Faculty of Graduate Studies
M.B.A. Program

The Determinants of Stock Price in Palestine Securities Exchange:

An Empirical Study Between the Years 2003-2012

محددات اسعار الاسهم في بورصة فلسطين

دراسة تطبيقية للأعوام من 2003-2012

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This thesis is submitted in partial fulfillment of the requirements for the degree of Master of Business Administration "MBA", College of Graduate Studies and Academic Research, Hebron University.

April 2014

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This thesis was approved on   and by:

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DEDICATION

To my loving family

My husband: Nael SayedAhmad

My sweet little daughter: Lara

With love and respect

My parents and parents-in-law

My brothers, sister and close friends

Acknowledgments

In the name of God, the Most Gracious and the Most Merciful. All praise and thanks are certainly due to Him, for all the blessings throughout my life and especially during this Master degree journey.

The road leading to this point in my life has been paved and blessed by many people. While I am listed as the author of this work, this accomplishment would not have been possible without the support of many people. I therefore gratefully acknowledge the following for their help and sincerely thank them for their contributions:

Dr. Adnan Qabaja my supervisor, for his much-appreciated support, encouragement, continuous interest in my research topic and thoughtful comments on my various drafts of this thesis, particularly its structure and clarity of expression

The Faculty of Graduate Studies, especially my teachers in the MBA program at Hebron University. I thank them for their continuous provision of financial, physical and academic resources.

My fellow students at the MBA program for sharing their knowledge and offering their help and words of cheer.

My parents, parents-in-law, and best friends for their continuous encouragement.

My Husband Nael and daughter Lara, for their endless love, constant understanding, invaluable sacrifice and unwavering support during the long hours spent producing this thesis. You mean the world to me.

Finally yet importantly, to those to whom I am indebted, but are too numerous to be named, thank you very much.

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List of abbreviations

DPS	Dividends Per Share
DVM	Dividend Valuation Model
EMH	Efficient Market Hypothesis
EPS	Earnings Per Share
GDP	Gross Domestic Production
PEX	Palestine Securities Exchange
P/E approach	Price/Earnings approach
VIF test	Variance Inflationary Factor test
PADICO	Palestine Development & Investment
PIIC	Palestine Industrial Investment
GWM	Golden Wheat Mills
JCC	Jerusalem Cigarettes

BPC	Birzeit Pharmaceuticals
WATANIYA	Wataniya Palestine Mobile Telecommunications
PEC	Palestine Electric
PALTEL	Palestine Telecommunications
NIC	National Insurance
TNB	National Bank
ISBK	Palestine Islamic Bank
BOP	Bank of Palestine
PRICO	Palestine Real Estate Investment
AIB	Arab Islamic Bank
UCI	Union Instructions & Investment
CMA	Capital Market Authority

Abstract

The determinants of stock price in Palestine Securities Exchange:

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This study aimed at testing the effect of some macroeconomic and microeconomic factors on share price of a sample of listed companies in the Palestine Securities Exchange, PEX during the years 2003-2012. The study used Shapiro-Wilk normality test, Variance Inflationary Factor (VIF) tests, collinearity diagnostics, t tests, and regression analysis to identify the effect of inflation, GPD, EPS, DPS, financial leverage, and company size on share market price during 2003-2012.

The overall results indicated that both company size and inflation had no effect on share price, whereas the remaining variables had different positive and negative effects on share price during the same period as seen in the previous literature. The research significance is shown in having a longer period, a larger sample, and giving enough background information to help investors make suitable decisions about entering such an emerging market as that of PEX. The sample included 18 listed companies which were selected based on the condition that they existed before 2003 and their shares continue to trade in PEX until today.

The main recommendations of this research; after concluding that listed shares in PEX do not follow a Random-Walk behavior (Bellalah, 2013) included: Investors should carefully investigate the effect of macroeconomic and microeconomic factors on the performance of the shares they hold within the PEX, both companies and the PEX should provide more details and explanations about the reasons behind share price movements, and finally; Companies should make special sections within their published annual reports which identify the effect of macroeconomic and microeconomic factors on the performance of their share, and suitable alternatives to hedge against negative effects of some of these factors.

Future research might focus on establishing an index for the factors that affect share prices. Also; future research might focus on testing the political impact on share prices, especially comparing the effect before and after the 2nd Intifada.

Chapter One

Background

Chapter One

Background

1.1 Introduction

Stock markets are a major contributor to the enhancement and development of the economy of any country, as they help moving funds among investors on both the demand and supply side on the one hand, and channel such funds into suitable investing opportunities that otherwise no single investor could have attended solely, on the other.

Stock markets are also a major contributor to economic development as they help funding different projects on the middle and long-term horizons as they channel such financing with easy and reasonable lending conditions.

The stock price movements in such emerging markets could cause drastic financial problems if not anticipated correctly. These movements could be related to factors on both the level of the company (microeconomic), and the level of the market (macroeconomic).

Such information about these factors; if available would help investors (both individuals and corporate) to make the suitable investing decisions, which would in turn help developing the economy and then enhance its ability to contribute to a better social wellbeing of the country in general.

As the Palestine Securities Exchange (PEX) is relatively new (less than two decades old), and its role is increasing as a major contributor to the development of the Palestinian economy, it became even more important to study such factors that would decrease its efficiency. This would be done using the data available for the years (2003-2012).

1.2 Research problem:

The PEX is considered a newly emerging financial market, which means that a lot of information is missing about it. Also the market has a lot of potential for investment, and investing information is continuously required by the investors. Finally; as the market is growing constantly more emphasis should be on the ability to achieve the highest possible efficiency so as to establish a market which could pool more funds that would help indirectly in the development

process of the economy in general. All the above affect the investors' ability to make the accurate decisions regarding their portfolios, whether on the macro or micro-economic levels.

Thus the current research attempts to focus on the factors that cause the stock price of listed companies in the PEX to move, as such factors are hard to predict, but important to anticipate and hedge against in an emerging market such as that of Palestine.

1.3 Research significance

The research importance is evident in the following points:

1. The need to identify the factors that affect the stock prices in the PEX through the years (2003-2012)

2. Providing the investors with information about the stock price movements so as to help them anticipate the future of the companies they target. This is especially important as the market is emerging and the economical, social, and political conditions are changing all the time, thus risk increases all the time. Still this does not mean that the PEX is not able to provide unique investing opportunities when compared to other developing countries.

3. Contributing to both theoretical and empirical investigations of this market in the future. This is important to show the comparative advantages the PEX have over other markets too.

1.4 Research objectives:

The current study is trying to achieve the following objectives:

1. Determine some of the main factors that caused stock prices to change in PEX in the years (2003-2012).

2. Order these factors according to their impact on changing stock prices. These factors include: inflation, Gross Domestic Production (GPD), Earnings per Stock (EPS), financial leverage, company size, and Dividend per Stock (DPS).

1.5 Research hypothesis

The research hypotheses include two sets:

a. The factors related to the company itself (microeconomic): these include:

1. There is no relationship at statistical level of significance (0.05≥α) between earning per stock and market value of stocks at PEX during (2003-2012).

2. There is no relationship at statistical level of significance (0.05≥α) between dividend per stock and market value of stocks at PEX during (2003-2012).

3. There is no relationship at statistical level of significance (0.05≥α) between company size and market value of stocks at PEX during (2003-2012).

4. There is no relationship at statistical level of significance (0.05≥α) between financial leverage and market value of stocks at PEX during (2003-2012).

b. The factors related to the market itself (macroeconomic): these include:

5. There is no relationship at statistical level of significance (0.05≥α) between inflation and market value of stocks at PEX during (2003-2012).

6. There is no relationship at statistical level of significance (0.05≥α) between Gross Domestic Production GDP and market value of stocks at PEX during (2003-2012).

1.6 Research design

In order to achieve the research objectives and test the related hypothesis, the following was used:

1. Theoretical descriptive analysis by describing the different variables of study, and then analyzing these with regards to stocks of listed companies in PEX.

2. Using different analytical procedures and tests to examine the relationship between the dependent and independent variables of the research, using the data available in the years (2003-2012) including: least square analysis, regression analysis…etc. using the following model:

Market Price of Stock (MPS) $= \beta_0 + \beta_1 DIV + \beta_2 EPS + \beta_3 SIZE + \beta_4 LEVERAGE + \beta_5 INFLATION + \beta_6 GDP + e$

Whereas:

MPS: Market Price Per Stock

SIZE: Company Size

LEVERAGE: Financial Leverage of the companies

INFLATION: Inflation Rates in the years (2003-2012), and

DIV: Dividend Per Stock for the companies

GDP: Gross Domestic Production in the years (2003-2012)

$\beta 1,2,3,4,5,6$: constant variables

e: random error

1.7 Research model

Figure (1.1): Research model

independent variables	dependent variable

Dividend per stock

EPS

Company size

financial leverage

inflation

GDP

market price

per stock
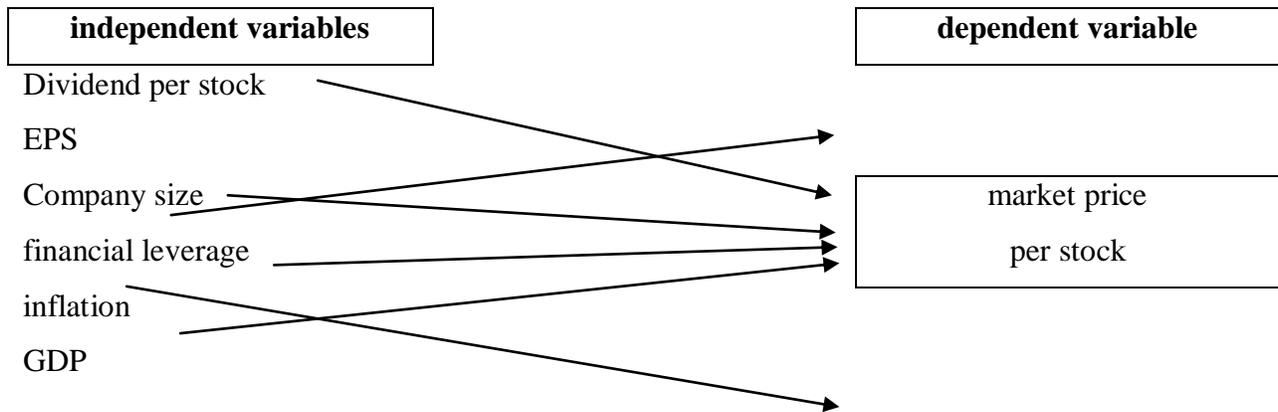
1.8 Research limitations

1. The companies listed in the PEX in the year 2003 which continued to exist in the following years up to 2012

2. Closing prices are the market values in the years 2003-2012

1.9 Defining key terminologies:

Palestine Securities Exchange: the PEX established in 1995 by PADICO as a gate for financial market exchange. Its capital is more than $3billion as of 2012 and is continuously growing. It offers both Palestinian and International investors the chance to invest in both locally held and internationally funded corporates through their issued stocks in the market[1]. More is explained about this market in the following chapters.

Market Value: the prevailing market price of a security (Gitman and Joehnk, 2008. P.268)

Inflation: a period of generally rising prices (Gitman and Joehnk, 2008. P.162)

Investment decision: the decision investors have to make based on the set of different variables; mainly: risk and return (Ross et. al, 2009. p. 259)

Economic Fluctuation: the changes in economy as a result of two sets of factors: on the micro level and on the macro level (Ross et. al, 2009. p. 899)

Risk: the chance that the actual return from an investment may differ from what is expected (Gitman and Joehnk, 2008. P.195)

Technical analysis: the study of the various factors at work in the marketplace and their effect on stock markets (Gitman and Joehnk, 2008. P.389)

Efficient Market: A market which reflects all available information quickly and accurately (Gitman and Joehnk, 2008. P.406)

1.10 Previous studies

Mondeher Bellalah and Umie Habiba conducted a study in 2013 about "Impact of macroeconomic factors on stock exchange prices: evidence from USA, Japan, and China". The study aimed at investigating the long run relationship between macroeconomic indicators of terms of trade, oil prices, rate of interest, money supply, index of industrial production, and stock

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[1] Official website of the PEX www.p-s-e.com

exchange prices for the USA, Japan, and China by focusing on the global financial recession. They used the monthly time series data of the respective variables of the range of 2005-2010. Their results indicated a variation from one country to another. They explained that the USA market is the most affected by financial crises, 2007 and Japanese economy slump after 1990, and that China is the least affected economy by the crises. They explained that such study is vital for international investors who seek riskless diversification. The study was limited by the small sample from both USA and Japanese markets, which does not help generalizing their results to a larger context.

The macroeconomic factors were also discussed in the Japanese market by Yu Hsing (2013). His study "The stock market and macroeconomic factors in Japan and policy implications", aimed at investigating which macroeconomic factors affected the stock prices during the years 1975-2009. lower government deficit/GDP ratio, a higher industrial production, or a lower domestic real interest rate or expected inflation rate would increase the Japanese stock market index. The Japanese stock market index and the nominal effective exchange rate also show a nonlinear relationship, being positive when the nominal exchange rate is relatively low and being negative when the nominal effective exchange rate is relatively high. The implications for policy makers include the need to depreciate the Japanese yen, reduce the M2/GDP ratio, and pursue economic growth, fiscal prudence and a relatively low interest rate or inflation rate. The study was limited to the Japanese stock market, and failed to explain why such macroeconomic factors sometimes did not affect stock prices (especially when financial crises hit several times during the same period of study).

In 2013, Muhammad Yasir Naveed conducted a study titled "A view about the determinants of change in stock prices: A case from Karachi stock exchange (banking sector)". He selected a sample of 15 banks for the years 2008-2011. He used fixed effect regression model to examine the relationship between banks' stock prices and size, dividend yield, return on asset, and asset growth. He found a positive relationship between stock price and all factors, which was significant only for size. The researcher focused on the need to investigate macroeconomic factors, use a larger sample, and a longer period to further explain the stock price movements in the Pakistani market. The study was limited by not focusing mainly on the effect of inflation on stock price changes which highly affected the Karachi stock market during that period.

Konstantins Benkovskis and Julia Wörz (2013) conducted a study titled "What derives the market stock changes: price vs. non-price factors". They wanted to decompose changes in export market stocks. This was done using a demand-side oriented theoretical model in the spirit of Armington (1969) with less restrictive assumptions and use of highly disaggregated data in the empirical calculations. The advantages were: relaxing the assumption of constant elasticity of substitution across goods and varieties. Also; the decomposition of market stock gains (or losses) at the detailed product level (instead of using an aggregate price indices) makes it possible to move the analysis substantially beyond simply measuring price and cost competitiveness. They used the most detailed level reported by UN Comtrade, the six-digit level of the Harmonized System (HS) introduced in 1996. This produced 5,132 products, which should be enough to ensure a reasonable level of disaggregation as they represent 188 countries. They found that for all countries under consideration, the contribution of non-price factors (taste and quality) to cumulative changes in export market stocks (competitiveness) is strongest, while relative prices add the second largest contribution to competitiveness. Second; their results suggest that all G7 countries suffered losses in non-price competitiveness, while the BRIC countries experienced gains in non-price competitiveness. Their study was limited to non-price factors which were applied to a large sample. Also; the study was limited by focusing only on quality and taste among the non-price factors.

Nasibeh Aghaei et,al. (2013) conducted a study titled "Analyzing impact of foreign exchange rate and global crude oil and gold prices on Tehran stock exchange price index using the estimated uncertainties by GARCH". They used the data during 2002-2009 to examine the social cultural factors and technological factors impact on stock prices. They found that there is a negative relationship to global gold price and positive relationship to foreign exchange rate and crude oil price fluctuations. The researcher suggested that future research can move such study to other markets, and that it should focus on the relationship to other factors on both macro and microeconomic levels. The study was limited by the short period of investigation and that the researchers' assumptions about stock price movements were only due to change in gold and oil prices, whereas many other factors could have had an effect on such movements.

Mrunal Joshi (2013) on the other hand conducted a study on the Indian market titled "factors affecting Indian Stock market". The overall objective was to investigate which factors

affect stock prices, and in what way. Using a questionnaire, the researcher survived a sample of 56 from different broker offices and owners of companies. It was found that the following factors are most influential on stock prices, these included: oil prices, foreign institutional investors, GDP growth, political stability, liquidity conditions, cash reserve ratio, subprime crises. Other factors the research investigated included: trade volume, Indian government debt, dividend earnings ratio, and scams in stock market. The study was limited by the fear and lack of interest in answering the questionnaire, lack of knowledge about such factors, especially by those owners, and finally small sample size compared to market volume.

Bill B. Francis and Gokhan Yilmaz (2013) conducted a study titled: 'Inside debt and stock price performance'. They wanted to analyze whether paying CEO's with inside debt benefits stockholders. They found a positive relationship with stock price, and that in recent financial crisis, it was that companies which revealed inside debt to outperform the companies which did not. They also found that inside debt is a good hedging possibility for stock investors through good selection of stocks and portfolio choices. They used data from S&P 1500 for the years 2007-2012 using the EDGAR Filings Database, which resulted in including 709 companies in the study sample. Their study has implications for both policymakers in terms of risk management through managerial compensation and inside debt hedging.

Md. Saheb and Imran, (2013) conducted a study titled 'Determinants of stock prices: A case study of Dhaka stock exchange'. The study aimed at exploring the effect of factors such as: liquidity, capital structure, financial leverage, profitability, growth, company size, and dividends level on the stock price. The study found that qualitative factors such as: company reputation, company policy country policy, changing market conditions, and media have an impact on stock prices. The study also found that some quantitative factors such as: profit, ROI, retained earnings, mergers, demand and supply of stocks, and stock splits have an impact on stock prices. The study also found that 65% of change in the stock price is related only to: cash flows, financial leverage, profitability, growth, and dividends. They recommended focusing more on developing markets such as Dhaka stock market among others in future studies.

Another study to investigate such macroeconomic factors is that of Gagan Deep Sharma (2013) titled: 'Impact of Macro-economic variables on stock prices in India'. The study aimed at investigation some factors that cause stock prices to change on the macroeconomic level, including:

foreign exchange reserves, gold price, exchange rate, and inflation. Using the stock prices in the years 2008-2009 and the change in the macroeconomic factors for the same period, it was found that among the macroeconomic variables mentioned above, inflation and foreign exchange rates were found not to be influential on stock price for that period.

Saurabh Singh et, al. (2012) conducted a study about 'impact of macroeconomic variables on performance of nifty'. They wanted to investigate the main factors that affect the National Stock Exchange in India. The study found that IIP, WPI and exchange rate significantly affect the performance of Nifty. The data used for this study is related to NSE Nifty listed companies in the years 2007-2012, where regression analysis has been used to test the impact of such macroeconomic variables as inflation, interest rate, and exchange rate, which were all dependent on macroeconomic situations, events, and factors.

In 2012, Abdullah Noman, et. al, conducted a study titled 'Causality between stock and foreign exchange markets in Bangladesh'. They aimed at uncovering the directional relationship between foreign stock markets and stock markets in Bangladesh, where the market is just developing. Using the Granger test for the monthly data over more than two decades (1983-2010), it was found that there is no causal relationship between the markets. This study helps policy makers in decision relating to both markets, as well as the investors who seek diversification in their investments.

In 2011, Isameal Al-Suaidi did a study titled 'factors affecting stock returns: an empirical investigation of the listed companies in the Palestine Securities Exchange'. The study aimed at identifying the factors affecting the stock market return during 2006-2009. He used historical data of the companies and tests of regression and correlation to test related hypothesis. He found that there is a positive relationship between level of success and level of dividends and the level of market stock return. He also found a positive relationship between the quality of returns and the market stock return. He suggested that companies that offer no dividends should start distributing some level of return to investors and that investors should consider the different factors explored in the study when assessing their portfolio investment decisions.

The same area was approached in 2011 by Christos Floros in a study titled 'Dynamic relationships between Middle East stock markets'. The study used the data of both CMA and TASE-100 indexes to examine the relationship between the Egyptian and Israeli stock markets during the period of July 1997-August 2007. It was found that the CMA of Egypt plays a major

predicting role for the changes in the Israeli stock market, as it is more efficient, and can reflect new information faster than the Israeli TASE-100.

In 2010, Osama Al-Khazali and Taisier A. Zoubi conducted a study titled 'The Saturday effect in emerging stock markets: A stochastic dominance approach'. They used the data for Bahrain, Kuwait, and Saudi Arabia to investigate the existence of the Saturday effect on the three markets. They found that during 1994-2006 the Saturday effect does not exist.

In the same year, Bakri Abdul Karim, et. al, did a study titled 'The Subprime crisis and stock index futures market integration'. They wanted to examine the effects of the current global crisis on the integration and co-movements of selected stock index futures markets. They used the data from 2001-2009 and found that the crisis did not affect the futures market which meant that this might be a suitable diversification technique for the investors who seeked lower levels of risk at the time.

During the past few years, and with the expanding concerns about the ability of stock markets to survive changing conditions in different parts of the world, especially political and economical changes, more studies have moved towards focusing on the area of trying to explore and identify the reasons for changes in stock prices, so as to be able to anticipate their movements and in which directions; to better hedge against potential risks, and capture the highest level of return.

In another study by Dana Yousif (2008) titled 'Factors affecting stock returns in Amman Stock Exchange'. The researcher aimed at identifying the main reasons that cause high volatilities in stock price, as this would aid investors in the process of monitoring and evaluating the suitable alternative investments, and making the correct buying or selling decisions. She explored the internal and external factors that would affect stock prices of 60 listed companies during 2000-2006. She examined five external and two internal factors, and found that dividend rates and IPOs have the greatest impact on stock price movement for that period.

Another study was that of Radhe S. Pradhan and Basu D. Upadhyay (2006) titled: 'the efficient market hypothesis and the behavior of stock price in Nepal'. The study aimed at measuring the level of the efficiency of the market, using random walk model. The study used the data from 1997-2000 of 23 companies listed in the Nepalese Securities Exchanged and

revealed that the main factors affecting stock price included: dividend, retained earnings, bonus stock, and rights issue. On the other hand, the company information, lack of profitability of the company, market operation system and government policy regarding investment all appeared to be the major causes of deficiency in the Nepalese stock market. Finally; the study revealed that the market has a weak form efficiency in relation to pricing stocks.

Mohammad Abdul Hafiz (2006) examined in his study 'The effect of the dividend rate on market price of stocks in Sudanese companies using the Sudanese telecommunication stock price during 2002-2005'. He found that companies tend to manipulate dividend rates to affect stock price in the market, and that the Sudanese investors value highly this information when making future investing decisions. The general aim of the study was to explore different dividend theories and how they might apply to the market, and at the same time reflect on stock price.

To be able to test the volatility of stock markets, Richard A. Michelfelder (2005) conducted a study titled 'Volatility of stock returns: Emerging and mature markets'. He used a set of seven markets 'India, Malaysia, Singapore, Taiwan, Thailand, Japan, and South Korea' and compared these to the US stock market. He used tests of skewness, excess kurtosis, and volatility clustering and found that emerging markets have higher volatility than mature markets, and the impact of non-trading days on volatility is higher in these markets. And finally found that the shocks in the US stock market are transferred quickly to the reminder of the markets in the world. He used the data relating the January 1997-September 2001 for the main index of each market to reach these results.

Talla M. Al-Deehani conducted a study in 2005, titled 'The determinants of stock price in the Kuwait stock exchange: An extreme bound analyses'. They aimed at identifying which factors could help predict stock price using 1320 extreme bound tests. The results indicated that only three out of eleven factors have predicting abilities, these were: previous stock return, previous stock cash flow, and the Price-to-Book value. The study used a sample of 61 companies listed in the exchange during 1999-2002 and suggested more future work to determine which factors have such predicting abilities in different markets.

Bashar Al-Kara' did a study in 2001 titled 'stock price behavior in emerging markets: The case of Palestine Securities Exchange'. He used daily and weekly data on stock price index for the July 1997-September 2000 period. Using Random Walks Model and tests of serial

correlation, Runs, Kolomogrov-Smirnov and Jarque-Bera he found that the stock index is dependent and asymmetric, therefore, the weak form of the EMH does not apply to the PEX as it does not follow random walks.

Another study by Marios Mavrides (2000) titled ' Granger causality tests of stock returns: The US and Japanese stock markets' aimed at identifying the dynamic relationship between stock return and dividend yields in both American and Japanese markets. The study revealed that the US markets growth in returns was not related to changes in price, as contrary to the Japanese market, where the dividend-price ratio was proven to be a better indicator of growth in returns. The study used the S&P-500 and the NIKKEI-225 indexes for the purposes of this study.

A study by Panayotis Alexakis titled 'The international stock market crisis of 1997 and the dynamic relationships between Asian stock markets; Linear and non-linear Granger causality tests' was done in 1999, to examine the relationship between six Asian stock markets, namely: Japan, Hong Kong, Singapore, Malaysia, Taiwan, and Thailand. The time frame for this study was before, during and after the 1997 stock market crisis. The results indicated that there is a relationship amongst these markets. The importance of this study is the fact that globalization of stock markets led to increase in systematic risk, and that it showed how investors' behavior changed during crisis times. The data related to closing prices of the main market index of each country during the period of study.

Among the first studies conducted in this area was that of Fama (1965). The study titled 'The behavior of Stock market prices' examined a sample of 30 industrial companies listed in the New York Stock Exchange (NYSE) during (1956-1961). He used statistical analysis to examine two hypothesis related to random walks of daily stock prices using serial correlation, run tests, and filter test. His study reached two important results: firstly; that changes in stock price are independent, as the degree of serial correlation between daily stock prices did not exceed the minimum of 0.1 for most of the companies, and that changes in stock price are not repetitive. He also found that this related to the return on buying and holding strategy which was higher than the one yield by those who bought and sold stocks of the listed sample; meaning that stock price movements are not anticipated. Secondly; he found that the changes in stock price have normal distribution, as variance and deviations from the mean of the prices were accepted for most members of the sample of study.

1.11 Commenting on previous studies:

The above studies contributed a lot to the literature review being discussed in this thesis. Firstly: it showed the different approaches to exploring this area of investigation. Secondly: it helped the researcher explore the areas which others have not attended to recently; mainly the PEX, and how prices tend to change and why. Thirdly: it added a lot to the idea that emerging stock markets have to be approached differently as they might have a different set of factors that affect the stock price movements in them. Finally: the previous studies helped the researcher present forward the current work as a unique contribution to the current literature about this area of investigation as it both investigates a number of factors that have not been tested in the PEX, and it highlights this emerging market as a potential investing opportunity for future investors in different parts of the world.

1.12 Chapter summary

This chapter outlined the roadmap for the remaining of the research. It started with introducing the research area within Palestine, and what problems it attempts to solve, objectives it tries to achieve, and hypothesis it is going to investigate. These were followed by briefly discussing the research design, limitations, variables, and key terminologies that are going to be used in this research. The chapter concluded with some previous studies within this area; both locally and internationally, and commenting on these.

The overall objective of this chapter was to introduce the research topic and the roadmap for completing it. The upcoming chapters are going to discuss the following:

Chapter two: theoretical framework of the research, with a special focus on the efficient market hypothesis and how it applies to PEX. Chapter three: the research design, followed by a chapter on analyzing the data collected. Finally, chapter five: results and conclusions.

Chapter Two

Literature Review

Chapter Two

Literature Review

2.1 Introduction:

In the past few years, a lot of financial crises hit different global financial markets, whether emerging or advanced ones in different parts of the world. The recent Sub-prime Mortgage Crisis which affected different markets made it clear for many that whatever technical analysis is conducted in order to anticipate the movements in stock markets, a lot is still needed to be done to be able to improve the efficiency levels of these markets.

In order to understand the movements of the stock prices, one way that could be used is to refer back to historical quotes to try and understand why such changes occurred, then use these to predict any future changes.

Such historical information, although being out of date, was found to be rich of data that could help anticipate movements in stock prices in the future. This led Fama (1965) to start his model of Random Walks in financial markets, where he stressed that such historical data is not enough to predict future movements.

This chapter briefly discusses the terms related to financial markets, mainly: efficiency and its different types, Random Walks, Efficient Market Hypothesis, levels of efficiency, and importance of market efficiency. It also discusses the different macro and microeconomic factors that cause market inefficiencies; with a special focus on the factors the comprise the independent variables of the study, and finally discussing an overview of the PEX.

2.2 Discussing stock markets efficiency

It is important to realize that even in the most sophisticated stock markets, efficiency is not 100% guaranteed. This is due to many factors and information entering and affecting the markets at the same time. Based on this idea of not being able to predict for sure where stock markets (more precisely, stock prices) might be in the next day, a body of research started working on what is referred to as the Random Walk hypothesis (Gitman and Joehnk, 2008, p.405). The following parts further discuss this hypothesis as well as the efficient market

hypothesis, and different levels of efficiency and what factors affect stock prices and cause these to move.

2.2.1 What is an efficient market?

In the early 1900's, market analysts noticed that stock prices tended to follow a 'fair game' movement, whether going up or down, and that no particular investor seemed to have an advantage over others, and no one seemed to follow a certain investing or predicting strategy (Gitman and Joehnk, 2008, p.405). and although this continued during the next few decades, the real body of research discussing this area was formed during the 1960's, where this area became of interest to many researchers and investors alike (Ross et. al, 2009, p.371).

The movement towards trying to understand why stock prices tend to move randomly was led by the Random Walk Hypothesis supporters, who stressed that stock price movements are not easy to predict, and that there is no way of knowing where prices are heading.

This point of view was countered by the supporters of the 'Efficient Market Hypothesis, EMH' who explained that stock prices tend to move as a result of different factors which are known to a large number of investors in the market. In other words, the market prices of stocks tend to adjust themselves quickly and accurately based on such information (Md. Saheb and Imran, 2013, p.6)

Thus it became known later on that an efficient market is one that all information available within it is reflected in the stock prices (Ross et. al, 2009, p.372). thus, market price reflects all available information about any particular stock in the market. This information might be historical such as previous record of dividend payout, current such as information about ongoing activities or projects, and even future information such as predictions of future earnings per stock EPS (Gitman and Joehnk, 2008, p.406).

2.2.2 Types of market efficiency

To be able to fully appreciate the approach to EMH, the following tenets about market behavior are cited (Gitman and Joehnk, 2008, p.405):

1. No one individual, whether an investor, analyst, or even company can affect the stock prices alone, as information is stockd and knowledge is distributed consistently.

2. Information distributed to all investors in the market is provided almost at the same time and with almost no charge.

3. Information on different random events 'strikes, accidents…etc.' tend to emerge randomly to the market in general.

4. Investors react quickly and accurately to all available information, causing stock prices to adjust quickly.

On the other hand, in order to be able to realistically reflect the different types and impacts of information on stock prices, advocates of the EMH developed a three level efficiency scale as follows (adapted from Ross, et, al, 2009, p.373-375):

a. WEAK FORM – EMH: this form holds that previous record of market prices for stocks is not relevant and that changes in prices today do not relate to yesterday's prices. The advocates of this form stress that if past market prices can help predict future prices, then an investing strategy could be developed solely using historical prices. It is strongly agreeable however, that stock prices tend to have runs of going up or down consistently, so if investors could manage to spot such price runs, large amounts of profit could be made, as well as avoiding a certain level of loss (when prices are running down).

b. SEMI-STRONG FORM – EMH: the semi strong form stresses that no abnormal profits are made using publicly available data. In other words, historical market prices, company earnings, inflation…etc. all should be publically available, and this does not mean that investors are able to predict price movements accurately and timely. The main stream of research about this area focuses more on the speed with which such publically available information change stock prices. Many studies conducted in this area tried to investigate the different anomalies, and stock splits, and many other major events that could cause stock prices to adjust. The overall results indicated by such studies stressed that market prices tend to change accordingly within minutes if not seconds and that even hearing about an event in TV or radio usually allows too little time to make an abnormal return.

c. STRONG FORM – EMH: the final form of efficiency stresses that no matter the type or speed of information arriving to the market, no chance is there to make abnormal returns.

Sadly; this form of efficiency has not capture a lot of interest in the world as for example, insider trading is effective in different markets all over the world, allowing corporate executives and others to gain huge amounts of abnormal return, which is inconsistent with the strong form of efficiency.

Understanding the different types of efficiency helps in the process of gaining an understanding of what factors might cause such lack of efficiency in different emerging markets, such as that of Palestine.

2.2.3 Random Walks and Efficient Market Hypothesis

As explained earlier, Random Walk Hypothesis stresses that market prices are not predictable and that no matter the type of information available, its source, and even the speed of receiving it; markets tend to move randomly and there is no way to predict these movements. In order to further support the EMH and argue against the Random Walk Hypothesis, the following points (which are the foundations of market efficiency are briefly discussed):

1. Rationality: it is supposed that all investors engaging in a transaction in the financial markets are rational in a way or another (Ross et, al, 2009, p.373). This means that investors tend to behave logically in accordance with any relevant information arriving to the financial market at a certain point in time. If this information is positive, investors usually tend to trade more; which would cause stock prices to increase, and vice versa. Thus, Random Walk is rejected based on this assumption of rationality in investors. Of course, many of us know that not all of us behave rationally at all time, thus comes into discussion the next foundation; independent deviations from rationality (Al-Suaidi, 2011, p.7).

2. Independent deviations from rationality: this foundation uses the assumptions that as many investors as possible are rationale in responding to what is out there in the market. Being optimistic or pessimistic about a certain news or event is a general behavior rather than an individual approach or strategy of investment (Ross et, al, 2009, p.374). In other words, irrational investors are almost not found in the markets and if so, then these might be due to lack of experience in trading or reading the information, lack of clarity in distributed information, or maybe due to overwhelming emotions and expectations about

a stock price or a certain news (Al-Khazali and Zoubi, 2010, p.8). All of these among others contribute to establishing a certain level of inefficiency (Random Walk), as well as setting a certain level of efficiency (EMH).

3. Arbitrage: if the arbitrage of professionals dominates the speculation of amateurs, markets would still be efficient (Ross et, al, 2009, p.374). To explain this, if we suppose that markets contain both amateurs who respond irrationally to information due to lack of experience and maybe lack of interest in the industry itself, and professionals who keep track of everything happening out there in the markets. Both tend to respond to information in a different way, may be the amateurs react swiftly but not accurately, on the contrary to professionals who tend to react systematically and after careful consideration of available information. Such reactions by both parties initially establish a certain level of both random walks and systematic walks (EMH), and both explain the behavior and mistakes that might take place by amateurs, and quick abnormal returns made by professionals who take advantage of such random trading Gitman and Joehnk, 2009, p.408).

It is important to talk about adverse selection as well. It refers to a market process in which undesired results occur when buyers and sellers have asymmetric information (access to different information); the "bad" products or services are more likely to be selected. For example, a bank that sets one price for all of its checking account customers runs the risk of being adversely selected against by its low-balance, high-activity (and hence least profitable) customers. Two ways to model adverse selection are to employ signaling games and screening games (Ross et, al, 2009, p.378)

One other area that might affect stock price movements is the moral hazards. Moral hazard is seen for services such as insurance and warranties. In these cases, after the deal is done, one of the parties to the deal (in this case, the person purchasing the insurance or warranty) may be more careless because he/she has the insurance, and thus does not need to pay the *full cost* of a damage. For instance, a person possessing insurance against theft may be less careful about closing the windows when leaving the house. Here, it is not the prior information that either party has, but the inability of the insurance provider to control and monitor increased risk-taking behavior that creates the potential for market failure. Also, while in adverse selection, the seller

is usually the one possessing more information, moral hazard usually has the buyer (of the insurance service) having too much control (Michelfelder, 2005, p.23).

2.2.4 Importance of market efficiency

It is important to realize that market efficiency leads to a better investment environment (Al-Khazali and Zoubi, 2010, p.9). The fact that investors are able to predict, and accordingly make accurate investment decisions reduces both the risks associated with such decisions, and the chances of generating abnormal returns by other investors. It is strongly believed by the supporters of the EMH in its different levels that making stock transactions within such markets helps improving the economy in general and cause some sort of stability within the market itself, thus pooling more funds for investment, both locally and internationally (Gitman and Joehnk, 2009, p.258).

A final note to make at this stage; is that although financial markets are not completely efficient, they still manage to lead the global financial systems, and link these together. The stronger the efficiency among these markets, the better ability they have to continue leading their respective financial system, and more likely they are able to survive global financial crisis (Michelfelder, 2005, p.7).

2.3 Factors affecting stock prices

The literature about stock price tends to divide the factors causing it to change into two wide groups: the factors on the macroeconomic level and the factors on the microeconomic level. These are briefly discussed below:

2.3.1 The macroeconomic factors affecting stock prices:

There are many factors that could lead to increasing or decreasing stock prices on the macroeconomic level (market, and economy in general). These include: exchange rate, money supply, inflation rate, gross domestic production, economic growth, taxes, debt management, government spending, and foreign trade policies (Saurabh, 2013, Sharma and Singh, 2007, Sharma and Mahendru, 2010, Al-Suaidi, 2011, Ross et. al, 2009, and Gitman and Joehnk, 2008). These have been shown to have different effects on stock prices. The following table summarizes such effects:

Table (2.1): Macroeconomic factors and their impact on stock prices

Factors	Effect on stock price
Inflation rate	Leads to making stocks more attractive
Exchange rate	If the local currency is weak, this means negative effect on stock prices. But this makes local investment attractive to foreign investors, thus having a positive impact too.
Money supply	Stable money supply is good for the markets, but too much supply means inflation which is bad for the market
GDP	Increased production is good for stock prices
Economic growth	It is good for markets and positively affect stock prices in general
Taxes	If it is reduced, it positively affects stock prices
Government spending	The higher spending, the more confidence investors have in the stock markets, it positively affects stock price
Foreign trade policies	These are good for local corporate stocks, but could have negative effect on stocks of international corporate if they are designed to protect local industry

The two factors under consideration in this research are: inflation and GDP. These are briefly discussed below:

2.3.1.1 Inflation:

Inflation became a fact known in life. Investors rarely go about trying to understand the implication of inflation on their investment's returns. They also tend to mistakenly think that it has no effect on their portfolios (Saurabh, 2013, p.4). In the past few years, and after the global financial crises managed to hit even the strongest economies out there in the global financial system; many researchers went back to the roots of understanding stock market movements. They started realizing that neglecting such macroeconomic factors, mainly inflation; was a huge mistake (Gitman and Joehnk, 2008, p.162). This is not because inflation was not around before, but because investor and researchers alike turned their attention to microeconomic factors that moved stock prices rather than macroeconomic ones. Inflation is widely known as "A period of generally rising prices". It tends to have a positive impact on investments in real estates and land, but sometimes affects stocks and fixed income securities negatively (Al-Suaidi, 2011, p.34). Many

central banks try to control inflation using interest rates, but usually can do much less than expected as this is considered a force that is somewhat uncontrollable (Gitman and Joehnk, 2008, p.162). Even in developed countries such as Palestine, inflation is seen as a problem that relates to the economy in general rather than investments. Many see inflation negatively affecting prices of products and services consumed in the every-day-life rather than realizing that it affects the performance of stocks in the market, thus causing cost of financing to increase; and eventually reflecting that in higher consumer prices (Al-Suaidi, 2011, p.48).

2.3.1.2 Gross Domestic Production GDP

Gross Domestic Production GDP, is another macroeconomic factor which was until recently neglected by researchers. Many realized that increased GDP was a sign of better stock market performance; which did not prove to be correct in the last global financial crises (Saurabh, 2013, p.31). although many countries had a good and steady record of increasing GDP in the few years prior to the financial crisis, this did not prove to be much helpful in predicting the large negative swings that occurred during and after the crisis (Sharma and Mahendru, 2010. p.62). GDP is known a "The amount of products and services produced by a nation during a certain period of time, usually one year" (Ross et. al, 2009. P.517). a higher GDP is generally a signal of improved financial market performance, and in Palestine; as it is the case in many other countries, increased GDP is seen as a sign of expanding economy rather than a sign for improved stock prices ((Al-Suaidi, 2011, p.49). It is worthy to note at this stage that although Palestine witnessed a few years of increasing GDP, this did not seem to affect stock prices much, and this might be due to lack of awareness about the important relationship among these two variables (GDP and stock prices) among investors.

2.3.2 The microeconomic factors affecting stock prices:

On the other hand, the literature also suggests that there are many factors that affect the stock prices on the microeconomic level (unique to the company itself). These included: earning per stock EPS, dividend per stock DPS, quality of earnings, management attitudes and decisions, company size, company type, financial leverage, and corporate growth (Md. Saheb and Imran, 2013, Ross et. al, 2009, Gitman and Joehnk, 2008, Al-Suaidi, 2011, Sharma, 2013, Yilmaz,

2013). The following table summarizes the effects of each of these based on previous results found in the literature:

Table (2.2): Microeconomic factors and their impact on stock prices

Factors	Effect on stock price
EPS	Positive in most cases, with respect to DPS
DPS	The higher, the better market price of stocks
Quality of earnings	The higher quality, the better stock prices
Management attitudes and decisions	If management is looking for longer term growth and less dividend is distributed, stock prices tend to decline, and vice versa
company type	different effect depending on industry and competition
Company size	different effect depending on industry and competition
Financial leverage	The higher equity, the better stock prices. Debt is a signal of risk and is reflected negatively in market prices of stocks
Corporate growth	The higher growth, the better stock prices with respect to increasing DPS in the future
cash flow	positive effect

The following factors are further discussed: EPS, DPS, company size, financial leverage.

2.3.2.1 Effect of EPS on stock price

EPS is defined as the ratio between the net income made by a corporate and its number of stock (Gitman and Joehnk, 2008. P.335). in many cases were companies have preferred stocks and they pay dividends, these also must be deducted before reaching EPS (Yilmaz, 2013. P.13). The level of EPS have a direct positive impact on stock prices, especially in emerging markets, where many investors focus on current incomes which is generated on the short run (Gitman and Joehnk, 2008. P.335). EPS usually increases as a result of increasing revenues; assuming corporate know how to control and maybe decrease their cost margins. In many developed countries such as Palestine, research have shown that EPS although distributed as DPS or even held in as retained earnings; it still highly affects stock prices and keeps investors interested in the companies that actually have a high-constant level of EPS (Al-Suaidi, 2011. P.20). Some literature suggest that EPS affects P/E ratio, which in turn is used as a predictor of stock price,

and how much investors are willing to pay as a return for improved record of EPS in the future (Gitman and Joehnk, 2008. P.336).

2.3.2.2 Effect of DPS on stock price

DPS is the known as the amount paid out to stock holders from EPS made during the year. It has a negative relationship with retained earnings. This means that companies seeking expanding and growth in their size of operations in the future are less likely to pay dividends, thus less attractive to investors seeking quick returns on their stocks. DPS are highly desired by young and middle aged investors who can handle the risk associated with its fluctuating levels (Gitman and Joehnk, 2008. P.339). However; the literature suggest that investors in developing countries tend to pay attention more than those in developed countries to the levels of dividends distributed as they seek short run investment opportunities and try to move from an investment to another so as to protect themselves from increased levels of fluctuation in dividends distributed . (Yilmaz, 2013. P.18). The literature also suggests that international corporate tend to attract local investors by paying higher DPS than those paid by locally situated corporate, especially in less developed countries such as Palestine (Al-Suaidi, 2011. P.24). dividends are paid in two common ways: cash and stocks. The decision of how much dividends every stock deserves is based on a decision made by the board of directors, which considers both internal and external factors that might affect its future performance; including: making sure they meet future legal obligations, ensuring investors realize that smaller amounts of dividends signal future expansion plans which usually mean higher levels of profit in the future, and finally trying to signal constant performance of the corporate in terms of both stock market price, and level of dividends distributed (Yilmaz, 2013. P.16).

2.3.2.3 Effect of company size on stock price

Many studies investigated the effect of both company size and company type of stock price. A focus was seen by many on the need to identify the relationship between each company's size and its market price per stock. The literature suggests a positive relationship between company size and its respective stock price within financial markets (Yilmaz, 2013. P.19). It is argued in the literature that investors seek well-known companies which have large capitals and try to invest in these whether in stocks or even bonds as they seem strong enough to

hold their financial position within the market, and can meet financial obligations both internally and externally on the short and long run (Gitman and Joehnk, 2008. P.336). Different researchers tested the effect of company size on stock price using different measures. For example (Yilmaz, 2013) used the total of debt and equity as a measure of company size. Others (Al-Suaidi, 2011) used total assets as a measure of company size. Also; (Sharma, 2013) used the percentage that the company have out of the industry it belongs to. Whatever measures used; all seemed to agree on the fact that even if the company had a large size, it would be negatively affected by a smaller percentage of stock ownership within the capital structure (Gitman and Joehnk, 2008. P.341).

2.3.2.4 Effect of financial leverage on stock price

A lot of literature tries to investigate the relationship between financial leverage and stock prices in the market. Some of the these managed to spot a positive relationship (Sharma, 2013, Bhatt and Sultan, 2013, and Chou et al.,2010). They seemed to agree that stock prices tend to move higher when the leverage is higher, especially for weak firms with poor investment opportunities. On the other hand, some literature (Dimitrov and Jain, 2006 and Ozdagli, 2010) found a negative relationship between leverage and stock prices. This is due to the fact that investors seek higher return as these corporate tend to replace equity with debt; which reflects underinvestment in the corporate; thus causing stock prices to decline. Leverage has two important types: operational and financial. Our focus is on the second type which is more related to the corporate financial rather than operational performance (Gitman and Joehnk, 2008. P.358).

2.4 Why / Why not own a stock in the market?

There are many studies that focus on the reasons and advantages of holding stocks in the market. One advantage that is popularly discussed and explained in the literature is that they offer sustainable returns over the long run (Gitman and Joehnk, 2009, p.261). also: they are easy to buy and sell, and information about these is widely available in the markets, on both local and international levels (Sharma, 2013, p.12). finally; stocks usually carry less value than that of bonds; thus making it a more appealing investment for small investors who do not want to 'park' all their money in one place (Md. Saheb and Imran, 2013, p.8).

On the other hand, many criticize stocks as an investment alternative for the following reasons. Firstly; they do not pay high current income such as that paid by bonds or other

investment vehicles (Gitman and Joehnk, 2008, p.262). also; because the information is widely available, stock prices tend to have large swings that might cause a lot of instability in the market itself (Md. Saheb and Imran, 2013, p.8). finally; there are many types of risk that affect investing in stocks; including: business risk, financial risk, event risk, market risk…etc. these all negatively affect both stock price and dividends in the future (Ross et. al, 2009, p.369).

2.5 The different types and uses of stocks

There are many types of stocks out there. Most of these are specially designed for specific purposes, others on the other hand tend to be generally issued by different corporate in the multiple industrial segments. The following is a brief explanation of some of these (adapted from Ross et. al, 2009 and Gitman and Joehnk, 2008):

1. Income stocks: these are stocks with long term record of making high levels of dividends. Although they generate a lot of constant dividends, is that they may be paying out high levels of dividends because they lack growing abilities, or maybe facing higher than usual increase in interest rate risk. Examples of such stocks include those issued by telecommunication groups, and some food manufacturers.

2. Growth stocks: these cover growth in both earnings and operations of the issuer. The main problem with these stocks however is that they tend to pay little or no dividends, thus not being suitable for investors who are looking for high-fast returns.

3. Blue-chip stocks: these are financially strong stocks, with a good record of paying dividends. These stocks are often used for longer term investments and tend to be issued by strong corporates and brands such as Nike, Home Depot…etc.

4. Tech stocks: these are stocks that represent the technology sector of the markets. They offer attractive gains as a result of the heavy investments made in this sector in different parts of the world. Although being specifically used by technological corporates, they still attract investors from other sectors as they are experiencing continuous growth in both dividends and capital appreciations. Examples of such stocks include these issued by HP, Cisco Systems, and Intel…etc.

5. Cyclical stocks: these are hedging stocks as their behavior is closely linked to the market conditions. They tend to do well if the markets are moving ahead, but tend to fall back as

markets decline. Examples of such stocks include these issued by care companies and some services industries, as well as housing equipments and accessories.

6. Defensive stocks: these are the stocks that everybody tries to get hold of when markets are shaking. They tend to perform well even if the economy is going down, and manage to defend a whole portfolio of investments against sudden movements in the market or economy in general. Some examples of this stock include: Bandage (a leading tire fixing company), some pharmaceutical companies, and beverages and food corporates…etc.

Being able to identify which stock the investor holds, helps in determining what risks and returns are expected in the future. Although many investors do not think much about which stock to hold and for how long, they still have to learn these in order to be able to make the correct investment decisions that would otherwise help them survive different market conditions. The overall objective of explaining the different types of stocks is to further emphasize the need to understand the theoretical background about stocks to be able to understand why they react differently to information entering the financial markets.

2.6 Stock valuation models:

In this part, the researcher focuses on presenting some of the models used to value stocks in the markets. Some use dividend rate, others focus on earnings of stocks, and finally using cash flow to predict stock prices. These are explained as follows:

2.6.1 Dividend valuation model DVM:

This model focuses on using future dividends expected to predict stock price (Gitman and Joehnk, 2008, p.360). The model uses three types of dividends: zero-growth: where dividends are constant and do not change over time, constant growth: where stock dividends increased constantly over time, and finally; the variable growth model: which assumes different dividend levels over time (Ross et. al, 2009, p.409).

2.6.2. Dividend and earnings approach D&E:

This model uses both projected dividends in the future as well as EPS, and P/E multiples to anticipate stock price. The model starts by determining the present value of future dividends and stock price at the date of sale, then adds these together to get the price of stock. It is

important to find a suitable P/E multiple to project future stock prices as this would help reflect the intrinsic value an investor is willing to pay in exchange of this stock (Ross et. al, 2009, p.410).

2.6.3. Price /Earnings approach P/E:

This model starts by determining the P/E ratio of a stock, then use an estimation of EPS to predict future stock price. This approach is widely used by analysts because it is simple to use and calculate and focuses on the main determinants of stock price; i.e. EPS and P/E ratio (Gitman and Joehnk, 2008, p.375).

2.6.4. Other price related approaches:

These include different procedures that focus on using the price linkage to a certain performance characteristic of the corporate. These include: cash flow, sales, and book value. These approaches involve a large amount of anticipation and should therefore be exercised by those who have long experience in the market and are able to predict with the highest possible level of accuracy and reasoning. A final note about these procedures is that they are usually used with corporates which pay little or no earnings (Gitman and Joehnk, 2008, p.377).

2.7 Palestine Securities Exchange PEX

In this part, we turn our focus on the PEX, which is the environment currently under investigation. We start by giving an overview, and then discuss its mission, vision, objectives. We focus on the reasons for investing in PEX, and some of the trading terminologies, and discuss Al-Quds index. Finally; we end this part by discussing laws related to listing companies within the PEX.

2.7.1 Overview:

Palestine Exchange (PEX) was established in 1995 to promote investment in Palestine. The PEX was fully automated upon establishment- a first amongst the Arab Stock Exchanges. The PEX became a public stockholding company in February 2010 responding to principles of transparency and good governance. The PEX operates under the supervision of the Palestinian Capital Market Authority.

There are 49 listed companies on PEX as of 30/06/2013 with market capitalization of about $ 3 billion across five main economic sectors; banking and financial services, insurance, investments, industry, and services. Most of the listed companies are profitable and trade in Jordanian Dinar, while others trade in US Dollars. Only stocks are currently traded on PEX, but there is potential and readiness to trade other securities in the future. In 2009, the PEX ranked thirty third amongst the worldwide security markets, and regionally comes in second in terms of investor protection.

2.7.2 PEX Vision

The PEX seeks to be a model for Arab and regional financial markets, through providing innovative services, proposing ideal investment opportunities in securities, attracting investments, the use of state of the art technology, compliance to the rules of corporate governance and establishing constructive relations with Arab, regional and global markets.

2.7.3 PEX Mission

The PEX aims to provide a fair, transparent and efficient market for trading securities that serves investors, protects their interests, contributes to creating an enabling environment that attracts local and foreign investments, and interacts with local and Arab relevant institutions in a manner that serves the national economy and enhances the culture of investment in financial markets.

2.7.4 PEX Objectives

The main objective of PEX is to provide a safe and enabling trading environment characterized by efficiency, fairness and transparency. Also; to increase the investment awareness of the local community and enhance PEX relations with local, Arab and international economic institutions and forums. Other objectives include:

- To develop domestic investments and attract Palestinian diaspora & foreign capital.
- To increase the depth of the exchange by continuously listing new companies and providing new and diverse financial tools and services.

- To create a proficient working environment within the PEX by investing in human capital, and maintaining an up-to-date technologies of stock markets.

2.7.5 Reasons to invest in the Palestine Securities Exchange:

1. Small yet robust.
2. Great spring back potential.
3. Tried & tested.
4. Undervalued stocks.

2.7.6 Trading in Palestine Securities Exchange

The first trading session was held at the PEX on 18/02/1997. Since its launching, the PEX depends on electronic trading and clearing, depository, and settlement systems. In this sense, the PEX is considered the pioneer securities market in the region that adopted the automation of all its processes related to trading, and clearing, depository and settlement. At present, the PEX is adopting the Horizon system supplied by OMX as a trading system. In addition, it is adopting the SMARTS system as a surveillance system.

2.7.7 Trading Days and Times

- Trading is carried out daily from Sunday till Thursday every week.
- Trading is not carried out on: weekends (Friday and Saturday), official holidays, and the last working day at the end of the fiscal year.
- Scheduled trading session is to be cancelled if the ratio of member firms technically unable to connect and to trade is (35%) or more of the total number of member firms.
- Trading session starts at 09:45 and finishes at 13:30.

2.7.8 Trading Rules

- Price limit up and down: (7.5%) for the first market and (5%) for the second market.
- Price limit up and down: (7.5%) for companies listed in the first market and (5%) for companies listed in the second market.

2.7.9 Trading Unit

At present, the minimum limit of the number of stocks allowed for trading (buy – sell) at the PEX is one (1) stock for all traded stocks.

2.7.10 Al Quds Index

The Palestine Exchange modifies the Al-Quds Index Sample for the year 2012. The Palestine Exchange (PEX) adjusted list of companies to be included in its Al-QUDS INDEX for the year 2012. PEX raised the number of companies included from 12 to 15 to reflect the increase in the number of listed companies which grew to 46 companies as at the end of December 2011; seven (7) new companies were listed in 2011. The modified sample represents 30% of the number of listed companies and 83% of total Market Cap as at the 28th of December 2013, it includes the following listed companies:

1 Palestine Development & Investment PADICO (Investment)

2 Palestine Industrial Investment PIIC (Investment)

3 Palestine Real Estate Investment PRICO (Investment)

4 Union Instructions & Investment UCI (Investment)

5 Arab Islamic Bank AIB Banking & Financial (Services)

6 Bank of Palestine BOP Banking & Financial (Services)

7 Palestine Islamic Bank ISBK Banking & Financial (Services)

8 National Bank TNB Banking & Financial (Services)

9 National Insurance NIC(Insurance)

10 Palestine Telecommunications PALTEL (Services)

11 Palestine Electric PEC (Services)

12 Wataniya Palestine Mobile Telecommunications WATANIYA (Services)

13 Birzeit Pharmaceuticals BPC (Industry)

14 Jerusalem Cigarettes JCC (Industry)

15 Golden Wheat Mills GMC (Industry)

At the end of every year, the companies that are included in Al Quds Index are assessed since the sample is modified in accordance with the trading statistics of that year. The following criteria are adopted:

1) Trading volume.

2) Trading Value.

3) Number of trades.

4) Number of trading days.

5) Market Value.

6) Average of stock Turnover.

2.7.11 listing laws in the Palestine Securities Exchange (No. 12, 2004)

2.7.11.1 A Summary

This law is concerned with regulatory issues within the capital market sector. It specifies the roles of the Palestine Security Exchange (PEX) and the Palestine Capital Market Authority (CMA).

2.7.11.2 The PEX

The roles of the PEX include the following:

1. Regulating, overseeing and monitoring the activities of members, issuers and listed companies regarding their securities.

2. Regulating dealings in securities in order to safeguard owners of securities, investors and the public from fraud, deception and unjust practices in accordance with the regulations issued by the CMA.

3. Applying and implementing rules and procedures designed to monitor the activities of members. These include:

a. The right of the Exchange to examine the books and registries of members.

b. Inquiring into the financial status of member companies and ensuring that financial audits comply with international standards.

c. Sending the CMA periodical reports on members' activities.

4. Conducting investigations into member companies and listed companies and the imposition of fines when rules are contravened.

5. Setting and imposing fees on member and listed companies for using its supplies and services, including: registration, membership, trading and listing fees after having sought the CMA's approval.

6. With justified reason, asking the CMA to suspend dealing in traded securities or the operations of any of its members for a suitable period.

In carrying out its duties the PEX is required to act ethically and professionally and in accordance with directives issued by the CMA. Having obtained the CMA's approval for its procedures, it is also charged with establishing rules of practice, surveillance, monitoring and execution that ensure the Exchange itself operates effectively.

2.8 Chapter summary

This chapter outlined the previous literature in the area of the current research topic. It started with discussing the stock market efficiency, and the Random Walk hypothesis. Then it moved to explaining the EMH and its assumptions and different levels of efficiency. Also; the different Pros and Cons of investing in stocks were briefly discussed, as well as a short explanation of some types of stocks and what factors might cause stock prices to move on both the macroeconomic and microeconomic levels. Also; the chapter discussed briefly some valuation models for stocks.

The chapter ended by discussing a brief overview of the Palestine Securities Exchange; PEX in order to be able to move later on to analyzing the data collected and reaching results with regard to this market specifically.

The next chapter discusses data collected and what steps were undertaken to gather then needed data for the purposes of testing our hypothesis.

Chapter Three

Research Methodology

Chapter Three

Research Methodology

3.1 Introduction

In this chapter, the researcher is focusing on how the work was designed and carried out. We start by discussing the population and sample, and then explaining the data collected, and the research methodology. This is followed by explaining the research process. Finally; a brief conclusion of the chapter is presented. The overall objective of this part is to introduce the research design and how it was carried out by the researcher.

3.2 Population and sample

For the purposes of achieving the research objectives, the researcher is going to use the annual reports of all the listed companies during the years 2003-2012 as the research population. These were (35) companies. The sample selected for the purposes of this research contained (18) companies, (about 51.4%) which were all listed before 2003 and continue to operate until today.

3.3 Data

The researcher is using two sets of secondary data. The first set is derived from the Palestine Monetary Authority website which is the macroeconomic variables which affect different segments within Palestine Securities Exchange (PEX) throughout the years 2003-2012. The second set of variables is microeconomic variables which usually relate to some, but not all listed companies throughout the years 2003-2012, these were taken from the annual reports of the sample. Also the Palestine Securities Exchange website was used to determine the closing stock price of listed companies during the same period.

The most important macroeconomic variables selected for the purposes of this research were: inflation, and level of GDP. On the other hand, the microeconomic variables of most importance were: financial leverage, EPS, DPS, and company size. These are briefly discussed below.

Table (3.1): sample of listed companies by industrial sector

Industrial sector	No. of listed companies	% from total sample
Banking	4	22.22
Investment	3	16.68
Insurance	2	11.11
Services	5	27.77
Industrial	4	22.22
Total	18	100%

As mentioned in the above table, the services sector has the highest number of listed companies from the sample, followed by both banking and industry, and then investment. The least percentage of listed companies in the sample is the insurance (only two companies). This shows that some sectors are more interested in and capable of joining the PEX than others. This also helps explaining why the services companies and banking and industrial companies are the most suitable investment alternatives for many investors, as they have the longest experience and somewhat the most stable record of performance as we will show later on.

Figure (3.1): Plotting stock prices during 2003-2012
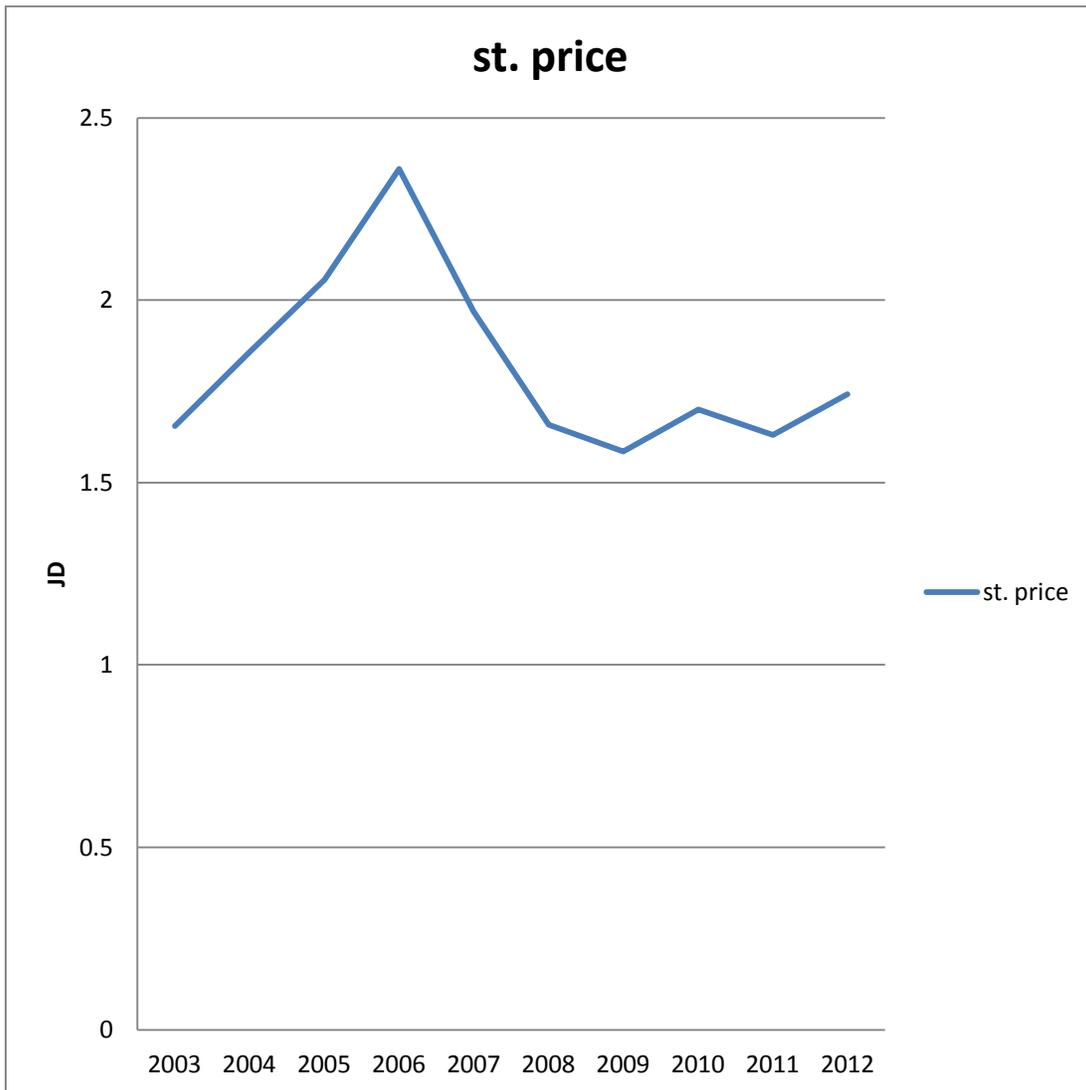
It is seen from the above figure that stock prices for the sample fluctuated between a high level of 2.360 in 2006 and low of 1.585 in 2009. This is the dependent variable of the study which was calculated using the average daily closing price for each company in each year, and then the price for each company was added to the other companies within the sample to reach the average for each year, which was calculated on the basis of weighted average assuming company size is the weight.

Figure (3.2): plotting inflation rates during 2003-2012
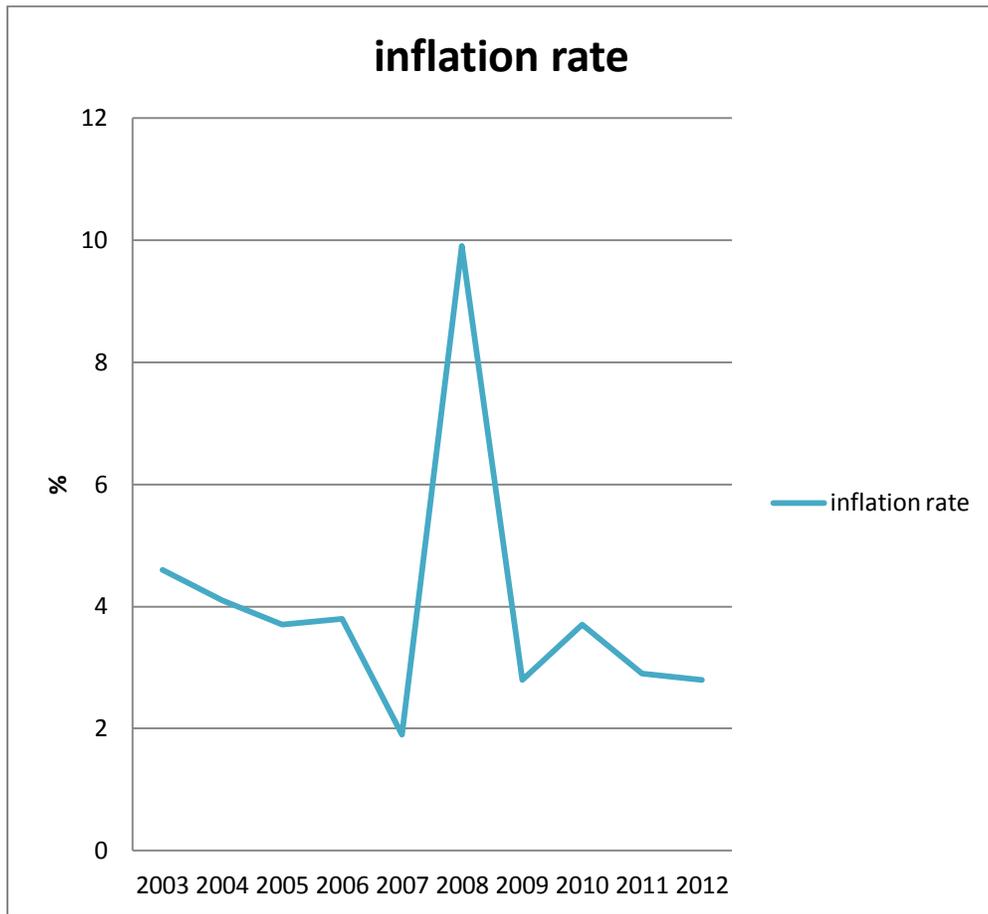
inflation rate

As seen from the figure above, the year 2008 witnessed the highest inflation rate during the years 2003-2012. It is worthy to see how this affected the stock price performance during this year. Also 2008 had the highest jump in inflation rate (more than four times), which is not seen in the other years. On the other hand; 2007 had the least inflation rate (only 1.9) which was a decrease from 2006 by 50%. The remainder of the series showed a constant fluctuation in inflation rate which is expected in a country such as Palestine, where continuous movements in prices are seen. Examining the effect of this fluctuation would be interesting especially in the years 2007/2008.

$Figure (3.3): plotting the JD-GDP during 2003-2012
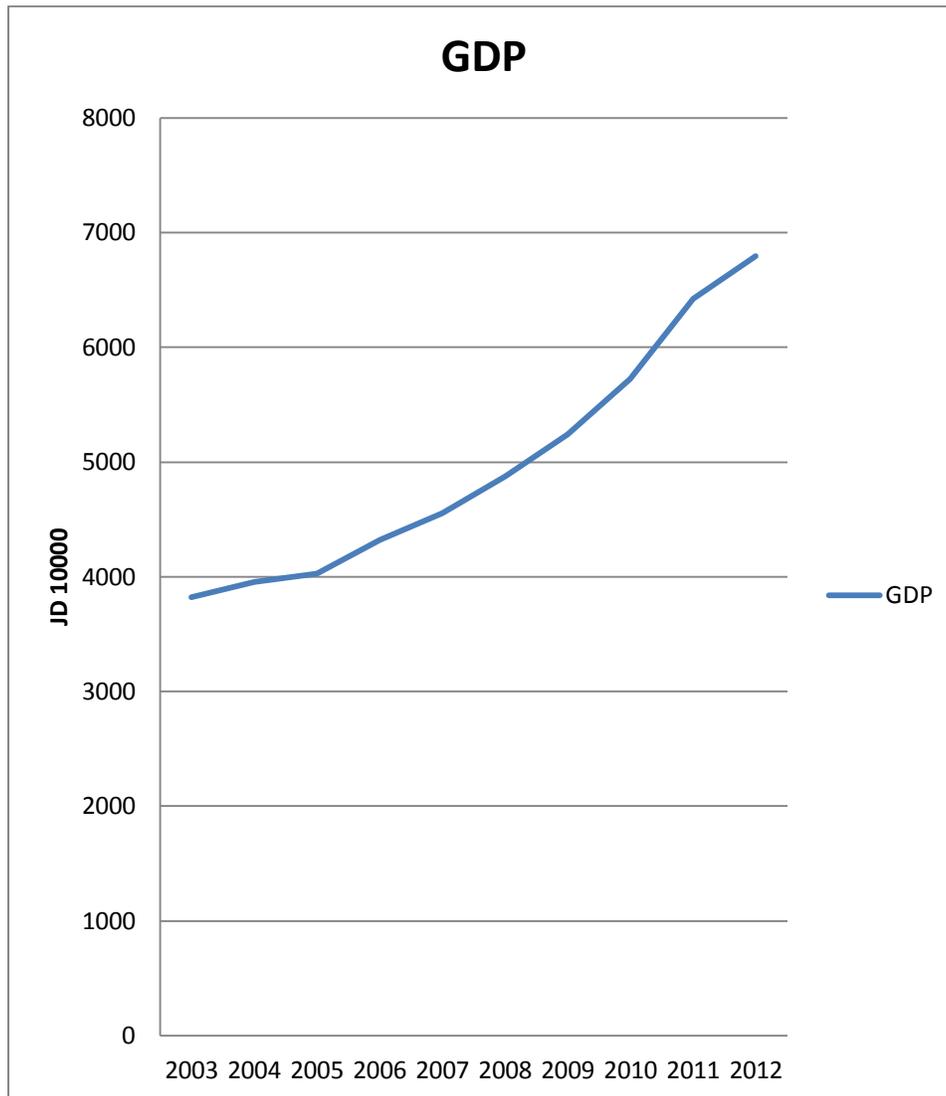
It is seen from the figure above that there is a constant growth in GDP during the years 2003-2012. This is important when studying the market price behavior as many studies stressed the positive relationship between GDP and improve stock price in the market. It is worthy to note that such growth (if it continues) is a good indicator of economic recovery, and that Palestine economy might witness a boom sometime soon.

Figure (3.4) plotting the financial leverage during 2003-2012

F. Lev.
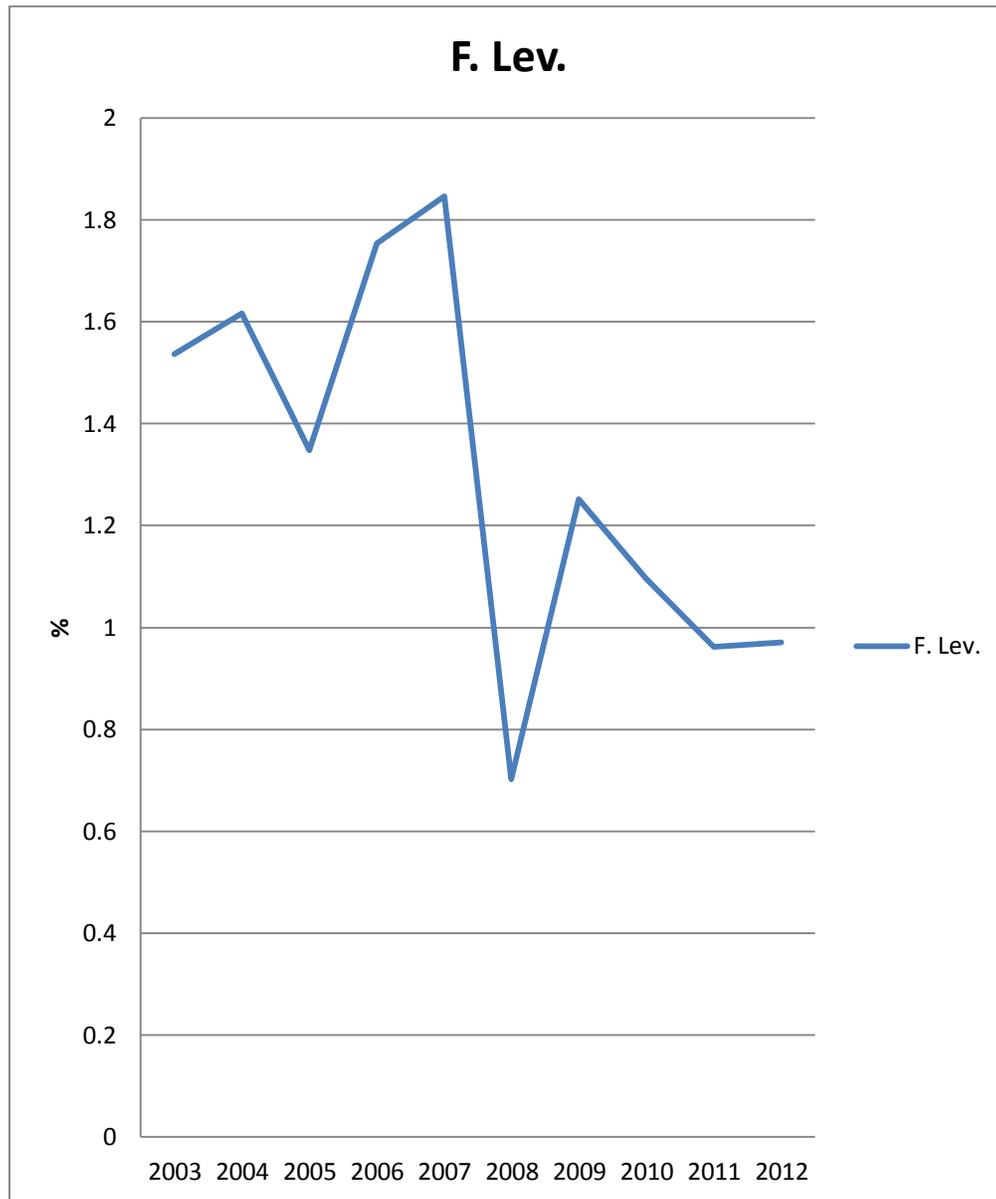
The Financial leverage is an important indicator of the performance of a company. It is seen that the average leverage fluctuated from (1.846) in 2007 down to (0.962) in 2011. This might be a result of increased interests on loans paid by some companies and that EBIT was small in other years due to increased operational expenses. In the last three years it is seen that it stabled around an average of 1.0 which is a good indicator of financial stability in performance.

Figure (3.5): plotting EPS during 2003-2012
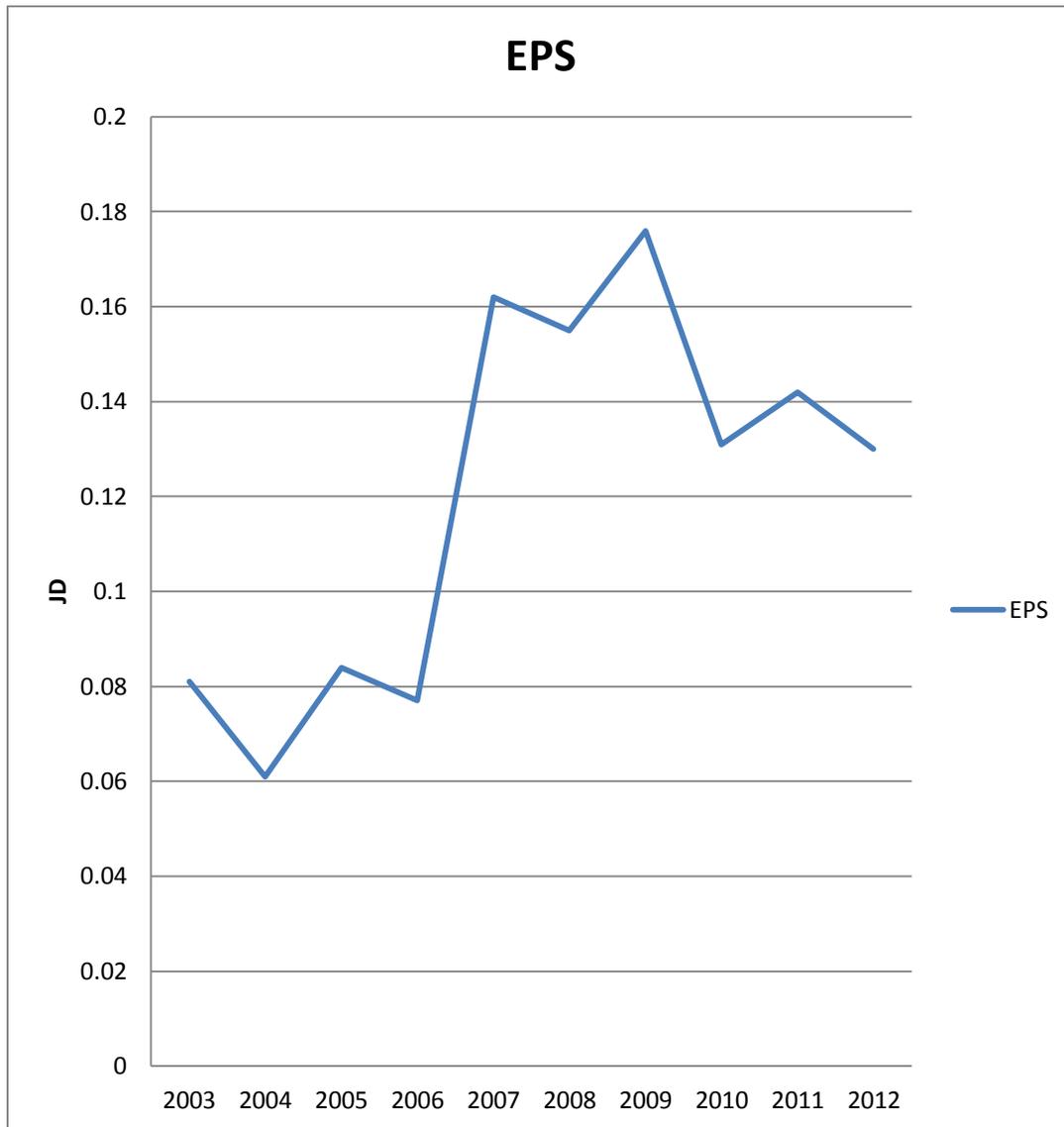
The figure above shows the average EPS for the sample. It is seen that 2009 had the highest average, followed by 2007 and 2008. In 2004 the lowest level of EPS was recorded, and in 2012 a decrease by 0.012 was seen from 2011. Many studies focused on the positive impact of EPS on stock prices of listed companies and it would be very interesting to see how such swings in EPS affected the performance of the sample.

Figure (3.6): Plotting DPS during 2003-2012
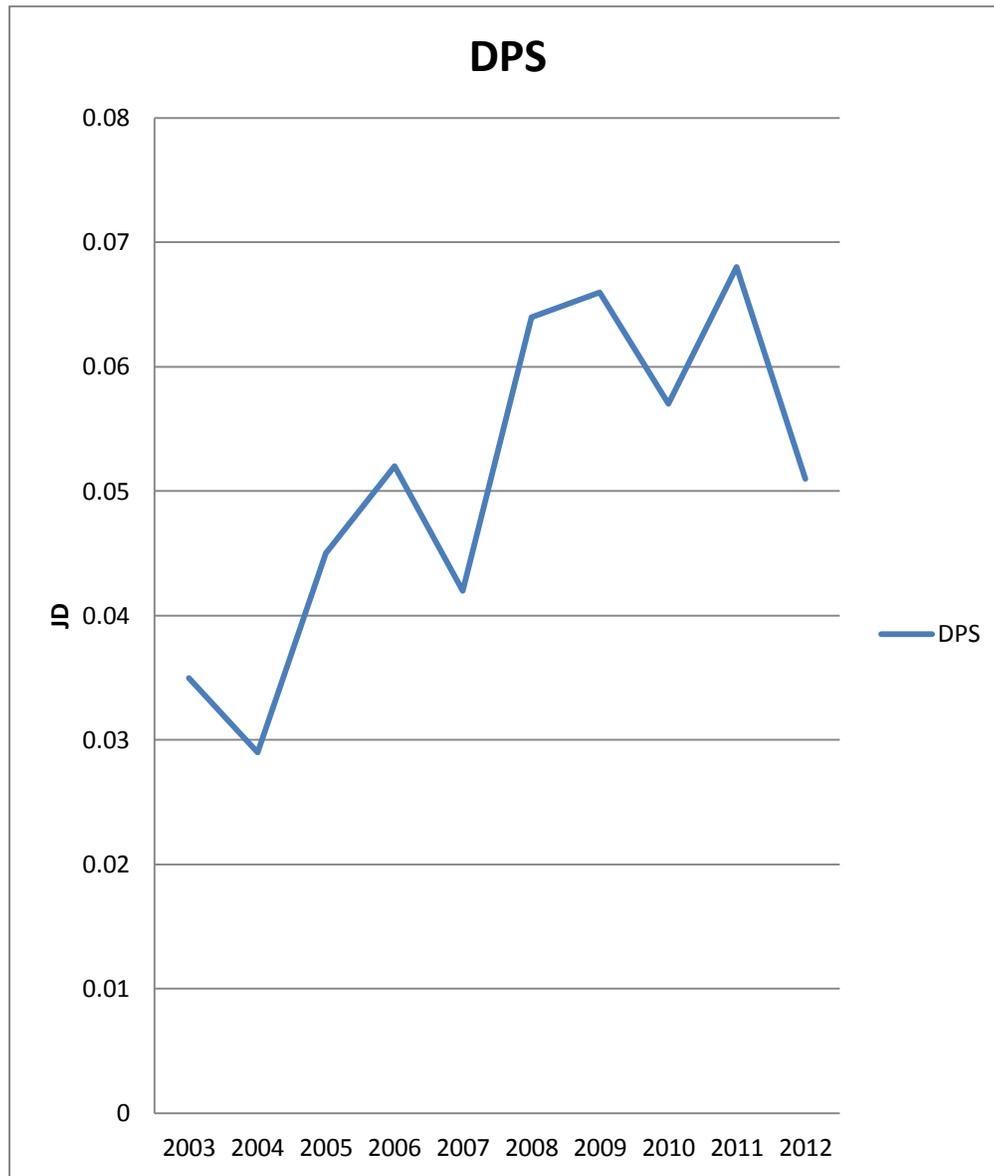
The above figure shows the different levels of DPS paid by the companies in the sample. DPS is used by many companies to satisfy common stock holders especially those looking for current income. It is important to note that these usually move in the same direction as EPS, and can result in an improvement of market price of stocks. In 2009 the highest dividends were paid by the sample companies, and in 2004 the lowest dividends were paid.

3.4 Research methodology

This research is based on a Quantitative approach. A panel data analysis (time series) was used for the years 2003-2012. This is useful when trying to expand the discussion about a relatively new and complex idea, by using the numbers to support the theories and present a new way of discussing a certain phenomenon (Bryman and Bell, 2007). As explained in chapter one, the researcher is using a t-test and linear regressions model to examine the relationship between both dependent which was measured by closing price and independent variables on both microeconomic and macroeconomic levels.

3.5 Research procedure

In order to be able to answer research questions, test hypothesis, and reach the objectives, the researcher undertook the following steps:

Step one: conducted a thorough investigation of the literature to determine the gaps. Studying the literature continued throughout the research process. It helped determining what others have done thus far, and what should the next step for the current research be. *Step two:* referring to the Palestine Monetary Authority website and publications to get the figures related to macroeconomic variables (both GDP and inflation) during 2003-2012 *Step three:* referring to the Palestine Securities Exchange website and publications to determine the population and sample, and then getting the figures related to microeconomic variables (mainly: EPS, DPS, size, and Financial leverage) for the years 2003-2012. *Step four*: analyzing the data collected using t-test and a linear regression model to test the hypothesis. *Step five:* drawing suitable results and conclusions. Figure (3.8) briefly explains these steps.

Figure (3.7): A summary of research process
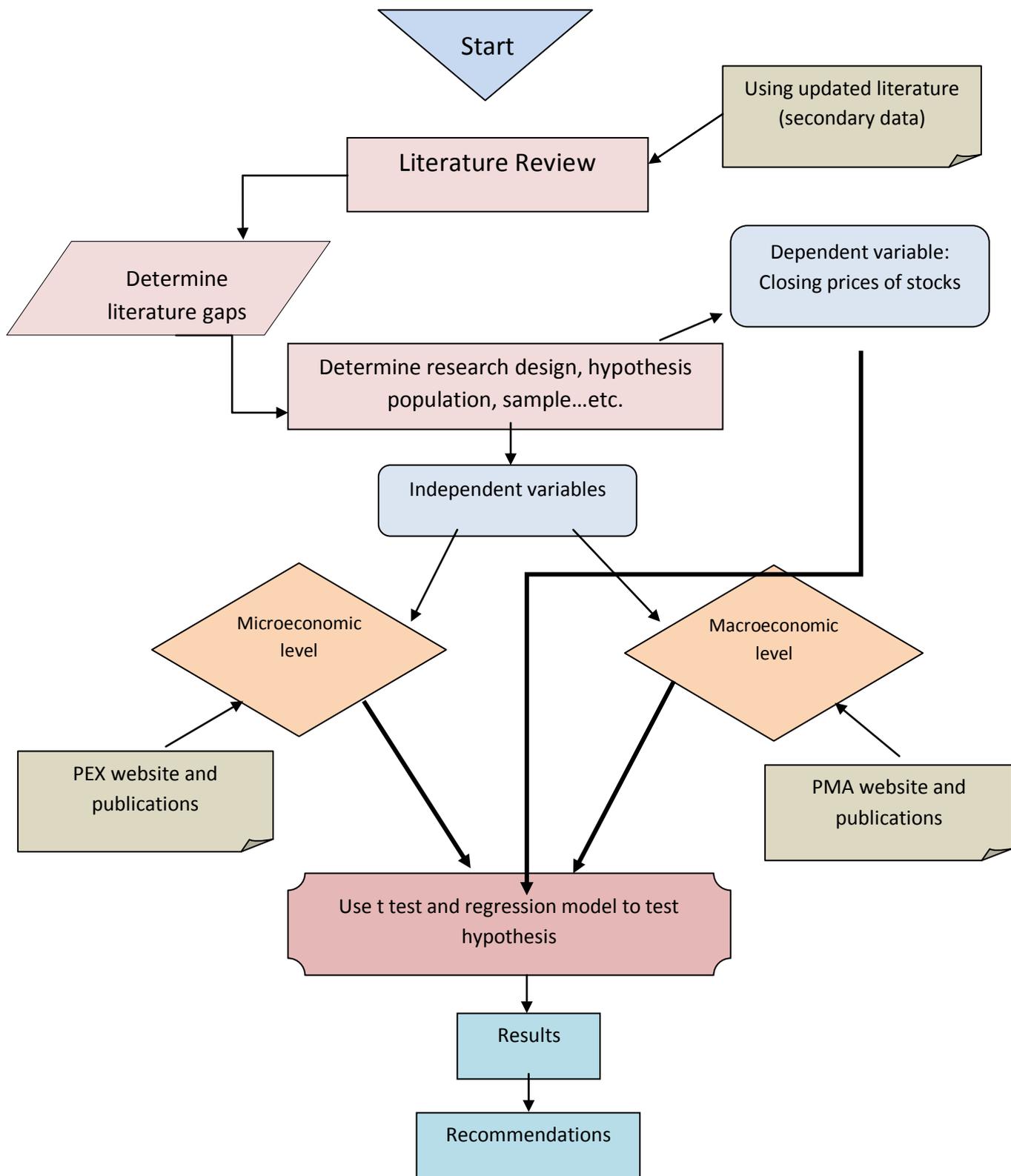
3.6 Ethical considerations:

The following points are to be made with regards to ethical considerations:

a. All data collected was publically available through the internet and different procures distributed by both the companies and PEX. All of these helped make our data reliable and valid for the purposes of our current investigation.

b. The data was tested using SPSS through a professional statistical expert who managed to help out in testing and explaining the results received as per requested by the researcher.

c. The Deanship of Graduate School and Academic Research approved all items within the proposal and qualified it as a valid and significant research topic.

d. Although the data was publically available, secrecy of information is kept as the researcher did not expose any details relating to the companies other than those relating to the research area. These all were used and analyzed with the highest level of secrecy.

3.7 Chapter summary

This chapter highlighted the research design which was followed by the researcher to try and achieve the overall objective of determining the factors affecting stock prices of the listed companies in the PEX during 2003-2012. It started with introducing the population, sample, data with focus on each of the independent variables. Also, a discussion of ethical considerations was made. It finished with explaining the research process and what steps were undertaken to reach the stage of making recommendations. We now move to the next chapter which is going to examine the data in order to try and answer the questions and test hypothesis of this research.

Chapter Four

Results and Analysis

Chapter Four

Results and Analysis

4.1 Introduction

In the past chapter, the researcher managed to identify the research variables, and showed how these changed over the years 2003-2012. Now the researcher moves the discussion into the area of investigation the effect of the independent variables on the dependent variables, i.e. testing the research hypothesis.

This is done using two important measures: the t-test (Bryman, 2004) to see whether the independent variable affects the dependent variable (stock price). If there is a relationship, a linear regression model is used to test the significance of that effect and its direction.

4.2 Testing the hypothesis

In order to make sure the data used for the purposes of testing the research hypothesis was normally distributed, Shapiro-Wilt test was used. This test is useful for samples with less than 2000 observations. The test determined that all independent variables have normal distribution as no single variable had a value more than 0.05.

Before starting to discuss the different hypothesis and testing these, it is important to perform a Variance Inflationary Factor VIF test, which would enable us to examine whether the independent variables are actually independent from each other, and that no one variable has a joint effect with another over the stock price during the years 2003-2012 (Bryman, 2004). In order to perform such test we need to calculate the value of R square and then apply it to the following equation:

$$VIF= 1/(1-R^2)$$

If the value of VIF<5.0 it is said that the independent variables have no relationship with each other and have actually independent effect on the dependent variable. The following table (3.1) provides the value of R^2 =0.738, and substituting this to the above equation leads to a VIF value of 3.816.

Table (4.1): Calculating R square for the variables

				Model Summary
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.915[a]	.738	.513	.170575
a. Predictors: (Constant), DPS, fin.lev, inflation, GDP, EPS, comp.size

In order to further investigate this, a collinearity diagnostics box is presented below. If no two values are repeated in the same line and with a value greater than 0.90, this also means that the independent variables are not dependent on each other and do not correlate in terms of affecting stock prices (Harshada Joshi, 2012). The following table (4.2) presents this.

Table (4.2): Collinearity diagnostics test box for the research variables.

Model	Dimension	Eigen value	Condition Index	Variance Proportions						
				(Constant)	inflation	GDP	comp. size	fin. lev	EPS	DPS
1	1	3.764	1.000	.00	.00	.00	.00	.00	.00	.00
	2	1.972	2.435	.00	.00	.00	.00	.24	.00	.00
	3	1.200	5.367	.00	.33	.00	.00	.04	.00	.00
	4	1.042	11.656	.22	.00	.01	.00	.04	.11	.03
	5	.91	22.993	.50	.22	.47	.01	.03	.05	.07
	6	.68	27.452	.09	.03	.01	.04	.43	.84	.49
a. Dependent Variable: st.price										

All the above is also explained by the fact that the squared eigenvalues (Harshada Joshi, 2012) calculated for all the variables do not exceed 15 (highest is 14.167 and lowest at 0.462) and as the lowest is the only one less than 1, then this also another indicator to support the above results.

We now move to testing the hypothesis. Firstly; by testing the macroeconomic group, and then discussing the microeconomic group.

Tables (4.3): groups of independent variables

macroeconomic variables	microeconomic variables
Inflation (10yr*1 observation)	Financial leverage (10yr*18 observations)
	Company size (10yr*18 observations)
GDP (10yr*1 observation)	EPS (10yr*18 observations)
	DPS (10yr*18 observations)

4.2.1 Testing the microeconomic variables:

In this part, the researcher investigates the effect of microeconomic variables on stock price during the period 2003-2012. We start by using t test to test the hypothesis, and then use the regression analysis to measure the significance and direction of the relationship.

4.2.1.1 Testing the effect of EPS on stock price

H0: There is no relationship at statistical level of significance $(0.05 \geq \alpha)$ between earning per stock and market price of stocks at PEX during (2003-2012).

H1: There is a relationship at statistical level of significance $(0.05 \geq \alpha)$ between earning per stock and market price of stocks at PEX during (2003-2012).

Table (4.4): t test for the relationship between EPS and stock price

		Levene's Test for Equality of Variance				
		F	Sig.	t	df	Sig. (2-tailed)
SI	Equal variance assumed	21.364	0.001	-15.29	12	0.001
	Equal variance not assumed			-15.29	6	0.047

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The table above shows that there is not enough evidence for accepting the null hypothesis H0, which means rejecting it. This also implies accepting the alternative hypothesis that stock prices are affected by the EPS. The following table explains the significance of this relationship

Tables (4.5): Regression analysis for the relationship between EPS and stock price

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
(Constant)	2.713	.354	---	7.671	.001
earning per stock	6.756	2.489	.761	2.625	.047
R= 0.76 R^2= 0.78 F= 6.89 sig.=0.047					
a. Dependent Variable: market value of stock					

The results in the table above show that there is relationship at statistical level of significance $(0.05 \geq \alpha)$ between earning per stock and market value of stock at PEX during (2003-2012) since both values of F and T statistics of the coefficient are significant(sig<0.05).

The correlation coefficient 0.76 indicating for high positive relationship between earning per stock and the market value of stock, the variation of the market value of stock is explained by the variation in earning per stock by 78%.

The results above indicate a natural relationship between EPS and stock prices in the market. As investors seek companies that make profit (especially small investors in developed countries such as Palestine) and the risks associated with investing in stocks that are fluctuating in earnings is higher, it is obvious that those investors would seek a higher return, and if companies tend to earn higher levels of income, then their stocks are sought after within the financial markets. This is also an indication that their reputation is growing stronger. The above results correspond to what was found by previous literature such as Al-Suidi (2011), Dana Yousif (2008), Mohammed AbdAl-Hafiz (2006), and Md. Saheb Ali Mondal and Muhammad Showkat Imran (2013).

4.2.1.2 Testing the effect of DPS on stock price

H0: There is no relationship at statistical level of significance ($0.05 \geq \alpha$) between dividend per stock and market price of stocks at PEX during (2003-2012).

H1: There is a relationship at statistical level of significance ($0.05 \geq \alpha$) between dividends per stock and market price of stocks at PEX during (2003-2012).

Table (4.6): t test for the relationship between DPS and stock price

		Levene's Test for Equality of Variance				
		F	Sig.	t	df	Sig. (2-tailed)
SI	Equal variance assumed	10.484	0.007	16.862	12	0.005
	Equal variance not assumed			16.862	6	0.013

The table above shows that there is not enough evidence for accepting the null hypothesis H0, which means rejecting it. This also implies accepting the alternative hypothesis that stock prices are affected by the DPS. The following table explains the significance of this relationship

Tables (4.7): Regression analysis for the relationship between DPS and stock price

	Coefficients[a]					
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
	(Constant)	2.866	.602	---	4.763	.005
	dividend per stock	7.2200	10.412	.623	1.783	.013
	R= 0.62 R^2= 0.69 F= 3.178 sig.= 0.013					
a. Dependent Variable: market value of stock						

The results in the table above show that there is a relationship at statistical level of significance (0.05≥α) between dividends per stock and market value of stock at PEX during (2003-2012) since both values of F and T statistics of the coefficient are significant(sig<0.05).

The correlation coefficient 0.62 indicating for high positive relationship between dividend per stock and the market value of stock, the variation of the market value of stock is explained by the variation in earning per stock by 69%.

The tables show another positive relationship and this is true as many studies suggest. Many investors in countries such as Palestine tend to look for companies that pay higher dividends, or even small dividends at a constant rate. They tend to avoide companies that seek continuous expansion through retaining earnings, and as a result, those companies that pay higher dividends usually have higher market price for their stocks. The above results are similar to what was found by others including Al-Suidi (2011), Dana Yousif (2008), Mohammed AbdAl-Hafiz (2006), Md. Saheb Ali Mondal and Muhammad Showkat Imran (2013), and Muhammad Yasir Naveed (2013).

4.2.1.3 Testing the effect of company size on stock price

H0: There is no relationship at statistical level of significance (0.05≥α) between company size and market price of stocks at PEX during (2003-2012).

H1: There is a relationship at statistical level of significance (0.05≥α) between company size and market price of stocks at PEX during (2003-2012).

Table (4.8): t test for the relationship between company size and stock price

		Levene's Test for Equality of Variance				
		F	Sig.	t	df	Sig. (2-tailed)
SI	Equal variance assumed			-15.013	12	0.565
	Equal variance not assumed	9.661	0.009	-15.013	6	0.150

The table above shows that there is enough evidence for accepting the null hypothesis H0, which means rejecting the alternative one. The following table explains the significance of this relationship

Tables (4.9): regression analysis for the relationship between company size and stock price

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
	(Constant)	2.770	.583		4.747	.565
	company size	1.2868	.000	.599	1.673	.150
R= 0.60 R²= 0.027 F= 2.799 sig.= 0.150						
a. Dependent Variable: market value of stock						

The results in the table above show that there is no relationship at statistical level of significance $(0.05 \geq \alpha)$ between company size and market value of stock at PEX during (2003-2012) since both values of F and T statistics of the coefficient are significant (0.05< sig).

The correlation coefficient 0.6 indicating for moderate positive relationship between company size and the market value of stock, the variation of the market value of stock is explained by the variation in company size by 2.7%.

Although some literature suggests that company size actually affects stock prices, this is not the case in Palestine. This might be due to several reasons, among these: lack of awareness about the importance of the company size in decreasing risks associated with investing in their stocks. Also; this might be due to stable company size by many companies within the PEX, which seemed to try to avoid distributing losses to stockholders by retaining some profits made in previous years rather than using it to expand their size. The result is consistent to what Muhammad Yasir Naveed (2013) found.

4.2.1.4 Testing the effect of financial leverage on stock price

H0: There is no relationship at statistical level of significance $(0.05 \geq \alpha)$ between financial leverage and market price of stocks at PEX during (2003-2012).

H1: There is a relationship at statistical level of significance $(0.05 \geq \alpha)$ between financial leverage and market price of stocks at PEX during (2003-2012).

Table (4.10): t test for the relationship between financial leverage and stock price

		Levene's Test for Equality of Variance				
		F	Sig.	t	df	Sig. (2-tailed)
SI	Equal variance assumed	9.661	0.009	-15.013	12	0.000
	Equal variance not assumed			-15.013	6	0.000

The table above shows that there is not enough evidence for accepting the null hypothesis H0, which means rejecting it. This also implies accepting the alternative one. The following table explains the significance of this relationship

Tables (4:11): Regression analysis for the relationship between financial leverage and stock price

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
	(Constant)	1.808	.112		16.093	.000
	financial leverage	-.049	.047	-.161	-.364	.731
R= -0.161 R^2= 0.26 F= 0.133 sig.= 0.731						
a. Dependent Variable: market value of stock						

The results in the table above show that there is a relationship at statistical level of significance $(0.05 \geq \alpha)$ between financial leverage and market value of stock at PEX during (2003-2012) since both values of F and T statistics of the coefficient are significant (sig>0.05).

The correlation coefficient -0.161 indicating for small negative relationship between financial leverage and the market value of stock, the variation of the market value of stock is explained by the variation in financial leverage by 26%.

The negative weak relationship might be explained as a negative reaction from investors towards the fact that the money they invested in stocks is actually used to cover some obligations by the listed companies. This also seems to affect their risk-return trade off decision, as they value risk more than return, thus affecting the stock prices somewhat negatively. The above results are similar to what was found in previous literature by Dana Yousif (2008), Md. Saheb Ali Mondal and Muhammad Showkat Imran (2013).

4.2.2 Testing the macroeconomic variables:

In this part, the researcher investigates the effect of macroeconomic variables on stock price during the period 2003-2012. We start by using t test to test the hypothesis, and then use the regression analysis to measure the significance and direction of the relationship.

4.2.2.1 Testing the effect of inflation on stock price

H0: There is no relationship at statistical level of significance (0.05≥α) between inflation and market price of stocks at PEX during (2003-2012).

H1: There is a relationship at statistical level of significance (0.05≥α) between inflation and market price of stocks at PEX during (2003-2012).

Table (4.12): t test for the relationship between inflation and stock price

		Levene's Test for Equality of Variance				
		F	Sig.	t	df	Sig. (2-tailed)
SI	Equal variance assumed	3.96	0.07	-2.12	12	0.056
	Equal variance not assumed			-2.12	6	0.077

The table above shows that there is enough evidence for accepting the null hypothesis H0, which means rejecting the alternative one. The following table explains the significance of this relationship

Tables (4.13): regression analysis for the relationship between inflation and stock price

		Coefficients[a]				
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
	(Constant)	1.874	.211		8.892	.000
	inflation	-.041	.045	-.169	-.383	.718
R= -0.169 R^2= 0.028 F= 0.147 sig.= 0.718						
a. Dependent Variable: market value of stock						

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The results in the table above show that there is no relationship at statistical level of significance (0.05≥α) between inflation and market value of stock at PEX during (2003-2012) since both values of F and T statistics of the coefficient are not significant(sig>0.05).

The correlation coefficient -0.169 indicating for small negative relationship between inflation and the market value of stock, the variation of the market value of stock is explained by the variation in inflation by 2.8%.

It is indicated by the above discussion that although stock prices might be affected positively by the inflation rates, it did not. Many reasons could be behind this including: lack of awareness by the public about the effects of inflation on their investment values when sold, and those investors might not be interested in understanding how the returns generated by their stocks are affected by inflation, they only want the return, and their companies to keep generating profits. The results obtained above are consistent with the work of Md. Saheb Ali Mondal and Muhammad Showkat Imran, (2013) Yu Hsing (2013) Mondeher Bellalah and Umie Habiba (2013), and Gagan Deep Sharma (2013)

4.2.2.2 Testing the effect of GDP on stock price

H0: There is no relationship at statistical level of significance (0.05≥α) between GDP and market price of stocks at PEX during (2003-2012).

H1: There is a relationship at statistical level of significance (0.05≥α) between GDP and market price of stocks at PEX during (2003-2012).

Table (4.14): t test for the relationship between GDP and stock price

| | | Levene's Test for Equality of Variance | | | | |
		F	Sig.	t	df	Sig. (2-tailed)
SI	Equal variance assumed	21.364	0.001	-15.29	12	0.000
	Equal variance not assumed			-15.29	6	0.000

The table above shows that there is not enough evidence for accepting the null hypothesis H0, which means rejecting it. This also implies accepting the alternative one. The following table explains the significance of this relationship

Tables (4.15): Regression analysis for the relationship between GDP and stock price

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
(Constant)	2.768	.571		4.848	.005
GDP	-2.9345	.000	-.607	-1.707	.149
R= -0.607 R^2= 0.368 F= 2.914 sig.= 0.149					
a. Dependent Variable: market value of stock					

The results in the table above show that there is a relationship at statistical level of significance ($0.05 \geq \alpha$) between GDP and market value of stock at PEX during (2003-2012) since both values of F and T statistics of the coefficient are significant (sig>0.05).

The correlation coefficient -0.607 indicating for moderate negative relationship between GDP and the market value of stocks, the variation of the market value of stock is explained by the variation in GDP by only 36.8%.

The results above are somewhat different from the general views about GDP. This might be a result of many scenarios, for example: that the GDP is increasing as a result of foreign investments made outside the stock market, and that GDP is not increasing to reflect improvement in economy, rather it is showing an indication of improving production only. In other words, investors are not interested in associating the stock investments they make with the GDP level, on the contrary; they think it affects the general performance of their stocks negatively. The evidence obtained above are consistent with the result found by Md. Saheb Ali Mondal and Muhammad Showkat Imran (2013), and S. Singh (2012), but are on the contrary to

what was researched and found by Mrunal Joshi (2013), and Yu Hsing (2013) Mondeher Bellalah and Umie Habiba (2013).

4.3 Completing the regression model

The following table summarizes the values generated by using the regression test for examining the relationship between market price of stock and the different independent variables.

Table (4.16): Regression test results

Coefficients				
Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
	(Constant)	3.593	.000	
	earning per stock	6.756	.000	.787
	dividend per stock	7.220	.000	.242
	company size	1.2868	.000	.445
	financial leverage	-.049	.000	.463
	inflation	-.041	.000	.398
	GDP	-2.9345	.000	.237

From the above table it is seen that EPS and DPS have the strongest impact on stock price, whereas both inflation and financial leverage have the weakest impact on stock price of listed companies within the PEX. The following would be the regression model produced through this research.

Market Price of Stock (MPS) = 3.593 + 7.220 DIV + 6.756 EPS + 1.2868 SIZE + (0.049) LEV+ (0.041) INF + (2.9345) GDP + 0.17

4.4 Chapter summary:

This chapter discussed the results relating to using both t test and regression analysis to investigate the existence of a relationship between the dependent variable (market price of stock), and the different independent variables (both macroeconomic and microeconomic). The results indicate that some factors had an impact on stock prices during 2003-2012; which included: EPS, DPS, financial leverage, and GDP. On the other hand; both company size and inflation appeared to have no impact on the stock prices during the same period.

The results also show that EPS and DPS had the most significant ability to explain changes in market price (78% and 69% respectively), whereas both company size and inflation had the least (only 2.7% and 2.8% respectively). Both financial leverage and GDP managed to explain the changes in market price at a somewhat low rate (26% and 36.8% respectively). The beta coefficients were used to determine the final model for calculating the market price of stocks during 2003-2012.

Chapter Five

Conclusions and Recommendations

Chapter Five

Conclusions and Recommendations

5.1 Introduction

This research presented an investigation of the effect of some macroeconomic and microeconomic variables on the behavior of stock price for a listed number of companies within the Palestine Securities Exchange during the years 2003-2012. Over this time series analysis, the researcher focused on identifying the effect of each of the six variables independently, and then joined these using a regression model which was presented earlier in chapter four.

The overall objectives were related to trying to identify which factors had no impact, and which did have an impact on stock prices during that period; and to identify that impact as a positive or a negative one.

Although some problems did face the researcher, especially those related to the process of collecting the accurate data for the purposes of testing and analyzing the research hypothesis; the research still managed to perform suitable statistical analysis which helped achieving the objectives of this research.

The previous chapters presented an overview of the research, a theoretical background about this area, an overview of related previous research, an explanation of the research design and process, and finally: testing the hypothesis of this research.

The final step which the researcher focuses on now is to present some conclusions reached after conducting this work, as well as presenting some recommendations both to investors (current and future), and companies. Also; the researcher has made some recommendations for future academic research.

5.2 Summary of results

After conducting this research, the following results were found:

a. *In relation to literature review and previous studies:* the researcher managed to spot out some of the latest work done in the same area, both locally and internationally. Also; the

researcher managed to explain some of the most important terminologies associated with studying and understanding stock market performance, and why stock prices tend to change continuously. These all helped the researcher explain the significance of the current research by determining the literature gaps which this research helped narrowing down. The researcher also explained some of the main ideas about the PEX which helped put the current research in the correct perspective by showing the uniqueness of this market as an emerging one. Finally; the researcher used all the above as a basis for discussing and evaluating the results which were reached by analyzing the data collected.

b. *In relation to research objectives:* the researcher found that among the variables that caused stock prices to change in the years 2003-2012 were: a positive relationship with both EPS and DPS, and a negative relationship with both financial leverage and GDP. No relationship between both inflation and company size and stock price during the same period.

Based on the regression analysis and the different values of beta found; it was observed that EPS and DPS had the strongest impact on stock prices. These were followed by both GDP and financial leverage. The least factors affecting stock prices were company size and inflation

c. *In relation to research hypothesis:* both hypothesis number (3) relating to relationship between company size and stock prices in PEX during 2003-2012, and hypothesis number (5) relating to the relationship between inflation and stock prices in PEX during 2003-2012 were accepted showing that there is no relationship between company size and inflation and stock prices during the years 2003-2012.

The reminder of the hypothesis were all rejected; meaning that EPS, DPS, GDP, and financial leverage all have a relationship with stock prices for the same period. Based on the analysis conducted, the following regression model for explaining the behavior of stock prices of listed companies during the years 2003-2012 was formulated:

> Market Price of Stock (MPS) = 3.593 + 7.220 DPS + 6.756 EPS + 1.2868 SIZE + (0.049) Fin. Lev + (0.041) Inflation + (2.9345) GDP + 0.17

d. *In relation to research significance:* The researcher believes that although some of the previous studies contradicted with the current one, the current research is a very important step forward because it investigates a longer term period, and a unique emerging stock market. The researcher also believes that varied results are inevitable, and recognizing the results achieved by

others (on both local and international levels) help improve the quality of literature available about this topic.

The current research helps investors a lot in terms of making suitable decisions about future investments in Palestinian listed companies. For example; they should carefully monitor both EPS and DPS record of the companies as these would help improve market price of stocks. Also; they should consider GDP and financial leverage as they negatively affect market price of stock. Finally (and this is maybe the case for PEX only), investors should not pay a lot of attention to the inflation level and company size when considering and investment in a stock of a listed company within the PEX.

5.3 Recommendations

After finishing this research, and after looking at the analysis of results of this work, it became obvious for the researcher that there is a set of factors that cause stock prices of listed companies in the PEX to move, and that they do not follow a Random-Walk behavior.

Investors must realize and understand that the macroeconomic and microeconomic variables seen in Palestine have an impact on stock prices. and although they vary in affecting stock prices and might even have different impact (positive/negative), they still need to be continuously monitored and evaluated, especially in an emerging stock market such as this of Palestine.

It was noticed in the financial statements and different websites providing information about the PEX and members that they lack the information related to the effect of these factors on stock prices. it was also noticed that the listed companies themselves tended to overlook the explanation of why their stock prices moved during previous years. Much of the analysis done was simply to show improved financial performance rather than a thorough investigation of the reasons behind it.

Based on all the above, the researcher suggests the following:

a. Investors should carefully investigate the effect of macroeconomic and microeconomic factors on the performance of the stocks they hold within the PEX

b. Both companies and the PEX should provide more details and explanations about the reasons behind stock price movements. This also applies to sudden swings in stock price of individual companies

c. Trying to establish an index measuring the effect of each factor over each investment segment, which would enable the investors to isolate the effect of these on each company, and which is the most suitable investing opportunity for them

d. Companies should make special sections within their published annual reports which identify the effect of macroeconomic and microeconomic factors on the performance of their respected stock, and suitable alternatives to hedge against negative effects of some of these factors.

5.4 Future research

This research has provided a comprehensive overview of the PEX for the years 2003-2012. It has shown that some of the macroeconomic and microeconomic factors are active in the PEX and do have an impact on stock prices of listed companies.

It is hoped that future research will build on the current one in formulating a more comprehensive view of the PEX and study more factors and how they affect stock prices of listed companies in different periods. Future research might also focus on establishing an index for different sectors within the PEX to help isolate the impact of each factor on each sector, and hopes this might become available to the public in general, and to current and potential investors in specific.

Future research might also go about analyzing the political impact of the occupation on the stock performance of listed companies and make comparisons between the period of the 2nd Intifada and periods prior or after that. Finally; the researcher suggests having a larger sample by stretching out the conditions for selecting the samples and focusing on cross-sectional analysis among different companies.

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ملخص

محددات اسعار الاسهم في بورصة فلسطين: دراسة تطبيقية للأعوام من 2003-2012

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اشراف

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هدفت هذه الدراسة الى اختبار تأثير بعض العوامل على مستوى الاقتصاد الكلي والجزئي على سعر السهم لعينة من الشركات المدرجة في بورصة فلسطين ما بين الاعوام (2003-2012). حيث تم استخدام اختبار شابيرو-ويلك واختبار عامل الفروقات التضخمية (VIF)، واختبارات التشخيص (collinearity diagnostics)، واختبار (t test) بالاضافة الى اختبار تحليل الانحدار (regressions analysis)، وذلك من اجل تحديد تأثير كل من حصة السهم من الارباح، والارباح الموزعة لكل سهم، وحجم الشركة، وقوة الرفع المالي، والتضخم، والناتج القومي الاجمالي على أسعار اسهم الشركات المدرجة في البورصة خلال هذه الفترة.

وأشارت النتائج العامة الى ان كلا من اتضخم وحجم الشركة لم يكن لها تأثير على سعر السهم في الفترة ما بين عامي 2003-2012، في حين أظهرت العوامل الاخرى تفاوتا في التأثير الايجابي او السلبي على اسعار الاسهم في نفس الفترة. وتظهر اهمية الدراسة في دراسة سلسلة زمنية اطول من تلك المستخدمة في معظم الدراسات السابقة، بالاضافة الى استخدام عينة اكبر، واعطاء الدراسة معلومات اساسية تكفي المستثمرين في اتخاذ قرارات مناسبة حول امكانية الاستثمار في هذه السوق الناشئة. وشملت عينة الدراسة 18 شركة مدرجة في البورصة، حيث تم اختيار اسهم هذه الشركات باستناد الباحثة الى ادراج هذه الشركات في البورصة قبل عام 2003 واستمرار تداول اسمهما في البورصة حتى يومنا هذا.

وبعد تاكد الباحثة ان اسهم الشركات المدرجة في بورصة فلسطين لا تتبع في تغير اسعارها فرضية السير العشوائي، قامت بتقديم عدة توصيات كان من اهمها: انه يجب على المستثمرين التحقق جيدا من تاثير العوامل على مستوى الاقتصاد الكلي والجزئي على اسعار الاسهم التي يحتفظون بها، كما انه يجب على الشركات المدرجة وهيئة البورصة على حد سواء تقديم المزيد من التفاصيل والتوضيحات حول الاسباب الكامنة وراء تحرك اسعار الاسهم، واخيرا: فقد اوصت الباحثة الشركات بضرورة الافصاح عن مثل هذه المعلومات ضمن التقارير السنوية التي تعدها الشركات، وما هي البدائل التي تطرحها الشركات للتحوط ضد التاثيرات السلبية لبعض هذه العوامل.

قد تركز الدراسات المستقبلية على انشاء مؤشر او فهرس يوضح تاثير كل من هذه العوامل وغيرها على اسعار الاسهم في بورصة فلسطين، وقد تركز ايضا على تاثير الظروف والمتغيرات السياسية على اسعار الاسهم للشركات المدرجة، خاصة في الفترتين ما قبل وبعد الانتفاضة الثانية.