

# Tobin's Q Of Mining & Extraction Organizations Associations Listed In Amman Stock Exchange And The Effect Of Specific Financial Determinants On Them

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## ABSTRACT

Tobin's Q Ratio, as an estimation and valuation apparatus for organizations, have been utilized broadly under various settings. This exploration concentrate on joins two various relapse models utilized in an alternate setting in both Indonesia and Iran to examine the connection between the company's worth, addressed by Tobin's Q proportion, as a reliant variable and absolute resources, return on resources, obligation proportion and free income as autonomous factors. The review chooses the recorded organizations under the mining and extraction area in Amman Stock Exchange. The scope of the information gathered is between 2005 to 2020 and Microsoft Excel is utilized to break down the information through it to acquire the factual depiction, Pearson Correlation Coefficient and Multiple Regression results. The review presumes that there is a critical and positive connection between the company's worth and its profit from resources. Additionally, there is a moderate and positive connection between the association's worth and its free income and absolute resources, opposite and moderate connection between company's worth and its obligation proportion.

**Key Words:** Amman Stock Exchange, Debt Ratio, Free Cash Flow (FCF), Return on Assets (ROA), Total Asset, Tobin's Q.

## 1. Introduction

Tobin's Q proportion is widely utilized as an assessment and estimation instrument for speculation valuable open doors. Consequently, assuming the Tobin's Q proportion is a substantial assessment and estimation instrument, this exploration paper ought to research its relationship with the all-out resources, return on resources, obligation proportion and free income. It is actually quite significant that Tobin's Q proportion is characterized as the company's reasonable worth isolated by its resources' substitution cost.

Hence, the principle reason for this exploration paper is to examine the effect of the obligation proportion, all out resources, free income, and return on resources on the organizations' worth of the recorded mining and extraction organizations in Amman Stock Exchange (ASE) in view of joining two models where the main model tried three autonomous factors with Tobin's Q in Tehran Stock Exchange by

Mansourlakoraj and Sepasi in 2015 and the subsequent model tried one autonomous variable with Tobin's Q in the Indonesia Stock Exchange by Al Ghifari, Triharjono, and Juhaeni in 2013.

Consequently, this research paper will express the exploration issue from the peculiarities being referred to's point. It will likewise clarify its significance from four key contentions connected with those partners. Thus, it will decide its goals thinking about the model to be utilized and the critical partners of this area.

Besides, the hypothetical structure area will use five hypotheses connected with the exploration paper's targets as well as relating them to the reliant variable, which is in everyday the association's valuation, and to the four autonomous factors, which are complete resources, return on resources, obligation proportion and free income. Accordingly, those five speculations are the Agency Theory, the Capital Structure Theory, the Static Trade-off Theory, the

Pecking Order Theory, and the Free Cash Flow Hypothesis.

Besides, the writing survey segment will audit and sum up twelve unique, later, and applicable scholarly articles to investigate the relationship, impact, as well as effect of Tobin's Q proportion, as an estimation of a company's worth, on the chose association's all out resources, free income, obligation proportion, and additionally return on resources.

Moreover, the part of information and technique portrays the idea of the review, decides the wellsprings of information, the time scope of the information to be gathered which is between 2005 to 2018. Moreover, it likewise decides the populace which is the 10 recorded organizations under the mining and extraction area in Amman Stock Exchange as well as presents the examination model utilizing the numerous relapse investigation.

### 1.1. Research Problem

The peculiarities, which this examination paper plans to address, is the effect of particular monetary determinants that are obligation proportion, all out resources, return on resources and free income on the business valuation for a chose area in Amman Stock Exchange. Also, the exploration paper will involve Tobin's Q as a valuation estimation proportion. In addition, the examination paper is additionally addressing a hole in the applicable writing connected with the picked subject and area in the chose monetary market, which are the business valuation utilizing Tobin's Q proportion, the mining and extraction area, and Amman Stock Exchange individually. At last, this examination paper will help the vital partners of those recorded firms in knowing such a relationship to either settle on an educated venture or financing choice to the chose populace.

### 1.2. Research Importance

This research is vital to the partners and stakeholders of the Jordanian mining and extraction sector, as a rule, and to those, straightforwardly and in a roundabout way, connected with the recorded organizations in Amman Stock Exchange specifically. Where the vital partners of the exploration are the controllers of this area and monetary protections, nearby, public, local, and worldwide loaning organizations of this area, Jordanian, Arab, and Non-Arab value financial backers, merchants and specialists, and scholarly scientists (Gitman and Zutter, 2012).

Initially, it is significant for the regulators of this sector as the complete resources of all organizations recorded in Amman Stock Exchange developed from JOD 1.080 billion as of 31st December 2005 to JOD 2.538 billion as of 31st December 2018, all in all, the area developed by over 135% in 14 years. Simultaneously, the area additionally saw posting two organizations during this period. The primary posting and first sale of stock was for The United Iron and Steel Manufacturing Company, which was laid out in 1992 and recorded in 2007. The subsequent posting and first sale of stock was for The Northern Cement Company, which was laid out in 2007 and recorded in 2010. Henceforth, the controllers of this area will have an extraordinary premium in the constant development of this area and increment the quantity of recorded firms to draw in nearby, public, territorial, and unfamiliar capital and speculations (Amman Stock Exchange, 2020; Gitman and Zutter, 2012; Jordan and Miller, 2009).

Furthermore, this scholastic exploration will likewise be an incredible important to loaning foundations as the all out liabilities of the area additionally developed from JOD 421 million as of 31st December 2005 to JOD 872 million as of 31st December 2014 over the most recent 14 years, at the end of the day, the area loaning limit developed by 107%. This can be a positive marker for the loaning establishments as those recorded firms ended up being reliable (Amman Stock Exchange, 2020; Gitman and Zutter, 2012; Jordan and Miller, 2009).

This academic research will likewise be an incredible important to loaning foundations as the all out liabilities of the area additionally developed from JOD 421 million as of 31st December 2005 to JOD 872 million as of 31st December 2014 over the most recent 14 years, at the end of the day, the area loaning limit developed by 107%. This can be a positive marker for the loaning establishments as those recorded firms ended up being reliable (Amman Stock Exchange, 2020; Gitman and Zutter, 2012; Jordan and Miller, 2009).

Ultimately, traders and brokers manage the securities accessible for exchanging too as academic researchers can have an extra view, aspect and knowledge of the key factors that can influence the valuation of the organizations recorded in this area (Amman Stock Exchange, 2020; Gitman and Zutter, 2012; Jordan and Miller, 2009).

All in all, this academic research is essential to regulators, loaning establishments, equity investors,

brokers, traders, and academics as it will determine if obligation proportion, capital design, absolute resources, free income and return on resources influence the worth of the organizations in recorded in the mining and extraction areas in Amman Stock Exchange. Furthermore, it additionally fills in this research hole by observationally examining this connection. Ultimately, the discoveries will hold any importance with Jordanian capital market members (Amman Stock Exchange, 2020; Mansourlakoraj, et al., 2015; Al Ghifari, et al., 2013; Gitman and Zutter, 2012; Jordan and Miller, 2009; Fosberg and Ghosh, 2006).

### 1.3. Research Objectives

The research goals of this paper are in accordance with the reasonable structure of monetary announcing gave by the International Accounting Standards Board (IASB) that burdens giving valuable data to financial backers, loan specialists and different banks (Conceptual Framework for Financial Reporting, 2018). In this way, it will zero in on four critical autonomous factors and insightful the connections of those four free factors with Tobin's Q proportion of the recorded organizations in the mining and extraction area in Amman Stock Exchange through utilizing a joined model from two examination scholarly papers from Indonesia and Iran (Mansourlakoraj, et al., 2015, Al Ghifari, et al., 2013).

Subsequently, the primary targets of the research paper are first to add to the comprehension of the factors influencing Tobin's Q of recorded mining and extraction organizations in Amman Stock Exchange. Besides, the research paper means to decide the connection between corporate worth, utilizing Tobin's Q, to the obligation proportion, complete resources, and free income (Mansourlakoraj, et al., 2015). At last, it additionally expects to decide the connection between corporate worth, utilizing Tobin's Q, to the profit from resources. (Al Ghifari, et al., 2013).

Accordingly, this research paper will introduce a top to bottom outcome utilizing the four independent factors, which are total assets, debt ratio, free cash flow and return on assets, with the reliant variable that is Tobin's Q (Mansourlakoraj, et al., 2015, Al Ghifari, et al., 2013).

## 2. The Theoretical Framework

The theoretical framework area will address initially the office hypothesis through summing up the first article as well as nine scholarly diaries where it features the connection between the organization hypothesis and the capital design, level of obligation, the size of the firm and the valuation Secondly, this part gives an outline of the capital construction hypothesis through summing up the vital two articles as well as nine scholastic diaries. Thirdly, this part likewise centers around the vital contentions and investigation displayed in the static compromise hypothesis and the dominance hierarchy hypothesis through the first articles and six scholastic diaries. At long last, the hypothetical structure area surveys the free income theory through the outline of its unique article and other nine scholarly diaries (Jensen, 1986; Myers, and Majluf, 1984; Myers, 1984; Myers, 1977; Jensen and Meckling, 1976; Modigliani and Miller, 1963; Modigliani and Miller, 1958).

### 2.1. The Agency Theory

The agency theory, initially created and proposed by Jensen and Meckling in 1976, expects that the interests between the head and specialist changes continually because of a few variables, for example, the circulation of money profits that inclines toward the directors or saving held income for reinvestment purposes that inclines toward the specialists. Subsequently, these clashing perspectives can make a hole and crack between the chiefs who look to augment the profit from their speculations and accomplish a higher valuation for their ventures and the specialists who need to control the assets, specifically monetary assets, and accomplish a great position with regards to speculation direction (Dakhlallh, et al., 2020; Khan, et al., 2019; Al-Jamaan, 2018; Ibrahim, 2017; Muchtar, et al., 2018; Rahman, et al., 2017; Maxwell, et al., 2012; Chowdhury, et al., 2010; Fosberg, et al., 2006; Jensen and Meckling, 1976).

Simultaneously, the agency theory's supporters contend that the size, the capital design, and level of obligation can bring down the office cost and its pertinent results. Accordingly, the supporters of such a hypothesis initially contend that the greater the size of the firm, the lower the office cost. Thusly, the hole between the interests of chiefs and specialists will be limited as well as the specialists won't act against the administrators' advantages. Likewise, the promoters additionally contend that huge size firms generally have better administration (Dakhlallh, et al., 2020; Khan, et al., 2019; Al-Jamaan, 2018; Ibrahim, 2017; Muchtar, et al., 2018; Rahman, et al., 2017; Maxwell,

et al., 2012; Chowdhury, et al., 2010; Fosberg, et al., 2006; Jensen and Meckling, 1976).

## 2.2. The Capital Structure Theory

Essentially, the capital structure of the firm can likewise be impacted by the agency theory as the proprietorship is isolated from the administration where the specialists can use such a partition for their potential benefit and act against the chiefs' advantages. Thusly, the organization hypothesis accepts the more elevated level of obligation, leaning toward the utilization of obligation instead of value, can likewise bring down the expense of specialists as the specialists will be compelled to manage moneylenders, for the most part banks and other monetary delegates, to back the speculations looked for by them and should be mindful and responsible to their banks as the need might arise to exhibit that they are financially sound as a firm and skillful as a supervisor. As one of the outcomes, the association's valuation will be higher as the specialists are choosing practical and benefit producing ventures (Dakhlallh, et al., 2020; Khan, et al., 2019; Al-Jamaan, 2018; Ibrahim, 2017; Muchtar, et al., 2018; Rahman, et al., 2017; Maxwell, et al., 2012; Chowdhury, et al., 2010; Fosberg, et al., 2006; Jensen and Meckling, 1976).

The capital structure theory, initially created by Modigliani and Miller in 1958 and returned to by them in 1963, for the most part investigates the connection between the capital design and the value of the firms. The researchers involved a few doubtful yet sketchy suspicions in which they demonstrated that the capital construction shouldn't impact the worth of the firm. Simultaneously, they demonstrated that there are a few prerequisites that make the capital design unessential, for example, the utilization of the two wellsprings of money by a firm that is obligation and value, disregarding the impact of expenses, the pay created in a specific period isn't held, and the financing blend utilized by a firm has no impact on the business risk (Hanna, 2020; Hirdinis, 2019; Ogbonna, et al., 2019; Sharif, 2019; Thalib, et al., 2019; Adamczyk, et al., 2017; Vo, 2017; Arsov, et al., 2016; Masidonda, et al., 2013; Modigliani and Miller, 1963; Modigliani and Miller, 1958).

Simultaneously, the researchers additionally set specific necessities that made the capital structure relevant and thusly influence the worth of the firm. Subsequently, they created contentions over the ideal capital structure and how might obligation decline the worth of the firm assuming it arrives at specific

levels. Moreover, most investigates have arisen from that point forward that intended to enhance their discoveries. The research were at first centered around limiting the financing costs through suggesting the optimal capital structure, at the end of the day, targeted debt-to-equity ratio (Hanna, 2020; Hirdinis, 2019; Ogbonna, et al., 2019; Sharif, 2019; Thalib, et al., 2019; Adamczyk, et al., 2017; Vo, 2017; Arsov, et al., 2016; Masidonda, et al., 2013; Modigliani and Miller, 1963; Modigliani and Miller, 1958).

## 2.3. The Static Trade-off Theory & The Pecking Order Theory

The Static Trade-Off Theory, presented by Myers in 1977, and Pecking Order Theory, presented by Myers and Majluf in 1984, have changed the accentuation toward investigating the variables affecting capital construction under various settings. Along these lines, the analysts contended that the financing normally comes from giving new value, utilizing inward assets or potentially getting. Subsequently, the shift has been toward making sense of the reasons of a specific way of behaving of organizations with respect to financing, as opposed to just deciding a one-size-fits-all arrangement (Al-Ghamdi, et al., 2018; Kamau, et al., 2018; Mohammad, 2016; Memon, et al., 2015; Lawal, 2014; Fama, et al., 2001; Myers, and Majluf, 1984; Myers, 1984; Myers, 1977).

In similar time, the analysts contended that the organizations normally focus on the chose wellsprings of financing in which the organizations like to utilize their inner assets, then, at that point, acquiring and enduring raising capital. They additionally contended that this pecking order of financing implies expects that organizations incline toward the interior sources when such assets are free, where a particularly monetary way of behaving is pretty much connected with the office hypothesis. In like manner, the organizations favor the issuance of obligation instead of value as the expense of financing is lower. The researchers promoted such a contention because of the way that the administrators find out about the firm than financial backers and when directors decide to give new value, financial backers respond by bringing down the worth of the new issuance as financial backers accept that chiefs are over-esteeming the firm for their potential benefit (Al-Ghamdi, et al., 2018; Kamau, et al., 2018; Mohammad, 2016; Memon, et al., 2015; Lawal, 2014; Fama, et al., 2001; Myers, and Majluf, 1984; Myers, 1984; Myers, 1977).

## 2.4. The Free Cash Flow Hypothesis

The Free Cash Flow Hypothesis, presented by Jensen in 1986, expected that supervisors will quite often put the abundance of assets in bad net present worth ventures and thusly bring down the valuation of the firm. It justifies its contention because of a key element which is the irreconcilable circumstance between corporate chiefs and investors, as such, the organization hypothesis, and the pertinent office cost. The article distributed by Jensen has additionally fostered a hypothesis to handle such an issue where it prescribes financing the organization through obligation to diminish the office cost (Smith, et al., 2019; Bhandari, et al., 2017; Hau, 2017; Maksy, 2017; Maksy, 2016; Maksy, 2015; Maksy, et al., 2014; Al Zararee, et al., 2014; Jensen, 1986).

Taking everything into account, the Agency Theory's discoveries propose that the firm will have a high valuation when it is an enormous size firm, has a high obligation proportion, and uses obligation more than value to fund its resources (Dakhlallh, et al., 2020; Khan, et al., 2019; Al-Jamaan, 2018; Ibrahim, 2017; Muchtar, et al., 2018; Rahman, et al., 2017; Maxwell, et al., 2012; Chowdhury, et al., 2010; Fosberg, et al., 2006; Jensen and Meckling, 1976). Also, the capital design hypothesis' discoveries propose that the firm will have a high valuation when it utilizes the Optimal Capital Structure; thinking about the satisfactory degree of obligation to fund its resources (Hanna, 2020; Hirdinis, 2019; Ogbonna, et al., 2019; Sharif, 2019; Thalib, et al., 2019; Adamczyk, et al., 2017; Vo, 2017; Arsov, et al., 2016; Masidonda, et al., 2013; Modigliani and Miller, 1963; Modigliani and Miller, 1958). Besides, the Pecking Order Theory proposes that the firm will have a high valuation, particularly when it needs outside financing, when it decides to give obligation instead of value as obligation's expense is lower than the expense of giving value (Al-Ghamdi, et al., 2018; Kamau, et al., 2018; Mohammad, 2016; Memon, et al., 2015; Lawal, 2014; Fama, et al., 2001; Myers, and Majluf, 1984; Myers, 1984; Myers, 1977). Ultimately, the Free Cash Flow Hypothesis additionally contends for the office hypothesis, capital design hypothesis and the dominance hierarchy hypothesis, where it expresses that the firm will have a high valuation when it funds its venture using obligation instead of its interior assets or giving new value as directors will generally put the association's excess in impossible speculations and undertakings (Smith, et al., 2019; Bhandari, et al., 2017; Hau, 2017; Maksy, 2017; Maksy, 2016; Maksy, 2015; Maksy, et al., 2014; Al Zararee, et al., 2014; Jensen, 1986).

## 3. Literature Review

The literature review area will examine explicitly the important and related writing to the examination study being referred to. This part will audit and sum up 12 later, pertinent and related past examinations led in 9 unique economies where those new investigations chose different areas to investigate the relationship, impact, or potentially effect of Tobin's Q proportion, as a measurement of a firm's value, on the selected firm's total assets, free cash flow, debt ratio, and/or return on assets.

Initially, Dang, Vu, Ngo, and Hoang (2019) concentrated on 214 organizations recorded in the Vietnamese Stock Market in which their review zeroed in on the impact of the size of the firm, its capital structure, and productivity on the firm worth. Moreover, the specialists proposed four experimental theories in which the primary theory expects that there is a positive and huge connection between the development of the firm and its worth. The subsequent speculation accepts that there is a positive and huge connection between the size of the firm and its worth. The third speculation expects that there is a positive and critical connection between the capital construction of the firm and its worth. The fourth and last theory expects that there is a positive and huge connection between the productivity of the firm and its worth. It is worth focusing on that the size of the firm is estimated by utilizing the all-out resources.

Thus, the researchers involved two models to test their populace in which they involved the venture esteem as a reliant variable in the principal model. Where the endeavor esteem was estimated as the market capital and adding to it the drawn-out obligation bearing revenue and deducting the amount of referenced things from the endlessly cash likeness the chose firms during the given time frame. The subsequent model involved Tobin's Q as a reliant variable. Moreover, the researchers utilized straightforward direct relapse to concentrate on the impact between the factors. Moreover, the researchers observed that there is a positive and critical connection between the firm worth and its size and benefit. Essentially, the researchers observed that the capital construction has a negative relationship with the company's worth. Finally, the firm's development has not shown any relationship with the company's worth during the given time frame (Dang, Vu, Ngo, and Hoang, 2019).

Also, Khan, Noman, Mustafa, and Abbasi (2019) led examination to concentrate on the connection

between the firm performance, which is measured by Tobin's Q is the dependent variable, and the firm size, which is measured by its total assets, leverage, which is measured by debt ratio, as well as the board size and the quantity of outside chiefs. It is important that the examination utilized the wording of firm execution demonstrating the association's worth. Besides, the scientists proposed three theories where they utilized the various relapse examination to break down the information gathered from 130 non-monetary recorded organizations in the Pakistani Stock Exchange between 2012 to 2015. Taking everything into account, the specialists tracked down that the company's influence, affected by the size of the top managerial staff, has a huge and positive relationship with the company's exhibition.

Thirdly, Abdul Salam and Shourkashti (2019) concentrated on the firm performance and capital structure in Malaysia for the non-monetary recorded organizations between 2005 to 2016. The researchers proposed three speculations, where the main hypothesis expected that the capital construction has a negative and critical relationship with the association's exhibition and the third speculation accepted that there is no direct connection between the capital design of the firm and its presentation. Moreover, the examination utilized Tobin's Q, notwithstanding the company's profit from resources and return on value, to quantify the firm exhibition where it likewise demonstrates the association's worth.

Additionally, the researchers utilized the obligation proportion and long-haul obligation to add up to resource proportion to quantify the capital design. Additionally, the scientists utilized direct relapse examination to dissect the information gathered for their exploration. To summarize, the specialists observed that there is a negative and huge relationship between the capital structure of the firm and its value (Abdul Salam and Shourkashti, 2019).

Fourthly, Al-Majali and Shamsuddin (2019) concentrated on the connection between the capital structure and the performance of the chose 19 insurance agencies recorded in Amman Stock Exchange from 2008 to 2017. The specialists used to demonstrate to test the connection between the factors where the primary model involved the profit from resources as a reliant variable to quantify the company's exhibition and the subsequent model involved Tobin's Q as a reliant variable to gauge the association's presentation. It is important that the analysts estimated the capital design utilizing two

autonomous factors which are the momentary obligation to add up to resources proportion and long-haul obligation to add up to resources. Also, the analysts utilized the different straight relapse to investigate the gathered information where they observed that momentary obligation and long-haul obligation has a negative and critical relationship with the subsequent model.

In similar style, Zulvina and Adhariani (2019) concentrated on the connection between ladies' chief situations in the recorded assembling organizations in the Indonesian Stock Exchange somewhere in the range of 2016 and 2017 with their worth. The scientists utilized Tobin's Q, as a reliant variable, to esteem the chose firms and utilized the size, addressed by the complete resources, benefit, addressed by the profit from resources, influence, addressed by obligation proportion, and the age of the chose firms as control factors. In any case, they observed that the free factor that is having a CEO female has no critical impact on the company's worth. Simultaneously, they observed that the other free factor that is having a CFO female affect the association's worth. Also, they reasoned that the profit from resource, obligation proportion and complete resources as well as the age of the firm and having either a female CEO or CFO impact at the same time the worth of the chose firms.

Additionally, Husaini, Saiful, Saputra, and Albra (2019) likewise involved Tobin's Q as a reliant variable to quantify the worth of 95 Islamic and 858 non-Islamic recorded organizations in Indonesia Stock Exchange, where their review has 7 distinct free factors. Three of which are benefit, estimated by the profit from resources, size, estimated by the all-out resources, and influence, estimated by obligation proportion. Their review gathered information from the previously mentioned recorded organizations somewhere in the range of 2011 and 2015 as well as examining them through utilizing the numerous straight relapses, where they observed that first and foremost the profit from resources has a positive and huge relationship on the worth of the Islamic and non-Islamic recorded firms. Besides, they observed that the obligation proportion has a positive and critical relationship with the worth of the Islamic and non-Islamic recorded firms. At last, they likewise observed that there is no connection between the absolute resources and the chose recorded firms.

Besides, Kadioglu, Kilic, and Yilmaz (2017) contemplated and tried the relationship between the free cash flow and firm's performance of 370

organizations recorded in Borsa Istanbul somewhere in the range of 2009 and 2015. Also, the presentation of the organizations was estimated by utilizing Tobin's Q. Generally speaking, the specialists observed that there is a negative and huge connection between the free income of the chose firms and the company's worth in which it such an end upholds the free income speculation and the organization hypothesis.

Additionally, Fu, Singhal, and Parkash (2016) noticed the recorded organizations in the United States from 1988 until 2014, where the researchers meant to give experimental proof finishing up the connection between Tobin's Q and the future working exhibition of those recorded organizations tried in their model. Their model utilized income before interest, assessments, deterioration, and amortization as the intermediary of their working exhibition for their example. Moreover, the example of their review comprised of 56,719 firms/years. The researchers observed that there is a positive and critical connection between Tobin's Q proportion and income before interest, assessments, devaluation, and amortization.

In like manner, Tabrizi (2016) analyzed the connection between the capital structure, free cash flow and operational risks and the firm's performance in Iran somewhere in the range of 2008 and 2012. Tabrizi (2016) proposed three speculations for his research where all theories accepted that there is a positive and huge connection between the capital structure, free cash flow and operational risks and the firm's performance. Likewise, the researcher involved Tobin's Q as a reliant variable and estimation of an association's exhibition. The analyst inferred that there is a positive and critical connection between the capital structure, free cash flow and operational risks and the firm's performance.

Also, Nakhaei and Jafari (2015) exploring the connection between the capital structure and free cash flow with companies' performance in Tehran Stock Exchange inferred that there was a critical and negative connection between the capital structure and the listed organizations' value and a huge and positive connection between the free cash flow and the companies' value somewhere in the range of 2009 and 2013.

#### 4. Research Hypotheses

This research paper has four main hypotheses to investigate which are:

H1 There is a significant and negative relationship between free cash flow and firm value.

H2 There is a significant and negative relationship between debt ratio and firm value

.H3 There is a significant and negative relationship between return on assets and firm value.

H4 There is a significant and negative relationship between the total assets of the firm and firm value.

### 5. Data and Methodology

#### 5.1. Nature of the Study, Sources of Data & Time Reference

This research paper is comparative research and investigating the cause and effect of the variables proposed in this proposal. Whereas the sources of data shall be the audited annual reports of the listed companies in the Amman Stock Exchange between 2005 and 2020.

#### 5.2. The Population

The population of this research paper is 7 companies under mining and extraction industries sector listed companies in Amman Stock Exchange. Which are as follows:

The Study's Population (Amman Stock Exchange, 2021)						
No.	Company Name	Year of Establishment	Reuters Code	Market	Listed Trading Shares	Data Range
1.	The Arab Aluminum Industry Company	1976	AALU	First Market	6,750,000	2005 – 2020
2.	The National Steel Industry Company	1979	NAST	Second Market	2,941,768	2005 – 2020
3.	Jordanian Phosphate Mines Company	1949	JOPH	Second Market	82,500,000	2005 – 2020
4.	The Arab Potash Company	1956	APOT	First Market	83,317,500	2005 – 2020
5.	The Jordan Steel Company	1993	JOST	Second Market	35,000,000	2005 – 2020
6.	National Aluminum Industries Company	1994	NATA	Second Market	9,000,000	2005 – 2020
7.	Northern Cement Company	2007	NCCO	First Market	55,000,000	2010 – 2020

### 6. Conclusion

This research paper finishes up first and foremost just Tobin Q Ratio and obligation proportion have a lower standard deviation than its mean. Hence, this shows that the other free factors utilized were dissipated from the mean. Besides, this exploration paper exhibits measurably, utilizing Pearson Correlation Coefficient, that there is a positive connection between the company's worth and its free income, its absolute resources and its profit from resources as well as showing that there is a negative connection between the association's worth and its obligation proportion.

Accordingly, this research paper first and foremost oddballs the main theory which expects that there is a critical and negative connection between the free income and firm worth as there was a huge and moderate positive connection between the free income and firm incentive for the period being referred to.

Also, this research paper dismisses the second speculation which expects there is a critical and negative connection between obligation proportion and firm worth as the connection between of them is inconsequential and tolerably negative,

Thirdly, this research paper likewise dismisses the third speculation which expects that there is a critical and negative connection between return on resources and firm worth as the connection between of them is huge and their relationship is positive.

At long last, this research paper dismisses the fourth theory which expects that there is a huge and negative connection between the complete resources of the endlessly firm worth as the connection between of them is inconsequential and modestly certain.

Subsequently, the aftereffects of this research paper concur somewhat with the discoveries of both Mansourlakoraj and Sepasi (2015), who observed that each free income has a positive and critical relationship with the association's worth utilizing Tobin's Q. In any case, it goes against with them in regard to the positive and critical connection between the capital construction and the company's worth utilizing Tobin's Q. Moreover, the research paper concur with the discoveries of Al Ghifari, Triharjono, and Juhaeni, (2013), who observed that there is a positive and critical connection between the firm

worth utilizing Tobin's Q proportion and the profit from resources.

## 6.1. Recommendations for Future Research

It has been suggested that future studies in this field thinks about the fallout of the COVID-19 pandemic on this area as it is normal that the worldwide exchange and nearby interest will decline forcefully in which it will influence the valuation of those organizations as it is normal to have a lower return on resources, higher obligation proportion, negative free incomes and avoiding the size of their absolute resources.

## 6.2. Limitation

This research paper is restricted to the recorded firms in the mining and extraction area in Amman Stock Exchange. Along these lines, future studies ought to think about research other private firms not recorded in Amman Stock Exchange.

## References

1. Abdul Salam, Z. & Shourkashti, R. (2019) "Capital Structure and Firm Performance in Emerging Market: An Empirical Analysis of Malaysian Companies", *International Journal of Academic Research in Accounting, Finance, & Management Studies*, Vol. 9, No. 3, pp. 70-82.
2. Adamczyk, P. & Zbroszczyk, A. (2017) "A key factor of the DCF model coherency", *Journal of Economics and Management*, Vol. 28, No. 2, pp. 5-22.
3. Al-Ghamdi, A., Donleavy, G., Al Farooque, O., Anderson, J. & Khan, A. (2018) "Theories Linking Capital Structure with Financial Performance 2018", *Australian Academy of Accounting and Finance Review*, Vol. 4, No. 4.
4. Al Ghifari, E., Triharjono, S. & Juhaeni, Y. (2013) "Effect of Return on Assets (ROA) Against Tobin's Q: Studies in Food & Beverage Company in Indonesia Stock Exchange Years 2007-11", *International Journal of Science & Research*, Vol. 1, No. 1.
5. Al-Jamaan, B. (2018) "Capital Structure: Definitions, Determinants, Theories and Link With Performance Literature Review", *European Journal*



of Accounting, Auditing and Finance Research, Vol.6, No.2, pp.49-72.

6. Al-Majali, M., & Shamsuddin, Z. (2019) "The Effect of Capital Structure on Performance of Insurance Companies: Evidence from Jordan". *International Journal of Accounting, Finance and Business*, Vol. 4, No. 20, pp. 64 - 73.

7. Al Zararee, A. & Al-Azzawi, A. (2014) "The Impact of Free Cash Flow on Market Value of Firm", *Global Review of Accounting and Finance*, Vol. 5. No. 2., pp. 56 – 63.

8. Amman Stock Exchange 2021, Audited Annual Reports of The Arab Aluminum Industry Company, The National Steel Industry Company, Jordanian Phosphate Mines Company, The Arab Potash Company, The Jordan Steel Company, National Aluminum Industries Company, and Northern Cement Company, Amman Stock Exchange, viewed 5th November 2021, <<https://www.ase.com.jo/en/products-services/securities-types/shares>>.

9. Arsov, S. & Naumoski, A. (2016) "Determinants of Capital Structure: An Empirical Study of Companies from Selected Post-Transition Economies", *Journal of Economics and Business*, Vol. 34, No. 1, 2016, pp. 119-146.

10. Bhandari, S. & Adams, M. (2017) "On the Definition, Measurement, and Use of the Free Cash Flow Concept in Financial Reporting and Analysis: A Review and Recommendations", *Journal of Accounting and Finance*, Vol. 17, No. 1.

11. Chowdhury, A. & Chowdhury, S. (2010) "Impact of capital structure on firm's value: Evidence from Bangladesh", *Business and Economic Horizons*, Vol. 3, No. 3, pp. 111-122.

12. Dakhallh, M., Rashid, N., Abdullah, W., & Al Shehab, H. (2020) "Audit Committee and Tobin's Q As A Measure of Firm Performance among Jordanian Companies", *Journal of Advanced Research in Dynamical & Control Systems*, Vol. 12, No. 1.

13. Dang, H., Vu, V., Ngo, X. & Hoang, H. (2019) "Study the Impact of Growth of Firm Size, Capital Structure, & Profitability on Enterprise Value: Evidence of Enterprises in Vietnam, *The Journal of Corporate Accounting & Finance*, Vol. 30, No. 1, pp 144-160.

14. Fama, E. & K. French, (2001) "Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay", *Journal of Financial economics*, Vol. 60, pp. 3-43.

15. Fosberg, R. H., & Ghosh, A. (2006) "Profitability and capital structure of AMEX and NYSE Firms", *Journal of Business & Economic Research*, Vol. 4, No.11, pp. 57-64

16. Fu, L., Singhal, R., & Parkash, M. (2016) "Tobin's q Ratio & Firm Performance", *International Research Journal of Applied Finance*, Vol. 7, No. 4.

17. Gitman, L. & Zutter, C. (2012) "Principles of Managerial Finance", 13th Edition, Pearson Prentice Hall, Boston.

18. Groebner, D., Shannon, P., Fry, P. & Smith, K. (2005) "Business Statistics: A Decision-Making Approach", 6th Edition, Prentice-Hall, New Jersey.

19. Hanna, R. (2020) "Capital Structure Determinants, Dynamics And Speed Of Adjustment Towards Target Leverage: A Systematic Literature Review Of Empirical And Theoretical Disciplines", *International Journal of Recent Scientific Research*, Vol. 11, No. 02, pp. 37517-37528.

20. Hau, L. (2017) "Free cash flow and firm performance: Evidence from sectoral levels for Vietnamese listed firms", *International Journal of Advanced Engineering, Management and Science*, Vol. 3, No. 4.

21. Hirdinis, M. (2019) "Capital Structure and Firm Size on Firm Value Moderated by Profitability", *International Journal of Economics and Business Administration*, Volume 7, No. 1, pp. 174-191.

22. Husaini, H., Saiful, S., Saputra, J., & Albra, W. (2019) "A Study of Supply Chain Management of Board Composition, Enterprise Risk Management, and Performance of non and Islamic Companies in Indonesia", *International Journal of Supply Chain Management*, Vol. 8, No. 8.

23. Ibrahim, M. (2017) "Capital Structure and Firm Value in Nigerian Listed Manufacturing Companies: an Empirical Investigation Using Tobin's Q Model", *International Journal of Innovative Research in Social Sciences & Strategic Management Techniques*, Vol. 4, No. 2.

24. IFRS Organizations (2018) "Conceptual Framework for Financial Reporting", [online] Available at: <https://www.ifrs.org/-/media/project/conceptual-framework/fact-sheet-project-summary-and-feedback-statement/conceptual-framework-project-summary.pdf>
25. Jensen, M. (1986) "Agency costs of free cash flow, corporate finance and takeovers", *American Economic Review*, Vol. 76, No. 2, pp. 323-329.
26. Jensen, M. (1993) "The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems", *The Journal of Finance*, Vol. 48, No. 3, pp. 831-800.
27. Jensen, M. & Meckling, W. (1976) "Theory of the firm: Managerial behavior, agency costs and ownership structure", *Journal of Financial Economics*, Vol. 3, No. 4, pp. 305-360.
28. Jordan, B. & Miller, T. (2009) "Fundamentals of Investments: Valuation and Management", 5th Edition, McGraw-Hill Irwin, New York.
29. Kadioglu, E., Kilic, S. & Yilmaz, E. (2017) "Testing the Relationship between Free Cash Flow and Company Performance in Borsa Istanbul", *International Business Research*, Vol. 10, No. 5, pp. 148-158.
30. Kamau, J., Mogambo, V. & Muya, J. (2018) "Revisiting Capital Structure And Financial Performance: The Moderating Role Of Firm Growth Rate: Evidence From Kenyan Petroleum Firms", *International Journal of Social Sciences and Information Technology*, Vol 4, No. 10.
31. Khan, S., Noman, M., Mustafa, F. & Abbasi, S. (2019) "The Interaction Effect of Financial Leverage on the Relationship Between Board Attributes and Firm Performance; Evidence of Non-financial Listed Companies of Pakistan", *Journal of Accounting & Finance in Emerging Economies*, Vol. 1, No. 1.
32. Lawal, A. (2014) "Capital structure and the value of the firm: evidence from the Nigeria banking industry", *Journal of Accounting and Management*, Vol. 4, No.1.
33. Maksy, M. (2016) "Is Free Cash Flow Value Relevant? The Case of the Information Technology Industry", *Journal of Accounting & Finance*, Vol. 16, No. 5, pp. 73-84.
34. Maksy, M. (2016) "Is Free Cash Flow Value Relevant? The Case of the Telecommunication Industry", *Journal of Accounting & Finance*, Vol. 16, No. 3, pp. 67-77.
35. Maksy, M. (2017) "Is Free Cash Flow Value Relevant? The Case of the U.S. Consumer Discretionary Sector", *Journal of Accounting and Finance*, Vol. 17, No. 5, pp. 114-123.
36. Maksy, M. (2015), "Is Free Cash Flow Value Relevant? The Case of the U.S. Industrial Sector", *Journal of Accounting & Finance*, Vol. 15, No. 5, pp. 85-94.
37. Maksy, M. & Chen, G. (2014) "Which Free Cash Flow Is Value Relevant? An Empirical Investigation", *Journal of Accounting and Finance*, Vol. 14, No. 6.
38. Mansourlakoraj, R. & Sepasi, S. (2015) "Free Cash Flow, Capital Structure and the Value of Listed Companies in Tehran Stock Exchange", *International Journal of Management, Accounting and Economics*, Vol. 2, No. 2, pp. 144-148.
39. Masidonda, J., Idrus, M., Salim, U. & Djumahir (2013) "Determinants of Capital Structure and Impact Capital Structure on Firm Value", *Journal of Business and Management*, Vol. 7, No. 3, pp. 23-30.
40. Maxwell, O. & Kehinde, F. (2012) "Capital Structure and Firm Value: Empirical Evidence from Nigeria", *International Journal of Business and Social Science*, Vol. 3, No. 19.
41. Memon, P., Rus, R. & Ghazali, Z. (2015) "Dynamism of Capital Structure: Evidence from Pakistan", *Journal of International Business and Economics*, Vol. 3, No. 1, pp. 52-63.
42. Modigliani, F. & Miller, M. (1958) "The Cost of Capital, Corporation Finance, and the Theory of Investment", *American Economic Review*, Vol. 48, pp. 261-297.
43. Modigliani, F. & Miller, M. (1963) "Corporate Income Taxes and the Cost of Capital: A Correction", *American Economic Review*, Vol. 53, No. 3, pp. 433-443.
44. Mohammad, A. (2016) "Valuation Tools for Determining the Value of Assets: A Literature Review", *International Journal of Academic*

Research in Accounting, Finance and Management Sciences, Vol. 6, No. 4, pp. 63–72.

45. Muchtar, D., Nor, F., Albra, W., Arifai, M., Ahmar, A. (2018) "Dynamic performance of Indonesian public companies: An analysis of financial decision behavior ", *Cogent Economics & Finance*, Vol. 6, No. 1.

46. Myers, S. C. (1977) "Determinants of Corporate Borrowing", *Journal of Financial Economics*, Vol. 5, pp. 147–175.

47. Myers, S. C. (1984) "The Capital Structure Puzzle", *The Journal of Finance*, Vol. 39, No. 3, pp. 575–592.

48. Myers, S. C. & Majluf, N. S. (1984) "Corporate Financing and Investment Decisions when Firms have Information the Investors do not have", *Journal of Financial Economics*, Vol. 13, No. 2, pp. 187–221.

49. Nakhaei, M. & Jafari, S. (2015) "Survey of the Relationship between Capital Structure and Free Cash Flow with Financial Performance of Companies Listed in Tehran Stock Exchange", *Indian Journal of Science and Technology*, Vol. 8, No. 27.

50. Ogbonna, U. & Ejem, C. (2019) "Dynamic Modeling of Market Value and Capital Structure in Nigerian Firms", *International Journal of Economics and Financial Issues*, Vol. 10, No. 1, pp. 1-5.

51. Rahimi, K. & Mosavi, A. (2016) "Value of Financial Flexibility and Firms Financial Policies: Empirical Evidence from the Firms Listed in Tehran Stock Exchange", *International Journal of Economics and Finance*; Vol. 8, No. 4.

52. Rahman, S. & Rahman, M. (2017) "Impact of Financial Leverage on Cash Flow Ratio: A Comparative Study Between MNCs and Domestic Companies Listed on DSE", *Journal of Finance and Accounting*, Vol. 5, No. 5, pp. 177-184.

53. Smith, D. & Pennathur, A. (2019) "Signaling Versus Free Cash Flow Theory: What Does Earnings Management Reveal About Dividend Initiation?" *Journal of Accounting, Auditing & Finance*, Vol. 34, No.2, pp. 284–308.

54. Sharif, M. (2019) "Fundamental Drivers of Capital Structure: Evidence from Publicly Traded Non-financial U.S. Firms", *International Journal of*

*Economics and Financial Issues*, Vol. 9, No. 6, pp. 113-122.

55. Tabrizi, E. (2016) "Examine the relationship between capital structure, free cash and operational risks", *International Academic Journal of Accounting & Financial Management*, Vol. 3, No. 3, pp. 24-31.

56. Thalib, F., Herdiyana, H. & Wahid, A. (2019) "Tax and not Tax on Capital Structure of Real Estate and Property Company", *International Journal of Economics and Financial Issues*, Vol. 9, No. 2, pp. 87-95.

57. Tobin, J. (1969) "A General Equilibrium Approach to Monetary Theory", *Journal of Money Credit and Banking*, Vol. 1, No. 1, pp. 15–29.

58. Tobin, J. (1978) "Monetary Policies and the Economy: The Transmission Mechanism", *Southern Economic Journal*, Vol.44, No. 3, pp. 422-431.

59. Tobin, J., & Brainard, W. (1968) "Pitfalls in Financial Model Building", *American Economic Review*, Vol. 58, No. 2, pp. 99-122.

60. Tobin, J., & Brainard, W. (1977) "Asset markets and the cost of capital", in *Economic Progress, Private Values and Public Policy, Essays In Honor of William Fellner*, North-Holland, pp. 235-262.

61. Vo, X. (2017) "Determinants of capital structure in emerging markets: Evidence from Vietnam", *Research in International Business and Finance*, Vol. 40, pp. 105-113.

62. Wang, G. Y. (2010) "The impact of free cash flows and agency costs on firm performance", *Journal of service science and management*, Vol. 3, pp. 408-418.

63. Zulvina, D. & Adhariani, D. (2019) "Executives' Gender and Firm Value", *International Journal of Innovation, Creativity & Change*, Vol. 7, No. 5.