

**An-Najah National University
Faculty of Graduate Studies**

**The Impact of Liquidity and Solvency
on Cost Efficiency in Palestinian and
Jordanian Industrial Companies**

**By
Reem Mufeed Ahmad Abu Baker**

**Supervisor
Dr. Ghassan Daas**

**This Thesis is Submitted in Partial Fulfillment of the
Requirements for the Degree of Master in Accounting Faculty
of Graduate Studies, An-Najah National University, Nablus,
Palestine.**

2021

The Impact of Liquidity and Solvency on Cost Efficiency in Palestinian and Jordanian Industrial Companies

**By
Reem Mufeed Ahmad Abu Baker**

This thesis was defended successfully on 25/02/2021 and approved by:

Defense Committee Members

1- Dr. Ghassan Daas / Supervisor

2- Dr. Raed Saad / External Examiner

3- Dr. Muiz Abualia / Internal Examiner

Signature



.....



.....

.Muiz.Abualia

الإهداء

بسم الله الرحمن الرحيم

﴿ وَقُلْ أَعْمَلُوا فَسَيَرَى اللَّهُ عَمَلَكُمْ وَرَسُولُهُ وَالْمُؤْمِنُونَ ^ط ﴾

صدق الله العظيم

إلهي لا يطيب الليل إلا بشرك ولا يطيب النهار إلا بطاعتك ... ولا تطيب الآخرة إلا بعفوك ...

ولا تطيب الجنة إلا برويتك ... الله جلّ جلاله

إلى من بلغ الرسالة وأدى الأمانة ... ونصح الأمة ... إلى نبي الرحمة ونور العالمين سيدنا

محمد صلى الله عليه وسلم

إلى مصدر سعادتي ونور حياتي.. إلى ينبوع الحبّ والحنان .. إلى شمعة متقدة تنير ظلمة

حياتي.. إلى القلب الناصع بالبياض ... أمي الغالية

إلى مصدر قوتي وسندي.. إلى من أحمل اسمه بكلّ فخر .. إلى من حصد الأشواك عن دربي

ليمهّد لي طريق العلم .. إلى القلب الكبير .. والدي العزيز

إلى القلوب الطاهرة .. والنفوس البريئة .. إلى سندي ورفقاء دربي.. إلى رياحين حياتي ..

أختي وأخوتي الأحباء

إلى اللواتي لا أجد روعي إلا بحضرتهنّ .. إلى من تدوّقت معهم أجمل اللحظات...

صديقات عمري

إلى من استقيتُ منهم الحروف.. وتعلّمت كيف أنطق الكلمات.. إلى الذين مهّدوا لنا طريق العلم

أساتذتي الكرام

أهدي إليكم رسالة الماجستير...

داعية المولى - سبحانه وتعالى- أن تُكلّل بالنجاح والقبول من جانب أعضاء لجنة المناقشة

الموقرين.

الشكر والتقدير

بسم الله الرحمن الرحيم

﴿ رَبِّ أَوْزِعْنِي أَنْ أَشْكُرَ نِعْمَتَكَ الَّتِي أَنْعَمْتَ عَلَيَّ وَعَلَىٰ وَلَدِيَّ

وَأَنْ أَعْمَلَ صَالِحًا تَرْضَاهُ وَأَدْخِلْنِي بِرَحْمَتِكَ فِي عِبَادِكَ الصَّالِحِينَ ﴾

سورة النمل الآية 19

اللهم لك الحمد كما ينبغي لجلال وجهك وعظيم سلطانك، اللهم صلِّ وسلِّم وبارك على

سيدنا محمد، أمّا بعد،

يشرفني ويسعدني أن أتقدّم بالشكر الجزيل إلى كلّ الذين حملوا أقدم رسالة في الحياة، إلى جميع أساتذتنا الأفاضل، وأخصّ بالذكر مشرفي الدكتور غسان دعاس لدعمه المستمر خلال فترة دراستي، ولصبره وتحفيزه الدائمين، وخبرته الكبيرة التي استفدت منها في كتابة هذه الأطروحة.. فجزاك الله عنا كلّ خير، فقد كنت خير الموجه والمعلم.

كما أتقدّم بالشكر الجزيل لكل طاقم برنامج ماجستير المحاسبة، وأخصّ بالذكر أساتذتي الأفاضل؛ الدكتور معز أبو عليا، الدكتور سائد الكوني، الدكتور سامح عطعوط، الدكتور عبد الناصر نور، والدكتور إسلام عبد الجواد لما بذلوه من تعب وجهد في سبيل تعليمنا وإنارة عقولنا.

واسأل الله العليّ القدير أن يجزي الجميع عني خير الجزاء، وأن أكون قد وفّقت في إعداد

هذه الرسالة بإتقان وإحسان.

أنا الموقّعة أدناه، مقدّمة الرسالة التي تحمل العنوان:

**قياس اثر السيولة والملاءة على كفاءة
التكلفة للشركات الصناعية في فلسطين والاردن**

**The Impact of Liquidity and Solvency
on Cost Efficiency in Palestinian and
Jordanian Industrial Companies**

أقرّ بأنّ ما اشتملت عليه الرسالة إنّما هو نتاج جهدي الخاص باستثناء ما تمّت الإشارة إليه حيثما ورد وأنّ هذه الرسالة ككل أو أيّ جزء منها لم يقدّم من قبل لنيل أيّ درجة علمية أو بحث علمي لدى أيّ مؤسسة تعليمية أو بحثيّة أخرى.

Declaration

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

Student's Name:

ريم مفيد احمد ابو بكر

اسم الطالب:

Signature:

ريم ابو بكر

التوقيع:

Date:

25/02/2021

التاريخ:

Table of Contents

No.	Subject	Page
	Defense Committee Members	ii
	الإهداء	iii
	الشكر والتقدير	iv
	Declaration	v
	Table of Contents	vi
	List of Tables	viii
	List of Abbreviations	x
	Abstract	xi
	Chapter One: Study Introduction	1
1.1	Introduction	2
1.2	Research problem	4
1.3	Research importance	5
1.4	Research objectives	6
1.5	Research questions	6
	Chapter Two: Theoretical framework and Literature Review	8
2.1	Theoretical framework	9
2.1.1	Finance and Production theory	9
2.1.2	The duality theory	9
2.2	Literature Review	10
2.2.1	Cost of Goods Sold Efficiency	11
2.2.2	General & Administration Expenses Efficiency	11
2.2.3	Selling & Marketing Expenses Efficiency	12
2.2.4	Liquidity and Solvency	12
	Chapter Three: Research Methodology	20
3.1	Data Sources	21
3.1.1	Research population	21
3.1.2	Limitations	22
3.1.3	Data Processing and Statistical Analysis	22
3.2	Variables Description	22
3.2.1	The Dependent Variable Definition	23
3.2.2	The Independent Variable Definition	23
3.3	Methodology	25
3.3.1	Palestine Exchange	27
3.3.2	Amman Stock Exchange	27
	Chapter Four: Empirical results and Discussions	28
4.1	Empirical results and Discussions of Liquidity	29
4.1.1	Palestine Exchange	29
4.1.1.1	Cost of Goods Sold Efficiency and Liquidity	29

No.	Subject	Page
4.1.1.2	General & Administration Expenses Efficiency and Liquidity	31
4.1.1.3	Selling & Marketing Expenses Efficiency and Liquidity	33
4.1.1.4	Financing Expenses Efficiency and Liquidity	34
4.1.2	Amman Stock Exchange	35
4.1.2.1	Cost of Goods Sold Efficiency and Liquidity	35
4.1.2.2	General & Administration Expenses Efficiency and Liquidity	36
4.1.2.3	Selling & Marketing Expenses Efficiency and Liquidity	37
4.1.2.4	Financing Expenses Efficiency and Liquidity	38
4.2	Empirical results and Discussion of Solvency	39
4.2.1	Palestine Stock Exchange	39
4.2.1.1	Cost of Goods Sold Efficiency and Solvency	39
4.2.1.2	General & Administration Expenses Efficiency and Solvency	41
4.2.1.3	Selling & Marketing Expenses Efficiency and Solvency	42
4.2.1.4	Financing Expenses Efficiency and Solvency	43
4.2.2	Amman Stock Exchange	44
4.2.2.1	Cost of Goods Sold Efficiency and Solvency	44
4.2.2.2	General & Administration Expenses Efficiency and Solvency	45
4.2.2.3	Selling & Marketing Expenses Efficiency and Solvency	46
4.2.2.4	Financing Expenses Efficiency and Solvency	47
	Chapter Five: Conclusions and Recommendations	51
5.1	Conclusions	52
5.2	Recommendations	54
5.2.1	The Final Models for Palestine Exchange	55
5.2.2	The Final Models for Amman Stock Exchange	57
	References	59
	Appendixes	62
	الملخص	ب

List of Tables

No.	Title	Page
Table (1)	Data collection and measurements	26
Table (2)	Regression Model - Cost of Goods Sold Efficiency and Liquidity impacts on Palestine Exchange	29
Table (3)	Regression Model-Cost of Goods Sold Efficiency and Liquidity impacts on Palestine Exchange coefficients	30
Table (4)	Regression Model - General & Administration Expenses Efficiency and Liquidity impacts on Palestine Exchange	31
Table (5)	Regression Model - General & Administration Expenses Efficiency and Liquidity impacts on Palestine Exchange coefficients	31
Table (6)	Regression Model-Selling & Marketing Expenses Efficiency and Liquidity impacts on Palestine Exchange.	33
Table (7)	Regression Model - Selling & Marketing Expenses Efficiency and Liquidity impacts on Palestine Exchange coefficients	33
Table (8)	Regression Model - Financing Expenses Efficiency and Liquidity impacts on Palestine Exchange	34
Table (9)	Regression Model - Financing Expenses Efficiency and Liquidity impacts on Palestine Exchange coefficients	34
Table (10)	Regression Model - Cost of Goods Sold Efficiency and Liquidity impacts on Amman Stock Exchange	35
Table (11)	Regression Model - Cost of Goods Sold Efficiency and Liquidity impacts on Amman Stock Exchange coefficients	35
Table (12)	Regression Model - General & Administration Expenses Efficiency and Liquidity impacts on Amman Stock Exchange	36
Table (13)	Regression Model - General & Administration Expenses Efficiency and Liquidity impacts on Amman Stock Exchange coefficients	36
Table (14)	Regression Model - Selling & Marketing Expenses Efficiency and Liquidity impacts on Amman Stock Exchange	37
Table (15)	Regression Model - Selling & Marketing Expenses Efficiency and Liquidity impacts on Amman Stock Exchange coefficients	37
Table (16)	Regression Model - Financing Expenses Efficiency and Liquidity impacts on Amman Stock Exchange	38
Table (17)	Regression Model-Financing Expenses Efficiency and Liquidity impacts on Amman Stock Exchange coefficients	38
Table (18)	Regression Model - Cost of Goods Sold Efficiency and Solvency impacts on Palestine Exchange	39

Table No.	Title	Page
Table (19)	Regression Model-Cost of Goods Sold Efficiency and Solvency impacts on Palestine Exchange coefficients	40
Table (20)	Regression Model - General & Administration Expenses Efficiency and Solvency impacts on Palestine Exchange	41
Table (21)	Regression Model - General & Administration Expenses Efficiency and Solvency impacts on Palestine Exchange coefficients	41
Table (22)	Regression Model - Selling & Marketing Expenses Efficiency and Solvency impacts on Palestine Exchange	42
Table (23)	Regression Model - Selling & Marketing Expenses Efficiency and Solvency impacts on Palestine Exchange coefficients	42
Table (24)	Regression Model - Financing Expenses Efficiency and Solvency impacts on Palestine Exchange	43
Table (25)	Regression Model - Financing Expenses Efficiency and Solvency impacts on Palestine Exchange coefficients	43
Table (26)	Regression Model - Cost of Goods Sold Efficiency and Solvency impacts on Amman Stock Exchange	44
Table (27)	Regression Model - Cost of Goods Sold Efficiency and Solvency impacts on Amman Stock Exchange coefficients	44
Table (28)	Regression Model - General & Administration Expenses Efficiency and Solvency impacts on Amman Stock Exchange	45
Table (29)	Regression Model - General & Administration Expenses Efficiency and Solvency impacts on Amman Stock Exchange coefficients	45
Table (30)	Regression Model - Selling & Administration Expenses Efficiency and Solvency impacts on Amman Stock Exchange	46
Table (31)	Regression Model - Selling & Administration Expenses Efficiency and Solvency impacts on Amman Stock Exchange coefficients	46
Table (32)	Regression Model - Financing Expenses Efficiency and Solvency impacts on Amman Stock Exchange	47
Table (33)	Regression Model - Financing Expenses Efficiency and Solvency impacts on Amman Stock Exchange coefficients	47
Table (34)	Table (34): Independent Samples Test	48
Table (34)	The Final Analysis Result	49

List of Appendixes

No.	Title	Page
Appendix (1)	The websites that have been used to select the historical data of the study.	62

**The Impact of Liquidity and Solvency
on Cost Efficiency in Palestinian and
Jordanian Industrial Companies**

By

Reem Mufeed Ahmad Abu baker

Supervisor

Dr. Ghassan Daas

Abstract

This study aims to find out the impact of liquidity and solvency on Cost of Goods Sold Efficiency, General & Administration Expenses Efficiency, Selling & Marketing Expenses Efficiency and Financing Expenses Efficiency on Industrial Companies in the Palestine Exchange and Amman Stock Exchange. The data of the study is collected from 2010 to 2019 making use of 350 data points for regression analysis for Amman Stock Exchange and 120 data point for Palestine Exchange. All data were obtained from the financial statements published in the Palestine Exchange and Amman Stock Exchange. All data were collected in the currency of the JOD. The number of industrial companies in Palestine Exchange is 13 companies and 44 companies in Amman stock Exchange. The SPSS software package used to test the study's hypothesis through using the most appropriate statistical methods as regression models.

About the measurement of variables, the Cost of Goods Sold Expenses Efficiency measure by dividing Cost of Goods Sold Expenses by Total Sales, General & Administration Expenses Efficiency measure by dividing General & Administration Expenses by total sales, Selling & Marketing Expenses Efficiency measure by dividing Selling & Marketing

Expenses by total sales, Financing Expenses Efficiency measure by dividing Finance Expenses by total sales, Liquidity measure by 5 type of liquidity ratios (Current ratio, Quick ratio, Cash flow ratio, Working capital and Cash ratio) and Solvency measure by 4 types of solvency ratios (Total Debt to total assets, Long term debt to equity ratio, Time interest Earned and Financial leverage ratio).

The main results related to the liquidity variables:

1. In Palestine Exchange showed that the liquidity has a significant Positive impact on cost Efficiency (the Current Ratio and Quick Ratio have a significant positive impact on Cost of Goods Sold Efficiency and General & administration Expenses Efficiency / the Cash flow Ratio has a positive significant impact on Financing Expenses Efficiency / the Working Capital has a positive significant impact on Cost of Goods Sold Efficiency, General & administration Expenses Efficiency and Selling & Marketing Expenses Efficiency / the Cash Ratio has no Significant impact on any type of Cost Efficiency.
2. in Amman Stock Exchange showed that generally the Liquidity has a Positive significant impact on cost Efficiency (the Current Ratio and Quick Ratio have a positive significant impact on Cost of Goods Sold Efficiency, Selling & Marketing Expenses Efficiency / the cash flow ratio has a positive significant impact on cost of Goods Sold Efficiency / the working capital has a positive significant impact on

Cost of Goods Sold Efficiency, General & Administration Expenses Efficiency and selling and Marketing Expenses Efficiency / the cash Ratio has a positive Significant impact on Selling & marketing Expenses Efficiency)

The main results related to the Solvency variables:

1. in Palestine Exchange showed that generally the Solvency has a Positive significant impact on cost Efficiency(Total Debt to Total Assets has a positive impact on Selling & marketing Expenses Efficiency and Financing Expenses Efficiency / Long term debt to equity ratio has a positive Significant impact on Cost of Goods Sold efficiency, General & Administration Expenses Efficiency, Selling & marketing Expenses Efficiency and Financing Expenses Efficiency / the Time interest Earned has no significant impact on any type of Cost efficiency / the Financial Leverage Ratio has a positive significant impact on Cost of Goods Sold Efficiency, General & administration Expenses Efficiency and Selling & Marketing Expenses Efficiency).
2. In Amman stock exchange showed that the Solvency has a Positive significant impact on cost Efficiency(Total Debt to Total Assets has a positive impact on Cost of Goods Sold Efficiency, Selling & Marketing Expenses Efficiency and Financing Expenses Efficiency/ Long term debt to equity ratio has a positive Significant impact on Selling & Marketing Expenses Efficiency/ the Time interest Earned

has no significant impact on any type of Cost efficiency/ the Financial Leverage Ratio has a positive significant impact on Selling & marketing Expenses Efficiency)

Chapter One

Study Introduction

1.1 Introduction

1.2 Research problem

1.3 Research importance

1.4 Research objectives

1.5 Research questions

Chapter One

Study Introduction

1.1 Introduction

In light of the increasing complexity of business, a great change is happening in industry and trade since cost has become very important. It has an essential role in decision making. For example, it enhances management in planning and control appreciating the scarcity of resources in the increasingly complex operations and leading to cost awareness, control, and management and re using marginal cost in competitive tenders. (College Accounting Coach, Accessed on 21.1.2020).

Cost Efficiency (CE) was used by Farrel (1957) who originated numerous ideas concerning Data Envelopment Analysis (DEA). By implementing Farrell's principle of CE, its estimation requires input and output quantity data as well as exact knowledge of input price at each decision making unit. (Camanho and Dyson, 2005)

The ease with which a property or security can be turn into cash without influencing its market price is liquidity. (Chen, 2020) (accessed on 21.1.2020)

In other words, liquidity describes the degree to which an asset can be quickly sold in the market at a price reflecting its intrinsic value. Cash is universally considered the most liquid asset because it can most quickly

and easily be converted into other assets. Tangible assets, such as real estate, fine art, and collectibles, are all relatively illiquid. Other financial assets, ranging from equities to partnership units, fall at various places on the liquidity spectrum. (Chen, 2020)

The company's ability to pay its Long term debts and financial obligations is called solvency. It is a great scale of financial health because it reflects the company's ability to manage its debts in the future. It is done by checking shareholders' equity on the balance sheet which is the sum of the company's assets minus its liabilities. (Chen, 2020). Liquidity & Solvency procedures are significant because it is used for operational needs and due to the significance of capital structure and liquidity which decrease production cost. (Russell, Langemeier and Briggeman, 2013)

Liquidity and solvency measures are especially significant because solvency is used for operating needs and is an important of capital structure and liquidity decrease the cost of production. (Russell, Langemeier and Briggeman, 2013) So, in this paper we will work to add the liquidity and solvency in cost efficiency model.

While it is clear that liquidity and solvency measures are important in many types of analysis level, cost-efficiency models typically do not include these measures. That is, efficiency models tend to only incorporate production-related and input price variables. To the best of our knowledge a few of studies have incorporated Liquidity and Solvency into a cost-minimizing data envelopment analysis (DEA). Whittaker and Morehart in

1991 constructed a best-practice cost-efficiency frontier with financial variables and found that these variables significantly impacted cost-efficiency estimates. (Russell, Langemeier, and Briggeman, 2013)

Moreover, the current study aims to investigate the impact of liquidity and solvency on Cost of Goods Sold Efficiency, General & Administration Expenses Efficiency, Selling & Marketing Expenses Efficiency and Financing Expenses Efficiency on Industrial Companies in the Palestine Exchange and Amman Stock Market.

In order to have a new results and insights about the impact of liquidity and solvency on Cost of Goods Sold Efficiency, General & Administration Expenses Efficiency, Selling & Marketing Expenses Efficiency and Financing Expenses Efficiency in industrial companies in Palestine Exchange and Amman Stock Exchange then, providing relevant and valuable recommendations for investors, organizations, and financial analysts.

1.2 Research Problem

Based on researches discussed in literature review, we noticed the shortage and scarcity of studies that worked to add liquidity and solvency to the cost-efficiency model (Cost of Goods Sold Efficiency, General & Administration Expenses Efficiency, Selling & Marketing Expenses Efficiency and Financing Expenses Efficiency).

Therefore, this study illustrates the cost efficiency model (Cost of Goods Sold Efficiency, General & Administration Expenses Efficiency, Selling & Marketing Expenses Efficiency and Financing Expenses Efficiency) and adding liquidity and solvency to this model. The study examines the impact of liquidity and solvency on Cost of Goods Sold Efficiency, General & Administration Expenses Efficiency, Selling & Marketing Expenses Efficiency and Financing Expenses Efficiency of the Palestinian and Jordanian markets for make a new model for Palestine and Jordan.

1.3 Research Importance

The purpose of this paper is to construct and utilize a conceptual framework which allows the incorporation of solvency and liquidity into the cost efficiency for industrial company. The developed model is used to determine the impact of liquidity and solvency on cost efficiency on industrial companies in the Palestine Exchange and Amman Stock Exchange.

This study is important because it is the first study in Palestine and Jordan that worked to study the impact of the liquidity and solvency on Cost Efficiency.

Also, the number of studies around the word in general on this topic is very few, and the goal is to enrich the number of studies on cost-

efficiency, liquidity and solvency due to their importance to companies, of which a part was mentioned in the introduction.

1.4 Research Objectives

This study aims to find out the impact of liquidity and solvency on Cost Efficiency of the Industrial Companies in the Palestine Exchange and Amman Stock Exchange.

Also, it aims at achieving the following objectives:

- Adding Liquidity and Solvency to the Cost Efficiency model to help companies to reduce costs to the lowest possible level.
- Assisting companies in finding the best capital structure for them by making the best balance between the debt and equity and select the capital structure with the minimum cost.
- Determining the importance of liquidity in reducing cost per unit produced for industrial company by reduce finance cost.

1.5 Research Questions

Based on the illustrated objectives, this study considers the following questions to elaborate the Impact of liquidity and solvency on Cost Efficiency on Industrial Companies in Palestine Exchange and Amman Stock Exchange. So the main research question is:

Does the Liquidity and Solvency have a significant impact on Cost Efficiency at Palestine Exchange and Amman Stock Exchange for industrial companies?

This question branched into many questions:

1. Is there a statistical impact of liquidity on cost of Goods Sold Expenses efficiency, General and Administration expenses efficiency, Selling and Marketing expenses efficiency and Financing expenses efficiency at Palestine Exchange of industrial companies?
2. Is there a statistical impact of Solvency on cost of Goods Sold Expenses efficiency, General and Administration expenses efficiency, Selling and Marketing expenses efficiency and Financing expenses efficiency at Palestine Exchange of industrial companies?
3. Is there a statistical impact of liquidity on cost of Goods Sold Expenses efficiency, General and Administration expenses efficiency, Selling and Marketing expenses efficiency and Financing expenses efficiency at Amman Stock Exchange of industrial companies?
4. Is there a statistical impact of Solvency on cost of Goods Sold Expenses efficiency, General and Administration expenses efficiency, Selling and Marketing expenses efficiency and Financing expenses efficiency at Amman Stock Exchange of industrial companies?

Chapter Two

Theoretical framework and Literature Review

2.1 Theoretical framework

2.1.1 Finance and Production theory

2.1.2 The duality theory

2.2 Literature Review

2.2.1 Cost of Goods Sold Efficiency

2.2.2 General & Administration Expenses Efficiency

2.2.3 Selling & Marketing Expenses Efficiency

2.2.4 Financing Expenses Efficiency

2.2.5 Liquidity and Solvency

Chapter Two

Theoretical Framework and Literature Review

2.1 Theoretical Framework

Two theories have been used by some researchers to link both changes in liquidity and solvency with cost efficiency. These include Finance and Production theory and the duality theory.

2.1.1 Finance and Production Theory

Finance and Production theory interested in developing inputs and outputs for the firms in order to work to reduce the cost per unit to the lowest possible. (Sealey and Lindley, 1977)

Finance and Production theory have largely improved considering the economic challenges related to them can be easily separated. L&S procedures are especially important since debt is employed for operating needs and is an vital for capital structure and companies growth plans. Company's operators must make decisions about the employment of debt, that is, if and to what level the operator will finance short- or long-run inputs with debt. (Russell, Langemeier and Briggeman, 2013).

2.1.2 The Duality Theory

The Duality theory assumes that producers can be either profit reducers or cost reducers. It is based on a theory that suppose that there is

no imposition of linear homogeneity among inputs and outputs, econometric model of objective functions in which there are prices more than quantities. (Nguyen et al., 2008). If we have a perfect market competition, the profit will not be restricted containing the same economic information such as the cost function. Basically, the dual relationships permits recovery of technological parameters technology derived from cost of profit function. Still, there are issues related to the selection between cost and profit estimation which depends on data quality, availability and ease of estimation. (Xayavong, 2011)

These two theories aims to reduce cost per unit produced and in this study the researcher wants to add solvency and liquidity to cost efficiency model so adding solvency and Liquidity on cost efficiency model will help companies to reduce cost per unit and increase the efficiency of the Cost.

2.2 Literature Review

The researchers examined the impact of liquidity and solvency on cost efficiency. They aimed to add liquidity and solvency ratios to the cost-efficiency model developed by Farrell at 1957 for the analysis of industrial company.

To develop the hypotheses, we need to read many previous studies on the subject.

Many studies find that there is impact of Liquidity and Solvency on Cost efficiency (Lotfi, Amirteimoori, Moghaddas and Vaez, 2020)

(Wagner, 2004), (Nwinyokpugi and Elizabeth, 2020), (Mgale and Yunxian, 2020), (Jian and Zeng, 2019), (Russell, Langemeier and Briggeman, 2013), (Tripathy and Uzma, 2020), (Legesse and Guo, 2020), (Sakouvogui, K., and Shaik, S. (2020)), (Nițoi and Spulbar, 2015), (Alshatti, 2015) and (Bitar, Pukthuanthong and Walker, 2019))

2.2.1 Cost of Good Sold Efficiency

Lotfi, Amirteimoori, Moghaddas and Vaez, (2020) studied the definition of cost efficiency. Those researchers said that the Cost efficiency scales the firm's success in picking the best set of inputs by decreasing total input costs. It means the differential between the current cost of a DMU and the possible minimal cost. The aim of Cost efficiency assessment is to find the possible mixture of inputs with low cost that can produce the same level of outputs.

Wagner (2004) divided the Cost of Goods sold efficiency into three dimensions: the first is labor Cost efficiency which calculated by (labor cost divided by total sales), the second is material Cost efficiency which calculated by (material cost divided by total sales), finally overall Cost efficiency which calculated by (sum of both of these efficiency indicators).

2.2.2 General & Administration Expenses Efficiency

Nwinyokpugi and Elizabeth (2020) pointed to the Spenkelink (2002) defined administrative Expenses efficiency as the process of gathering, processing and communicating of information in the most effective

manner, which is aimed at employee/customers satisfaction then maximize profit. The researchers measured General & Administration Expenses Efficiency by the association of General & Administration expenses with total sales.

2.2.3 Selling & Marketing Expenses Efficiency

Mgale and Yunxian (2020) divided the marketing efficiency into two types: the first type is operational efficiency. Operational efficiency is relevant to marketing process that can raise or lower the ratio of marketing output to input. The second type is price efficiency. Price efficiency scales the effectiveness of profit got by marketing institutions (that calculated by marketing and selling expenses divided by the total sales).

2.2.4 Liquidity and Solvency

Russell, Langemeier and Briggeman (2013) studied the impact of Liquidity and Solvency on Cost Efficiency by developing a conceptual framework. And this study made a modification on Cost Efficiency model by adding Liquidity and Solvency ratios. This study used two methods to test its hypothesis, the first method is DEA model and the second method is Tobit regression. The study of Russell, Langemeier and Briggeman finds that Liquidity and solvency processes have a significant influence on improving Cost Efficiency. The study of Russell, Langemeier and Briggeman use Current Ratio to measure the liquidity and use debt to assets ratio to measure Solvency.

Tripathy and Uzma (2020) Studied and examined the impact of many points affecting the cash position of the companies. The data use in study of Tripathy and Uzma is the manufacturing firms listed in BSE which are 607. The researchers find that the Selling and marketing Expenses and general and administrative expenses have a positive relationship with cash holdings.

Legesse and Guo (2020) studies the relationship between debt financing and firm efficiency and the moderating role of liquidity holding. The sample selected to test this hypothesis is Strong manufacturing industries, specifically China, Germany, India and Japan. The researcher find that there is a positively impact of liquidity on short term financing and badly affect with long term financing.

Legesse and Guo, 2020 examines the relationship between debt financing and firm efficiency and the moderating role of liquidity holding. The sample was selected to test this hypothesis is Strong manufacturing industries, specifically China, Germany, India and Japan. The researchers find that there is a positively impact of liquidity on short term financing and negatively impact with long term financing.

Sakouvogui, K., and Shaik, S. (2020) studied the impact of liquidity and Solvency on costing efficiency using Stochastic Frontier Analysis and Data Envelopment Analysis estimators are used to estimate the cost efficiency. The sample selected to test this hypothesis is 11,044 US commercial and domestic banks from 2005 to 2017. Using Tobit regression

model, the importance of financial liquidity and solvency on cost efficiency is examined. the study of Sakouvogui, K., and Shaik, S. measures liquidity by current ration and measure Solvency by Debt to Assets ratio. The results provide evidence that the financial liquidity and solvency negatively impact the cost efficiency of US commercial and domestic banks.

Jian and Zeng (2019) studied the stock liquidity and financing efficiency and the influence of stock liquidity on financing efficiency. This study focuses on the stock liquidity of National Equities Exchange and Quotations (NEEQ) and the financing efficiency of the listed companies in NEEQ. The financing efficiency of SMEs in NEEQ market has not achieved the expected results.

Nițoi and Spulbar (2015) this study is important because the banking systems in most of the countries have been negatively affected by the global financial crisis. This study focused on the determinants of Cost Efficiency for the commercial banks from six emerging countries. Banks Cost Efficiency in this study is estimated by using either Stochastic Frontier Analysis, or data envelopment analysis. The sample covers an unbalanced panel dataset of 735 observations over the period 2005 to 2011. To reach the objective of Nițoi and Spulbar study, researchers have included in the model variables that characterize the level of economic development, the macroeconomic stability, the credit risk, the solvency risk, the bank's performance, the loan specialization, and the level of liquidity and the efficiency of the financial intermediation process. The

results revealed important conclusions. The influence of the environment factors on the commercial banks' efficiency indicates that a high macroeconomic stability supports the efficiency of commercial banks. Surprisingly, a higher ratio of the domestic credit provided by banking sector over GDP influences positively the inefficiency. The researchers explained this outcome by the ever-enhancing competitiveness. Commercial banks that focus on the traditional activity of loan granting are more efficient in comparison with the banks that have a lower share of loans to total assets. Also, banks which undertake bigger risks are more inefficient. Therefore, banks with less liquidity, with a lower solvency rate and a higher credit risk are less efficient than more cautious credit institutions.

Alshatti (2015) studied the influence of liquidity on profitability in the Jordanian commercial banks. Stationary of the expletory factors and the dependent factors of the 1st model were tested by using Augmented Dickey Fuller (ADF) test. The result insures on the significant impact between liquidity and profitability.

Bitar, Pukthuanthong and Walker (2019) studied the influence of capital and liquidity ratio on the efficiency of conventional and Islamic banks. The study sample is 4123 bank-year observations from 2005 to 2012 using the Bank scope database of Bureau Van Djik. Using conditional quantile regressions, the study show that the impact is stronger for highly efficient, small, highly liquid, and highly capitalized conventional banks.

Although the studies showed in the literature review included the impact of Liquidity and Solvency on Cost efficiency for industrial sector, agriculture sector, banking sector and others, but we decided to choose the industrial sector study for the Amman stock market and the Palestine Exchange because the industrial sector is a key component of both regional and global economies. It is where resources are mined and processed, and materials assembled into every day goods and consumables, ranging from tooth brushes to metal containers, to manufactured construction materials, to pharmaceuticals and fuels. Most of these manufactured goods are vital to the function of modern economies, and they are all heavily dependent on energy.

According to these studies the following hypothesis are developed:

1. There is a statistical significance impact of Liquidity on Cost Efficiency on Palestine Exchange:

H01: There is a statistical significance impact of Liquidity on Cost of Goods Sold Efficiency on Palestine Exchange for industrial companies.

H02: There is a statistical significance impact of Liquidity on General and administration Expenses Efficiency on Palestine Exchange for industrial companies.

H03: There is a statistical significance impact of Liquidity on Marketing & Selling Expenses Efficiency on Palestine Exchange for industrial companies.

H04: There is a statistical significance impact of Liquidity on Financing Expenses Efficiency on Palestine Exchange for industrial companies.

2. There is a statistical significance impact of Solvency on Cost Efficiency on Palestine Exchange:

H05: There is a statistical significance impact of Solvency on Cost of Goods Sold Efficiency on Palestine Exchange for industrial companies.

H06: There is a statistical significance impact of Solvency on General and administration Expenses Efficiency on Palestine Exchange for industrial companies.

H07: There is a statistical significance impact of Solvency on Marketing & Selling Expenses Efficiency on Palestine Exchange for industrial companies.

H08: There is a statistical significance impact of Solvency on Financing Expenses Efficiency on Palestine Exchange for industrial companies.

3. There is a statistical significance impact of Liquidity on Cost Efficiency on Amman Stock Exchange:

H09: There is a statistical significance impact of Liquidity on Cost of Goods Sold Efficiency on Amman Stock Exchange for industrial companies.

H010: There is a statistical significance impact of Liquidity on General and administration Expenses Efficiency on Amman Stock Exchange for industrial companies.

H011: There is a statistical significance impact of Liquidity on Marketing & Selling Expenses Efficiency on Amman Stock Exchange for industrial companies.

H012: There is a statistical significance impact of Liquidity on Financing Expenses Efficiency on Amman Stock Exchange for industrial companies.

4. There is a statistical significance impact of Solvency on Cost Efficiency on Amman Stock Exchange:

H013: There is a statistical significance impact of Solvency on Cost of Goods Sold Efficiency on Amman Stock Exchange for industrial companies.

H014: There is a statistical significance impact of Solvency on General and administration Expenses Efficiency on Amman Stock Exchange for industrial companies.

H015: There is a statistical significance impact of Solvency on Marketing & Selling Expenses Efficiency on Amman Stock Exchange for industrial companies.

H016: There is a statistical significance impact of Solvency on Financing Expenses Efficiency on Amman Stock Exchange for industrial companies.

H017: There is a statistical significance impact of Liquidity and Solvency on Cost of Goods Sold Efficiency, General & Administration Expenses Efficiency, Marketing & Selling Expenses Efficiency and Financing Expenses Efficiency on Palestine Exchange and Amman Stock Exchange for industrial companies.

H018: There is a significant differences between Palestine exchange and Amman exchange for both liquidity and solvency.

Chapter Three

Research Methodology

3.1 Data Collection

3.1.1 Research population

3.1.2 Limitations

3.1.3 Data Processing and Statistical Analysis

3.2 Variables Description

3.2.1 The Dependent Variable Definition

3.2.2 The Independent Variable Definition

3.3 Methodology

3.3.1 Palestine Exchange

3.3.2 Amman Stock Exchange

Chapter Three

Research Methodology

3.1 Data Collection

In reference to many studies described in the literature review, the researcher examined the impact of liquidity and solvency using secondary data collected from financial statements for industrial companies on Palestine Exchange and Amman Stock Exchange.

Regarding the data it was collected from 2010 to the 2019. Thus, making use of 350 data points for Regression Analysis for Amman Stock Exchange and 120 data point for Palestine Exchange.

All data were obtained from the financial statements published in the Palestine Exchange and Amman Stock Exchange. All data were collected in the currency of the JOD. The number of industrial companies in Palestine Exchange is 13 companies and 44 companies in Amman stock Exchange.

3.1.1 Research Population

Research population presents most of the industrial companies that are listed in Palestine Exchange and Amman Stock Exchange for the period 2010-2019.

3.1.2. Limitations

1. Some industrial companies were excluded in the Amman Stock Exchange because they are investment companies for industrial companies and the way data is presented in their financial statement is different (the companies are ACDT, GENI, EICO, MANR and CEIG)
2. Another industrial companies were excluded in the Amman Stock Exchange because they did not published there financial statements for the year 2019 and 2018. (the companies are ELZA, MANS, JOCM and JOIC)

3.1.3. Data Processing and Statistical Analysis

The SPSS software package used to test the study's hypothesis through using the most appropriate statistical methods as regression models.

3.2 Variables Description

Variables Description

Independent Variables	Dependent Variables
• Solvency • Liquidity	<u>Cost Efficiency:</u> • Cost of Goods Sold Efficiency • General and Administration Expenses Efficiency • Marketing and selling Expenses Efficiency • Financing Expenses Efficiency

3.2.1 The Dependent Variable Definition

Cost Efficiency

The efficiency of all expenses was chosen in the income statement for industrial companies in the Palestine Exchange and Amman Stock Exchange, and knowing the extent to which they were affected by the amount of liquidity and efficiency in the companies.

Cost efficiency, in this study, is measured by four variables: First, “Cost of Goods Sold Expenses Efficiency” is calculated as (Cost of Goods Sold Expense divided by total sales), then “General and Administration expenses Efficiency” is calculated as (General and administration expenses divided by total sales), then "Marketing and Selling Expenses Efficiency" is calculated as (Marketing and Selling Expenses divided by total sales) and finally, the “Financing Expenses Efficiency” is calculated as (Financing Expenses divided by total sales).

3.2.2 The Independent Variables Definitions are

- **Liquidity**

As it was mentioned in the introduction to the study, the liquidity concept Liquidity refers to the ease with which an asset, or security, can be converted into ready cash without affecting its market price. in this study, is measured by using the five liquidity ratios. First, "Current Ratio" is calculated as (Current Assets divided by Current

Liability), then "Quick Ratio" is calculated as $((\text{Current Assets} - \text{Inventory}) \div \text{Current Liability})$, then "Cash flow Ratio" is calculated as $(\text{Cash flow from operation} \div \text{Average CL})$ then "Working Capital" is calculated as $(\text{Current Assets} - \text{Current Liability})$ and finally, the "Cash Ratio" is calculated as $(\text{Cash} \div \text{Current Liability})$.

- **Solvency**

As it was mentioned in the introduction of the study, Solvency is the ability of a company to meet its long-term debts and financial obligations. Solvency can be an important measure of financial health, since its one way of demonstrating a company's ability to manage its operations into the foreseeable future. In this study, is measured by using the Four Solvency ratios. First, "Total Debt to total assets" is calculated as $(\text{Total Debt} \div \text{Total Assets})$, then "Long term debt to equity ratio" is calculated as $(\text{Long Term Debt} \div \text{Total Equity})$, then "Time interest Earned" is calculated as $(\text{EBIT} \div \text{Interest Expense})$ and finally, the "Financial leverage ratio" is calculated as $(\text{Total Assets} \div \text{Total Equity})$.

3.3 Methodology

Regarding the data it was collected from 2010 to the 2019. Thus, making use of 350 data points for Regression Analysis for Amman Stock Exchange and 120 data point for Palestine Exchange.

All data were obtained from the financial statements published in the Palestine Exchange and Amman Stock Exchange. All data were collected in the currency of the JOD. The number of industrial companies in Palestine Exchange is 13 companies and 44 companies in Amman stock Exchange.

To test research hypothesis we will use secondary data collected from financial statements for industrial company listed in exchange market.

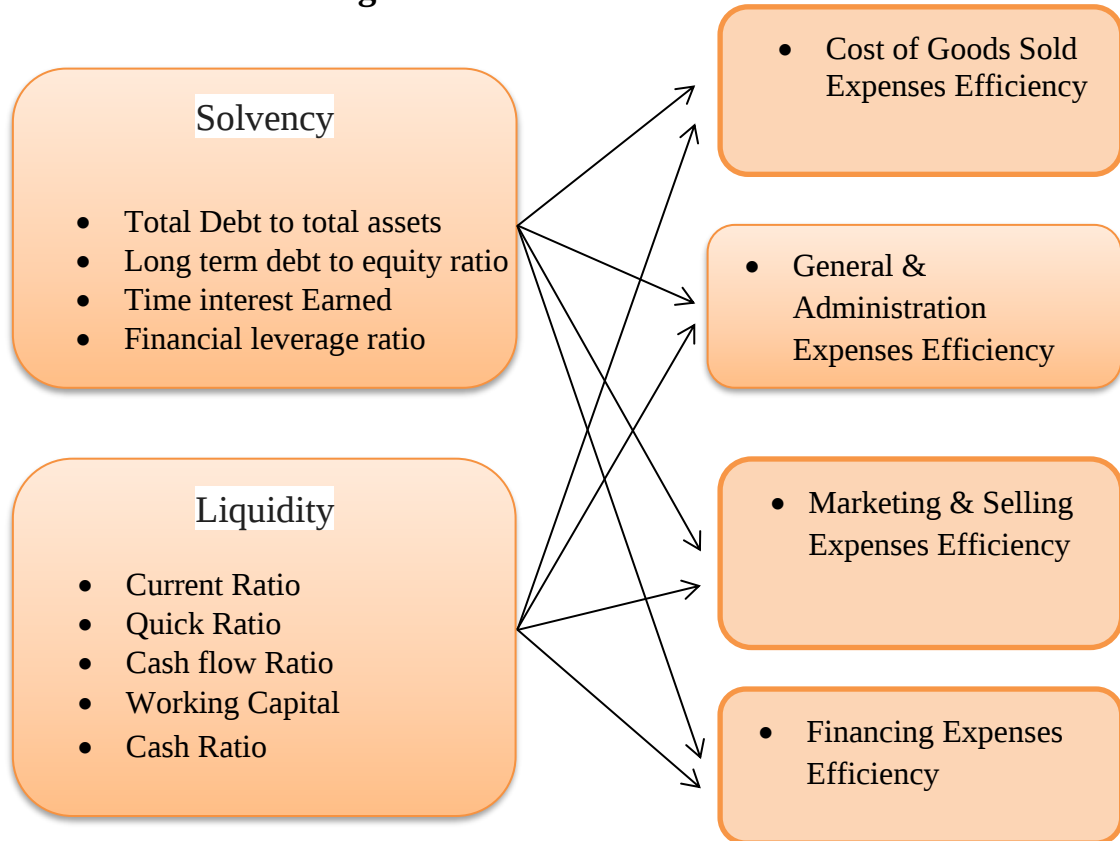
The below table show the data collection and measurements:

Table (1): Data collection and measurements

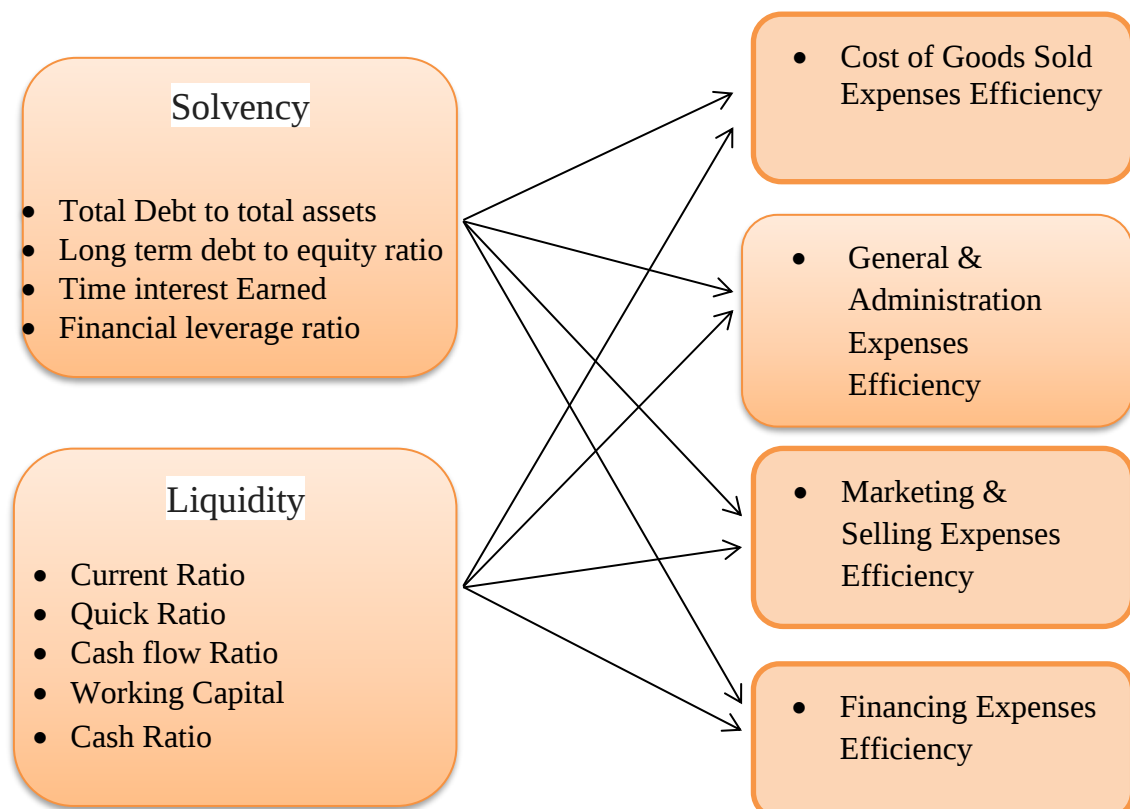
Cost Efficiency Measured by	Measures	Clarification
Cost of Goods Sold Expenses Efficiency	Cost of Goods Sold Expenses Divided by total sales	Wagner, H. (2004)
General & Administration Expenses Efficiency	General & Administration Expenses Divided by total sales	Wagner, H. (2004)
Marketing & Selling Expenses Efficiency	Marketing & Selling Expenses Divided by total sales	Wagner, H. (2004)
Financing Expenses Efficiency	Financing Expenses divided by total sales	Wagner, H. (2004)
Liquidity Measured by:		
Current Ratio	Current Assets/Current Liability	Based on Russell, Langemeier and Briggeman, 2013
Quick Ratio	(Current Assets-inventory)/Current Liability	We want to adding other ratios to include data from all financial statements
Cash flow Ratio	Cash flow from operation/Average Current Liability	
Working Capital	Current Assets – Current Liability	
Cash Ratio	cash/Current Liability	
Solvency Measured by:		
Total Debt to total assets	Total Debt/Total Assets	Based on Russell, Langemeier and Briggeman, 2013
Long term debt to equity ratio	Long Term Debt/Total Equity	We want to adding other ratios to include data from all financial statements
Time interest Earned	EBIT/Interest expense	
Financial leverage ratio	Total Assets/Total Equity	

The Research Models are:

3.3.1 Palestine Exchange



3.3.2 Amman Stock Exchange



Chapter Four

Empirical results and Discussion

4.1 Empirical results and Discussion of Liquidity

4.1.1 Palestine Exchange

4.2.2 Amman Stock Exchange

4.2 Empirical results and Discussion of Solvency

4.2.1 Palestine Exchange

4.2.2 Amman Stock Exchange

Chapter Four

Empirical Results and Discussion

4.1 Empirical results and Discussion of Liquidity

This section showing the results of Liquidity impact on Cost of goods sold efficiency, General & Administration Expenses Efficiency, Selling and marketing Expenses Efficiency and Financing expenses efficiency for industrial companies for both Palestine Exchange and Amman stock Exchange, by applying the regression Analysis.

4.1.1 Palestine Exchange (PEX)

4.1.1.1 Cost of Goods Sold Efficiency and Liquidity impacts:

Table (2): Regression Model - Cost of Goods Sold Efficiency and Liquidity impacts

R	R Square	Sig
0.606	0.367	0.000

Through the results of table (2), the model is significant to present the relationship between Cost of Goods Sold Efficiency and Liquidity impacts.

Table (3): Regression Model - Cost of Goods Sold Efficiency and Liquidity impacts coefficients

Model	Unstandardized Coefficients (UC)		Standardized Coefficients (SC)	T	Sig
	B	Std. Error	Beta		
(Constant)	0.176	0.022		8.181	0.000
Current Ratio	0.071	0.026	1.033	2.757	0.007
Quick Ratio	0.105	0.034	1.218	3.079	0.003
Cash flow Ratio	0.055	0.035	0.156	1.569	0.119
Working Capital	0.00035	0.000	0.574	5.992	0.000
Cash ratio	0.029	0.027	0.104	1.073	0.286

On Palestine Exchange, and through the statistical results, and as presented in (Table 3) that Current ratio, working capital and Quick Ratio have an impact with statistical significance less than 0.05 on the Cost of Goods Sold Efficiency. Cash flow Ratio and cash ratio have no impact with statistical significance more than 0.05 on the Cost of Goods Sold Efficiency.

The results of table (3) above clarifies that it is not important to have cash in the companies, as this cash may be matched by high current obligations, so the most important is the company's ability to use this money. In addition, most of the assets traded in industrial companies are represented in inventory and short-term accounts receivable, and it is better for industrial companies to use cash in order to develop industrial assets and others.

Based on the study by Russell, Langemeier and Briggeman on (2013) that study the impact of liquidity on cost of Goods Sold Efficiency, they found that liquidity measures has a significant impact on improving

cost efficiency, where they use Current Ratio to measure the liquidity.

4.1.1.2 General & Administration Expenses Efficiency and Liquidity impacts

Table (4): Regression Model - General & Administration Expenses Efficiency and Liquidity impacts

R	R Square	Sig
0.400	0.16	0.001

Through the results of table (4), the model is significant to present the relationship General & Administration Expenses Efficiency and Liquidity impacts.

Table (5): Regression Model – General & Administration Expenses Efficiency and Liquidity impacts coefficients

Model	UC		SC	T	Sig
	B	Std. Error	Beta		
(Constant)	0.064	0.007		8.745	0
CR	0.025	0.009	1.262	2.925	0.004**
QR	0.035	0.012	1.368	3.001	0.003**
CFR	-0.021	0.012	-0.202	-1.755	0.082
WC	2.25E-09	0.000	0.359	3.249	0.002**
CR	0.016	0.009	0.188	1.683	0.095

On Palestine Exchange, and through the statistical results, and as presented in (Table 5) that Current ratio, working capital and Quick Ratio have an impact with statistical significance less than 0.05 on the General & Administration Expenses Efficiency. Cash flow Ratio and cash ratio have no impact with statistical significance more than 0.05 on the General & Administration Expenses Efficiency.

Spengelink (2002) defined administrative efficiency as the process of gathering, processing and communicating of information in the most

effective manner, which is aimed at employee/customers satisfaction then maximize profit. The results of table (5) above clarifies as that when the company has the liquidity, it can provide training courses to maximize the ability of administration employees to gathering, processing and communicating of information and maximize it to the highest level, which increases the efficiency of the General & Administration Expenses Efficiency. By making strategic decisions, for example, related to reducing the number of employees in a specific department, or through strategic decisions related to production and working to maximize it at the same level of cost.

Based on study by Tripathy and Uzma on (2020), there is a significant positive impact of the liquidity on General & Administration Expenses Efficiency. And this result indicates good management to manage expenses, improve performance and financial control, and activate financial and internal control.

Internal control procedures play a positive role in managing receivables, inventories and managing all expenses and working to reach the target ratio of administrative and general expenses to sales to maximize efficiency.

4.1.1.3 Selling & Marketing Expenses Efficiency and Liquidity impacts

Table (6): Regression Model – Selling & Marketing Expenses Efficiency and Liquidity impacts

R	R Square	Sig
0.564	0.318	0.000

Through the results of table (6), the model is significant to present the relationship Selling & Marketing Expenses Efficiency and Liquidity impacts.

Table (7): Regression Model – Selling & Marketing Expenses Efficiency and Liquidity impacts coefficients

Model	UC		SC	T	Sig
	B	Std. Error	Beta		
(Constant)	0.049	0.008		6.406	0
CR	0.009	0.009	0.408	1.05	0.296
QR	-0.02	0.012	-0.674	-1.641	0.100
CFR	-0.001	0.012	-0.005	-0.049	0.961
WC	4.80E-09	0.000	0.661	6.645	0.000**
Cash Ratio(CR)	0.017	0.01	0.177	1.758	0.081

On Palestine Exchange, and through the statistical results, and as presented in (Table 7) that working capital have an impact with statistical significance less than 0.05 on the Selling & Marketing Expenses Efficiency. Current Ratio, Quick Ratio, Cash flow Ratio and cash ratio have no impact with statistical significance more than 0.05 on the Selling & Marketing Expenses Efficiency.

Based on study by Tripathy and Uzma on 2020 there is a significant positive impact of liquidity on Selling & Marketing Expenses Efficiency. The results of table (7) above clarifies as that there is a significant impact just on one ratio (Working capital), and due to the small size of the

Palestinian market in industrial companies, most of the industrial companies are not listed in the Palestine market. In addition, the fact that most of the listed companies are food and basic industries and there is no high competition among them.

4.1.1.4 Financing Expenses Efficiency and Liquidity impacts

Table (8): Regression Model – Financing Expenses Efficiency and Liquidity impacts

R	R Square	Sig
0.433	0.188	0.000

Through the results of table (8), the model is significant to present the relationship financing Expenses Efficiency and Liquidity impacts.

Table (9): Regression Model – Financing Expenses Efficiency and Liquidity impacts coefficients

Model	UC		SC	T	Sig
	B	Std. Error	Beta		
(Constant)	0.023	0.003		7.84	0
CR	-0.006	0.003	-0.77	-1.814	0.072
QR	0.004	0.005	0.385	0.86	0.392
CFR	0.01	0.005	0.227	2.012	0.047**
WC	4.17E-10	0.000	0.162	1.496	0.137
CR	0.004	0.004	0.126	1.148	0.253

On Palestine Exchange, and through the statistical results, and as presented in (Table 9) that Cash flow Ratio have an impact with statistical significance less than 0.05 on the Financing Expenses Efficiency. Current Ratio, Quick Ratio, Working Capital and cash ratio have no impact with statistical significance more than 0.05 on the Financing Expenses Efficiency.

Based on study by Legesse and Guo, 2020 examines the relationship between debt financing and firm efficiency and the moderating role of liquidity holding. The researcher find that there is a positively impact of liquidity on short term financing and negatively affect with long term financing. The results of table (9) above clarify as that due to most of the Palestine Exchange consists of food and basic industries, and there is no need for long-term financing so there is a significant impact of liquidity on financing efficiency on Palestine Exchange.

4.1.2 Amman Stock Exchange

4.1.2.1 Cost of Goods Sold Efficiency and Liquidity impacts

Table (10): Regression Model - Cost of Goods Sold Efficiency and Liquidity impacts

R	R Square	Sig
0.518	0.268	0.000

Through the results of table (10), the model is significant to present the relationship Cost of Goods Sold Efficiency and Liquidity impacts.

Table (11): Regression Model - Cost of Goods Sold Efficiency and Liquidity impacts coefficients

Model	UC		SC	T	Sig
	B	Std. Error	Beta		
(Constant)	0.128	0.013		9.624	0
CR	0.061	0.01	0.814	6.093	0.000**
QR	0.118	0.016	1.105	7.558	0.000**
CFR	0.035	0.017	0.134	2.068	0.039**
WC	5.43E-09	0.000	0.27	5.327	0.000**
CR	-0.024	0.015	-0.107	-1.545	0.123

On Amman Stock Exchange, and through the statistical results, and as presented in (Table 11) that Current ratio, working capital, Quick Ratio and cash flow ratio have an impact with statistical significance less than 0.05 on the Cost of Goods Sold Efficiency. Cash ratio has no impact with statistical significance more than 0.05 on the Cost of Goods Sold Efficiency. This is the same result on Palestine Exchange (PEX).

4.1.2.2 General & Administration Expenses Efficiency and Liquidity impacts

Table (12): Regression Model - General & Administration Expenses Efficiency and Liquidity impacts

R	R Square	Sig
0.123	0.015	0.382

Through the results of table (12), the model is not significant to present the relationship General & Administration Expenses Efficiency and Liquidity impacts.

Table (13): Regression Model – General & Administration Expenses Efficiency and Liquidity impacts coefficients

Model	UC		SC	T	Sig
	B	Std. Error	Beta		
(Constant)	0.147	0.031		4.7	0
CR	0.017	0.024	0.109	0.703	0.483
QR	-0.022	0.036	-0.102	-0.6	0.549
CFR	-0.021	0.04	-0.039	-0.517	0.605
WC	4.72E-09	0	0.116	1.973	0.049**
CR	-0.009	0.036	-0.019	-0.241	0.810

On Amman Stock Exchange, and through the statistical results, and as presented in (Table 13) that working capital have an impact with statistical significance less than 0.05 on the General & Administration

Expenses Efficiency. Current Ratio, Quick Ratio, Cash flow Ratio and cash ratio have no impact with statistical significance more than 0.05 on the General & Administration Expenses Efficiency.

4.1.2.3 Selling & Marketing Expenses Efficiency and Liquidity impacts

Table (14): Regression Model – Selling & Marketing Expenses Efficiency and Liquidity impacts

R	R Square	Sig
0.379	0.143	0.000

Through the results of table (14), the model is significant to present the relationship Selling & Marketing Expenses Efficiency and Liquidity impacts.

Table (15): Regression Model – Selling & Marketing Expenses Efficiency and Liquidity impacts coefficients

Model	UC		SC	T	Sig
	B	Std. Error	Beta		
(Constant)	0.087	0.01		8.528	0
CR	-0.05	0.008	0.941	6.51	0.000**
QR	0.084	0.012	1.115	7.047	0.000**
CFR	-0.014	0.013	-0.075	-1.08	0.281
WC	2.48E-09	0.000	0.175	3.193	0.002**
CR	-0.049	0.012	0.313	4.198	0.000**

On Amman Stock Exchange, and through the statistical results, and as presented in (Table 15) that Current Ratio, Quick Ratio, working capital and cash ratio have an impact with statistical significance less than 0.05 on the Selling & Marketing Expenses Efficiency. Cash flow Ratio has no impact with statistical significance more than 0.05 on the Selling & Marketing Expenses Efficiency. This is the same result on Palestine Exchange (PEX).

4.1.2.4 Financing Expenses Efficiency and Liquidity impacts

Table (16): Regression Model – Financing Expenses Efficiency and Liquidity impacts

R	R Square	Sig
0.150	0.022	0.164

Through the results of table (16), the model is not significant to present the relationship financing Expenses Efficiency and Liquidity impacts.

Table (17): Regression Model – Financing Expenses Efficiency and Liquidity impacts coefficients

Model	UC		SC	T	Sig
	B	Std. Error	Beta		
(Constant)	0.073	0.017		4.313	0
CR	0.006	0.013	0.07	0.454	0.650
QR	-0.016	0.02	-0.139	-0.823	0.411
CFR	-0.01	0.022	-0.033	-0.438	0.662
WC	-2.33E-09	0	-0.105	-1.787	0.075
CR	-0.001	0.019	-0.004	-0.052	0.959

On Amman Stock Exchange, and through the statistical results, and as presented in (Table 17) that Current Ratio, Quick Ratio, Cash slow Ratio, Working Capital and cash ratio have no impact with statistical significance more than 0.05 on the Financing Expenses Efficiency.

Based on study by Legesse and Guo (2020) examines the relationship between debt financing and firm efficiency and the moderating role of liquidity holding. The researcher find that there is a positively impact of liquidity on short term financing and negatively affect with long term financing. The results of table (17) above clarify as that due to most of the ASE e consists of extractive industries and others large industries, and

there is a need for long-term financing so there is no significant impact of liquidity on financing efficiency on ASE.

We noticed that there are some differences in the results between the ASE and the PEX, due to the fact that the sample size is completely different between the two markets, just as the nature of the industry in the two markets is different, as Palestine is based on basic industries while the Jordan market contains extractive industries and others.

4.2 Empirical results and Discussion of Solvency

This section showing the results of Solvency impact on Cost of goods sold efficiency, General & Administration Expenses Efficiency, Selling and marketing Expenses Efficiency and Financing expenses efficiency for industrial companies for both Palestine Stock Exchange and Jordan stock Exchange, by applying the regression statistics.

4.2.1 Palestine Exchange (PEX)

4.2.1.1 Cost of Goods Sold Efficiency and Solvency impacts

Table (18): Regression Model - Cost of Goods Sold Efficiency and Solvency impacts

R	R Square	Sig
0.644	0.415	0.000

Through the results of table (18), the model is significant to present the relationship Cost of Goods Sold Efficiency and Solvency impacts.

Table (19): Regression Model - Cost of Goods Sold Efficiency and Solvency impacts coefficients

Model	UC		SC	T	Sig
	B	Std. Error	Beta		
(Constant)	0.533	0.052		10.178	0
Total Debt to Total Assets (TD-TA)	-0.054	0.035	-0.137	-1.571	0.100
Long Term Debt to Equity Ratio (LTD-ER)	0.605	0.108	0.531	5.607	0.000**
Time interest Earned	0.00036	0.000	-0.108	-1.231	0.222
Financial Leverage Ratio (FLR)	0.222	0.034	0.619	6.51	0.000**

On Palestine Exchange (PEX), and through the statistical results, and as presented in (Table 19) that long term debt to equity ratio and Financial leverage ratio have an impact with statistical significance less than 0.05 on the Cost of Goods Sold Efficiency. Total Debt to total assets and Time interest Earned have no impact with statistical significance more than 0.05 on the Cost of Goods Sold Efficiency.

Based on study by Russell, Langemeier and Briggemanon (2013) that mentioned on literature review. This study was studied the impact of Solvency on CE this study finds that Solvency measures has a significant influence on improving CE. This supports the results of our research. It is logical that when the solvency of the company is high, it will be able to purchase raw materials at lower prices and without additional costs related to interest for loans and others. This indicates good management of long-term obligations, and this stems from the concept of good internal control for financial management.

4.2.1.2 General & Administration Expenses Efficiency and Solvency impacts

Table (20): Regression Model - General & Administration Expenses Efficiency and Solvency impacts

R	R Square	Sig
0.623	0.388	0.000

Through the results of table (20), the model is significant to present the relationship General & Administration Expenses Efficiency and Solvency impacts.

Table (21): Regression Model – General & Administration Expenses Efficiency and Solvency impacts coefficients

Model	UC		SC	T	Sig
	B	Std. Error	Beta		
(Constant)	0.096	0.018		5.414	0
TD-TA	0.012	0.012	0.09	1.01	0.316
LTD-ER	0.252	0.037	0.663	6.851	0.000**
TIE	1.19E-05	0	0.13	1.449	0.151
FLR	0.04	0.012	0.335	3.447	0.001**

On Palestine Exchange, and through the statistical results, and as presented in (Table 21) that Long term debt to equity ratio and Financial leverage ratio have an impact with statistical significance less than 0.05 on the General & Administration Expenses Efficiency. Total Debt to total assets and Time interest Earned have no impact with statistical significance more than 0.05 on the General & Administration Expenses Efficiency.

4.2.1.3 Selling & Marketing Expenses Efficiency and Solvency impacts:

Table (22): Regression Model – Selling & Marketing Expenses Efficiency and Solvency impacts

R	R Square	Sig
0.597	0.356	0.000

Through the results of table (22), the model is significant to present the relationship Selling & Marketing Expenses Efficiency and Solvency impacts.

Table (23): Regression Model – Selling & Marketing Expenses Efficiency and Solvency impacts coefficients

Model	UC		SC	T	Sig
	B	Std. Error	Beta		
(Constant)	0.173	0.022		7.869	0.000
TD-TA	-0.032	0.014	-0.202	-2.201	0.031**
LTD-ER	0.227	0.045	0.498	5.013	0.000**
TIE	-1.30E-05	0	-0.119	-1.291	0.200
FLR	-0.076	0.014	-0.532	-5.333	0.000**

On Palestine Exchange, and through the statistical results, and as presented in (Table 23) that Total Debt to total assets, Long term debt to equity ratio and Financial leverage ratio have an impact with statistical significance less than 0.05 on the Selling & Marketing Expenses Efficiency. Time interest Earned has no impact with statistical significance more than 0.05 on the Selling & Marketing Expenses Efficiency.

4.2.1.4 Financing Expenses Efficiency and Solvency impacts

Table (24): Regression Model – Financing Expenses Efficiency and Solvency impacts

R	R Square	Sig
0.673	0.453	0.000

Through the results of table (24), the model is significant to present the relationship financing Expenses Efficiency and Solvency impacts.

Table (25): Regression Model – Financing Expenses Efficiency and Solvency impacts coefficients

Model	UC		SC	T	Sig
	B	Std. Error	Beta		
(Constant)	-0.004	0.007		-0.594	0.554
TD-TA	0.018	0.004	0.337	3.996	0.000**
LTD-ER	0.079	0.014	0.53	5.788	0.000**
TIE	-4.99E-08	0	-0.001	-0.016	0.987
FLR	0.001	0.004	0.015	0.163	0.871

On Palestine Exchange, and through the statistical results, and as presented in (Table 25) that Total Debt to total assets and Long term debt to equity ratio have an impact with statistical significance more than 0.05 on the Financing Expenses Efficiency. Time interest Earned and Financial Leverage have no impact with statistical significance more than 0.05 on the Financing Expenses Efficiency.

4.2.2 Amman Stock Exchange

4.2.2.1 Cost of Goods Sold Efficiency and Solvency impacts

Table (26): Regression Model - Cost of Goods Sold Efficiency and Solvency impacts

R	R Square	Sig
0.216	0.047	0.006

Through the results of table (26), the model is significant to present the relationship Cost of Goods Sold Efficiency and Solvency impacts.

Table (27): Regression Model - Cost of Goods Sold Efficiency and Solvency impacts coefficients

Model	UC		SC	T	Sig
	B	Std. Error	Beta		
(Constant)	0.275	0.023		12.178	0.000
TD-TA	-0.237	0.062	-0.255	-3.821	0.000**
LTD-ER	0.017	0.009	0.113	1.751	0.081
TIE	-1.67E-06	0.000	-0.014	-0.249	0.803
FLR	0.000	0.000	0.046	0.797	0.426

On Amman Stock Exchange, and through the statistical results, and as presented in (Table 27) that Total Debt to total has an impact with statistical significance less than 0.05 on the Cost of Goods Sold Efficiency. Long term debt to equity ratio, Financial leverage ratio and Time interest Earned have no impact with statistical significance more than 0.05 on the Cost of Goods Sold Efficiency.

We noticed that the solvency ratios that contain long-term debt are the ones that have had an impact on efficiency, because the industrial sector

is in need of large financing as a result of the continuous need to develop equipment and add new production lines.

Based on study by Russell, Langemeier and Briggeman on 2013 that mentioned on literature review. This study was studied the impact of Solvency on CE. This study finds that Solvency measures have a significant influence on improving CE. This supports the results of our research.

4.2.2.2 General & Administration Expenses Efficiency and Solvency impacts

Table (28): Regression Model - General & Administration Expenses Efficiency and Solvency impacts

R	R Square	Sig
0.106	0.011	0.493

Through the results of table (28), the model is not significant to present the relationship General & Administration Expenses Efficiency and Solvency impacts.

Table (29): Regression Model – General & Administration Expenses Efficiency and Solvency impacts coefficients

Model	UC		SC	T	Sig
	B	Std. Error	Beta		
(Constant)	0.034	0.05		0.677	0.499
TD-TA	0.249	0.139	0.122	1.796	0.073
LTD-ER	-0.013	0.021	-0.042	-0.637	0.524
TIE	-3.07E-06	0	-0.012	-0.204	0.838
FLR	0	0.001	-0.032	-0.542	0.588

On Amman Stock Exchange, and through the statistical results, and as presented in (Table 28) that Total Debt to total assets, Long term debt to equity ratio, Time interest Earned and Financial leverage ratio have no impact with statistical significance less than 0.05 on the General & Administration Expenses Efficiency.

4.2.2.3 Selling & Marketing Expenses Efficiency and Solvency impacts

Table (30): Regression Model – Selling & Marketing Expenses Efficiency and Solvency impacts

R	R Square	Sig
0.269a	0.072	0.000

Through the results of table (30), the model is significant to present the relationship Selling & Marketing Expenses Efficiency and Solvency impacts.

Table (31): Regression Model – Selling & Marketing Expenses Efficiency and Solvency impacts coefficients

Model	UC		SC	T	Sig
	B	Std. Error	Beta		
(Constant)	0.055	0.016		3.311	0.001
TD-TA	0.087	0.045	0.126	1.908	0.050**
LTD-ER	0.014	0.007	0.134	2.095	0.037**
TIE	-2.05E-06	0.000	-0.023	-0.417	0.677
FLR	0.000	0.000	0.113	1.97	0.050**

On Amman Stock Exchange, and through the statistical results, and as presented in (Table 31) that Total Debt to total assets, Long term debt to equity ratio and Financial leverage ratio have an impact with statistical significance less than 0.05 on the Selling & Marketing Expenses

Efficiency. Time interest Earned has no impact with statistical significance more than 0.05 on the Selling & Marketing Expenses Efficiency.

4.2.2.4 Financing Expenses Efficiency and Solvency impacts

Table (32): Regression Model – Financing Expenses Efficiency and Solvency impacts

R	R Square	Sig
0.169	0.028	0.070

Through the results of table (32), the model is insignificant to present the relationship financing Expenses Efficiency and Solvency impacts.

Table (33): Regression Model – Financing Expenses Efficiency and Solvency impacts coefficients

Model	UC		SC	T	Sig
	B	Std. Error	Beta		
(Constant)	-0.025	0.027		-0.929	0.354
TD-TA	0.217	0.075	0.195	2.895	0.004**
LTD-ER	-0.011	0.011	-0.063	-0.97	0.333
TIE	-1.47E-06	0.000	-0.01	-0.181	0.857
FLR	0.000	0.000	-0.045	-0.76	0.448

On Amman Stock Exchange, and through the statistical results, and as presented in (Table 33) that Total Debt to total assets has as impact with statistical significance more than 0.05 on the Financing Expenses Efficiency. Long term debt to equity ratio, Time interest Earned and Financial Leverage have no impact with statistical significance more than 0.05 on the Financing Expenses Efficiency.

3.4 The differences between Palestine exchange and Amman stock exchange for both liquidity and solvency

Table (34): Independent Samples Test

Independent Samples Test	
Indicators	Sig. (2-tailed)
Cash flow Ratio	0.230
Cash ratio	0.302
Current ratio	0.023
Working Capital	0.209
Quick Ratio	0.000
Debt/Equity ratio	0.482
Time interest Earned	0.713
Total Debt to total assets	0.432
Long term debt to equity ratio	0.282
FINACING -E	0.118
Financial leverage ratio	0.481
G & a -E	0.338
MARTITING-E	0.168
COGS cost efficiency	0.001

Table 34 show that there is no significant difference between Palestine exchange and Amman stock exchange for all items except Current ratio, Quick ratio and cost of goods sold expenses efficiency. This was interpreted due to the size of the Jordanian companies and operations.

Table (34): The Analysis Result: Study Results

<u>Results</u>	<u>PEX – Results</u>	<u>ASM– Results</u>	<u>Compared with previous research</u>	<u>Interpretations PEX v Amman</u>
<u>Model Significance</u>	Over all, the model is significance more than 0.05 with some modifications on L&S measures discussed on conclusions.	Over all, the model is significance more than 0.05 with some modifications on L&S measures discussed on conclusions.		
<u>Hypothesis :</u>				
H01+9: There is a statistical significant influence of Liquidity on CGSE	Yes just for CR, QR and WC	Yes just for CR, QR, CFR from operating Ratio (OR) and WC	The result is compliant with previous studies such as Russell, Langemeier and Briggeman on 2013	There is a different in the result just for cash flow from operating ratio and it's may due to the different nature of the industry in the two markets and sample Size
H02+10: There is a statistical significant influence of Liquidity on GAEE	Yes just for CR, QR and WC	Yes just for WR	The result is compliant with previous studies such as Tripathy and Uzma on 2020	There is a different in the result just for Current Ratio and Quick Ratio it's may due to the different nature of the industry in the two markets and sample Size
H03+11: There is a statistical significant influence of Liquidity on MSEE	Yes just for WC	Yes just for CR, QR, WC and CR	The result is compliant with previous studies such as Tripathyand Uzma on 2020	There is a different in the result just for cash flow from operating ratio and it's may due to the different nature of the industry in the two markets and sample Size

<u>Results</u>	<u>PEX – Results</u>	<u>ASM– Results</u>	<u>Compared with previous research</u>	<u>Interpretations PEX v Amman</u>
H04+12: There is a statistical significant influence of Liquidity on FEE	Yes just for CFR from OR	NO	The result is compliant with previous studies Legesse and Guo, 2020	There is a different in the result Between two markets and it's may due to the different nature of the industry in the two markets and sample Size
H05+13: There is a statistical significant influence of Solvency on CGSE.	Yes just for LTD-ER and FLR	Yes just for TD-TA	The result is compliant with previous studies such as Russell, Langemeier and Briggeman on 2013	There is a different in the result Between two markets just in the ratio and it's may due to the different nature of the industry in the two markets and sample Size
H06+14: There is a statistical significant influence of Solvency on GAEE	Yes just for LTD-ER and FLR.	NO	The result is not based on previous studies, but we preferred to add the variable to know the result	There is a different in the result Between two markets and it's may due to the different nature of the industry in the two markets and sample Size
H07+15: There is a statistical significant influence of Solvency on MSEE	Yes just for Total Debt to total Assets, LTD-ER	Yes just for TD-TA, LTD-ER and FLR	The result is not based on previous studies, but we preferred to add the variable to know the result	There is no different between tow results
H08+16: There is a statistical significant influence of Solvency on FEE	Yes just for TD-TA and LTD-ER	Yes just for TD-TA	The result is not based on previous studies, but we preferred to add the variable to know the result	There is a different in the result Between two markets and it's may due to the different nature of the industry in the two markets and sample Size

Chapter Five

Conclusions, Recommendations & Limitations

5.1 Conclusions

5.2 Recommendations

5.2.1 The Final Models for Palestine Exchange

5.2.2 The Final Models for ASE

Chapter Five

Conclusions and Recommendations

5.1 Conclusions

This study aims to investigate the Solvency and Liquidity impact on Cost of Goods Sold Efficiency, General & Administration Expenses Efficiency, Selling & Marketing Expenses Efficiency and Financing Expenses Efficiency. IN order to identify different results between different markets. The Liquidity represented by five Ratios: Current Ratio, Quick Ratio, Cash flow Ratio, Working Capital and cash ratio. The Solvency Represent by four Ratios: Total Debt to Total Assets, Long Term Debt to Equity, Time interest Earned and Financial Leverage.

This study exploits Regression analysis depending on yearly data for Liquidity and Solvency and Cost Efficiency variables from January 2010 to December 2019 for Palestine Exchange and from January 2010 to December 2019 for Amman Stock Exchange.

The main results related to the Solvency variables:

1. In Palestine Exchange showed that generally the Solvency has a Positive significant impact on cost Efficiency (Total Debt to Total Assets has a positive impact on Selling & marketing Expenses Efficiency and Financing Expenses Efficiency / Long term debt to equity ratio has a positive Significant impact on Cost of Goods Sold

efficiency, General & Administration Expenses Efficiency, Selling & marketing Expenses Efficiency and Financing Expenses Efficiency / the Time interest Earned has no significant impact on any type of Cost efficiency / the Financial Leverage Ratio has a positive significant impact on Cost of Goods Sold Efficiency, General & administration Expenses Efficiency and Selling & Marketing Expenses Efficiency).

2. In Amman stock exchange showed that the Solvency has a Positive significant impact on cost Efficiency (Total Debt to Total Assets has a positive impact on Cost of Goods Sold Efficiency, Selling & Marketing Expenses Efficiency and Financing Expenses Efficiency / Long term debt to equity ratio has a positive Significant impact on Selling & Marketing Expenses Efficiency / the Time interest Earned has no significant impact on any type of Cost efficiency / the Financial Leverage Ratio has a positive significant impact on Selling & marketing Expenses Efficiency)

The researcher explain the result in that the efficiency of the financial department in managing inventory, managing receivables, and managing assets and liabilities have positively impacts overall cost efficiency and also increases internal control have a positively impact on Cost Efficiency. So if the companies want to increase the cost efficiency, the first step is improving the internal control policies and improves

managing inventory, managing receivables, and managing assets and liabilities.

There are some differences between the Amman Stock Exchange and the Palestine Exchange, and that is due to:

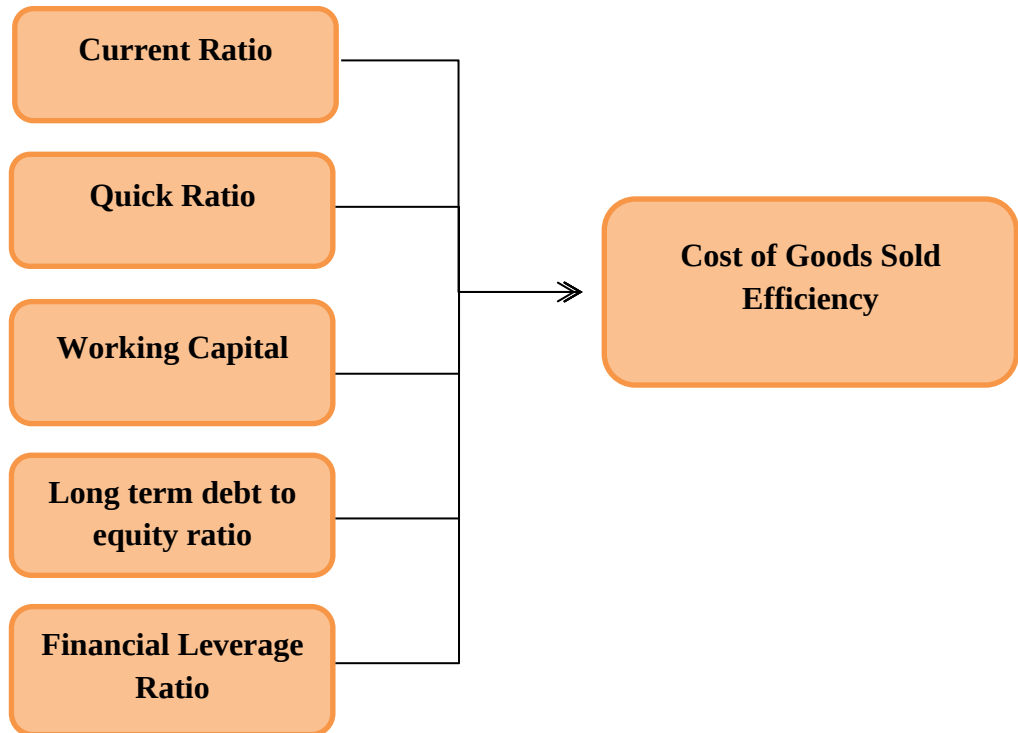
1. The size of the Palestine Exchange differs from the size of the Amman Stock Exchange, as the number of industrial companies in the Palestine Exchange is 13 while the number of industrial companies in the Amman Stock Exchange is 44.
2. The nature of the industries is different between the two markets.
The Amman Stock Exchange is based on extractive industries, unlike the Palestine Exchange, which is based on basic industries.
3. Most of the industrial companies in the Palestine are not listed in the stock market.

5.2 Recommendations

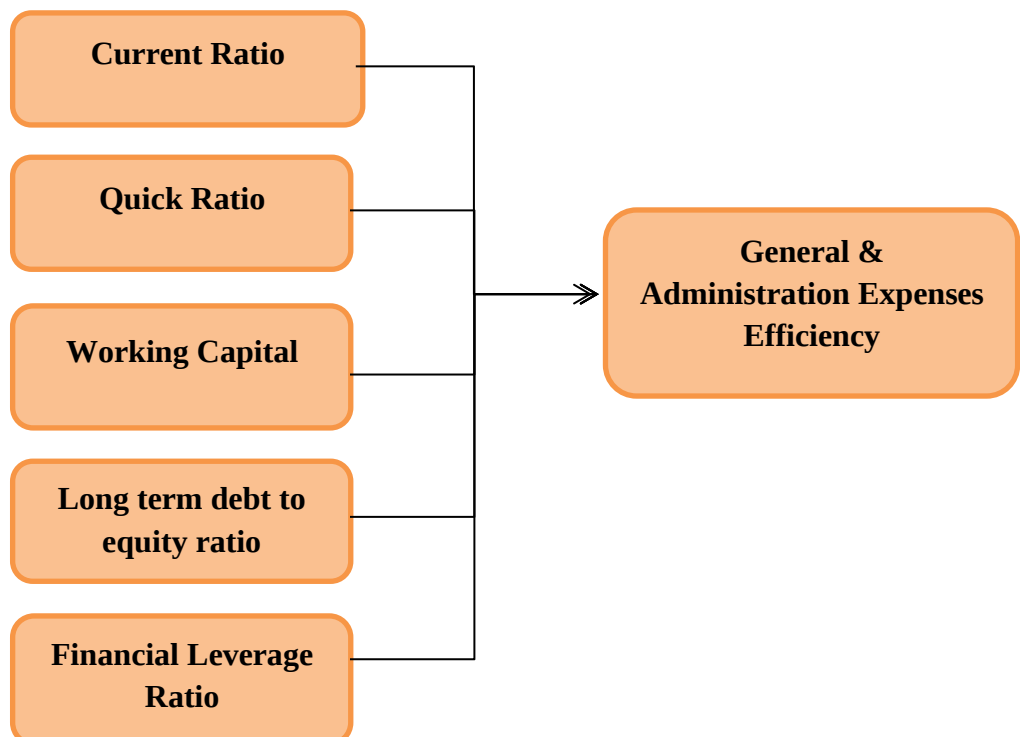
We recommend doing the same analysis, but for each sector separately, as a result of the different sizes of companies for each sector and the difference in their number. But for the industrial sector we recommend to use the following models that resulted from the analysis:

5.2.1 The Final Models for Palestine Exchange

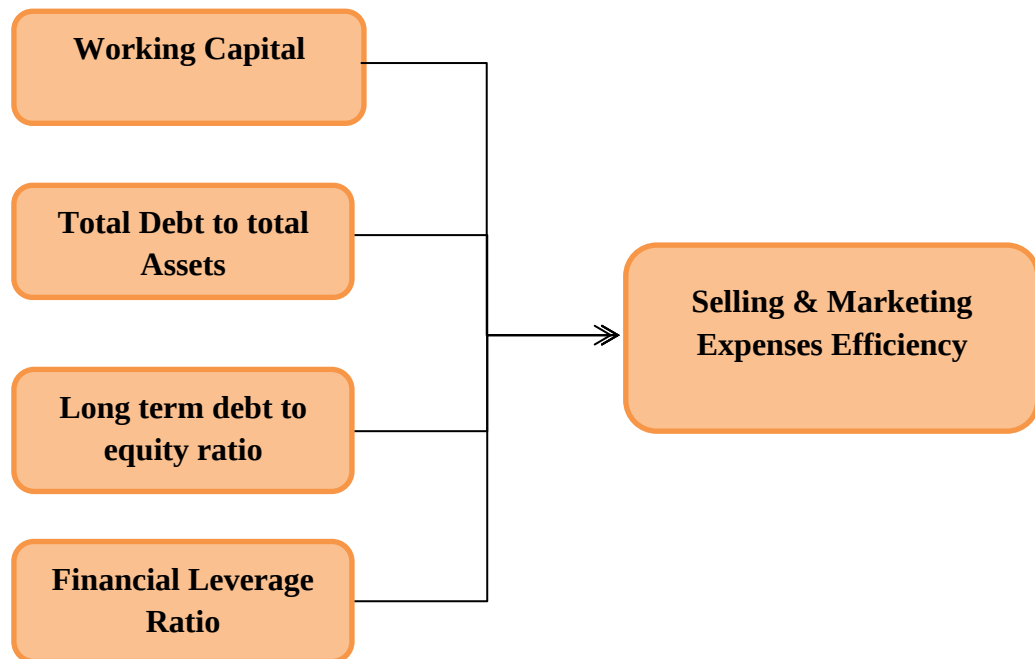
1. To Maximize CGSE:



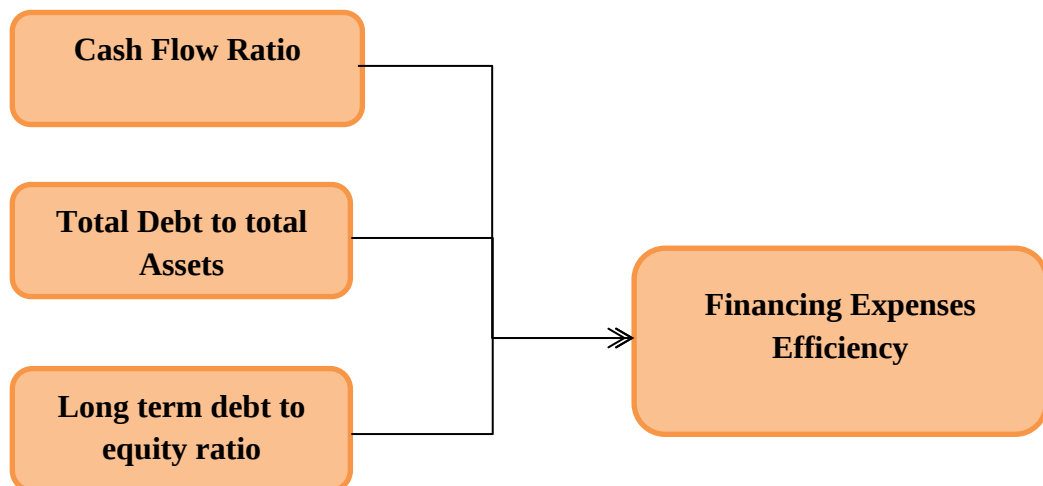
2. To maximize GAEE:



3. To maximize MSEE:

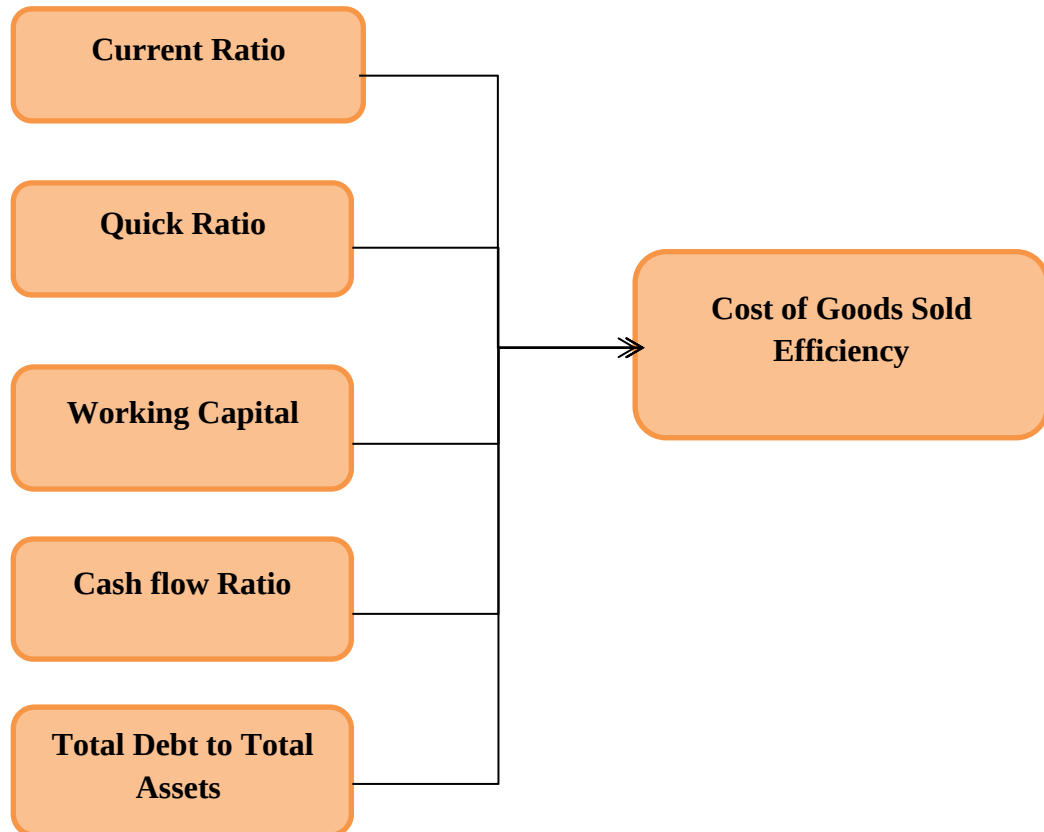


4. To maximize FEE:

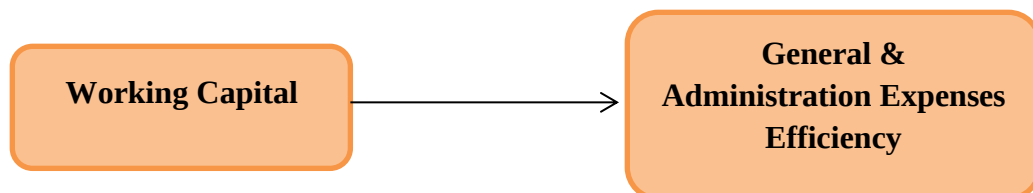


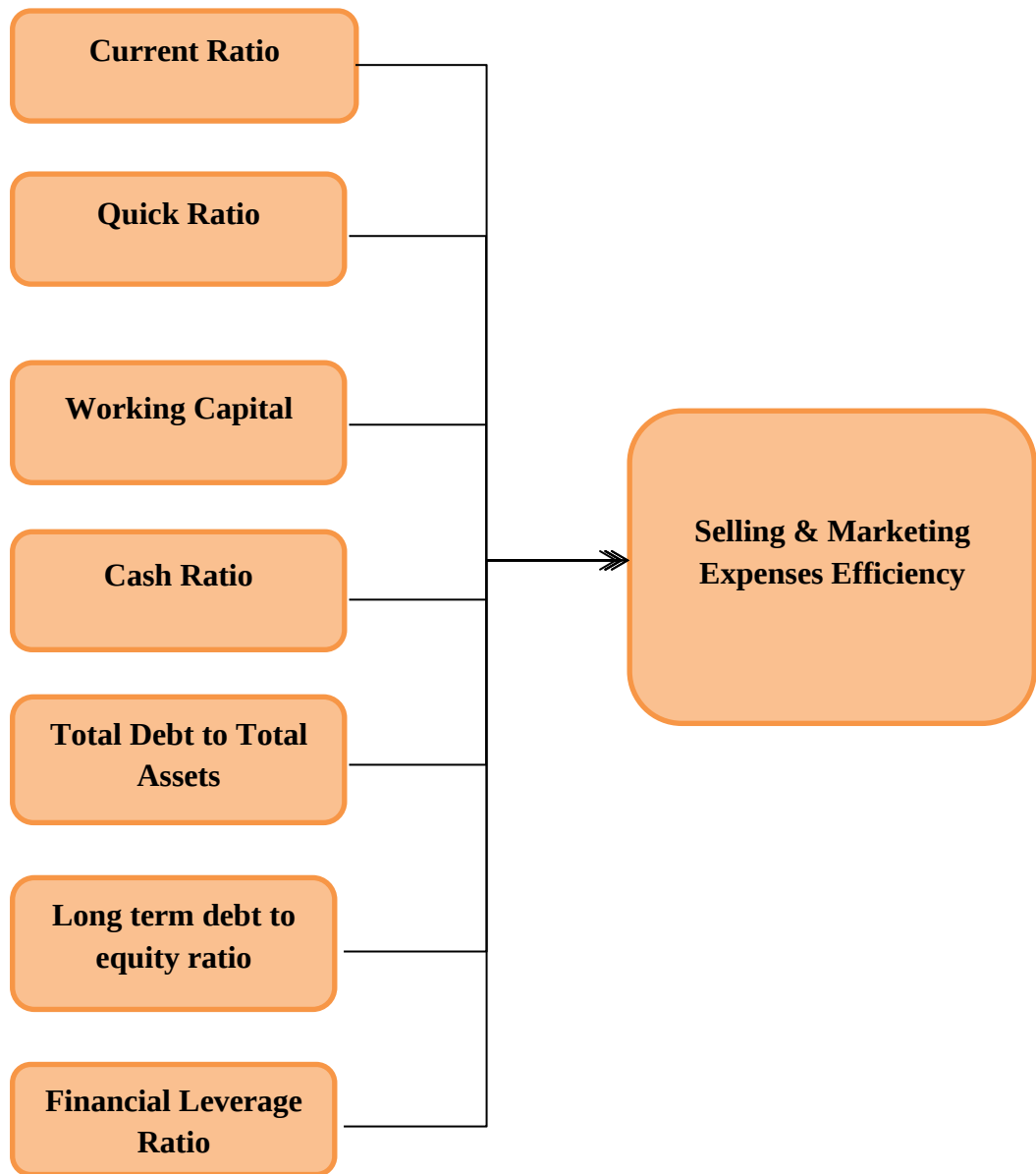
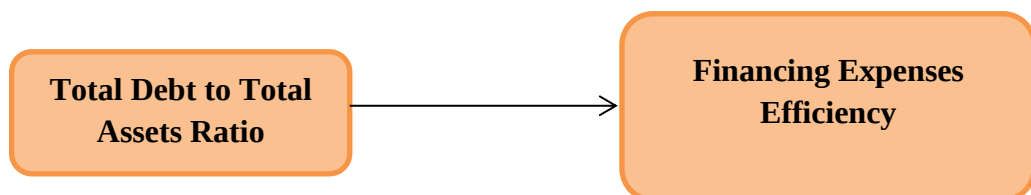
5.2.2 The Final Models for ASE

1. To Maximize CGSE:



2. To maximize GAEE:



3. To maximize MSEE:**4. To maximize FEE:**

References

- Alshatti, A. S. (2015). The effect of the liquidity management on profitability in the Jordanian commercial banks. *International Journal of Business and Management*, 10(1), 62. (3)
- Bitar, M., Pukthuanthong, K., & Walker, T. (2019). Efficiency in Islamic vs. conventional banking: The role of capital and liquidity. *Global Finance Journal*, 100487.(4)
- Camanho, A. S., & Dyson, R. G. (2005). Cost efficiency measurement with price uncertainty: a DEA application to bank branch assessments. *European journal of operational research*, 161(2), 432-446.
- Jian, B., & Zeng, S. (2019, April). *Liquidity and the Financing Efficiency of Enterprises Listed on the National Equities Exchange and Quotations (NEEQ) in China*. In 3rd International Conference on Culture, Education and Economic Development of Modern Society (ICCESE 2019) (pp. 1832-1838). Atlantis Press.
- Karami Khorramabadi, M., Yarahmadi, M., & Ghiyasi, M. (2020). Cost Efficiency Evaluation Based on a Data Envelopment Analysis Approach by Considering Undesirable Outputs on the Basis of the Semi-Disposability Assumption. *Mathematical and Computational Applications*, 25(1), 4.

- Legesse, T. S., & Guo, H. (2020). Does firm efficiency matter for debt financing decisions? Evidence from the biggest manufacturing countries. *Journal of Applied Economics*.
- Lotfi, F. H., Amirteimoori, A., Moghaddas, Z., & Vaez-Ghasemi, M. (2020). Cost efficiency measurement with price uncertainty: a data envelopment analysis. *Mathematical Sciences*, 1-10.
- Mgale, Y. J., & Yunxian, Y. (2020). Marketing efficiency and determinants of marketing channel choice by rice farmers in rural Tanzania: Evidence from Mbeya region, Tanzania. *Australian Journal of Agricultural and Resource Economics*.
- Nițoi, M., & Spulbar, C. (2015). An examination of banks' cost efficiency in central and Eastern Europe. *Procedia Economics and Finance*, 22, 544-551.(2)
- Nwinyokpugi, P. N., & Elizabeth, N. A. (2020). The BANKING SYSTEMS ADMINISTRATIVE EFFICIENCY. *GPH-International Journal Of Computer Science and Engineering*, 3(06), 01-11.
- Russell, L. A., Langemeier, M. R., & Briggeman, B. C. (2013). The impact of liquidity and solvency on cost efficiency. *Agricultural Finance Review*.(1)
- Sakouvogui, K., & Shaik, S. (2020). Impact of financial liquidity and solvency on cost efficiency: evidence from US banking system. *Studies in Economics and Finance. Emerald insight*

- Sealey Jr, C. W., & Lindley, J. T. (1977). Inputs, outputs, and a theory of production and cost at depository financial institutions. *The journal of finance*, 32(4), 1251-1266.
- Sengupta, J. K. (1999). A dynamic efficiency model using data envelopment analysis. *International Journal of Production Economics*, 62(3), 209-218.
- Tripathy, A., & Uzma, S. H. (2020). Factors influencing liquidity position of Indian manufacturing companies. *Journal of Accounting in Emerging Economies*.
- Wagner, H. (2004). Internationalization speed and cost efficiency: Evidence from Germany. *International Business Review*, 13(4), 447-463.
- Wagner, H. (2004). Internationalization speed and cost efficiency: Evidence from Germany. *International Business Review*, 13(4), 447-463.

Websites:

- College Accounting Coach (2006). Cost efficiency Available at: <https://fc.lc/1IwdWPuT> (Accessed 22.1.2020)

Appendix (1)

The websites that have been used to select the historical data of the study:

1. Palestine Stock Exchange, available at <http://www.pex.ps>
2. Amman Stock Exchange, available at <https://www.ase.com.jo>

جامعة النجاح الوطنية
كلية الدراسات العليا

قياس اثر السيولة والملاءة على كفاءة التكلفة للشركات الصناعية في فلسطين والاردن

إعداد

ريم مفيد احمد ابو بكر

إشراف

د. غسان دعاس

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

2021

ب

قياس اثر السيولة والملاءة على كفاءة
التكلفة للشركات الصناعية في فلسطين والاردن
اعداد

ريم مفيد احمد ابو بكر

إشراف

د. غسان دعاس

الملخص

تهدف هذه الدراسة إلى معرفه اثر السيولة واثر الملاءة على كفاءه التكاليف سواء كانت التكاليف الصناعية او المصاريف الادارية والعمومية او مصاريف البيع والتسويق او المصاريف التمويلية وذلك للشركات الصناعية في سوف الاردن وفي سوق فلسطين، بحيث تم قياس كفاءه التكاليف من خلال قسمة نوع التكلفة على اجمالي الايرادات، كما تم قياس السيولة والملاءة بنسب كل منهم، حيث تم قياس السيولة بخمس نسب بحيث تم اخذ نسب من قائمة الميزانية العمومية ونسب من قائمة التدفقات النقدية والنسب هي:

1. نسبة التداول.
2. نسبة التداول السريعة.
3. راس المالي العامل.
4. نسبه التدفقات النقدية من الانشطة التشغيلية.
5. نسبة النقد.

وكذلك تم قياس الملاءة بأربع نسب وهي:

1. اجمالي الالتزامات على اجمالي الاصول.
2. الاصول طويله الاجل على حقوق الملكية.

3. نسبه الفائدة المكتسبة.

4. نسبة الرافعة المالية.

وكانت نتيجة الدراسة هي:

1. يوجد اثر لنسبة التداول ونسبه التداول السريعة ورأس المالي العامل على كفاءه التكاليف الصناعية للشركات الصناعية في سوق فلسطين.
2. يوجد اثر لنسبة التداول ونسبه التداول السريعة ورأس المالي العامل ونسبة التدفقات النقدية من الأنشطة التشغيلية على كفاءه التكاليف الصناعية للشركات الصناعية في سوق عمان.
3. يوجد اثر لنسبة التداول ونسبه التداول السريعة ورأس المالي العامل على كفاءه المصاريف الادارية والعمومية للشركات الصناعية في سوق فلسطين.
4. يوجد اثر لرأس المالي العامل على كفاءه المصاريف الادارية والعمومية للشركات الصناعية في سوق عمان.
5. يوجد اثر لرأس المالي العامل على كفاءه مصاريف البيع والتسويق للشركات الصناعية في سوق فلسطين.
6. يوجد اثر لنسبة التداول ونسبه التداول السريعة ونسبه النقد على كفاءه مصاريف البيع والتسويق للشركات الصناعية في سوق عمان.
7. يوجد اثر لنسبة التدفقات النقدية من الأنشطة التشغيلية على كفاءه مصاريف التمويل للشركات الصناعية في سوق فلسطين.
8. لا يوجد اثر لأي نسبة من نسب السيولة على كفاءه مصاريف التمويل للشركات الصناعية في سوق عمان.

9. يوجد اثر لنسبة الاصول طويله الاجل على حقوق الملكية ونسبة الرافعة المالية على كفاءه التكاليف الصناعية للشركات الصناعية في سوق فلسطين.
10. يوجد اثر لنسبة اجمالي الالتزامات على اجمالي الاصول على كفاءه التكاليف الصناعية للشركات الصناعية في سوق عمان.
11. يوجد اثر لنسبة الالتزامات طويله الاجل على حقوق الملكية ونسبة الرافعة المالية على كفاءه المصاريف الادارية والعمومية للشركات الصناعية في سوق فلسطين.
12. لا يوجد اثر لأي نسبة من نسب الملاءة على كفاءه المصاريف الادارية والعمومية للشركات الصناعية في سوق عمان.
13. يوجد اثر لنسبة اجمالي الالتزامات على اجمالي الاصول ونسبة الالتزامات طويلة الاجل على حقوق الملكية ونسبة الرافعة المالية على كفاءه مصاريف البيع والتسويق للشركات الصناعية في سوق فلسطين.
14. يوجد اثر لنسبة اجمالي الالتزامات على اجمالي الاصول ونسبة الرافعة المالية على كفاءه مصاريف البيع والتسويق للشركات الصناعية في سوق عمان.
15. يوجد اثر لنسبة اجمالي الالتزامات على اجمالي الاصول ونسبة الالتزامات طويلة الاجل على حقوق الملكية على كفاءه مصاريف التمويل للشركات الصناعية في سوق فلسطين.
16. يوجد اثر لنسبة اجمالي الالتزامات على اجمالي الاصول على كفاءه مصاريف التمويل للشركات الصناعية في سوق عمان.