

The impact of company size and growth on the relationship between operating cash flow and change in dividends

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تأثير حجم الشركة ومستوي النمو على العلاقة بين التدفقات النقدية التشغيلية والتغير في توزيعات الثير حجم الشركة ومستوي النمو على العرباح

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Abstract:		

This study aimed to find out the extent of the impact of company size and growth level on the relationship between operating cash flows and the change in dividends.

The study population consisted of Jordanian companies listed on the Amman Stock Exchange during the study period, and to achieve the objectives of the study, a sample of 162 companies was selected, representing 62.5% of the study population.

To test the hypotheses, the SPSS program was relied on and the appropriate statistical methods were used. The study found that there is impact of company size and growth level on the relationship between operating cash flow and the change in dividends.

Keywords: operating cash flow, dividends, company size, growth level.

الملخص هدفت هذه الدراسة إلى معرفة تأثير حجم الشركة ومستوى النمو على العلاقة بين التدفقات النقدية الشغيلية والتغير في توزيعات الأرباح. تكون مجتمع الدراسة من الشركات الأرنية المدرجة في بورصة عمان خلال فترة الدراسة، ولتحقيق أهداف الدراسة تم اختيار عينة تتكون من 162 شركة وهي تمثل 67.5% من مجتمع الدراسة. ولغرض اختبار الفرضيات تم استخدام الأساليب الإحصائية المناسبة. توصلت الدراسة إلى أنه بوجد تأثير لكل من حجم الشركة ومستوى النمو على العلاقة بين التدفقات النقدية التغير في في توزيعات الارباح.

الكلمات المفتاحية: التدفقات النقدية التشغيلية، توزيعات الأرباح، حجم الشركة، مستوى النمو.

1-1- Introduction

Some investors look at the dividend policy as an indicator of the company's performance and financial condition. If the company increases the dividend, this can be interpreted by investors as a signal from the company's management to expect future earnings growth. If the company reduces the dividend, investors may interpret this as an indication of declining performance (Shabita, 2008).

Dividends are deducted from the company's retained earnings, which is considered among the internal sources of financing in the company, and in order to make these distributions, the company must be able to achieve profits from its main activities, and that these profits are supported by cash flows from operational sources, and the dividend policy should be consistent with cash flows in the event that a decision is made for cash distributions, as the cash flow statement has a great impact in helping users of financial statements in various areas, including:

1- Assessing the ability of the activity to make dividends and at the same time meet the investment and expansion requirements.

2- Identifying the sources of the difference between net income and net cash flows (Al-Shirazi, 1990).

Some researchers (e.g. Lintner, 1956 and Simons, 1994) believe that the change in dividends is related to current earnings and expected future earnings and that management will change its dividend policy when it is convinced that the level of future earnings is high. Other researchers (e.g. Modiglioni & Miller, 1961) argue that the change in dividends depends on management's expectations about future earnings and cash flows rather than current earnings. Cash flows are more accurate and influential in determining a company's dividend policy for two main reasons:

1- Cash flows are more representative of the company's level of profitability than accounting profit, due to the possibility of management manipulating the amount of profits to increase the bonuses they receive, or to improve their image in front of their shareholders. Because of the possibility of manipulation of accounting profit by management, many researchers consider cash flow to be more reliable than accounting profit (Healy, 1985, Charitou, 2000).

2- Cash flow is a more representative measure of liquidity than profitability, and since cash dividends require liquid cash, it is assumed that dividend policy should be more dependent on cash flow than profitability (Charitou and Vafeas, 1998).

All of the above would allow the researcher to examine whether there are company-specific factors such as company size, company growth level, etc. that affect the relationship between operating cash flows and the change in dividends.

1-2- Problem of the study:

The issue of the study is centered on trying to determine the extent of the impact of a set of factors on the relationship between operating cash flows and the change in dividends represented by the size of the company, the level of growth of the company, as the dividend policy suffers from some issues represented by a set of conflicting factors, the most important of which are the desires of shareholders to make decisions to distribute dividends, the need to expand the company, the liquidity situation in the company, and the availability of cash needed to make cash distributions. Therefore, the issue of the study can be formulated under the following questions:

1- What is the impact of company size on the relationship between operating cash flows and the change in dividends in companies listed on the Amman Stock Exchange?

2- To what extent does the level of the company's growth level affect the relationship between operating cash flows and the change in dividends in companies listed on the Amman Stock Exchange?

1.3- Importance of the study

Cash flows are considered the link between the income statement and the balance sheet and are considered more appropriate than them in determining the strengths and weaknesses of the company's activity, as these flows constitute an effective tool in monitoring, planning and making decisions that are based on these flows from planning budgets and interim and future plans for the company, and operating cash flows are an important resource for companies as they help them in expansion, growth and other various decisions.

Hence, the importance of the study stems from the fact that it will clarify the impact of (company size, company growth level) on the hypothesized relationship between operating cash flows and the change in dividends so that management can determine the possibility of relying on operating cash flows when deciding to distribute dividends.

1.4 The goals of the study:

This study aims to clarify the next things:

1- To find out whether firm size affects the relationship between operating cash flows and the change in dividends in companies listed on the Amman Stock Exchange.

2- To find out whether the level of company growth affects the relationship between operating cash flows and the change in dividends in companies listed on the Amman Stock Exchange.

2- Prior literature

1- A study (Jojadeh, 2014) entitled:

"Impact Of Ownership Structure and Cash Flows on Dividend Policy of Listed Companies in Tehran Stock Exchange".

This study aimed to investigate the impact of ownership structure and cash flows (operating cash flows - cash flow sensitivity) on the dividend policy of listed companies in Tehran Stock Exchange.

The study sample began by testing (92) companies that meet several conditions, including that they are active during the study period, and that information about ownership is available during the study period, and that the company is not governmental, and that the company is not active in the financial sector, and the sample was reduced to (74) companies to make the results generalizable. The study was conducted on the selected sample for a period of 5 years from (2007-2011).

The results showed that managerial ownership has a strong relationship with dividend policy, while the relationship between real ownership and dividend policy was found to be negative, and the study also found that there is no relationship between operating cash flow and cash flow sensitivity with dividend policy.

2- A study (Maladjan & Elkhoury, 2014) entitled:

"Determinants of the Dividend Policy: An Empirical Study on The Lebanese Listed Banks"

This study aimed to explore the determinants of the dividend policy in Lebanese banks listed on the Beirut Stock Exchange.

The study considers the impact of seven factors, namely profitability, liquidity, growth, firm size, debt-to-capital structure ratio, prior year dividend rates, and risk, on dividend policy.

Using an irregular dataset of listed banks during the period 2005-2011, two models were selected by means of dynamic regression and multiple regression tests. The study revealed empirical evidence that there is a positive relationship between dividend policy and firm size, risk, and dividend payout ratio for the previous year. The study also revealed that there is a negative relationship between dividend policy and growth opportunities and profitability that companies distribute dividends to minimize agent conflicts, and that managers take into account the stability of dividends when determining the dividend policy, and the results of the study showed the tendency of Lebanese companies to invest the increase in profits in expansion and growth rather than paying them as an increase in dividends to shareholders.

3 - Study (Abouziad 2014) entitled:

"Principal Components Analysis and Dividend Policy - The Case of Amman Stock Exchange".

This study aimed at selecting the determinants of dividend policy for Jordanian companies listed on the Amman Stock Exchange for the period (2003-2012), logistic regression analysis was used to identify the main factors that affect the dividend policy. The variables of the study are company profitability, size, leverage, liquidity, asset structure, growth opportunities, business risk, company age, ownership concentration and board size, and the dependent variable is the dividend policy, which was measured as a dummy variable taking the value (1) in the case of dividend distribution and the value (0) in the case of no dividend distribution. The study used cross-sectional time series data for 52 Jordanian industrial companies, where the results of the study indicated that the average dividend distribution ratio for Jordanian industrial companies amounted to 53%. Profitability, company age, and board size had a statistically significant positive effect on the dividend policy of Jordanian industrial companies risk, asset structure, and leverage had a statistically significant negative effect on the dividend policy of Jordanian industrial companies. The logistic regression analysis also showed that the company's profitability, business risk and indebtedness are the main determinants of dividend policy in Jordanian industrial companies.

4- A study (Zamer et al,2013) entitled:

"Determinants Of Dividend Policy: A Case of Banking in Pakistan"

This study aimed to investigate the determinants of dividend policy in the banking sector in Pakistan, and for this purpose, the data of (27) local and foreign banks operating in the field of Islamic and conventional banking

services in Pakistan and listed on various stock exchanges were used as a sample. The variables that were studied to determine their impact on dividend policy are liquidity, profitability, dividends for the previous year, and ownership structure, and to achieve the objectives of the study, multiple regression was used to test the hypotheses of the study.

The results of the study showed that both profitability, dividends for the previous year and ownership structure have a positive relationship with dividends, the study also showed that there is a negative relationship between liquidity and dividends, and there is no effect of size, leverage, growth, and risk on dividend policy.

5- A study (Mehta, 2012) entitled:

"An Empirical Analysis of Determinants of Dividend Policy - Evidence from The UAE Companies"

This study aimed to identify the important factors that may affect the decision to distribute dividends in UAE companies. The study targeted all companies operating in the fields of real estate, energy, building and construction, telecommunications, health care, and the industrial sector listed on the Abu Dhabi Securities Market. The researcher studied the extent to which the factors of profitability, risk, liquidity, size and leverage of the company affect the decision to distribute dividends, and the study covered 5 years from 2005-2009. The researcher used correlation coefficient and multiple regression tests to test the effect of the independent variables on the dependent variable.

The study came to the conclusion that profitability and company size are the most important factors that are taken into consideration when making the decision to distribute dividends in UAE companies listed on the Abu Dhabi Financial Market.

6- A study (Afza, 2012) entitled:

"Ownership Structure and Cash Flows as Determinants of Corporate Dividend Policy in Pakistan"

This study aimed to discover the company-specific characteristics of dividend behavior in the context of the developing economy of Pakistan.

The study used data for (100) companies listed on the Karachi Stock Exchange and the data used was for three years from 2005 to 2007, and to achieve the objectives of the study, multiple regression was used to measure the effect of the independent variables on the dependent variable.

The study showed that managerial ownership, cash flow sensitivity, company size, and debt-to-equity ratio have an inverse relationship with cash dividends, while the study indicated a positive relationship between operating cash flow and profitability with dividends, and that managerial ownership, company size, and operating cash flow are among the most important factors in determining dividend behavior, while debt-to-equity ratio and cash flow sensitivity do not contribute significantly to determining the level of dividends paid in all companies in the study sample.

7- Study (Abdul-Jalil 2012) entitled:

"The Impact of Net Operating Cash Flows on the Market Share Price of Jordanian Industrial Public Shareholding Companies"

This study aimed to identify the extent to which investors in the Amman Stock Exchange evaluate the adequacy and effectiveness of operating cash flows during the period (2001-2010). To achieve the objectives of the study, simple regression was used to test the impact of each of the independent variables on the dependent variable, and multiple regression was used to test the impact of all independent variables on the dependent variable. The study sample included (23) Jordanian public shareholding industrial companies listed on the Amman Stock Exchange.

The results of analyzing the study data showed that there is a statistically significant positive relationship at the 1% significance level between the change in the adequacy of net operating cash flows and its effectiveness, and the analysis did not show any statistically significant relationship between the rest of the variables at the 5% significance level. The results of the analysis also showed that the investor in the Amman Stock Exchange does not care about the adequacy and effectiveness of net operating cash flows when making his investment decision, as the regression analysis did not show any effect of these two variables on the market share price.

8- A study (Alqaisi, 2010) entitled:

"Dividend Policy at The Amman Stock Exchange: The Stability Issue During 1995-2005".

This study aimed to determine whether Jordanian companies listed on the Amman Stock Exchange have a stable dividend policy, in addition to comparing the dividend policy for different sectors in Jordan.

The study was conducted on a sample of 52 companies listed on the Amman Stock Exchange, consisting of 28 industrial companies, 9 banks, 3 insurance companies and 12 service companies, and the study covered the period 1995-2005.

The results of the study showed that Jordanian companies listed on the Amman Stock Exchange during the period 1995-2005 follow a stable dividend policy, however, this stability is much less than the stability followed by companies listed in developed financial markets such as the United States of America, and the results reflect the fact that banks and service companies follow a more stable dividend policy than industrial companies and insurance companies.

The study recommended that CFOs of all Jordanian companies listed on the Amman Stock Exchange should be surveyed, as this survey could clarify the true determinants of their companies' dividend policy, and the results of this survey could be complementary to the results obtained in research papers based on econometric analysis.

Also, the results of this study can be an introduction by studying the factors that determine the dividend policy in Jordanian companies listed on the Amman Stock Exchange, such as analyzing the impact of leverage, company size, profitability, and ownership structure on the dividend policy in those companies.

9- Study (Roelof, 2008) entitled:

"An Empirical Analysis of The Relationship Between Operating Cash Flows and Dividend Changes, In SOUTH AFRICA".

This study aimed to determine the relationship between dividend changes and operating cash flows in South Africa.

This relationship was studied on a sample of 60 companies listed on the Johannesburg Stock Exchange during the period 1990-2005, and the multiple regression model was used in this study to verify the relationship between the change in dividends and operating cash flows.

The study found that there is a significant positive relationship between change in dividends and operating cash flow, and there is a statistically significant positive relationship between earnings after taxes and change in dividends, as well as a statistically significant negative relationship between change in dividends and dividends for the previous year, in addition to a statistically significant negative relationship between change in dividends and dividends and dividends for the previous year.

The study also identified some factors that cannot affect the relationship between the change in dividends and operating cash flows, as the growth prospects, the level of leverage and the size of the company did not affect the relationship between operating cash flows and change in dividends.

10- (Hussein 2008) entitled:

"Factors affecting dividend policy in joint stock companies"

This study aimed to clarify how to make the decision to distribute or retain dividends, as well as to study the factors affecting the dividend distribution policy in joint stock companies in the Iraqi Stock Exchange. The research sample consisted of (15) joint stock companies from companies listed on the Iraqi Stock Exchange and were randomly selected and represent various economic sectors (industrial, agricultural, service, and banking). The researcher distributed (60) questionnaires to the administrative and financial officials in these companies in order to reach their answers about the factors affecting the dividend distribution policy in Iraqi joint stock companies, and (53) forms were collected and (7) forms were excluded due to the inaccuracy of the answer.

Through the theoretical study and the field study, the researcher reached the following results: 1 - The profits achieved by joint stock companies are of great importance from the point of view of shareholders as well as from the point of view of the company's management, and therefore represent a basic and common goal that requires the company's management to exert its efforts in order to achieve that goal. 2 - The great fluctuation and instability in the rates of dividends distributed to shareholders, which makes the shareholder somewhat uncertain about the amount of annual return he will receive from investing in the shares of a particular company. 3 - There is an inverse relationship between the increase in corporate debt and the dividend distribution ratio. 4 - The cash flow factor is taken into consideration by shareholding companies when making the decision to distribute dividends and give it sufficient importance and in a way that results in the optimal dividend distribution decision. 5 - There

is an inverse relationship between the need for companies to make expansions and investments and the dividend distribution ratio. 6 - Shareholding companies consider that the cash flow factor is at the forefront of the factors that affect the decision to distribute dividends and the most important as well. 7 - It is clear that the majority of shareholders consider the distribution of dividends periodically as a source of income for them. 8 - The majority of shareholders prefer to distribute dividends instead of retaining them, regardless of the proportion of their shares. 9 - There is a direct relationship between dividend retention and investment opportunities.

11- Study (Abu Nassar 2004) entitled:

"Analyzing Factors Affecting Dividend Policy"

This study aimed to test the impact of four independent factors (net profit after taxes, net operating cash flow, cash dividends for the previous year, and the type of sector to which the company belongs) To achieve the objectives of the study, three statistical methods were used to analyze the study variables, descriptive statistical methods were used to identify the basic characteristics of the study variables, and in order to test the hypotheses, the Pearson test and Spearman's test were used, and multiple regression was used to test the study model. The study sample consisted of (62) Jordanian public shareholding companies listed on the Amman Stock Exchange, and the sample included companies from the industry, banking, services, and insurance sectors during the period 1992-2000.

The study came out with a number of results, the most important of which are the existence of a significant impact of the previous year's cash dividends, net profit after tax, and the sector to which the company belongs in predicting the cash dividend distribution policy, the existence of a positive relationship between net profit after tax and the change in cash dividends, and the existence of a negative relationship between cash dividends for the previous year and the change in dividends for the current year, as well as the absence of the effect of net operating cash flows on the change in cash dividends, in addition to that the banking and insurance sector has reduced the level of cash dividends while companies in the manufacturing sector have raised their dividend payments.

3- Study Methodology

3.1 Methodology

The study adopted the descriptive analytical method to measure the relationship between operating cash flows and the change in dividends for Jordanian public shareholding companies listed on the Amman Stock Exchange, and used the SPSS program to analyze the study data and test the hypotheses.

3.2 Study population and sample

The study population consists of all Jordanian public shareholding companies listed on the Amman Stock Exchange, according to the annual report of the stock exchange at the end of the year (2013)., which amounted to (240) companies, distributed in three main sectors and (23) sub-sectors

As for the study sample, it included all Jordanian public shareholding companies listed on the Amman Stock Exchange that met the following two conditions:

1- They have all the necessary data related to the variables of the study and to conduct its tests.

2- They have not merged or stopped trading during the study period.

(73) companies that did not meet the previous conditions were excluded, in addition to excluding (5) companies from different sectors that meet the aforementioned conditions were randomly selected so that the researcher can measure the second to fourth hypotheses, thus the number of sample companies reached (162) companies or (67.5%) of the size of the study population.

3-3 Sources of data collection

The study relied on specialized references and periodicals to develop the theoretical framework of this study, in accordance with its objectives, while the applied aspect of the study, its data was obtained through the following secondary sources:

1- The directory of Jordanian public shareholding companies available on the Amman Stock Exchange website.

2- Annual financial reports of Jordanian public shareholding companies listed on the Amman Stock Exchange available on the website of the Amman Stock Exchange and the Securities Commission.

3-4 Statistical methods used

3-4-1 Descriptive Statistic,

The characteristics of the general sample were extracted by calculating: Arithmetic mean, standard deviation, minimum value, and maximum value.

3.4.2 Normal Distribution Test,

One of the conditions for the validity of the General Linear Model (GLM) is that the values of the observations follow a normal distribution, and if this condition is not met, the data are processed through the use of the natural logarithm or the square root, and other procedures. Based on the Central Limit Theory, which states that it is possible to assume the normal distribution condition for large samples (n>30), we can assume the normal distribution of the data regardless of the distribution of the original population, since the number of observations in the study is greater than (30) (Gujarati, 2004).

3.4.3 Multicollinearity Test,

To determine the extent of multicollinearity between the study variables, the study used the Variance Inflation Factor (VIF).

3.4.4 Regression Analysis, Regression

Regression analysis is used to measure the effect of the independent and control variables on the dependent variable, and to test the hypotheses, the study used multiple regression (Multi Regression, Anova) and T-test. Note that all hypotheses were tested at the 5% significance level.

3-5 Measuring the study variables

The variables were measured as follows:

1- Change in dividends DV = Dividend per share/share price - Dividend per share for the previous year/share price for the previous year.

2- Net Profit after Taxes PAT = Net Profit after Taxes / Market Value of Equity.

3- Operating Cash Flow (OCF) = Cash flow from operating activities/market value of equity.

4- Dividends for the previous year DVL = Dividends for the previous year / Share price for the previous year.

5- Company Growth Level M/B = Market Value of Equity / Book Value of Equity.

6- Company Size TA = the natural logarithm of total assets.

3-6 Study's hypothesis:

First hypothesis.

There is no effect of firm size on the relationship between operating cash flow and change in dividends in all companies listed on the Amman Stock Exchange.

Second hypothesis:

There is no effect of company growth level on the relationship between operating cash flows and change in dividends in all companies listed on the Amman Stock Exchange.

4- Test of the hypotheses.

4.1 Test of the first hypothesis:

"There is no effect of firm size on the relationship between operating cash flows and the change in dividends in companies listed on the Amman Stock Exchange".

To test this hypothesis, the arithmetic mean of the natural logarithm of total assets was calculated for each company and for all sectors listed on the Amman Stock Exchange combined (financial, service, and industrial) during the study period, and then the researcher classified companies using the arithmetic mean of the natural logarithm of total assets according to their size from the smallest to the largest into three groups:

Group I: It includes 54 companies (small-sized companies).

Group II: It includes 54 second companies (medium-sized companies).

Group III: It includes 54 third companies (large-sized companies).

The Multiple Regression method was used for each group and the regression model was adjusted to achieve the desired goal of this method. The following stages were followed: Detecting the presence of multicollinearity problem among the study Stage 1: variables: The multicollinearity problem was diagnosed for each model of the successful models using various methods, such as:

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1- Variance Inflation Factor method (VIF)

Company Size	Т	views	Variable	Variable Code	Tol _i	VIF _i
	1	378	Operating Cash Flows	OCF	0.972	1.028
Small - size	2	378	Net Profit After Taxes	PAT	0.926	1.080
	3	378	Prior Year Dividends	DVL	0.937	1.068
	1	378	Operating Cash Flows	OCF	0.984	1.016
medium-sized	2	378	Net Profit After Taxes	PAT	0.942	1.061
	3	378	Prior Year Dividends	DVL	0.928	1.078
	1	378	Operating Cash Flows	OCF	0.995	1.005
large-sized 2 378 Net Profit After Taxes		PAT	0.905	1.105		
	3	378	Prior Year Dividends	DVL	0.903	1.108

Table (1): Variance Inflation Factor VIF

According to the results in Table 1, which contains the independent variables and the value of the variance inflation factor VIF_i and the variance allowed Tol_i for each variable, we note from the table that the value VIF_i of all study variables is less than 10 and we also note that the value of the variance allowed Tol_i for all variables was greater than 0.05, which indicates that there is no issue of multicollinearity between the independent variables in each model.

Stage Two: Fitting the Multiple Regression Model

Based on the above, three regression models were fitted on the independent variables that were grouped by groups, and to test the significance of the multiple regression model on the three variables, the corresponding statistical hypothesis was tested for each model, namely:

 $H_0:\beta_1 = \beta_2 = \beta_3 = 0$ H_1:At least one of them different

The study used the **F test** to test the previous statistical hypothesis and obtained the results in Table 2, where the value of the test statistic for the regression model corresponding to the first group (small size) $F_{(3.374)} = 40.529$ and the probability value, $P(F \ge 40.529) = 0.000$ indicating the rejection of the null hypothesis (null hypothesis), which means that the independent variables in combination or at least one of the parameters of the first group (small size) have a significant effect on the dependent variable (change in dividend distributions DV). The independent variables combined or at least one of them from the parameters of the first group (small-sized) model has a significant effect on the dependent variable (change in dividends DV), and the test statistic value of the corresponding regression model for the second group (medium-sized) $F_{(3.374)} = 46.450$ and the probability value,

corresponding regression model for the second group (medium-sized) $^{(3,3/4)}$ and the probability value, P(F \geq 46.450)=0.000 indicating the rejection of the null hypothesis (null hypothesis). the null hypothesis (null

hypothesis) is rejected, which means that the independent variables combined or at least one of the parameters of the second group (medium-sized) model has a significant effect on the dependent variable (change in dividends DV), and finally, the test statistic value of the corresponding regression model for the third group (large-sized) $F_{(3,374)}=27.884$ and the probability value $P(F \ge 27.884)=0.000$ for the third group (large-sized) and the probability value, indicating the rejection of the null hypothesis (null hypothesis), which means that the independent variables combined or at least one of the parameters of the third group (large-sized) model has a significant effect on the dependent variable (change in dividends DV).

Company size	Source of variation	Sum of squares	Degrees of freedom	Mean squares statistic	F Test	Significance level	Decision
	Regression	659.237	3	219.746	40.529	* 0 000	
small- sized	Remainders	2,027.825	374	5.422		0.000	Statistically significant
51200	total	2,687.062	377				
	Regression	1,249.803	3	416.601	46.450	* 0.000	
medium- sized	Remainders	3,354.340	374	8.969		0.000	Statistically significant
Sizea	total	4,604.143	377				Significant
	Regression	441.203	3	147.068	27.884	* 0.000	
large-sized	Remainders	1,972.550	374	5.274		St. St.	Statistically significant
	total	2,413.753	377				Significant

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* Statistically significant at the 0.05 level of significance

The results in Table 3 indicate the value of Pearson correlation coefficients and coefficients of determination, where the value of the correlation coefficients for each model is 0.495, 0.521 and 0.428 respectively, and the coefficient of determination is 0.245, 0.271 and 0.183 respectively, which means that in the first group (small size) model, 24% of the variance in the dependent variable (change in dividends DV) is explained by the variance in the variables (OCF, PAT, and PAT). 5% of the variation in the dependent variable (change in dividends DV) is explained by the variation in the variables (operating cash flow OCF, net profit after taxes PAT, prior year dividends DVL) clustered in the fitted regression model, and in the second group (medium-sized) model 27. 1% of the variance in the dependent variable (change in dividends DVL) clustered in the fitted regression model, and in the second group (medium-sized) model 27. 1% of the variance in the dependent variable (change in dividends DVL) clustered in the fitted regression model, and in the second group (medium-sized) model 27. 1% of the variance in the dependent variable (change in dividends DVL) clustered in the fitted regression model, and in the second group (medium-sized) model 27. 1% of the variance in the dependent variable (change in dividends DVL) clustered in the fitted regression model, and in the second group (medium-sized) model 27. 1% of the variance in the third group model (large size) 18. 3% of the variance in the dependent variable (change in dividends DVL) clustered in the fitted regression model. (OCF, net profit after taxes PAT, previous year's dividends DVL) clustered in the fitted regression model.

Company size	(r)	$\left(\mathbf{R}^{2}\right)$	Durbin-Watson					
small-sized	0.495	0.245	1.751					
medium-sized	0.521	0.271	2.041					
large-sized	0.428	0.183	2.246					

Table 3: Statistics related to the regression model.

Since the hypothesis that the independent variables are all significant or that at least one of them has an effect for each model was accepted, which means that there may be some variables that do not have a significant effect, the significance of each parameter of the model was tested separately, i.e. testing each of the following hypotheses:

$$\begin{array}{c} H_0:\beta_j=0\\ H_1:\beta_j\neq 0 \end{array} \qquad j=1,2,3$$

The study used the t-test to test each hypothesis separately, i.e. to determine the significance of the effect of each variable on the dependent variable individually, obtaining the results listed in Table 4.

Table 4: Results of estimating the regression	coefficients of the independent	variables on the change in divid	lend
	distribution.		

Company size		В	Beta	T-Value	P-Value
	Constant	0.789		5.728	* 0.000
small-sized	Operating Cash Flows	0.682	0.078	1.711	0.088
	Net Profit After Taxes	2.043	0.174	3.733	* 0.000
	Prior Year Dividends	-0.488	-0.509	-10.962	* 0.000

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	(Constant)	1.243		6.338	* 0.000
medium-sized	Operating Cash Flows	2.013	0.116	2.609	* 0.009
	Net Profit After Taxes	4.905	0.258	5.681	* 0.000
	Prior Year Dividends	-0.507	-0.519	-11.335	* 0.000
	(Constant)	0.913		5.832	* 0.000
lance street	Operating Cash Flows	0.522	0.074	1.570	* 0.117
laige-sizeu	Net Profit After Taxes	2.070	0.195	3.971	* 0.000
	Prior Year Dividends	-0.361	-0.443	-9.008	* 0.000

* Statistically significant at the 0.05 level of significance

The statistical results in Table 4 show the following:

Model I (small size): The operating cash flow OCF variable has no significant effect on the dependent variable (change in dividends DV), as the statistical significance value of the t-test corresponding to this variable recorded 0.088, this value is greater than the 5% significance level, while the rest of the values recorded a significant effect, and these variables are net profit after taxes PAT, previous year dividends DVL where the estimated regression coefficients recorded (.0432, 0.488-) with statistical significance (0.000, 0.000), respectively.

Model II (medium-sized): All independent variables included in the fitted model are significant, and these variables are (OCF, PAT, and DVL), where the estimated regression coefficients (2.013, 4.905, and 0.507) with statistical significance (0.009, 0.000, and 0.000) respectively, and these values are smaller than the 5% significance level.

Model III (Large Scale): The OCF variable does not have a significant effect on the dependent variable (change in dividends DV), as the statistical significance value of the t-test corresponding to this variable recorded 0.117 and this value is greater than the 5% significance level, while the rest of the values recorded a significant effect, and these variables are net profit after taxes PAT, previous year dividends DVL where the estimated regression coefficients value recorded (2.070, 0.361 -) with statistical significance (0.000, 0.000) respectively, with statistical significance (0.000, 0.000).

By that, the three successful models are shown in the image:

$$\begin{split} \mathbf{Y}_1 &= 0.789 + 0.682 \ OCF + 2.043 PAT - 0.488 DVL \\ & (0.000) \quad (0.088) \quad (0.000) \quad (0.000) \\ \mathbf{Y}_2 &= 1.243 + 2.013 \ OCF + 4.905 PAT - 0.507 DVL \\ & (0.000) \quad (0.009) \quad (0.000) \quad (0.000) \\ \mathbf{Y}_3 &= 0.913 + 0.522 \ OCF + 2.070 PAT - 0.361 DVL \\ & (0.000) \quad (0.117) \quad (0.000) \quad (0.000) \end{split}$$

The Durbin-Watson statistic for the first model is 1.751, and looking at the tabular values*, we find that this value falls within the interval between indicating that there is no auto-correlation issue from the residuals resulting from the multiple regression equation.

The Durbin-Watson statistic for the second model is 2.041, and looking at the tabular values*, we find that this value falls within the interval between, indicating that there is no issue of auto-correlation of the residuals resulting from the multiple regression equation.

The Durbin-Watson statistic for the third model is 2.246, and looking at the tabular values*, we find that this value falls within the interval between indicating that there is no issue of auto-correlation from the residuals resulting from the multiple regression equation.

* Tabular values extracted from the DW tables: DL = 1.285 DU = 1.721

Results of analyzing the first hypothesis:

Based on the above, we reject the null hypothesis and accept the alternative hypothesis that: "There is an effect of company size on the relationship between operating cash flow and change in dividends in companies listed on the Amman Stock Exchange", where a significant relationship was recorded between operating cash flow and change in dividends in medium-sized companies, and no significant relationship was recorded in small and large-sized companies.

2.4 Test of the second hypothesis:

"There is no effect of the company's growth level on the relationship between operating cash flows and changes the dividend distributions companies listed on Amman Stock Exchange." in in To test this hypothesis, the arithmetic mean (market value/book value) was calculated for each company and for all sectors listed on the Amman Stock Exchange collectively (financial, services, and industrial) during the study period. The companies were then classified using the arithmetic mean (market value/book value) based on their growth into low growth, moderate growth, and high growth into three groups: Group I: Comprising 54 companies (low growth companies). Group II: Comprising 54 companies (moderate growth companies). Group III: Comprising 54 companies (high growth companies). The Multiple Regression method was used for each group and the regression model was adjusted to achieve the desired method. The following goal of this stages were followed: Stage 1: Detecting the presence of multicollinearity problem among the study variables: The multicollinearity problem was diagnosed for each model of the successful models using various methods, such as:

1- Variance Inflation Factor method (VIF)

Company growth level	Т	views	Variable	Variable Code	Tol _i	VIF_i
		378	Operating Cash Flows	OCF	0.984	1.017
Low growth	2	378	Net Profit After Taxes	РАТ	0.958	1.044
	3	378	Prior Year Dividends	DVL	0.944	1.059
	1	378	Operating Cash Flows	OCF	0.962	1.039
Moderate growth	2	378	Net Profit After Taxes	РАТ	0.894	1.118
		378	Prior Year Dividends	DVL	0.926	1.080
	1	378	Operating Cash Flows	OCF	0.855	1.169
High Growth	2	378	Net Profit After Taxes	PAT	0.802	1.248
		378	Prior Year Dividends	DVL	0.903	1.108

Table (5): Variance Inflation Factor VIF

According to the results in Table 5, which contains the independent variables the value of the variance inflation factor VIF_i and the variance allowed Tol_i for each variable, we note from the table that the value VIF_i of all study variables is less than 10 and we also note that the value of the variance allowed Tol_i for all variables was greater than 0.05, which indicates that there is no issue of multicollinearity between the independent variables in

Stage Two: Fitting the Multiple Regression Model

Based on the above, three regression models were fitted on the independent variables that were grouped by groups, and to test the significance of the multiple regression model on the three variables, the corresponding statistical hypothesis was tested for each model, namely:

 $H_0:\beta_1=\beta_2=\beta_3=0$

each model.

H₁:At least one of them different

The study used the **F test** to test the previous statistical hypothesis, and obtained the results in Table 6, where the value of the test statistic for the regression model corresponding to the first group (Low growth) $F_{(3,374)}=61.808$

and the probability value, $P(F \ge 60.808) = 0.000$ indicating the rejection of the null hypothesis (null hypothesis), which means that the independent variables in combination or at least one of the parameters of the first group (Low growth) have a significant effect on the dependent variable (change in dividend distributions DV). The independent variables combined or at least one of them from the parameters of the first group (Low growth) model has a significant effect on the dependent variable (change in dividends DV), and the test statistic value of the

corresponding regression model for the second group (Moderate growth) $F_{(3,374)} = 34.267$ and the probability value, $P(F \ge 34.267) = 0.000$ indicating the rejection of the null hypothesis (null hypothesis). the null hypothesis (null hypothesis) is rejected, which means that the independent variables combined or at least one of the parameters of the second group (Moderate growth) model has a significant effect on the dependent variable (change in dividends DV), and finally, the test statistic value of the corresponding regression model for the third group (High Growth)

 $F_{(3,374)} = 24.130$ and the probability value $P(F \ge 24.130) = 0.000$ for the third group (High Growth) and the probability value, indicating the rejection of the null hypothesis (null hypothesis), which means that the independent variables combined or at least one of the parameters of the third group (High Growth) model has a significant effect on the dependent variable (change in dividends DV).

Company growth level	Source of variation	Sum of squares	Degrees of freedom	Mean squares statistic	F Test	Significance level	Decision
Low	Regression	1,308.227	3	436.076	61.808	* 0.000	
growth	Remainders	2,638.685	374	7.055		0.000	Statistically significant
	total	3,946.912	377				
	Regression	800.540	3	266.847	34.267	* 0 000	
Moderate growth	Remainders	2,912.481	374	7.787		0.000	Statistically significant
8-01111	total	3,713.021	377				
	Regression	330.129	3	110.043	24.130	* 0 000	
High Growth	Remainders	1,705.624	374	4.560		0.000	Statistically significant
	total	2,035.753	377				

Table (6): Analysis of variance for the regression model. (ANOVA).

* Statistically significant at the 0.05 level of significance

The results presented in Table (7) indicate the values of Pearson correlation coefficients and determination coefficients. The correlation coefficients for each model were recorded as 0.576, 0.464, 0.403 respectively, as well as the determination coefficients as 0.331, 0.216, 0.162 respectively. This means that in the first group model, 33.1% of the variations in the dependent variable (changes in profit distribution DV) are explained by the variations in the variables (operating cash flows OCF, net profit after tax PAT, previous year's profit distributions DVL) accumulated in the successful regression model. In the second group model, 21.6% of the variations in the dependent variables accumulated in the successful regression model. As for the third group model, 16.2% of the variations in the dependent variable are explained by the variations in the variables accumulated in the successful regression model.

Company growth level	(r)	$\left(\mathbf{R}^{2}\right)$	Durbin-Watson
Low growth	0.576	0.331	1.996
Moderate growth	0.464	0.216	2.103
High Growth	0.403	0.162	1.998

Since the hypothesis that the independent variables are all significant or that at least one of them has an effect for each model was accepted, which means that there may be some variables that do not have a significant effect, the significance of each parameter of the model was tested separately, i.e. testing each of the following hypotheses:

$$\begin{array}{c} H_0:\beta_j=0\\ H_1:\beta_j\neq 0 \end{array} j=1,2,3$$

The study used the t-test to test each hypothesis separately, i.e. to determine the significance of the effect of each variable on the dependent variable individually, obtaining the results listed in Table 8.

Company growth level		B	Beta	T-Value	P-Value
Low growth	Constant	1.072		6.717	* 0.000
	Operating Cash Flows	0.748	0.074	1.730	0.084
	Net Profit After Taxes	2.695	0.205	4.738	* 0.000
	Prior Year Dividends	-0.665	-0.586	-153.46	* 0.000
Moderate growth	(Constant)	1.136		6.173	* 0.000
	Operating Cash Flows	1.053	0.081	1.732	0.084
	Net Profit After Taxes	2.831	0.193	3.994	* 0.000
	Prior Year Dividends	-0.425	-0.425	-9.836	* 0.000
High Growth	(Constant)	0.679		4.790	* 0.000
	Operating Cash Flows	0.946	0.130	2.547	* 0.011
	Net Profit After Taxes	2.636	0.204	3.859	* 0.000
	Prior Year Dividends	-0.305	-0.417	-8.371	* 0.000

 Table 8: Results of estimating the regression coefficients of the independent variables on the change in dividend distribution

* Statistically significant at the 0.05 level of significance

The statistical recorded Table reveal results in (8) the following: Model I: The operating cash flow (OCF) variable has no significant impact on the dependent variable (change in dividend distributions, DV). The statistical significance value for the T-test of this variable was 0.084, which is greater than the 5% significance level. The remaining variables, namely profit after tax (PAT) and previous year dividend distributions (DVL), showed a significant impact, with estimated regression coefficients of (2.695, significance (0.000,0.000)0.665 -)and statistical respectively. Model II: The operating cash flow (OCF) variable also demonstrated no significant impact on the dependent variable (change in dividend distributions, DV), with a statistical significance value for the T-test of 0.084, exceeding the 5% significance level. The remaining variables, PAT and DVL, exhibited a significant impact, with estimated regression coefficients of (2.831, 0.425-) and statistical significance (0.000, 0.000) respectively. Model III: It is evident that all independent variables have a significant impact. These variables include operating cash flow (OCF), profit after tax (PAT), and previous year dividend distributions (DVL), with estimated regression coefficients of (0.946, 2.636, -0.305) and statistical significance (0.011, 0.000, 0.000) respectively.

By that, the three successful models are shown in the image:

 $Y_{1} = 1.072 + 0.748 OCF + 2.695 PAT - 0.665 DVL$ (0.000) (0.084) (0.000) (0.000) $Y_{2} = 1.136 + 1.053 OCF + 2.831 PAT - 0.425 DVL$ (0.000) (0.084) (0.000) (0.000)

$Y_3 = 0.679 + 0.946 OCF + 2.636 PAT - 0.305 DVL$

(0.000) (0.011) (0.000) (0.000)

The Durbin-Watson statistical value for the first model is 1.996. Considering the tabulated values*, we find that this value falls within the range of 1.285 and 1.721, indicating the absence of autocorrelation issues from the residuals resulting from the multiple regression equation. The Durbin-Watson statistical value for the second model is 2.103. Considering the tabulated values*, we find that this value falls within the range of 1.285 and 1.721, indicating the absence of autocorrelation issues from the residuals resulting from the multiple regression equation. The Durbin-Watson statistical value for the third model is 1.998. Considering the tabulated values*, we find that this value falls within the range of 1.285 and 1.721, indicating the absence of autocorrelation issues from the residuals resulting from the multiple regression equation.

* Tabular values extracted from the DW tables: DL = 1.285 DU = 1.721

Results of the analysis of the second hypothesis:

Based on the above, we reject the null hypothesis and accept the alternative hypothesis that: "There is an effect of company growth level on the relationship between operating cash flows and change in dividends in companies listed on the Amman Stock Exchange", where a significant relationship was recorded between operating cash flows and change in dividends in companies with high growth level, and no significant relationship was recorded in companies with low and moderate growth ratios.

5- Results and Recommendations

The aim of this study was to determine whether the relationship between operating cash flows and changes in dividend distributions is affected by the size and growth level of the company during the period 2007-2013, across all sectors collectively. By applying statistical analysis of the study's variables and hypothesis testing, a set of results and recommendations were obtained, as follows:

5-1. Results

Based on the statistical analysis of the study's variables and hypothesis testing, the study arrived at the following results:

• The results indicated an impact of company size on the relationship between operating cash flows and changes in dividend distributions for all companies listed on the Amman Stock Exchange. When categorizing the listed companies according to their size into small, medium, and large companies, it was found that there is a relationship between operating cash flows and changes in dividend distributions only in medium-sized companies. Such a relationship was not observed in large and small companies.

• The results showed an influence of the company's growth level on the relationship between operating cash flows and changes in dividend distributions for all companies collectively listed on the Amman Stock Exchange. When categorizing the listed companies according to their growth level into low-growth, moderate-growth, and high-growth companies, it was found that there is a relationship between operating cash flows and changes in dividend distributions only in high-growth companies. Such a relationship was not observed in low-growth and moderate-growth companies.

5-2. Recommendations

Based on the findings of the current study, the most important recommendations can be summarized as follows:

- The need to increase focus on the cash flow statement, especially cash flows from operating activities, and guide financial statement users to understand and analyze them.
- Jordanian companies listed on the Amman Stock Exchange should consider cash flows from operating activities when determining dividend distribution policy.
- Financial companies listed on the Amman Stock Exchange can increase their cash distributions by increasing cash flows from operating activities.
- Service and industrial companies listed on the Amman Stock Exchange should pay more attention to the cash flow statement when determining dividend distribution policy.
- When relying on operating cash flows to predict dividend distributions, considerations should include the company's size and the level of growth of the company listed on the Amman Stock Exchange.

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