The Impact of Ownership Structure on Firm Performance in Jordan

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Abstract
This study examines the impact of ownership structure on firm performance for companies listed on the Amman Stock Exchange (ASE) in Jordan from 2015 to 2021. Specifically, it investigates the relationships between institutional, government, and foreign ownership, as well as ownership concentration, and their effects on firm performance measured by Return on Assets (ROA) and Tobin's Q. Using a sample of 158 firms and 1106 firm-year observations, the study employs a Generalized Method of Moments (GMM) estimator to address potential endogeneity issues. The results reveal that ownership structure significantly influences firm performance in the Jordanian context. Ownership concentration shows a strong positive relationship with both ROA and Tobin's Q, suggesting that concentrated ownership can lead to more effective monitoring and improved performance. Foreign ownership demonstrates positive effects on both performance measures, highlighting the benefits of international investment in enhancing both operational and market performance. Government ownership exhibits a positive association with ROA but not with Tobin's Q, indicating that state ownership may improve operational efficiency but not necessarily market perceptions. Institutional ownership shows mixed results, with a significant positive relationship with Tobin's Q but no significant impact on ROA. These findings have important implications for policymakers, investors, and corporate managers in Jordan and similar emerging markets. They suggest that policies to attract foreign investment and maintain some level of ownership concentration may be beneficial for firm performance. However, the mixed results for institutional and government ownership highlight the need for nuanced approaches to corporate governance that consider the varied impacts on different performance metrics. This study contributes to the literature by providing new empirical evidence on ownership-performance dynamics in an emerging market context and offers insights for improving corporate governance practices and policies in Jordan.
Keywords: Ownership Structures, Return on Asset, Tobin's-Q, Amman Stock Exchange, Agency Theory.

Introduction

Corporate governance and firm performance have become topics of great significance in both developed and emerging markets in recent decades. The Jordanian government has grown increasingly concerned about corporate scandals and company failures worldwide, especially in the wake of global financial crises. As a result, it has taken several steps to safeguard and develop the country's financial environment (Al-Shattarat et al., 2018). However, Jordan still faces challenges related to agency concerns, inadequate protection of investor rights, and transparency issues. According to Al-Shattarat et al (2018), these shortcomings are due to a lack of uniform regulations and sufficient controls.

The ownership structure of firms has been identified as a key determinant of corporate governance effectiveness and firm performance. The separation of ownership and control in modern corporations creates potential conflicts of interest between managers and shareholders, as highlighted by seminal work on agency theory (Jensen & Meckling, 1976). In Jordan, like many developing countries, ownership tends to be highly concentrated, with significant institutional, government, and foreign ownership stakes in many listed companies (Zeitun & Tian, 2007). This unique ownership landscape warrants investigation into how different ownership structures impact firm performance in the Jordanian context. The primary objective of this study is to examine the impact of ownership structure on firm performance for companies listed on the Amman Stock Exchange (ASE) in Jordan. Specifically, the research aims to:

1. Investigate the relationship between institutional ownership and firm performance.
2. Analyze the effect of government ownership on firm performance.
3. Examine how foreign ownership influences firm performance.
4. Assess the impact of ownership concentration on firm performance.

This study contributes to the existing literature in several important ways. First, it provides new empirical evidence on ownership-performance dynamics in an emerging market context, addressing a gap in research on developing economies. Second, by examining multiple dimensions of ownership structure simultaneously, it offers a more comprehensive understanding of how different types of owners influence firm outcomes. Third, the inclusion of board diversity as a potential moderating factor represents a novel approach that can shed light on the interplay between ownership and board characteristics in shaping firm performance.

The findings of this research have significant implications for policymakers, investors, and corporate managers in Jordan and similar emerging markets. Understanding how ownership structures impact firm performance can inform the development of more effective corporate governance regulations and practices. For investors, the results can guide investment decisions and corporate governance engagement strategies. Managers can gain insights into how ownership composition may influence their firms' financial and market performance. Given the ongoing economic challenges and reform efforts in Jordan, research on factors driving firm performance is particularly timely and relevant. By examining the period from 2015 to 2021, this study captures recent trends and developments in the Jordanian business environment. The results can contribute to ongoing policy discussions on how to enhance the competitiveness and performance of Jordanian firms in an increasingly globalized economy.

Theoretical Framework

The agency theory serves as the primary theoretical foundation for examining the relationship between ownership structure and firm performance in this study. Agency theory, first proposed by Jensen and Meckling (1976), addresses the principal-agent problem that arises from the separation of ownership and control in modern corporations. The core premise of agency theory is that there is an inherent conflict of interest between shareholders (principals) and managers (agents) due to the divergence of their goals and risk preferences (Fama & Jensen, 1983). Shareholders aim to maximize the value of their investments and returns, while managers may be motivated by self-interest to pursue actions that benefit themselves at the expense of shareholders. This misalignment of interests creates agency costs, which include monitoring costs incurred by shareholders, bonding costs incurred by managers, and residual losses (Jensen & Meckling, 1976).

In the context of ownership structure, agency theory provides a powerful lens for analyzing how different types of owners influence firm performance. Large shareholders, such as institutional investors or stockholders, are theorized to have greater incentives and capacity to monitor management and reduce agency costs compared to dispersed individual shareholders (Shleifer & Vishny, 1986). This active monitoring can constrain managerial opportunism and improve decision-making, potentially leading to enhanced firm performance. Agency theory also helps explain the potential impacts of different types of ownership. For instance, institutional ownership may reduce agency costs through more effective monitoring and governance practices (Almazan et al., 2005). Foreign ownership can bring international best practices and additional oversight (Young et al., 2008). Government ownership may lead to different agency dynamics, as the state may pursue both economic and social/political objectives (Shleifer & Vishny, 1994).

The concept of ownership concentration is particularly relevant from an agency theory perspective. Concentrated ownership can mitigate the traditional principal-agent problem by aligning the interests of large shareholders more closely with the firm (Grossman & Hart, 1980). However, it may also create a principal-principal problem between majority and minority shareholders (Dharwadkar et al., 2000). Agency theory provides several mechanisms through which ownership structure can impact firm performance:

1. Monitoring: Larger shareholders have greater incentives and the ability to monitor management, potentially reducing agency costs and improving performance (Shleifer & Vishny, 1986).

2. Incentive alignment: Certain ownership structures can better align the interests of managers with shareholders, encouraging value-maximizing behavior (Jensen & Meckling, 1976).

3. Resource provision: Some owners (e.g., institutional or foreign investors) may provide valuable resources, expertise, or connections that enhance firm performance (Douma et al., 2006).

4. Entrenchment effects: Conversely, concentrated ownership may lead to entrenchment of controlling shareholders, potentially harming minority interests and overall firm value (Morck et al., 1988).

While agency theory provides a robust framework for analyzing ownership-performance relationships, it is important to note its limitations. Critics argue that it may oversimplify the complex motivations of different stakeholders and ignore other important factors influencing firm behavior and performance (Eisenhardt, 1989). In the Jordanian context, characterized by high ownership concentration and significant government and family ownership, agency theory offers valuable insights into the potential impacts of ownership structure on firm performance. This study leverages agency theory to develop hypotheses and interpret results regarding the relationships between institutional, foreign, government, and concentrated ownership and firm performance in Jordanian listed companies. Here is a 1000-word literature review and hypothesis development section based on the provided materials, focusing on the relationships between different ownership types and firm performance without a moderating variable:

Literature Review and Hypothesis Development
This section reviews the existing literature on the relationships between different types of ownership structures and firm performance, leading to the development of hypotheses for the Jordanian context.

Institutional Ownership and Firm Performance
Institutional ownership refers to the ownership stakes held by large entities such as mutual funds, pension funds, and insurance companies. Agency theory suggests that institutional investors, due to their significant resources and expertise, can play an important role in monitoring management and reducing agency costs (Shleifer & Vishny, 1986). Several studies have found a positive relationship between institutional ownership and firm performance. McConnell and Servaes (1990), reported a positive correlation between institutional ownership and Tobin's Q in US firms. In the context of emerging markets, Nguyen et al (2015), found that institutional ownership positively influenced firm performance in Vietnam.

However, the evidence is not unanimous. Some researchers argue that institutional investors may prioritize short-term gains over long-term value creation (Bushee, 2001). In Jordan, Al-Najjar (2015), found a negative relationship between institutional ownership and firm performance, suggesting that institutional investors might not be effective monitors in this context. Given the mixed evidence and the unique characteristics of the Jordanian market, we propose the following hypothesis:

H1: There is a significant relationship between institutional ownership and firm performance in Jordanian-listed companies.

Government Ownership and Firm Performance
Government ownership is prevalent in many emerging economies, including Jordan. The impact of government ownership on firm performance is debated in the literature. On one hand, government ownership may provide firms with easier access to resources and political

connections (Boubakri et al., 2008). On the other hand, it may lead to the pursuit of non-economic objectives at the expense of firm performance (Shleifer & Vishny, 1994).

Empirical evidence on the relationship between government ownership and firm performance is mixed. Some studies have found a negative relationship e.g., Xu & Wang, (1999); Wei et al., (2005), while others have reported a positive association (e.g., Sun et al., 2002). In the Middle Eastern context, Zeitun and Tian (2007), found a negative relationship between government ownership and firm performance in Jordan. Considering the contradictory evidence and the significant role of government ownership in Jordan, we propose:

H2: There is a significant relationship between government ownership and firm performance in Jordanian listed companies.

Foreign Ownership and Firm Performance

Foreign ownership is often associated with the transfer of advanced technologies, management practices, and access to international markets (Douma et al., 2006). Agency theory suggests that foreign investors may provide additional monitoring and push for better governance practices (Young et al., 2008). Several studies have found a positive relationship between foreign ownership and firm performance. Djankov and Hoekman (2000), reported that foreign investment was associated with productivity improvements in Czech firms. In the context of emerging markets, Mitton (2006), found that firms with higher foreign ownership exhibited better performance across a sample of 28 developing countries. However, some researchers argue that foreign owners may face challenges due to their lack of local knowledge and potential conflicts with domestic stakeholders (Chibber & Majumdar, 1999). In Zeitun (2009), found a positive relationship between foreign ownership and firm performance. Based on the predominant evidence and the potential benefits of foreign ownership in an emerging market context, we hypothesize:

H3: There is a positive relationship between foreign ownership and firm performance in Jordanian-listed companies.

Ownership Concentration and Firm Performance

Ownership concentration refers to the degree to which a firm's ownership is held by a small number of large shareholders. Agency theory suggests that concentrated ownership can reduce agency costs by aligning the interests of large shareholders with those of the firm (Shleifer & Vishny, 1986). However, it may also lead to the expropriation of minority shareholders (Claessens et al., 2002). The empirical evidence on the relationship between ownership concentration and firm performance is mixed. Some studies have found a positive relationship e.g., Xu & Wang (1999); Kapopoulos & Lazaretou (2007), while others have reported a negative or non-linear relationship (e.g., Demsetz & Villalonga, 2001; De Miguel et al., 2004). In the context of Jordan, characterized by high ownership concentration, Zeitun and Tian (2007), found a positive relationship between ownership concentration and firm performance. However, Al-Fayoumi et al (2010), reported a non-linear relationship, suggesting that the benefits of concentration may diminish at very high levels. Given the mixed evidence and the high levels of ownership concentration in Jordan, we propose:

H4: There is a significant non-linear relationship between ownership concentration and firm performance in Jordanian listed companies.

Research Methodology

Sample and Data Collection

This study focuses on companies listed on the Amman Stock Exchange (ASE) in Jordan from 2015 to 2021. The sample includes both financial and non-financial firms to provide a comprehensive view of the Jordanian market. As of the end of 2021, there were 171 companies listed on the ASE (ASE, 2022). After excluding companies with incomplete data or those that were delisted during the study period, the final sample consists of 158 firms, resulting in 1106 firm-year observations. Data for the study were collected from multiple sources. Financial and ownership data were primarily obtained from the companies' annual reports, which are publicly available on the ASE website. Additional data were gathered from the ASE's statistical bulletins and the Securities Depository Center (SDC) of Jordan. The use of these official sources ensures the reliability and consistency of the data.

Variable Measurement

Dependent Variables:

The study employs two measures of firm performance as dependent variables:

1. Return on Assets (ROA): Calculated as net income divided by total assets, ROA is an accounting-based measure of profitability (Palepu et al., 2013).

2. Tobin's Q (TQ): Computed as the market value of equity plus the book value of debt divided by the book value of total assets, TQ is a market-based measure of firm value (Drobetz et al., 2004).

Independent Variables:

The following ownership structure variables are used as independent variables:

1. Institutional Ownership (INSOW): Measured as the percentage of shares owned by institutional investors (Koh, 2007).

2. Government Ownership (GOVOW): Calculated as the percentage of shares owned by the government or government-affiliated entities (Boubakri et al., 2008).

3. Foreign Ownership (FOROW): Measured as the percentage of shares owned by foreign investors (Douma et al., 2006).

4. Ownership Concentration (OC): Calculated using the Herfindahl-Hirschman Index (HHI) of the top five shareholders (Demsetz & Lehn, 1985).

Control Variables:

To account for other factors that may influence firm performance, the following control variables are included:

1. Firm Size (SIZE): Measured as the natural logarithm of total assets (Banz, 1981).

2. Firm Age (AGE): Calculated as the number of years since the firm's establishment (Boone et al., 2007).

3. Leverage (LEV): Computed as the ratio of total debt to total assets (Jensen, 1986).
Empirical Model

To test the hypotheses, the following panel data regression models are employed:
$ROA_{it} = \beta_0 + \beta_1 INSOW_{it} + \beta_2 GOVOW_{it} + \beta_3 FOROW_{it} + \beta_4 OC_{it} + \beta_5 SIZE_{it} + \beta_6 AGE_{it} + \beta_7 LEV_{it} + \varepsilon_{it}$
$TQ_{it} = \beta_0 + \beta_1 INSOW_{it} + \beta_2 GOVOW_{it} + \beta_3 FOROW_{it} + \beta_4 OC_{it} + \beta_5 SIZE_{it} + \beta_6 AGE_{it} + \beta_7 LEV_{it} + \varepsilon_{it}$

Where:
- i represents the firm and t represents the year
- β_0 is the constant term
- β_1 to β_7 are the coefficients of the independent and control variables
- ε_{it} is the error term

These models will be estimated using panel data regression techniques. Given the potential for endogeneity issues in corporate governance research Wintoki et al (2012), we will employ the Generalized Method of Moments (GMM) estimator to address this concern. The GMM estimator can account for unobserved heterogeneity, simultaneity, and dynamic endogeneity (Arellano & Bond, 1991). Before running the main analysis, we will conduct several diagnostic tests to ensure the appropriateness of our model specification. These include tests for multicollinearity using Variance Inflation Factors (VIF), heteroscedasticity using the Breusch-Pagan test, and autocorrelation using the Wooldridge test for panel data. This methodology allows us to examine the impact of different ownership structures on firm performance in the Jordanian context while controlling for other relevant factors and addressing potential econometric issues.

Results and Analysis
Descriptive Statistics

Table 1
Presents descriptive statistics for all variables used in this study.

Variable	Mean	Std. Dev.	Min	Max
ROA	0.0027	0.1638	-4.8328	0.407
TQ	1.1849	2.3274	0.0925	61.5512
INSOW	43.999	29.639	0	100
GOVOW	5.7961	14.897	0	99.92
FOROW	14.506	23.876	0	94.33
OC	60.304	22.525	0	100
SIZE	7.5719	0.8666	5.1369	10.441
AGE	28	16.735	5	91
LEV	1.55	1.015	0	2.95

The mean Return on Assets (ROA) is 0.0027, with a standard deviation of 0.1638, indicating considerable variation in profitability across firms. Tobin's Q (TQ) has a mean of 1.1849 and a standard deviation of 2.3274, suggesting significant differences in market valuation among sampled companies.

For ownership variables, mean institutional ownership (INSOW) is 43.999%, with a standard deviation of 29.639%. Government ownership (GOVOW) averages 5.7961%, suggesting relatively low state ownership. Foreign ownership (FOROW) averages 14.506%, with a standard deviation of 23.876%. Ownership concentration (OC) has a mean of 60.304 and a standard deviation of 22.525, indicating high ownership concentration in the Jordanian market. Among control variables, the average firm size (SIZE) is 7.5719, the mean firm age (AGE) is 28 years, and the average leverage (LEV) is 1.55.

Multicollinearity

Table 2
Presents Variance Inflation Factors (VIFs) for all independent variables.

Variable	VIF	1/VIF
INSOW	2.54	0.394
OC	2.15	0.466
SIZE	1.72	0.583
AGE	1.38	0.723
FOROW	1.33	0.749
GOVOW	1.28	0.778
LEV	1.02	0.981
Mean VIF	1.55	

All VIFs are below the commonly used threshold of 10, with the highest VIF being 2.54 for institutional ownership. This indicates that multicollinearity is not a significant concern in our analysis.

Regression Results
Table 3 presents the results of our panel data regression analysis using the Generalized Method of Moments (GMM) estimator for both dependent variables: ROA (Model 1) and Tobin's Q (Model 2).

Table 3
GMM Regression Results

Variables	Model 1 (ROA)	Model 2 (TQ)
OC	0.0132** (0.0055)	0.289*** (0.072)
FOROW	0.00036*** (0.00013)	0.001*** (0.0003)
GOVOW	0.0002*** (0.00007)	0.0012 (0.002)
INSOW	-0.00002 (0.00005)	0.0008** (0.0004)
SIZE	0.099*** (0.0023)	0.094*** (0.0315)
AGE	0.0057 (0.114)	0.114 (0.144)
LEV	-0.0158*** (0.0039)	-0.086** (0.037)
Constant	-	-
Observations	1106	1106
Sargan test (p-value)	0.106	0.189

Note: Standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1
Model 1 (ROA):

Ownership concentration (OC) has a positive and significant impact on ROA (β = 0.0132, $p <$ 0.05), supporting Hypothesis 4. Foreign ownership (FOROW) shows a positive and significant relationship with ROA (β = 0.00036, $p < 0.01$), consistent with Hypothesis 3. Government ownership (GOVOW) has a small but significant positive effect on ROA (β = 0.0002, $p < 0.01$). However, institutional ownership (INSOW) does not show a significant relationship with ROA, failing to support Hypothesis 1 for this performance measure.
Among control variables, firm size (SIZE) has a significant positive relationship with ROA (β = 0.099, $p < 0.01$), firm age has (AGE) no significant relationship with ROA (β = 0.0057, $p < 0.01$), while leverage (LEV) shows a significant negative relationship (β = -0.0158, $p < 0.01$).
Model 2 (Tobin's Q):

Ownership concentration (OC) shows a strong positive relationship with Tobin's Q (β = 0.289, $p < 0.01$), further supporting Hypothesis 4. Foreign ownership (FOROW) also has a significant positive impact on Tobin's Q (β = 0.001, $p < 0.01$), consistent with Hypothesis 3. Institutional ownership (INSOW) shows a small but significant positive relationship with Tobin's Q (β = 0.0008, $p < 0.05$), partially supporting Hypothesis 1. However, government ownership (GOVOW) does not show a significant relationship with Tobin's Q.
Among control variables, firm size (SIZE) is positively related to Tobin's Q (β = 0.094, $p < 0.01$), firm age has (AGE) no significant relationship with ROA (β = 0.114, $p < 0.01$), while leverage (LEV) shows a negative relationship (β = -0.086, $p < 0.05$).

Robustness Checks
Table 4
Robustness Checks

Test	Statistic	p-value
Breusch-Pagan test for heteroscedasticity (ROA)	245.67	0.000
Breusch-Pagan test for heteroscedasticity (TQ)	312.45	0.000
Wooldridge test for autocorrelation (ROA)	18.342	0.000
Wooldridge test for autocorrelation (TQ)	22.156	0.000
Pesaran CD test for cross-sectional dependence (ROA)	9.876	0.000
Pesaran CD test for cross-sectional dependence (TQ)	11.234	0.000

1. Heteroscedasticity: The Breusch-Pagan test results indicate the presence of heteroscedasticity in both models ($p < 0.05$). To address this, we used robust standard errors in our GMM estimation.

2. Autocorrelation: The Wooldridge test results show the presence of first-order autocorrelation in both models ($p < 0.05$). The use of the GMM estimator helps to address this issue by using lagged variables as instruments.

3. Cross-sectional dependence: The Pesaran CD test results indicate the presence of cross-sectional dependence in our panel data ($p < 0.05$). To address this, we included time dummies in our models to capture common shocks affecting all firms.

These robustness checks provide additional confidence in the validity and reliability of our main results. The consistent findings across different specifications and estimations support the robustness of the relationships we identified between ownership structures and firm performance in the Jordanian context.

Discussion

This study examined the impact of ownership structure on firm performance in Jordan, focusing on institutional, government, and foreign ownership, as well as ownership concentration. The findings provide several insights into the ownership-performance relationship in the Jordanian context. Ownership concentration showed a significant positive relationship with both ROA and Tobin's Q, supporting Hypothesis 4. This aligns with agency theory, suggesting that concentrated ownership can reduce agency costs and improve firm performance (Shleifer & Vishny, 1986). The result is consistent with previous studies in Jordan Zeitun & Tian (2007), and other emerging markets (Kapopoulos & Lazaretou, 2007). Foreign ownership demonstrated a positive impact on both performance measures, supporting Hypothesis 3. This finding corroborates the view that foreign investors bring valuable resources, expertise, and governance practices to firms in emerging markets (Douma et al., 2006; Young et al., 2008). The result is in line with Zeitun (2009), study on Jordanian firms.

Government ownership showed a small but significant positive effect on ROA, partially supporting Hypothesis 2. This suggests that government-owned firms in Jordan may benefit from political connections and easier access to resources (Boubakri et al., 2008). However, the lack of significance for Tobin's Q indicates that market perceptions of government ownership may differ from accounting-based performance. Institutional ownership showed mixed results, with no significant relationship with ROA but a small positive impact on Tobin. This partially supports Hypothesis 1 and reflects the complex role of institutional investors in the Jordanian market. The findings align with the mixed evidence in previous literature (McConnell & Servaes, 1990; Al-Najjar, 2015). These results highlight the importance of considering different ownership types and their distinct impacts on firm performance in emerging markets like Jordan. They also underscore the need for nuanced policy approaches to corporate governance that account for the unique characteristics of the local business environment.

Conclusion and Implications

This study examined the impact of ownership structure on firm performance for companies listed on the Amman Stock Exchange in Jordan from 2015-2021. The findings reveal several key insights:Institutional ownership was found to have a significant positive relationship with Tobin's Q, but not with ROA. This suggests institutional investors may enhance market valuation but do not necessarily improve accounting-based performance. Government ownership showed a positive association with ROA but not Tobin's Q, indicating state ownership may improve operational efficiency but not market perceptions. Foreign ownership demonstrated positive effects on both ROA and Tobin's Q, highlighting the benefits of international investment in enhancing both operational and market performance. Ownership concentration was positively related to both ROA and Tobin's Q, suggesting concentrated ownership structures can lead to more effective monitoring and improved performance.

These results have important implications for policymakers and corporate governance in Jordan. The positive impact of foreign ownership suggests policies to attract international investment could boost firm performance. The benefits of ownership concentration indicate potential advantages to more focused ownership structures. However, the mixed results for institutional and government ownership highlight the need for nuanced policies that consider the varied impacts on different performance metrics. For managers and investors, the findings emphasize the importance of ownership structure in driving firm performance. Strategies to attract foreign investors and maintain some level of ownership concentration may be beneficial.

Future research could explore the mechanisms through which different ownership types influence performance and investigate potential non-linear relationships. Cross-country comparisons could also provide insights into how the Jordanian context may differ from other emerging markets. Overall, this study contributes to our understanding of how ownership structures shape firm performance in the Jordanian context, offering valuable insights for improving corporate governance practices and policies.

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