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## Article

# Ownership structure's effect on financial performance: An empirical analysis of Jordanian listed firms

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*Suggested Citation:* Alkurdi, Amneh; hamad, Amneh; Thneibat, Hussam; Elmarzouky, Mahmoud (2021) : Ownership structure's effect on financial performance: An empirical analysis of Jordanian listed firms, Cogent Business & Management, ISSN 2331-1975, Taylor & Francis, Abingdon, Vol. 8, Iss. 1, pp. 1-21,  
<https://doi.org/10.1080/23311975.2021.1939930>

This Version is available at:

<https://hdl.handle.net/10419/245068>

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To cite this article: Amneh Alkurdi, Amneh hamad, Hussam Thneibat & Mahmoud Elmarzouky | (2021) Ownership structure's effect on financial performance: An empirical analysis of Jordanian listed firms, Cogent Business & Management, 8:1, 1939930, DOI: [10.1080/23311975.2021.1939930](https://doi.org/10.1080/23311975.2021.1939930)

To link to this article: <https://doi.org/10.1080/23311975.2021.1939930>



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Received: 7 March 2021  
Accepted: 3 June 2021

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Reviewing editor:  
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## ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

# Ownership structure's effect on financial performance: An empirical analysis of Jordanian listed firms

Amneh Alkurdi<sup>1\*</sup>, Amneh hamad<sup>2</sup>, Hussam Thneibat<sup>3</sup> and Mahmoud Elmarzouky<sup>4</sup>

**Abstract:** This study aims to examine the impact of the ownership structure on firm performance in the Jordan. This study employed the multiple-regression model and fixed regression effect to analyse the data. The sample included all Jordanian first market firms listed on the Amman Stock Exchange (ASE) from 2012 to 2018. The paper's findings reveal a positive and significant relationship between institutional ownership and both accounting measure Return on Assets (ROA) and market measure Tobin's Q (TQ). Other ownership structure types, such as concentration of ownership, also affect ROA and TQ. While managerial ownership shows a negative relationship with ROA, but there is no association with TQ. This study has broad and comprehensive practical implications that are good for policymakers. On the one hand, it adds to the debate on agency theory from the ownership structure and firm's performance relationship. On the other hand, it helps the Jordanian

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### PUBLIC INTEREST STATEMENT

Financial performance has been the central topic of various scholars, academics, and policymakers for a long time. According to agency theory perspective, ownership structure is one of the most powerful tools that influence firms' performance. Ownership structure has been investigated in both developed and developing countries as a factor that affects both on stakeholders' benefits and firms' success. Based on the Jordanian market, the purpose of the current study was to determine the effect of ownership structure on financial performance using accounting and market indicators. The findings imply that ownership structure can enhance the level of financial performance. Furthermore, the existence of various groups of ownership help to increase the investors' satisfaction, and assist shareholders to predict the firms' performance to select the optimal investment opportunities.

Government formulate policies and regulations to strengthen corporate governance (CG), which increases the interests of all stakeholders in the Jordanian market.

**Subjects: Business, Management and Accounting; ccounting; Corporate Governance**

**Keywords: Ownership Structure; Financial performance; Emerging Markets; Return on Assets; Tobin's Q**

## 1. Introduction

A firm's performance is an essential key behind any success of countries. Notably, financial performance (FP) is one of the available instruments used to maximise firm profits. It has become a source of concern for both shareholders and management. Jensen and Meckling (1976) assert that FP is crucial to every firm's survival by strengthening its ability to reach sustainable return. Furthermore, a firm's success, using an adequate level of FP, is the mirror of the management ability to pursue their stewardship duties to preserve shareholder's investments better.

Many tools are used to enhance the levels of firm performance. The ownership structure is one of these tools. Galego et al. (2019) argued that ownership structure is classified as one of the most effective tools employed to assist the board of directors in enhancing the FP. Furthermore, the board's efficiency may depend on the overall diversity of the ownership structure (Cho & Kim, 2007). According to Omran et al. (2008), the ownership structure represents a powerful incentive for managers to gain control over firms and sustain a better performance. This is due to various ownership structures extended to solving agency problems and increasing trust between the managers and the shareholders.

The relationship between ownership structure and FP has been the central topic of various scholars, academics, and policymakers for a long time. This relationship depends on various types of ownership that handle investment strategies other than the investment horizons that may affect FP (Kuo et al., 2020). Yasser et al. (2017) argued that the direction of this relationship is due to variances in monitoring those that the shareholders can undertake. In this light, Mardnly et al. (2018) found that the monitoring functions of the board have become significant. Moreover, firms are organised by CG mechanisms based primarily on their ownership structures which, in turn, influence the board decisions. On the other hand, some prior studies claim that the ownership structure may lead to conflicts of interest between shareholders and management. This conflict can minimise the firm's worth, mainly if managers are more concerned with optimising their interests at the cost of the owners' needs (Khan & Zahid, 2020).

In light of previous literature conclusions and within the context of the agency theory, the critical question of the current study is to explore whether the ownership structure leads to enhancing the FP or not? This question prompted a focus on a series of objectives. The first one is to determine the role of ownership structure in enhancing and sustaining the firm's performance that can provide the management and investors with valuable suggestions for the firms' success. The second objective is to fill the related research gap in recent years, especially in the Jordanian context. The last objective is to provide a better understanding of the level of efficiency and effectiveness of FP that can be enhanced by various groups of ownership such as (managerial, institutions and concentration ownership), and their influential controlling role on management behaviour that makes Jordan an optimal area to perform this study.

This paper contributes to the existing literature from many points. First, we are motivated to investigate this relationship between ownership structure and FP for firms listed on the Amman Stock Exchange (ASE). This due to there is no agreement on the empirical results on the relationship between ownership structure and both accounting and market FP measures in developing markets. Second, the study findings will benefit policymakers by assisting managers to modify their decisions of enhancing FP. Furthermore, stakeholders and investors can formulate a suitable

picture of the ownership structure usefulness in enhancing their decisions related to the firm's performance. Thirdly, few studies have investigated the impact of managerial Ownership on FP, especially in emerging economies like Jordan's market. So, it is crucial to take a closer look at Jordan's market, which will benefit researchers, investors, and lawmakers by improving that market. Finally, the current study shows that agency theory can be explained deeply from the association between different groups of ownership and both accounting and market FP indicators.

The remainder of this study is organised as follows: the background is presented in section 2, and then we illustrate the theoretical literature review in Section 3. Section 4 discusses the empirical literature review and hypotheses development. Section 5 presents the research design. Section 6 highlights empirical results and discussion. Finally, section 7 points to the study's conclusions, limitations and makes suggestions for future research.

## 2. Background

Like other emerging economies, the Jordanian economy is categorised as developing. Jordan's economic policy aims to increase investment, maximise growth, build employment opportunities, and increase citizens' living standards (Bataineh, 2021). Throughout the past two decades, Jordan has successfully walked the road to a free market economy. Following the launching of the policy for privatisation, the Government retained an ongoing interest in enhancing the financial market to raise investor confidence and draw further investment (Alhababsah, 2019). The authority in Jordan made considerable efforts to formalise an attractive business environment. These efforts started from establishing the Jordan stock market in year 1978, representing the oldest financial market in Jordan. There are many objectives that the Jordan stock market focused on it, such as constructing a formal structured system for firms to increase their capital and provide assistance to individuals to enabling them to trade their shares in the Jordanian market.

ASE, examined as the largest financial market in Jordan, contains various sectors. To ensure a healthy economic environment, ASE has several objectives: the trading securities market should be structured, fair, and practical. This will increase the level of trust of this market and increase the efficiency of the Jordanian economy. Another objective that ASE focused on is operating, managing, and developing all securities markets activities inside and outside Jordan. These objectives can be reflected positively on enhancing the awareness of investing in the financial markets and expanding the knowledge related to the level of the ASE services.

The majority of firms in developing countries, including Jordan, have issues with transparency problems, inadequate protection of investor rights, and agency problems. These weaknesses refer to a lack of consistent rules and adequate oversight (Al-Shattarat et al., 2018). Thus, firms will suffer from a market deficiency. A firm's ability is restricted to access external capital and outside investors. Another consequence of market weakness is that minority shareholders' investments would be harmed by influencer shareholders who have authority over their assets. Thus, this study anticipates that the ownership structure, which is one of the CG tools, can play an essential role in protecting shareholders' wealth and would significantly impact FP.

In 2009, The Jordanian Government issued the CG code (Makhoul et al., 2014). CG has been described as a condition for sustainable development and economic stability (Abed et al., 2012). Furthermore, it works to help Jordanian firms skip the problems they face, such as reducing unemployment rate and enhancing the firm's success. In addition, various stakeholders have started to recognise the critical importance of good CG practices, that is, the role of ownership structure in maximising the firm performance stability. Alabdullah (2018) asserted that firms' activities within the CG board are better than those not working in the CG area. Thus, various CG scholars have attempted to investigate the association between the ownership structure and FP.

Due to the different economic environments, studies that have been done on the FP area are different between developed and developing countries. Many attributes distinguish between

developed and developing countries, such as stock market investor protection and the degree of ownership concentration. This variation can lead to a shift in our thinking about a firm's performance in developing countries. Other factors, especially in Jordan, drive the review of the firm's performance. First, compared to most countries globally, Jordan ranks at a low level in providing investor protection secondly, the ownership is highly concentrated. As a result, our research investigates the relationship between ownership structure and FP in the Jordanian market.

### 3. Theoretical literature review

#### 3.1. Related theories

##### 3.1.1. Agency theory

One of the most widely used theories in literature is agency theory. It was proposed by Jensen and Meckling (1976) and Fama & Jensen (1983). They indicated that agency problems were increased due to the asymmetry of information among owners and managers. Managers have an incentive to behave in an opportunist way to serve their interests, but this may abuse shareholders' interests. This behaviour may induce firms to be less informative in terms of accounting for their earnings. Beatty and Harris (1998) argued that a problem that resulted from agency theory is one of the main motivations of ownership structure. It is commonly seen as the initial point for any CG discussion. Warokka et al. (2012) asserts that companies have various ownership structures with extensive holdings focused on decisions made by management. This enables investors to guarantee that management decisions are in alignment with shareholders' interests.

Although a contractual association between managers and owners meant that managers had it imposed upon them to work as representatives of the owners' interests, Vu et al. (2018) found that managers are trying to protect their interests against the interests of the owners. This, in turn, adversely affects the FP because firms rely deeply on the managerial decisions that are likely to help sustain a firm's performance. As an unethical decision taken by management may harm the shareholders' interests, many studies have argued that there is an essential need to shape the phenomena that align both shareholders' and managers' benefits, such as ownership structure. Furthermore, this will then enhance the performance of firms in the long run (Buallay et al., 2017). Kao et al. (2019) suggest that for better long-term performance and minimise agency problems, the ownership structure will put more effort into controlling management decisions that lead to decreased agency costs and asymmetries of information. As Jensen and Meckling (1976) argued early on, the ownership structure is described as a tool to minimise agency costs. However, within the firm, there are disputes among various parties. To solve such conflicts, companies should look for an ownership structure that permits managers to become more conscious of their full potential and act in the shareholder's interest. Empirical evidence from Hatzell et al. (2014) reported that the ownership structure reduces agency costs by influencing how the company is run and regulated. This includes conceptual rules to grant accountability and fairness in the managers' and shareholders' relationships.

The literature reviewed has addressed two approaches that may mitigate the consequences of agency problems. Siregar and Utama (2008) argued that approaches could help owners enhance owners' ability to oversee the management functions or increase management ownership by holding more shares in firms, then obtaining share incentives rather than cash. The first approach is called the "refraining approach." This approach introduces the notion that managers avoid opportunistic behaviour only when their interest aligns with the shareholders' concerns (Emanuel et al., 2003). Examples of the "refraining approach" consist of the dividend payment, an active board structure, independent audit committees, and the influencer institutional shareholders (Jackling & Johl, 2009). Also, the encouraging, which is based on encourages management to engage in beneficial activities. This approach consists of remuneration contingent upon results and employee share ownership programs (Nikoskelainen & Wright, 2007a).

### 3.1.2. Stakeholder theory

Freeman's (1984) proposed the stakeholder theory. He argued that management should address the needs of various groups of stakeholders. Earlier, many studies assert that the different Stakeholder has a different interest. This should push management to save the stakeholder benefits. Satisfying stakeholders need related to firm reputation (Shleifer & Vishny, 1997). Thus, working to help stakeholders obtain proper decision-making may enhance the firms FP. Khan and Zahid (2020) found that CG tools such as ownership structure aid in managed firm resources efficiently, by reducing managers expropriation resources and help stakeholders to get their benefits.

Based on firms' goal related to sustainable financial success, stakeholder theory was built on giving stakeholders formal and binding control over the firm. Specifically, over the board of directors. Almahrog et al. (2018) admit that Stakeholder tends to provide a more comprehensive interpretation of how ownership structure affects FP. Because of the stakeholders' authority and legitimacy, managers can respond to pressures exercised by various stakeholders. Many studies assert that stakeholder power proposes that managerial decisions regarding FP (Grougiou et al., 2014). Phillips et al. (2003) found that stakeholder theory adopts the language of ethics and legitimacy to analyse how firms can behave against constituents and critically examine the aims of firms' FP.

Furthermore, stakeholder theory examines how firms accomplish the objectives. FP is a crucial tool for many stakeholders in a firm because it tests how effectively a company uses its capital to profit. Thus, various stakeholders have started to realise that dealing with ownership structure power can protect their interests.

### 3.1.3. Resource dependence theory

Lawrence and Lorsch firstly adopted resource dependence theory at year (1967). This theory linked with CG mechanisms, in particular, ownership structure and FP. From the viewpoint of this theory, Pfeffer and Salancik (2003) assert that firms with limited resources need to connect with the external environment. Under this theory, CG is described as a cornerstone to the firm's external environment. CG may benefit from external resources, such as financial resources and any relevant information of firm success (Kiel & Nicholson, 2003).

Furthermore, the ownership structure is used as a tool to enhance monitoring functions and provide successful resources (Hillman et al., 2009). Additionally, Udayasankar et al. (2005) suggested that the assumptions, which are based on resource dependence theory, aim to improve board performance and is helpful in situations where the regulatory system is inefficient. In the same direction, Pfeffer and Salancik (2015) argued that resource dependence theory assists organisations in improving their performance by minimising their reliance on the external environment and contingencies, hence lowering costs. which may fundamentally assist their survival.

Resource dependence theory prefers to present outside directors on the board. Chou (2015) argued that external investors could scan resources from the external environment and bring them to firms' financial objectives. Ownership investors have critical knowledge and skills that aid in developing relationships with many stakeholders (Kyereboah-Coleman & Biekpe, 2006). Thus, firms are reliant on outside stakeholders to obtain critical resources. Frooman (1999) asserts that the company's reliance on these external stakeholders stems from a power imbalance between the organisation and these parties. As a result, companies will try to manage the external environment to lessen the uncertainty associated with the purchase of vital resources. Accordingly, CGs serve mainly as external providers of resources, adapting their behaviour to organisational and environmental changes (Hillman & Dalziel, 2003).

Monitoring and resource protection are two main aspects of the ownership structure function. Ownership investor monitors managers to ensure that their decisions and actions are consistent



with the expectations and interests of stakeholders. Further, the board of directors aid the ownership investors in safeguarding stakeholders' interests (Pucheta-Martínez & Gallego-Álvarez, 2019). In addition to monitoring tasks, resource dependence theory proposes that ownership structure offers access to resources that are not otherwise available. They contribute to sustained value development (Hillman et al., 2009).

### **3.2. Ownership structure and FP**

The ownership structure means the percentage of shares owned by the various parties in equity capital. Every shareholder group has different economic motives and ways to grow their investment (Kao et al., 2019). Alabdullah (2018) has argued that different shareholders have different strategic decision-making powers, that may affect the performance of an organisation. The ownership structure and FP relationship became a trend in the accounting research (Alabdullah, 2018; Alkurdi et al., 2019; Al-Sa'eed, 2018; Buallay et al., 2017; Cornett et al., 2008; Din et al., 2021; Hartzell et al., 2014; Kao et al., 2019; Krivogorsky, 2006; Kuo et al., 2020; Liu et al., 2019; Riyadh et al., 2019; Vu et al., 2018; Yang & Shyu, 2019). Krivogorsky (2006) argued that ownership structure plays an essential role in FP and provides regulators with insights into how to improve CG practices, and facilitate an increase in the efficiency of firms. Moreover, Cornett et al. (2008) found a significant association between ownership structure and FP, and this relationship may be one of the strategies used to moderate agency conflict.

Additionally, Nikoskelainen & Wright (2007a) argued that because there is a separation between control and ownership in the firms, the performance or value of firms is frequently driven by ownership structure. More broadly, empirical studies in the relationship between ownership structure and FP have been undertaken by many researchers, academics, and policymakers. This study has thus focused on the three dimensions of ownership structure that are discussed below.

## **4. Empirical literature review and hypotheses development**

### **4.1. Managerial ownership and FP**

Earlier literature has shown that managerial ownership is an essential factor that mitigates agency conflicts and promotes performance (Kren & Kerr, 1997; Vafeas & Theodorou, 1998). The relationship between the proportion of managerial ownership and FP was first stated by Jensen and Meckling (1976). They found that more control of equities by a manager may increase the firm's performance, as it means that monetary rewards for the manager may be in better alignment. Following this, the major empirical studies on this subject show mixed results, and, in line with earlier findings, McConnell and Servaes (1990) argued that there is a monotonous relationship which implies that agency costs are increased or decreased depending on the level of management ownership. Kren and Kerr (1997) argued that increased management ownership is the crucial tool for improving FP. However, differing views on whether increased ownership by management can lead to improved performance results based on solving agency problems. Morck et al. (1988) found that managers' control of equity may reduce the FP's effectiveness. Because managers who have large ownership shares may be so dominant that they may not concern the shareholders' interests, and they may be so rich that they do not intend to optimise their profit. Further, Acharya and Bisin (2009) conclude that FP increased with low managerial ownership levels while decreasing when the managerial ownership level increased.

Few recent literary works have focused on an ownership structure in which the management holds shares (Bhutta & Hizmo, 2021; Riyadh et al., 2019; Inam bhutta et al., 2021). In the Jordanian context, Alabdullah (2018) found that an increase in ownership structure in non-financial firms, thus tending to an increase in market share that positively reflected firms' performance. Such a result concurs with Al-Sa'eed's (2018) results, who argued that managerial ownership improves an FP based on a study conducted on manufacturing companies listed on the ASE. On the contrary, Alipour and Amjadi (2011) studied this relationship, and they concluded that managerial ownership has a significant and negative effect on a firm's performance. Similarly, Warokka et al. (2012) concluded that managers' low level of shares related negatively with FP.



Notwithstanding this, another group of studies, e.g., Hoang et al., 2017; Galego et al., 2019) agreed that managerial ownership related positively to FP. They argued that FP is increased when managers are an integral part of the company's board. According to the above discussion, the study proposes the following hypotheses:

***H1: There is a negative association between managerial Ownership and ROA***

***H2: There is a negative association between managerial Ownership and TQ***

#### **4.2. Institutional ownership and FP**

Institutional ownership represented the essential part of external CG. This type of ownership distinguishes itself from individuals by using financial analysis that motivates them to enhance FP (Velury & Jenkins, 2006). Furthermore, institutional investors who hold capital for a long time and have a higher level of knowledge and information processing; can strengthen their ability to understand the nature and scope of a firm's performance, allowing them to exercise their monitoring role (Lin & Fu, 2017). Bushee et al. (2014) argued that institutional ownership plays a vital role in strengthening CG practices. They have clear incentives and the power to track efficiently and compel managers to maximise the interests of shareholders. Along the same lines, Sharma (2004), in his conclusion, asserts that when the portion of institutional investors rises, the risk of fraud diminishes. These results indicate that institutional ownership would be critical in managing and disciplining management power and affecting reporting.

Recent studies have suggested that institutional ownership offers different incentives to control managers, according to the investment's scope (Kao et al., 2019). In this regard, Liu et al. (2019) found that more existence of institutions in long-term returns were more likely than their more transient counterparts to monitor managers. Furthermore, Cho and Kim (2007) suggested that institutional ownership enhances a firm's performance and success by aiding independent directors in their monitoring duties. Compatible with these findings, Piesse et al. (2007), Young et al. (2008), and Lin and Fu (2017) assert that institutional ownership works as a dynamic tool that helps firms to enhance their financial performance capabilities and sustainable success. Based on the views from the literature that are presented here, this study can develop the following hypotheses:

***H3: There is a positive association between institutional Ownership and ROA***

***H4: There is a positive association between institutional Ownership and TQ***

#### **4.3. Concentration ownership and FP**

Concentrated ownership indicates the proportion of the stocks that some major shareholders own. It is also identified by the percentage of shares owned by the five largest shareholders (Singh & Gaur, 2009).

Two opposing arguments have discussed the relationship between the ownership concentration and the FP (Su et al., 2007). On one hand, Bhagat and Bolton (2019) assert that the monitoring argument pushes significant shareholders to minimise agency costs and increase overall firm performance, especially when firms suffer from a weak governance mechanism. Another argument is that a controlling shareholder can monitor significant decisions and appoint management. Based on this, concentrated investors work to maximise their interests at the expense of minority shareholders (Hu & Izumida, 2008).

This literature review has provided empirical evidence that the concentration of ownership and FP are investigated broadly. On the one hand, many previous studies have concluded that the

concentration of ownership is one of the things that used to enhancement the firms' performances (Kao et al., 2019; Liu et al., 2019; Ma et al., 2010; Perrini et al., 2008) According to the results shown in these works, ownership concentration would minimise the agency costs. This is reflected in minimising the monitoring costs over management decisions and contributing to the increased efficiency and productivity of firms.

Lepore et al. (2017) have argued that the concentration of ownership will enhance a firm's performance, especially in countries with inadequate protection of the investors; similarly, Alipour and Amjadi (2011) found that ownership concentration offers powerful incentives to control manager's behaviour in order to reduce the problems resulting from agency conflict. Ma et al. (2010) found a similar outcome and points out that analysing the concentration of ownership and a firm's output. They concluded that the concentration of ownership was reflected positively in minimising agency problems and increased the contributions to shareholder activism. The expenses of the agency costs will therefore also be minimised (Su et al., 2007). Using Asian countries, Heugens et al. (2009) performed their analysis to investigate the association between concentrated Ownership and FP. They discovered a positive correlation between the concentration of ownership and FP. Also, they clarified that the concentration of ownership was an important CG tool to protect minority shareholders. Other studies, such as Al-Thuneibat (2018), also noticed that firms are characterised by diffused ownership structures that do not produce a sustainable income. Further, for firms that work endogenously, It is expected that their selling of shares will increase the efficiency of their operations that reflected positively on the enhancement of the performance. With additional explanation, if a company's ownership structure undergoes rapid and drastic changes, and the concentration of ownership is endogenous, it will experience increased profitability. Therefore, this study proposes the following hypotheses:

**H5: There is a positive association between ownership concentration and ROA**

**H6: There is a positive association between ownership concentration and TQ**

## 5. Research design

### 5.1. Sample selection

To achieve the study's objectives, we focused on Jordanian firms that listed in the first market. The annual financial reports and other related data from 2012 to 2018 were analysed. This study used a variety of sampling criteria to meet the required objective. Firstly, the second market was ignored. This exclusion is due to Jordan's second market consisting of weak firms characterised by small size and medium; further, firms in the secondary market are not actively traded in the ASE, and their annual reports are often incomplete. Secondly, two firms listed in the first market that their annual reports were missing also avoided from the final sample. Table (1) showed that the study population consists of both firms listed in the first and second market with a total (180 firms) . With excluding 117 firms listed on the second market in the ASE and excluded two firms. The final sample includes 61 firms, with 427 observations over the sample period. Further, a detailed classification of the firms shows that the final sample includes 26 firms that operate

**Table 1. Study sample**

Population (all firms listed in ASE.)	180
Less:	
Second market	117
Missing data (two firms)	2
Final study sample (first market)	61

in the financial sector, 14 in the manufacturing sector, while 21 firms function in the services sector.

## 5.2. Model and measurement of variables

To meet the objectives of this study, this study developed the following multiple linear regression models:

$$ROAi, t = a + B1MOi, t + B2INSi, t + B3COi, t + B4LIQi, t + B5TAi, t + B6AUDi, t + B7SEi, t + e$$

$$TQi, t = a + B1MOi, t + B2INSi, t + B3COi, t + B4LIQi, t + B5TAi, t + B6AUDi, t + B7SEi, t + e$$

Where for firm i in year t

Based on the previous studies, the dependent, independent, and control variables are measured as follows:

### 5.2.1. Dependent variables: FP

Firm's FP: This study used a market FP proxy, TQ, and accounting FP proxy, ROA. These variables are commonly used in empirical studies. Some studies used ROA, such as (Alabdullah, 2018; Kao et al., 2019; Liu et al., 2019; Vu et al., 2018; Zulkafli & Samad, 2007), while the market measure captured by TQ was widely used in many kinds of studies, such as (Aggarwal et al., 2011; Shah & Hussain, 2012).

Based on a long-term market perspective, TQ is an effective instrument used to analyse a firm's performance, indicating the present value of future cash flow using the information of both current and future performances (Aggarwal et al., 2011). Additionally, the TQ Ratio acts as a significant benchmark for the measurement of FP; it is a measure that expresses the potential growth in the firm's assets. TQ calculated as a market capitalisation plus long-term debt, divided by the book value of total assets. The TQ increase indicates that the market values the firm as worthy of notice (Khamis et al., 2015). ROA is regarded as accounting-based performance since it refers to the firm's asset basis's profit. The ROA works as a tool that controls firms' operating performance by allocating economic resources. To calculate ROA, we used an equation to divide the net income by the total assets deployed in the business over the reporting period.

### 5.2.2. Independent variables: ownership structure and control variables

In line with previous literature, we consider the following categories of ownership structure:

- Managerial ownership represents the number of shares held by board members, and it is in relation to outstanding shares (Al-Sa'eed, 2018).
- Institutional ownership is calculated by the number of shares held by institutional investors against the total number of shares outstanding (Kao et al., 2019).
- Finally, the concentration of ownership is calculated as the percentage of shares held by the firms' largest shareholder. It is defined as the percentage of shares held by the top five shareholders (Buallay et al., 2017).

Regarding the Control Variables, this study designs the following control variables that can potentially and theoretically affect FP. We employ variables such as the firm's size, measured as the natural logarithm of total assets. The size will also determine whether the firm has sufficient capacity to organise its operating activities (Khamis et al., 2015). The second control variable is liquidity, which proxies the current ratio using current assets to current liabilities (Alkurdi & Mardini, 2020). The third control variable is Big-4, a dummy variable, and it equals 1 if a Big-4 audit company audits the firm and 0 if not. Finally, the sector is used as a dummy variable, where 1 refers to the financial sector, 2 means the manufacturing sector, and 3 means the services sector. Table 2 shows a summary of the variables that are employed in the model used in the study.

**Table 2. Measurement criteria**

Variables	Abbreviation	Measurement
Dependent Variables: 1- Return on Assets 2- Tobin's Q	ROA TQ	(1) dividing the net income by total assets  (2) Tobin's q corresponds to market capitalisation plus long-term debt divided by the book value of total assets
Independent Variables: A- Ownership Structures: 1- Managerial Ownership 2- Institutional Ownership 3- concentration Ownership B-Control Variables: 4- Liquidity 5- Company Size 6- Auditing Firm 7- Firm's Sector	MO INS CO LIQ TA AUD SE	(1) It is a percentage calculated by dividing shares hold by board members on total share outstanding.  (2) It represents the percentage resulted from dividing institutional owners by total share outstanding.  (3) Represent percentage of shares owned by the top five shareholders  (4) Proxied by the current ratio, which represents the current assets on current liabilities.  (5) Proxied by the natural Logarithm of total assets.  (6) A dummy variable that 1 = Big-4 and 0 = Otherwise  (7) A dummy variable that 1 means financial sector, 2 means manufacturing sector, while 3 means Services sector.

## 6. Empirical results and discussion

### 6.1. Descriptive results

Descriptive statistics of the study variables are presented in [Table 3](#), namely, mean, minimum, maximum, and standard deviation. Regarding the firm performance variables, the results show that the mean value of accounting performance with ROA is 5.394, with a maximum of 40.698 and a minimum of -13.176. These statistics indicate a wide variation in ROA, with a high standard deviation of 6.7 in the Jordanian context. These statistics allow us to conclude that there is a significant difference between firms. The mean value of TQ is 0.864, which means that the company is undervalued, which shows that the firms may not perform their market activities well. This conclusion is not consistent with Singh and Gaur (2009), who found that the TQ is more significant than one, which shows that the market values the firm as worthy.

In terms of ownership structure, results showed that there is diversity in ownership structure. The statistics demonstrate that the mean managerial ownership is 0.524, while the mean value of institutional ownership is 0.159. We can observe a considerable lowering of institutional ownership compared with managerial ownership. The highest mean value is about ownership concentration, with 0.80, with a maximum of 0.993. As a result, huge benefits can be generated from the concentration of ownership into the five largest shareholdings. These benefits are related to monitoring managers' decisions and regulating their interests with the shareholders' needs. For the control variables, the average firm's size is 8.035, and these statistics indicate that our sample was composed of large companies. Regarding the Big 4 auditors, we found that firms tend to be audited by the Big-4 with a frequency of 57.3%. The sector variable statistics show that the majority of our sample is composed of financial companies. Thus, 42.6% of the sampled companies are in the financial sector.

**Table 3. Variable's Descriptive Statistics**

**The Variables**

**Panel A:**

Variable	Observations	Minimum	Maximum	Median	Mean	St.Dev
ROA	427	-13.176	40.698	3.413	5.394	6.7
TQ	427	0.000	25.583	0.517	0.864	1.8
MO	427	0.001	0.979	0.506	0.524	0.25
INS	427	0.000	0.600	0.007	0.159	0.10
CO	427	0.274	0.993	0.829	0.801	0.13
LIQ	427	0.234	13.755	1.293	2.183	2.29
TA	427	1.959	10.413	7.737	8.035	1.04
Panel B: Two Dummy Variables	Values	Frequency	Percentage			
AUD	0(Big-4 auditor)	35	57.3%			
	1(Not Audited by Big-4)	26	42.6%			
	1 Financial	26	42.6%			
	2 manufacturing	14	23.0%			
Sector	3 Services	21	34.4			

**Table 4. Correlation matrix**

	ROA	TQ	MO	INS	CO	LIQ	TA	AUD	SE
ROA	1.000								
TQ	-0.060	1.000							
MO	0.131	0.053	1.000						
INS	0.216	-0.007	0.112	1.000					
CO	0.174	-0.032	0.533	-0.155	1.000				
LIQ	0.463	0.024	0.180	0.384	0.107	1.000			
TA	-0.205	-0.567	-0.066	0.334	-0.128	-0.210	1.000		
AUD	-0.136	-0.078	0.055	0.396	0.033	-0.023	0.481	1.000	
SE	0.438	-0.096	0.052	-0.060	0.016	0.382	-0.299	-0.313	1

Note: This table explores the correlation analysis of the study variables. The p-value significant level shows \* = 10%, \*\* = 5% and \*\*\* represent 1%

### 6.2. Data validity

Table 4 shows the correlation analysis. It reports the results of the Spearman Correlation, which was employed to investigate the relationship between ownership structure, FP, and control variables. Field (2009) identified that the correlation between independent variables should be no greater than 0.80. From Table 4, we concluded that the association between variables is generally at a low level. Moreover, there is no multicollinearity problem between the variables, as seen in the correlation matrix; it appears that all the correlations are less than 0.80.

Also, it can be used further test to detect the multicollinearity degree between the variables. We used the Variation Inflation Factor (VIF) test for multicollinearity problems; further, Tolerance (calculated as  $1/VIF$ ) is often used to check for multicollinearity. If VIF is higher than 10, then multicollinearity is present (Neter et al., 1996). The tolerance values are not less than 0.1. Hence, Table 5 indicates that there is no existence of a multicollinearity problem in the regression model.

### 6.3. The regression results

This study used balanced panel data of the firms that listed in the first market. With a total of 61 firms for 7 years. Hence, the regression output is shown in Table 6. In general, FP measures seem to have a good fit, as proposed in Table 6. It explains acceptable percentages of the effect of study-independent variables on FP using ROA with an adjusted  $R^2$  of 36.02%. While TQ 31.93%. From the agency theory context, prior studies argued that ownership structure and FP are due to innovation and competitive advantage. Thus, a higher ownership structure may lower information asymmetry and higher transparency, and push managers to promote FP (Kao et al., 2019).

**Table 5. Collinearity statistics test**

Variables	VIF	Tolerance
MO	1.54	0.649
INS	1.82	0.549
CO	1.57	0.636
LIQ	1.84	0.543
TA	1.75	0.571
AUD	1.58	0.633
SE	2.02	0.495



Following is an explanation of regression results for accounting and market FP indicators with the ownership structure.

#### 6.4. Discussion

Table 6 explores the association between ownership structure and ROA as accounting performance indicators. In terms of the MO, Table 6 shows the negative and significant association with ROA at ( $p < 0.05$ ) supporting H1. This means that managers' ownership of firms with a higher ROA is conscious of business challenges. The extent of this is linked to agency theory as it suggests that when managers possess a significant proportion of the company, they are expected to operate in their best interests. It is also consistent with what was found by researchers like (Alipour & Amjadi, 2011). Indeed, the MO reflects opportunistic behaviour that affects employee competencies and a firm's ability to recruit and retain talented people to enhance its performance (Acharya & Bisin, 2009; Alipour & Amjadi, 2011; Khamis et al., 2015). Based on the Jordanian context, Mohammed (2018) arrived to the same conclusion, and asserted that MO exploited opportunistic activities to serve their interest, which eventually results in the increase the agency costs level. On the contrary, this conclusion is not consistent with other Jordanian studies, such as Dakhllalh et al. (2020) who asserts that managerial investors with a high amount of shares may act well in term to maximise the opportunities of productivity and then increase the level of FP. Furthermore, Al-Sa'eed (2018) asserts that MO is a good predictor of FP. From an agency theory perspective, he admits that MO is a valuable tool used to improve FP. In the same direction, Alabdullah's (2018) conclusion found that managerial ownership is related positively to FP. Additionally, Table 6 showed that MO failed to affect TQ, which leaves us with rejecting H2. These results interpreted that managerial investors behave opportunistically and ignore the importance of TQ for shareholders (Alabdullah, 2018; Perrini et al., 2008).

Furthermore, Table 6 shows the results of the association between INS and ROA. The table shows that the coefficient is positive ( $p < 0.01$ ), So accepting H3. This conclusion supports the notion that INS improves a firm's performance from two perspectives. On one side, it causes outside block shareholders to control the managers' actions; on the other, it will minimise the issue of free riders, which emerges from the lack of control by shareholders. This result is in line with those (Sharma, 2004; Young et al., 2008).

In addition, INS possesses the experience and technical ability that reflected positively on the firm's success. Some Jordanian studies assert that INS works to enhance FP, such as (Dakhllalh et al., 2019). Thus, this study confirms that INS influences the FP. This is due to INS works on reducing agency costs, providing a wealth of experience in dealing with managerial opportunism. Additionally, INS helps firms quickly access superior technical, managerial talents, and financial resources and obtain various government investment benefits. By referring to the TQ. In Table 6, we observe that INS shows a positive relationship with TQ at ( $p < 0.05$ ), so accept H4. From these results, there is confirmation that INO plays a crucial role in enhancing TQ. This means institutional investors working to invest in employee competencies will likely enhance their ability to improve future performance and organisational processes, products, services, and market performance. In other words, large institutional investors have many shares in the firm and can efficiently monitor the managers' activities. This conclusion is consistent with that of (Kao et al., 2019). The main Jordanian studies confirm this conclusion is what found by Jarbou et al. (2018), Rashid (2020). They concluded that the presence of INS in a company's capital structure is perceived as a favourable event. Further, they assert that directions of the ownership structure dimensions and firms' performance reflected positively on the firm's success. This is due to the CG is exercise effective monitoring of management decisions, especially with INS existence. Contrary, Al-Zaidyeen and AL-Rawash (2015) attend to the negative impact of the INS on FP. And argued that appropriate decisions about the firms' performance are not stable because INS does not work with firm's interest.

Table 6. Results of Regression Analysis (N = 427)									
Var.	Accounting-based performance					Market-based performance			
	ROA			TQ		TV			VIF
	Coef.	TV	p.v	Coef.		TV	TV	p.v	
MO	-1.792	-1.39	0.021	.03		0.21	0.21	0.835	1.54
INS	16.942	5.00	0.000	1.055		2.72	2.72	0.034	1.82
CO	10.728	4.39	0.000	1.06		3.78	3.78	0.000	1.57
LIQ	.621	4.16	0.003	.023		1.37	1.37	0.153	1.84
TA	-.535	-1.69	0.091	-.124		-3.41	-3.41	0.056	1.75
AUD	-1.372	-2.04	0.442	-.071		-0.92	-0.92	0.360	1.58
SE	2.748	6.97	0.001	.395		0.76	0.76	0.802	2.02
Constant		-1.338				0.092			
Adj. R2		36.02%				31.93%			
F-statistic		6.85				4.91			

Notes: The significance levels shown as follows: \*\*\*, \*\*, \*, are significance levels, at 1%, 5% and 10%, respectively

**Table 7. Summary of fixed-effect regression results (robustness test)**

Var.	accounting-based performance				Market-based performance			
	ROA		TQ		TQ		TQ	
	Coef.	T.V	P.V	Coef.	T.V	P.V	Coef.	P.V
MO	-1.977	-1.53	0.023	.015	0.10	0.920		
INS	0.926	4.45	0.000	1.067	2.74	0.006		
CO	.625	4.17	0.000	1.076	3.82	0.000		
LIQ	.563	1.78	0.076	.024	1.39	0.165		
TA	-1.364	-2.02	0.044	-.124	-3.40	0.001		
AUD	-1.977	-1.53	0.123	-.074	-0.95	0.343		
SE	1.136	2.05	0.004	.395	8.71	0.431		
Constant	-.139			.803				
Adj. R2	35.7%			29.30%				
F-statistic	9.361	8.311						

Notes: The p-values shown as follows: \*\*\*, \*\*, \*, indicate significance at 1%, 5% and 10%, respectively

Further, this study explains the relationship between CO and ROA. The results show a positive relationship between these variables at ( $p < 0.01$ ), with accepting H5. When the ownership is concentrated among large investors, they are motivated to use assets to measure good financial results that will positively boost their returns. In addition to this, concentrated ownership will lead them to enhance their feeling that the company represents their particular investment, and through this, they will be pushed to work together to enhance the firm's performance; by controlling and influencing financial policies to ensure sustained success in the long run. However, these results appear to be in line with the findings (Kao et al., 2019; Liu et al., 2019; Ma et al., 2010).

Furthermore, CO is more diligent than the minority shareholders due to their monitoring skills, which puts them into a place that distinguishes them from the minority shareholder. This result is consistent with what has been found in some other literature, e.g. (Khamis et al., 2015). Dakhallh et al. (2019a) indicated that concentrated ownership has a positive and significant impact on FP in the Jordanian context. Furthermore, there is other various previous studies were conducted on the Jordan environment. Saleh et al. (2017), found that the same conclusion and argued that the large shareholders would impose their power to strengthen their positions, thereby preferring enhanced FP. On the contrary, Jarbou et al. (2018) concluded that concentrated ownership has a negative relationship to the banks' performance, and the concentrated investors may abuse their authority. Additionally, Table 6 indicates that CO has a positive relationship with TQ, thus accepted H6. This confirmed that concentrated investors focus on strategic capital-market decisions that may help to enhance the market value of firm front compactors. This conclusion is consistent with Zeitun and Gang Tian (2007). They assert that TQ is an essential indicator of the firms' success and efficiency in the Jordanian equity market. While Mohammed (2018) found the opposite relationship indicates that ownership concentration is negatively related with firm performance

Finally, TA showed a negative relationship with ROA and TQ. Table 6 shows the positive relationship of LIQ with ROA but an insignificant one with TQ. We notice that the size of the business is related to the decreasing financial reporting quality. The case clarifies that a larger business size raises its operational risk, contributing to accounting discretion for managers in order to deceive investors (Al-Sa'eed, 2018). Further, this conclusion is not consistent with Cho and Kim (2007), who found that it is easier for large firms to raise returns internally and obtain funds from outside sources to improve their FP. Regarding AUD, this does not affect FP. Finally, SE shows a positive relationship with ROA.

#### 6.5. Robustness test

Our data are balanced panel data. This study uses robustness tests to assess whether there is an existence of variance between regressions. To decide between fixed or random effects, we run a Hausman test. It tests whether the unique errors are correlated with the regressors; the null hypothesis is that they are not. The Hausman test runs a fixed-effect model, saves the estimates, then runs a random model to save the estimates, then performs the test. The p-value is significant =  $0.0000 < 0.05$ . We used the fixed effect regression to reduce the standard error as suggested by the Hausman test result. Fixed effect regression will treat any omitted variable bias, which is one of the endogeneity problems. It also mitigates any possible multicollinearity (Winship & Western, 2016; Wooldridge, 2010). From Table 7, we find that the results remain consistent with the main model 6. Both coefficients and significant levels are remaining in the same direction, suggesting that our model is valid.

#### 7. Summary and conclusion

This study investigates the relationship between ownership structure and firm performance using accounting FP indicator ROA and a market FP indicator TQ. We used a sample of 61 Jordanian firms listed in the first market on the ASE from 2012 to 2018. The conclusion implies a negative and significant relationship between MO and ROA. It relies on the fact that managers work on optimising self-interest without caring about other shareholders' needs. This can be reflected negatively on firms' success and the level of sustainable development. On the contrary, MO does not affect TQ, and

this means that when managers hold a very significant number of a firm's shares and have control of the decision-making process. It means that managers ignore the firm's market value and focus on their interest to harm firms' interests related to enhancing the market value.

Based on the empirical argument, INS is an important investor in Jordanian firms. This study has confirmed that ROA and TQ are affected by INS. Institutional investors who are economically more robust play a significant role in enhancing a firm's performance. They have valuable knowledge and expertise with which to help establish relationships with various stakeholders. Thus, they have good incentives to reduce management manipulation of accounting items and monitor managers' decisions of investors' needs. Additionally, they play a significant role in monitoring the financial reporting process to increase the FP level.

Additionally, results appear to demonstrate a positive association between CO and both ROA and TQ. CO helps to enhance FP, especially in a weak investor protection environment. Furthermore, CO is used to alleviate the agency problem that may support the owners' willingness to control a firm's efficiency. Furthermore, this study concludes that CO is related to a higher level of firm performance in emerging economies. It is a tool for the protection of minority shareholders. Further, CO is used to mitigate managerial expropriation, resulting in enhanced performance based on the alignment of the existing argument.

Furthermore, this study found a significant association between CO and TQ. This relies on high levels of CON, which can build on reduce risk related to financial outcomes. Further, leading significant shareholders shift a firm's capital to a sustainable level, and thus businesses become more profitable. The advantages of CO, such as controlling and regulating decision, can provide financial success. This study has found that INS and CO have a positive relationship with both accounting and market performance measurers from the empirical results. This conclusion asserts that the agency problem is reduced. Moreover, effective monitoring contributes to minimise the failure of internal control mechanisms.

Based on the above conclusions, the findings of this study have the following theoretical implications. First, the results show a significantly positive association between INS and both accounting and market-based FP. This assures us that the monitoring value of INS tends to be the most significant part of the ownership structure, mainly where there are weaker CG practices. Thus, the findings of this study may have practical contributions that suggest that the regulators and authorities should require all listed companies to increase their INO percentage to enhance the Jordanian firm's performance. Second, Jordan is seen as a developing economy, with CG structures still at an evolving level. So this study recommended reviewing the corporate governance code yearly. This review may increase the role of ownership structure in mitigating management expropriation, and as a result, centralised control will help minimise the agency conflict. Third, the study's results revealed several critical data that could benefit the firm's management, policymakers and regulators. For example, to enhance the level of FP, especially TQ, the firm's management may encourage reconstructing their board of directors and ownership structure. This helps to create them to possess various characteristics that enhance the market PF. In addition, regulators and policymakers can develop rules and codes to guide the ownership structure to improve the level of FP. Finally, based on MO and accounting, FP's negative association. This may point toward a lack of management concern for the firm's sustainable profitability. This study contributes to giving authorities and regulators a comprehensive understanding of the protection of stakeholder rights and monitoring opportunistic managerial behaviour. Moreover, help decision-makers in the firms to increase their attention towards enhancing and sustaining the firm's performance.

The findings of this study have many theoretical limitations. First, regarding the FP measure such as TQ, the results show little impact of ownership structure on TQ, especially managerial ownership. Thus, this study responds to calls for a new investigation focusing on other ownership

structure types, including governmental and family ownership. These types may be important factors that may affect the firms' success, such as enhance the firm's market share. Second, this study focused only on one aspect of corporate governance, that is, ownership structure. Thus, the research suggests conducting further studies to include different corporate governance characteristics such as board attributes, namely board committees and board expertise. Third, the present study covers the period to the year 2018 only. Future researches may be carried out by including years 2019–2021 to provide more robust pictures. Fourth, the current study shows that agency theory provides little explaining the link between MO with TQ into first market firms. This study recommends categorising markets to financial or non-financial firms that may strengthen the role of agency theory in FP. Despite these limitations, this study enhances the extant studies from many aspects. However, this study opens the door for future studies to use board gender as a moderator variable in the relationship between ownership structure and FP using another regression analysis such as a fixed-effect estimator. In addition, future research may focus on the relationship between managerial ability and FP using MENA regions.

#### Funding

The authors received no direct funding for this research.

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#### Citation information

Cite this article as: Ownership structure's effect on financial performance: An empirical analysis of Jordanian listed firms, Amneh Alkurdi, Amneh hamad, Hussam Thneibat & Mahmoud Elmarzouky, *Cogent Business & Management* (2021), 8: 1939930.

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