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**Article**

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## ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

# The impact of ownership structure on dividend policy of listed firms in Jordan

Hanady Bataineh

**Abstract:** This study investigates the impact of ownership structure on the dividend policy in Jordan. In particular, it aims to uncover the effects of family ownership, institutional ownership, foreign ownership, and state ownership on dividend decisions for a sample of 66 Jordanian industrial and service firms listed on the Amman Stock Exchange (ASE) for the period 2014–2017. Tobit Panel Regression is used to test the hypotheses of the study. The results show a significant positive association between institutional ownership and dividend yield, while foreign ownership is associated with a less likelihood of paying dividends. No evidence is found to support that family ownership and state ownership have an impact on dividend yield. Hence, the study provides a clear evidence that high institutional ownership as an external control mechanism increases the need to pay dividends. The results also indicate that Jordanian listed firms have highly concentrated ownership structures and are mainly dominated by families followed by financial institutions, then foreign investors while the state shows relatively lower ownership. The study recommends that investors should take into account ownership structure when making investment decisions to help them choose the best investment opportunities.

### ABOUT THE AUTHOR

Hanady Bataineh is an assistant professor at the Department of Accounting, Faculty of Business, Al-Balqa' Applied University in Jordan. Her research interests focus on family business, corporate governance, earnings management, dividend policy and International accounting standards.

### PUBLIC INTEREST STATEMENT

The topic of dividend policy has been the subject of discussion by researchers around the world for many decades. The dividend decision is one of the most important and challenging decisions taken by the firm. Based on previous literature, the factors that influence dividend payouts have been subjected to extensive investigations in developed countries, one of the most important factors was the ownership structure. This paper aims to illustrate the impact of ownership structure on the dividend policy in Jordan and provide additional insights into the literature of emerging markets. The results indicate strong evidence for the important role of ownership structure in explaining the differences in dividend policies. Accordingly, the results are beneficial to investors, this paper recommends that investors should take into account ownership structure when making investment decisions to help them predict the firm's dividend payment and choose the best investment opportunities.

**Subjects: Corporate Finance; Accounting; Business;**

**Keywords: Dividends; Ownership; Tobit regression; Agency theory; Amman stock exchange**

## 1. Introduction

Dividend policy is one of the most striking and debated topics in the area of corporate finance and financial economies. The dividend is the amount paid to equity shareholders for their investment in the firm and the compensation for supporting the risks inherent in the business. It is crucial for firm management to decide the portion of earnings to be distributed to shareholders as dividends at the end of each year. The dividend is the remuneration of the shareholders for their investments, and they are interested in earning extreme returns and maximizing their wealth. On the other hand, the firm needs to retain profits to finance its long-term growth. Therefore, the dividend policy is a sensitive issue and the management must be very vigilant about its profit-sharing policies, as well as the amount of dividends that will be distributed to keep the shareholders' trust, and to finance its growth and expansion.

Moreover, the previous literature highlights that the firm dividend policies have a significant bearing on the market value of firm shares (Bernstein, 1998; H. K. Baker & Powell, 1999; Miller & Rock, 1985; Sarwar, 2013). Various issues in relation to dividend theories and factors that affect dividend payouts decisions were forked and subjected to extensive investigations. Several studies were conducted in different countries to describe the relationship between a number of factors and the firm's dividend payouts (Adjaoud & Hermassi, 2017; Berezinets et al., 2017; Glen et al., 1995; La Porta et al., 2000; Rozeff, 1982; Thanatawee, 2013). The majority of these studies investigated dividend policies in developed countries where financial markets are well regulated and ownership is widely distributed compared to emerging countries, as the dividend policies in emerging countries remain underexplored. The results of these studies indicate that there are some differences among countries regarding the factors that have an impact on dividend payouts, and there is no unified picture regarding the factors that explain the changes in the dividend payments and the principal motivating force behind dividend payment remains unresolved and hence is still as a puzzle (Lace et al., 2013; Al-Najjar & KilincarslanBasil, 2019).

However, some factors investigated generated confusing findings with little consensus which requires more focus on them. One of the most important aforementioned factors was the ownership structure. According to the agency theory, ownership structure can serve as an internal mechanism of corporate governance. Active monitoring advocated by majority shareholders leads the firm to make decisions that are consistent with the interests of shareholders. This in turn lowers agency costs and presents a good indicator to the capital market regarding the firm's control quality. Shleifer and Vishny (1986) also explained that major shareholders have incentives to monitor the firm's management and operations to curb the abusing of corporate resources for private benefits, which has a positive impact on the value of the firm. Otherwise, other studies stated that dividend payout policy also helps to lessen agency costs which have arisen from the conflict of interest between management and shareholders as the payment of dividends reduces the availability of free cash flow to managers to invest in projects for their own benefits at the expense of shareholders. The dividend policy and ownership structure collaborate in reducing agency costs, they are interlinked and should be jointly evaluated for policy formulation.

The first objective of this study is to explore, under the context of the agency theory, whether the ownership structure plays a vital role in the dividend payment policy in Jordan. The second objective is to add a new piece to the puzzle of dividend policy by using Jordanian data. Whereas, the high ownership concentration through different combinations of shareholders (families, institutions, government, and foreign) and their distinct attributes make emerging countries such as Jordan, an interesting place to study their impact in solving the puzzle of dividend policy.

Consequently, the current study seeks to make the following contributions. First, it provides evidence on the relationship between ownership structure and dividend payout policy in Jordan. Second, it provides additional insights into the literature on dividends policy by analyzing data from an emerging stock market. Third, the results of this study may help potential investors to gain some understanding of the firm's ownership structure and a basic understanding of how this ownership structure affects the firm's dividend decisions. This, in turn, helps them anticipate the firm's dividend payment and choose the best investment opportunities where they should invest their funds in relation to their investment perspectives (more short-term cash dividend or capital gains).

This paper is organized as follows: Section 2 provides the background of the study. Then, section 3 discusses the main dividend policy theories. Section 4 presents the empirical literature and develops the study hypotheses. Next, section 5 describes the research design. Section 6 discusses and analyzes the main empirical results. Finally, section 7 presents some conclusions, recommendations, and suggestions for future studies.

## 2. Background

The Jordanian economy is classified as an emerging market economy. As in many other emerging economies' policies, economic policy in Jordan aims to encourage investment, improve productivity, create job opportunities, and improving citizens' standard of living.

To ensure continued economic development, the Jordanian government has made efforts to create an attractive business environment. The Jordan stock market was established in 1978 and is considered one of the oldest financial markets in the region. The main objective of the Jordan stock market is to create a formal mechanism for firms to raise their capital and enable individuals to trade securities in Jordanian firms. The Jordan stock market consists of three separate entities which are the Amman Stock Exchange (ASE), the Jordan Securities Commission (JSC), and the Securities Depository Center (SDC). In 1999 the Amman Stock Exchange (ASE) became the official financial market for foreign and domestic investors. This market is considered one of the region's largest Arab financial markets and includes a wide range of different sectors with different firms. According to the annual report of the Amman Stock Exchange in 2017, the number of listed firms on the ASE reached 194, with a market capitalization of (17) billion dinars, representing (61.8%) of the GDP, and an average of (1.7) billion shares traded through (717) thousand transactions.

Major Jordanian economic reforms over the past two decades have highlighted that the industrial and service sectors play a major role in the Jordanian economy, they work as a driving force for economic growth and employment. Concentrated ownership structure was the predominant form in the Jordanian industrial and services sectors, the firms are highly dominated by families, financial institutions, and foreign investors. According to Bataineh et al. (2018), family firms form more than (40%) of total firms listed on the ASE. As well as, Al-Gharaibeh et al. (2013) found that the percentage of institutional ownership is (52%) in Jordanian industrial and service listed firms.

Most firms in the emerging countries including Jordan suffer from institutional problems such as a concentrated ownership structure, low level of transparency, and weak investor protection, all of which cause agency problems and asymmetric information arising from the lack of compatible regulations and sufficient supervision (Al-Shattarat et al., 2018). Therefore, the presence of such market imperfections restricts the firms' access to external capital; This is due to the fact that the outside investors and specifically minority shareholders are not confident that their investments will not be expropriated by insiders or controlling shareholders who control the firm's assets or that they will realize their returns on investment, including dividends. Thus, we expect that the high ownership concentration in Jordanian firms might have important implications on dividend policy decisions.

In Jordan, there are no formal regulations governing the dividends policy or restricting industrial and service firms to distribute dividends. However, the Jordanian Companies Law of 1997 includes one article No. 171 related to dividend distribution which states that the regular meeting of the general assembly of the public shareholding company includes discussing all issues related to the company, especially the annual balance sheet, the profit and loss account and deciding the profits that the board of directors proposes to distribute, including the reserves and allocations, which the law and the company memorandum of association stipulate its deduction.

Most of the literature studies have been conducted to examine dividend policy in developed countries that have different contextual backgrounds compared to their counterparts in developing countries. The developed countries differ from those developing countries in many characteristics such as the protection of investors in the stock market, taxes levied on dividends and capital gains, as well as the extent of ownership concentration. These differences may help to change our perspective on dividend behavior in developing countries. More specifically, in Jordan, there are several factors that motivate the study of the dividend policy. First, Jordan is ranked relatively low in terms of investor protection, compared to most countries in the world (World Bank, 2017). Second, there are no taxes on dividends and capital gains during the study period, which makes Jordan different from other countries. Third, there is a highly concentrated ownership structure. Accordingly, our study examines empirically the association between ownership structure and dividend policy decision, which is still under exploration in the emerging Jordanian market.

### 3. Theoretical literature review

#### 3.1. Ownership structure and dividend policy

Based on previous literature in examining the effect of the firm's ownership structure on dividend policy, it was found that many prior studies indicated a clear relationship between the ownership structure and the payment of dividends. This relationship was analyzed based on the literature of Jensen and Meckling (1976) under the agency theory approach which indicates that the presence of large shareholders can be used to mitigate agency conflict between management and shareholders within the firm. Also, previous literature showed evidence that agency problem can be controlled by a dividend policy, they asserted that dividends are a tool for reducing available cash flow to managers, thus it plays an important role in alleviating the managerial opportunistic costs (Easterbrook, 1984; Jensen et al., 1992; Rozeff, 1982).

Other prior studies have shown that ownership structure is a determinant factor of firm policy decisions including dividend payout (Lace et al., 2013; Ullah et al., 2012). According to Kouki and Guizani (2009), the ownership structure is one of the key elements in understanding the corporate dividend payout policy in Tunisia. Their results showed that institutional ownership and state ownership have a significant negative impact on the dividend payout policy. On the other hand, Sindhu et al. (2016) analyzed the effect of ownership structure on the dividend payout ratio of non-financial firms listed on the Karachi Stock Exchange. The study results concluded that managerial ownership is associated with a lower propensity to pay dividends, and this indicates that managers prefer to retain earnings over dividends because they will gain more benefits from investing in projects. Whereas, firms with higher institutional ownership tend to pay more dividends to their shareholders.

#### 3.2. Dividend policy theories

Dividend decision is one of the most important financial decisions a firm takes. There are many theories underpinning dividend distribution studies that have been discussed and empirically tested with the hope of solving the dividend puzzle in developed countries such as dividend irrelevance theory, dividend relevance theory, bird-in-hand theory, signaling theory, agency theory, and catering theory. In this section, we will discuss the main dividend policy theories.

### 3.2.1. Dividend irrelevance theory

According to Miller and Modigliani (1961), the dividend irrelevance theory is based on the following important assumptions. First, perfect capital market conditions. Second, rational investors. Third, perfect certainty that all investors have complete assurance regarding their future investments. They have demonstrated that the dividend decision of a firm does not affect the value of the firm. Instead, the value of the firm is determined by its investment and financing decision within the optimum capital structure, and thus, the dividend is irrelevant. They also showed that investors are indifferent to the dividend policy and will always choose the option that maximizes their resources either in the form of cash dividends or capital gains (share market prices increase).

### 3.2.2. Dividend relevance theory

Gordon (1959) as a proponent of dividend relevance theory argued that in the real world of uncertainty and imperfect markets, dividends matter and are valued differently from capital gains. Therefore, he confirms that investors prefer a short-term income over future income due to uncertainty.

### 3.2.3. The bird-in-hand theory

The bird-in-hand theory was developed by Lintner (1956) and Gordon (1959), and it is another view that supports dividend relevance theory. According to this theory, investors would prefer the current cash dividend (bird in the hand) rather than capital gains (two in the bush) due to information asymmetry and uncertainty about future cash flow. Accordingly, this theory assumed that a higher dividend payout ratio would lower the cost of capital and thus increase the value of the firm. Therefore, the firm should set a high cash dividend payout ratio to maximize the share price. (Gordon, 1959; Gordon & Shapiro, 1956). This debate has been widely criticized and not empirically supported.

### 3.2.4. Signaling theory

This theory is also called the information content hypothesis, and it supports the dividend relevance theory by proposing that managers and other insiders have access to information that is not available to outside investors about the current state and future prospects of the firm, and can exploit their information advantage to undertake actions beneficial to them at the expense of shareholders. Therefore, the dividend announcement may act as a signal to communicate this information and thus reduce the level of information asymmetry. Signaling theory asserts that the firm's announcement of increasing dividend payouts sends a positive signal to the investor about its bright future prospects. On the contrary, the announcement of decreasing dividend payouts may indicate management pessimism about future cash flows (Bhattacharya, 1979; John & Williams, 1985).

### 3.2.5. Agency theory

According to agency theory, information asymmetry and agency conflict between managers and shareholders provide a necessary explanation of why dividend policy might matter. This argument is based on the assumption that managers may undertake activities that may be detrimental to shareholders and the value of the firm. Previous studies such as Jensen and Meckling (1976), Rozeff (1982), and Easterbrook (1984) asserted that dividend payments can be used as a tool to reduce the cash available at the discretion of management that may be used for their own interests by engaging in unprofitable investment decisions, thus helping to mitigate agency costs which have arisen from conflict of interest between management and shareholders, and placing management under the scrutiny of capital suppliers.

### 3.2.6. Catering theory

Catering theory was developed by Baker and Wurgler (2004a, 2004b)), it confirms that firms decide to pay dividends in response to prevailing investor demand for dividend payers. The firm distributes more dividends when investors put a premium on the shares of payers and does not distribute dividends when investors prefer non-payers.



The debate about dividend policy is not limited to these discussed theories. Several other theories have been presented regarding dividend policy. After several decades of investigation, it turns out that there is no consensus among scholars on explaining why firms pay dividends (Lotto, 2020). Which further increases the dividend puzzle complexity.

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

##### 4.1. Family ownership and dividend policy

Family-controlled firms have a powerful role in most economies of emerging markets due to the high ownership concentration (Rajverma et al., 2019). It is well noted that previous studies on family firms and dividend policy depended mainly on agency theory, several studies indicated that agency theory has a mixed perspective on agency problems in family firms (Charitou et al., 2016; Villalonga & Amit, 2006). There are two types of agency problems. First, principal-agent conflict (Agency Problem I). This agency conflict arises when the interest of the principals (family shareholders) is not consistent with the interest of the agents in the firm (managers). Therefore, family shareholders can monitor managers to mitigate agency problems usually through the appointment of their own family members to top management and board representation positions (Farinha, 2003; González et al., 2014; Jensen & Meckling, 1976; Setia-Atmaja, 2017; Shleifer & Vishny, 1986). Second, conflict of interest between the controlling shareholders and minority shareholders (Agency Problem Type II). This agency conflict may result from the excess control rights of the controlling family shareholders. However, the divergence of interests between controlling and minority shareholders may lead controlling shareholders to misuse their power and control to extract private benefits such as paying themselves high salaries and appointing their family members to top managerial positions and board seats although they are not capable. Thus, this could increase the costs of potential expropriation of minority shareholders rather than work to enhance the overall wealth of the shareholders (Fama & Jensen, 1983; Shleifer & Vishny, 1997; Xu'nan, 2011; Young et al., 2008).

Recent studies have investigated and stated mixed evidence concerning whether how family involvement influences corporate dividend policy, most of these studies reported a significant positive association between family ownership and dividend payouts (Adjaoud & Hermassi, 2017; Faccio et al., 2001; Pindado et al., 2012; Setia-Atmaja, 2010; Subramaniam, 2018). Their findings showed three views that support this positive correlation. The first is the reputational view of dividend, that controlling family shareholders may tend to build up a favorable reputation of treating minority shareholders well by paying them high dividend payouts to keep them satisfied. Reputation is essential in family firms especially when the firm plans to increase its capital in the near future (Benjamin et al., 2016; La Porta et al., 2000; Schmid et al., 2010; Subramaniam, 2018). The second view is the widely agreed explanation that higher dividend payouts policy can serve as a corporate governance mechanism that resolves agency conflicts (both Type 1 and Type 2) by decreasing the amount of cash which is available at the discretion of managers (Jensen, 1986) and controlling the discretion of shareholders in family firms (La Porta et al., 2000). The third and final view showed that dividends as a source of income for the family shareholder, and therefore family firms may also pay high dividends to meet the income needs of their shareholders (Isakov & Weisskopf, 2014; Setia-Atmaja, 2017; Subramaniam, 2018). However, other studies contradicted the prior argument by suggesting that family firms have lower cash dividend payouts and a lower tendency for dividend distribution compared to non-family firms (Villalonga & Amit, 2006; Z. Wei et al., 2011). Setiawan et al. (2016) and Rajverma et al. (2019) reported that family firms tend to pay lower dividends as they favor controlling resources and earning some benefits from them at the cost of minority shareholders.

Based on the above arguments, the following hypothesis is proposed:



H1: There is an association between family ownership and dividend policy in Jordanian industrial and service listed firms.

#### **4.2. Institutional ownership and dividend policy**

In many countries, institutional shareholders such as banks, pension funds, insurance firms, and mutual funds play a key role that is highly influential in corporate governance and have an active participation in determining the dividend policy of their firms (Mehdi et al., 2017). In an environment with concentrated ownership and less shareholder protection, institutional shareholders can lead to better oversight of managers and can guarantee that minority shareholders are protected. Literature relating to the correlation between institutional ownership and dividend payout policy showed different points of view. On the one hand, several studies found that institutional ownership is negatively associated with dividend payouts due to their effective monitoring role on the firm's management. They hold large shareholdings and have adequate knowledge and expertise, which in turn mitigate the agency cost and the need for high dividend payouts (Berezinets et al., 2017; Han et al., 1999; Shleifer & Vishny, 1986). On the other hand, Reyna (2017) found a positive relationship between institutional ownership and payment of dividends, he argued that when institutional investors intervene less in their guiding role, they would rather recover their investment by the payment of dividends, thus leads to alleviating the potential opportunistic behavior of the management. Benjamin et al. (2016) and Farinha (2003) also argued that institutions may push the firms to pay higher dividends if they are convinced that the oversight of their managers is ineffective or extremely costly. Therefore, this study proposes the following hypothesis:

H2: There is an association between institutional ownership and dividend policy in Jordanian industrial and service listed firms.

#### **4.3. Foreign ownership and dividend policy**

Different opinions were found in previous literature regarding the relationship between foreign ownership and dividend payments. Some studies suggested that foreign ownership positively impacts dividend payment (Aydin & Cavdar, 2015; Jeon et al., 2011; Mossadak et al., 2016; Musallam & Lin, 2019). Kowerski and Wypych (2016) found a positive relationship between foreign ownership and dividend payments due to the fact that dividends are an attractive source of income to foreign investors. In the same context, Le and Le (2017) reported that firms with foreign investors as the largest shareholders pay more dividends than firms with local investors, and they also indicated that foreign investors prefer to pay more dividends in firms with poor corporate governance because the disclosed information about the performance of these firms and market changes is insufficient. On the contrary, other studies have indicated that foreign ownership negatively affects dividend payments, as foreign investors with large shareholdings play an active role in deterring opportunistic behavior of managers in emerging markets by their expertise and thus decreasing agency costs and the need for high dividend payments (Lin & Shiu, 2003; Sulong & Nor, 2008). Therefore, this study speculates the following:

H3: There is an association between foreign ownership and dividend policy in Jordanian

#### **4.4. State ownership and dividend policy**

Governmental Investment plays an important role in private corporations, it gives access to raising funds for growth and enhancing the monitoring of the corporations (Lau & Tong, 2008). Prior literature provided proof that firms with higher state ownership are marked by high dividend payouts (Al-Malkawi, 2007; Bradford et al., 2013; J. G. Wei et al., 2004; Su et al., 2014; Wang et al., 2011). Most interpreted this relation according to the signaling theory that when the state tends to play a major role in the strategic sectors that are important to the economy, it desires to reinforce its position and signal a good image of its performance by paying higher cash dividends.

Some other studies have indicated that state-controlled firms with poor corporate governance will attempt to pay higher dividends as a tool to attract investors in the capital market (La Porta et al., 2000). Further, Musallam and Lin (2019) showed that firms with high state ownership pay fewer dividends. Al-Najjar and Kilincarslan (2016) also tested the effect of state ownership on dividends in the Turkish market from the period 2003 to 2012, they found a significant negative effect of state ownership on dividend payout policy.

Therefore, this study is intended to investigate the effect of state ownership on dividend policy by speculating the following:

H4: There is an association between state ownership and dividend policy in Jordanian industrial and service listed firms.

## 5. Research design

### 5.1. Sample selection

The population consists of all industrial and service firms listed on the Amman Stock Exchange for the period from 2014 to 2017. The selection of the sample takes into account the latest data available before publication. The total number of listed firms at the year's end of 2017 was 43 industrial and 46 service firms. Due to the unavailability of annual financial reports and insufficient data, the total number of firms included in the analysis was 66 firms, representing 74.16 percent of the total population. A summary of the selection process is provided in Table 1. Financial sector firms (banks, insurance, diversified financial service, and real estate) are excluded from the analysis due to the fact that financial firms are governed by certain regulations and policies not applicable to other firms operating in another sector. Dividend data and ownership structure information are gathered from the annual financial reports of firms from the Amman Stock Exchange (ASE) database and the Security Depository Center (SDC) database.

### 5.2. Model and Measurement of Variables

To achieve the objective of this study, the empirical form of the model has been formulated as below:

$$DY_{it} = \beta_0 + \beta_1 FAM_{it} + \beta_2 INS_{it} + \beta_3 FOR_{it} + \beta_4 STA_{it} + \beta_5 ROA_{it} + \epsilon_{it}$$

Following previous studies such as Singhanian and Gupta (2012), González et al. (2014), Setia-Atmaja (2017), Mehdi et al. (2017), and Subramaniam (2018), the dependent variable (Dividend Policy) is measured by the dividend yield ratio, which is defined as dividends paid per share divided by the closing price per share for a firm. The variable takes a positive value if the dividend is paid and it takes zero value if the dividend is not paid.

The independent variables used in the study are family ownership (FAM), institutional ownership (INS), foreign ownership (FOR), and state ownership (STA). With regard to family ownership (FAM) and in line with prior studies such as Anderson and Reeb (2003), Villalonga and Amit (2006),

**Table 1. Study sample**

Number of industrial listed firms on the ASE	43
Number of services listed firms on the ASE	46
Total population	89
Number of firms with missing data	(23)
<b>Final study sample</b>	<b>66</b>

Lam and Lee (2012), Latif et al. (2014), and Vieira (2018), a firm is classified as a family if one of the following conditions is met: the family owns a minimum of 20% of the firm's shares, or the presence of two or more members of the same family on the board; at least one of them is the chairman or vice-chairman, or there are two or more family members in top managerial positions each owns 5% or more of the firm's shares. This variable is included as a dummy equal to one if the firm is a family and zero otherwise. Moreover, institutional ownership (INS) is calculated in a similar manner to Ullah et al. (2012), Mehdi et al. (2017), Ibrahim and Shuaibu (2016), and Reyna (2017), which is the percentage of a firm's shares held by banks, insurance firms, pension funds, mutual funds, and other financial institutions. According to J. G. Wei et al. (2004), Chai (2010), and Ibrahim and Shuaibu (2016), foreign ownership (FOR) is measured as a percentage of a firm's share that is held by foreign corporations. Consistent with Wang et al. (2011) and Al-Najjar and Kilincarslan (2016), state ownership (STA) is measured as a percentage of a firm's share that is held by the government. The control variable included in the study is profitability, this variable was found to have a significant impact on dividend payment in previous studies (Abbadi et al., 2020).

In Jordan, regarding the payment of cash dividends, firms have only two options; either to pay or not to pay cash dividends. Accordingly, dividend yield (the dependent variable) can take only two possible values; positive values, if the firm pays dividends, and zero values, if the firm does not. Dividends cannot be negative. Therefore, due to this unique trait of the dependent variable, the utilize of the ordinary least squares method (OLS) is not a suitable method for analyzing dividend payment, and the findings that would be acquired from (OLS) will be biased. Therefore, in this study Tobit panel regression is used as a statistical method for data analysis.

Most of the literature uses the Tobit model as an econometric model, it was originally proposed by James Tobin (1958) to estimate the relationship between non-negative dependent variable and some independent variables. The model is also called a censored regression model because it estimates linear relationships between variables when there is either left- or right-censoring in the dependent variable. In this study, Tobit model is used to test the relationship between ownership structure and firm dividend payment where the dependent variable (dividend yield) is censored to zero in order to obtain a reliable result (Kim & Maddala, 1992; Komrattanapanya & Suntrarak, 2013; McDonald & Moffitt, 1980). The Tobit model is as follows for the amount of dividends paid:

$$y_{it}^* = a + x_{it}'b + e_{it}$$

Where the observed variable  $y_{it}$  is related to latent variable  $y^*$  through the observation rule

$$y_{it} = y^* \text{ for } y^* > 0$$

$$0 \text{ for } y^* \leq 0$$

In this way, all negative values of  $y^*$  are coded as 0 and the data is then left censored at 0. The parameters  $\beta$  is estimated by maximizing the log likelihood function. Table 2 summarizes all the study's variables and their measurements.

## 6. Empirical results and discussion

### 6.1. Descriptive results

Table 3 shows the descriptive statistics for the dependent variable (Dividends Yield), continuous independent variables, and the control variable over the time period (2014–2017). As shown in the table below, the average dividend yield ratio of the firms in the study sample was (2.81%). In the Jordanian context, this value is less than that reported by Al-Shawawreh (2014) who found an average dividend yield of (4.65%) for a sample of 53 firms listed on ASE for the period (2001–2013). With respect to the different structures of ownership for firms in Jordan, (47.8%) of the ownership is in the

**Table 2. Measurement criteria**

Variables	Abbreviation	Operational Definition
Dividend Yield	DY	The ratio of dividend per share to the closing price per share for a firm.
Family Ownership	FAM	Dummy variable, coded as 1 if it is a family firm, 0 otherwise.
Institutional Ownership	INS	The percentage of a firm's shares held by financial institutions.
Foreign Ownership	FOR	The percentage of a firm's shares held by foreign corporations.
State Ownership	STA	The percentage of a firm's shares held by the government.
Return on Asset	ROA	The ratio of net profit of the firm to the total asset.

**Table 3. Descriptive statistics for continuous variables**

Variables	N	Mean	SD	Minimum	Maximum
Dividends yield	264	2.81	3.25	0	11.63
Institutional Ownership	264	0.478	0.29	0	0.995
Foreign Ownership	264	0.123	0.214	0	0.998
State Ownership	264	0.015	0.068	0	0.609
Return on Asset	264	2.655	9.141	-61.39	38.668

hands of institutions ranging from (0 %) to (99.5%). This result is close to Al-Gharaibeh et al. (2013) who found that the percentage of institutional ownership is (52%) in industrial and service firms listed on ASE for the period (2005–2010). While (12.3%) of the ownership is in the hands of foreign investors, and the results also indicate that the state owns only about (1.5%) of ownership with a range from (0%) to (60.9%). This means that many Jordanian industrial and service firms are free from governmental investment. Finally, firm profitability is measured by ROA which varies from -61.39% to 38.6% with an average of 2.6%.

Regarding the independent dichotomous variable (family ownership), Table 4 shows that Jordanian industrial and service companies are highly concentrated in the hands of families with a percentage (65.3%).

### 6.2. Validity of data

Table 5 presents the Pearson correlation matrix among all the study variables. As shown, the correlation between any two variables in the sample is not high where all found below 0.8. we conclude that there is no multicollinearity problem.

**Table 4. Descriptive statistics for discrete independent variables**

Variable	Frequency	Percentage of Frequency
Family Ownership	264	0.653

**Table 5. Correlation matrix of Pearson coefficients**

	Dividend Yield	Institutional Ownership	Foreign Ownership	State Ownership	Family Ownership	Return on Asset
<b>Dividend Yield</b>	1.000					
<b>Institutional Ownership</b>	0.0622	1.000				
<b>Foreign Ownership</b>	0.0187	0.2131	1.000			
<b>State Ownership</b>	-0.0063	0.0588	0.1077	1.000		
<b>Family Ownership</b>	0.0570	-0.1876	-0.1901	-0.2819	1.000	
<b>Return on Asset</b>	0.4901	0.0515	0.0862	-0.0399	0.1199	1.000

**Table 6. Collinearity statistics test**

Variables	VIF	Tolerance
Institutional Ownership	1.13	0.8855
Foreign Ownership	1.15	0.867
State Ownership	1.10	0.906
Family Ownership	1.17	0.855
Return on Asset	1.03	0.967
Mean VIF	<b>1.12</b>	

In addition, the [Table 6](#) presents the Variance Inflation Factors (VIF) test is further used for detecting multicollinearity degree between the variables below. VIF for all variables ranged between (1.03 – 1.17), which are below 10 (Gujarati, 2004). Tolerance (calculated as 1/VIF) is also calculated to verify the degree of multicollinearity; if a tolerance value is lower than 0.1, which corresponds to a VIF value of 10, it indicates multicollinearity. As presented in the table, the VIF values don't exceed 10, nor are the tolerance values smaller than 0.1. Hence, the possibility of a multicollinearity problem was not detected.

### 6.3. The regression results

The results of the estimation model investigating the impact of ownership structure on dividend payout policy are discussed below. Hence the regression results are presented in [Table 7](#).

Regression results indicate a statistically significant positive association between institutional ownership and dividends yield at a conventional level ( $\beta = 2.8413$ ;  $p < 0.05$ ). This suggests that the firms with more shares owned by institutions (e.g., banks, pension funds, mutual funds, and insurance firms) are more inclined to pay higher dividends. The results further indicate a statistically significant negative association between foreign ownership and dividends yield at a conventional level ( $\beta = -3.3093$ ;  $p < 0.10$ ). Moreover, our results do not support that other ownership structures (family ownership and state ownership) can significantly influence dividend yield, the coefficients of these variables are not significant at any conventional significance levels.

ROA was included in the empirical model as a control variable, the results show that the firm's profitability has a significant positive impact on dividends yield ( $\beta = 0.3627$ ;  $p < 0.00$ ). Hence, this indicates that profitability is a major factor in dividend policy.

### 6.4. Discussion

This section demonstrates the results of the research hypothesis based on Tobit panel regression analysis as follows:

**Table 7. Summary of tobit panel regression results**

Variables	Coefficient	Z-values	P-values
Constant	- 2.3630	- 2.14	0.033
Family Ownership	0.7743	0.90	0.369
Institutional Ownership	2.8413	2.17	0.031**
Foreign Ownership	- 3.3093	- 1.79	0.075*
State Ownership	1.6633	0.31	0.760
Return on Asset	0.3627	7.01	0.000***
LR Chi-Square	<b>61.15 (0.000)</b>		
Log Likelihood	<b>- 481.0584</b>		

Dividends yield is the dependent variable; t-statistics (P-Value) \*\*\* significant at 1%; \*\* significant at 5%; \* significant at 10%.

The results in [Table 7](#) show that there is no significant association between family ownership and dividend payment decisions. The coefficient of the family variable is positive but not statistically significant at any conventional significance levels ( $\beta = 0.7743$ ;  $p < 0.369$ ). Therefore, the first hypothesis is rejected. This indicates that family ownership in the firms has no impact on the amount or likelihood of paying dividends. It sounds that family shareholders neither lessen nor worsen agency problems between majority and minority shareholders. This result contradicts the wealth expropriation argument introduced in literature by Shleifer and Vishny (1997), Villalonga and Amit (2006), and Z. Wei et al. (2011), and is also contrary to (Faccio et al., 2001; Pindado et al., 2012; Setia-Atmaja, 2010; Subramaniam, 2018) who found a significant positive association between family ownership and dividend policy.

The results also indicate that there is a strong evidence of a positive association between institutional ownership and the probability of paying dividends, as the coefficient of the institutional variable is positive and statistically significant ( $\beta = 2.8413$ ;  $p < 0.031$ ), and this means that a higher institutional ownership leads to a higher dividend yield ratio. Accordingly, the second hypothesis is accepted. This positive association is in line with the agency's perspective, which implies that institutional shareholders can act as a mechanism to mitigate agency costs between shareholders and management. They may not be able to monitor the firm's operations directly and thus may induce firms to pay more dividends to alleviate the potential opportunistic behavior of the management by reducing the available cash flow. On the other hand, institutional investors may prefer to get their income dividends to be invested properly according to their investment policies. This result is consistent with (Benjamin et al., 2016; Ibrahim & Shuaibu, 2016; Le & Le, 2017; Mehdi et al., 2017; Thanatawee, 2013; Ullah et al., 2012) and in contrast (Berezinets et al., 2017; Kouki & Guizani, 2009; Mardani & Indrawati, 2018; Reyna, 2017) who found that a higher institutional ownership leads to lower dividend payments.

Moreover, the results in [Table 7](#) report that there is a negative association between foreign ownership and the payment of dividends, as the coefficient is negative and statistically significant ( $\beta = -3.3093$ ;  $p < 0.075$ ). Based on this result, the third hypothesis is accepted. One of the possible justifications for this association that foreign investors may prefer a low dividend payment in the situation where they can have an effective role in controlling the opportunistic behavior of managers in emerging markets due to their expertise. Another reason for this association could be that foreign investors may prefer to retain their earnings to finance the firm's long-term growth because they may seek investment opportunities other than those in their home countries. This result is in line with (Al-Najjar & Kilincarslan, 2016; Thanatawee, 2013) and contradicts (Le & Le, 2017; Musallam & Lin, 2019; Setiawan et al., 2016; Ullah et al., 2012) who found a positive correlation between foreign ownership and dividend policy.

Finally, an insignificant association is revealed between state ownership and dividend policy, which is not in line with the final hypothesis, the coefficient of the state variable is positive but not statistically significant at any conventional significance levels ( $\beta = 1.6633$ ;  $p < 0.760$ ). This result shows that state ownership has no influence on the dividend policy. This can be explained by the government's unwillingness to interfere in the dividend payout policy due to its confidence that the management is fully able to make decisions that are in the interest of the shareholders. The result is in contrast with (Al-Shubiri et al., 2012; Bradford et al., 2013; Duqi et al., 2020; Pham et al., 2018; Setiawan et al., 2016) who reported that state ownership negatively influences dividend policy, and is also contrary to (Al-Najjar & Kilincarslan, 2016; Kouki & Guizani, 2009; Musallam & Lin, 2019) who indicated that firms with a high ratio of state ownership tend to pay more cash dividends to the shareholders.

### **6.5. Robustness test**

For robustness check we use different definition of the dependent variable and different regression model. For each year we divide the firms into two groups; the first group is the firms that pay dividend in that year and the second group is the firms that do not pay dividends in that year. Thus,



the dependent variable is a dummy variable where it takes the value of 1 if the firm pays dividend during the year, and it takes the value of zero if the firm not paid dividend in that year. Furthermore, the study uses the Probit model to analyze the impact of ownership structure on the propensity to pay dividend, the Probit model is a method to execute regression for dichotomous outcome variable. We introduce a dummy variable to analyze the relationship between ownership structure and the propensity to make dividend payment through Probit regression model in consistency with Sarwar et al. (2019).

Table 8 shows similar results for the impact of ownership structure on dividend policy as reported in Table 7. Therefore, it confirms that institutional ownership and firm profitability have a significant positive impact on the firm’s propensity to pay dividend. It also found a negative association between foreign ownership and the firm’s propensity to pay dividend, but it is not significant at the 10% level. This means that foreign investors do not affect the firms’ decisions to pay dividends or not, but it pushes them to pay lower dividends. Overall, the results of the robustness test support our main findings that ownership structure affects firm’s dividend.

### 7. Summary and conclusion

This study examines the effect of ownership structures (family ownership, institutional ownership, foreign ownership, and state ownership) on the dividend policy measured by dividends yield for a sample of 66 Jordanian industrial and service firms listed on the Amman Stock Exchange for the period from 2014 to 2017. Our results indicate strong evidence of the important role of ownership structure in explaining the differences in dividend policies in Jordan, the results reveal that Jordanian listed firms have highly concentrated ownership structures and are mainly dominated by families followed by financial institutions, then foreign investors while the state shows relatively lower ownership. The main results of the Tobit Regression model show a positive significant association between institutional ownership and dividend yield. One possible justification for this correlation is that the institutional shareholder may fail to directly monitor or control the firm’s operations and performance. Therefore, to protect shareholders, they put pressure on firms to pay more cash dividends in order to lower the opportunistic behavior of the managers and their control over resources. While foreign ownership tends to pay a lower cash dividend. This is because foreign shareholders may be long-term investors and prefer that the firm reinvest most of their earnings to finance its long-term growth and expansion (capital gains) over short-term cash dividends.

Different to our expectations, this study does not capture a significant association between dividend payout policy and other structures of ownership (family ownership and state ownership). These results are similar to other Jordanian studies agreed upon the lack of such association (Al-Nawaiseh, 2013; Warrad et al., 2012) who found that family ownership has no impact on dividend

**Table 8. Summary of probit regression results (robustness test)**

Variables	Coefficient	Z-values	P-values
Constant	-0.620639	-3.29	0.001
Family Ownership	0.142140	0.88	0.380
Institutional Ownership	0.565301	2.19	0.028**
Foreign Ownership	-0.774623	-1.35	0.176
State Ownership	0.164668	0.17	0.869
Return on Asset	0.085717	5.79	0.000***
Pseudo R2	0.1747		
Log Likelihood	-150.9717		

Dividends dummy is the dependent variable; t-statistics (P-Value) \*\*\* significant at 1%; \*\* significant at 5%; \* significant at 10%.

policy. Finally, the control variable, ROA was found to be positively and significantly related to the dividend policy of Jordanian listed firms.

Based on the previous results, our study has several recommendations. First, investors should take into account ownership structures when making investment decisions. For instance, if investors seek high near-term dividends, they should consider firms that have paid dividends recently, and they should focus on firms that are owned by financial institutions because they have shown a greater tendency to pay dividends. While if investors are looking for future capital gains, their focus should be on firms with foreign investors as the largest shareholders. Second, investors can anticipate dividend payment from their current investments by examining the ownership structure of their firms. Third, financial analysts and consultants should consider the ownership structure in their investment advice and consultations to their existing and potential investors to help them choose the best investment opportunities.

This study suffers from some limitations. First, the scope of the study is limited because it focuses only on industrial and service firms listed on the Amman Stock Exchange for the period of 2014–2017. Second, the sample data contains some missing values. Future research might be conducted by examining the effect of ownership structure on dividend policy on all sectors at the ASE and by considering other control variables (such as corporate liquidity, free cash flow, and age of the firm). In addition, conducting interviews with the board of directors representing financial institutions, foreign investors, government, and families to get their insights regarding their impact on the dividends policy decision.

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