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Moderating Effects of Firm Size in the Relationship between Managerial Performance and Financial Performance on the Palestinian Industrial Companies listed at PEX

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Dedication

To those whose fingertips are hard to offer us a moment of happiness... To the one who reaps thorns from roads to pave the way for learning…

To the big heart ... My Father

To who fed me love and tenderness ...

To the icon of love and Healing…

To the pure white heart...

My Beloved Mother…

To whom give me the encouragement, and continues adequate support in my graduate studies ….

My Dear Husband and Family…

To the pleasures… My Sons…

To the pure and kind hearts, to the innocent souls

(My Brothers and Sisters)

To whom gave the adequate support and efforts, especially the academic staff at An-Najah National University, Accounting Master Program and especially the supervisors Dr. Ghassan Daas…

الإقرار

أنا الموقعة أدناه مقدمة الرسالة التي تحت عنوان:

الأثر الوسيط لحجم الشركة على العلاقة بين الأداء الاداري والأداء المالي في الشركات الصناعية الفلسطينية المدرجة في بورصة فلسطين

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أقر بأن ما اشتملت عليه الرسالة انما هو نتاج جهدي الخاص باستثناء ما تمت الاشارة اليه حيثما ورد وأن هذه الرسالة ككل أو أي جزء منها لم يقدم من قبل لنيل أي درجة علمية أو بحث علمي لدى أي مؤسسة تعليمية أو بحثية أخرى.

Declaration

The work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

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Abbreviations and Acronyms

CAPM : Capital Assets Pricing Model

CE : Capital Employed

DIV : Dividend Payout Ratio

DM : Debt Market Value

EBIT : Earning Before Interest and Tax

EM : Equity Market Value

E(Rm) : Expected Market Return

ERP : Equity Market Risk Premium

EVA Economic Value Added

FL : Financial Leverage

FZ : Firm Size

Kd : Cost of Debt

Ke : Cost of Equity

NI : Net Income

NPV : Net Present Value

PEX : Palestine Exchange

RF : Risk Free

ROA : Return on Assets

ROCE : Return On Capital Employed

ROE : Return On Equity

T : Taxes

WACC : Weighted Average Cost of Capital

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Abstract

This study aims to investigating whether firm size (FZ) can affect the strength of the relationship between managerial performance and financial performance of industrial firms that listed in Palestine Exchange (PEX). The study sample was all industrial firms which listed in PEX expect one industrial firm was excluded due to lack of data.

The data was collected from annual reports for 12 industrial firms which listed in PEX, Daily trading report published by PEX to extract daily close price for industrial companies, and annual report published by the Palestine Monetary Authority during the period 2012 to 2019.

The independent variable-managerial performance of these firms were measured by Economic Value Added (EVA), dependent variable-financial performance were measured by Return On Assets (ROA) and Return On Equity (ROE), moderating variable-firm size (FZ) were measured by lg (Book Value Of Total Assets), both Financial Leverage (FL) and Dividend Payout Ratio (DIV) were used as control variables.

The research method used in this study is a quantitative method. Panel data analysis technique and E-views tools were also used, both

correlation and regression analysis were used to test for the relationship between managerial and financial performance.

This research conclude that the managerial performance has no effect on financial performance before adding moderating variable FZ, but after adding the moderating variable, the study found that FZ had a statistically significant negative moderating effect on the relationship between the managerial performance and financial performance in industrial firms in Palestine. In addition, the study found significant negative impact of FL on ROA and ROE, while the results exhibited that there is significant negative impact of the DIV only on ROA.

Finally, the study recommended future research to use additional measures for financial performance in addition to (ROA and ROE), such as: Earning per Share (EPS), and Tobin's Q, and explore other moderating variables that could affect the relationship between managerial and financial performance. In addition, the study recommended future research to investigate additional data for other industrial firms such as: Jordanian industrial firms and make comparative study for better results, and use other control variables such as board characteristics to determine other factors that influence the financial performance. Ultimately, to achieve value creation, this research recommends major companies to maximizing the firm's value, which increase its ROA and ROE and finally improve its financial performance in the long run and not just satisfied with achieving short-term accounting profit for their companies. Moreover, recommends it

to clarity strategic plans among managers and develop written management practices that help managers accomplish their work correctly and accurately.

Keywords: Managerial Performance, Financial Performance, Firm Size, Economic Value Added, Weighted Average Cost of Capital, Return On Capital Employed, Return On Assets, Return On Equity.

Chapter one

General Framework of Study

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1.2 Research Questions

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1.5 Research Significance

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Chapter One

General Framework of Study

1.1 Introduction

One of the major problems that the companies face is the conflict of interest between managers and owners, this conflict of interest generally known as ‘the agency problem’ (Irala, 2005). Agency Theory assumes a separation between the owners (shareholders) and managers. This problem appears due to the firms grow beyond the means of a single owner, who may be incapable of managing the rapidly increasing of the firm obligations. Agency theory argues that as firms grow in size, the shareholders (principals) lose effective control, leaving professional managers (agents), have more information than principals to manage the affairs of the business (Udeh et al., 2017).

Sometimes, this transfer of firms control from shareholders to managers may cause managers to make decisions that are not consistent with the firm’s goal to maximize shareholder wealth. If there is a conflict of interest between shareholders (principals) and management (agents), agency problem may arise (Arilyn et al., 2019). Therefore, it is very essential to align the interests of the managers and shareholders or at least reduce the conflict of interests (Irala, 2005). In this regard, thesis examines the effect of managerial performance on financial performance, and examine if this performance relationship is moderated by FZ in industrial

sector at Palestine Exchange, to ensure that managers make proper management decisions that are consistent with the interest of owners, which ultimately leads to maximization of shareholders' wealth.

1.2 Research Questions

The main question of the research is as follows:

Does FZ moderate the relationship between managerial performance and financial performance?

The sub-questions are the following:

1. Does managerial performance have any impact on ROA?
2. Dose managerial performance have any impact on ROE?
3. Does FZ moderate the relationship between managerial performance and ROA?
4. Does FZ moderate the relationship between managerial performance and ROE?

1.3 Research Objectives

Financial reporting has many objectives, the most important objective is to provide the useful information to present and potential investors, creditors, and other users of the financial statement in the firm due to making rational business decisions. Other objective of financial

reporting is to provide a basis for assessment of the internal and external performances of the firm.

1- Internal performance, as to profitability, expandability, and liquidity is required for guiding the management towards maximizing the shareholder's equity.

2- External performance, as to market valuation, is required by investors and other third parties to show how far the management has been able to maximize the shareholder's equity (Enyi, 2005).

Many of the financial theories and practices show that the market value of a firm's "financial performance" bears a true reflection of its internal performance "managerial performance" (Enyi, 2005). This means that the managerial performance of the firm has the greatest impact on its financial performance. From this standpoint, the main purpose of this research is:

1. Determine the impact of managerial performance on ROA.

2. Determine the impact of managerial performance on ROE.

3. Determine the impact of FZ on the relationship between managerial performance and ROA.

4. Determine the impact of FZ on the relationship between managerial performance and ROE.

1.4 Research Problem

At the academic level, few previous studies have investigated in detail the relationship between managerial performance and financial performance (Bone, 2017). However, a lot of research has investigated the relationship between financial performance and other accounting issues such as board characteristic, non-financial performance, performance management, corporate governance, there is also considerable research on the relationship between managerial performance and other accounting issues such as technical skill, management accounting system, business success, etc.

However, there has been little research on the effects of managerial performance on financial performance to determine the impact of managerial decisions on improving the firm's financial performance in Palestine. This present research comes to fill in the gap in this field in Palestine and study the direct effects of managerial performances on financial performances and examine if this relationship moderated by FZ, this research has studied the performance relationship of industrial companies listed on the PEX.

1.5 Research Significance

In terms of theory, there is a gap in this field of research. Also, few research has investigated the relationship between managerial performance and financial performance. No research has focused on the influence of the

moderating effect of FZ on the performance relationship (Bone, 2017).That means few studies have addressed the effect of firm size in the performance relationship within a single integrated model. This study has addressed the FZ variable within a comprehensive and integrated model.

Overall, this research makes contribution to the current literature in the field.

The study of relationship between managerial performance and financial performance assists in clarifying the extent to which managerial performance affects financial performance. Also by incorporating FZ in a single model with managerial and financial performance, it addresses the question of whether the effects of managerial performance on financial performance largely depend on FZ.

Also, from a practical point of view, the industrial sector in Palestine is considered one of the most important and largest operating sectors in Palestine, based on the information published on the PEX website at the date of data collection for this research, It was found that the industrial sector constitutes approximately one third of the companies listed on the PEX by (28.26%). As the PEX contains 46 listed companies divided into five main sectors:

1. The banking sector, which includes 7 listed companies, and constitutes (15.21%) of the total listed companies.

2. The insurance sector, which includes 7 listed companies, and constitutes (15.21%) of the total listed companies.

3. The services sector includes 9 listed companies, and constitutes (19.56%) of the total listed companies.

4. The investment sector includes 10 listed companies, and constitutes (21.74%) of the total listed companies.

5. The industrial sector, which includes 13 listed companies, and constitutes (28.26%) of the total listed companies.

In addition to the above, the industrial sector is considered one of the most diversified sectors in Palestine, as it includes companies that include a large number and a variety of different products. Some of these companies produce medicines, some produce food products, and some produce metals, plastics, paints, cardboard, smoking products and cigarettes.

Consequently, this diversity in the products and services provided by the industrial sector in Palestine and the enormity of its size made it a vital and important sector in Palestine.

Therefore, studying the managerial performance of companies in this sector will provide useful information to chief executive’s officer who are responsible for managing companies in order to help them successfully manage these companies and work to maximizing the value of their institutions.

1.6 Research Variables

As aforementioned, the main purpose of this research is to determine the moderating effects of FZ in the relationship between managerial performance and financial performance. In order to study the relationship between the research variables, the researcher has defined variables depending on literature review:

Table (1): Key Research Variables

Variable	Definition	Variables Type	Measured by	Source of Raw Data
ROA	Return on Assets	Dependent Variable	ROA = Net Income / Book Value of Total Assets (Dohar & Mahardhika, 2016).	Financial Statements, PEX, 2020
ROE	Return On Equity	Dependent Variable	ROE = Net Income /book Value of Owners Equity (Kijewska, 2016)	Financial Statements, PEX, 2020
EVA	Economic Value Added	Independent Variable	EVA= (Return on Capital Employed – Weighted Average Cost of Capital)* Capital Employed (Irala, 2005).	Financial Statements, PEX, 2020
FZ	Firm Size	Moderator Variable	FZ = Book Value of Total Assets (Wahba, 2015).	Financial Statements, PEX, 2020
FL	Financial Leverage	Control Variable	FL = Total Debt / Total Assets (Tongli et al., 2018)	Financial Statements, PEX, 2020
DIV	Dividend Payout Ratio	Control Variable	DIV = Dividends / Net Income (Gill et al., 2010)	Financial Statements, PEX, 2020

Table (2): Other Research Variables

Variable	Definition	Measured by	Source of Raw Data
NI	Net Income	NI = Profit After Taxes and Interest Expenses (Pereiro, 2011).	Financial Statements, PEX, 2020
CE	Capital Employed	CE = Total Assets – Current Liabilities (Casielles, 2019).	Financial Statements, PEX, 2020
WACC	Weighted Average Cost of Capital	WACC = Em/ (Em+Dm) x Ke + Dm/ (Dm+ Em) x Kd (1-T) (Casielles, 2019) .	Financial Statements, PEX, 2020
Em	Equity Market Value	Em = Numbers of Stock Outstanding * Market Price per Share (Abdullah, 2018).	Financial Statements, PEX, 2020 PEX, 31/12/2020 Closing Price, Trading Report
Dm	Debt Market Value	Dm = Debt Book Value.	Financial Statements, PEX, 2020
Ke	Cost of Equity	Ke = α+ (Beta* ERP) + Rf (Fernandez, 2019).	PMA, PEX, 31/12/2020 Closing Price, Trading Report
Kd	Cost of Debt	Kd =Total Interest Cost Incurred * (1-t) / Total Debt (A-Nawajha, 2014).	Financial Statements, PEX, 2020
ERP	Equity Market Risk Premium	ERP = E (Rm) – Risk Free (Casielles, 2019).	PMA, PEX, 31/12/2020 Closing Price, Trading Report
E(Rm)	Expected Market Return	E (Rm) = (close Value in 12/31 - Close Value in 1/1) / Close Value in 1/1 (Mashriqi & Alshahab, 2014)	PEX, 31/12/2020 Closing Price, Trading Report
ROCE	Return On Capital Employed	ROCE = Earnings Before Interest and Tax * (1-T) / Capital Employed (Irala, 2005).	Financial Statements, PEX, 2020

The independent variable (managerial performance, X) will be measured by Economic Value Added (EVA). Irala (2005), argued that EVA is a better alternative to the traditional managerial performance measures such as Profits, EPS, ROCE and ROE, etc. EVA equation includes the three most important items necessary to assess the ability of managerial actions which affect the firm value. These are the amount of

capital invested (CE), the return earned on the capital, and the cost of capital. The natural logarithm is used to transform EVA values.

The dependent variable (financial performance, Y) is measured by ROA, and ROE.

According to Arilyn et al. (2019), because shareholders' equity is equal to a company’s assets minus its debt, ROE is considered the return on net assets. Therefore, ROA and ROE are the best ways to measure the overall effectiveness of management in generating profits with its available assets.

Moderating variable (FZ) is measured by the book value of total assets to account for economies of scale. The natural logarithm is used to transform the book value of total assets (Wahba, 2015).

Because risk and dividends have been suggested in previous articles (Tsoutsoura, 2004); (Rizwan et al., 2016); (Al – Jafari & Al Samman 2015); and (Arilyn et al., 2019), to be factors that affect the firm’s financial performance, each of these characteristics (DIV and FL) is used as a control variable.

1.7 Research Hypotheses

The main hypothesis and the sub-hypotheses in this research depend on the potential moderating effect of FZ on the relationship between managerial performance and financial performance because this research

assumed that the strength of the relationship between managerial performance and financial performance might be affected by the presence of the moderating variable (FZ).

The main hypothesis in this research:

The effect between the Managerial Performance and Financial Performance is not moderated by FZ at Palestine Exchange in industrial sector.

Which could be attributed to Sub-hypotheses:

1. The first and second hypotheses test the effect of managerial performance on financial performance with its two measures: (ROA and ROE).

Management plays a key role in the success of every organization, and business leaders use different activities and management tools to improve financial performance (Karadag, 2002). Salehi et al. (2014) have investigated the effect of intellectual capital (human capital efficiency, customer capital efficiency, and structural capital efficiency) and EVA on the financial performance of the listed companies on the Tehran Stock Exchange (TSE). The results of multiple linear regression analysis showed that there was a significant relationship between financial performance of firms and intellectual value added, intellectual capital efficiency, relational capital efficiency, human capital efficiency, structural capital efficiency, and economic value added.

H01: There is no impact of Managerial Performance on ROA at PEX in industrial sector.

H02: There is no impact of Managerial Performance on ROE at PEX in industrial sector.

2. The third and fourth hypotheses test the effect of moderating variable (FZ) on the relationship between managerial performance and financial performance with its two measures: (ROA and ROE).

Several studies have examined the effect of FZ on its financial performance. Some of these studies have found an effect of the FZ on its financial performance. A case in point is (Babalola, 2013); and (Al – Jafari & Al Samman, 2015). Other studies have not found any effect of the FZ on its financial performance, (Arilyn et al., 2019); and (Alabdullah et al., 2018) studies is a case in point. Against this background, this research has studied the effect of the FZ as a moderating variable on the relationship between the managerial performance and financial performance to examine whether the strength of this performance relationship is affected by the presence of a moderating variable (FZ).

H03: The effect between the Managerial Performance and ROA is not moderated by FZ at PEX in industrial sector.

H04: The effect between the Managerial Performance and ROE is not moderated by FZ at PEX in industrial sector.

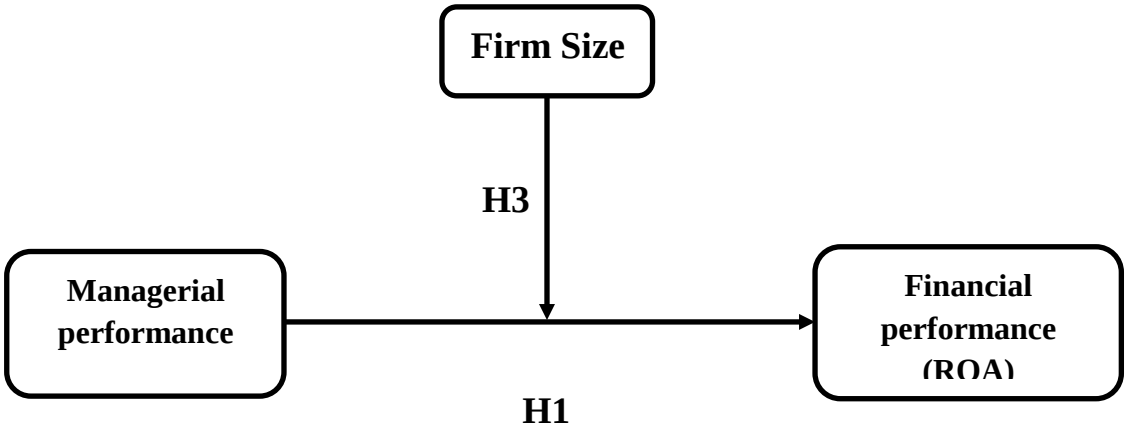

Figure (1): Research Hypotheses.

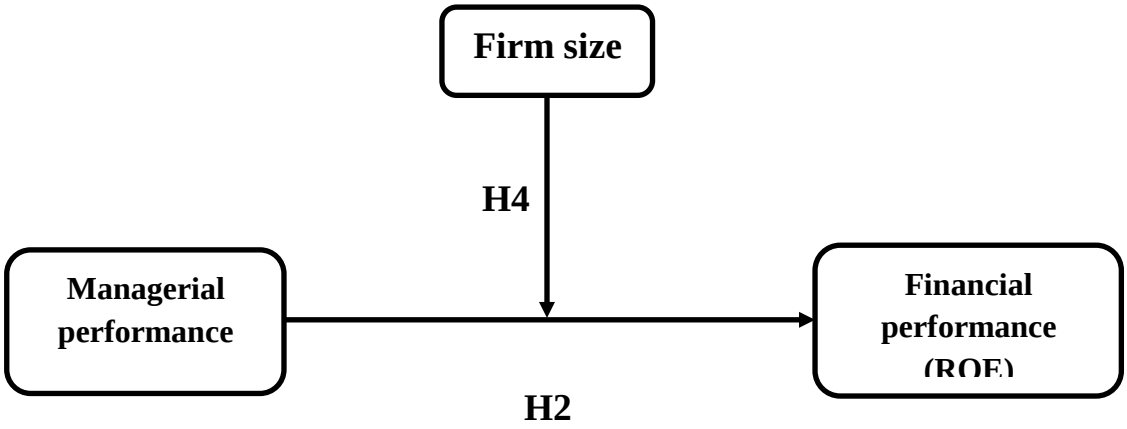

Figure (2): Research Hypotheses.

1.8 Research Model

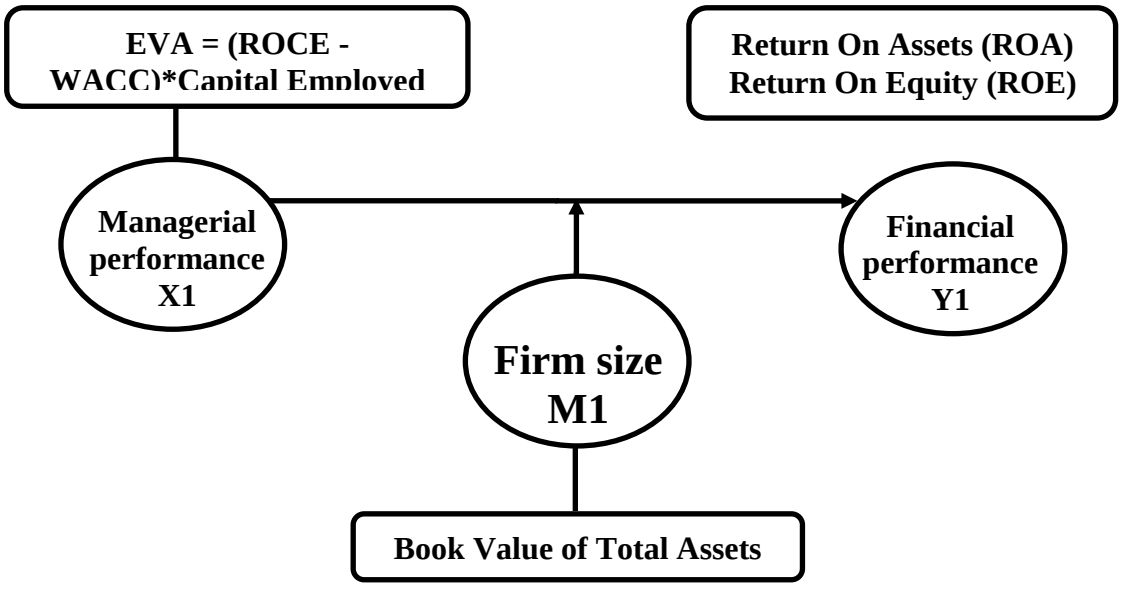

Figure (3): Research Model.

Chapter Two

Theoretical Framework and Literature Review

2.1 Managerial Performance Definitions

2.2 Theory that anchor this thesis

2.3 Traditional Measures of Managerial Performance

2.4 Ideal Measure of Managerial Performance

2.5 Financial Performance Definitions

2.6 Best Measures of Financial Performance

2.7 Performance evaluation and Balanced Scorecard

2.8 Control Variables

Chapter Two

Theoretical Framework and Literature Review

Literature Review

This chapter addresses a number of issues related to the subject of this research: These include managerial performance definitions, abridgement of traditional measures of managerial performance, explanation of the ideal measure of managerial performance, financial performance definitions, and explanation of the best measures of financial performance, and clarification of the rationale for the use of the moderating variable (FZ).

Sound planning that identifies the company long-term ways of using existing resources it has would make it more competitive. This planning is based on the company's current financial performance, which is measured by its financial statements and financial indicators. These statements and indicators are expected to be healthy. In addition, every company seeks to develop and improve its financial performance through proper managerial decision to ensure that set of activities and outputs meet its goals effectively and efficiently, thus improving its financial performance (Muscalu, 2016).

According to Irala (2005), performance is a combination of three important factors:

1. Advancement and interests of the worker,

2. Ability and acceptance of the explanation of the assigned duties,

3. Role and motivation level of the employee.

2.1 Managerial Performance Definitions

Managerial performance can be defined as the decisions that the management makes and leads to maximization of the stock price (firm value) by accepting positive Net Present Value (NPV) investments (Irala, 2005). This maximization of the firm value is called value creation (Abdullah, 2018).

The concept of value creation emerged in the mid-nineties as a strategic concept and was widely used in the United States as a measure for management performance. It is intended to create value for shareholders or owners of equity, and working with this measure means placing shareholders in the center of decision-making processes. This means that all decisions are made in order to maximize the wealth of owners. The priority has increased interest in creating value for shareholders as those bear the risk. If the firm is able to establish and create value for its shareholders, other parties will inevitably benefit from this, as the return on invested funds exceeds the cost of the various sources of financing. Therefore, it is clear that an enterprise that achieves a profit in the accounting concept is not necessarily able to create value, although the accounting profit takes into account the cost of borrowing in calculating the

result. However, the value-creating organization is the one that can make a profit after taking into account the cost of borrowing money (Abdullah, 2018).

Velez-Pareja (2001), clarifies the meaning of the NPV as follows: when an investor invests the money she/he expects to receive, during her/his investment life, an amount that is equal to the invested sum plus a benefit. The firm or investment delivers this amount throughout its life. The NPV measures the value generated by the investment after subtracting the amount invested at period 0 and the amount the firm would receive or pay for its money before its decision to invest. NPV is what is left after subtracting the investment and the interest payments which calculated at the discount rate, that the firm should pay to its stockholders and debtors. These interest payments are known as opportunity cost or cost of capital (Weighted Average Cost of Capital, WACC).

If the firm lends a specific amount to the project. That amount has to be repaid with interest calculated at the discount rate, plus an extra amount. This extra amount is the net benefit that the firm receives for its investment. This net benefit is what NPV measures. In other words, the NPV equals the amount of value added by the firm. Thus the purpose of NPV is to measure the value added to the firm. When the NPV is systematically maximized, the firm value is also maximized (Velez-Pareja, 2001).

This should be the principal goal of a good manager: to maximize the firm value.

2.2 Theory that anchor this thesis

- Agency Theory

  The agency theory assumes that the main objective of the firm's is to maximize the shareholder’s wealth. But sometimes the managers act to further their own interests at the shareholder’s expense. The separation of ownership and decision-making authority it is what makes this problem worse. The internal audits, external audits and managerial controls whose implementation safeguards the company's assets an example of the procedures that the company tacks to ensure that managers act in the shareholder's interests and resolve the agency problem (Wangari, 2017).

- Stakeholders Theory

  Stakeholder theory assumes that an organization exists to create value to its stakeholders. Stakeholder include: shareholders, employees, customers, government, suppliers, managers, the media, the general public and anybody who is concerned by the attainment of the firm’s goal (Wangari, 2017).

  Stakeholder theory implies that managers must pay attention to all constituencies that can affect the value of the firm, so it is completely consistent with the firm value maximization (Jensen, 2001).

2.3 Traditional Measures of Managerial Performance

According to Irala (2005), there are many traditional performance measures of managerial performance that affect stock price such as Profits, EPS, ROCE and ROE, etc. The question that is raised here is "Can we measure the performance of a manager directly as reflected by the stock price and reward him/her when stock price goes up and punish him/her if stock prices behave otherwise?

Irala (2005), answered this question and explained that ‘Stock price is driven by so many factors that escape from the control of managers, making it an inefficient measure of the true influence of the mangers on firm’s value.”

In the following section l discusses the pitfalls of each previous measure based on (Irala, 2005) view:

1. **Profits:** Tying compensation to profits has obvious problems. An ambitious manager, expecting a quick career jump might be tempted to earn more short-term profit- by cutting or postponing expenses on Research & Development, maintenance, staff training etc – ignoring their long term consequences. This apart, profit is an absolute measure of performance as it considers neither the cost nor the size of capital employed to generate the given profit. If managers are told to maximize growth in profits, they will accept any investment with a positive rate of return (even 2 or 3 percent) and will eventually

increase earnings, but shareholders don't want only growth in profits; they want positive NPV investments – they want the company to invest only if the expected rate of return exceeds the cost of capital

2. **Earnings per Share (EPS):** EPS is a measurement of companies per share performance. It is a ratio of net income to the number of shares outstanding. EPS -when compared to profits - is a relative measure as it considers the size of the capital (in the form of numbers of shareholders). However, like profits, it doesn't consider the cost of capital invested to generate the profits.

3. **Return on Capital Employed (ROCE):** ROCE is the ratio of net operating profit to the net operating assets or capital. ROCE is an improvement over EPS as it links the returns generated to the capital employed. However, it does not include the cost of such capital employed

4. **Return on Equity (ROE):** ROE indicates how much the firm has earned on the funds employed by the shareholders. ROE, like ROCE, doesn't include cost of capital (Equity in this case) in its computation. ROE is also very strongly affected by capital structure changes and hence might not indicate the operating efficiency of managers.

Also, Lau (2015), examined the effects of nonfinancial performance measures on role clarity, procedural fairness and managerial performance. In his research he used eight dimensions to measure the managerial performance: planning, investigating, coordinating, evaluating, supervising, staffing, negotiating and representing. He also administered a questionnaire to collect data. However, in this research no questionnaires have been administered due to problems resulting from administration such as inflexible design, unanswered questions, differences in understanding and interpretation of the questions. This is in addition to difficulty of analyzing some questions, lack of accessibility to some respondents, and huge time and effort.

2.4 Ideal Measure of Managerial Performance

An ideal performance measure should ensure maximization of stock price (firm value). Managers maximize firm value just by accepting positive NPV investments- investments that earn more return than the hurdle rate (cost of capital) (Irala, 2005). This process is called value-based management. For the last three decades, the value-based management paradigm has entirely occupied the minds of corporate managers around the globe. Value-based management presumes that shareholders benefit only from positive-NPV investments. This means that the company must invest only if the expected rate of return exceeds the cost of capital (Cheremushkin, 2008).

Moreover, the ideal performance measure should ensure that managers bear all the consequences of their own actions, but are not exposed to the fluctuations over which they have no control. Therefore, an appropriate performance measure should assess how managerial actions affect the firm value. For this to happen, the performance measure must incorporate at least three things (Irala, 2005):

a) Amount of capital invested.

b) Return earned on the capital.

c) Cost of capital – reflecting the risk adjusted required rate of return.

Many researchers agree that Economic Value Added (EVA) is the best measure of managerial performance because it is closely related with the NPV concept, there has been an increasing interest in EVA. This idea was brought forth 25 years ago, and today it is one of the most popular fashions in financial and compensation management (Velez-Pareja, 2001). EVA has been generally recognized and has gained extraordinary popularity among practitioners (Cheremushkin, 2008). One of the benefits of this fad is that many people have started to understand some ideas that underlie basic concepts such as NPV. However, the idea has been commercialized and many believe it is a simple solution to a complex problem (Velez-Pareja, 2001).

EVA is the firm's proprietary adaptation of residual income. It measures the difference between a firm’s cost of capital and return on

capital. EVA is expressed as either a positive or negative currency amount (Young & Obyrne, 2000).

However, EVA is a modified version of residual income where the modifications consist of accounting adjustments designed to convert accounting income and accounting capital to economic income and economic capital. Thus, the significance of the difference between EVA and residual income is dependent upon the impact of these accounting adjustments. EVA is determined as adjusted operating income minus a capital charge, and assumes that a manager's actions only add economic value when the resulting profits exceed the cost of capital (Venanzi, 2010).

Irala (2005), expressed EVA equation as:

EVA = Adjusted Net Operating Profit After Taxes (ANOPAT) - Capital Cost

Where,

ANOPAT= CE * ROCE (as ROCE = EBIT (1-T) / CE)

Capital Cost = WACC * CE

Thus:

EVA = CE * ROCE - WACC * CE

EVA = (ROCE - WACC) * CE

While:

ROCE = Return On Capital Employed

WACC = Weighted Average of Cost of Capital that includes cost of equity (generally measured by CAPM) and cost of debt.

To calculate EVA, a cost is assigned to each component of a firm's financing (equity and short- and long-term debt). The resulting WACC is one of EVA's most important components. It requires transparent, credible calculation because there are different ways of assigning costs to capital and to equity financing in particular (Young & Obyrne, 2000).

The cost of capital is defined as the expected return on a firm's stock. This definition is consistent with standard asset pricing models in finance, as well as numerous studies in accounting that use discounted cash flow or abnormal earnings models to infer firm's cost of capital (Lambert et al., 2007).

According to Casielles (2019), WACC is the average return that shareholders and debt holders require.

WACC = Em/ (Em+Dm) x Ke + Dm/ (Dm+ Em) x Kd (1-T)

While:

EM= the Equity Market Value

DM = the Debt Market Value

Ke= Cost of Equity (Shareholders Return Required)

Kd= Cost of Debt (debt holder Return Required)

Kd (1-T) = Cost of Debt After Taxes (since interests are tax deductible)

EM is measured by multiplying the numbers of stock outstanding * market price per share (Abdullah, 2018).

In Palestine, because most of debt is bank debt and does not have a market value, the debt book value is a good proxy to the DM.

Pereiro (2011), explained that “Ke” is the cost of equity capital, the opportunity cost of the capital the shareholder has invested; it is the minimum return the investor requires on his/her investment. In turn, Kd is the cost of indebtedness of the firm, i.e., the annual interest rate that the firm pays on its debts. Kd should always be smaller than Ke because the bank that lends to a firm bears a risk of not recouping the principal smaller than the risk shareholders bear of not recouping their investment in the stock. This is because, in the event of firm liquidation, the law states that creditors are entitled to collect the proceeds from the liquidation first, and the shareholders last.

The advantage of taking debt is the 1 – T term, called tax shield, a shield on profits. Taking debt protects profit since in most countries (and although to different degrees), the interests that debt generates are deductible from taxes. The tax shield decreases the second term in the right-hand side of previous WACC Equation, thus reducing the WACC (Pereiro, 2011).

WACC is neither a cost nor a required return, but a weighted average of a cost and a required return. To refer to the WACC as the “cost of capital” may be misleading because it is not a cost (Fernandez, 2019).

Cost of equity is the rate of return that investors require to make an equity investment in a firm. To estimate cost of equity, we start off with the risk free rate, the return of an investment that has no risk (the yield on U.S. Treasury securities is considered a good example of a risk free return) plus a risk premium that depends on the level of risk of the company (Fernandez, 2019).

Cost of equity generally refers as (Ke)

$$\mathbf{Ke = \alpha + (Beta * ERP) + RF}$$

While:

$$(ERP) = E(Rm) - RF$$

Cost of debt (financing cost): the yield the company would incur for borrowing an additional one dollar. Cost of debt is generally referred to as Kd. The primary determinants of the cost of debt are: 1-credit quality and 2-corporate bond ratings. The most common factor affecting the Kd are: 1-size, 2-industry, 3-leverage, 4-cash flow and coverage, 5-profitability and 6-numerous qualitative factors. (Pettit et al., 2005).

Despite the many efforts made to find the value of the cost of capital, little attention has been focused on estimating the cost of debt in the

context of WACC estimation. The most common way of estimating the Kd is to use the promised yield on newly issued debt of the firm. However, this is not correct (Cooper & Davydenko, 2001)

According to A-Nawajha (2014), the interest on debt is considered as tax deductible. Therefore, it will be deducted from taxable income.

Therefore, $\mathbf{Kd} = \frac{\textbf{Total Interest Cost Incurred} \times (\mathbf{1-t})}{\textbf{Total Debt}}$

The problem in calculating the cost of equity is how to put a number to this required risk premium. The custom is to use the CAPM (Capital Asset Pricing Model) (Casielles, 2019). The CAPM came about when answering the following question: What equity and bond portfolio should an investor who has risk aversion form? (Fernandez, 2019).

The conventional formulation of the CAPM will be used in the analysis. In the CAPM, the expected return on a firm's stock can be expressed as a function of the risk-free rate (RF), the expected return on the market (ERP) and the firm's beta coefficient (Lambert et al., 2007).

The CAPM says that if one invests in a market index that represents all the companies listed in the market, one will bear the so-called market risk and so may expect to obtain the risk premium of the market (Equity market Risk Premium) (ERP). This ERP is the difference between the expected market return E (Rm) and the present RF rate (Casielles, 2019).

So, Equity Market Risk Premium is:

$$\mathbf{(ERP) = E(Rm) – Rf}$$

The equity premium (also called market risk premium, equity risk premium, market premium and risk premium) is used to designate four different concepts: Historical Equity Premium (HEP); Expected Equity Premium (EEP); Required Equity Premium (REP); and Implied Equity Premium (IEP) (Fernandez, 2017).

Required equity premium (REP): It is used for calculating the required return to equity in WACC equation. It is different for different investors, so it is impossible to determine the REP for the market as a whole because it does not exist (Fernandez, 2017).

According to Casielles (2019), some stocks are more volatile (more risky) than the market (i.e. they go up and down more than the market) and should therefore have a higher expected risk premium than the market. Other stocks are less volatile (less risky) than the market and so their risk premium is smaller. Therefore, if one invests in a specific stock, he/she bears the market risk and the specific risk of the stock which can be higher or lower than the market risk. If the risk of the stock is higher than the market risk (i.e. the stock goes up and down more than the market), the market risk premium is multiplied by a number > 1, If the risk of the stock is lower than the market risk (i.e. the stock goes up and down less than the market), the market risk premium is multiplied by a number < 1. This

number is the beta of the stock. If the stock goes up and down, for example, 20% more than the market, the beta will be 1,2, but if the stock goes up and down 20% less than the market, the beta will be 0,8. Finally, if the stock goes up and down, the same as the market, the beta will be 1.

Therefore, according to CAPM,

$$\mathbf{Ke = \alpha + Beta*(E(Rm) - RF) + RF}$$

While:

$$\mathbf{(ERP) = E(Rm) - RF}$$

To find CAPM, each of RF will be calculated, E(Rm), ERP, Beta, and Alfa.

1. **RF:** Is the return produced by a risk-free asset. The most common is to use the return of the ten-year Treasury bond at the moment of the investment. However, in the Palestinian environment, due to the lack of bonds, the interest on bank deposits in dollar is considered as a proxy for RF rate (A-Nawajha, 2014).

   RF = interest on bank deposits in dollar.

2. **E(Rm):** The most common is to use the average of the past return of the market (for example, the last ten years or over an entire stock market cycle –with its up and down phases) (Casielles, 2019).

According to Mashriqi & Alshahab (2014), the expected market return was calculated as follow:

The close value of the market index (Al-Quds Index) was taken every month over the years of the study, from 2012 to 2019, equivalent to 96 close value (8 years * 12 months = 96). Then the monthly close values were converted to annual values by calculating the annual market index = (close value in12/31 - close value in 1/1) / close value in 1/1 for each year.

Annual expected market returns for each year E(Rm)

$$= \frac{(\textbf{close value in } 31/12 - \textbf{close value in } 1/1}{\textbf{close value in } 1/1}$$

3. **ERP:** From the expected market return, the RF had to be subtracted at the moment to have the ERP (Casielles, 2019).

$$\textbf{ERP} = \textbf{E (Rm)} - \textbf{RF}$$

4. **Beta**: It is a statistical measure of systematic risk that measures the sensitivity of the return on the stock to the return on the market (companies for which the market index is calculated) (A-Nawajha, 2014).

Beta is calculated as the coefficient between the return of the stock and the return of the market (Casielles, 2019).

The close price for each firm, included in the sample in the end of each month, was taken over the years of the study, from 2012 to 2019 for each firm, equivalent to 1, 152 monthly close price (8 years * 12 months * 12 firm = 1, 152). This was in addition to the 96 monthly market index reading that was found in the previous step. Then the change in the value of the monthly closing prices was found by calculating LN (P_t/ $P_{(t-1)}$).

Where:

P_t= close price of shares at the end of the year.

$P_{(t-1)}$ = close price of shares at the end of the previous year.

Then a regression was calculated between the monthly market return (X) and the monthly return of the firm (Y) for each company included in the sample in each year of the study.

From the result of the regression, the annual beta and alpha values for each company were extracted. These values were used to calculate cost of equity (Ke) according to CAPM equation.

5. **Ke = α+ (Beta*ERP) + RF**

Then the resulting Ke was used to calculate the value of the WACC

Fernandez (2015), argued that CAPM is an absurd model because CAPM is based on many unrealistic assumptions, and none of the

CAPM predictions happens in our world. Many scholars maintain that “the CAPM is not testable” or “it is difficult to test its validity”. However, many people are still using the CAPM for many reasons:

1. Has received a Nobel Prize in Economics.

2. While not perfect, it is used extensively in practice. “Beta is simple and it is used in the real world".

3. If one does not use beta, then what would be used? “No substitution so far. There are no better alternatives, there is no other satisfactory tool in finance”.

4. Calculated betas are on the CFA exam.

5. Almost every practitioner book uses betas. McKinsey publications are a case in point.

According to Camelia (2013), many researchers use ROCE for examining whether the companies have been able to create value for their shareholders. The level of this rate highlights the financial performance and helps to assess the desirability of a project and make decisions on the valuation of firms. ROCE expresses the firm’s capacity to obtain profit from its own capitals and borrowed ones, which have been invested in activity. For shareholders, the level of ROCE indicates how well the firm’s management can create value in order to recompense them. The nature of ROCE, its calculation and analysis serve as a reliable measure of corporate

performance. It helps investors see through growth forecasts, being a very useful tool in calculating the efficiency and profitability of capital investments in company.

According to Casielles (2019), ROCE is a financial ratio that measures a company's profitability and the efficiency with which its capital issued. ROCE gives an indication of the profitability generated by the company to pay back to shareholders and debtholders.

According to Irala (2005), to measure the ROCE, the profit is simply divided before interest and tax*(1-T) by computing value of CE for the period, multiplying by 100 to give it a per centum presentation.

ROCE =EBIT * (1-T) / CE

Where:

EBIT :is the earnings before interest and tax.

CE is the total amount of capital used for the acquisition of profits by a firm or project. CE can also refer to the value of all the assets used by a company to generate earnings (Casielles, 2019).

Capital Employed = Total Assets - Current Liabilities

Or:

Capital Employed =Equity + Noncurrent Liabilities

Camelia (2013), explained the reasons for using the literature to analyze profitability in order to measure the performance that's where the profitability represents one of the expression forms of economic efficiency having a high synthesis power. It includes all the economic-financial aspects of companies. Also, often the profitability is associated with the notion of economic performance, which is evaluated in accordance with a benchmark level of the objectives and expected results. Finally, achieving a high profitability in the long run requires a stable financial equilibrium, to ensure permanent compensation and coverage of the debts by current revenues. Therefore, it is normal for the modality of formation and utilization of owned or borrowed capitals to influence the companies' profitability.

Based on the above discussion, EVA has been seen as better alternative to the traditional performance Measures such as: Profits, EPS, ROCE and ROE etc. because EVA provides the value created for investors in a given time period by weighing the profit generated by a decision against the value of the capital employed to generate that profit. Also if managers were told that their performance was measured by EVA and compensation was likened to that, they would try to improve EVA by doing one or more of the following: Improve returns with the existing capital, employ capital productively and reduce the capital cost (Irala, 2005).

With regard to EVA, wealth is created when a firm's managers make positive NPV investment decisions for the shareholders, thus helping

manages and shareholders to verify regularly that the return on investment exceeds the cost of capital. In addition, a company is not truly profitable unless it earns a return on invested capital that exceeds the opportunity cost of capital so EVA surpass traditional managerial performance measures (Cheremushkin, 2008).

EVA has a little of pitfalls. The most prominent pitfall represented in that EVA is a single period measure and is no ex-post basis. Therefore, the current EVA does not signal anything about the future EVAs. However, in this research, EVA is used as a better measure of managerial performance, although it's not a panacea. There is also not much research to prove it otherwise. Successful EVA stories in the west are quite encouraging. In addition to that, EVA - based compensation plans will drive managers to employ a firm’s assets more productively. EVA should help reduce the difference in the interests of the managers and shareholders, if not perfectly align them. Therefore, improving EVA theoretically improves the value of the firm, and hence is a good measure of managerial performance whether they are contemplating entering new markets, setting product prices, adding new service lines, or making an acquisition. Managers need a way to value the alternatives and choose the ones that will produce highest value to the firm (Irala, 2005).

Finally, Fernandez (2017), explained a set of advantages resulting from using EVA as a measure of management performance. These advantages are the following:

1. EVA is a measure that correctly takes into account value creation or destruction in a company.

2. There is evidence that increasing EVA is the key to increase the company’s value creation.

3. More EVA is always unambiguously better for shareholders.

4. Managing for higher EVA is, by definition, managing for a higher stock price.

5. EVA is the performance measure most directly linked to the creation of shareholders’ wealth over time.

2.5 Financial Performance Definitions

Financial performance means the company's financial condition over a certain period of time and that includes the collection and use of funds measured by several indicators of capital adequacy ratio, liquidity, leverage, solvency and profitability. In other words, financial performance is the company's ability to manage and control its resources (Fatihudin et al., 2018).

Arilyn et al. (2019), argued that financial performance is the achievement of a firm that issues shares that reflect the financial condition and performance of a company

Financial performance is a general term use the financial analysis. There are two types of financial analysis: the fundamental analysis which is based on the company's financial statements, prospectus, and other company's financial profile, and technical analysis which is based on market statistical data (Fatihudin et al., 2018).

In this regard, we must distinguish between fundamental analysis and technical analysis (A-Nawajha, 2014):

- Fundamental Analysis:

The fundamental analysis is based on studying a set of techniques such as strategic analysis and financial analysis. The basic analysis seeks to determine the true value of the stock based on information related to the company itself and the industry to which it belongs and the economy in which it is active, just as the professional core analyst must be concerned with all the factors that may affect the performance of the company. It is not satisfied with local economic conditions, but rather expands its analysis to the macro economic variables.

Analysts who use this analysis start with emphasis of the existence of a true value of the security, and then they try to find out this value through their analysis of the framework for returns and risks for the security. The real value of this paper can be reached by conducting a deduction process for all the cash flows that the investor expects to obtain and at a reasonable discount rate to get to its current value, which is equal to the real value.

- Technical Analysis:

Technical analysis is not concerned with collecting data on the position of companies and industries and general information on economic conditions, then analyzing it in order to know the true value of the stock as is the case with the basic analysis. Rather, technical analysis focuses on tracking the movement of stock prices in the past and determining a pattern for this movement so that the investor can predict it with future trends in prices depending on the historical picture of the past. It is the main assumption on which technical analysts depend: the past price movements repeat themselves, and therefore, what happened in the past will also happen in the future.

Analysts who adopt this method try to predict future prices by studying a series or several chains of past prices for the stock or the market as a whole, along with some other information such as the volume of trading on the stock. Then they try to discover general trends that are repeated in the movement of the stock price, and then study the current prices in the market to try to find out if the current price movement is similar to a previous trend in this price, and therefore try to predict a specific price in the future (A-Nawajha, 2014).

Financial analysis includes the use of the company's financial statements and extracting some of the related financial ratios. financial ratios are a comparison of two or more elements of financial data. They are expressed in percentages such as 30%or in ratios such as 1:2. financial

statements are an organized collection of data according to logical and consistent accounting procedures. It may show a position at a moment as in the case of a balance sheet, or may reveal a series of activities over a given period, as in the case of an income statement. However, financial statements furnish some extremely useful information, which highlights two important factors: profitability and financial soundness, but do not reveal all the information related to the financial operations of a firm (Trivedi, 2014).

2.6 Best Measures of Financial Performance

Financial performance is defined as the company's ability to manage and control its resources (assets)" (Fatihudin et al., 2018). According to Arilyn et al. (2019), this ability is expressed by ROA, and they used ROA as a measure of financial performance and recommended using ROE in future research as another measure of financial performance because shareholders' equity is equal to a company’s assets minus its debt. So ROE is considered the return on net assets. Based on the previous argument, in this research ROA and ROE which falls within the profitability ratios will be used as a measures of the financial performance.

Lesáková (2007), argued that profitability Ratio reveal the company´s ability to earn a satisfactory profit and return on investment. The ratios are an indicator of good financial health and how effectively the company in managing its.

ROE is a profitability ratio that measures how effectively management is using the funds that shareholders have invested to create profits (Casielles, 2019). According to Dawood (2006), ROE measure the reward that the owners receive against bearing the risks of ownership. To indicate the importance of this ratio, it is sufficient to say that the profits achieved by the company represent the primary concern for the owners. Cash dividends can be distributed to owners, and these dividends increase the market value of the company, which becomes more able to attract new investments when needed.

Equity includes preference shares, common shares, surplus capital, retained earnings and reserves. This rate is the most comprehensive standard for measuring the effectiveness of management because it measures the profitability of assets and the profitability of capital. In other words, ROE is a measure of the profitability of both investment and financing decisions, and it is considered one of the most important ratios or indicators of the company profitability because it shows or indicates the good behavior of the enterprise towards the investments provided by the owners. Also this ratio is considered one of the most capable ratios to assess the performance of companies due to the fact that this ratio takes into consideration the paid-up capital, reserves and retained earnings (Dawood, 2006).

ROA is one of the profitability ratio that shows how much the company is able to generate profit from its assets. In other words, ROA

measures how efficient a company's management is in generating earnings from their economic resources or assets (Arilyn et al., 2019).

ROA, which refers to return on investment, is one of the most widespread methods of financial analysis. The reason for using ROA as a criterion for measuring the financial performance is that it is one of the most comprehensive financial ratios as it is the sum of all items of assets in the balance sheet and all items of the income statement. ROA is also considered as an important tool as a measure of management performance in the use of invested funds, and this use is in the company's assets. It is also an important tool in analyzing and knowing the overall performance of the company because it reflects the efficiency and effectiveness of management in using the invested assets and thus generating profits for the shareholders. These shareholders are mainly concerned with the return on the invested money and the additional value and risks involved in investments in the project (Dawood, 2006).

The following table summarizes two of profitability ratios used in this research to measure the financial performance and its acceptance rate (Dohar & Mahardhika, 2016):

Table (3): Profitability ratios measuring financial performance

Ratio	Formula	Explanation	Good	Average	Poor
Profitability Ratios					
Return On Assets	Net Income / Total Assets	What return is the company generating as a percentage of capital assets?	> 4%	2%	< 0%
Return On Equity	Net Income / Owners Equity	What return is the company generating as a percentage of equity?	> 10%	6%	< 2%

Each ratio tells a little about the company's financial story. Therefore, the managers in the companies must analyze all ratios collectively, with company's prospectus, and other company's financial profiles in order to make accurate/sound management decisions that lead to developing and achieving the competitive advantage for the company and promote its financial performance (Trivedi, 2014).

2.7 Performance evaluation and Balanced Scorecard

Performance evaluation is one of the most important managerial functions through which the management always seeks to reach the best results and improve the performance to achieve effective performance, high productivity and to achieve the proposed strategies (Durgham & Abufaddah, 2016).

The performance evaluation process is of great concern to those in charge of managing companies, because of its impact on the final results of their work, and since performance evaluation provides a diagnosis of the problems facing the organization and a judgment on its efficiency in carrying out its work. Therefore, performance evaluation is a fundamental

basis for the managerial development process, it deals with many aspects they are intertwined, some of them related to the organization and work procedures, and some related to the workers themselves (Abu Hatab, 2009).

With the early 1980s, many chief executive officers became convinced that the use of traditional financial measures of financial performance was no longer sufficient to support their managerial work in various types of organizations, and this matter increased their need and desire to obtain an integrated picture of internal and external financial and managerial performance in the short and long term. This is in order to achieve their strategic goals of growth and continuity (AL-Rafati, 2011).

The performance evaluation process needs indicators and measures to reflect the extent of the organization's success in utilizing its available resources efficiently and effectively by comparing the achieved results with the predetermined results. Procedures and measurement methods for enterprises are essential to successfully implement any strategic vision and even have a sustainable future. When used correctly, metrics can tell the company where it is located, where it is now, and where it is going in the future. Actions can also tell us how quickly the company will implement its goals and in which direction the organization is heading. In addition, performance measurement systems provide the necessary information for managers to control business activity and also influence their behavior and decisions (Pollalis et al., 2004).

Institutions must measure the results of their work or management

even if they do not obtain through these results a return or reward, since if the organization cannot measure its activity, it cannot control it, and if it cannot control it, it cannot be managed, and without measurement sound decisions cannot be made.

Accordingly, organizations need to measure performance for the following reasons (AL-Rafati, 2011):

1- Control: measuring performance helps reduce deviations that occur during work.

2- Self-evaluation: The measurement is used to evaluate the performance of operations and determine the improvements to be implemented.

3- Continuous improvement: Measurement is used to identify sources of defects, process trends, prevent errors, and determine the efficiency and effectiveness of operations and opportunities for improvement.

4- Management evaluation: Without measurement, there is no way to ensure that the organization is achieving the added value of its objectives or that the organization is operating efficiently and effectively.

From here and because of the criticisms directed at the deficiencies in the traditional managerial methods of measuring performance and

developing strategic plans, and since institutions always seek to make a change in their policies to achieve their transition from the status quo to the one in which they seek to be in the future, and this transition often requires taking managerial measures (Abdul Rahim, 2006). All this led to the direction of management accounting to contemporary and modern trends, as Kablan & Nartan (1992) proposed a model that supports the financial perspective with financial and operational measures that they called the Balanced Scorecard, which enabled the organization to translate its strategies in an integrated framework through Four basic groups of performance measures related to customer performance, internal processes, growth and development, and financial matters, which are derived from the organization's vision, strategies and objectives, which in turn provide integrated information about the status of the organization.

The Balanced Scorecard (BSC) is an innovative performance measurement tool developed by (Kaplan) and (Norton) in 1992 and has been defined by (Kaplan and Norton) as "a set of financial and non-financial performance measures that provide top management managers with a clear and comprehensive picture of the performance of their organizations. In addition, it is a practical framework used as a basic input aimed at improving current and future performance by studying a number of measures within four axes: the customer axis, the financial axis, the internal operations axis and the learning and growth axis (AL-Rafati, 2011).

The Balanced Scorecard is a mechanism for implementing strategies and monitoring performance based on drawn plans, which in turn stem from organization strategies. The importance of the Balanced Scorecard stems from the fact that it is:

1- A modern managerial tool that combines in its standards the financial and non-financial measures in an integrated and coherent manner.

2- A tool that provides a good basis for decision-making, performance development and cost-optimization.

3- A tool that links short and long-term goals, between quantitative and descriptive data, and between personal goals and the organization's goals.

Features of the Balanced Scorecard:

Many researchers have pointed out the most important features of the Balanced Scorecard, which includes measuring financial and non-financial aspects, and provide managers in organizations with a realistic view of what is happening inside and outside the organization, and this system is characterized by clarifying, introducing and updating the strategy in the organization, in addition to work to link the objectives of the organization with the sub-goals of the strategy, and work to achieve periodic performance review and learning to improve the strategy, and to introduce sustainability into the operations of the organization (Blaska, 2012).

2.8 Control Variables

Because risk and dividend have been suggested in previous articles Tsoutsoura (2004); Rizwan et al. (2016); Al – Jafari & Al Samman (2015); and Arilyn et al. (2019), to be factors that affect the firm's financial performance, each of these characteristics (dividend payout ratio and financial leverage) is used as a control variable.

1. Dividends

Dividends are payments made by a firm to its owners, either in cash or in stocks, to attract investors and retain existing shareholders. Based on Dividend Relevance Theory formulated by Gordon and Lintner, dividend payout ratios have an effect on financial performance. Where there is a direct relationship between the firm's dividends and its market value. Although Miller and Modigliani argued that the determination of a firm's value could be seen from its earning power and asset risk, where its dividends policy does not affect this value (Arilyn et al., 2019).

Rizwan et al. (2016) and Arilyn et al. (2019), believed that there was a significant relationship between a firm's financial performance and its DIV.

According to Gill et al. (2010), the formula for obtaining DIV is:

$$\textbf{Dividend Payout Ratio} = \frac{\textbf{Dividends}}{\textbf{Net Income}}$$

2. Financial Leverage

FL or Debt to Asset Ratio: it is a debt ratio used to measure the ratio between total debt and total assets. In other words, it is the amount of the company's assets financed by debt or the amount of the company's debt affecting the management of assets.

Al – Jafari & Al Samman (2015) and Arilyn et al. (2019), found that FL affected the company financial performance.

According to Tongli el al. (2018), the formula for obtaining the debt to asset ratio is:

$$\textbf{Debt to Asset Ratio} = \frac{\textbf{Total Debt}}{\textbf{Total Assest}}$$

Chapter Three

Research Methodology

3.1 Research Strategy

3.2 Data Sources

3.3 Research Population and Sample

3.4 Rationale of Selecting the Industrial Sector

3.5 Research Design

3.6 Quantitative Approach

3.7 Statistical Analysis Methods Applied

3.8 Data Analysis Method

Chapter Three

Research Methodology

Research methodology is defined as a conceptual structure that describes how the data would be organized and analyzed. The research methodology should be determined after understanding the research problem and reviewing the relevant literature. In order to formulate hypotheses, the researcher set out the procedure for testing the hypotheses, determine measurement tools, collect research data and analyze it. The importance of research methodology lies in its ability to facilitate the research operation which contributes to saving of time and money (Daas & Jammal, 2018).

This chapter contain the research methodology as a part of the analysis, the examination tool that utilized the strategy and steps to be taken in this research and the results of the analysis.

3.1 Research Strategy

The basic study goal is investigate the moderating effects of FZ in the relationship between managerial performance and financial performance, According to Bone (2017), all variables in this research are unobservable variables. So in order to convert this variable to an observable variable, the quantitative approach has been used, depending on numerical data collected and analyzed through mathematical model.

3.2 Data Sources

Data could be obtained from two key sources: primary and secondary sources, Daas & Jammal (2018), have detailed about these two sources:

1. Primary Data:

Primary data is the data gathered (first-hand) to answer the research questions, and is gathered by the researcher in order to accomplish the objectives of research. The advantages of this type of data are following:

- Allows the researcher to have a practical perspective of the investigated topic.
- Has a high level of accuracy due to the direct association with the topic of the research.
- Data gathered from relevant and reliable entities are highly reliable.

However, the primary data has two main disadvantages:

- A huge amount of time and effort is consumed in this type of sources in order to collect the required data.
- The coverage of the utilised instrument to collect data is constrained and in order to improve the coverage, a larger amount of researchers would be required to complete the research.

2. Secondary Data:

Secondary data represents information that already exist in previous studies or other sources like financial statements. The advantages of this type of data are the following:

- Controls researcher's directions by providing a rich background about the research topic.
- Considered a valuable source of data, and this source, to a great extent, decreases the required cost, effort, and time.
- It provides an approach to access previous work of the best scholars around the world.

Like primary data, secondary data has a number of disadvantages:

- The researcher should give a lot of attention and care to modification of data for use in light of the fact that some of these data may corrupt the results of the research.
- The data provided in this source turns becomes out of date with the progression of time.
- There are some problems which arise in this source of data, such as copyright-related problems

In this research, the researcher has used secondary data which the researcher collected from the following sources:

1. The published financial statements on the PEX website for 12 industrial listed companies. These included total assets, current liabilities, owners' equity, total debt, net income, numbers of stock outstanding, market close price per share, tax ratio, total interest cost incurred, EBIT.

2. Daily trading report published by PEX, to extract daily close price for industrial companies to calculate Bête and Alfa for each year for each firm in order to calculate WACC.

3. Related financial ratios of industrial listed companies such as ROA, ROE, ROCE, FL, DIV and EM.

4. Annual report published by the Palestine Monetary Authority, for the years 2012 to 2019, to obtain the value of Al-Quds index which reflects the market return, and the interest on deposits in dollars, which is used as a proxy for RF.

3.3 Research Population and Sample

The target population for this study was the industrial companies listed on the PEX. The sample was identical to the population and included all companies of the industrial sector listed on the PEX. The total number was 13 at the time of conducting this research. This number is according to PEX website updated in July 2020 when the data were collected. However, this research tested 12 out of 13 industrial companies listed on the PEX. Thus, the population of the study equaled 96 after multiplying the number of

companies (12) by number of years 2012- 2019 (8). One industrial company listed on the PEX in 2014 had failed to publish its data on the PEX website. The researcher couldn't access it. Therefore, in order to maintain consistency of data and to get accurate results after analysis, the researcher excluded this company from the study sample. The study was conducted on the remaining 12 industrial companies. The company excluded from the sample was Beit Jala Pharmaceuticals (BJP).

The research has covered the years 2012 to 2019 to obtain the most recent and available data. Some of the industrial companies were listed on the PEX in 2012.The data was collected from companies' financial reporting published on the website of PEX.

In short, the study was conducted on 12 industrial companies listed on the PEX between 2012 and 2019.

3.4 Rationale of Selecting the Industrial Sector

Most of the scholarly research that studied the managerial performance and its relationship with financial and non-financial performance of the companies chose the industrial sector as a sample. (Pearce et al., 1987); (Karadag, 2002); (Hall, 2008); and (Lau, 2015) studies is a case in point. The study of the industrial sector controls the potential confounding effects arising from using different sectors: services, insurance, banks and investment (Lau, 2015).

The following table shows the code of the companies included in the research sample:

Table (4): Companies Codes Included in the Research Sample

NO.	Company Code	Company Name
1	APC	Arabia for Paints Co.
2	AZIZA	Palestine Poultry Co. Ltd
3	GMC	Golden wheat Mills Co.
4	NCI	National Carton Industry Co.
5	VOIC	The Vegetable Oil Industries Co.Ltd.
6	JCC	Jerusalem Cigarette Co. Ltd
7	LADAEN	Palestine Plastic Industries Co. Ltd.
8	JPH	Jerusalem Pharmaceuticals Co. Ltd.
9	BPC	Birzeit Pharmaceuticals Co.
10	PHARMACARE	Dar Al-Shifa for the pharmaceutical industry Co.
11	NAPCO	National Aluminum and Profiles Co.
12	ELECTRODE	Al Sharq Electrode Factory Co.

3.5 Research Design

This study used descriptive quantitative research design. descriptive quantitative design is preferred since the study used quantitative data as proxies for independent, dependent and moderating variables. Additionally, the study employed panel strategy to capture both cross sectional and longitudinal dimensions.

3.6 Quantitative Approach

According to Daas & Jammal (2018), quantitative approach focuses on gathering and evaluating numerical information; as this is in addition to measuring, for example, the scale, frequency and range of a phenomenon. This sort of approach, even though at first harder to configuration, is

typically greatly itemized and organized, and results can be effectively grouped and exhibited statistically.

3.7 Statistical Analysis Methods Applied

Regression analysis is commonly used when the researchers are investigating the connection between a quantitative result and a solitary quantitative logical variable. Regression analysis is the most regularly considered examination strategy. In regression analysis, the researchers usually have a wide range of values of the illustrative variable, and the values are usually expected to be between the observed estimations of the explanatory variables. There are likewise possible estimations of the explanatory variables (Svensson & Larsson, 2009)

Regression analysis in any investigation is used primarily for the following four purposes (Daas & Jammal, 2018):

1. Description: The examiner works to discover an equation that represents or abridges the connection between two factors.

2. Coefficient Estimation: This is a prominent purpose behind doing regression examination. The examiner may have a hypothetical relationship as a primary concern, and the regression investigation would affirm this hypothesis.

3. Prediction: The prime worry here is to foresee the response variables such as delivery time, efficiency, sales, and strength of some metal or

reaction yield in some chemical process. There are numerous assumptions and capabilities that must be presented in this condition.

4. Control: Regression models might be utilized for observing and controlling a framework and systems.

The deductive (quantitative) approach will be the main approach of the research since only statistical analysis and quantitative data that maintain the objective conception of the study are considered.

Also in this study the researcher has focused on testing the theory instead of generating it which required using the deductive approach (quantitative) rather than inductive (qualitative).

Additionally, the archival strategy was utilized for this study. The researcher has collected data from the annual report of each of the 12 Palestinians industrial companies. So the archival strategy was the most appropriate approach for the study. No survey research was conducted but the data were collected directly from the annual reports in this study.

This study has utilized the quantitative approach in which a regression analysis has been conducted on the collected data from the annual reports of the 12 Palestinians industrial companies to find out the relationship between the dependent variables and the independent variables depending on regression analysis and modeling.

3.8 Data Analysis Method

The collected data was converted into excel format for easier arrangements into panels. Descriptive statistics like measures of central tendencies, measures of dispersion and correlations statistics were calculated to summarize the dependent, moderating and independent variables. Statistical soft wares Eviews version 7 was used to estimate the relationship between the independent variables (Managerial Performance), moderating variable (FZ) and dependent variable (Financial Performance). Significance effect of explanatory variable on the dependent variable was carried out using t-test at 5% significance level. Joint significance of the regression model was performed by means of F-test.

Chapter Four

Results and Discussion

4.1 Empirical Model

4.2 Descriptive Statistics

4.3 Panel Data Diagnostic Tests

4.4 Panel Unit Root Test

4.5 Error Terms Normality Test

4.6 Panel Multicollinearity Test

4.7 Serial Correlation (Autocorrelation)

4.8 Heteroscedasticity Tests

4.9 The Hausman Test for Fixed / Random Effects Model Estimation

4.10 Panel Model Regression Results

Chapter Four

Results and Discussion

This chapter covers the testing of the study hypothesis to find out whether the managerial performance has an effect on the financial performance of industrial Palestinian companies, and whether this relationship was enhanced by the FZ. This chapter also presents the research results and discussion.

4.1 Empirical Model

The research object is to determine the primary and moderating effects of FZ on the relationship between managerial performance and financial performance.

To estimate the primary effects of selected Managerial Performance variables on Financial Performance measured by ROA, equation (1) was used.

To estimate the primary effects of Managerial Performance variables on Financial Performance measured by ROE, equation 2 was used.

Each equation followed by extended in order to estimate the moderating (interaction) effects of FZ on the relationship between Managerial Performance and Financial Performance.

In order to test a model containing the moderating variable, two hypotheses must be formulated for each dependent variable, the first hypothesis contains the independent variable, the moderating variable, and the control variables separately. The second hypothesis contains the independent variable, the moderating variable, the control variables separately, and the interaction of the independent variable and the moderating variable together (Abdul Wahab et al. 2009).

$$ROA = \beta_0 + \beta_1 EVA_{i,t} + \beta_2 FZ_{i,t} + \beta_3 DIV_{i,t} + \beta_4 FL_{i,t} + \varepsilon_{1i,\,t} \quad \text{.....(1)}$$

$$ROA = \beta_0 + \beta_1 EVA_{i,t} + \beta_2 FZ_{i,t} + \beta_3 (EVA*FZ)_{i,t} + \beta_4 DIV_{i,t} + \beta_5 FL_{i,t} + \varepsilon_{2i,\,t}$$

$$ROE = \beta_0 + \beta_1 EVA_{i,t} + \beta_2 FZ_{i,t} + \beta_3 DIV_{i,t} + \beta_4 FL_{i,t} + \varepsilon_{1i,\,t} \quad \text{.....(2)}$$

$$ROE = \beta_0 + \beta_1 EVA_{i,t} + \beta_2 FZ_{i,t} + \beta_3 (EVA*FZ)_{i,t} + \beta_4 DIV_{i,t} + \beta_5 FL_{i,t} + \varepsilon_{2i,\,t}$$

Where:

ROA, ROA = Return on Assets, Return on Equity (dependent variables).

EVA = Economic Value Added (independent variable).

FZ = Firm Size (moderator variable).

DIV, FL = Dividend Payout Ratio, Financial Leverage (control variables).

(EVA*FZ) = The interact between independent and moderator variable.

i, t = For company i in year t, it represents the name of the company and the year of data which is from 2012 to 2019.

$\beta_0,\beta_1,\beta_2,\beta_3,\beta_4,\beta_5$= population regression intercepts.

ε_1, ε_2 = the error term for each equation.

Log transformation (log(x)) was used in the analysis of the variable(FZ), while the adjusted log transformation(Log(x+1-min(x)) used in the analysis of the variable(EVA) since the values of this variables originally negative (Wooldridge, 2016)

All variables used in the analysis of the study are ratios except for two variables: CE and FZ which is measured by book value of total assets.

Therefore, because of the difference in currency between the industrial companies, included in the sample, the currency of these two variables for all industrial companies has been standardized over the study period, and has been converted from New Israeli Shekel (NIS) or US dollar into a common currency: Jordanian Dinar.

The transfer process was made based on the exchange rate disclosed in the published financial statements of industrial companies on 12/31 of each year.

4.2 Descriptive Statistics

The following table show Summary results of the study Panel Variables:

Table (5): Panel Variables Summary Statistics

	ROA	ROE	EVA	DIV	FZ	FL
Mean	0.042	0.049	-15,033,291	0.789	15,262,661	0.298
Maximum	0.261	0.325	3,000,130	16.486	69,594,771	0.642
Minimum	-0.622	-1.209	-17,900,000	-0.887	890,946	0.032
Std. Dev.	0.106	0.172	27,278,906	1.920	3.185	0.167
Skewness	-2.571	-4.247	-3.536	6.211	0.481	0.294
Kurtosis	18.113	31.301	17.704	48.602	9.532	1.964
Observations	96	96	96	96	96	96

Table (5) provide summary statistics of the collected study variables data covering 12 companies for the period covering year 2012 to year 2019.

The mean of ROA was 0.042, with highest value recorded at 0.261 and lowest value recorded at -0.622. Regarding ROE, the mean was 0.049, with highest value recorded at 0.325 and lowest value recorded at -1.209. Regarding the EVA, the mean was -15,033,291, with highest value recorded at 3,000,130 and lowest value recorded approximately at -17,900,000. Regarding DIV, the mean was 0.789, with highest value recorded at 16.486and lowest value recorded at -0.887. The corresponding high standard deviation value of 1.92 indicates high variations of the observations across the years. Also the corresponding highly Skewness and Kurtosis indicators indicate that the distribution of observations is far from normal. The corresponding high standard deviation values for the variables (ROA, ROE, DIV, EVA) indicate high variations of the observations across

the years and the cross-sections. Also the corresponding highly Skewness and Kurtosis coefficients indicate that the distribution of observations for these variables is far from normal.

Regarding FZ, the mean was 15,262,661, with highest value recorded at 69,594,771 and lowest value recorded at 890,946. The mean of the FL was 0.298, with highest value recorded at 0.64 and lowest value recorded at 0.032.

The corresponding low standard deviation values for the variables (FZ and FL) indicate low variations of the observations across the years and the cross-sections. Also the corresponding low Skewness and Kurtosis coefficients indicate that the distribution of observations for these variables is not far from normal.

4.3 Panel Data Diagnostic Tests

Prior undertaking any statistical analysis, prior panel data specification tests were conducted to determining suitability of the data. The tests were to verify if the panel data meet the basic classical linear regression requirements. Then necessary correction measures were applied, If the any violation of these basic requirements was detected, to test long-run association of the study variables panel co-integration test was conducted.

4.4 Panel Unit Root Test

Panel unit root test was applied on the study variables to determine the stationarity of the panel data (Baltagi, 2005). Table (6) provides a summary of the panel unit root test.

Table (6): Panel Unit Root Test Results

Variables	Test	Level		First Difference	
		Statistic	***p*-Value**	**Statistic**	***p*-Value**
ROA	Levin-Lin-Chu	0.340	0.6333	-7.90590	0.000
	Im, Pesaran and Shin W-stat	0.571	0.7162	-1.30357	0.096
	Fisher-Chi Square-ADF	21.992	0.5797	34.7277	0.072
	Fisher-Chi Square-PP	43.837	0.0080	101.523	0.000
ROE	Levin-Lin-Chu	0.280	0.6105	-9.10139	0.000
	Im, Pesaran and Shin W-stat	0.532	0.7027	-1.49001	0.068
	Fisher-Chi Square-ADF	22.899	0.5258	36.7660	0.046
	Fisher-Chi Square-PP	44.603	0.0065	106.044	0.000
EVA	Levin-Lin-Chu	7.158	1.0000	-3.50987	0.000
	Im, Pesaran and Shin W-stat	3.468	0.9997	-1.43151	0.076
	Fisher-Chi Square-ADF	11.099	0.9883	39.2787	0.025
	Fisher-Chi Square-PP	28.258	0.2493	80.2005	0.000
DIV	Levin-Lin-Chu	5.525	0.999	11.7911	0.999
	Im, Pesaran and Shin W-stat	1.622	0.9476	0.70201	0.758
	Fisher-Chi Square-ADF	20.076	0.3285	17.8621	0.464
	Fisher-Chi Square-PP	45.678	0.0003	75.6044	0.000
FZ	Levin-Lin-Chu	4.899	1.0000	-46.8447	0.000
	Im, Pesaran and Shin W-stat	2.773	0.9972	-8.77650	0.000
	Fisher-Chi Square-ADF	39.931	0.0218	41.7550	0.013
	Fisher-Chi Square-PP	17.517	0.8258	62.5230	0.000
FL	Levin-Lin-Chu	0.386	0.6504	-0.97712	0.164
	Im, Pesaran and Shin W-stat	1.327	0.9078	-0.16122	0.436
	Fisher-Chi Square-ADF	13.581	0.9556	23.5616	0.486
	Fisher-Chi Square-PP	54.912	0.0003	79.8622	0.000

All tests on table (6) are based on null hypothesis states that the panel data is non-stationary, with alternative hypothesis that the data is stationary. The null hypotheses rejected when the p-values of the test statistics are less than 0.05.LLC test assumes that individual processes are cross-sectionally independent (Baltagi, 2005). Based on this test, the results show that all variables are stationary and the null hypothesis is rejected at level 0.05 when taking the first difference except the DIV and FL variables. The IPS test results show that only the variable FZ is stationary at the first difference, and the Fisher ADF test results show that only ROE, EVA, FZ are stationary at the first difference. Fisher PP test which is non-parametric show that the variables ROA, ROE, DIV, FL are stationary on the level and all the study variables are stationary at the first difference.

Finally, the conclusion is that the study variables will be assumed non-stationary at levels, and stationary at the first difference, so the variables are integrated at order 1, that are (I(1)). To test for possibility of existence of Co-integration relationship between these variables, Kao (Engle-Granger based) Co-integration Test was used and the results show that the Null Hypothesis of No co-integration is rejected (Baltagi, 2005). Table (7) below.

Table (7): Co-integration Test Results

Variables in Equation	Statistic	*p*-Value
Panel Model 1	-2.2193	0.0132
Panel Model 2	-2.0746	0.0190

4.5 Error Terms Normality Test

Jarque-Bera residual normality test examines the third and fourth moments of the residuals in comparison to the residuals from normal distribution under the null hypothesis of normal distribution, Jarque-Bera test statistics should not be statistically significant, If the residual are found to be normally distributed (Jarque & Bera, 1987).

Table (8): Normality Test Results for the residuals of models based on OLS approach

Model	Jarque-Bera Statistics	P-Value
Panel Model 1	686.76	0.000
Panel Model 1 with moderator	694.58	0.000
Panel Model 2	2605.13	0.000
Panel Model 2 with moderator	2613.48	0.000

Null Hypothesis: Normal Distribution at 5% significance level

Table (8) presents the Jarque-Bera test statistics and their corresponding P-values for their residuals of study models 1 and 2 based on 96 observations. The results indicate to rejection of null hypotheses, so all the residuals of the study models are not normally distributed since Jarque-Bera test statistics had corresponding p-values equal to 0.000 and less than 0.05. To eliminate non- normality problems, outlier's elimination technique can be employed to obtain relatively normal distribution data sets and so residuals (Jarque & Bera, 1987).

4.6 Panel Multicollinearity Test

Panel Multicollinearity Test was conducted to eliminate the possibility of having collinear explanatory variables used in the study, by estimate Pair-wise Pearson correlation coefficient matrix. Table (9) present the results.

Table (9): Pair wise Pearson Correlation Matrix of the Dependent and Explanatory Variables

	ROA	ROE	EVA	DIV	FZ	FL	EVA*FZ
ROA	1						
ROE	0.977**	1					
EVA	0.066	0.055	1				
DIV	-0.016	0.005	0.002	1			
FZ	0.322**	0.347**	0.185	-0.066	1		
FL	-0.376**	-0.308**	-0.138	-0.103	0.079	1	
EVA*FZ	0.009	-0.008	0.983**	0.013	0.005	-0.155	1

****Correlation is significant at the 0.01 level.**

Table (9) provide summary of the pair wise coefficients of correlation for independent variable EVA, moderating variable FZ, dependent variables ROA and ROE, and control variables FL and DIV. As expected, high positive correlation was found between EVA variable and the interaction term between EVA and the moderator FZ (EVA*FZ) at a value of 0.983. This high correlation between the explanatory variable and their corresponding moderating variable create problem of isolating unique contribution of the individual predictor on the dependent variable variance. This may also lead to enlarging standard errors of the estimated coefficients

creating statistical estimation errors, this is indeed what the problem of Multicollinearity do. From the other hand, the results do not show any significant correlation between the other explanatory and control variables.

To emphasize the existence of Multicollinearity, Variance Inflation Factors (VIF) were computed for the study models based on the method of Panel Least Squares, these factors show the inflation magnitude of the estimated coefficients of regressors due to collinearity with other regressors. The problem of Multicillinearity assumed to be severe when having VIF values greater than 10, (Gujarati & Porter, 2008). The results of VIF are as follows:

Table (10): Variance Inflation Factors (VIF) results

Explanatory Variables	VIF*	VIF**
EVA	1194.454	1194.452
DIV	1.018	1.018
FZ	39.697	39.697
FL	1.041	1.041
EVA*FZ	1153.823	1153.821

*** Based on Panel Model 1 with moderator.**

**** Based on Panel Model 2 with moderator.**

The results of the table above show severe Multicollinearity Problem, the problem of severe Multicollinearity can be solved by many ways, such as (dropping some of study variables), (Combining cross-sectional and time series data), Data Transformations such as First difference and ratio transformation or expressing the data in deviation form (deviation from the mean value). All these methods have consequences and inapplicable on the data of this research (Gujarati & Porter, 2008). Gujarati

& Porter (2008), recommended applying variable centering approach to eliminate this problem of severe Multicollinearity between explanatory and their corresponding moderating variables. Variable centering approach transforms the series variable by subtracting the sample mean before calculating the product terms. The centering approach on EVA and FZ variables was applied.

4.7 Serial Correlation (Autocorrelation)

For an estimated model to be robust, the error terms should not be correlated with each other. Serial correlation or autocorrelation problem appears when any individual error term of an observation influenced by the error term of any other observation. Presence of this problem (autocorrelation) in the study data leads to generation of smaller standard errors, which lead to inaccurate hypothesis testing (Baltagi, 2005). Testing for autocorrelation can be involved by Durbin-Watson test, the Null Hypothesis stated that there is no autocorrelation, the results as shown from the following table:

Table (11): Durbin-Watson Auto-Correlation Test results

Model	D-statistic	Decision for Null Hypothesis
Panel Model 1	0.7277	Rejection
Panel Model 1 with moderator	0.7312	Rejection
Panel Model 2	0.9606	Rejection
Panel Model 2 with moderator	0.9615	Rejection

The results of Durbin-Watson Auto-Correlation Test indicates rejection of null hypothesis stated that there is no autocorrelation, so the conclusion is that the problem of serial correlation is exist.

4.8 Heteroscedasticity Tests

The problem of Heteroscedasticity happened the disturbances or the error terms of the model have not the same variance. To test whether this problem is exist, the White's General Heteroscedasticity Test will be used (Gujarati & Porter, 2008), this test depends on computing the product of the sample size by the coefficient of determination (R^2), this value theoretically assumed to follow chi square distribution with (p) degrees of freedom, where (p) is the number of regressors (excluding the constant term), the results of the white's test are as follows:

Table (12): White's General Heteroscedasticity Test results

Model	White's test statistic($n*R^2$)	Degrees of Freedom	Tabulated Chi-Square
Panel Model 1	25.92	4	9.488
Panel Model 1 with moderator	26.016	5	11.071
Panel Model 2	22.848	4	9.488
Panel Model 2 with moderator	22.848	5	11.071

The results of White's General Heteroscedasticity Test results indicate rejection of null hypothesis stated that there is no heteroscedasticity since all the values of White's test statistic($n*R^2$) are higher than the corresponding Tabulated Chi-Square values, so the conclusion is that the problem of heteroscedasticity is exist.

To address the suspected heteroskedasticity and autocorrelation problems found in the study panel data, the study followed Hsiao (2014) recommendation of applying special techniques of model estimation called Estimated Generalized Least Squares (EGLS) which allows estimation of panel data models when having both heteroskedasticity and autocorrelation.

4.9 The Hausman Test for Fixed / Random Effects Model Estimation

Hausman test was use, to decide which is the most appropriate model between the fixed effect model (FEM) and random effect model (REM) for this study. This test involved estimating both models in particular order, starting with FEM against the alternative hypothesis REM is appropriate at 5% significant level, then null hypothesis is accepted or rejected based on Hausman test chi-square and corresponding p- value (Das, 2019); (Gujarati & Porter, 2008); and (Baltagi, 2005). The results are shown in the following table:

Table (13): Hausman Test for Model Effects Estimation

Model	Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Panel Model 1	Cross-section random	4.614247	4	0.3292
	Period random	1.469903	4	0.8320
	Cross-section and period random	5.166372	4	0.2706
Panel Model 1 with moderator	Cross-section random	4.665571	5	0.4580
	Period random	1.548958	5	0.9074
	Cross-section and period random	5.704107	5	0.3361
Panel Model 2	Cross-section random	6.384263	4	0.1722
	Period random	8.368432	4	0.0790
	Cross-section and period random	4.853483	4	0.3027
Panel Model 2 with moderator	Cross-section random	4.531068	5	0.4757
	Period random	0.913898	5	0.9692
	Cross-section and period random	4.477380	5	0.4829

Null Hypothesis: Random Effects Model is Appropriate: Significance level 5 Percent.

The Results of Hausman Test indicated that all P-values were statistically insignificant, indicates that the null hypothesis is accepted, so the conclusion is that REM is most appropriate for panel model equations (1) and (2) at 0.05 significant level.

4.10 Panel Model Regression Results

After conducting the necessary diagnostic tests of the panel data model, and taking necessarily remedial actions to correct any violation of the cardinal OLS requirement identified, this section of the study undertook panel regression analysis. The main objective in this study was to establish the moderating effect of the FZ on the relationship between Managerial performance factors as independent variables and Financial performance measured by ROA and ROE as dependent variables of industrial sector in Palestine exchange. In order to achieve this, two panel equation namely equation (1) and equation (2) for random effects as guided by Housman's test results was estimated, then the panel results of these equations was compared to determine if moderating effect occurred. Following to Fairchild & MacKinnon (2010), the study deemed moderating effect to be significant if the coefficients of the moderated variable are statistically significant.

To eliminate problem of Multicollinearity among the explanatory variables, centering variables was undertaken following (Gujarati & Porter, 2008); and (Das, 2019) recommendations. A first lag of the dependent variable (ROA(-1)) was added to the regression equation to take in to account the Autocorrelation between the dependent variable and its first lag. Table (14) summarizes the panel Random-Effect regression results of the panel equation (1) estimated while Table (15) present summary of panel Random-Effect regression results for equation (1) with FZ as moderating variable respectively.

Table (14): The panel Random-Effect regression results of the panel equation (1)

Dependent Variable: ROA **Method: Panel EGLS (Two-way random effects)** **White cross-section standard errors & covariance**				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
ROA(-1)	0.651840	0.183735	3.547713	0.0007*
c.log(EVA)	-0.000244	0.000589	-0.413820	0.6801
c.log(FZ)	0.008518	0.006884	1.237341	0.2197
DIV	-0.003375	0.001447	-2.331632	0.0223*
FL	-0.097235	0.030069	-3.233710	0.0018*
C	0.048415	0.018550	2.609943	0.0109*
Weighted Statistics				
R-squared	0.596464	Mean dependent var		0.025330
Adjusted R-squared	0.570596	S.D. dependent var		0.108218
S.E. of regression	0.070914	Sum squared resid		0.392245
F-statistic	23.05826	Durbin-Watson stat		2.455943
Prob (F-statistic)	0.000000			

The asterisk * represent significance at 5% level.

Table (15): The panel Random-Effect regression results of the panel equation (1) moderated by the FZ

Dependent Variable: ROA **Method: Panel EGLS (Two-way random effects)** **White cross-section standard errors & covariance**				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
ROA(-1)	0.649026	0.185221	3.504058	0.0008*
c.log(EVA)	0.003442	0.001145	3.004640	0.0036*
c.log(FZ)	0.004547	0.005978	0.760648	0.4492
DIV	-0.003252	0.001469	-2.213367	0.0298*
FL	-0.097432	0.030221	-3.224019	0.0019*
c.log(EVA) * c.log(FZ)	-0.002886	0.001125	-2.565514	0.0122*
C	0.053856	0.017048	3.159042	0.0023*
Weighted Statistics				
R-squared	0.591798	Mean dependent var		0.031987
Adjusted R-squared	0.559990	S.D. dependent var		0.108490
S.E. of regression	0.071965	Sum squared resid		0.398783
F-statistic	18.60533	Durbin-Watson stat		2.446813
Prob(F-statistic)	0.000000			

The asterisk * represent significance at 5% level

Comparative analysis between Table (14) and Table (15) regression results indicate that the coefficient of determination (R^2) values are approximately the same, and the coefficient of determination Adjusted (R^2) values are 0.57 in panel equation (1) without moderator FZ and 0.559 in panel equation (1) with moderator FZ. The coefficient of determination values indicates that approximately 56% of the variation in the ROA can be explained by the variation in the studied explanatory variables.

The results in table (14) of the panel equation (1) indicate that EVA have not statistically significant effect on the ROA, where the P-values are 0.6801 and they are higher than 0.05, this result is not consistent with previous research by (Salehi et al., 2014)

Also, the results of table (14) indicate that FZ have not statistically significant effect on the ROA, where the P-values are 0.2197 and they are higher than 0.05, this result is consistent with previous research by Arilyn et al. (2019), which shows that FZ has no effect on ROA, but not consistent with previous research by Al – Jafari & Al Samman (2015), which shows that FZ has a positive and significant effect on ROA. Also, the results of table (14) show significant negative relationships between FL as control variable, and the ROA, the P-values is 0.0018, and they are less than 0.05, and its coefficient (-0.097235). This result is consistent with previous research by Arilyn et al. (2019); and Al – Jafari & Al Samman (2015), which shows that FL have a negative effect on ROA. Also, the results of table (14) show significant negative relationships between DIV as control

variable, and the ROA, the P-values is 0.0223, and they are less than 0.05, and its coefficient (-0.003375) this result is consistent with previous research by Arilyn et al. (2019) which shows that DIV have an effect on ROA.

The results also show high significant effect of Auto-regressive term ROA (-1) with P-value 0.0008. The results of table (14) indicate to accept the study null hypothesis **H01: There is no impact of Managerial Performance on ROA at PEX in industrial sector,** and reject the alternative hypothesis **(There is an impact of Managerial Performance on ROA at PEX in industrial sector).**

The results in table (15) represent the panel Random-Effect estimated regression of the panel equation (1) with moderator FZ. The results reversed here since the EVA has statistically significant effect on the ROA, this result is consistent with previous research by Salehi et al. (2014), which shows that EVA has an effect on ROA. The P-value corresponding to EVA (0.0036) is less than 0.05, and its coefficient (0.003442) is positive indicates that for every 1% increase in the EVA variable, the ROA variable increases by about 0.003, this result is not consistent with previous result in table (14) of panel equation (1) without moderator FZ.

While the FZ still has not statistically significant effect on the ROA, the P-value (0.4492) is higher than 0.05, this result is consistent with previous result in table (14) of panel equation (1) without moderator FZ.

Regarding DIV and FL, the results in table (15) show that there is significant negative impact of DIV and FL on ROA, the P-value are (0.0298) and (0.0019) respectively, and they are less than 0.05, this result is consistent with previous result in table (14) of panel equation (1) without moderator FZ. The coefficient of DIV (-0.003252) indicates that a unit increase in DIV implies the ROA to decrease by approximately (0.003), and the coefficient of FL (-0.097432) indicates that a unit increase in FL implies the ROA to decrease by approximately (0.1).

The results in table (15) also exhibit statistical significant negative relationship between the interaction term (C.log (EVA) * C.log (FZ)) and the dependent variable (ROA), the P-value of interaction term (C.log (EVA) * C.log (FZ)) is 0.0122 and the coefficient (-0.002886). This means the FZ has moderation effect on the relationship between EVA and the ROA. This signifies when the FZ is high, increasing the EVA decreases the ROA, or we can say that when the FZ is high, increasing the Managerial performance decreases the financial performance. The results of table (15) indicate to reject the study null hypothesis **H03: The effect between the Managerial Performance and ROA is not moderated by FZ at PEX in industrial sector,** and accept the alternative hypothesis **(The effect between the Managerial Performance and ROA is moderated by FZ at PEX in industrial sector).**

Table (16) summarizes the panel Random-Effect regression results of the panel equation (2) estimated while Table (16) present summary of panel Random-Effect regression results for equation (2) with FZ as moderating variable respectively.

Table (16): The panel Random-Effect regression results of the panel equation (2)

Dependent Variable: ROE **Method: Panel EGLS (Two-way random effects)** **White cross-section standard errors & covariance**				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
ROE(-1)	0.551262	0.173873	3.170493	0.0022*
c.log(EVA)	-0.000867	0.000964	-0.899647	0.3711
c.log(FZ)	0.023197	0.015893	1.459611	0.1484
DIV	-0.003290	0.002650	-1.241694	0.2181
FL	-0.176862	0.067591	-2.616643	0.0107*
C	0.078999	0.021825	3.619641	0.0005*
Weighted Statistics				
R-squared	0.481834	Mean dependent var		0.027309
Adjusted R-squared	0.448618	S.D. dependent var		0.178175
S.E. of regression	0.132304	Sum squared resid		1.365334
F-statistic	14.50617	Durbin-Watson stat		2.359194
Prob(F-statistic)	0.000000			

The asterisk * represent significance at 5% level.

Table (17): The panel Random-Effect regression results of the panel equation (2) moderated by the FZ

Dependent Variable: ROE **Method: Panel EGLS (Two-way random effects)** **White cross-section standard errors & covariance**				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
ROE(-1)	0.546212	0.174635	3.127734	0.0025*
c.log(EVA)	0.003200	0.001125	2.844942	0.0057*
c.log(FZ)	0.019136	0.014430	1.326163	0.1887
DIV	-0.003004	0.002665	-1.127338	0.2631
FL	-0.175844	0.066662	-2.637837	0.0101*
c.log(EVA) * c.log(FZ)	-0.003092	0.001302	-2.375695	0.0200*
C	0.084470	0.020999	4.022606	0.0001*
Weighted Statistics				
R-squared	0.474310	Mean dependent var		0.038910
Adjusted R-squared	0.433347	S.D. dependent var		0.179178
S.E. of regression	0.134879	Sum squared resid		1.400808
F-statistic	11.57902	Durbin-Watson stat		2.344382
Prob(F-statistic)	0.000000			

The asterisk * represent significance at 5% level.

He results of Table (16) and Table (17) indicate that the coefficient of determination (R^2) values are approximately the same, and the coefficient of determination Adjusted (R^2) values are 0.448 in panel equation (2) without moderator FZ and 0.433 in panel equation (2) with moderator FZ. The coefficient of determination values indicates that approximately 43% of the variation in the ROE can be explained by the variation in the studied explanatory variables entered to the regression model shown in the table.

The results in table (16) of the panel Random-Effect estimated regression equation (2) indicate that the EVA has not statistically significant effect on the ROE, the P-values are 0.3711, and they are higher than 0.05.

The results also show that DIV and FZ have not statistically significant effect on the ROE as control variables, the P-value 0.2181, 0.1484 respectively, and they are higher than 0.05, this result is not consistent with previous research by Rizwan et al. (2016), which shows that DIV and FZ have an effect on ROE.

The results also show significant negative relationships between the FL as control variable, and the ROE, the P-value (0.0107) is less than 0.05, and its coefficient (-0.176862), this result is consistent with previous research by Ur Rehman (2013), which shows that FL have a negative effect on ROE. The results also show high significant effect of Autoregressive Term ROE (-1) with P-value 0.0022. The results of table (16) indicate to

accept the study null hypothesis **H02: There is no impact of Managerial Performance on ROE at PEX in industrial sector,** and reject the alternative hypothesis **(There is an impact of Managerial Performance on ROE at PEX in industrial sector).**

The results in table (17) represent the panel Random-Effect estimated regression equation (2) with moderator FZ. The results also reversed here since the EVA has statistically significant effect on the ROE. this result is not consistent with previous result in table (16) of panel equation (2) without moderator FZ, The P-value corresponding to EVA (0.0057) is less than 0.05, and its coefficient (0.0032) is positive indicates that for every 1% increase in the EVA variable, the ROE variable increases by about 0.006.

While both the FZ and the DIV still have not statistically significant effect on the ROE, the P-value are 0.1887and 0.2631higher than 0.05, this result is consistent with previous result in table (16) of panel equation (2) without moderator FZ.

The results in table (17) also show that there is significant negative impact of FL on ROE, this result is consistent with previous result in table (16) of panel equation (2) without moderator FZ, the P-value (0.0101) is less than 0.05 and the coefficient (-0.175844) indicates that a unit increase in FL implies the ROE to decrease by approximately (0.18).

The results in table (17) also exhibit statistical significant negative relationship between the interaction term (C.log(EVA) * C.log(FZ)) and the dependent variable (ROE), the P-value of interaction term (C.log(EVA) * C.log(FZ)) is 0.0200and the coefficient (-0.003092). This means the FZ has moderation effect on the relationship between EVA and the ROE. This signifies when the FZ is high, increasing the EVA decreases the ROE, or we can say that when the FZ is high, increasing the Managerial performance decreases the financial performance. The results of table (17) indicate to reject the study null hypothesis **H04: The effect between the Managerial Performance and ROE is not moderated by FZ at PEX in industrial sector,** and accept the alternative hypothesis **(The effect between the Managerial Performance and ROE is moderated by FZ at PEX in industrial sector).**

Because the results of the analysis contradict the results of previous research, and because the industrial sector is considered one of the most diversified sectors in Palestine, as it includes companies that include a large number and a variety of different products, the companies included in the research sample will be divided into sectors according to the products they provide, hoping to obtain additional results that explain the first results shown in the previous analysis.

The following table shows the study sample divided into sectors according to the products it offers:

Table (18): study sample according to the products it offers

NO.	Company Code	Company Name	Sector Type
1	AZIZA	Palestine Poultry Co. Ltd	Food
2	GMC	Golden wheat Mills Co.	Food
3	VOIC	The Vegetable Oil Industries Co.Ltd.	Food
4	JPH	Jerusalem Pharmaceuticals Co. Ltd.	Medicine
5	BPC	Birzeit Pharmaceuticals Co.	Medicine
6	PHARMACARE	Dar Al-Shifa for the pharmaceutical industry Co.	Medicine
7	LADAEN	Palestine Plastic Industries Co. Ltd.	Metal
8	NAPCO	National Aluminum and Profiles Co.	Metal
9	ELECTRODE	Al Sharq Electrode Factory Co.	Metal
10	APC	Arabia for Paints Co.	Others
11	NCI	National Carton Industry Co.	Others
12	JCC	Jerusalem Cigarette Co. Ltd	Others

A new variable named sector was added to the two previously constructed equations in this research, then these equations were re-examined to see if this new variable (sector) was significant or not.

The results of the re-analysis were as follows:

Table (19): The panel Random-Effect regression results of the panel equation (1) with variable (sector)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROA(-1)	0.619042	0.178123	3.475357	0.0008
C_EVA	-1.96E-05	0.000521	-0.037709	0.9700
C_FZ	0.008050	0.006669	1.206959	0.2311
DIV	-0.002481	0.002043	-1.214093	0.2284
FL	-0.095225	0.028227	-3.373506	0.0012
SECTOR	0.008511	0.006798	1.252028	0.2143
C	0.027221	0.019610	1.388157	0.1691

R-squared	0.602682	Mean dependent var	0.025330
Adjusted R-squared	0.571722	S.D. dependent var	0.108218
S.E. of regression	0.070821	Sum squared resid	0.386202
F-statistic	19.46653	Durbin-Watson stat	2.411128
Prob(F-statistic)	0.000000		

Dependent Variable: ROA.

The results of Table (19) indicate that the new variable (sector) was not significant in equation number 1, where the P-values are 0.2143 and they are higher than 0.05. Therefore, the results of the previous analysis will not change even after distinguishing between the industrial sector companies and classifying them according to the type of product they provide.

Table (20): The panel Random-Effect regression results of the panel equation (1) moderated by the FZ with variable (sector)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROA(-1)	0.606224	0.179925	3.369309	0.0012
C_EVA	0.003909	0.001401	2.790654	0.0066
C_FZ	0.004128	0.006027	0.684903	0.4955
DIV	-0.002082	0.002045	-1.018018	0.3119
FL	-0.096158	0.028746	-3.345130	0.0013
C_EVA*C_FZ	-0.003043	0.001306	-2.330097	0.0225
SECTOR	0.008962	0.006742	1.329214	0.1878
C	0.032251	0.019143	1.684705	0.0961

R-squared	0.587069	Mean dependent var	0.042888
Adjusted R-squared	0.549036	S.D. dependent var	0.109071
S.E. of regression	0.073246	Sum squared resid	0.407735
F-statistic	15.43574	Durbin-Watson stat	2.384931
Prob(F-statistic)	0.000000		

Dependent Variable: ROA.

The results of Table (20) indicate that the new variable (sector) was not significant in equation number 1, where the P-values are 0.1878 and they are higher than 0.05. Therefore, the results of the previous analysis will not change even after distinguishing between the industrial sector companies and classifying them according to the type of product they provide.

Table (21): The panel Random-Effect regression results of the panel equation (2) with variable (sector)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROE(-1)	0.511909	0.164130	3.118932	0.0026
C_EVA	-0.000391	0.000720	-0.543158	0.5886
C_FZ	0.022081	0.015232	1.449650	0.1512
DIV	-0.001297	0.004101	-0.316369	0.7526
FL	-0.167633	0.060622	-2.765235	0.0071
SECTOR	0.018382	0.013083	1.405016	0.1640
C	0.030610	0.029494	1.037822	0.3026

R-squared	0.492719	Mean dependent var	0.027309
Adjusted R-squared	0.453191	S.D. dependent var	0.178175
S.E. of regression	0.131754	Sum squared resid	1.336652
F-statistic	12.46494	Durbin-Watson stat	2.314678
Prob(F-statistic)	0.000000		

Dependent Variable: ROE.

The results of Table (21) indicate that the new variable (sector) was not significant in equation number 2, where the P-values are 0.1640 and they are higher than 0.05. Therefore, the results of the previous analysis will not change even after distinguishing between the industrial sector companies and classifying them according to the type of product they provide.

Table (22): The panel Random-Effect regression results of the panel equation (2) moderated by the FZ with variable (sector)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROE(-1)	0.500325	0.164608	3.039489	0.0032
C_EVA	0.004008	0.001390	2.884225	0.0051
C_FZ	0.018015	0.014116	1.276217	0.2058
DIV	-0.000686	0.004045	-0.169625	0.8658
FL	-0.165205	0.059312	-2.785349	0.0067
C_EVA*C_FZ	-0.003232	0.001351	-2.391532	0.0193
SECTOR	0.019232	0.012995	1.479981	0.1430
C	0.033865	0.029418	1.151135	0.2533

R-squared	0.477878	Mean dependent var	0.048460
Adjusted R-squared	0.429788	S.D. dependent var	0.180262
S.E. of regression	0.136120	Sum squared resid	1.408181
F-statistic	9.937118	Durbin-Watson stat	2.289578
Prob(F-statistic)	0.000000		

Dependent Variable: ROA.

The results of Table (22) indicate that the new variable (sector) was not significant in equation number 2, where the P-values are 0.1430 and they are higher than 0.05. Therefore, the results of the previous analysis will not change even after distinguishing between the industrial sector companies and classifying them according to the type of product they provide.

The results of the last analysis show that adding the new variable (sector) will not affect the previous analysis results. Therefore, the distinction between the companies included in the research sample according to the products they provide will not change the original results of the analysis.

Chapter Five

Conclusions and Recommendations

5.1 Conclusions

5.2 Recommendations

Chapter Five

Conclusions and Recommendations

In the light of the study results, this chapter give an insight on the conclusions and recommendations:

5.1 Conclusions

The main study objective was to examine how FZ moderates the relationship between Managerial Performance variable (EVA) and Financial Performance variables (ROA and ROE) controlled by DIV and FL in industrial sector in Palestine. To achieve this objective, the study observed the direction and statistical significance between the study explanatory variable (EVA) and moderating variable.

- The study results revealed during the period of the study, that the Managerial Performance has no effect on Financial Performance before adding moderating variable FZ

This result is not consistent with previous research by Karadag (2002), which shows that management plays a key role in the success of organization, and business leaders should use different activities and tools to improve Financial Performance, also, this result is not consistent with previous research by Enyi (2005), which shows that the market value of a firm's financial performance reflect its internal managerial performance, which mean that managers of the firms strive to improve their managerial

performance in order to raise and improve their financial performance. But the study result can be explained as follow: regardless of the FZ, the managers in industrial firms in Palestine are not interested in maximizing the firm's value and value creation, which increase its ROA and ROE and finally improve its Financial Performance in the long run. Instead, they are satisfied with achieving short-term accounting profit for their companies, this leads to increase the profit of the firm in the short term without improving the ROA and ROE.

Also, this research use only industrial sector firms that listed in PEX, but this sector is considered small in size compared to other countries, as it includes only 13 companies, So the sample size chosen may not be sufficient to show accurate results.

- After adding the moderating variable, the study found that FZ had a statistically significant negative moderating effect on the relationship between the Managerial Performance and Financial Performance in industrial firms in Palestine. This result is good, as it was found that entering FZ as a moderating variable between Managerial Performance and Financial Performance was a correct decision, the presence of moderating variable FZ transformed the relationship between Managerial Performance and Financial Performance from not significant to significant. This mean when the FZ is high, increasing the Managerial Performance decreases the Financial Performance. This result can be explained based on the result

reached by Qaisiya (2018), when he studied the effect of Managerial Performance on the Financial Performance of the electricity distribution companies operating in the West Bank in Palestine, where it was found that the Managerial Performance is one of the factors that contributed to decline in the Financial Performance of these companies due to the greater the size of the company, the greater the burden of administrative tasks, with the absence of strategic planning among managers and the absence of clear and written management practices that help managers accomplish their work correctly and accurately, so Management practices lead to a reduction in the Financial Performance of these companies.

- Finally, the results exhibited that there is significant negative impact of FL on ROA and ROE, while the results exhibited that there is significant negative impact of the DIV only on ROA.

- The results of the re-analysis show that adding the new variable (sector) will not affect the previous analysis results. Therefore, the distinction between the companies included in the research sample according to the products they provide will not change the original results of the analysis.

5.2 Recommendations

1. This research use two measures for Financial Performance (ROA and ROE), the use of more variables might broaden the results of the research from this topic, so future research recommended to use other additional measures for Financial Performance, such as: EPS, Tobin's Q.

2. Also, this research use only industrial sector firms that listed in PEX, but duo to the small size of the industrial sector in Palestine, future research should investigate additional data for other industrial firms such as: Jordanian industrial firms and make comparative study for better results.

3. Further research is needed to explore other moderating variables that could affect the relationship between Managerial and Financial Performance.

4. Other control variables such as board characteristics should also be used to determine other factors that influence the Financial Performance.

5. This research recommends managers in industrial firms in Palestine to focus their attention on maximizing the firm's value and value creation, which increase its ROA and ROE and finally improve its Financial Performance in the long run and not just satisfied with achieving short-term accounting profit for their companies, because

this leads to increase the profit of the firm in the short term without improving the ROA and ROE.

6. This research recommends major companies to clarity strategic plans among managers and develop written management practices that help managers accomplish their work correctly and accurately.

- Finally, this research recommends further research using the existing model because the distinction between the companies included in the research sample according to the products they provide will not change the results.

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جامعة النجاح الوطنية
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الأثر الوسيط لحجم الشركة على العلاقة بين الأداء الاداري والأداء المالي في الشركات الصناعية الفلسطينية المدرجة في بورصة فلسطين

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قدمت هذه الأطروحة استكمالا لمتطلبات الحصول على درجة الماجستير في المحاسبة بكلية الدراسات العليا في جامعة النجاح الوطنية في نابلس، فلسطين.

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الملخص

هدفت هذه الدراسة إلى التحقق فيما إذا كان حجم الشركة يمكن أن يؤثر على قوة العلاقة بين الأداء الإداري والأداء المالي للشركات الصناعية المدرجة في بورصة فلسطين (PEX). تكونت عينة الدراسة من جميع الشركات الصناعية المدرجة في بورصة فلسطين وتم استبعاد شركة صناعية واحدة لعدم توفر كامل بياناتها. تم جمع البيانات من التقارير السنوية لـ 12 شركة صناعية مدرجة في بورصة فلسطين، وتقرير التداول اليومي الصادر عن البورصة لاستخراج سعر الإغلاق اليومي للشركات الصناعية، والتقرير السنوي الصادر عن سلطة النقد الفلسطينية خلال الفترة 2012-2019.

تم قياس المتغير المستقل-الأداء الإداري لهذه الشركات من خلال القيمة الاقتصادية المضافة (EVA)، وتم قياس المتغير التابع-الأداء المالي من خلال العائد على الأصول (ROA) والعائد على حقوق الملكية (ROE) ، وتم قياس المتغير الوسيط-حجم الشركة بواسطة لوغاريتم (القيمة الدفترية لإجمالي الأصول)، وتم استخدام كل من الرافعة المالية ونسبة توزيع الأرباح كمتغيرات ضابطة.

طريقة البحث المستخدمة في هذه الدراسة هي المنهج الكمي. كما تم استخدام برنامج (E-views) لتحليل البانات، حيث تم استخدام كل من تحليل الارتباط والانحدار لاختبار العلاقة بين الأداء الإداري والمالي.

توصل هذا البحث إلى أن الأداء الإداري ليس له أي تأثير على الأداء المالي قبل إضافة المتغير الوسيط (حجم الشركة)، ولكن بعد إضافة المتغير الوسيط، وجدت الدراسة أن حجم الشركة

كان له تأثير معتدل سلبي ذو دلالة إحصائية على العلاقة بين الأداء الإداري والأداء المالي في الشركات الصناعية في فلسطين. كما وجدت الدراسة تأثيرًا سلبيًا كبيرًا للرافعة المالية على العائد على الأصول والعائد على حقوق الملكية، بينما أظهرت النتائج أن هناك تأثيرًا سلبيًا كبيرًا لنسبة توزيعات الأرباح على العائد على الأصول فقط.

وأخيرًا، أوصت الدراسة الأبحاث المستقبلية باستخدام مقاييس إضافية للأداء المالي بالإضافة إلى (العائد على الأصول و العائد على حقوق الملكية)، مثل: ربحية السهم (EPS)، ونموذج (Tobin's Q)، واستكشاف متغيرات وسيطة أخرى يمكن أن تؤثر على العلاقة بين الأداء الإداري والمالي. كما أوصت الدراسة الأبحاث المستقبلية لبحث بيانات إضافية للشركات الصناعية الأخرى مثل: الشركات الصناعية الأردنية وعمل دراسة مقارنة لنتائج أفضل، واستخدام متغيرات ضابطة أخرى مثل خصائص مجلس الإدارة لتحديد العوامل الأخرى التي تؤثر على الأداء المالي. في نهاية المطاف، لتحقيق خلق القيمة، يوصي هذا البحث الشركات الكبرى بتعظيم قيمة الشركة مما يزيد من العائد على الأصول والعائد على حقوق الملكية وأخيراً يحسن أدائها المالي على المدى الطويل وليس الاكتفاء بتحقيق ربح محاسبي قصير الأجل لشركاتهم. ويوصي بتوضيح الخطط الإستراتيجية بين المديرين وتطوير ممارسات الإدارة المكتوبة التي تساعد المديرين على إنجاز عملهم بشكل صحيح ودقيق.

الكلمات المفتاحية: الأداء الاداري، الأداء المالي، حجم الشركة، القيمة الاقتصادية المضافة، المتوسط المرجح لتكلفة رأس المال، العائد على رأس المال، العائد على الأصول، العائد على حقوق الملكية.