable type	*Variable code*	*Dependent variable*	*Independent variable*	*Scale*	*Measurement scale*
Institutional ownership shares concentration	Instship	Ownership type	Institutional ownership	Ratio	Percentage of shares owned by institutions out of the total shares outstanding.
CEO-board chairperson	CEO-board	Ownership type		Binary	The same individual either did or did not simultaneously serve as a firm's CEO and board chairperson.
Top 10 individual shareholders	Top10H		Top direct holders	Ratio	Percentage of shares owned by top 10 individual direct holders, which specifically include at least one manager-owner (managerial ownership) relative to the total shares outstanding.
Institutional blockholders	Top20F	Ownership concentration	Top fund holders	Ratio	Percentage of shares owned by top 20 fund holders relative to the total shares outstanding.
Managerial ownership control intensity	NEx	Ownership control		Ratio	The ratio of the number of manager-owners to the top 10 individual holders.
Financial performance	ROA5	Financial performance	ROA % (5-year median)	Ratio	Calculated net income, divided by average total assets over 5 years.
Financial performance	ROA10	Financial performance	ROA % (10-Year median)	Ratio	Calculated net income, divided by average total assets over 10 years.
Financial performance	ROE5	Financial performance	ROE % (5-year median)	Ratio	Calculated net income, divided by its average equity over 5 years.
Financial performance	ROE10	Financial performance	ROE % (10-year median)	Ratio	Calculated net income, divided by its average equity over 10 years.
Financial performance	ROC5	Financial performance	ROC (5-year median)	Ratio	Return on capital as EBIT, divided by the total property, plant and equipment, and networking capital over 5 years.
Financial performance	ROC10	Financial performance	ROC (10-year median)	Ratio	Return on capital as EBIT, divided by the total property, plant and equipment, and networking capital over 10 years.
Market valuation	MCap1	Market valuation	1-year market cap change %	Ratio	Total market value to buy the entire company, which is equal to the share price times the number of shares outstanding (EOP) over 1 year.
Market valuation	MCap3	Market valuation	3-year market cap change %	Ratio	Total market value to buy the entire company, which is equal to the share price times the number of shares outstanding (EOP) over 3 years.
Market valuation	MCap5	Market valuation	5-year market cap change %	Ratio	Total market value to buy the entire company, which is equal to the share price times the number of shares outstanding (EOP) over 5 years.
Share valuation	SBback1	Share valuation	1-year share buyback rate	Ratio	A share buyback is a transaction where the company buys back its own shares from the open market over 1 year.
Share valuation	SBback3	Share valuation	3-year share buyback rate	Ratio	A share buyback is a transaction where the company buys back its own shares from the open market over 3 years.
Share valuation	SBback5	Share valuation	5-year share buyback rate	Ratio	A share buyback is a transaction where the company buys back its own shares from the open market over 5 years.
Share valuation	SBback10	Share valuation	10-year share buyback rate	Ratio	A share buyback is a transaction where the company buys back its own shares from the open market over 10 years.
Profitability growth	GMG5	Profitability growth	5-year gross margin growth rate	Ratio	The compound annual growth rate of gross margin over the last 5 years.
Profitability growth	OMG5	Profitability growth	5-year operating margin growth rate	Ratio	The profit a company makes on USD 1 of sales, after paying for the variable costs of production, such as wages and raw materials, but before paying interest or tax. It is calculated by dividing a company's operating profit by its net sales over 5 years.
Revenue growth	RGPS1	Revenue growth	1-year revenue growth rate (per share)	Ratio	Sales increases/decreases over time. It is used to measure how fast a business is expanding. More valuable than a snapshot of revenue, revenue growth helps investors identify trends to gauge revenue growth, divided by the number of shares, over 1 year.
Revenue growth	RGPS3	Revenue growth	3-year revenue growth rate (per share)	Ratio	Sales increases/decreases over time. It is used to measure how fast a business is expanding. More valuable than a snapshot of revenue, revenue growth helps investors identify trends to gauge revenue growth, divided by the number of shares, over 3 years.
Revenue growth	RGPS5	Revenue growth	5-year revenue growth rate (per share)	Ratio	Sales increases/decreases over time. It is used to measure how fast a business is expanding. More valuable than a snapshot of revenue, revenue growth helps investors identify trends to gauge revenue growth, divided by the number of shares, over 5 years.

Table A.1. Measures and constructs (Part 2)

Variable type	*Variable code*	*Dependent variable*	*Independent variable*	*Scale*	*Measurement scale*
Revenue growth	RGPS10	Revenue growth	10-year revenue growth rate (per share)	Ratio	Sales increases/decreases over time. It is used to measure how fast a business is expanding. More valuable than a snapshot of revenue, revenue growth helps investors identify trends to gauge revenue growth, divided by the number of shares, over 10 years.
Revenue growth	RG1	Revenue growth	1-year total revenue growth rate	Ratio	Sales increases/decreases over time. It is used to measure how fast a business is expanding. More valuable than a snapshot of revenue, revenue growth helps investors identify trends to gauge revenue growth over 1 year.
Revenue growth	RG3	Revenue growth	3-year total revenue growth rate	Ratio	Sales increases/decreases over time. It is used to measure how fast a business is expanding. More valuable than a snapshot of revenue, revenue growth helps investors identify trends to gauge revenue growth over 3 years.
Revenue growth	RG5	Revenue growth	5-year total revenue growth rate	Ratio	Sales increases/decreases over time. It is used to measure how fast a business is expanding. More valuable than a snapshot of revenue, revenue growth helps investors identify trends to gauge revenue growth over 5 years.
Revenue growth	RG10	Revenue growth	10-year total revenue growth rate	Ratio	Sales increases/decreases over time. It is used to measure how fast a business is expanding. More valuable than a snapshot of revenue, revenue growth helps investors identify trends to gauge revenue growth over 10 years.

Table A.2. Data collection criteria

Criteria		
ROA (%) (5-year median)	>=	-75
ROA (%) (10-year median)	>=	-75
ROE (%) (5-year median)	>=	-75
ROE (%) (10-year median)	>=	-75
ROC (ROIC) (5-year median)	>=	-75
ROC (ROIC) (10-year median)	>=	-75
Institutional ownership	<=	90
Individual ownership	<=	90
1-year share buyback rate	<=	15
3-year share buyback rate	<=	15
5-year share buyback rate	<=	15
10-year share buyback rate	<=	15
1-year revenue growth rate (per share)	>=	-25
3-year revenue growth rate (per share)	>=	-25
5-year revenue growth rate (per share)	>=	-25
10-year revenue growth rate (per share)	>=	-25
1-year total revenue growth rate	>=	-25
3-year total revenue growth rate	>=	-25
5-year total revenue growth rate	>=	-25
10-year total revenue growth rate	>=	-25
1-year market cap change (%)	>=	-100
3-year market cap change (%)	>=	-100
5-year market cap change (%)	>=	-100

Table A.3. Descriptive statistics

Variable	*N*	*Skewness*		*Kurtosis*	
	Statistic	*Statistic*	*Std. error*	*Statistic*	*Std. error*
ROA5	222	1.333	0.163	2.302	0.325
ROA10	222	1.177	0.163	1.929	0.325
ROE5	222	1.538	0.163	3.429	0.325
ROE10	222	1.269	0.163	2.297	0.325
ROC5	222	1.414	0.163	2.130	0.325
ROC10	222	1.418	0.163	2.484	0.325
Instship	222	2.436	0.163	6.144	0.325
T10VH	222	2.889	0.163	8.760	0.325
RGPS3	222	0.970	0.163	1.729	0.325
RGPS5	222	0.730	0.163	0.988	0.325
RGPS10	222	0.625	0.163	0.623	0.325
RG3	222	1.322	0.163	2.492	0.325
RG5	222	0.860	0.163	0.935	0.325
RG10	222	0.815	0.163	0.812	0.325
MCap1	222	0.538	0.163	0.500	0.325
MCap3	222	1.292	0.163	2.993	0.325
MCap5	222	1.192	0.163	1.553	0.325
SBback3	222	-1.061	0.163	3.057	0.325
SBback5	222	-0.698	0.163	1.633	0.325
SBback10	222	-0.455	0.163	1.370	0.325
Valid N (listwise)	222				

Figure A.1. Outlier analysis for the industry variable

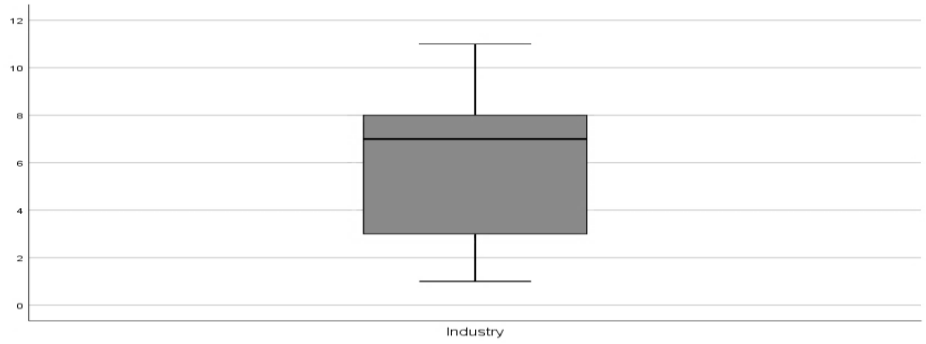

Figure A.2. Outlier analysis for insider concentration

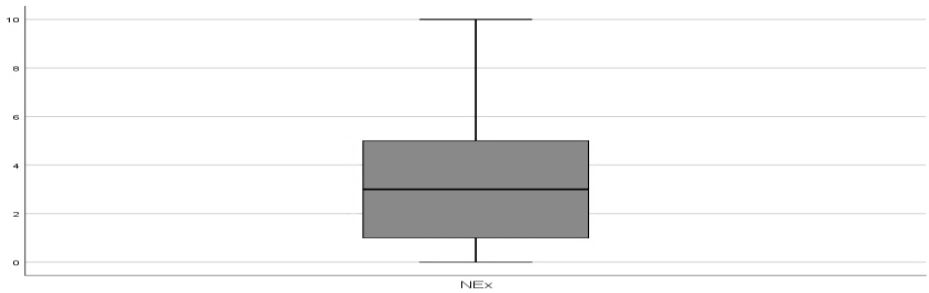

Table A.4. Collinearity statistics

Model	*Tolerance*	*VIF*
CEOChair	0.984	1.016
RGPS3	0.301	3.323
RGPS5	0.295	3.394
ROA5	0.193	5.171
ROA10	0.193	5.168

Note: a. Dependent variable: NEx (Insiders)

Table A.5. KMO and Bartlett's test

Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy		0.607
Bartlett's test of sphericity	Approx. Chi-square	6065.134
	Df	190
	Sig.	0.000

Table A.6. Total variance explained

Component	*Initial eigenvalues*			*Extraction sums of squared loadings*			*Rotation sums of squared loadings*[a]
	Total	*% of variance*	*Cumulative %*	*Total*	*% of variance*	*Cumulative %*	*Total*
1	6.012	30.059	30.059	6.012	30.059	30.059	5.190
2	4.936	24.678	54.737	4.936	24.678	54.737	5.362
3	2.065	10.323	65.059	2.065	10.323	65.059	3.884
4	1.719	8.594	73.654	1.719	8.594	73.654	2.760
5	1.503	7.517	81.170	1.503	7.517	81.170	1.907
6	0.791	3.954	85.124				
7	0.740	3.699	88.824				
8	0.536	2.679	91.503				
9	0.372	1.862	93.365				
10	0.298	1.492	94.857				
11	0.258	1.291	96.147				
12	0.214	1.071	97.218				
13	0.180	0.898	98.116				
14	0.175	0.874	98.989				
15	0.086	0.428	99.418				
16	0.062	0.312	99.730				
17	0.024	0.120	99.849				
18	0.022	0.109	99.958				
19	0.005	0.025	99.982				
20	0.004	0.018	100.000				

Notes: Extraction method: principal component analysis.

a. When components are correlated, the sums of squared loadings cannot be added to obtain total variance.

Figure A.3. CFA diagram

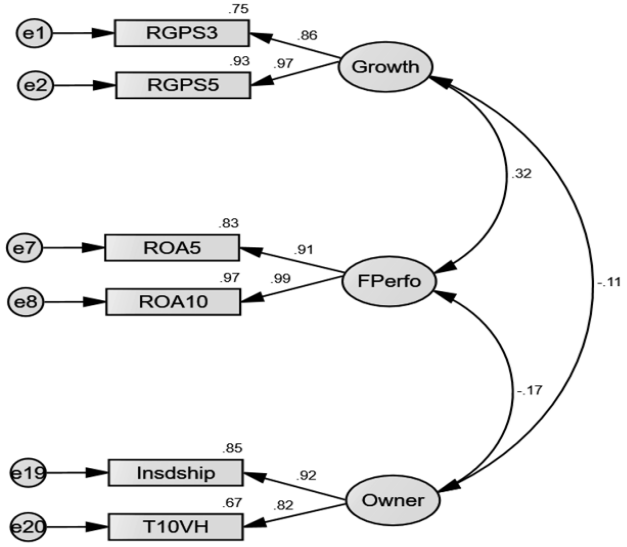

Table A.7. Model validity measures — CFA

No validity concerns	*CR*	*AVE*	*MSV*	*MaxR(H)*	*Insider ownership concentration*	*Growth*	*Financial performance*
Insider ownership concentration	0.863	0.760	0.028	0.885	**0.872**		
Growth	0.913	0.840	0.103	0.944	-0.111	**0.916**	
Financial performance	0.947	0.900	0.103	0.975	-0.166	0.321	**0.949**

*Note: † p < 0.100, * p < 0.050, ** p < 0.010, *** p < 0.001.*

Figure A.4. SEM diagram

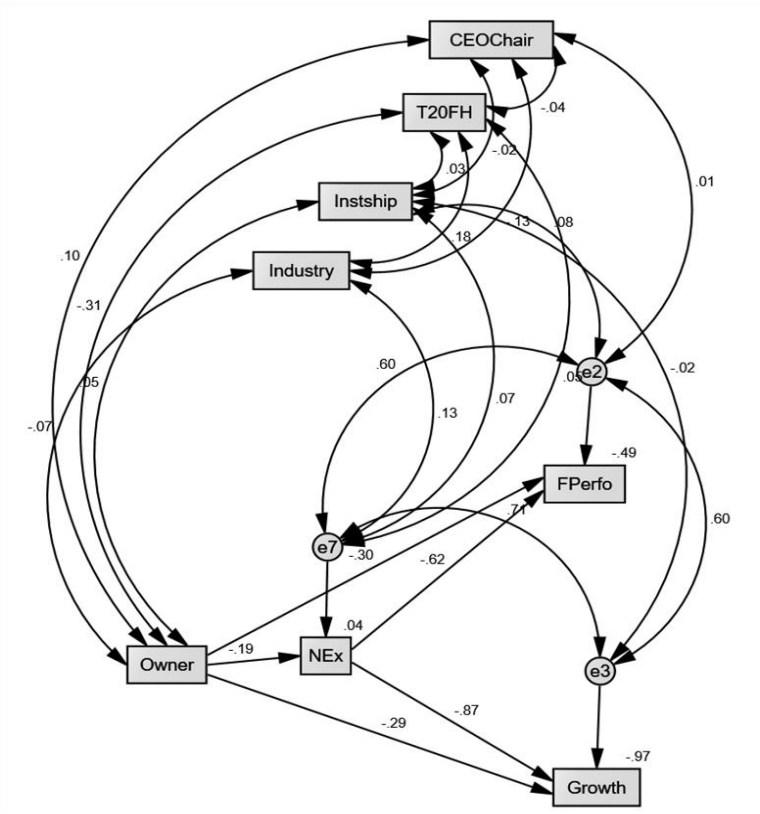

Table A.8. Mediation analysis

Standardized direct effects (Group number 1 — Default model)		
	Owner	*NEx*
NEx	-0.193	0.000
FPerfo	-0.297	-0.617
Growth	-0.289	-0.874
Standardized direct effects — Two-tailed significance (BC) (Group number 1 — Default model)		
	Owner	*NEx*
NEx	0.001	0.000
FPerfo	0.035	0.242
Growth	0.045	0.128
Standardized indirect effects (Group number 1 — Default model)		
	Owner	*NEx*
NEx	0.000	0.000
FPerfo	0.119	0.000
Growth	0.169	0.000
Standardized indirect effects — Two-tailed significance (BC) (Group number 1 — Default model)		
	Owner	*NEx*
NEx	0.000	0.000
FPerfo	0.200	0.000
Growth	0.108	0.000

Table A.9. Control variable relationships

Residual covariances (Group number 1 — Default model)								
	Owner	*NEx*	*CEOChair*	*FPerfo*	*T20FH*	*Instship*	*Industry*	*Growth*
Owner	0.001							
NEx	0.000	-0.001						
CEOChair	0.000	0.055	0.000					
FPerfo	0.001	0.004	-0.047	-0.005				
T20FH	-0.003	0.690	0.051	-3.374	-0.040			
Instship	0.058	-0.086	0.198	-0.185	-6.489	-1.609		
Industry	-0.004	-0.072	0.029	0.163	-0.059	-0.529	-0.044	
Growth	0.000	0.002	-0.239	-0.017	4.835	0.889	0.011	-0.003
Standardized residual covariances (Group number 1 — Default model)								
	Owner	*NEx*	*CEOChair*	*FPerfo*	*T20FH*	*Instship*	*Industry*	*Growth*
Owner	0.000							
NEx	0.000	-0.001						
CEOChair	0.000	0.680	-0.001					
FPerfo	0.001	0.006	-0.460	-0.005				
T20FH	-0.001	0.239	0.096	-0.933	-0.002			
Instship	0.006	-0.017	0.210	-0.029	-0.195	-0.019		
Industry	-0.004	-0.141	0.312	0.257	-0.018	-0.091	-0.054	
Growth	0.000	0.002	-1.513	-0.015	0.866	0.089	0.011	-0.001