An-Najah National University
Faculty of Graduate Studies

AGENCY COST OF FREE CASH FLOW, FIRM PERFORMANCE AND MODERATING ROLE OF FINANCIAL LEVERAGE AND DIVIDEND POLICY: THE CASE OF PALESTINE CORPORATIONS

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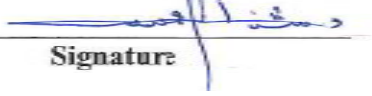
Dr. Shatha Qamhieh **Internal Examiner**	 **Signature**

Dedication

الى بؤره النور التي عبرت بي نحو الامل والأمان الجميلة واتسع قلبه ليحتوي حلمي وضاقت حين ضاقت الدنيا فروض الصعاد من أجلى فسار في حلكة الدهر ليغرس معاني النور والصفاء في قلبي وعملني معنى ان نعيش من اجل الحق والعلم لنظل أحياءً حت لو فارقت ارواحنا اجسادنا ولطالما تفطر قلبه شوقا وحنت عيناه الوضاءتان الى رؤيتي متقلدا شهادة الماجستير وها هي قد اينعت لأقدمها بين يديك

والدي الحبيب الذي حذلتك الظروف من اكمال الشهادة الجامعية لكنك اثرت من تحب على ما تحب وعاش من اجلنا من اجل ان نحيا حياه كريمة في بيت كريم وفي أحضان علم نافع كريم ومن اجل ان أمثل امامه الآن بشهادة التي تعترف كل قصاصة فيها انه سبب وجودها وسبب خلودها في مدارك العلم بأذن الله وقد كان ارضائك جزءَ من طموحي وجزءَ من سيري في طريق الماجستير حتى ترا ثمرة جهدك وطيب غرسك فكنت معنى الحياة ليه فقد ارضاني الله فيك يا ابتي فهل لا رضيت عني

الى من تتسابق الكلمات لتخرج معبرةّ عن مكنون ذاتها الى التي تمتهن الحب وتغزل الامل في قلبي عصفورا يرفرف فوق ناصية الاحلام فتبقى روحي متلألئتا ومشرقتا طالما كانت دعواتها عنوان دربي وتبقى امنياتي على وشك التحقق طالما يدها في يدي وسنارة جهدها وسهرها تصطاد لي الراحة وتطفف التعب والألم من قلبي وعندما تكسون الهموم واسهر في بحر حبها وحنانها ليخفف وليزيل من المِ....الى امي التي مهما كبرت فسأبقى طفلها الذي يكتب اسمها على دفتر قلبه ساعة حزنٍ ويهتف بفضلها حين يتقدم في علمه وعمله درجات لك يا والدتي الحبيبة يا سيدة القلب والحياة اهديك رسالتي لتهديني الرضى والدعاء

الى عائلتي واخوتي الى زملائي في كل مرحلة من مراحل حياتي الدراسية الى كافة الكوادر التعليمية الى كل من ساهم في هذه الإنجاز العلمي

أقدم ثمرة سنواتي الدراسية سائلا المولى عز وجل ا ينفع به وان يجعله لوجهه الكريم

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Declaration

I, the undersigned, declare that I submitted the thesis entitled:

AGENCY COST OF FREE CASH FLOW, FIRM PERFORMANCE AND MODERATING ROLE OF FINANCIAL LEVERAGE AND DIVIDEND POLICY: THE CASE OF PALESTINE CORPORATIONS

I declare that 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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Date: ٢٠٢٢/٩/٢٢

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AGENCY COST OF FREE CASH FLOW, FIRM PERFORMANCE AND MODERATING ROLE OF FINANCIAL LEVERAGE AND DIVIDEND POLICY: THE CASE OF PALESTINE CORPORATIONS

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Abstract

Background: Free Cash Flow (FCF) is considered one of the main sources of agency problems between management and shareholders. These problems result from separating management from owners and using this money in a way that does not serve the shareholders' interests. This leads to harming the performance of the company. Therefore, the owners strive to control these behaviors by controlling the financial policies, thus reducing FCF in the hands of the managers.

Objectives: This study sought to find out the effect of overinvestment, as a proxy for the agency problem of FCF, on the company's performance and the moderating role that both debt and dividend policies play in reducing the negative impact of overinvestment on the financial performance of companies in Occupied Palestine.

Methodology: The study participants were 31 non-financial companies listed on the Palestine Stock Exchange (PSE) from 2010 to 2019.The accounting data was collected manually from the financial reports (balance sheets and income statements) of the companies while the market data was collected from the PSE website. This study adopted overinvestment as a proxy for the agency cost of FCF; it was measured through the investment demand function. This study also used the Ordinary Least Squares (OLS) method to test these relationships.

Results: This study has found that overinvestment negatively affected the performance of companies in Occupied Palestine. It was measured by five accounting metrics: EBIT, EBT, ROA, ROE, and EPS. It has also found that debt could mitigate the negative impact of overinvestment on financial performance, which is consistent with Jensen's 1986 FCF theory. However, the study has not found evidence about the role of dividend policy in reducing the negative impact of overinvestment on the performance of

companies in in the country. The combination of debt and dividend policies has not proven/yielded any significant effect.

Recommendations: Based on the study findings, the researcher recommends using debt as an effective tool to reduce agency problems for FCF in Occupied Palestine companies. He also suggests administering the study to the financial sectors and companies in neighboring countries to generalize the findings more reliably.

Keywords: Free cash flow; agency problem of FCF; dividend policy; debt policy; firm performance; Occupied Palestine.

Chapter One
Introduction

1.1 Introduction

The management in companies acts as an agent in managing the company's business on behalf of the principal (shareholders), where the manager takes the responsibility to run the company's business through the three main financial policies: the dividend policy, debt policy and investment policy. The dividend policy refers to the amount of dividend paid to the owners of the company as compensation for their investments and bears the investment risks, the debt policy refers to the optimal amount of debt in the capital structure that gives the highest benefit, and the investment policy refers to the optimal investment that gives the highest return to the owners' goal to increase their wealth (Trog & Nguyen, 2020) so these financial policies are collectively linked to the management of the company.

These fiscal policies have received a lot of attention from academics around the world, beginning with Modigliani and Miller (1958), who pointed out that in the presence of perfect capital markets where there are no taxes, bankruptcy costs, or transaction fees between market participants and in the presence of information symmetry between shareholders and managers, that indicates the information can be accessed on an equal footing between management and owners, so the financial policies are irrelevant (Farooq, Ahmed & Saleem, 2015), but in reality, it does not exist, which prompted researchers to develop other theories in inefficient capital markets, wherein the presence of taxes and the costs of bankruptcy must be taken into account to trade-off between the tax saving of debt and the cost of distress for the company that uses finance from the use of debt in the capital structure (Martinez, Scherger & Guercio, 2018).. Also, as a result of the asymmetry of information between managers and owners, the foundation of the Peking order theory (Huyn & Duong,,2020), and theories related to dividends, such as the signal theory, the bird-in the-hand theory, and the agency theory emerged (Adimasu, 2019). So, the existence of these theories arising from the absence of a perfect capital market indicates the necessity of an interrelationship between the three financial policies to achieve the best performance that contributes to increasing the wealth of shareholders. (Nghĩa, Khang Thành, 2018).

To achieve optimal management, managers must optimally allocate capital resources to reach the optimum level of investment in which marginal benefit compensates for marginal costs. Therefore, any investment that exceeds this level indicates ineffective investment decisions leads to overinvestment. Due to the nature of the management's work in the company as an agent to manage the company's work on behalf of the owners so the separation of the management from the shareholders compels the management to seek to achieve goals that are not necessarily in line with the shareholder's goals (Jensen & 1976; Byrd, 2010). Thus, the manager may control the financial policies in a way that does not serve the interests of the shareholders in increasing their wealth. In this case, the shareholders seek decisions that increase their wealth and the managers seeks to increase the growth and of size the company which is linked to the increase in their incentives; basically, this is called the agency cost Sapuan, Wahab, Fauzi & Omonov, 2021).

Free cash flow (FCF), which refers to the cash flow, is the remaining cash flow after deducting all flows needed to operate projects with a positive net present value and which are not distributed to shareholders as a dividend (Park & Jang, 2013; Sindhu, 2014; Kamran, Zhao & Ambreen, 2017; Gul & Tsui, 1997), which is considered one of the most important internal sources of funds under the control of the management. Therefore, it is a source of anxiety and conflict, leading to agency problems between company owners and company managers (Hau & Science, 2017; Chung, Firth, & Kim., 2005). (Kadioglu & Yilmaz, 2017). Many managers seek to exploit free cash flow for self-interest, especially in companies that lack investment opportunities, distancing themselves from their primary function in pursuing the primary goal of improving the company's market value (Lin & Lin, 2014), As a result of these behaviors, the owners strive hard to limit the possibility of managers exploiting these funds in a way that does not serve the interests of the shareholders through several methods, the most prominent of which is controlling the policies of profit distribution and the use of debt in the capital structure, which are considered the focus of this study ((Ningsih & Soesetio, 2018; Park & Jang, 2013, Sugiyanto, Kartolo, & Maddinsyah, 2021).

Although many studies dealt with the impact of free cash flow on the financial performance of companies, they came up with inconsistent and counterproductive results. the reason for these results is likely that free cash flow is a source of agency

costs and not an agency cost in itself. Therefore, these studies misjudge the selection of an ideal agent to express agency problems for free cash flow. On the other hand, recent studies have indicated that overinvestment is one of the most important forms of agency costs associated with free cash flow, but most of these studies have emerged in the economies of developed countries and lack application to the economies of developing or emerging countries. Therefore, these studies are the first of their kind in developing countries where agency problems are more prevalent due to the development of financial markets and control and governance mechanisms, this research was developed to know the effect of overinvestment as a proxy of the agency problem of free cash flow on the financial performance of Palestinian companies.

In addition, many Palestinian studies over the past decade dealt with the role and quality of corporate governance tools in reducing agency problems in their various aspects by using audit and control tools (Jarrar, 2016; Abdelkarim & Zuriqi, 2020; Dwekat, Mardawi & Abdeljawad, 2018), but the studies did not address the role of controlling the three financial policies (fund sources policy, investment policy, and dividend policy) in reducing the agency's problems in Palestine, with the exception of one study by Abdeljawad, El-hafez and Abualhassan (2023), but this study was prepared simultaneously with the preparation of this research and was limited to a period of 7 years from 2013 to 2019, as this study included a longer sample period extending to 10 years from 2010 to 2019. Therefore, this study seeks to verify the role that both the dividend policy and the debt policy play in mitigating the negative impact of overinvestment (as one of the most important forms of agency problems for free cash flow resulting from the non-optimal investment policy) on the financial performance of Palestinian companies.

1.2 Research problem

The free cash flow (FCF), is the remaining cash flow after deducting all flows needed to operate projects with positive net present value and which are not distributed to shareholders as a dividend (Park & Jang 2013; Sindhu, 2014; Kamran, Zhao & Ambreen, 2017; Gul & Tsui, 1997). Therefore, it is one of the most important sources of money generated internally by the company and due to the nature of the agency relationship, which gives the manager the basic power in controlling the financial policies, which are the main nerve in the management of its business, managers should

use FCF in areas that aim to achieve the main goal, which is to increase the wealth of the company's owners, so will use it either re-invest them in project with positive net present value that increases the wealth of the owners or distribute them to shareholders in order to be able to benefit from this money in fields outside the scope of the company's business, The problem associated with the agency cost of FCF is that managers may use these funds for their interests and invest in projects with a negative net present value (overinvestment) to obtain benefits and rewards by striving to build their empire, which in turn harms the return and market value of the company (Sindhu, 2014)

According to Jensen theory's (1986 and 1986), firms have FCF and lack investment opportunities with a positive net present value Agency problems become more apparent because the remaining cash flow in this case is a source of concern for owners due to the possibility of exploitation by managers inconsistently with the company's goal of maximizing the company's market value (Wang & Management, 2010). So when the company has a large free cash flow, managers have an incentive to invest these funds in many unprofitable projects that give a negative net present value or give a return less than the return required by shareholders. This is known as overinvestment, which is the primary source of agency costs for free cash flow (Zhang, 2009). Managers seek this type of investment to increase their influence over a larger size of projects and assets to increase their reward under the foundation of the large size of the projects they manage (Wang & Management, 2010). Consequently, the manager’s exploitation of the free cash flow and the tendency to overinvest with a negative net present value leads to a decrease in the total return of the company and its market value, which is not in line with the interests of the shareholders. (Kadioglu & Yilmaz, 2017).

Owners strive to limit these behaviors that lead to the agency problem and destroy the value of the company by monitoring managers or restricting their actions by controlling the financial policies of managing the company’s work, even though the fact that monitoring the manager’s behavior entails huge costs that would destroy the profitability and value of the company. much research has suggested several methods to reduce the exploitation of free cash flow and overinvestment problems. First, the abstention approach, which includes increasing dividends or financial leverage in the company's capital structure, firms may increase the distribution of dividends to

shareholders to reduce the free cash flow in the hands of the management, thereby, reducing the agency cost of FCF, because it forces the manager to go to the financial markets to obtain funds for expansion operations because he lacks internal sources of funding after the process of distributing profits. Therefore, he is subject to external control in evaluating his performance (Ningsih & Soesetio, 2018). Also, firms may increase the proportion of external debt in the company's capital structure because the increased debt in the company forces management to pay off the FCF for debt and interest (Park & Jang, 2013, Sugiyanto, Kartolo, & Maddinsyah, 2021). Debt also increases pressure on management to invest in projects that give a positive net present value to be able to service this debt to ensure the continuity of the company's work and thus maintain the position of managers (Kadioglu, Kilic & Yilmaz, 2017; Thompson & Zhao, 2017; Shahab, Mohammad Zaheri, & Asadi, 2017) However, the excess of debt in the company's capital structure raises the bankruptcy costs that may lead the creditors to demand the liquidation of the company (Khan, Kaleem Nazir, 2012).

Secondly, the incentives approach, which allows the management an opportunity to own part of the company, through stock bonuses and options, to link them to the goal of maximizing the market value of the company and reducing the conflict of interest between shareholders and management, thus reducing the exploitation of free cash flow and reducing the problem of agency costs (Khidmat & Rehman, 2014). This study mainly focuses on the avoidance approach (the use of dividends and financial leverage) to reduce agency problems for free cash flow due to the importance of the interrelationship between financial policies in optimal management that contribute to maximizing the company's wealth.

This study seeks to examine the effect of agency cost thar arise from FCF on the financial performance of Palestinian companies also clarify the role of administrative decisions related to capital structure and profit distribution policy which restricts the FCF available under the control of managers who is considered the most important source of the agency problem, therefore, this study aims to investigate these relationships between agency cost of FCF and firm performance in a context of Palestine and verify the moderating role of the dividend policy and debt ratios in the capital structure in reducing the effect of agency cost of FCF on firm performance listed on the Palestine Stock Exchange.

1.3 Objectives of the thesis

The main objective of the study is to investigate the impact of agency costs of FCF (overinvestment) on the performance of companies listed on the Palestine Stock Exchange and the mediating role that the dividend payout ratio and financial leverage play on the overinvestment-performance relationship.

Specifically

i. Investigate the relationship between agency costs for free cash flow (overinvestment) and the financial performance of companies listed on the Palestine Stock Exchange.
ii. Evaluate the effect of the dividend policy ratio on the relationship between agency costs of FCF (overinvestment) and the financial performance of companies listed on the Palestine Stock Exchange.
iii. Evaluate the effect of financial leverage on the relationship between agency costs of FCF (overinvestment) and the financial performance of companies listed on the Palestine Stock Exchange.

1.4 Research questions

1. What is the effect of the agency cost of free cash (overinvestment) flow on the performance of Palestinian companies?
2. What is the effect of financial leverage as a moderating role in the relationship between agency cost of free cash flow (overinvestment) and the performance of Palestinian companies?
3. What is the effect of dividend policy as a moderating role of the relationship between agency cost of free cash flow (overinvestment) and the performance of Palestinian companies?

1.5 Importance of the thesis

This research aims to verify the relationships between agency cost of free cash flow (overinvestment) and the performance of Palestinian companies and the moderating role of financial leverage and dividend policy to contribute in many aspects:

1. Bridging the literary gap in the scientific literature, this study is considered one of the first studies that dealt with debt policy and the policy of dividend distribution as a tool to reduce the problem of free cash flow in Palestine.
2. This study provides a clear picture to current shareholders and potential investors about the role of agency theory in understanding the financial markets and how it explains the relationship between managers and shareholders.
3. Presenting a clear picture to Palestinian company boards about the concept of agency theory and its impact on financial performance and how to manage financial policies (debt policy, dividend policy, and investment policy) with each other in a way that reduces the impact of agency costs on financial performance and seeks to maximize the value of the company.
4. This research helps in strengthening corporate governance by providing observations to the authorities regarding the most important sources of agency problems to set rules and guidelines that will control the manager's behavior in these sources in the interest of shareholders.

1.6 Structure of the thesis

This study consists of four chapters, the first chapter contains an introduction, the problem of the study, the objectives of the study, the importance of the study, and a theoretical framework that discusses the most important theories related to the study problem and explains the relationship between the study variables, the most important experimental results and hypothesis building. The second chapter consists of the study methodology, sample, and variables measurement. The third chapter consists of diagnostic tests, descriptive statistics, and regression results, and, the fourth chapter consists of the most important conclusions that came out of the study, limitations, and recommendations.

1.7 Theoretical framework

1.7.1 Introduction

This section deals with the main theories related to the problem of the study, which are the theory of free cash flow, agency theory, theories related to the capital structure, and the policy of distributing relations to form an integrated picture of the interaction of

financial policies in reducing the agency problem, in addition to the empirical results of previous studies to form the theoretical framework and justify hypotheses.

1.7.2 Preface

It is important to differentiate between the term "profitability" and the term "free cash flow", as profitability is determined by the elements that depend on accrual accounting and have an impact on profitability, while free cash flow is determined by the elements that depend on the cash accrual basis. The company can achieve accounting profits, but it lacks the cash flow that prevents it from fulfilling its obligations and exposes it to bankruptcy problems. Therefore, a company that achieves a profit does not necessarily have a good business (Kamran, Zhao, et al., 2017)**.**

Jensen's theory of 1986 is considered to be the first financial academic theory that dealt with agency problems related to free cash flow, as it was an extension of agency theory of Jensen's and Meckling (1976) where it referred to when existing a large free cash flow and do not have any profitability opportunity investment harms the financial performance of the company and thus its value because the manager's control of the excess of free cash flow for interests and considerations that are not necessarily compatible with the goal of maximizing the profitability of the owners, such as establishing projects with a negative net present value or achieving a return less than the rate of return required by shareholders in order to achieve personal interests and considerations (Kadioglu at el., 2017; Chung, at el., 2005) or buying assets through free cash flow that does not serve the company but rather serves the personal interests of managers (Kadioglu & Yilmaz, 2017), therefore, there is a close link between the agency problem resulting from the separation of management from the owners and the financial resources under the control of the management

1.7.3 Literature review and development of hypotheses

1.7.3.1 Free cash flow theory

Jensen (1986) is considered the first to address the concept of free cash flow, where he indicated that free cash flow is the remaining cash flow after deducting all flows needed to develop and operate projects with a positive net present value and which are not distributed to shareholders as a dividend (Kargar & Ahmad, 2013). Therefore, the positive value indicates the company has surplus cash after deducting what it needs to

develop and operate the project, and the negative value indicates that the company does not have enough cash to cover the expenses needed to maintain and develop its business, which may harm the company (Mansourlakoraj & Sepasi, 2015).

The existence of FCF in a company is important as a source to cover the operating expenses of the company and finance projects with a positive NPV which in turn improves the performance of the company and thus increases the wealth of its owners, Since companies lack this type of money, it will be difficult for them to fulfill their obligations to shareholders, such as paying dividends and creditors in debt service and paying interest, as well as the difficulty of establishing new production lines that would enhance the company's value due to its lack of sufficient cash. Therefore, the resort to other financing methods, like issuing shares or loans, entails higher costs, so many shareholders believe that the concept of free cash flow better reflects the company's ability to generate profits because profits are often misrepresented through accounting tricks and manipulations, but it is difficult to free cash flow (Mutende, 2018), but a negative value in free cash flow may indicate that the company is involved in large investments. If these investments succeed in achieving a high return, a return is expected in the long term.

The presence of a large free cash flow in the hands of managers without any future opportunity investment gives negative NPV and prompts them to use it for personal interests and it is not necessary to strive towards achieving the main goal, which is to maximize the wealth of the owners of the company (Park & Jang, 2013) Therefore, the managers 'pursuit of their interests at the expense of the interests of the owners of the company creates what is known as a conflict of interest between management and owners, which is the main source of the concept of the agency problem that hurts the profitability of the company and its market value (Kadioglu et al,. 2017), where (wang, 2010) noted that with the presence of excess free cash flow, managers tend to abuse it and allocate it ineffectively in accordance with their personal interests and harm the interests of shareholders.

The presence of free cash flow creates an incentive for managers to engage in projects of negative or marginal net value to increase the volume of resources and increase the privileges of their management, which leads to an increase in agency costs related to free cash flow that would harm the wealth and returns of the owners of the company.

Therefore, managers seek to use accounting manipulation and use deductions and inventory calculation methods (FIFO, LIFO) estimates to show profits in a way that conceals the negative impact of these projects on returns (return earning). (Rahman, & Mohd- Saleh, 2008; Chung at el,.2005).

Although many researchers (Hau, 2017; Lang, Stulz & Walkling, 1991) indicated that internal free cash flow is a source for obtaining funds at low costs that can be exploited in developing the company's investments and gaining future growth opportunities and satisfying shareholders in cash dividends, therefore increasing its market value, as their empirical results indicated that the free cash flow a positive impact on the company's performance and its market value, but on the other hand, many researchers (Park & Jang, 2013 ; Khidmat & Rehman, 2014 ; Kadioglu & Yilmaz, 2017) indicated that free cash flow is one of the most essential sources of agency costs or conflict of interests between shareholders and managers, and it is harmful to the company, as their empirical results indicated that free cash flow has a negative impact on the company's performance Because it was not used in the best way to enhance the value of the owners of the company, but it was used in areas that served the personal interests of the managers without taking into account the interests of the owners of the company.

Due to the inconsistency in the results of previous studies on the impact of free cash flow, which were divided into two groups, one group supports the free cash flow theory, which indicates that the presence of free cash flow in the company with its lack of investment opportunities, management may tend to misuse these funds. Therefore, the free cash flow is one of the most important sources of agency cost and negatively affects the company, and the other group explained that free cash flow is an optimal source of financing to company development they indicate that the presence of free cash flow with investment opportunities helps the company in acquiring these opportunities because free cash flow is an internal free funding source, Therefore, it has a positive effect. In fact, the concept of free cash flow by proxy is related to the investment opportunities available to the company, which will be discussed in detail in the next section.

1.7.3.2 Agency cost of FCF and firm performance

Jensen and Meckling (1976) and Jensen (1986) are among the pioneering researchers who discussed the agency problem that arose as a result of the non-integrated contractual relationship between the original owners of the company (shareholders) and their agents (the management), whereby the shareholders appoint managers as their agents to facilitate the company's business and where they expect them to take decisions in a manner commensurate with the interests of the owners of the company. However, in reality, many managers seek to achieve self-interests that do not necessarily coincide with the interests of the shareholders, which is known as a conflict of interest between the owner (shareholders) and the agent (management).

The conflict of interest that occurs between managers and shareholders is known as the agency problem, which in turn leads to damage to the shareholders' wealth and loss to them in the following ways: First, because of the self-interest motive of managers in an attempt to achieve personal interests instead of maximizing the shareholders' wealth, they tend to perquisite consumption and shirking behavior that would lead to increased agency costs. Secondly, the behavior related to investment decisions through which managers may resort to choosing projects with a negative net present value that would achieve self-interest for managers, which leads to exposing shareholders to investment risks that harm their wealth and the value of the company (Jensen & Mecking, 1976).

According to Jensen (1986) there are three forms of agency costs, first, the costs of monitoring the behavior or decisions of managers, where shareholders resort to controlling and monitoring the actions of managers in an attempt to ensure that the manager's behavior is in line with the interests of shareholders, so shareholders resort to appointing auditors to ensure that the behavior of managers leads to maximizing the wealth of shareholders. Therefore, the cost of auditing accounts is an agency cost, secondly, the cost of bonds to restrict agreements. This type of agency cost refers to the conflict of interests between management and shareholders on the one hand, and bondholders on the other hand. Bondholders restrict management in undertaking certain procedures, such as not distributing profits to shareholders during a certain period to ensure that management decisions and shareholders' motives lead to an increase in the total value of the company and not only to the shareholders' wealth. Where this latent cost is expressed is the agency cost. Third, the residual loss is the cost incurred by

shareholders due to suboptimal decisions of managers. (Wang, 2010; Aditya, Ermaya & Sari, 2020).

To solve the problem of conflict of interest between managers and shareholders, the agency theory proposed mechanisms aimed at trying to resolve this conflict that includes external control mechanisms such as acquisitions as well as internal control measures such as monitoring non-executive directors and incentives for share ownership for directors, where the defenders of the agency theory see control and control procedures for mandatory management decisions. To ensure the integrity of these decisions, on the other hand, critics of agency theory believe that the procedures for monitoring and controlling the actions and decisions of managers create personal behavior on the part of managers and reduce the sincerity of the procedures and which lead to suspicion between agents (managers) and owners (shareholders) (Jensen & Mecking, 1976).

As we mentioned earlier, free cash flow is one of the most important sources of agency costs, as when the company generates a surplus of cash flow, the management tends to misuse this money, which in turn negatively affects the performance of the company. Both (Brush & Hendrickx, 2000; Khidmat & Rehman, 2014; Aditya, Ermaya & Sari, 2020) found that free cash flow has a positive relationship with agency costs, taking into account the difference in the metrics used as a proxy for the agency problem, the most important of them which being the costs of auditing and monitoring, as these costs increases in companies that have an excess of free cash flow in an attempt by shareholders to control the actions of managers in these funds to ensure better governance mechanisms that improve administrative decisions and reduce waste.

Jensen indicated in his 1986 study that agency costs are linked to free cash flow, which states that free cash flow in a company with a lack of growth opportunities gives managers the incentive to misuse these funds and thus incur agency costs that harm the interests of shareholders, but the relationship of free cash flow to agency costs Depends on available investment opportunities (Gregory, 2005; AHIRA, 2019) so the company that has excessive free cash flow and low rate growth manager this corporate seek to use these found in active do not lead to maximize shareholder wealth, therefore the effect of free cash flow on the profitability of the company depends on growth or investment opportunity available for the companies.

Investment opportunities are an essential factor in determining the agency's problems associated with free cash flow, as the presence of free cash flow in companies that enjoy good future growth opportunities, gives the company an advantage in growth because it obtains low-cost financing from its internal sources, but in the case of a Large free cash flow with lack growth opportunities, the company is more vulnerable to agency problems to free cash flow because it gives managers an incentive to build its empire and engage in projects with negative net present value, which leads to damage to the company's profitability and market value (Hau & Science, 2017; Lang, Stulz & Walkling, 1991; Chung, at el., 2005). according the empirical result provide for each of Freund, Prezas and Vasudevan (2003), Mansourlakoraj and Sepasi (2015), Hau (2017), Kamran and other (2017), Ali, Ormal and Ahmad (2018) the free cash flow impact positive on the profitability firm that have opportunity investment predicted in future they indicated that free cash fand low is a preventive saving that enables the company to take advantage of the available investment opportunities without incurring high costs to finance these, This is what the peaking order theory indicated in the search for funding sources, in the other hand the company that have lower opportunity investment available the FCF impact negative on firm profitability on the long run because the free cash flow in manger hand pushed mangers to use it for self-interest that is not necessarily consistent with the interests of the owners of the company, in other hand (Khan et al,. 2012; Chung et al., 2005) they indicated that companies that haven't investment opportunities and growth and have more free cash flow may create suspicions in the misuse of this money by managers, which leads to increased efforts to monitor the activities of managers, thus increasing agency costs associated with free cash flow therefore wastes the company's resources and thus negatively affects the company's performance and its market value**.**

Although theoretical explanations for the agency cost theory of free flow are consistent, many studies have misrepresented the application of free cash flow as a measure of agency cost such as Jensen (1986). Lin and Lin (2014), but in fact, the free cash flow is considered a causative factor in the existence of agency costs and not the cost of the agency itself, which are certain cases in which the company has an excess of free cash flow and lacks future growth opportunities where free cash flow causes agency costs.

To solve the agency problem related to free cash flow, two contradictory approaches have been proposed, the abstention approach and the encouragement approach. First, the abstention approach provides tools that target the possibility of reducing free cash flow in the hands of managers of companies that lack future growth opportunities, including the use of debt in a capital structure in the company's which reduces the excess cash flow due to debt servicing to repay the principal and interest, which leads to reducing the misuse of this money and thus reducing agency costs associated with free cash flow (Kester, 1986; Gul & Tsui, 1997), also (Crutchley & Hansen, 1989) indicated that distributing idle cash flows to shareholders by paying dividends or repurchasing shares in an attempt to reduce this cash in the hands of managers to avoid misuse by them, also Dogru, Kizildag, Ozdemir and Erdogan (2020) indicates that the threat that the company faces from the possibility of acquisition by other companies as a result of their failure to optimally use the free cash flow, which leads to a decrease in its market value, creates an incentive for management towards careful consumption and avoidance of evasion behavior to ensure the independence of the company and maintain their position in it (Shleifer & Vishny, 1991; Bethel & Liebeskind, 993). Secondly, in contrast to the abstinence approach, which is the encouragement approach, where this approach consists of an attempt to unify the interests of the management and shareholders through the management's ownership of shares in the same company, which leads to reducing the conflict of interests between them because the interests of the managers become closer to the interests of the owners (Fox & Marcus, 1992; Dial & Murphy, 1995).

In this study, we will address the most important tools of the encouragement approach, which are dividends and the financial leverage ratio, in their role in reducing agency costs and their impact on the relationship between agency costs and company performance, which will be explained separately in the following sections.

1.7.3.3 Overinvestment as an Agency cost of FCF

Overinvestment is closely related to free cash flow and the agency problem, where overinvestment is a form of agency cost conditioned by the presence of excess free cash flow. Agency contract between managers and owners and incompatibility of goals between the two parties Managers seek to use free cash flow in projects with negative net present value, which is known as overinvestment, managers resort to using cash flow to finance this type of project because it is an internal source of financing and is

not subject to external control by the capital market, thus giving it more freedom in choosing projects. Therefore, this concept becomes more accurate in expressing the agency problem of free cash flow because it links the availability of free cash flow and the company's lack of investment opportunities (Trong & Nguyen, 2020).

The manager resorts to this type of investment to build his empire and expand the size of the assets of the projects he manages because the manager's rewards and privileges are related to the size of the business he manages, and this type of investment leads to a return less than the return required by the shareholders or less than the returns of the available alternative investments, therefore, lead to reducing the company's total value (Guariglia & Yang, 2016).

Many studies have examined the impact of overinvestment as a proxy of agency cost of FCF on the financial performance of companies, (Shima, 2010) studied the effect of overinvestment on financial performance in Singapore during the period 2005-2010 and found that overinvestment negatively affects the performance of the company. This indicates that the manager seeks to exploit FCF in projects with a negative net present value that harms the company's profitability and market value, This result is supported by (Farooq, Ahmed & Saleem, 2015; Guariglia & Yang, 2016; Liu, N., & Bredin, 2010; Titman, Wei & Xie, 2004; Yang, 2005), where Guariglia and Yang (2016) indicate because of the agency cost problem investment rarely reaches the optimum level of investment that maximizes the value of the company and limits the company's ability to obtain financing and thus negatively affects the company's management

1.7.3.4 Leverage, agency cost of FCF, and firm performance

The agency theory of free cash flow arises as a result of managers being able to isolate themselves from internal and external governance mechanisms, creating an incentive for them to exploit the free cash flow for their interests at the expense of shareholders, such as higher-than-market salaries and other job benefits, or evaluating and selecting projects that are not useful to shareholders but serve their interests, where this problem is more pronounced in mature companies that lack future growth opportunities (Mahadwartha & Ismiyanti, 2008; Mangundap & Pusung, 2018), therefore, the shareholders resort to restricting the managers' ability to exploit these funds to reduce the agency problem through several ways to reduce this cash in the hands of the

managers, including the issuance of the debt and the distribution of cash dividends. The use of debt in the capital structure will be discussed in this section and the distribution of cash dividends in the next section.

according agency theory the use of debt in the capital structure is one of the possible methods to reduce the free cash flow in the hands of managers and thus reduce the agency cost of free cash flow therefore Control the problem of conflict of interest between managers and owners (Wu, 2004; Mutende, 2018) managers are afraid of the risk of bankruptcy or liquidation that creditors may demand in the event of default on loan repayment and because the managers 'survival in the company depends on the survival of the company itself, therefore, managers avoid decisions aimed at increasing the proportion of debt in the company's capital structure, because the payment of this debt and interest would reduce the free cash flow in the hands of managers and prevent the possibility of its exploitation, therefore this impact positive in value of firm (Kadioglu et al,. 2017; Mutende, 2018), at the same time, creditors fear that the company will stumble and will not be able to pay the debt and interest. Therefore, they play the role of monitoring the activities of the company to ensure their money and try to prevent the company from becoming bankrupt, therefore the use of debt in capital structure leads to reduce agency cost of FCF, (Khan et al,.2012).

According to empirical for each of Mangundap and Pusung (2018), Wang and Management (2010),,Khanand others. (2012), Kadioglu and other (2017), Nazir, Saita, Ahmad and Nawaz (2012), Nozari (2016), Zhang(2008), Mahadwartha and Ismiyanti (2008) the use of debt in capital structure of firm lead to reduce general and administrative expenses that may be exploited by managers for self-interest and reduce FCF under the manager control therefore reduce the probability enter in investment that negative net present value and reduce FCF agency cost, However, increasing the debt ratio in the capital structure restricts the company from taking advantage of investment opportunities that have a positive NPV and create conflict of agency between creditors and shareholders and increase the risk of bankruptcy of the company, consequently, the negative relationship between financial leverage and agency costs vanishes and becomes positive (Nazir,. et al 2012), so the company must choose the optimal level of debt to balance the shield against agency costs from free cash flow and bankruptcy costs

and the agency related between creditors and the owners of company. (Khan et al 2012; Mostaghimi, Ramezanpour & Nozari, 2014)

On the other hand, the level of debt in the capital structure of the company directly affects its performance, but this effect is ambiguous and differs across companies as it depends on the characteristics of the company (size, growth, and industry) and adopted many competing theories the effect of each case, including the signaling theory that indicated that issuing the debt in the presence of asymmetric information affects Positively on the performance of the company, in contrast, it adopted the theory of agency costs of debt and pecking order theory states that financial leverage negatively affects the company's performance. (Ibhagui & Olokoyo, 2018), where each of Ibhagui and Olokoyo, (2018), Ilyukhin, (2015) and Iqbal and Usman (2018) found that the financial leverage negatively affects the performance of the companies that were measured by ROA and ROE, while each of Ibhagui and Olokoyo (2018), Jeleel and Olayiwola, (2017), Tripathy and Shaik (2020) found that the financial leverage positively affects the performance of the companies that were measured Tobin's Q, they indicated that debts discipline managers and oblige them to perform better in order to be able to service the debt, thus supported the agency's cost of FCF, assuming we adopt the theory of agency costs with the optimal use of the leverage ratio if the financial leverage is expected to affect Positively on the company's performance, therefore it is assumed that the financial leverage will have a negative impact on agency costs and a positive effect on the company's performance. Therefore, it is assumed that financial leverage will positively affect the negative relationship between agency cost and the company's performance.

Although the previous empirical studies did not directly examine the mediating role that debt plays in reducing the negative impact of agency problems for free cash flow, but they summarized a clear picture of the interaction of financial theories in reducing this effect, On the other hand, studied each of Trong and Nguyen (2020), D'Mello and Miranda, (2010), Nghĩa, and other (2018) debt policy on the relationship between overinvestment as a proxy for agency costs and corporate financial performance where they found the ability of debt to mitigate the negative impact of overinvestment on the financial performance of companies if despite the use of debt leads to financial hardship or even to bankruptcy, but at the same time debt imposes strict commitments on

managers that limit their ability to exploit money in bad projects for fear of Risks of losing privileges.

1.7.3.5 Agency cost of FCF, dividend policy, and firm performance

Since there is a conflict of interest between shareholders and management, shareholders seek to monitor management activities, which entails high costs to obtain audit services of high quality, which is known as an internal control by shareholders. (Muneer, Bajuri & Saif-ur-Rehman,.2013; Al-Fasfus, 2020) therefore the owner of the firm prefers to reduce the FCF under the control of management and according to FCF theory the dividend is one of the most important ways to reduce the FCF available under the control of managers, therefore, this helps to reduce the agency cost, consequently, the need for external financing increases, which puts the company under the supervision of creditors (Kadioglu et al,. 2017; Manos, 2003). On the other hand, managers who prefer control over free cash flow seek to avoid decisions and policies that reduce their control over free cash flow because the obtaining of cash from other resources such as issue stock, it is subject to strict rules such as disclosure, external audit, prospectus, and obtaining accompaniment by a regulatory authority, to avoid this way manager prevents to distribution dividend.

Many theories have explained the positive effect of dividend firm performance, including the signaling theory, which helps reduce asymmetric information between shareholders and managers, and the bird in the hand theory is better than two in the jungle which states that investors are risk-averse and prefer to obtain periodic returns rather than capital gains and that the company can achieve real profits instead of fake profits as a result of accounting manipulation (Khan et al., 2016) according to the empirical results provided for each of Kadiogluand other (2017), Kadioglu and Yilmaz (2017), Priya and Nimalathasan (2013), Anton (2016), M'rabet and Boujjat (2016), Hafeez, Shahbaz, Iftikhar, and Butt (2018) we found a positive relationship between the dividend and firm profitability also (Kargar & Ahmad, 2013) referred to that the firm has a higher profit tend to pay a dividend to reduce agency cost related to FCF this lead to improve the company's performance.

Priya and Nimalathasan (2013) pointed out that large or mature companies are more exposed to agency problems for free cash flow due to their lack of additional investment

opportunities and therefore seek to distribute profits to shareholders more than small or emerging companies. Also, due to the dispersal of the company's ownership among a large number of shareholders and, it becomes difficult to control the management's actions by the shareholders in the use of free cash flow, so the shareholder's attempt to control the behavior of management by reducing the free cash in their hands because the payment of profits leads to an increase in the need for external financing, which in turn leads to increased creditors' control over the company. Therefore, minimize the agency problem, since agency costs of FCF are expected to adversely affect the performance of the company, the dividend policy reduces FCF under the control of managers, thus reducing agency costs. At the same time, dividend distributions directly and positively affect the performance of companies. Thus, dividends are expected to positively affect the negative relationship between agency costs of FCF and company performance.

Several studies have been conducted to investigate the impact of dividends on reducing the negative impact of the agency cost of free cash flow on corporate financial performance (Trong & Nguyen, 2020; Ngha et al., 2018).These studies used overinvestment as a proxy for the agency cost of free cash flow, where it was found that dividends reduce the negative impact of overinvestment on the company's performance by distributing the company's surplus cash to shareholders, thus reducing the possibility of the manager entering projects with negative net present value due to the lack of sufficient funds within the company and that they resort to the financial markets to obtain Financing puts the company under external control by creditors.

Although previous studies have proven that dividends or the use of debt in the capital structure reduce the negative impact of overinvestment on the company's performance, the combination of the two policies reduces the restrictive effect of one policy, (Trong & Nguyen, 2020; Nghĩa, et al, 2018) indicated that the use of debt or the distribution of profits reduces the Excessive free cash flow in the company, but the combination of the two policies in the distribution of profits and the use of debt at the same time reduces the sources of funding to their lowest levels, which leads to obstruction of the company's work in fulfilling its obligations and ignoring the beneficial investment and thus a lack of investment, which harms the performance of the company, so the company must use only one alternative policy, On the contrary, Abdeljawad (2023) noted that companies that pay dividends to shareholders and have a higher reliance on

debt do well by constraining overinvestment. He also pointed out that the use of debt policy or dividend policy to reduce agency problems for FCF expressed by overinvestment is not sufficient, but the combination of these two policies works to reduce the impact of agency problems more effectively in Palestinian companies compared to the single use of each policy.

1.7.3.6 Other firm characteristics affecting firm performance

Companies differ among themselves in their characteristics that make up the environment internally for them and that distinguish them in their performance from other companies, where capital structure, size, liquidity, growth, and dividends are the most important characteristics of the company that distinguish it from others, which will be discussed in this section.

Capital Structure: The capital structure looks at the sources of funds side of the company's balance sheet, which is divided into two parts, one section representing equity financing by the company's owners and another section representing debt financing by creditors, where the corporate managers seek to choose the optimal mix of capital structure components that will achieve the highest possible value for the company.

Many of the theories that discussed this combination, first Modigliani and Miller (1958), indicated that in the presence of an efficient capital market and the assumption that there are no tax or transaction costs and there is homogeneity in the expectations of investors, the capital structure does not affect the value of the company but in reality, these assumptions do not exist, as one of the most important of these assumptions is the existence of taxes that give exemption on interest. Modigliani and Miller indicated that with the increase in the debt ratio in the company’s capital structure, its value increases due to tax exemptions for interests, but with the increase in the debt ratio to higher levels, the consequences It has the cost of bankruptcy risk, which leads to a decrease in the value of the company due to the high rate of interest required by creditors as a result of the increased risk of bankruptcy, and, therefore to maximize the value of the company, the advantages of tax exemption for interest must be higher than the cost of bankruptcy, Secondly agency cost theory, which indicated that because of the separation between ownership and management gives an incentive to the manager to

exploit the company's wealth for personal interests that are not in line with the company's primary goal, which is maximizing the company's value, so this theory states that the increase in the debt ratio in the company's capital structure makes managers restricted in the service of this debt, which in turn generates an incentive to work more efficiently to maintain their job position because their survival is the survival of the company, Third Trade-off Theory This theory states that the firm's choice of the optimal leverage ratio depends on the trade-off between the costs and benefits of lending (Ghazouani, 2013), Fourth, the pecking order theory, where this theory indicated that there is no target capital structure, so the company is confused about funding sources based on preference among internal profits, short debts, long debts, and equity financing. Managers Finance with internal profits over short-term debt and short-term debt over long-term debt and long-term debt over equity financing where the criterion of the trade-off between these options depends on the degree of information asymmetry, as it is a state of information asymmetry. The company prefers debt over the issuance of shares because it is linked Excessive risk, which in turn leads to a decrease in the share price (Chen & Chen, 2011).

Many empirical studies have been conducted on the impact of the capital structure on the company's performance, but these studies contradicted the results due to the different environments and samples of each research and also the difference in the approved metrics. Where (Salim, & Yadav, 2012; Al-Taani, 2013; Dada & Ghazali, 2016) found a negative relationship between short and long debts, total debt and the company's performance measured in return on assets and return on equity, where they indicated that debt increases the risk of bankruptcy, and in complete contrast, (Salim, & Yadav, 2012) found a positive relationship between debt and performance measured by Tobin's Q ratio and earning per share. Also (Al-Taani, 2013) found a positive relationship between total debt and return on assets

Liquidity: Liquidity management is one of the most important strategies to facilitate the company's business, where the term "liquidity" refers to the company's ability to convert assets into cash as quickly as possible and without losses in the value of these assets (Banafa, 2016) also (Zidan, 2020) indicated that liquidity is the company's ability to meet its full obligations on the short term, which includes the company's short-term operating and financial expenses as well as the current portion of long-term debt during

the operating cycle or fiscal year, whichever is shorter. On the other hand, the term illiquid refers to the inability of the company to meet its obligations in the short term and it is called financial insolvency.

Liquidity is mainly related to working capital, which directly affects the company's profitability and market value. It guarantees current assets and current liabilities, the most important of which is inventory management in a way that enhances the company's profits in order to maintain the optimum level of inventory in a way that reduces operating costs and storage rental costs, and achieves an optimal return in a way that does not incur opportunity costs. As a result of not having enough stock, another option is to manage accounts receivable by bartering between maintaining a certain level of sales and profitability and between the costs of collecting these debts and the necessary collection period in a way that does not negatively affect the volume of sales or the volume of receivable collections. Debit, accounts payable management in a way that gives the company a low-cost source of credit (Awad & Jayyar, 2013) Thus, liquidity management refers to achieving the optimum level of current assets and current liabilities to balance liquidity and the ability to make profits, where the excessively high level of current assets, especially inventory and receivables, indicates poor management of the operating process and ineffective use of cash, which in turn leads to a decrease in the company's profits and thus low market value. On the other hand, the decline in current assets leads to a significant liquidity problem within the company, which affects the settlement of the company's obligations and thus affects the company's ability to grow and achieve profits in the future.

Empirical results differ in the impact of liquidity on the financial performance of the company or its market value according to the different sectors and methods of measuring companies (Banafa, 2016) studied the effect of liquidity on the profitability of the company in industrial sectors and measured by accounting profits in industrial companies in Ghana and found that liquidity negatively affects return on assets. (Khidmat & Rehman, 2014) studied the effect of liquidity on financial performance in Pakistan and found a negative relationship with return on assets and a positive relationship with return on equity.

Size and growth: many new companies are characterized by large growth rates compared to mature companies, in which small companies take advantage of the free

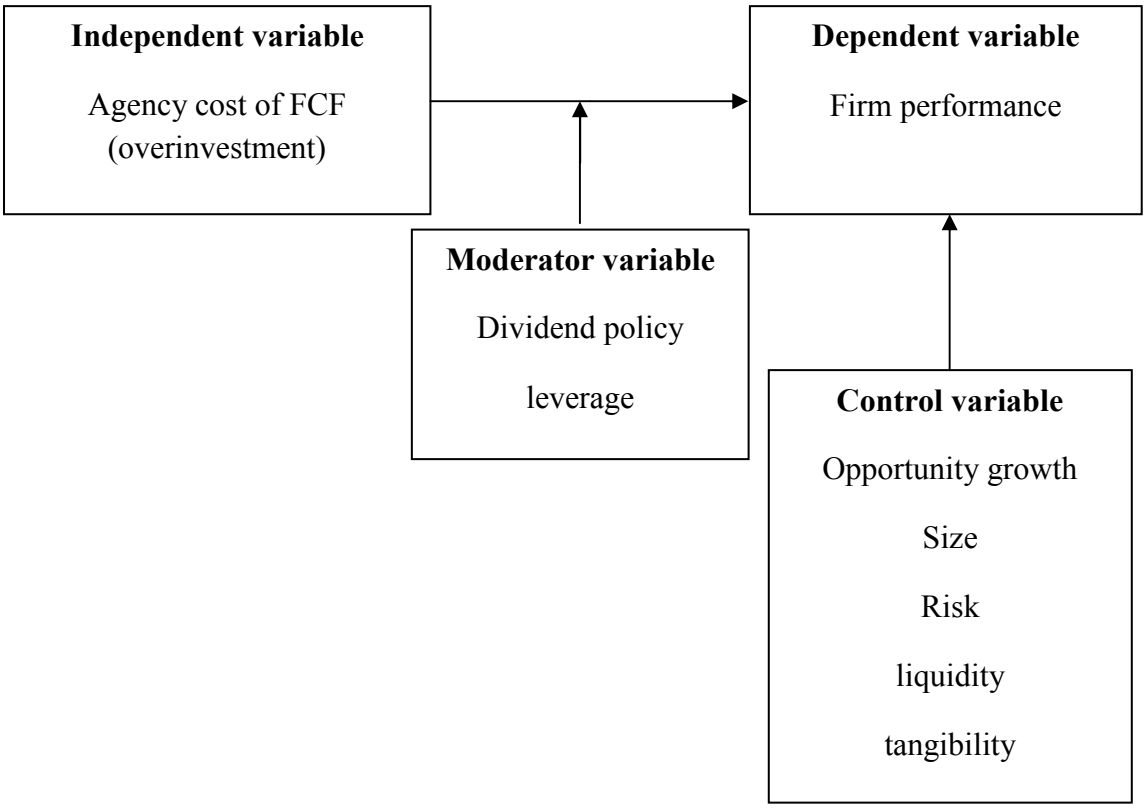
cash flow to invest in the available opportunities that generate a suitable return for their owners, while large and mature companies seek to sell their products and services at prices close to cost and obtain marginal profits in order to be able to maintain their competitive share. Therefore, as the companies at this stage are distinguished by their lack of profitable investment opportunities, the presence of a large amount of free cash flow in these companies constitutes a concern for overinvestment and hence agency costs, which impact negatively on form performance. (Demsetz & Lehn, 1985; Mutende, 2018; Mutende, Mwangi, Njihia, & Ochieng, 2017), The company's capital structure and dividends have a great impact on its performance, as was discussed in the previous section, and are also dividends section.

Business risk: business risk refers to the fluctuation in the company's profitability resulting from the company's involvement in high-risk projects, which is likely to increase the risk of the company's bankruptcy and is therefore expected to negatively affect the company's performance (Abdeljawad at el, 2023; Trong & Nguyen, 2020).

1.7.4 Conceptual Framework

Figure 1

Conceptual framework



According to Figure 1, which presents the conceptual framework, the performance of companies represents the dependent variable and the agency costs of FCF (overinvestment) represents the independent variable, as the relationship between them to test the first hypothesis $H_{1.1}$, which states that agency costs of FCF (overinvestment) negatively affect the financial performance of companies. The dividend payout ratio represents the moderate variable that is expected to impact reduce the negative effect of the relationship between the agency costs of FCF (overinvestment) and the performance of companies that represent hypothesis tow $H_{1.2}$, and the leverage ratio represents a moderate variable also in its impact on the relationship between agency costs and free cash flow on the company's performance, which is what the third hypothesis $H_{1.3}$ stipulates that the debt ratio or financial leverage works to reduce the negative impact of agency costs for free cash flow on the company's performance, also model contains controlling variables (Opportunity growth, Size, Risk, liquidity, tangibility) by displaying the model's tuning from a statistical point of view to know the effect of the basic variables more accurately

1.8 Hypotheses

H1: There is a negative relationship between agency cost of free cash (overinvestment) flow and the value of the firm.

H2: financial leverage moderates the negative influence of agency cost of FCF (overinvestment) on performance. Therefore, agency cost of FCF has a less negative impact on performance for firms with higher financial leverage in capital structure.

H3: Payout ratio moderates the negative influence of agency cost of FCF (overinvestment) on performance. Therefore, agency cost of FCF has a less negative impact on performance for firms with a higher dividend ratio.

Chapter Two
Methodology

2.1 Introduction

This chapter will examine the effect of the agency cost of free cash flow on the firm performance that is listed on the Palestine Stock Exchange (PSE) in the context of FCF theory and the role of leverage and dividends as a moderator for this relationship, which stipulates the existence of a negative impact of the agency cost of FCF on firm performance.

2.2 Data and sample of a study

The study sample includes all the companies listed on the Palestine Stock Exchange (PSE), which includes the industrial, investment، and service sectors, but this study excludes financial companies such as banks and insurance companies due to the different nature and characteristics of the financial structure of these types of sectors, other study exclude financial sectors (Anazonwu, Egbunike & Echekoba, 2018; Tuan, Nha et al, 2019; Trong & Nguyen, 2020)

The study population consists of 32 companies listed on the Palestine Stock Exchange (PSE). These companies belong to the sectors of industry, investment, and services. Where a sample of 31 companies was taken during the period from 2010 to 2019, data was collected from the financial statements (income statement and balance sheet) and the annual reports issued by the Palestine Exchange to extract the market value of the companies.

Table 2.1

Sample of the study

Sector	Number of sectors companies	Sample	representation	Years
industrial sector	13	12	100%	2010-2019
investment sector	10	9	90%	2010-2019
services sector	10	10	100%	2010-2019
Total	33	31	94%	2010-2019

Table (2.1) shows the size of the companies in the population of study and the sample size from this population, where companies with 5 or more views were included, provided that these observations were the most recent during the study period.

2.3 Methodology

To achieve this study, we adopted panel data for non-financial and the OLS regression method to explain the effect of agency cost of FCF on firm performance and moderator roll for each divided and leverage policy in this relationship, ensure that the conditions for this statistical pattern are preserved to ensure the regression is the best linear unbiased estimator (ensuring assumptions OLS that there is no problem for each heteroscedasticity, multicollinearity, serial autocorrelation and normality distribution (Hau & Science 2017).

2.4 definition and measurement of study variables

This section presents the various study variables (dependent, independent, moderator, and control) and ways to measure them.

2.4.1 Dependent variables

Dependent variable: It is the variable that the researcher is interested in the basic form in terms of understanding this variable, describing it, explaining the variation in its values and the possibility of predicting it, and it is a variable that gives the researcher space to achieve as a viable factor by studying other factors and variables that affect it (Sekaran & Bougie, 2016).

The dependent variable is financial performance (FP). FP is the company's ability to reach and achieve the results that have been planned and are measured against the actual results of the project that reflect its impact on shareholders' return, market performance, and financial performance. (Mutende, 2018)**,** where the financial performance can be expressed through either the accounting measures ROA, ROE, EBIT, EPT EPS, or the measures that depend on the market value, such as the Tobin Q E/P ratio and the multiplier (P/E), this research adopted accounting measures to express the financial performance of Palestinian companies since the efficiency of the market pricing is questioned (Salameh & Albahsh, 2011; Shihadeh & Hannon, 2016).

ROA: some researcher's use ROA as a measure of profitability or firm performance that indicates the amount of profit per dollar of total assets, it is net profit after tax divided by total assets (Hau & Science 2017) that indicates to return before interest and tax to total assets (Kamran et al,. 2017).

ROE: the amount of profit per dollar (or per one monetary unit) of total equity, it is net profit after tax divided by total equity (Ichsani, & Suhardi, 2015; Kijewska, 2016).

EBIT: is the amount of profit before interest and tax per dollar (or per one monetary unit) of total asset, calculated by dividing profit before interest and tax by total asset (Thompson & Zhao, 2017; Ngha, Lê Khang, & Thành, 2018).

EBT: is the amount of profit before tax per dollar (or per one monetary unit) of total asset, calculated by dividing earned before tax by total asset (Thompson & Zhao, 2017; Ngha, Lê Khang, & Thành, 2018).

Earnings per share (EPS): the amount of profit per share outstanding in a company. It is net profit after tax divided by the total number of shares outstanding. (Khan, Islam, Choudhury, & Adnan, 2014; Jatoi, Shabir, Hamad, Iqbal & Muhammad, 2014).

2.4.2 Independence variables

The independent variable: It is the variable that affects the dependent variable positively or negatively, meaning that every single unit increase in the independent variable increases or decreases the dependent variable by the amount of the value of the coefficient of the independent variable. In other words, the change or fluctuation in the value of the independent variable is able to explain the change or fluctuation in the value of the dependent variable (Sekaran & Bougie, 2016).

Overinvestment: overinvestment investment reflects projects with negative net present value or projects that do not achieve the required return for shareholders that the manager adopts as a result of agency problems, it is measured by subtracting the real from the fitted value of the required investment to get the residual. It is measured by the residuals of the following regression equation (Anazonwu, Egbunike & Echekoba, 2018; Tuan, Nha et al, 2019; Trong & Nguyen, 2020).

$$\text{New investment}_{i\,t} = \gamma_0 + \gamma_1\ \text{debt}_{i\,t} + \gamma_2\ \text{risk}_{i\,t} + \gamma_3\ \text{size}_{i\,t} + \gamma_4\ \text{sale growth}_{i\,t} + \gamma_5\ \text{asst turnover}_{i\,t}\ \gamma_6\ \text{growth option}_{i\,t} + \gamma_7\ \text{cash flow}_{i\,t} + V_{i\,t},,,,, \quad \text{equation (1)}$$

Equation (1) above represents the investment demand function to extract the residuals ($V_{i\,t}$) to represent the overinvestment.

Table 2.2

Measurement of the sub-regression variables

Variable	Measurement	Reference
new investment	it is measured by total investment including long-term and short-term investment divided by total asset	Thompson & Zhao, (2017) Nghĩa, Lê Khang & Thành, (2018)
FCF	measured by the free cash available to the company after subtracting capital expenditures (operation profit - depreciation and amortization - capital expenditure)	Park & Jang, (2013) Sindhu & accounting,(2014) Kamran et al,. (2017) (Lin & Lin, 2014 Thompson & Zhao, (2017) Nghĩa, Lê Khang & Thành, (2018)
growth option	measured by Toobin's Q ratio calculated as market value of the company (number of shares outstand * price per share + book value of debt) divided y book value of total asset	Chunget al. (2005) Mojtahedzadeh & Nahavandi,, (2011) Rahman & Mohd- Saleh, (2008)
asset turnover	measured of the fixed asset needed for each dollar of sales (fixed asset divided by total sales)	Anazonwu, Egbunike & Echekoba, (2018) Tuan, Nha, et al, (2019) Trong & Nguyen, (2020)
sale growth	it is measured by growth rate of sales over one year (LN (sale t / sales t-1)	Anazonwu, Egbunike & Echekoba, (2018) Tuan, Nha, et al, (2019) Trong & Nguyen, (2020)
Size	it is measured by natural logarithm of total asset	Anazonwu, Egbunike & Echekoba, (2018) Tuan, Nha et al, (2019) Trong & Nguyen, (2020)
risk	business risk measured by moving stander deviation of ROA in three consecutive years	Anazonwu, Egbunike & Echekoba, (2018) Tuan, Nha et al,(2019) Trong & Nguyen, (2020)
Debt	it is measured by total liability divided on total assets	Anazonwu, Egbunike & Echekoba, (2018) Tuan, Nha et al, (2019) Trong & Nguyen, (2020)
V	error term or residual which measure of overinvestment where given V i,t in this value positive and 0 if value negative	Anazonwu, Egbunike & Echekoba, (2018) Tuan, Nha et al, (2019) Trong & Nguyen, (2020)

Table 2.2 shows the variable measures used in the first regression equation to extract the values of over-investment.

2.4.3 Moderating variables

Moderating variable: It is the variable that controls or modifies the original relationship between the dependent and independent variable in terms of the strength and direction of this relationship, this meaning that the relationship between the dependent variable and the independent variable is conditional on the presence of a moderating variable that manages or controls this relationship (Sekaran & Bougie, 2016).

Financial leverage: it is the extent of the company's dependence on external financing to finance its business and operational activities, which indicates the proportion of debt in the company's capital structure (Kadioglu et al,. 2017; ; Gul & Tsui, 1997).

Dividend: is a result of the investors investing their money in the company and bearing risks, and for a certain period of time, they get dividends as a result of being rewarded for bearing these risks in this type of investment (Khan, Nadeem, Islam, Salman & Gill,.2016) there are many ratios to express and measure dividends, such as dividend payout ratio and dividend per share.

2.4.4 Control variables

Control variable: This variable is very similar to the independent variables in terms of the statistical treatment, as the fluctuation or change in the value of the control variable is able to explain the change or fluctuation in the dependent variable. However, this variable is not a basic variable in the research problem, but it was placed in the study model for the purposes of a statistic to find out the extent of the contribution or share of the independent variables to the effect on the dependent variable more accurately (Sekaran & Bougie, 2016).

Size: is the size of a company as total assets, where the FCF theory indicates that after exploiting all investment opportunities with a positive net present value, managers try to enter into projects with a negative net present value and buy as many assets as possible to diversify their investments, because their rewards and advantages are related to the size of the assets that are under their control, so the agency problem is positively related to the size of the company (Kadioglu et al,. 2017; Khidmat & Rehman, 2014).

Growth and opportunity investment: indicates that the future opportunity investment Which depends on the investment prospects and decisions in the company that is

reflected in the market price of the company, where the investor can access it, (Carpenter & Guariglia, 2008, Kadioglu et al, 2017; Chung at el,. 2005; Mutende, 2018) such as MKTBKASS that represent market value (MV) of share outstanding divided book value (BV) of common equity, or Tobin's Q ratio that represent market value of assets divided book value of asset, therefore the different between MV and BV reflect the value of future opportunity investment, therefor the high value indicates the higher growth om future. (Gul & Tsui, 1997), Although there are some studies such as (Brush, Bromiley & Hendrickx, 2000) that relied on sales growth or growth in the company's assets as a proxy for growth, this measure is inaccurate because it is taken because it reflects a historical horizon and does not reflect a future horizon that is affected by the decisions of the company's management.

The current ratio: is liquidity which indicates the ratio of liquid assets in the company to total current liabilities which indicates the amount of current assets to cover current liabilities (Kamran et al,. 2017). Where liquidity is a double-edged sword, on the one hand, the company must maintain a sufficient liquidity ratio to meet its obligations and avoid exposure to financial hardship or bankruptcy, and on the other hand, if the company maintains a high liquidity ratio, this indicates not investing money and giving the manager an incentive to exploit these accumulated funds in the projects that do not in line with the interests of shareholders as indicated by the agency cost of free cash flow.

Business risk: business risk refers to the fluctuation in the company's profitability resulting from the company's involvement in high-risk projects, which is likely to increase the risk of the company's bankruptcy and is therefore expected to negatively affect the company's performance (Abdeljawad at el, 2021; Trong & Nguyen, 2020).

Table 2.3

Measuring main variables

Variable	Measurement	Reference
dependent variable		
ROA	net income / total assets	Thompson & Zhao, (2017) Nghĩa, Lê Khang & Thành, (2018) Thompson & Zhao, (2017) Nghĩa, Lê Khang & Thành, (2018)
ROE	net income / total equity	Ichsani, & Suhardi, (2015) Kijewska, (2016)
EBITTA	earnings before interest and tax / total asset	Thompson & Zhao, (2017) Nghĩa, Lê Khang & Thành, (2018)
EBTTA	earning before tax / total asset	Thompson & Zhao, (2017) Nghĩa, Lê Khang & Thành, (2018)
Eps	net income / number of shares outstand	Khan, Islam, Choudhury, & Adnan, (2014) Jatoi, Shabir, Hamad, Iqbal & Muhammad, (2014)
independent variable		
overinvestment	investment residual measured by over investment estimation with $V_{I,t}$ positive	Thompson & Zhao, 2017 Nghĩa, Lê Khang & Thành, (2018)
Debt	total liability / total assets	Kadioglu et al,. (2017) Thompson & Zhao, (2017) Nghĩa, Lê Khang & Thành, (2018)
dividend Payout	total amount dividend / earnings after tax	Khan, Nadeem, Islam, Salman & Gill,.(2016) Thompson & Zhao, (2017) Nghĩa, Lê Khang & Thành, (2018)
control variable		
Growth	(price per share* number of share outstand + book value of liability)/ book value of asset	Kadioglu et al, (2017) Chung at el,. (2005) Mutende, (2018)
Size	LN (total assets * consumer price index)	Anazonwu, Egbunike & Echekoba, (2018) Tuan, Nha et al, (2019) Trong & Nguyen, (2020)
Tangibility	tangible fixed asset / total asset	Thompson & Zhao, (2017) Nghĩa, Lê Khang & Thành, (2018)
Liquidity	quick ratio (current asset - inventories) / current liability	Abdeljawad at el, (2021) Trong & Nguyen, (2020)
Risk	standard deviation of ROA in three consecutive years	Thompson & Zhao, 2017 Nghĩa, Lê Khang & Thành, (2018) Abdeljawad at el, (2021) Trong & Nguyen, (2020)

Table 2.3 shows the parameters of the main equation variables for model estimation.

2.5 Models

In order to achieve the main purpose of the research and answer its questions, what is the effect of the agency' cost of free cash flow (overinvestment) on firm performance and the role that each of the financial leverage and the stock dividend play in this relationship, we adopted the following model.

The dependent variable here reflects the performance of the company, where several measures were used, including the return on assets (ROA), return on equity (ROE), earnings before interest and tax (EBIT), earnings before tax (EBT), and earnings per share, which reflects accounting performance.

Firm performance = $\alpha + \beta_1$ overinvestment + β_2 dividend + β_3 debt + β_4 risk+ β_5 liquidity + β_6 tangibility + β_7 size + β_8 growth + ë Eq. (2)

Where the financial performance was expressed through the ROA, ROE, EBIT, EBT and EPS, where the table (2.3) displays the measurement of these variables.

Equation (2) above represents the regression equation of the first basic model of the study to assess the effect of overinvestment as a proxy for the agency cost of free cash flow on the performance of Palestinian companies, where the company's performance was expressed as a ROA is a return on assets indicate to amount of profit per dollar of total assets, ROE is a return on equity indicate to amount of profit per dollar of total equity, EBIT is amount profit before interest and tax per dollar or one monetary unit of total asset,, EBT is amount profit before per dollar or one monetary unit of total asset, EPS is amount profit after interest and tax per one share outstanding, dividend indicates the Distributed profit percentage of total operating profit (dividend payout ratio), the ratio of leverage indicate the total debt divided by total assets,, risk represent bossiness risk, liquidity indicates the current ratio, tangibility indicate to ratio of tangible assets to total asset, SIZ indicate to size of the firm that measured by natural logarithm of total assets and the growth option represents Tobin's Q indicates the growth option in market value.

Firm performance = $\alpha + \beta_1$ overinvestment + β_2 dividend + β_3 debt + β_4 risk+ β_5 liquidity + β_6 tangibility + β_7 size + β_8 growth + β_9 debt*dividend + β_{10} dividend*overinvestment + β_{11} debt*overinvestment + β_{12} debt*dividend*overinvestment + ë,,,,, Eq (3)

Equation (3) above represents the regression equation of the second basic model of the study to assess the extent to which both the dividend policy and the debt policy are able to smooth the relationship between overinvestment and the financial performance of Palestinian companies, where debt*dividend is interaction relationship between debt and dividend, debt*overinvestment is interaction relationship between debt and overinvestment. This is to know the impact of debt in reducing the negative impact of the agency problem related to free cash flow (overinvestment) on the company's performance, dividend*overinvestment is interaction relationship between dividend and overinvestment this is to know the impact of dividends in reducing the negative impact of the agency problem related to free cash flow (overinvestment) on the company's performance, debt*dividend*overinvestment is interaction relationship between debt, dividend and overinvestment it is to find out whether dividends and debt are alternatives in reducing the negative impact of the agency cost of free cash flow (excessive investment) or whether they support each other at the same time.

Chapter Three
Results and discussion

3.1 Introduction

This chapter deals with many contents, which are firstly descriptive statistics of the study variables to get a preliminary picture of the nature of these data, secondly, creating a correlations matrix between the variables to know the extent to which the variables are related to each other in terms of the strength and direction of the correlation between them, thirdly presenting and discussing the results of the estimated model, fourthly displaying the statistical results To study and explain.

First Stage: Estimating over-investment variable

First, we are working on the application of the investment demand function model in order to extract the residuals from this regression to represent the overinvestment that is considered a proxy or a measure of the agency problem of free cash flow.

New investment $_{i\,t}$ = ɣ$_0$ + ɣ$_1$ debt $_{i\,t}$ + ɣ$_2$ risk $_{i\,t}$ + ɣ$_3$ size $_{i\,t}$ + ɣ$_4$ sale growth $_{i\,t}$ + ɣ$_5$ asst turnover $_{i\,t}$ ɣ$_6$ growth option $_{i\,t}$ + ɣ$_7$ cash flow $_{i\,t}$ + V $_{i\,t}$,,,,, equation (1)

Details and result this regression are presented in the appendix (B)

Second Stage: Estimating the overinvestment-performance relationship

Second, we work on estimating the basic model to see the extent of the impact of overinvestment as a proxy for the agency problem of free cash flow, dividends, debt policy and other controlling variables on the financial performance of Palestinian companies.

Firm performance = α + β_1 overinvestment + β_2 dividend + β_3 debt + β_4 risk+ β_5 liquidity + β_6 tangibility + β_7 size + β_8 growth + ë Eq. (2)

The third step: estimate the role of dividend and leverage polices in smoothen the relationship between the overinvestment and finance performance.

Third, estimating the model related to interaction relationships to determine the extent to which the debt and dividends policies can mitigate the negative impact of the agency

cost of free cash flow (overinvestment) on the financial performance of Palestinian companies.

Firm performance = $\alpha + \beta_1$ overinvestment + β_2 dividend + β_3 debt + β_4 risk+ β_5 liquidity + β_6 tangibility + β_7 size + β_8 growth + β_9 debt*dividend + β_{10} dividend*overinvestment + β_{11} debt*overinvestment + β_{12} debt*dividend*overinvestment + ë,,,,, Eq (3)

3.2 Descriptive statistics

Descriptive statistics provide an initial picture of the data to be analyzed, such as its average and the extent of its fluctuation of this data and whether it contains outliers' values or not. These descriptive specialists include a sample containing 289 observations during the period 2010-2019 for 31 companies, but the number of observations may decrease in some models due to the loss of some data for some variables in certain years.

After collecting the financial data from the annual financial reports of the public shareholding companies from the Palestine Stock Exchange, descriptive statistics were prepared for the study variables, which consisted of the arithmetic mean, standard deviation, maximum value, minimum value, skewness, and kurtosis.

Table 3.1

Descriptive statistics for dependent variables

Descriptive properties of dependent variables						
	Mean	**Median**	**Maximum**	**Minimum**	**Std. Dev.**	**Observations**
ROA	0.0254	0.0233	0.2611	-0.6219	0.0791	289
ROE	0.270	0.0326	0.3186	-1.2092	0.1394	289
EBITTA	0.0338	0.0315	0.2677	-0.6000	0.0821	289
EBTTA	0.0277	0.0258	0.2677	-0.6219	0.0837	289
EPS	0.1325	0.0469	1.7096	-0.3846	0.2796	289

Table (3.1) shows the descriptive statistics of the dependent variables that represent the financial performance of the companies listed on the Palestine Securities Index, where the return on assets (ROA), return on equity (ROE), earnings before interest and tax (EBIT), and earnings before tax (EPT) are the most important accounting measures that represent the performance of companies, as these ratios have an average of 0.0254, 0.027, 0.0338, and 0.0277, respectively. It is noted that the average values of return on equity (ROE) of 0.027 are somewhat close to the average of the rest of the accounting

ratios (ROA, EPIT, and EPT) that have a mean (0.0254, 0.0338, and 0.0277) This is due to the fact that the study sample excluded financial companies (insurance companies and banks) because the characteristics of the financial structure of these companies depend largely on the financial leverage that can generate extreme returns, whether negatively or positively, as a result of excluding these companies from the study sample. The companies included in the sample have become more dependent on their own funds instead of financial leverage. The median of these ratios is 0.0233, 0.0326, 0.315, and 0.0258, respectively. The maximum value of these ratios is 0.261, 0.318, 0.2677, and 0.2677 respectively, and the minimum value of these ratios is -0.621, -1.209, -0.6, and -0.6219 respectively, earning per-share measure is considered the most interesting by shareholders because it gives the shareholders an impression of the extent of the profits achieved for their invested money. This ratio has an average, a median, a maximum value, and a minimum value of 0.132, 0.0469, 1.7096, and -0.3846 respectively.

The standard deviation indicates the extent to which the values fluctuate from their arithmetic mean and also indicates the risks if they are linked in the ratios that represent the returns of companies or the prices of financial assets. The earnings per share (EPS), and return on equity (ROE) ratios have the highest values of standard deviation (0.2796, 0.1394 respectively) among the values (0.0791, 0.0821, and 0.0837) of the ratios (ROA, ROE, EPIT, and EPT) respectively. The high standard deviation of both ratios (ROA, EPS) indicates the return that belongs to the owners of the company themselves is more volatile because it is affected by financial leverage, the sample of this study includes 31 companies during a ten-year period, but not all companies worked during the entire study period. There are some companies that entered the market after 2010, and some companies that exited the market before 2019, so there were 289 observations.

Table 3.2

Descriptive statistics for independent and moderator variables

Descriptive properties of dependent and control variables						
	Mean	**Median**	**Maximum**	**Minimum**	**Std. Dev.**	**Observations**
Size	17.0839	16.9644	20.8464	13.6108	1.5698	289
Tobin Q	1.0066	0.9220	2.6058	0.3046	0.3560	289
Risk	0.0260	0.0190	0.1949	0.0004	0.0263	286
Liquidity	3.6651	1.4282	88.7480	0.1039	9.9569	289
Tangibility	0.3057	0.2438	0.9661	0.0000	0.2591	289
Dividend	1.1112	0.0000	203.7931	-8.5503	12.0397	289
Debt	0.3157	0.3113	0.7796	0.0088	0.1885	289
Overinvestment	0.1091	0.0000	0.6108	0.0000	0.1655	283

Table (3.2) shows descriptive statistics for independent, moderator, and control variables. The size, Tobin Q, risk, liquidity, tangibility, dividend, debt, and overinvestment have a mean of 17.0839, 1.0066, 0.0260, 0.3057, 1.112, 0.3157, and 0.1091 respectively. It is noted that the arithmetic means of the Tobin Q ratio (1.0066) indicates that the average study sample for these companies has good market performance or good growth opportunities because, on average, the market value is higher than the book value, the mean of liquidity (3.6651) it indicates that in the average of the companies included in the study sample that contain industrial, investment and services companies, they have an adequate liquidity ratio in a large manner, as these companies can cover their current liabilities from their current assets with more than three and a half times, which is an excellent ratio for such sectors, also the mean of dividend is (1.1112) this ratio indicates that companies, on average, distribute more profits than realized profits, and this is illogical. The reason for this high percentage is that some companies in some years achieved significantly low returns, but they worked to distribute cash dividends to shareholders in order to give shareholders the impression that the performance of the company is sound, and this matter is clearer in the maximum value of the dividend payout ratio, which is (203.7931), which belongs to (Nablus Surgical Specialty Center) company for the year 2014, and many other companies that followed the same strategy.

Although there is a positive extreme value of the distributed profits, as we mentioned earlier, which carries the value (203.7931), there is also a negative extreme value of the distributed profits and their value (-8.5503). This is due to a somewhat similar reason, as some companies distributed cash dividends to shareholders from the retained

earnings in order to give them a sound impression of the company's performance at the time it achieved a loss for that period. Also, overinvestment has a minimum value of zero because the nature of the scale excludes negative values and replaces them with a value of zero, as explained in the methodology.

We lost three observations for the risk variable because this variable depends on the moving standard deviation of the previous three years for the return on assets (ROA), as some companies did not have data prior to the period of their listing on the Palestine Stock Exchange for three full years. We also lost six observations for the variable over-investment due to the dependence of this variable on regression residuals that depend on several variables. This variable lost 3 observations due to its loss in the risk variable, as we explained previously, and the loss of two observations in the sales growth variable, as it was not available for one year before its listing on the Palestine Securities Exchange, and we lost one observation because the sales of a company were zero, which resulted in an undefined value of the fixed asset turnover rate.

3.3 correlation coefficient matrix

Tale 3.3

Correlation coefficient matrix

Correlation	ROA	ROE	EBITTA	EBTTA	EPS	Size	Tobin Q	Risk	Liquidity	Tangibility	Dividend	debt	overinvestment
ROA	1.000												
ROE	0.946	1.000											
EBITTA	0.977	0.925	1.000										
EBTTA	0.979	0.926	0.996	1.000									
EPS	0.706	0.609	0.711	0.705	1.000								
Size	0.232	0.221	0.274	0.228	0.226	1.000							
Tobin Q	0.108	-0.005	0.124	0.118	0.322	-0.082	1.000						
Risk	-0.342	-0.389	-0.359	-0.346	-0.125	-0.358	0.328	1.000					
Liquidity	0.101	0.070	0.085	0.102	0.033	-0.138	0.237	0.013	1.000				
Tangibility	-0.174	-0.154	-0.149	-0.172	-0.176	-0.091	0.190	0.030	-0.048	1.000			
Dividend	-0.012	-0.005	-0.017	-0.011	-0.025	-0.034	0.006	0.011	-0.015	-0.015	1.000		
Debt	-0.279	-0.235	-0.260	-0.303	-0.181	0.173	0.171	0.177	-0.337	0.115	0.055	1.000	
overinvestment	-0.027	-0.036	-0.049	-0.040	0.072	-0.041	-0.056	-0.051	0.030	-0.545	-0.049	-0.205	1.000

Table (3.3) shows the Pearson correlation matrix between the study variables to find out the strength and direction of the relationship between the study variables. This matrix indicates that there is a significant correlation between many pairs of variables, which is the correlation between the ROA with ROE, EPITTA, and EPTTA with a correlation coefficient of 0.946, 0.977, and 0.979, respectively, the correlation between ROE with EPITTA and EPTTA with a correlation coefficient of 0.925 and 0.926, respectively; and the correlation between EBITDA and EBTTA with a coefficient of 0.996. Although all the mentioned correlation coefficients are greater than 0.80 in absolute value (> 0.80, < -0.80), this type of correlation is normal because these variables express the financial performance of companies and do not constitute an obstacle in the statistical analysis because they are dependent and not independent variables.

The results of the correlation matrix above indicate that the correlation between the independent variables (size, Tobin Q, risk, liquidity, tangibility, dividend, debt, and overinvestment) is less than 0.80 in absolute value, which means that there is no correlation higher than 0.80 and no correlation less than -0.80. Therefore, it indicates there is no possibility of a multicollinearity problem among the independent variables, but it is not proof. Conclusively, which requires a multicollinearity test.

3.4 Diagnostic tests

This study adopts the OLS model (ordinary least squares) for estimating the model according to a linear relationship, as this model has conditions and controls that must be maintained for the estimation to be correct, namely (BLUE), which indicates the best linear unbiased estimator. Although in actual fact, it is difficult to obtain the optimal model, the best model must be obtained to describe this relationship. The results of these tests and possible solutions are presented in Appendix (A).

3.5 Empirical model estimation

3.5.1 Basic model

This section presents regression results that show the effect of agency costs for free cash flow on the performance of Palestinian companies listed on the Palestine Securities Exchange.

Firm performance = $\alpha + \beta_1$ overinvestment + β_2 dividend + β_3 debt + β_4 risk+ β_5 liquidity + β_6 tangibility + β_7 size + β_8 growth + ë

where the financial performance of companies was expressed as return on assets (ROA), return on equity (ROE), earnings before interest and tax (EBIT), earnings before tax (EBT), and earnings per share (EPS).

Table 3.4

Basic model (Pooled regression)

Variable	ROA	ROE	EBIT	EBT	EPS
Overinvestment	-0.127***	-0.203***	-0.135***	-0.147***	-0.200
	(0.0321)	(0.0603)	(0.0328)	(0.0332)	(0.1240)
Dividend	-0.000038	-0.00000	-0.000061	-0.000033	0.0003
	(0.0002)	(0.0004)	(0.0002)	(0.0002)	(0.0006)
Debt	-0.146***	-0.191***	-0.150***	-0.170***	-0.499***
	(0.2453)	(0.0505)	(0.0246)	(0.0248)	(0.1020)
Risk	-1.046***	-2.014***	-1.121***	-1.129***	-1.731***
	(0.3483)	(0.6352)	(0.3399)	(0.3490)	(0.5601)
Liquidity	-0.001*	-0.001	-0.001*	-0.001**	-0.005***
	(0.0004)	(0.0007)	(0.0004)	(0.0004)	(0.0017)
Tangibility	-0.099***	-0.150***	-0.097***	-0.109***	-0.312***
	(0.0209)	(0.0375)	(0.0208)	(0.0211)	(0.0547)
Size	0.007**	0.009	0.009***	0.007**	0.038***
	(0.0031)	(0.0059)	(0.0030)	(0.0032)	(0.0078)
Growth	0.081***	0.089**	0.088***	0.091***	0.430***
	(0.01956)	(0.0354)	(0.0196)	(0.0120)	(0.0678)
C (constant)	-0.057	-0.031	-0.091*	-0.054	-0.605***
	(0.0544)	(0.1048)	(0.0541)	(0.0554)	(0.1536)
Adjusted R-squared	0.327	0.260	0.350	0.359	0.321
F-statistic	18.096	13.355	19.988	20.777	17.643
Prob(F-statistic)	0.000	0.000	0.000	0.000	0.000

note: we use panel OLS with pooled effect model the model includes a constant (intercept)
*, **, *** indicate a level of statistically significant at 10%, 5% and 1% respectively

Table 3.5

Basic model (Random Effect)

Variable	ROA	ROE	EBIT	EBT	EPS
Overinvestment	-0.0219 (0.0542)	-0.0270 (0.1093)	-0.0305 (0.0566)	-0.0377 (0.0575)	0.3300 (0.1544)
Dividend	-0.0001 (0.0001)	-0.0002 (0.0001)	-0.0002 (0.0001)	-0.0001 (0.0001)	-0.0007 (0.0004)
Debt	-0.1374 *** (0.0364)	-0.1848 ** (0.0782)	-0.1533 *** (0.0364)	-0.1674*** (0.0370)	-0.2974*** (0.1048)
Risk	-0.6307 * (3544)	-1.3766 ** (0.3825)	-0.6973 ** (0.3479)	-0.7144 ** (0.3561)	-0.2080 (0.3209)
Liquidity	-0.0002 (0.0003)	0.0004 (0.0006)	-0.0004 (0.0004)	-0.0004 (0.0004)	0.0005 (0.0008)
Tangibility	-0.0289 (0.0364)	-0.0418 (0.0651)	-0.0297 (0.0363)	-0.0339 (0.0369)	-0.1785 * (0.0913)
Size	0.0120 * (0.0069)	0.0165 (0.0131)	0.0138 ** (0.0067)	0.0121 * (0.0068)	0.1255*** (0.0260)
Growth	0.0515 * (0.0301)	0.0402 (0.0547)	00.0585 ** (0.0259)	0.0594 * (0.0302)	0.1655*** (0.0545)
C (constant)	-0.1589 (0.1170)	-0.1817 (0.2266)	-0.1803 (0.1135)	-0.1500 (0.1160)	-2.0615*** (0.4777)
Adjusted R-squared	0.1176	0.1037	0.1381	0.1439	0.2262
F-statistic	5.7023	5.0808	6.6527	6.9274	10.158
Prob)F-statistic)	0.0000	0.0000	0.0000	0.0000	0.0000

note: we use panel OLS random effect model with white cross-section weights (PCSE) standard errors & covariance (d.f. corrected) the model includes a constant (intercept)
*, **, *** indicate a level of statistically significant at 10%, 5% and 1% respectively

Tables (3.4 and 3.5) show the results of regression analysis according to both models (pooled effect model and random effect model) to attempt to solve the problems of heteroscedastic and serial autocorrelation and compare the results of the two models to each other and to know the effect of agency problems for free cash flow (overinvestment) on the financial performance of Palestinian companies, The table presents the R-square values for ROA, ROE, EBIT, EBT, and EPS models at 0.327, 0.26, 0.35, 0.359, and 0.321, respectively, in a pooled effect model and (0.1176, 0.1073, 0.1381, and 0.2262, respectively, in a random effect model), which indicates that the model's ability to explain the change in the financial performance of companies, or in other words, the ability of the change in the independent variables to explain the change in the dependent variables (the financial performance variables) It is clear according to the R-square value that the polled effect model is able to explain the model better than the random effect, as all models have an F-statistic value of F-statistic more than 2 and

have a probability (F-statistic) less than 5% for both models (P&F effect). This indicates the validity of the model in the ability to explain the change in the dependent variables that represent the financial performance of companies.

There is a negative, statistically significant relationship between the proxy agency cost of free cash flow (overinvestment) and ROA, ROE, EBIT, EBT, and EPS at a level statistically significant of 1%. 1%. 1% and 10% respectively but the result random effect do not support for all model that represented financial performance, it means that an increase of one unit in overinvestment reduces the company's profits by the amount of the coefficient value, This is consistent with Jensen's 1986 free cash flow theory, which indicated that the presence of free cash flow drives the manager to invest in projects that do not lead to maximizing the value of shareholders or invest in projects that do not achieve the rate of return required by the shareholders. Instead, the manager seeks to expand the size of the company to build his empire in pursuit of the concessions as a result of running a larger company and projects, which leads to a decrease in profitability and the market value of the company, so we accept the first hypotheses that stat the agency cost of FCF (overinvestment) affected negatively on firm performance, this result is consistent with (Anazonwu, Egbunike & Echekoba, 2018; Tuan, Nha et al, 2019; Trong & Nguyen, 2020; Abdeljawad, Abd El-hafez, & Abualhhassen, 2020) who adopts overinvestment as a proxy for the agency cost of free cash flow and also agree with (Park & Jang, 2013; Khidmat & Rehman, 2014; Kadioglu & Yilmaz, 2017; Khan et al,. 2012; Chung at el,.2005) who adopt other measures of agency cost for free cash flow, such as FCF is self, administrative expenses, operating expenses, and business risk.

There is a negative statistically insignificant relationship between dividend and ROA, ROE EPIT and EPT for both model (P&F effect) also there is a positive statistically insignificant relationship between dividend and EPS in pooled effect but negative insignificant in random effect, Despite the inconsistency of this result with many empirical studies (Khan et al., 2016; Kadiogluand at el, 2017; Kadioglu & Yilmaz, 2017; Priya & imalathasan, 2013; Anton, 2016; M'rabet & Boujjat, 2016; Hafeez at el, 2018) that found a positive effect of distributed profits on the financial performance of companies, and their results were supportive of many theories that supported this positive effect, such as (information asymmetry theory, signal theory, bird-hand theory

is better than Ten in the bush, risk aversion and the agency theory of free cash flow), however this result is not surprising in the Palestinian context, where (Abdeljawad & Masri, 2021) indicated that Palestinian companies enjoy a concentration of institutional ownership, and the founding shareholders largely control the boards of directors, and because the capacity of the founding shareholders is much higher than the individuals, they often own large shares that make them able to make decisions in line with their interests that may be in conflict with the interests of the small shareholders, so the decisions to distribute profits are often in line with the interests of the founding shareholders only.

There is a negative statistically significant relationship between leverage (debt) and ROA, ROE, EBIT, EBT, and EPS at a level of statistically significant 1% for all models in a pooled model. The random effect supports this result. This result agrees with Salim and Yadav (2012), Al-Taani (2013), Dada and Ghazali (2016). It means that an increase of one unit in debt (total liability) reduces the company's profits by the amount of the coefficient value. This result is consistent with the agency cost theory of debt, which indicates that the increase in financial leverage in the company's capital structure pushes managers to invest this money in more risky projects as it is the money of others, which leads the debt holders to demand high interest that compensates for the increase in the risks assumed, which leads to a decrease in profitability for the company. On the other hand, this result contradicts the agency cost theory of free cash flow Jensen (1986), which indicated that debt is an effective way to reduce the agency problem as it forces the manager to pay loan installments and interest, thus reducing the cash flow available in the hands of managers, which prevents its exploitation in a way that does not comply with maximizing company value.

There is a negative statistically significant relationship between risk and ROA, ROE, EPIT, EPT, and EPS at a level of statistically significant 1% for all models in a pooled effect model and supports this result in a random effect at a different level of statistically significant but not statistically significant in the EPS model. This result indicates that the fluctuation in profits over time results from the company's involvement in high-risk projects, which in turn leads to an increase in the risk of bankruptcy. This result agrees with (Abdeljawad at el, 2021; Trong & Nguyen, 2020).

There is a negative statistically significant relationship between liquidity and ROA, EBIT, EBT, and EPS at levels of statistically significant 10%, 10%, 5%, and 1% respectively, and negative statistically insignificant with ROE in pooled effect model but the random effect model does not support this result, this is consistent with the argument that an increase in liquidity in a way that exceeds the optimum level indicates that the company does not invest its money in the fullest form because it keeps a large part as liquid assets, which leads to lower profits, this result is consistent with (Kamran et al,2017; Anzonwu at el, 2018, Tura at el,2019; Trong & Nguyen, 2020).

There is a negative statistically significant relationship between tangibility and ROA, ROE, EBIT, EBT, and EPS at a level of statistically significant 1% for all models in pooled effect, but the random effects do not support this result, except for the EPS model at a level of significant 10%. It means that an increase of one unit in tangible fixed assets reduces the company's profits by the amount of the coefficient value. Although this result is unexpected, it may be consistent with the argument that increasing the company's investment in fixed assets (such as buildings, land, and furniture) that do not contribute directly to operational operations at the expense of operating assets leads to a decrease in profits relative to the total invested assets. Also, in the event that there is free cash flow, the manager seeks to expand the size of the company he manages in an effort to build his empire, which may be reflected in tangible assets and thus lead to a decline in the company's performance. This result agrees with (Abdeljawad at el,2020; Trong & Nguyen, 2020).

There is a positive statistically significant relationship between the size of the company and ROA, EPIT, EPT, and EPS at levels of statistically significant 5%, 1% 5%, and 1%, respectively, with coefficients of 0.007, 0.009, 0.007, and 0.038, respectively. The effect of size on ROE is statistically insignificant in a pooled effect model and supported by a random effect but at different statistical levels. This result indicates that an increase of one unit in the size of the company leads to an increase in the company's return by the amount of the coefficient value. This result is consistent with the argument that large-sized companies are able to benefit more from economies of scale and thus reduce costs and maximize their profitability. But she did not agree with this (Demsetz & lehn, 1985; Mutende, 2018; Mutende, Mwangi, Njihia & Ochieng, 2017), who pointed out that according to Jensen's 1986 hypothesis, companies that are large in size

and enjoy a low rate of growth are often the result of overinvestment in an attempt by the manager to build his own empire.

There is a positive statistically significant relationship between growth opportunity and ROA, ROE, EPIT, EPT, and EPS at levels of statistically significant 1%, 5%, 1%. 1% and 1% respectively, with coefficients 0.081, 0.089, 0.088, 0.091, and 0.43, respectively. The random effects support this result except for model ROA, which at different levels is statistically significant but not statistically significant for the ROE model. This result indicates that companies that enjoy growth opportunities are able to achieve higher profits than companies that do not enjoy investment opportunities. This result is consistent with (Burch, Bromiley & Hendrick, 2000).

3.5.2 Moderating effect of dividends and debt

The section shows the regression results for the effects of the interaction relationship between the proxy agency cost of FCF (overinvestment) with dividend and leverage on the company's financial performance represented by ROA, ROE, EBIT, EBT, and EPS.

Firm performance = $\alpha + \beta_1$ overinvestment + β_2 dividend + β_3 debt + β_4 risk+ β_5 liquidity + β_6 tangibility + β_7 size + β_8 growth + β_9 debt*dividend + β_{10} dividend*overinvestment + β_{11} debt*overinvestment + β_{12} debt*dividend*overinvestment + ë,,,,, equation (3)

Table 3.6

Moderating effect of dividends and debt (pooled effect model)

Variable	ROA	ROE	EBIT	EBT	EPS
Overinvestment	-0.211***	-0.303***	-0.211 ***	-0.230 ***	-0.496 ***
	(0.0389)	(0.0641)	(0.091)	0.0394	(0.1284)
Dividend	-0.001	-0.004	-0.001	-0.001	0.002
	(0.0023)	(0.0039)	(0.0023)	(0.0023)	(0.0089)
debt	-0.188***	-0.242***	-0.187 ***	-0.212 ***	-0.632 ***
	(0.0286)	(0.0586)	(0.0295)	(0.0297)	(0.1128)
Risk	-1.100***	-2.089***	-1.170 ***	-1.183 ***	-1.895 ***
	(0.03569)	(0.6540)	(0.3483)	(0.3574)	(0.5907)
Liquidity	-0.001*	-0.001	-0.001**	-0.001**	-0.006 ***
	(0.0004)	(0.0007)	(0.0004)	(0.0004)	(0.0018)
Tangibility	-0.106***	-0.159***	-0.103 ***	-0.117 ***	-0.337 ***
	(0.0206)	(0.0366)	(0.0206)	(0.0208)	(0.0543)
Size	0.006*	0.008	0.009**	0.007*	0.034***
	(0.0034)	(0.0065)	(0.0033)	(0.0035)	(0.0085)
Growth	0.084***	0.094***	0.092***	0.095***	0.446***
	(0.0199)	(0.0359)	(0.0120)	(0.0202)	(0.0677)
dividend*det	0.002	0.007	0.002	0.002	-0.005
	(0.0044)	(0.0078)	(000044)	(0.0045)	(0.0174)
dividend* overinvestment	0.011	-0.006	0.005	0.005	0.077
	(0.0484)	(0.0660)	(0.0497)	(0.0502)	(0.1305)
debt* overinvestment	0.303**	0.337	0.261*	0.292**	0.986**
	(0.1287)	(0.2749)	(0.1345)	(0.1360)	(0.3870)
dividend*debt* overinvestment	-0.025	0.098	0.030	0.020	0.150
	(0.1511)	(0.2522)	(0.1538)	(0.545)	(0.5751)
C (constant)	-0.031	0.010	-0.065	-0.026	-0.500 ***
	(0.0609)	(0.1187)	(0.0312)	(0.0627)	(0.1627)
Adjusted R-squared	0.331	0.255	0.351	0.362	0.326
F-statistic	12.609	9.047	13.690	14.330	12.363
Prob(F-statistic)	0.000	0.000	0.000	0.000	0.000

note: we use panel OLS with pooled effect model the model includes a constant (intercept)
*, **, *** indicate a level of statistically significant at 10%, 5% and 1% respectively

Table 3.7

Moderating effect of dividends and debt (random effect model)

Variable	ROA	ROE	EBIT	EBT	EPS
Overinvestment	-0.1525 ** (0.0749)	-0.1495 (0.1139)	-0.1440 ** (0.0750)	-0.1532 ** (0.0758)	0.2551 (0.1995)
Dividend	0.0003 (0.0016)	0.00003 (0.002)	0.0002 (0.0035)	0.0003 (0.0036)	-0.0042 (0.0080)
Debt	-0.1836 *** (0.0428)	-0.2370 *** (0.0907)	-0.1952 *** (0.0406)	-0.2094 *** (0.0405)	-0.3309 *** (0.0999)
Risk	-0.6281 *** (0.353)	-1.3703 *** (0.6974)	-0.6945 *** (0.1529)	-0.7122 *** (0.1541)	-0.2222 (0.3442)
Liquidity	-0.0001 (0.0003)	-0.0003 (0.0006)	-0.0003 (0.0004)	-0.0003 (0.0004)	0.0006 (0.0010)
Tangibility	-0.0317 (0.0362)	-0.0435 (0.0647)	-0.0288 (0.0344)	-0.0361 (0.0348)	-0.1749 * (0.0996)
Size	0.0123 ** (0.0072)	0.0170 * (0.0138)	0.0139 ** (0.0058)	0.0122 ** (0.00058)	0.1264*** (0.0197)
Growth	0.0523 *** (0.0303)	0.04057 (0.0555)	00591 *** (0.0169)	0.0600 *** (0.0171)	0.1673 *** (0.0420)
dividend*det	-0.0009 (0.0031)	-0.0004 (0.0045)	-0.0008 (0.0070)	-0.0011 (0.0071)	0.0069 (0.0156)
dividend* overinvestment	0.0210 (0.0454)	0.0008 (0.0599)	0.0116 (0.0404)	0.0123 (0.0408)	-0.0495 (0.0914)
debt* overinvestment	0.03865 * (0.2119)	0.4006 (0.4252)	0.3399 * (0.1762)	0.03451 * (0.\1782)	0.2263 (0.4487)
dividend*debt* overinvestment	-0.1477 (0.1233)	-0.1059 (0.930)	-0.0898 (0.1771)	-0.0993 (0.1790)	0.2857 0.3977
C (constant)	-0.1451 (0.1238)	-0.1706 (0.1930)	-0.1655 (0.1043)	-0.13588 (0.1055)	-2.0675*** (0.3541)
Adjusted R-squared	0.1209	0.0945	0.1353	0.1417	0 1974
F-statistic	4.2337	3.453	4.6779	4.8817	6.7812
Prob (F-statistic)	0.0000	0.0000	0.0000	0.0000	0.0000

note: we use panel OLS with white cross-section weights (PCSE) standard errors & covariance (d.f. corrected) the model includes a constant (intercept)
*, **, *** indicate a level of statistically significant at 10%, 5% and 1% respectively

Tables (3.6 and 3.7) show the result regression according to pooled effect and random effect to know the effect of the interactive relationships of proxy variables of agency cost of free cash flow (overinvestment) with financial leverage and dividend payout-ratio on the financial performance of companies measured by ROA, ROE, EBIT, EBT, and EPS, where the R-square values in the interactive relations model (0.331, 0.255,

0.351, 0.362, and 0.326 respectively in pool effect and 0.1209, 0.0945, 0.1353, 0.1417, and 0.1974, respectively in random effect) indicated a higher than the values in the base model (0.327, 0.26, 0.26, 0.35, 0.356 and 0.321 respectively in pooled effect. And 0.1176, 0.1073, 0.1381and 0.2262 respectively in a random effect model), which means the high ability of the model to explain the change in the financial performance variables due to the interactive variables that succeeded in adding part of the explanation, and also the probability value of F-statistic, which got a value of 0.00 in all models, which means that the model is valid for interpretation.

The results indicate that there is a positive effect of the interaction relationship of debt with dividends on ROA, ROE, EBIT, and EBT but not statistically significant, also a negative effect on EPS but not statistically significant in a pooled effect, and support this result in a random effect, although we will not be able to prove these relationships from a statistical point of view. Where the positive interaction coefficient indicates the community effect of the dividend policy and the debt policy, therefore, when the company distributes profits to shareholders, it will resort to other sources of funding to finance its new projects, such as debt, thus it will benefit from funding resources The company as a result of these payments, which leads to maximizing the company's profitability in the future. Thus, the combination of debt policy and profit diversification policy can help mitigate the damage resulting from the use of dividend policy or debt policy alone, which corresponds to (abdeljawad at el, 2021). On the other hand, the negative sign of the interaction coefficient indicates the impact of the substitution of the debt policy or the dividend policy on the company’s financial performance, as in the case of combining these two policies, it leads to the company’s lack of funding sources and its inability to exploit good investment opportunities, thus negatively affecting its performance. The effect of the interactive relationship between dividends and financial leverage on financial performance varies according to the different proxies that represent the financial performance of the company, which is what was indicated by (Vu & Nguyen, 2021).

There is a positive effect of the interaction relationship of debt with overinvestment on ROA, EBIT, EBT and EPS at the level of statistically significant5%, 10%, 5% and 5% respectively and negative statistically insignificant on ROE in a pooled effect and support this result in a random effect, this result is consistent with Jensen's 1986 theory

of free cash flow, which indicated that debt is an effective way to reduce free cash flow in the hands of managers, because debt forces the manager to meet loan installments and interest to survive to prevent the company from defaulting and bankruptcy and to preserve his job because the manager's survival from survival The company thus reduces the sources of cash that push the manager to exploit them in a way that is not in the interest of the owners, This result is consistent with ((Trong & Nguyen, 2020; D'Mello & Miranda, 2010; Nghĩa, et al, 2018) who fully tested the relationship, on the other hand it agrees with (Kadioglu et al,. 2017; Mutende, 2018) who indicated that debt is associated with reducing free cash flow in the hands of managers, thus reducing involvement in excessive investment, therefore, we accept the second hypothesis, which states that financial leverage moderates the negative influence of agency cost of FCF (overinvestment) on performance. Therefore, agency cost of FCF has a less negative impact on performance for firms with higher financial leverage in capital structure.

there is a positive effect of the interaction relationship of dividend with debt and overinvestment on a ROE, EBIT, EBT and EPS and negative effect of ROA but statistically insignificant for both relationships in a pooled effect and support this result in a random effect, although we will not be able to prove these relationships statistically, the positive sign of coefficients for most of the transactions of these relationships with the exception of the ROA model indicates that the combined use of debt policy and dividend policy is more effective in reducing the negative impact of overinvestment on company performance than use The uniqueness of each policy, this is consistent with (Abdul Gawad, 2021)

there is a positive effect of the interaction relationship of dividend with overinvestment on a ROA, EBIT, EBT and EPS and negative effect of ROE but statistically insignificant for both relationships in a pooled effect and support this result in a random effect, therefore, we were unable to prove the three hypothesis that indicated that dividends mediate the relationship between overinvestment and financial performance and work to reduce the negative impact of over investment, Although all of these results could not be proven statistically, most of the coefficients of this interactive relationship bear a positive sign, except for its effect on ROE, which is consistent with Jensen's theory (1986), which indicated that the distribution of profits to shareholders reduces the available cash flow under the control of managers and thus limits the manager's

ability to exploit these funds in aspects and projects that do not serve the interests of shareholders in the first place, such as overinvestment, which is what was indicated by (Khan et al., 2016; Kadioglu at el, 2017;Kadioglu & Yilmaz, 2017; Priya & Nimalathasan, 2013; Anton, 2016; M'rabet & Boujjat, 2016; Hafeez, at el, 2018; Kargar & Ahmad, 2013) that dividend distribution reduces agency problems for free cash flow, but the reason behind our inability to prove this relationship from a statistical point of view may be due to the fact that, as we mentioned previously, the Palestinian company is dominated by the nature of institutional ownership that owns large percentages of the company's shares, as it has a financial capacity that is much greater than the individual shareholders, which makes it able to control the decisions of the Board of Directors. Management by virtue of it having the largest share of the votes, so the decision to distribute dividends is often commensurate with the interest of the large shareholders, which leads to a conflict of interest between the large shareholders (institution owner) and small shareholders (individual shareholders often), this is what referred by both abdeljawad (2021) and adeljawad and Maasri (2020), As a result, the dividend policy is not an important tool in reducing agency problems for FCF in Palestinian companies, but this result came by relying on overinvestment as a proxy for the agency problem for FCF, it may differ this result by adopting another proxy to express agency problems of FCF.

It is worth noting that in the random effect model, when adding the variables of interactive relationships, it worked to improve the results of the independent and control variables compared to the basic model, which indicates that the variables of interactive relationships worked to adjust the model from a specialist point of statistics, as it worked to add part of the interpretation that was neglected in the residual of the model, which in turn helped to clarify the explanatory power of the independent and other control variables.

Chapter Four
Conclusions

4.1 Main Results

This study came as an extension of Jensen's 1986 theory, which discussed the agency problem arising from free cash flow and ways to reduce it. Jensen indicated in his theory that the presence of a large free cash flow in the company, coupled with the company's lack of future investment opportunities and due to the nature of the manager's work in the company as an agent to manage the operational business and his separation from the company's owners, pushes the manager to exploit this money in projects with a negative net present value (overinvestment), which leads to the deterioration of the company's performance.

Given that Modigliani and Miller's assumptions are ineffective in real reality with regard to market efficiency, taxes, dividend distributions, bankruptcy costs, and others, which prompted the emergence of new theories, including the theory of profit distribution, agency costs, and others.

Where these theories in the three financial policies are specialized in debt policy, dividend distribution, and investment, the agency cost theory of free cash flow is related to these financial policies in terms of their causes and methods of treatment, which prompted us to conduct this research to find out the extent to which the agency cost of free cash flow is related to financial policies in the Palestinian reality.

This research was conducted to find out what the effect of overinvestment as a form of agency cost for free cash flow resulting from bad investment policies has on the financial performance of Palestinian companies and what the role of debt policy and the distribution of profits is in reducing this problem and reducing its negative impact. The study was conducted on 31 non-financial companies during the period 2010–2019. The study used five agents (ROA, ROE, EBIT, EBT, and EPS) to express the financial performance to make the results more robust and reliable. Accordingly, the study came up with the following results.

First, over-investment is negatively related to the financial performance of companies through the five measures (ROA, ROE, EBIT, EBT, and EPS). This result agrees with

Jensen's 1986 theory, which indicated that the presence of a large free cash flow in the company, its lack of future growth opportunities, and the nature of the manager's work as an agent for the owners of the company push the manager to enter into projects with a negative net present value that harms the profitability and value of the company, and this confirms that the free cash flow is a source of agency problems in the Palestinian context.

Second, using the policy of debt in the capital structure of the company plays a key role in reducing overinvestment in the context of Palestinian companies, which is a form of agency costs for free cash flow associated with bad investment policies. This result agreed with what Jensen in 1986 indicated that the use of debt in companies that haven't opportunities for investment and large cash flow contributes to reducing the cash flow available in the hands of managers by forcing managers to pay installments of debt and interest and forcing the company to go to the capital market to obtain financing in cases of expansion, which subjects the company to external control. These procedures force the manager to work harder to maintain the company's performance so as not to lose the company's privileges.

Thirdly, on the ramifications that Jensen's 1986 theory indicated that dividends to shareholders reduce agency problems associated with free cash flow, but that we will not be able to prove it in the context of Palestinian companies, it is likely that this reason is due to the fact that most Palestinian companies are predominantly family-owned, where the family controls the financial policies. Therefore, it is possible that the dividends are in an attempt to satisfy the small shareholders, so they are not arising from the optimal management of financial policies to reduce agency problems.

On the other hand, the nature of the ownership of Palestinian companies is dominated by the concentration of institutional ownership, which in turn may lead to a conflict of interest between small and large shareholders, as institutional investors, as a result of owning a large percentage of the company's ownership, control a greater percentage of the decisions of the board of directors, so they are more likely to take decisions in line with their interests, including controlling dividend policy in their favors. As a result, dividend policy does not play an important role in reducing overinvestment as a form of agency problem for free cash flow.

Fourth, the study was not able to prove that the debt policy and dividends are alternatives to each other or combined to reduce the negative impact of overinvestment as a form of agency cost for free cash flow on the financial performance of companies in the Palestinian context.

As a result of the findings of this study, companies should focus on the use of debt in their capital structure to reduce the problems of overinvestment on the company's performance by reducing free cash flow, which is the most important source of overinvestment. On the other hand, debt should be used in the capital structure of the company cautiously and in a manner that works to maximize the market value of the company due to the costs of bankruptcy and agency costs associated with the use of debt related to the dispute between the management and the owners of the company, on the one hand, and the debt holders, on the other hand.

4.2 Recommendations

The researcher proposes to re-test Jensen's 1986 theory of free cash flow in the Palestinian context to find out the proxy of agency costs directly related to free cash flow and expressed in a more comprehensive way. This is because agency variables are related to free cash flow differently with the different sample and study environment, and to study its impact on the financial performance of Palestinian companies and to know the mediating role played by debt policy and dividends in order to obtain more reliable and robust results in linking financial policies of Palestinian companies and their relationship to agency problems.

The researcher also suggests re-testing the study on the financial sector in the Palestinian market so that we can generalize the results to all sectors of the Palestinian market, as the financial sectors were excluded from the study sample due to the different nature of their financial structures from the rest of the companies and the different methods of financial evaluation in them.

Attempting to expand the scope of the study to different countries so that we can generalize the results, given that Palestine has a developing economy and unique policies that may constitute an obstacle or unreliability in generalizing the results.

presenting the results to stakeholders, including shareholders, potential investors, debt holders, and government authorities, in order to know the optimal policies in the management of the company and the establishment of controls by the government in an attempt to reduce the agency problem for free cash flow and guidance in the mechanism of optimal use of debt in a way that reduces the agency cost for free cash flow and does not increase the agency cost and bankruptcy of debt (optimum use aimed at maximizing shareholder wealth).

Despite our study of the mediating role of debt policy and dividend policy in reducing agency problems, it is not the only one. There are other important factors that contribute significantly to restricting agency problems, Institutional ownership contributes greatly to reducing agency problems, as the financial capacity of institutions is often much greater than that of individuals that enables institutions to buy large quantities of shares, and because they own a large amount and percentage of shares for a particular company, they do not seek to sell or speculate in them because the supply of a large amount of these stocks can reduce their price, so this form of investment is often long-term, On the other hand, institutions have much greater capabilities and expertise in consulting, auditing and governance than those possessed by individuals, which makes them more able to control and restrict the actions of managers in relation to agency problems, Thus, institutional ownership constitutes an important factor in reducing agency problems and their impact on financial performance. The study recommends the possibility of studying the impact of institutional ownership on the financial performance of companies and its role in reducing the negative impact of agency problems on the financial performance of companies.

4.3 Limitation

The Palestinian financial market is considered a developing market and is under the control of unique economic conditions and policies, thus limiting the possibility of generalizing the results. Also, the study sample was limited to non-financial companies, whereas the insurance sector and the banking sector were excluded from the study sample, which could make a difference in the results of this study.

There are many methods associated with the encouragement approach that contribute significantly to reducing agency problems between management and shareholders, such

as purchase options that push the manager to make the best efforts to raise the company's share price to benefit from the purchase option, and the use of dividends in the form of shares on managers, which prompts managers to investigate the best possible performance to maximize the value of its profits by maximizing the value of the company's shares. These methods contribute greatly to the unification of interests between shareholders and managers, but they were excluded from the research due to the limited disclosures related to management ownership and the incentives provided to the managers in Palestinian companies.

This study used the investment demand function and the HP filter to measure overinvestment as a proxy for the agency cost of free cash flow, as these two measures only give an indication that companies are exposed to the problem of overinvestment, but they cannot prove that these companies overinvest or not in reality.

This study uses many interaction variables that correlate with many variables, which may cause a problem of multicollinearity, which in turn may affect the level of statistical significance for some relationships, which gives misleading results.

List of Abbreviations

Abbreviations	Variables
FCF	Free cash flow
FP	Firm performance
OLS	Ordinary Least Squares
EBIT	Earnings before interest and tax
EBT	Earnings before tax
ROA	Return on asset
ROE	Return on equity
EPS	Earnings per share

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Appendices

Appendix (A) Diagnostic tests

This study adopts the OLS model (ordinary least squares) for estimating the model according to a linear relationship, as this model has conditions and controls that must be maintained for the estimation to be correct, namely (BLUE) that indicates the best linear unbiased estimator, although in actual fact it is difficult to obtain the optimal model, the best model must be obtained to describe this relationship.

1. The best model to represent a relationship

There are three well-known models for regression representation of panel data, which are pooled OLS, fixed effect, and random effect, where they differ among themselves in the value of the constant or intercept, which may differ according to the nature of the sample. This section provides a brief summary of each model and tests to find out which one is better for the sample of this study.

Pooled effect

This model considers that the value of the constant is the same for all companies and does not vary over time, meaning that the companies do not differ among themselves in terms of characteristics and do not change over time, which is further from reality, where the data structures are treated like time series in regression.

$$\text{Firm performance} = \alpha + \beta_1 \text{ size}_{I,t} + \beta_2 \text{ growth opportunity (Tobin Q)}_{I,t} + \beta_3 \text{ risk}_{I,t} + \beta_4 \text{ liquidity}_{I,t} + \beta_5 \text{ tangibility}_{I,t} + \beta_6 \text{ dividend}_{I,t} + \beta_7 \text{ debt}_{I,t} + \beta_8 \text{ overinvestment}_{I,t} + ë$$

where intercept (α) is the one that expresses the characteristics of the company and does not change between different companies or over time

Fixed effect

This model assumes that the characteristics of companies differ among themselves and that each company has its own constants, that is, different characteristics in terms of size, competitiveness, and the nature of the sector to which this company belongs, but these characteristics are constant for a single company over time. This model may represent the reality of the companies included in the sample Because they differ among

themselves (there is no homogeneity in their properties), and the variable that expresses the company has exhausted all its levels in the study.

Firm performance = $\alpha_i + \beta_1$ size $_{I,t} + \beta_2$ growth opportunity (Tobin Q) $_{I,t} + \beta_3$ risk $_{I,t} + \beta_4$ liquidity $_{I,t} + \beta_5$ tangibility $_{I,t} + \beta_6$ dividend $_{I,t} + \beta_7$ debt $_{I,t} + \beta_8$ overinvestment $_{I,t} + ë$

Where intercept (α_i) is the one that expresses the characteristics of the company, it differs between companies and distinguishes them from each other, but it does not differ over time for a single company, meaning that the characteristics of the company are fixed over time**.**

Random effect

But because this sample is drawn randomly from a larger population, and the individual characteristics of these companies are in the average of plus random error that expresses characteristics that change according to the company. This is because the levels of the independent variable may not be included in all of them in the current study because the sample is drawn from a larger population than it, and this random error has a variance and a constant mean

Firm performance = $\alpha_i + \beta_1$ size $_{I,t} + \beta_2$ growth opportunity (Tobin Q) $_{I,t} + \beta_3$ risk $_{I,t} + \beta_4$ liquidity $_{I,t} + \beta_5$ tangibility $_{I,t} + \beta_6$ dividend $_{I,t} + \beta_7$ debt $_{I,t} + \beta_8$ overinvestment $_{I,t} + w_{it}$

Where (w_{it}) represents a composite error term consisting of a part expressing the difference between companies and a part expressing the difference over time.

Table (1) Redundant fixed effect vs pooled effect test

Model	Cross-section F		Cross-section Chi-square	
	Statistic	Prob.	Statistic	Prob.
EBIT	9.25094	0.000	214.965	0.000
EBT	9.3821	0.000	217.093	0.000
ROA	9.55759	0.000	219.914	0.000
ROE	6.44783	0.000	165.204	0.000
EPS	36.5824	0.000	482.332	0.000

Table (1) represent Redundant fixed effect test to compare between pooled effect and fixed effect to exam panel data regression, this test has the following hypotheses:

H_0: the pooled model is better

H_1: the fixed effect is better

The results of this test indicate that all models (EBIT, ET, ROA, ROE, and EPS) have a probability value of 0.00, which is less than 5%. Therefore, we reject the null hypothesis and accept the alternative hypothesis that states that the random effect is better than pooled one.

Tale (2) Hausman test

Model	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
EBIT	10.010721	8	0.2643
EBT	10.885394	8	0.2083
ROA	10.598417	8	0.2255
ROE	12.904173	8	0.1152
EPS	36.90089	8	0.000

Table (2) represent Hausman test to compare between random effect and fixed effect to exam panel data regression, this test has the following hypotheses:

H_0: The random effects are consistent and efficient.

H_1: The random effects are inconsistent.

The results of this test indicate that models (EBIT, ET, ROA, and ROE) have a probability value of (0.2643, 0.2083, 0.2255, and 0.1152, respectively), which is more than 5%. Therefore, we do not reject the null hypothesis. This indicates that the random effect is better than the fixed effect, but the EPS model has a probability value of 0.00 which is less than 5%. Therefore, we reject the null hypothesis, which means the fixed effect is better.

Since most of the test results indicated that the Random Effect is better than the Fixed Effect, with the exception of the EPS model, the Random Effect model was adopted in all the models so that the comparison between these models would be more logical.

2. Multicollinearity test

Table (3) Multicollinearity test

	coefficient variance	VIF
Debt	0.000558	1.345744
Dividend	1.00E-07	1.010496
Growth	0.000157	1.330224
Liquidity	1.99E-07	1.281808
size	7.59E-07	1.272237
Tangibility	3.36E-04	1.45833
Risk	2.91E-01	1.36475
Overinvestment	8.12E-04	1.512511

The Multicollinearity test is concerned with the association between independent variables, and according to the hypothesis of the OLS regression model, there is no such association. The presence of this type of correlation works to amplify the variance or error criterion and reduce the value of the t-statistical. Therefore, it is possible to reject a certain statistical relationship that must be accepted. According to the above table (6.4), which represents the result of a test of multicollinearity, there is no value for the variance inflation factor (VIF) higher than 5. Therefore, there is no correlation problem between the independent variables.

3. Heteroskedasticity test

Tale (4) Heteroskedasticity test

Model	Value	Df	probability
EBIT	2.880594	31	0.000
EBT	298.8325	31	0.000
ROA	314.7391	31	0.000
ROE	389.3487	31	0.000
EPS	465.3003	31	0.000

The stability of error variance is considered one of the most important OLS hypotheses, where Homoskedastic indicates the stability of the variance of the error term in the right case, and Heteroskedasticity indicates the instability of the error variance, which is an improper condition, and this problem often results in cross-sectional data more than its presence in time series, and this does not It means that it does not exist in the time series, as the presence of this problem leads to obtaining an error less than the estimate,

and the T&F-statistical value is higher than the estimate. Therefore, it is expected to accept a statistical relationship that is rejected in the correct case.

The above table (4) displays the results of Heteroskedasticity test hat bear the following hypotheses:

H_0 homoscedasticity

H_1 heteroscedasticity

Therefore, all test results for all models (EBIT, EBT, ROA, ROE, and EPS) have a P value of 0.00, which is less than 5%. Therefore, rejecting the null hypothesis indicates the existence of a heteroskedasticity problem.

4. Serial autocorrelation

The problem of the existence of serial autocorrelation refers to the correlation of the error term for the current period with the error term for other periods, and the correlation may be with previous or later periods. This is due to several reasons, the most important of which is that the estimation model is not suitable, such as the use of the linear model to represent a logarithmic or exponential relationship, or the deletion or omission of one of the important variables in the model where the effect of these variables goes to the value of the error term. This type of correlation causes the R-square to rise in some cases from its actual value, as well as the estimated t-statistic value from its true amount, which results in the acceptance of a statistical relationship that is rejected in its actual reality.

Table (5) serial correlation LM test

Model	F-statistic	Probability
ROA	29.9389	0.0000
ROE	12.9867	0.0000
EBIT	28.4678	0.0000
EBT	51.2647	0.0000
EPS	20.6759	0.0000

Table (5) indicates the results of the serial correlation LM test, all of which show a P value of less than 5% in all models, which indicates the existence of the serial correlation problem, where the random effect model was used in an attempt to solve or reduce the problems of heteroscelesity and serial correlation at the same time.

Appendix (b) Estimation of over-investment

Table: New investment regression

Variable	coefficient	t-statistic	std. error
Debt	-0.7454	-8.3173	(0.0896) ***
Risk	0.2303	0.3159	(0.7289)
Size	0.0270	2.4313	(0.0111)
sell growth	0.0100	0.3902	(0.0257)
asset turn over	-0.0002	-0.3706	(0.0005)
growth option	-0.0488	-0.9410	(0.0518)
FCF	0.0308	0.3226	(0.0955)
C (constant)	0.0747	0.3804	(0.1965)

Table shows the results of the new investment sub-regression to apply the investment demand function and extract the residuals from this model to represent overinvestment as a proxy for expressing agency problems for free cash flow.

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في جامعة النجاح الوطنية في نابلس، فلسطين

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الملخص

يعتبر التدفق النقدي الحر (FCF) من المصادر الأساسية لمشاكل الوكالة بين الإدارة والمساهمين الناتجة عن فصل الإدارة عن المالكين واستخدام هذه الأموال بشكل لا يخدم مصالح المساهمين يضر بأداء الشركة، لذلك يسعى المالكون للحد من هذه السلوكيات من خلال التحكم في السياسات المالية التي من شأنها أن تقلل من التدفق النقدي الحر (FCF) في أيدي المديرين.

الهدف: هدفت هذه الدراسة إلى التحقق من تأثير الاستثمار المفرط كوكيل لمشكلة الوكالة للتدفق النقدي الحر على أداء الشركة والدور الوسيط الذي يلعبه كل من سياسة الدين وسياسة توزيع الأرباح في الحد من الأثر السلبي للإفراط في الاستثمار على الأداء المالي للشركات الفلسطينية.

المنهجية: تكونت عينة الدراسة من 31 شركة غير مالية مدرجة في بورصة فلسطين للأوراق المالية (PSE) من 2010 إلى 2019 حيث تم جمع البيانات المحاسبية يدويًا من التقارير المالية (الميزانية العمومية وبيان الدخل) وتم جمع بيانات السوق من موقع بوصة فلسطين للأوراق المالية (PSE). اعتمدت هذه الدراسة على الاستثمار المفرط كوكيل لتكلفة الوكالة للتدفق النقدي الحر (FCF) وتم قياسها من خلال دالة طلب الاستثمار، حيث استخدمت الدراسة نموذج المربعات الصغرى العادية (OLS) لتقدير هذه العلاقات.

النتائج: وجدت هذه الدراسة أن الاستثمار المفرط يؤثر سلبًا على أداء الشركات الفلسطينية المقاسة بخمسة مقاييس محاسبية (EBIT, EBT, ROA, ROE,EPS)، وأيضًا أن الدين يمكن أن يخفف من الأثر السلبي للاستثمار المفرط على الأداء المالي، وهو ما يتوافق مع نظرية جنسن. 1986 للتدفق النقدي الحر (FCF). من

ناحية أخرى، لم تجد الدراسة دليلاً على دور سياسة توزيع الأرباح في الحد من الأثر السلبي للاستثمار الفـــرط على أداء الشركات الفلسطينية، ولم يثبت الجمع بين سياسة الدين وسياسة توزيع الأرباح أي تأثير كبير.

الاستنتاجات: أوصت هذه الدراسة باستخدام الديون كأداة فعالة للحد من مشاكل الوكالة في الشركات الفلسطينية، وكذلك إعادة تطبيق الدراسة على القطاع المالي والشركات في البلدان المجاورة حتى نتمكن من تعميم النتـــائج بشكل أكثر موثوقية.

الكلمات المفتاحية: التدفق النقدي الحر، مشكلة الوكالة، سياسة توزيع الأرباح، سياســـة الـــدين، أداء الشـــركة، فلسطين.