An-Najah National University

Faculty of Graduate Studies

Impact of Macroeconomic Factors and Political Events on the Market Index Return at Palestine and Amman Stock Markets

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الإهداء

بسم الله الرحمن الرحيم (قل اعملوا فسيرى الله عملكم ورسوله والمؤمنون)

صدق الله العظيم

إلهي لا يطيب اللّيل إلّا بشكرك ولا يطيب النّهار إلّا بطاعتك ... ولا تطيب الآخرة إلّا بعفوك ...

ولا تطيب الجنة إلّا برؤيتك ... الله جَلَّ جلاله

إلى من بَلغ الرسالة وأدّى الأمانة ... ونصح الأمة ... إلى نبيّ الرحمة ونور العالمين سَيدنا محمد

صَلى الله عليه وسَلم

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

إلى القلب الناصع بالبياض ... أمّي الغالية

إلى مصدر قوّتي و سندي.. إلى من أحمل اسمه بكلّ فخر .. إلى من حصد الأشواك عن دربي ليمَهّد

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

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

أخوتي الأحبّاء

إلى اللواتي لا أجد روحي إلا بحضرتهَن.. إلى من تذَوّقت معهم أجمل اللحظات...

صديقات عمري

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

أساتذتي الكرام

أهدي إليكم رسالة الماجستير...

داعية المولى -سبحانه وتعالى-أن تُكلَّل بالنجاح والقبول من جانب أعضاء لجنة المناقشة الموقرين.

الشكر والتقدير

(رَبِّ أَوْزِعْنِي أَنْ أَشْكُرَ نِعْمَتَكَ الَّتِي أَنْعَمْتَ عَلَيَّ وعلى وَالِدَيَّ وَأَنْ أَعْمَلَ صَالِحًا تَرْضَاهُ وَأَدْخِلْنِي بِرَحْمَتِكَ فِي عِبَادِكَ الصَّالِحِينَ) سورة النمل الآية 19

اللهم لك الحمد كما ينبغي لجلال وجهك وعظيم سلطانك، اللهم صلّ وسلّم وبارك على سيدنا محمد، أمّا بعد،

يُشَرِّفني ويسعدني أن أتقدّم بالشكر الجزيل إلى كلّ الذين حملوا أقدس رسالة في الحياة، إلى جميع أساتذتنا الأفاضل، وأخصّ بالذكر مشرفي الدكتور سامح عطعوط لدعمه المستمر خلال فترة دراستي، ولصبره وتحفيزه الدائمين، وخبرته الكبيرة التي استفدت منها في كتابة هذه الأطروحة. كما أنّني أتوّجه بشكري للأستاذ الدكتور عبد الناصر نور الذي تفضّل بالإشراف على هذا البحث، لما بذله من جهد وتوجيهات قيّمة، ولما قدّمه من نصائح وإرشادات في مراحل إعداد هذه الرسالة. فجزاكم الله عنا كلّ خير، فقد كنتم خير الموّجه والمعلّم.

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

واسأل الله العَليّ القدير أن يجزي الجميع عني خير الجزاء، وأن أكون قد وَفّقت في إعداد هذه الرسالة بإتقان وإحسان.

الإقرار

أنا الموقعة أدناه مقدّمة الرسالة التي تحت عنوان:

Impact of Macroeconomic Factors and Political Events on the Market Index Return at Palestine and Amman Stock Markets

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

Declaration

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

Student's Name:	**اسم الطالب:**
Signature:	**التوقيع:**
Date:	**التاريخ:**

Table of Content

List of Tables

List of Appendixes

No.	Title	Page
1	The list of abbreviations that have been used in the study.	96
2	The websites that have been used to select the historical data of the study.	97

Impact of Macroeconomic Factors and Political Events on the Market Index Return at Palestine and Amman Stock Markets
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Abstract

This study aims to investigate the Macroeconomic Factors impact on Palestine and Amman Stock Exchange Returns. They are identified by the return of general price index and the return of Exchange Sectors' Indexes in particular; in order to identify different results between different sectors and markets. The macroeconomic factors represented by five variables which are; gross domestic product, balance of trade, consumer price index, exchange rate, and industrial product index. The second section of the thesis handles the political events in the area and their impact on Palestine and Amman Stock Exchange Returns, identified by the return of general price index. This study makes use of time series based on monthly data for macroeconomic factors from January 2011, and January 2007 for the Palestinian and Jordanian markets respectively continuing to December 2017. The study applies macro-econometric model based on Arbitrage Pricing Theory, and testing these variables with unit root test, correlation coefficient, ordinary least square test, and ARCH/GARCH models. Moreover, the most seventeen important political events during the years 2011-2017 are selected and tested to show how they affect stock index return by using event study methodology in event windows of 5, 10 and 30

days before and after the event . The paired t test is applied afterwards.The main results related to the macroeconomic variables in Palestine Market show that consumer price index has a negative significant effect on Palestinian general insurance, industry, service and bank index return. Further, the exchange rate has a negative significant effect on Palestinian general investment and bank index return. Additionally, gross domestic product has a negative significant effect on Palestinian general and service index return as well. Balance of trade has a positive significant effect on Palestinian industry index return, opposite to industrial production index, which has no significant effect on Palestinian general index return or sectors' indices returns. Regarding the Jordanian market, main results revealed that the consumer price index has a negative significant effect on Jordanian service and insurance index return. In addition, the exchange rate has a negative significant effect on Jordanian general, bank, insurance, service as well as industry index return. Besides, gross domestic product has a negative significant effect on Jordanian general, bank and service index return, but the balance of trade and industrial production index has no significant effect on Jordanian general index return or sectors' indices returns. On the other hand, the main results related to political events concluded that the political events have a significant impact on Palestine and Amman stock market returns. Regarding Palestine stock exchange there were seven out of eleven events that had a significant impact on the Palestinian general index return. Regarding Amman stock exchange, nine out of eleven events had a significant impact on the Jordanian general

index return. Based on these results, the study found that both Palestine and Jordan stock markets are inefficient and do not adsorb uncertain information and noisy events.

Chapter One

Study Introduction

1.1 Introduction

Financial market is the link between individuals and organizations, whereas stock prices reflect the hopes and fears for thousands of buyers and sellers. They make their decisions based on their evaluations to many considerations, like macro-economic factors and political events.

Many studies have been conducted to determine the relationship between the macroeconomic variables and stock prices, the findings of these studies show that the macroeconomic factors have an obvious impact on the financial markets (Hunjra et al., 2014). But, this impact at the advanced countries differs from that in the developing countries, where the political events play an essential role in financial markets (Momani & Alsharari, 2012). However, there are limited up to dated researches on how these indicators affect developing stock markets (Hussainey & Khanh Ngoc, 2009).

Concerning the relationship between macroeconomic indicators and stock market, investors forecast how financial market changes if domestic indicators fluctuate (Hussainey & Khanh Ngoc, 2009). Just as the market value of a company depends heavily on its current economic situation and future perspectives, the value of all the companies listed on the stock market of a given country will depend on the global economic situation and future perspectives in that country (Peiró, 2016).

Besides the economic activities; the political events of varying periods contribute significantly to the economic conditions especially of emerging markets (Günay, 2016).

Considering those, the aim of this research is to study the macroeconomic factors namely (gross domestic product, balance of trade, consumer price index, exchange rate, and industrial product index) effect on Palestine and Amman stock exchange return.

Stock exchange return identified by; First, Palestine and Amman general price index return. Second, the return of Palestine exchange sectors' indexes of banks, industry, insurance, investment and services, and the return of Amman exchange sectors' indexes of banks, industry, insurance and services in particular.

Moreover, this study aims to investigate the political events effect on Palestine and Amman stock exchange returns, identified by the return of general price indexes.

In order to have a new results and insights about the dependence relationships between stock market return, macroeconomic variables, and political events. Then, provide relevant and valuable recommendations for investors, organizations, and financial analysts.

1.2 Research Problem

By reading and understanding many previous studies about the factors that affect stock market return, discrepancy was noticed in the results of these

researches in terms of the impact of macroeconomic factors and political events on stock market return, especially in less developed stock markets. Despite the existence of many studies about Palestine stock exchange, and the factors that affect the return of stock price index, it is rare to find ones that identify the impact of macroeconomic factors and political events on the return of stock price index, neither for the general index nor for the Palestine Exchange Sectors' Indexes.

Therefore, this study illustrates the macroeconomic factors in parallel with political events impact on the market performance. The study examines political events impact on the return of Palestinian and Jordanian general price indexes.

Moreover, the study handles the macroeconomic factors effect on Palestine and Amman general index return, and on the return of Palestine sectors' indexes of (banks, industry, insurance, investment and services), and the return of Amman sectors' indexes of (banks, industry, insurance and services) in particular; in order to identify different results between those sectors and markets.

1.3 Research Importance

This study has an importance of illustrating the impact of the macroeconomic factors identified by (a) gross domestic product, (b) balance of trade, (c) consumer price index, (d) exchange rate, (e) industrial product index, and the political events on the stock market index return at Palestine and Amman stock exchange. The study unfolds the effect of

macroeconomic factors on the return of stock price indexes, the general price index, and every sector's index in particular. Finally, it shows the effect of the political events on the return of general price index, in order to have results for different sectors for both Palestine and Jordan stock markets.

1.4 Research Objectives

This study aims to find out the effect of the macroeconomic factors and the political events on the stock market index return at Palestine and Amman Stock Exchange.

The following sub- goals are derived from the previous main objective:

- To find out the impact of macroeconomic factors of (a) gross domestic product, (b) balance of trade, (c) consumer price index, (d) exchange rate, and (e) industrial product index on the return of stock price index at Palestine and Amman Stock Exchange; the general price index and every sector's index in particular.
- To discover the impact of the most important political events on the return of general stock price Index at Palestine and Amman Stock Exchange.

1.5 Research Questions

Based on the illustrated objectives, this study considered the following questions to investigate the effect of the economic factors and the political events on the stock index return at Palestine and Amman stock market:

1. Is there a statistical relationship between gross domestic product and the return of general and sectors' stock price indexes at Palestine Stock Exchange and Amman Stock Exchange?

2. Is there a statistical relationship between balance of trade and the return of general and sectors' stock price indexes at Palestine Stock Exchange and Amman Stock Exchange?

3. Is there a statistical relationship between consumer price index and the return of general and sectors' stock price indexes at Palestine Stock Exchange and Amman Stock Exchange?

4. Is there a statistical relationship between exchange rate and the return of general and sectors' stock price indexes at Palestine Stock Exchange and Amman Stock Exchange?

5. Is there a statistical relationship between industrial product index and the return of general and sectors' stock price indexes at Palestine Stock Exchange and Amman Stock Exchange?

6. Is there a statistical relationship between the political events and the return of general price index at Palestine Stock Exchange and Amman Stock Exchange?

Chapter Two
Theoretical Framework and
Literature Review

2.1 Theoretical Framework

Different theoretical frameworks have been employed by many researchers (Talla, 2013; Vena, 2014; Rjoub et al., 2009; Momani & Alsharari, 2012; Zhu, 2012; Nguthi, 2013) to link both changes in macroeconomic variables and political events with stock market returns. These include the Efficient Market Hypothesis (EMH) developed by Fama (1970), the Arbitrage Pricing Theory (APT) developed by Ross (1976) and Capital Asset Pricing Model (CAPM) developed by Harry Markowitz (1952).

2.1.1 The Efficient Market Hypothesis

Efficient Market Hypothesis known as random walk theory claims that the price of an asset reflects all available relevant information on the intrinsic value of that asset, one of the arguments suggested in favor of the stock market is that the theory acts as an arena within which share values can be efficiently estimated, any new information related to a company's share and its performance will be quickly and rationally transferred into the company's stock price (Vena, 2014). In an efficient market, on the average, competition will cause the full effects of new information on intrinsic values to be reflected instantaneously in actual prices (Fama, 1970). As a result, profiting from predicted price movements is very difficult as the efficient market hypothesis suggests that the main factor behind price changes is the arrival of new information; however, there are different

kinds of information that affect security values, which are: the weak form hypothesis, semi strong form hypothesis and the strong form hypothesis depending on what the term "available information" means (Talla, 2013).

In the weakest form, current stock prices already reflect past prices and return, this leads to the fact that the current prices of financial assets incorporate, at any moment, all the existing historical financial information; as a result, supports the idea that investors cannot obtain abnormal profits from investing in these financial assets. The semi-strong form contends that financial assets' prices reflect, at any moment, all the information existent on a market, including historical prices and other historical information, and the prices change rapidly without biases to incorporate any other new public information released on the market. In case that the semi-strong form of EMH is presented on a capital market, neither technical nor fundamental analysis can determine the way investors should split their funds. So, the obtained profitability is higher than the achieved one in case of investment in a random portfolio of financial assets. Lastly, the strong form of EMH assumes that prices incorporate all the available information on a market, which includes historical financial information (weak form), all new public information (semi-strong form) and all private information regarding a financial asset (Țițan, 2015).

If stock markets were fully efficient, the expected returns from every stock would be the same and thus only unanticipated random information that can cause share prices to deviate from the expected average yields, stock prices normally follow a randomly distributed pattern, and capital markets

with higher information efficiency are more likely to retain higher operational and allocation efficiencies (Vena, 2014).

EMH does not assume that all investors are rational, but rather assumes that the markets thereof are rational, two things can be implied; The first is the rapid adjustment of the stock prices to new information, therefore it is expected that there will be no delays in responding to the availability of news in the stock market. Past empirical studies have shown that share prices respond to news. The responsiveness of a security price to relevant information available in the security market is defined as share price behavior. The second implication of the EMH, is that prices fully reflect all available information. So, the flow of information is immediately reflected in stock prices, this means that today's stock prices only reflect today's news, and stock prices are independent of yesterday's price changes. Because of the unpredictable nature of news, the resulting price changes today must be unpredictable and random, therefore prices reflect all public information implying, even that traders possessing little or no information at all, and partaking a diversified portfolio that is given by the market, they will get a rate of return equivalent to the most informed investors and experts. Therefore, this implies that no investor is in a position to earn above average returns without accepting equally higher risks (Nguthi, 2013).

Both academics and stock market professionals agree on the efficiency of the stock market in the semi – strong form, by reason therefore, there cannot exist any systematic way to exploit opportunities in this market to

make superior gains. The contest between investors after abnormal profits, leads to a new set of stock prices (Nguthi, 2013).

This paper focuses on the semi strong hypothesis, which states that all publicly available information is already incorporated into current prices; meaning that asset prices reflect all available public information that is used to investigate the positive or negative relationship between stock return and macroeconomic variables. Furthermore, it illustrates the nature of the relationship between stock return and political events, since it postulates that economic factors and political events are fully reflected in the price of stocks. Public information can also include data reported in a company´s financial statement, and the financial situation of company´s competitors. To demonstrate; if the information is public, there is no way to make profit using information that everybody else knows, so the existence of market analysts is required to be able to understand the implication of vast financial information, as well as, to comprehend the processes in product and input market (Talla, 2013).

2.1.2 Capital Asset Pricing Model

The capital asset pricing model, which extends the portfolio theory, is still widely used in applications, such as estimating the cost of capital for firms and evaluating the performance of managed portfolios. The attraction of the CAPM is that, it offers powerful and intuitively pleasing predictions about how to measure risk and the relation between expected return and risk. CAPM predicts the relation between risk and expected return by

identifying a portfolio that must be efficient if asset prices are to clear the market of all assets (Fama, 2004).

Empirical record of the model is poor enough to invalidate the way used in applications contrary to the CAMP assumption. CAMP assumes that the risk of a stock should be measured relative to a comprehensive "market portfolio". In theory, this can include not just traded financial assets, but also consumer durables, real estate, and human capital; the model is unable to demonstrate. Despite the evidence against CAPM, the model is still widely used because of its equilibrium, which provides a strong relationship among asset yields (Fama, 2004).

2.1.3 The Arbitrage Pricing Theory

Arbitrage Pricing Theory is another way of linking macroeconomic variables to stock market return (Talla, 2013). It has been useful in explaining the impact of changes in macro risk factors such as politics on stock returns (Nguthi, 2013).

APT is an extension of CAPM, which is tested on the assumption of the process generating security, this assumption depends on one factor meaning that there is only one independent variable, which is the risk premium of the market. There are similar assumptions between CAPM and APT, which are: the assumption of homogenous expectations, perfectly competitive markets, and frictionless capital markets (Talla, 2013). Unlike CAPM, Arbitrage Pricing Theory uses the risk free assets expected return,

and the risk premium of a number of macro-economic factors (Nguthi, 2013).

In fact, in efficient markets, two same items cannot be sold at different prices; otherwise, an arbitrage opportunity would exits (Talla, 2013). Profit maximizing market players can therefore theoretically make use of APT to identify mispriced securities, which its prices are different from the theoretical price gained by the use of the model. Listed shares are known to have two types of risks: the first is systematic risk that is common to all listed shares in the market, and cannot therefore be diversified away; the second is idiosyncratic risk, that is specific to a particular firm or industry and can be diversified away. All equilibrium models equalize systematic risk by earning a premium that compensates investors to hold risky assets (Nguthi, 2013).

2.2 Literature Review

The researchers examined the impact of economic factors and political events on the stock market return. They aimed to test the market performance reaction to many important factors, and to illustrate and analyze these factors' effect on markets and firms. Macro-economic factors and political events were taken as the independent variables and stock market index return as the dependent one.

The literature will be presented in a sequence with the study questions to derive the hypothesis based on the empirical studies that have been discussed.

2.2.1 Macro-Economic Factors

Many studies found out that there is a relationship between macroeconomic factors and stock market index return (e.g. Zhu, 2012; Lai, 2017; Peiró, 2016; Diacogiamnis et al., 2001; Altinbas & Biskin, 2015; El-Nader & Alraimony, 2012; Ilahi et al., 2015; Bahloul et al., 2017; Balvers et al., 1990; Ouma & Muriu, 2014).

2.2.1.1 Industrial Product Index

Zhu (2012) studied the impact of macroeconomic factors, such as; inflation rate, money supply, exchange rate, industrial production, bonds, exports, imports, foreign reserve, and unemployment rate, on the return of energy sector in Shanghai stock market, by applying augmented Dickey-Fuller Model and Arbitrage Pricing Theory. The results mainly showed that macroeconomic factors have effects on the stock return of energy sector, but the industrial production index does not. Altinbas & Biskin (2015) also examined which macroeconomic factors have the influence on predicting the market return by using sequential forward selection algorithm on Turkish stock market by taking BIST100 index return as the dependent variable, and industry production index as a macroeconomic factor. The findings revealed that one month lagged stock market indicator index values are enough to predict market indicator index's future values. Besides, Diacogiamnis et al. (2001) provided an empirical examination of a multi-factor model that uses observable macroeconomic variables including two steps: the construction of common factors that contribute to changes in

security rates of return, and the identification of priced risk premia. The study results indicated a highly correlation with industrial production that has a positive and significant sign, and captured the peculiarities of a changing economic environment with risk premia attributed to observable macroeconomic factors. Moreover, Peiró (2016) found that the movements in macroeconomic variables of industrial production and interest rates clearly determine stock returns in three main European economies; France, Germany, and the United Kingdom, and stock prices anticipate production movements one year in advance. On the other hand, Lai (2017) investigated whether macroeconomic factors are priced in the cross-section of index option returns, by employing linear factor methodology with a factor structure including market return and macroeconomic factors, the researcher indicated that the risk premia on inflation, term spread, industrial production, and housing factors are significant. In addition, Abbas et al. (2018) study that used GARCH and VAR model reveals the positive volatility impact of industrial production on stock market for all G-7 countries of Canada, France, Germany, Italy, United Kingdom, and United State except of Japan. Furthermore, Zaheer & Rashid (2014) study that aimed to illustrate the relationship between index return as a dependent variable, and the macro-economic factors as the independent variables, by applying the co-integration test, ADF and unit root tests. The researchers used the regression model as follows: $KSE_{it} = \alpha + \beta_1 EXR_{it} + \beta_2 INF_{it} + \beta_3 IPI_{it} + \beta_4 M2_{it} + \beta_5 IR_{it} + u_t$. Where; KSE is the stock market returns of KSE-100 index at time t, α is the constant, β is the slope coefficient, EXR is the exchange rate, INF is the inflation, IPI is the industrial production,

M2 is the money supply, IR is the interest rate and u is the error term. The results concluded that the industrial production is positively related to the stock market returns.

According to these studies the following hypothesis is developed:

H01: There is a statistical significant relationship between Industrial Product Index and the Stock Market Index Return.

2.2.1.2 Consumer Prices Index

Ilahi et al. (2015) used multiple linear regression model to find the relationship between the stock market returns and, interest rate, inflation rate, and exchange rate; consumer price index is considered as the inflation indicator and Pakistan Karachi stock exchange 100 index as a proxy to represent the stock market returns. The results showed that exchange rate, interest rate, and inflation rate have insignificant connection with stock market returns. By contrast, El-Nader & Alraimony (2012) research aimed to examine the relationship between the rate of return of Amman Stock Market index and selected macroeconomic variables, the variables are (Real money supply, real gross domestic product, consumer price index, real exchange rate, weighted average interest rates on loans and advances, and a dummy variable), by applying the normality test, unit root tests, OLS, and ARCH /GARCH models, the results revealed that real money supply, inflation, real exchange rate, change in nominal interest rates, and the dummy variable all have a negative effect, whereas the increase in the real gross domestic product has a positive effect. In addition, Bahloul et al.

(2017) studied the impact of the inflation rate, the short-term interest rate, the slope of the yield curve and the change in the money supply on Islamic stock market return for ten developed and ten emerging markets, by using Granger causality analysis across regimes, the results showed that inflation rate have significant impact on Islamic index return in low volatility regimes for developed and emerging markets. Moreover, Kyereboah-Coleman & Agyire-Tettey (2008) conducted a study to investigate how macroeconomic indicators affect the performance of Ghana Stock Exchange by employing unit-root test, Co-integration, and error correction techniques to ascertain both short and long run relationships, the researchers found that inflation rate have a negative effect on stock market performance, but it takes time for the market to react to changes in the inflation rate. Moreover, Gunasekarage et al. (2004) examined the impact of (a) the money supply, (b) the Treasury bill rate, (c) the consumer price index, and (d) the exchange rate as macroeconomic variables on stock market equity values in Sri Lanka, the researchers employed a group of tests, which include unit roots, co-integration, vector error correction models, in order to find that consumer price index has a significant influence on the stock market. Besides the findings of Issahaku et al. (2013) study showed a significant long term and short term relationship exists between stock returns and the consumer price index (to represent inflation), the researchers explained that the past values of exchange rate, inflation and money supply, help financial analysts in predicting stock returns to make abnormal profit. Furthermore, Rjoub et al. (2009) study results indicated that there is a significant pricing relationship between

Istanbul stock return and the unanticipated inflation. Barakat et al. (2015) study aimed to understand the nature of the relationship between macroeconomic variables and the stock market index, taking interest rate, and CPI as proxy for inflation, exchange rate and money supply variables, then, it applies econometrics tests, namely unit root test, (ADF) test, and Vector Auto Regression to select the optimal lag length, co-integration test, and Granger causality test, all the macroeconomic variables used have been found to have a relationship with the stock market either a long run relationship or a causal relation in both Egypt and Tunisia.

According to these studies the following hypothesis is developed:

H02: There is a statistical significant relationship between Consumer Price Index and the Stock Market Index Return.

2.2.1.3 Exchange Rate

Issahaku et al. (2013) used unit root test, Vector Error Correction model and Granger Causality tests to establish long run and short-run relationship between stock performance and macroeconomic variables. The researchers suggested that a causal relationship running from exchange rate to stock returns has been established. Besides Kyereboah-Coleman & Agyire-Tettey (2008) study found that equities on the market were not affected by exchange rate losses, and the investors benefit from exchange-rate losses because of domestic currency depreciation. From another side, Ouma & Muriu (2014) study that investigated macroeconomic determinants of the stock market returns in Kenya achieved by the returns of the NSE-20 share

index, by using the Arbitrage Pricing Theory and Capital Asset Pricing Model, then applied the Ordinary Least Square Technique. The researchers found that exchange rates have a negative impact on stock returns. Also, the findings of (Gunasekarage et al., 2004; Sindhu et al., 2014) studies supported the argument that the lagged values of exchange rate has a significant influence on the stock market. Moreover, the study hypothesis of Dimitrova (2005) suggested that there is a link between the foreign exchange and stock markets, the researcher developed a multivariate simultaneous equation model that allowed studying the relationship in the context of a theoretically sound, and structural macroeconomic framework, finding that this link is likely negative. In addition, Nisha (2015) study tested the impact of macroeconomic variables on stock returns, stock returns of the major stock markets are represented through the general stock price index of these markets, by using estimation technique of Vector Auto Regression models, the researcher found that there is an impact of interest rate, gold price, exchange rate and money supply on the stock returns. Furthermore, the results of Mazuruse (2014) study claimed that one of the most affected macroeconomic variables that maximization the stock returns in the Zimbabwe stock exchange is exchange rate, by forming the Canonical Correlation Analysis model, the macroeconomic variables greatly affect the movement of stock prices, which affect stock returns. Moreover, Gay (2016) hypothesized a positive relation between the exchange rate and the stock market index return in the emerging financial markets of Brazil, Russia, India, and China, but the analysis did not reveal

a significant relationship between exchange rate and the stock market index return.

According to these studies the following hypothesis is developed:

H03: There is a statistical significant relationship between Exchange Rate and the Stock Market Index Return.

2.2.1.4 Gross Domestic Product

Kibria et al. (2014) research aimed to find out the effect of macroeconomic variables including money supply, discount rate, gross domestic savings, inflation, and GDP per capita on stock returns, by taking Karachi Stock Exchange 100 Index return as the dependent variable. The study showed that GDP per capita has a positive effect on KSE 100 index, by applying descriptive statics, Correlation Analysis, Granger causality test and Regression Analysis. Moreover, the results of Reddy (2012) study found that reduction in interest and inflation rates resulted in increased stock prices returns, but increased real gross domestic product has a positive impact on stock prices returns, stock Market Value Index represented stock prices in the study. Besides, Karunanayake et al. (2012) examined the relationship between stock market returns and GDP growth rates in four Anglo-Saxon economies by using multivariate GARCH model, the main results revealed that GDP growth has an impact on stock market returns, which exist only from the US growth towards its stock market. In addition to Taulbee (1997) results noted that the real GDP is the greatest economic determinant of stock prices, also for the overall US stock market, real GDP

had a significant positive influence on the representative stock indices. The same as for Hiang Liow et al. (2006) results that expected property stock excess returns are positively correlated with the conditional variances of GDP growth in Hong Kong and Japan, however, it was negatively correlated in Singapore and UK market. Moreover, Singh et al. (2011) study, which examined the Taiwan market, checks the casual relationship between stock index returns and certain crucial macroeconomic variables, namely; employment rate, exchange rate, GDP, inflation and money supply form the period January 2003 to December 2008, applying the regression models, stock portfolio returns were used as dependent variables, while the macroeconomic variables were used as independent variables. The study findings showed that exchange rate, GDP, and inflation rate have an impact on the returns, whereas, employment rate and money supply did not have any significant effect on stock returns.

According to these studies the following hypothesis is developed:

H04: There is a statistical significant relationship between Gross Domestic Product and the Stock Market Index Return.

2.2.1.5 Balance of Trade

Bhattacharya & Mookherjee (2001) aimed to investigate the lead and lag relationships between the Indian stock market and three macroeconomic variables namely; (exchange rate, foreign exchange reserves and value of trade balance) relating to the foreign sector in India, by applying the techniques of unit–root tests, cointegration and the long–run Granger non–

causality test. The results revealed that there is no causal linkage between stock market and the three key macroeconomic variables. On the other hand, Mehrara (2006) noted that the value of trade balance is significant in predicting changes in Iran stock market, the researcher employed the recently developed long–run Granger non–causality test and found that macroeconomic variables have a significant relationship. Moreover, Antonakakis et al. (2015) obtained a time-varying measure of correlation between trade balance and the US stock market based on the dynamic conditional correlation model, the study results found significant positive correlations between year 1800 and year 1870, while there was negative correlations thereafter.

According to the previous studies the following hypothesis is developed:

H05: There is a statistical significant relationship between Balane of Trade and the Stock Market Index Return.

2.2.2 Political Events

Many studies found out that there is a significant relationship between political events and the stock market index return (Mahmood et al., 2014; Sajid Nazir et al., 2014; Soultanaeva, 2008; Nguthi, 2013; Dangol, 2008).

Mahmood et al. (2014) examined the impact of political events on the KSE-100 index returns, fifty major political events are selected to calculate the abnormal returns, event study methodology is applied. The results of each window verify that negative abnormal returns are observed a few days

before, and few days after an event happens, the study revealed that there is a significant relationship between political events and stock market returns. Besides, Shen et al. (2017) study illustrated that if political factors affected stock returns during 2008 Taiwanese presidential election, the results showed that the effects of political connections weakly exist, but become more significant when the support ratio of the winning party increased in polling data. In addition, Sajid Nazir et al. (2014) study used event study methodology to find political events that have impact on the Karachi Stock Exchange Index returns, and considered the KSE as an inefficient market. Also, Nguthi (2013) study applied the event study methodology to establish the behavior of Nairobi Securities Exchange 20 share index returns around the March 2013 Kenya General Election. The study found that stock returns react to political news; the average abnormal returns remained positive before and after the event date with continued rise in stock prices after the event date. Furthermore, Soultanaeva (2008) showed the sensitivity of the Baltic stock index return to political events decreased over time; whereas, political risk became less important after a certain level of market development passed, the researcher also indicated that there are substantial differences among Baltic stock markets, with respect to market adjustments to political news, they explained this by the quality of information, and investors' perceptual biases. Moreover, Chan et al. (2001) examined the impact of salient political and economic news on the stock return volatility; the researchers found that political news has a distinct impact on market activity when compared with economic news. Furthermore, Dangol (2008) study concludes an important evidence using

event study methodology; it revealed that there is speed reactions on the Nepalese market prices to new political information in average 2 or 3 days from the announcement date. The study also illustrates that although the Nepalese stock market may be inefficient, but there is a strong linkage between political uncertainty and common stock returns generation.

According to these studies the following hypothesis is developed:

H06: There is a statistical significant relationship between Political Events and the Stock Market Index Return.

Chapter Three
Research Methodology

3.1 Data and sources

In reference to (Issahaku et al., 2013; Hiang Liow et al., 2006; Ouma & Muriu, 2014; Rjoub et al., 2009) studies of economic factors effect that used monthly data, this study will make use of time series monthly data for economic factors.

For Palestine market, the data was collected from January 2011 to December 2017; thus, making use of 84 data points for regression analysis, noting that there is no monthly data available for both industrial production index and balance of trade before 2011, according to the Palestinian Central Bureau of Statistics feedback. There are various sources of data; Data of consumer price index, gross domestic product, industrial product index, and balance of trade are available on Palestinian Central Bureau of Statistics, Dollar to ILS exchange rate data, are available on the Palestine Monetary Authority Statistics publications. Palestine Exchange general index and Palestine Exchange sectors' indexes of banks, industry, insurance, investment and services are available on Palestine Stock Exchange.

Regarding the data related to the economy of Jordan. It was collected from the first month of 2007 to the last month of 2017, thus, making use of 132 data points for regression analysis. Data of consumer price index and balance of trade are available on Jordanian Department of Statistics. Data of gross domestic product and industrial product index are available on

Central Bank of Jordan Statistics publications. Data of US Dollar Index are available on investing.com website. Amman Exchange general index and Amman Exchange sectors' indexes of banks, industry, insurance and services are available on Amman Stock Exchange.

3.2 Macroeconomic variables description

In this study, many variables are used to examine its hypotheses. Listed below, are certain variables which mainly determine the effect of macroeconomic factors on stock index return.

Table (1) illustrates the macroeconomic variables

Independent Variables	Dependent Variables
• Industrial Product Index (IPI) • Consumer Price Index (CPI) • Exchange Rate (ER) • Gross Domestic Product (GDP) • Balance of Trade (BT)	• Market Index Return

3.2.1 Market Index Return

The fluctuation in the index is affected by macroeconomic, social, political, international variables, and the firm's specific variables (Barakat et al., 2015). Since for most of the investors and researchers the return of a stock is more important than the level of its price, market index for both stock markets –Palestine & Jordan were used in order to calculate return performances of all shares, and this assists investors to have an overall idea about the market (Aga & Kocaman 2006).

Moreover, the return of different sectors' indexes in the stock markets were used, in order to enables investors to make comparisons among the sectors (Aga & Kocaman 2006).

Thus, the impact of the above independent variables have been tested on the return of market general index (MIR). Then, their impact on the return of sectors' indexes of bank sector (BIR), industry sector (IndIR), insurance sector (InsIR), investment sector (InvIR) and services sector (SIR) in particular.

Since the stock market index is a listing of stocks and a statistic reflecting of the composite value of its components, it is used as a tool to represent the characteristics of its component stocks, all of which bear some commonality, such as trading on the same stock market exchange, or belonging to the same industry (Kyereboah-Coleman & Agyire-Tettey, 2008).

In order to investigate market index return relationship with the macroeconomic variables, we took the monthly closing value for each index, divided by consumer price index, following El-Nader & Alraimony (2012) study, in order to have the real stock market index:

$$\text{Real Market Index at month t} = \text{Index Value}_t / \text{CPI}_t$$

Then in order to find the market index return we use the following equation:

$$\text{Market Index Return at month t} = \text{Ln} (\text{Real Index}_t / \text{Real Index}_{t-1})$$

3.2.2 Industrial Product Index

Industrial product index measures the real output in the manufacturing, mining, electric and gas industries, relative to a base year (Investopedia, 2018). This measurement reflects the activities of all the industries in an economy (Hiang Liow et al. 2006). This index consists of output of the industrial sector of the economy which is one of the most important indexes in any economy that is mostly large in size and impact on the rest of the indicators (Momani & Alsharari, 2012). The industrial production though small portion of gross domestic product indicates the real activity in the country (Zaheer & Rashid, 2014).

The literature reviewe mainly show a positive relationship between the indusrial prodution index and stock return, since the increase in industrial production indexes indicate a growth in the economy, which is pushing the investors to invest in stocks due to their confidence with the markets, which leads to increase in prices and return.

This index is available on monthly base at Palestinian Central Bureau of Statistics official website and Central Bank of Jordan Statistics official website. Since we found that there's a differnce in the base year of this factor puplications, we had to contact both Palestinian Central Bureau of Statistics and Central Bank of Jordan Statistics in order to provide us with indutrial production index with the same base year for the period of study. Palestinian Central Bureau of Statistics provided us by e-mail at base year

2011, and Central Bank of Jordan Statistics provided us by e-mail at base year 1999.

3.2.3 Consumer Price Index

Consumer price index measured the change over time in the general price level of goods and services that households acquire for the purpose of consumption, with reference to price level (Barnor, 2014). It is used as a proxy for inflation in the market (Talla, 2013; Barakat et al., 2015; Barnor, 2014). In times of inflation, the cost of living increases and income devoted for consumption purposes, this leads to reduction in the demand for market instruments, which tends to reduce the volume of trading, the outstanding shares may therefore fall as the demand for shares falls (Kyereboah-Coleman & Agyire-Tettey, 2008; Issahaku et al., 2013).

This index is available on monthly base at base year 2010 for both Palestine and Jordan markets.

3.2.4 Exchange Rate

Exchange rate is a comparative value of one country's currency towards another country's currency (Shula, 2017). The absence of a Palestinian currency and the use of three different currencies (New Israeli Sheqel -NIS, Jordan Dinar - JD and United States Dollar - USD) leads us to define the exchange rate as the NIS per USD. That is, NIS is mainly the most heavily traded currency in Palestine.

The average monthly rate of buying and selling exchange rate was taken, in order to calculate the average rate between buying and selling rates.

Regarding the Jordanian market, the exchange rate of the JD per USD is fixed at the rate of 0.709 since 1995, so we supposed to take the US dollar index value instead, to test its effect on stock price return.

That is, if there is a fall in the market currency this will likely affect the economy negatively, a depreciation of the local currency will drive pricing upward which will make it difficult for people to save for investment (Issahaku et al., 2013).

3.2.5 Gross Domestic Product

The fundamental measure for the performance of the economy is the level of gross domestic product, its calculation method in national accounting is defined as the total value of final goods and services produced within a country's borders in a period. As a rational stock market investor, the growth in this measure will increase investors' confidence towards the market. As well as, it increases the level of the stock market, because consumers in general have more purchasing power and would likely devote more income toward stock market investing (Reddy, 2012; Taulbee, 1997; Shula, 2017).

During the periods of high economic growth, there is confidence within the economy and this would stimulate demand for products and services. Firms seeking expansion would then require more commercial space. In periods

of economic downturn accompanied by high economic volatilities, investors' confidence on the prospect of the economy may be dampened and as a consequence, associated with a lower expected excess returns on investment assets and capital (Hiang Liow et al. 2006).

GDP are announced on quarterly base, so according to Borjigin et al. (2018) we have to convert GDP to a monthly indicator by quadratic match sum, quadratic match sum converts quarterly data to monthly data by quadratic difference method. This performs a proprietary local quadratic interpolation of the low frequency data to fill in the high observations using E-views software.

We used GDP at constant prices in order to have the Real GDP. Nominal GDP and real GDP can be distinguished, where nominal GDP is calculated at current prices over the relevant period, but real GDP is calculated by adjusting nominal GDP through accounting equations that offset the effect of variable prices (inflation) in order to ensure a more accurate view of the volume of production.

3.2.6 Balance of Trade

Balance of trade is the difference between the monetary value of a nation's exports and imports over a certain period, if a country exports a greater value than it imports, it has a trade surplus, positive balance, or a "favorable balance". Conversely, if a country imports a greater value than it exports, it has a trade deficit, negative balance, or an "unfavorable

balance", positive balance adds to gross domestic product, while a negative balance subtracts from GDP (wiki, 2018).

Related previous studies illustrate an expected positive relationship with stock return. To demonstrate, any increase in balance of trade will indicate to growth in gross demostic product and improve in the economics, and that pushes the investors to invest in stock markets. They have much confidence in the market situation. This case leads to increase in prices and return. In contrast, the decrease of stock markets negativly affects the stock return. This factor is announced on monthly base.

3.3 Political Events

Political conditions vary from country to another and from period to period (Mahmood et al., 2014). Following previous studies, the most political events were collected as a selective sample from Palestine, Jordan and near countries; these political events occurred in the period from 2011 to 2017 (Mahmood et al., 2014; Sajid Nazir et al., 2014).

The all political events presented in (Table 2) below, that are categorized as follows: six political events occurred in Palestine were tested in order to discover its effect on Palestinian stock index return. Six political events occurred in Jordan were tested in order to discover its effect on Jordanian stock index return. Five major political events occurred in different countries were tested in order to discover its effect on both Palestinian and Jordanian stock market indices return.

Learning from previous studies, the events were subjectively chosen, but tried to include the events that have caught the media's attention during the study period, and could be important towards the investors' point of view (Yeung & Aman; 2016; Dangol, 2008).

The table below, presents the political events which are used in this study.

Table (2) illustrates the political events

Political Events	Events' Date	Market
1. After a 23 year of ruling, the Tunisian President fled to Saudi Arabia under the pressure of a popular uprising in December which caused the death of 300 people, according to UN figures.	14th, Jan 2011	Palestine & Jordan
2. Jordanian Prime Minister resigned following popular protests on 14 January against him. The Jordanian Royal Court appointed a new Prime Minister.	1st, Feb 2011	Jordan
3. The Egyptian President, who has ruled the country since 1981, stepped down on the 18th day of a popular uprising. About 850 civilians were killed in the unrest.	11th, Feb 2011	Palestine & Jordan
4. The Jordanian Prime Minister resigned. Jordan's King issued a decree under which appointed a new Prime Minister to form the new government.	17th, Oct 2011	Jordan
5. The resignation of The Jordanian Prime Minister, the protests continued, and a new Prime Minister was appointed in Jordan.	26th, Apr 2012	Jordan
6. Jordan's King dissolved parliament to hold new early elections, and appointed a new prime minister in Jordan.	10th, Oct 2012	Jordan
7. Israel launched Operation Cloud Pillar in Gaza Strip with the assassination of Hamas military commander. 174 Palestinians and six Israeli were killed.	14th, Oct 2012	Palestine

8.	Historic Vote in the United Nations, Palestine was granted observer status as a non-member of the international organization by a majority of 138 votes in the General Assembly.	29th, Nov 2012	Palestine
9.	After massive demonstrations that started on the 30th of June, The Egyptian President was sacked by the Defense Minister.	3rd, Jul 2013	Palestine & Jordan
10.	A National Accord Government was formed, to heal the rift between Gaza Strip and West Bank in the Palestinian political reality.	2nd, Jun 2014	Palestine
11.	Israel launched an offensive attack against Gaza Strip. The war continued 50 days, killing 2,100 Palestinians and 70 Israeli people, destroying, more than 20,000 homes for Palestinians in Gaza.	8th, Jul 2014	Palestine
12.	Al-Quds Intifada was triggered by the Jewish settlers, killing of a 19-year-old, during an operation in the Old City of Jerusalem.	3rd, Oct 2015	Palestine
13.	The security operation on the attacks in the city of Irbid has finished, a security officer was murdered while killing seven of the armed group and the arrest of others by the security forces.	2nd, Mar 2016	Jordan
14.	Attacks and shootings in the historic Karak Fort in Karak, which resulted in the killing of 10 people.	18th, Dec 2016	Jordan
15.	The inauguration of the 45th President of the United States, before formally taking office for a four-year renewable term.	20th, Jan 2017	Palestine & Jordan
16.	Saudi Arabia, the United Arab Emirates, Bahrain, and Egypt, cut off diplomatic relations, transportation and trade links with Qatar.	5th, Jun 2017	Palestine & Jordan
17.	A Palestinian popular revolution, following the US President recognition of Jerusalem as the capital of Israel, and transferring the American embassy from Tel Aviv to Jerusalem.	7th, Dec 2017	Palestine

3.4 Research Model for Macroeconomic Factors

Following the literature reviewed (Chen et al., 1986; Rjoub et al., 2009; Issahaku et al., 2013; Bhattacharya & Mookherjee, 2001; Poon & Taylor, 1991; Ouma & Muriu, 2014); this study postulates the relationship between the performance of the stock market, index return and selected macro-economic indicators. It exploits the Asset Pricing Theory as a macro-econometric model modified from the version of (Chen et al., 1986; Rjoub et al., 2009; Ouma & Muriu, 2014) models. Therefore, the following model is specified to be estimated:

$$MIR_t = \alpha_0 + \alpha_1 GDP_t + \alpha_2 IPI_t + \alpha_3 BT_t + \alpha_4 CPI_t + \alpha_5 ER_t + \varepsilon_t$$

Where, MIR - Stock Market Index Return at time t; GDP-Gross Domestic Product; IPI-Industrial Product Index; BT-Balance of Trade; CPI-Consumer Price Index; ER-Exchange Rate; a's are the coefficients of the variables and ε is the error term.

The data series of macroeconomic factors are transformed into rates of change, following (Zhu, 2012; Ouma & Muriu, 2014), by taking the log differences in each of the series in the form:

Rate of change for macroeconomic variable in time $_t$ = Ln (macroeconomic variable at time $_t$ /macroeconomic variable at time $_{t-1}$)

In order to generate the unanticipated components, we adopted the convention that time subscripts apply to the end of the period. It is important to mention that, the macroeconomic factors are used in rate of

change form, for two reasons; first, theoretical model of Asset Pricing Theory posits that variables should be used in return form. In addition, economic time series data were assumed to be stationary (Ouma & Muriu, 2014).

Thus, following Zhu (2012) model, the hereunder model is applied for this study to test the stock return:

$$MIR_t = \alpha_0 + \alpha_1 \Delta LogGDP_t + \alpha_2 \Delta LogIPI_t + \alpha_3 \Delta LogBT_t + \alpha_4 \Delta LogCPI_t +$$

$$\alpha_5 \Delta LogER_t + \varepsilon_t$$

Estimation procedures:

1. Unit-root test.

Unit-root test is a test for stationary; ascertain the variables due to the use of time series data (Kyereboah-Coleman & Agyire-Tettey, 2008). However, time series data can be non-stationary (trended) and this kind of data can be regarded as potentially a major problem for applied econometric studies. It is well known that trends may cause some problems; some authors have suggested a remedy, namely, to differentiate a series successively until stationary is achieved (Ouma & Muriu, 2014). The Augmented Dickey-Fuller (ADF) test is employed to examine the stationarity (Kyereboah-Coleman & Agyire-Tettey, 2008; Gunasekarage et al., 2004; Issahaku et al., 2013). The presence of unit roots in some of the data series is an indication of the existence of a possible long-run relationship among the variables (Kyereboah-Coleman & Agyire-Tettey,

2008). Many researchers (Issahaku et al., 2013; Kyereboah-Coleman & Agyire-Tettey, 2008; Hunjra et al., 2014; Hussainey & Khanh Ngoc, 2009; Gunasekarage et al., 2004; Wang & Ajit, 2013; Ouma & Muriu, 2014) employed the unit-root test.

The null hypothesis is generally defined as the presence of a unit root and the alternative hypothesis is stationarity. Autoregressive unit root tests are based on testing the null hypothesis H0: $\delta=1$, which is in opposition to the alternative H1: $\delta < 1$ in terms of regression: $Y_t = \beta 0 + \delta Y_{t-1} + \gamma_1 Y_{t-1} + \gamma_2 Y_{t-2} + \ldots + \gamma_p \Delta Y_{t-p} + u_t$. Where; δ is the least squares estimate. From null hypothesis aspect, Y_t presents a stochastic movement, but from alternative hypothesis aspect, Y_t becomes stationary. When the value of δ is close to 1, estimation of the model will pose efficiency problems because the Y_t will be close to nonstationary. In this setting, testing for the stationarity features of the given times series will also be subject to general statistical problems (Zhu, 2012).

Mainly, this test applied on each macroeconomic variable, that are used in rate of change form, to ensure that all of them are stationary, then we can proceed with regression estimation models.

2. Correlation Coefficient.

Correlation coefficient test applied in order to make sure that there is no high correlation between the independent variables in order to apply the OLS. The correlation coefficient is a statistical measure that calculates the strength of the relationship between the relative movements of the two

variables, the range of values for the correlation coefficient bounded by 1.0 on an absolute value basis or between -1.0 to 1.0. If the correlation coefficient is greater than 1.0 or less than -1.0, the correlation measurement is incorrect, a correlation of -1.0 shows a perfect negative correlation, while a correlation of 1.0 shows a perfect positive correlation, a correlation of 0.0 shows zero or no relationship between the movement of the two variables (Investopedia, 2018).

3. Ordinary Least Squares.

Ordinary Least Squares technique is applied following (Diacogiamnis et al., 2001; Rjoub et al., 2009; Zhu, 2012; Ouma & Muriu, 2014). The least squares method is a form of mathematical regression analysis that finds the line of best fit for a dataset, providing a visual demonstration of the relationship between the data points, each point of data is representative of the relationship between a known independent variable and an unknown dependent variable (Investopedia, 2018).

4. Autoregressive Conditional Heteroskedasticity.

Following (Karunanayake et al., 2012; El-Nader & Alraimony, 2012; Abbas et al., 2018; Hiang Liow et al., 2006) studies Autoregressive Conditional Heteroskedasticity model is used, financial models such as ARCH (Engle, 1982) have now become widely used in modeling the behavior of financial time series, one of the main advantages of ARCH models is that its ability to capture the non- linearity and volatility clustering in stock return data, also, ARCH models study the second

moment (Conditional and non-conditional) of the time series, and thus allow the variance of a series to depend on the available information set (El-Nader & Alraimony, 2012).

ARCH model are able to capture volatility clustering and predict the volatility that allows the conditional variance of a time series to change over time as a function of past squared errors. It imposed an autoregressive structure on conditional variance, and allowed volatility shocks to persist over time, and hence expected equilibrium returns (excess returns) to vary over time (Hiang Liow et al., 2006).

3.5 Research Model for Political Events

As for the political events, following the literature reviewed (Mahmood et al., 2014; Sajid Nazir et al., 2014; Bailey et al., 2005; Beaulieu et al., 2006; Dangol, 2008), the event study methodology is used in order to measure the relationship between the performance of the return of stock market index and selected political events.

(Brown & Warner, 1985; MacKinlay, 1997) derived that event methodology is very helpful to measure the economic impact of a certain event on the value of a firm or market as a whole in short span of time. Event study technique is a way to check the impact of different events for short time horizon; that is how much abnormal returns are generated after happening of an event (Brown & Warner, 1985).

Mahmood et al. (2014) established three event windows to evaluate the impact of different political events in order to measure how returns behave towards a day closer and a day farther the event, the first window consists of 30 days before and 60 days after the event; the second window consists of 30 days before and after the event, and the third window consists of 10 days before and after the event. Sajid Nazir et al. (2014) used event windows of 2, 5 and 15 days before and after an event for analysis; 2 and 5 day's windows are to measure the short-term impact on stock index and the 15-day window to analyze the market efficiency to absorb the uncertain information. Bailey et al. (2005) tested event intervals 5, 10, 15 days before and after the event, which can account for any information arrival prior to or after the actual invasion hypothesized to have provided new information to the market thereby altering expectations. In keeping with previous research, this study used event windows of 30, 10 and 5 days before and after the political event for analysis.

Following (Sajid Nazir et al., 2014; Mahmood et al., 2014) studies, a return generating technique is used to estimate the abnormal return as a result of political events in Palestinian Stock Exchange and Amman Stock Exchange, in order to investigate the effect of political events on the general stock index return.

Actual returns for all selected days are calculated in similar way mentioned by Mahmood et al. (2014), as the following equation:

$$R_t = (M_t - M_{t-1})/M_{t-1}$$

Where R_t = Market index return on day t, M_t = Market index value today, and M_{t-1}= Market index value of last day.

Following Sajid Nazir et al. (2014) study, the expected return of the index is considered a constant number for each event window R*:

$$R* = 1/T \, \Sigma^t_{t=1} \, R_t$$

Where T is the number of days in the event window, and R_t is the market index return on day t of the event window.

Then, as illustrated by Sajid Nazir et al. (2014) study, abnormal return is computed as difference between actual and expected return as under:

$$AR_t = R_t - R*$$

Where AR_t = Abnormal return in day t of the event window, R_t = Actual return in day t of the event window, and R*= expected return of the market index for the T period of the event window

Furthermore, we calculated the average abnormal returns before and after the event day as explained by Sajid Nazir et al. (2014):

$$AR*_{before} = 1/n \, \Sigma^{t=k}_{t=1} \, AR_{before,t}$$

Where K is the number of days taken before the event day, and AR*before is the average abnormal return before the event day

$$\text{And:} \quad AR*_{after} = 1/n \, \Sigma^{t=k}_{t=1} \, AR_{after,t}$$

Where K is the number of days taken after the event day, AR*after is the average abnormal return after the event day.

Following (Sajid Nazir et al., 2014; Mahmood et al., 2014) studies, paired t-test is applied to analyze the difference between the means of market abnormal returns before and after the event day, calculated as: (Sajid Nazir et al., 2014):

$$t = \frac{AR*after - AR*before}{\delta pre - post}$$

Where $\delta_{pre-post}$ is the pooled standard error of the difference between means of the samples.

If the value of t-statistic is significant, then we conclude that the market is inefficient, because it does not absorb uncertain information; and if the t-statistics shows insignificant results, then the market is efficient and it absorbs noisy information and Efficient Market Hypothesis is true (Sajid Nazir et al., 2014).

3.6 Palestinian Economic Market

Palestine Stock Exchange (PEX) started its operations in 1997 with 19 listed companies. In 2018, the number of listed companies had increased to 48, with a total market capitalization of 3.9 billion dollars (Palestine Exchange, 2018). Of the 48 companies listed on PEX, 8 companies came from the banking and financial services sector, 12 companies from the industrial sector, and 12 others from the services sector, 9 are investment companies, and 7 insurance companies (Palestine Exchange, 2018).

The Palestinian economy has unique characteristics due to the continued Israeli occupation and the restrictions imposed on the movement of both individuals and goods (Hassouneh et al., 2017). The performance of the Palestinian economy continues to fluctuate due to the political and economic circumstances and challenges. Uncertainty and political stalemate continue to prevail as the negotiations process came to a standstill, and as the political schism between the West Bank and Gaza Strip remained for the tenth consecutive year (Palestine Monetary Authority, 2016). The challenges also included reliance by the Palestinian economy on foreign aid and grants, which continue to dwindle, a multi-currency financial system affected by the monetary policies of countries issuing these currencies and by global prices of commodities, especially oil and food (Palestine Monetary Authority, 2016).

Financial stability in Palestine was exposed to a number of internal and external risks; the most significant risks affecting financial stability include the political situation; the ongoing occupation, settlement expansion, dim political outlook, growing uncertainty, and regional instability (Palestine Monetary Authority, 2016). Their repercussions will affect the overall Palestinian economy. To limit their spillovers on the stability of the Palestinian economy, the Palestinian Monetary Authority closely monitors such risks and works continuously to reduce their repercussions. These efforts were met by international commendation from institutions like the World Bank (Palestine Monetary Authority, 2016).

3.7 Jordanian Economic Market

Jordanian Public shareholding companies were established since the early 1930s, Jordanian public have been subscribing and dealing in shares, transactions were handled in individual brokerage offices; thus, the need for a well-organized market aroused, and the establishment of the Amman Financial Market (AFM) became crucial. In January, 1978 was the birth of a leading securities market in the region, since then, the AFM played the role of the stock exchange as well as a regulatory body. The Securities market has made a significant qualitative transition of operating according to international standards, the passage of the Securities Law No. 23 in 1997 was indeed a landmark and a turning point for the Jordanian capital market. Three institutions emerged out of what has been the Amman Financial Market until 1997; they are Jordan Securities Commission, Amman Stock Exchange and Securities Depository Center (Jordan Securities Commission, 2018).

Amman Stock Exchange (ASE) was established in 1999 as a non-profit independent institution; it was authorized to function as a regulated market for trading securities in Jordan, later on, the ASE has been registered as a public shareholding company completely owned by the government, it is governed by a seven-member board of directors appointed by the Council of Ministers, and a full time chief executive officer who oversees day-to-day responsibilities, of the 101 companies listed on ASE in the financial sectors, there are 15 banks and 21 insurance companies, added to 46

companies in the industrial sector, and 46 companies in the service sector (Amman Stock Exchange, 2018).

Many Jordanian companies, especially in the banking sector, operate in Palestine, which is a key characteristic of the economic relationship between the two countries (Hassouneh et al., 2017).

One of the most important and informative ratios that connect the economic and financial markets, is the stock market capitalization to GDP ratio, which is used to determine whether an overall market is undervalued or overvalued.

Table (3) illustrates the Stock Market Capitalization to GDP ratio

Year	Amman Stock Market			Palestine Stock Market		
	**Market Capital in million JOD	*GDP in million JOD	Market Capital/ GDP	**Market Capital in million USD	*GDP in million USD	Market Capital/ GDP
2017	16,963	28,903	58.7%	3,891	14,498	26.8%
2016	17,339	27,830	62.3%	3,390	13,426	25.3%
2015	17,985	26,920	66.8%	3,339	12,673	26.3%
2014	18,083	25,598	70.6%	3,187	12,716	25.1%
2013	18,233	23,876	76.4%	3,247	12,476	26.0%
2012	19,142	21,955	87.2%	2,859	11,279	25.3%
2011	19,273	20,513	94.0%	2,782	10,465	26.6%

** Market Capital bases on December each year
 *GDP at current prices.

Source: Jordan's GDP from Jordanian Department of Statistics, Jordan's Capital Market from Monthly Bulletins in Amman Stock Exchange, Palestine's GDP from Palestinian Central Bureau of Statistics, and Palestine's Capital Market from Investor Monthly Newsletter in Palestine Exchange.

As seen in Table (3), we note that the Palestine Stock Exchange has grown in size and importance in both terms of market capitalization and GDP, mainly the market capitalization as a percentage of GDP is almost settled.

Whereas the Amman Stock Exchange total market capitalization amounted to 19,273 million JDs in 2011, and then declined to 16,963 million JDs in 2017. Another noticeable growth is observed in GDP, which had increased sharply from only 20,513 million JDs in 2011, to over 28,903million JDs in 2017, which gives an indication of an economic growth in Jordan. As a result, this leads to decline in the market capitalization as a percentage of GDP from 94.0% in 2011 to 58.7% in 2017.

The justification for testing Palestine and Amman stock exchange are mainly as follow:

1. Palestine Market is small market; in the pattern of number of companies listed or shares traded. There are just 48 companies listed on Palestine Market, against 193 companies listed on Amman Stock Exchange.

2. Palestine Market is considered new market. Palestine stock exchange established in 1997, but in 1978 was the birth of a leading securities market in Jordan.

3. Many Jordanian companies operate in Palestine, which is a key characteristic of the economic relationship between the two countries.

Chapter Four

Empirical Results and Discussion

4.1 Empirical results and Discussion of Macroeconomic Factors

In this section we showed the results of macroeconomic factors effect on stock return for both Palestinian and Jordanian markets, by applying unit root test and correlation matrix on macroeconomic factors, using OLS in testing the effect on general index return, and the ARCH model for general index return as well as every sector's index return in particular.

4.1.1 Palestine Stock Market

First, we applies the stationary analysis (Unit root tests) using Augmented Dickey-Fuller Test. The following table illustrates the results of five macroeconomic variables that must be stationary, in order to have the regression test.

Table (4) illustrates the Unit root tests results for Palestine Market

Macro-economic Factors	ADF test statistic	Critical Value at 1% of significant level	Critical Value at 5% of significant level	Prob.	Stationary
BT	-9.718278	-3.513344	-2.897678	0.0000	Yes
CPI	-7.297659	-3.514426	-2.898145	0.0000	Yes
ER	-10.19766	-3.512290	-2.897223	0.0000	Yes
GDP	-3.446620	-3.522887	-2.901779	0.0124	Yes
IPI	-9.986979	-3.513344	-2.897678	0.0000	Yes

As shown in Table (4) a rejection of the null hypothesis of non-stationary at the 1% level for all macroeconomic variables is clear. There is an exception, GDP has a rejection of the null hypothesis of non-stationary at the 5% level because of Prob. value is just about 1.2%, Therefore, a conclusion can be drawn that all the macroeconomic series are stationary and can continue to estimate the OLS test or ARCH/GARCH models.

Then we applying the correlation analysis in order to make sure that no evidence of autocorrelation.

Table (5) illustrates the correlation tests results for Palestine Market

	BT	CPI	GDP	ER	IPI
BT	1	0.03447899	0.18082049	0.01633554	0.22668331
CPI	0.03447899	1	-0.26549136	0.01354778	0.02851527
GDP	0.18082049	-0.26549136	1	0.03673844	0.23935406
ER	0.01633554	0.01354778	0.03673844	1	-0.00621984
IPI	0.22668331	0.02851527	0.23935406	-0.00621984	1

As indicated in Table 5, all the correlation coefficient values of macroeconomic factors are less than 0.24, which means that there is no problem of Multi-collinearity in this study.

Now we can proceed with regression model in order to investigate the macroeconomic variable effect on index return, we will start by applying ordinary least squares on the Palestine general index return.

Table (6) illustrates the OLS tests results for Palestinian general index return

Dependent Variable: MIR				
Method: Least Squares				
Sample: 2011M02 2017M12				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003666	0.002856	1.283437	0.2032
BT	0.013424	0.028572	0.469841	0.6398
CPI	-1.194021	0.496056	-2.407029	0.0185**
ER	-0.262926	0.168078	-1.564312	0.1218
GDP	-0.405713	0.172874	-2.346866	0.0215**
IPI	0.034632	0.034094	1.015760	0.3129
R-squared	0.133809	Mean dependent var		0.001332
Adjusted R-squared	0.077563	S.D. dependent var		0.025943
S.E. of regression	0.024917	Akaike info criterion		-4.477019
Sum squared resid	0.047805	Schwarz criterion		-4.302163
Log likelihood	191.7963	Hannan-Quinn criter.		-4.406771
F-statistic	2.378997	Durbin-Watson stat		1.763228
Prob(F-statistic)	0.046239			

Note: *** P< .01, ** P<.05, * P<.1

In order to check these results, and make sure from the estimation method and have reliable results, we apply the ARCH/GARCH model too.

Table (7) illustrates the ARCH tests results for Palestinian general index return

Variable	Coefficient	Std. Error	z-Statistic	Prob.
Dependent Variable: MIR				
Method: ML - ARCH (Marquardt) - Student's t distribution				
Sample: 2011M02 2017M12				
@SQRT (GARCH)	-0.998128	1.015913	-0.982494	0.3259
C	0.024749	0.022614	1.094442	0.2738
BT	0.027093	0.025459	1.064177	0.2872
CPI	-1.167668	0.507441	-2.301091	0.0214**
ER	-0.297790	0.174303	-1.708465	0.0876*
GDP	-0.400011	0.162042	-2.468560	0.0136**
IPI	0.027214	0.032548	0.836124	0.4031
Variance Equation				
C	7.24E-05	8.69E-05	0.833958	0.4043
RESID(-1)^2	0.078440	0.069541	1.127959	0.2593
GARCH(-1)	0.786794	0.196926	3.995373	0.0001
R-squared	0.157641	Mean dependent var		0.001332
Adjusted R-squared	0.091139	S.D. dependent var		0.025943
S.E. of regression	0.024733	Akaike info criterion		-4.542985
Sum squared resid	0.046489	Schwarz criterion		-4.251558
Log likelihood	198.5339	Hannan-Quinn criter.		-4.425906
Durbin-Watson stat	1.769178			

Note: *** P< .01, ** P<.05, * P<.1

Through the statistical results, it was shown (Table 7) that both variables consumer price index and gross domestic product have an impact with statistical significance less than 0.05 on the dependent variable (Palestinian general index return). We can see that value of coefficient for the consumer price index is negative, due to that, the more increase in the CPI the more decrease of demand on the shares and the Palestinian general index return

decreases. Thus, there is an adverse relationship. The explanation of this result mainly as follows; the increase in the cost of living make the income devoted for consumption purposes rather than saving or investing in market instruments. This leads to decrease on demand on shares and stock index return. This result is consistent with (El-Nader & Alraimony, 2012; Kyereboah-Coleman & Agyire-Tettey, 2008).

We can also see that value of coefficient for the gross domestic product is negative, due to that, the more increase in GDP, the more decrease of Palestinian general index return. The reason for this finding is that despite the increase in GDP and growth in the economy, investment is moving towards other sectors or even saving instead of attracting investment in the stock market. There is difference in the results of this study from the previous studies that have been reviewed, such as; Karunanayake et al. (2012) study that showed a statistical relationship between stock market return and GDP in Anglo-Saxon economies, and Taulbee (1997) study that found a statistical relationship between US stock market and GDP. The reason of this difference is that, these countries have advanced markets, but Palestinian market is less developed stock market and weak form efficiency.

 Continuing with (Table 7), we noted that there is no significant relationship between the balance of trade and Palestinian general index return. The reason behind this is that the continuing deficit in the Palestinian balance of trade, as imports are more than exports. As a result,

whether there will be improvement or not in this factor, does not have effect on the investors decisions or the demand on shares. This continuing deficit over time, make the investor unconcerned with this factor. Then he will not rely on it, while taking the decisions of buying or selling the shares. This result is consistent with Bhattacharya & Mookherjee (2001) study that has been applied in India, noting that there is a deficit in the Indian balance of trade. But, by reviewing previous studies that have been applied on advanced countries, we found different results, such as Antonakakis et al. (2015) study, that showed a positive relationship between US stock return and balance of trade.

Regarding the industrial production index the results showed that there is no significant relationship between the IPI and Palestinian general index return. The main reason for this is the weakness of liquidity in the Palestinian stock market and the weakness of investors' confidence in it. This case led to the fact that even the improvement in the macro economy or the decline, does not reflect the impact on the Palestinian stock exchange. Also, the fact that Palestine stock exchange consider as service market rather than industrial market, the number of industrial companies is just 12 out of 48 companies listed on Palestinian stock exchange. Remembering to mention, the political risk factor, which has a big role. This result is consistent with Zhu (2012)

The result shown in (Table 7) that the exchange rate has an impact with statistical significance less than 0.10 on the dependent variable (Palestinian

general index return). We can see that value of coefficient for the exchange

rate is negative, so there is an adverse relationship. This result matches

with (Ouma & Muriu, 2014; Dimitrova, 2005)

Then we apply the ARCH/GARCH model in each sectors index return in

Palestine market.

Table (8) illustrates the ARCH tests results for Palestinian bank index return

Dependent Variable: BIR			
Method: ML - ARCH (Marquardt) - Student's t distribution			
Sample: 2011M02 2017M12			
Variable	Coefficient	Std. Error	z-Statistic	Prob.
@SQRT (GARCH)	1.216789	0.767772	1.584832	0.1130
C	-0.021457	0.016536	-1.297591	0.1944
BT	-0.008234	0.026688	-0.308545	0.7577
CPI	-1.150969	0.473412	-2.431223	0.0150**
ER	-0.409352	0.143367	-2.855281	0.0043***
GDP	0.036843	0.193527	0.190378	0.8490
IPI	-0.035121	0.030933	-1.135412	0.2562
Variance Equation			
C	0.000262	0.000259	1.008662	0.3131
RESID(-1)^2	-0.105468	0.098601	-1.069650	0.2848
GARCH(-1)	0.625658	0.399154	1.567463	0.1170
R-squared	0.176719	Mean dependent var	0.005584
Adjusted R-squared	0.111723	S.D. dependent var	0.025655
S.E. of regression	0.024180	Akaike info criterion	-4.499330
Sum squared resid	0.044434	Schwarz criterion	-4.207903
Log likelihood	196.7222	Hannan-Quinn criter.	-4.382251
Durbin-Watson stat	1.617870		

(Table 8) illustrating that the exchange rate has a statistical significance

effect less than 0.01 on the Palestinian bank, index return. We can see that

value of coefficient for the exchange rate is negative due to that, the more increase in the ER, the more decrease of demand on the shares and the Palestinian bank index return decreases. There is an adverse relationship; we can justify this result by saying, when the exchange rate of the dollar – shekel increases, the value of the money that will be converted from shekels to dollars will be decreased, as the prevailing currency is the shekel. For instance, if the per capita annual income 50 thousands shekels, it is equivalent to 14,285 dollars on the exchange rate 3.5, but if the exchange rate increases to 3.7, the dollar value will become 13,513 which is reflected negatively on the demand for shares and the return of stock index. This result matches with (Ouma & Muriu, 2014; Dimitrova, 2005)

The remaining results in (Table 8) regarding the Palestinian bank index return, is almost match with the results of (Table 7) regarding the Palestinian general index return. The consumer price index has an impact with statistical significance less than 0.05 on the Palestinian bank, index return with negative value of coefficient, due to the increase in the cost of living that makes the income consumption on purposes rather than investing in market instruments. Statistical results in (Table 8) shows that balance of trade, gross domestic product and industrial production index have no significant relationship with Palestinian bank index return, due to the weakness of liquidity and investors' confidence with Palestinian stock exchange and the political risk factor.

Table (9) illustrates the ARCH tests results for Palestinian industry index return.

Dependent Variable: INDIR			
Method: ML - ARCH (Marquardt) - Student's t distribution			
Sample: 2011M02 2017M12			
Variable	Coefficient	Std. Error	z-Statistic	Prob.
@SQRT (GARCH)	0.189848	0.490819	0.386797	0.6989
C	0.001783	0.010901	0.163612	0.8700
BT	0.042798	0.024369	1.756231	0.0790*
CPI	-1.231973	0.453770	-2.714974	0.0066***
ER	-0.153917	0.156715	-0.982148	0.3260
GDP	-0.218961	0.180271	-1.214622	0.2245
IPI	0.014584	0.025870	0.563732	0.5729
Variance Equation				
C	4.98E-05	7.04E-05	0.707890	0.4790
RESID(-1)^2	0.151287	0.188273	0.803553	0.4217
GARCH(-1)	0.746969	0.293135	2.548211	0.0108
R-squared	0.160638	Mean dependent var		0.004185
Adjusted R-squared	0.094372	S.D. dependent var		0.026059
S.E. of regression	0.024799	Akaike info criterion		-4.541278
Sum squared resid	0.046738	Schwarz criterion		-4.249851
Log likelihood	198.4630	Hannan-Quinn criter.		-4.424199
Durbin-Watson stat	1.262592			

(Table 9) results revealed that the consumer price index have an impact with statistical significance less than 0.01 on the Palestinian industry index return with negative value of coefficient. Moreover, balance of trade has an impact with statistical significance less than 0.10 on the Palestinian industry index return with positive value of coefficient. However, any increase in balance of trade will indicate to growth and improvement in the

economics and that pushes investors to invest in stock. This causes increase in prices and return. The remaining factors of exchange rate, gross domestic product and industrial production index have no significant relationship with Palestinian industry, index return.

Table (10) illustrates the ARCH tests results for Palestinian insurance index return.

Dependent Variable: INSIR				
Method: ML - ARCH (Marquardt) - Student's t distribution				
Sample: 2011M02 2017M12				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
@SQRT (GARCH)	-7.999400	0.010100	-792.0322	0.0000
C	0.209581	3.48E-05	6023.608	0.0000
BT	0.026378	0.022918	1.150963	0.2497
CPI	-1.046725	0.497697	-2.103135	0.0355**
ER	-0.146358	0.176562	-0.828931	0.4071
GDP	-0.142842	0.141614	-1.008676	0.3131
IPI	0.009507	0.034482	0.275719	0.7828
Variance Equation				
C	-3.47E-05	6.85E-05	-0.506456	0.6125
RESID(-1)^2	0.013400	0.015311	0.875205	0.3815
GARCH(-1)	1.040978	0.096311	10.80855	0.0000
R-squared	0.160874	Mean dependent var		0.004459
Adjusted R-squared	0.094627	S.D. dependent var		0.024987
S.E. of regression	0.023776	Akaike info criterion		-4.443564
Sum squared resid	0.042961	Schwarz criterion		-4.152138
Log likelihood	194.4079	Hannan-Quinn criter.		-4.326486
Durbin-Watson stat	1.844254			

(Table 10) results found that the consumer price index have an impact with statistical significance less than 0.05 on the Palestinian insurance index return with negative value of coefficient. The remaining factors of balance of trade, exchange rate, gross domestic product and industrial production index have no significant relationship with Palestinian insurance index return.

Table (11) illustrates the ARCH tests results for Palestinian investment index return.

Dependent Variable: INVIR				
Method: ML - ARCH (Marquardt) - Student's t distribution				
Sample: 2011M02 2017M12				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
@SQRT (GARCH)	-0.963324	1.190317	-0.809300	0.4183
C	0.040373	0.049879	0.809409	0.4183
BT	0.079912	0.051245	1.559425	0.1189
CPI	-1.062693	1.143143	-0.929623	0.3526
ER	-0.613047	0.330907	-1.852626	0.0639*
GDP	-0.308521	0.435853	-0.707856	0.4790
IPI	0.005408	0.068886	0.078500	0.9374
Variance Equation				
C	0.000209	0.000294	0.710697	0.4773
RESID(-1)^2	0.032772	0.027881	1.175411	0.2398
GARCH(-1)	0.843147	0.179308	4.702215	0.0000
R-squared	0.079100	Mean dependent var		0.002352
Adjusted R-squared	0.006397	S.D. dependent var		0.053266
S.E. of regression	0.053095	Akaike info criterion		-3.106733
Sum squared resid	0.214251	Schwarz criterion		-2.815307
Log likelihood	138.9294	Hannan-Quinn criter.		-2.989654
Durbin-Watson stat	1.945344			

(Table 11) results suggested that the exchange rate have an impact with statistical significance less than 0.10 on the Palestinian investment, index return with negative value of coefficient. The remaining factors of balance of trade, consumer price index, gross domestic product and industrial production index have no significant relationship with Palestinian investment, index return.

Table (12) illustrates the ARCH tests results for Palestinian service index return.

Dependent Variable: SIR			
Method: ML - ARCH (Marquardt) - Student's t distribution			
Sample: 2011M02 2017M12			
Variable	Coefficient	Std. Error	z-Statistic	Prob.
@SQRT (GARCH)	-1.143176	3.080955	-0.371046	0.7106
C	0.037120	0.097230	0.381779	0.7026
BT	0.000200	0.035841	0.005589	0.9955
CPI	-1.128181	0.657259	-1.716493	0.0861*
ER	-0.060279	0.241445	-0.249660	0.8029
GDP	-0.579514	0.219560	-2.639438	0.0083***
IPI	0.073035	0.047448	1.539277	0.1237
Variance Equation				
C	0.000105	0.000208	0.503122	0.6149
RESID(-1)^2	0.018422	0.036522	0.504400	0.6140
GARCH(-1)	0.881211	0.202888	4.343344	0.0000
R-squared	0.120888	Mean dependent var		-0.002878
Adjusted R-squared	0.051484	S.D. dependent var		0.035079
S.E. of regression	0.034164	Akaike info criterion		-3.828328
Sum squared resid	0.088707	Schwarz criterion		-3.536902
Log likelihood	168.8756	Hannan-Quinn criter.		-3.711249
Durbin-Watson stat	2.180326			

sults showed that the gross domestic product have an impact with statistical significance less than 0.01 on the Palestinian service index return with negative value of coefficient. And the consumer price index have an impact with statistical significance less than 0.10 on the Palestinian service index return with negative value of coefficient. The remaining factors of balance of trade, exchange rate and industrial production index have no significant relationship with Palestinian service, index return.

The main results revealed in Palestine Market that the consumer price index has a negative significant effect on Palestinian general index return, insurance index return, industry index return, service index return and bank index return. In addition, the exchange rate has a negative significant effect on Palestinian general index return, investment index return and bank index return. Moreover, gross domestic product that has a negative significant effect on Palestinian general index return and service index return; moreover, balance of trade has a positive significant effect on Palestinian industry, index return, but industrial production index has no significant effect on Palestinian general index return or sectors' indices returns.

4.1.2 Jordan Stock Market

First, we applies the stationary analysis (Unit root tests) using Augmented Dickey-Fuller Test. The following table illustrates the results of five

macroeconomic variables that must be stationary, in order to have the regression test.

Table (13) illustrates the Unit root tests results for Jordan Market.

Macro-economic Factors	ADF test statistic	Critical Value at 1% of significant level	Critical Value at 5% of significant level	Prob.	Stationary
BT	-12.78791	-3.481623	-2.883930	0.0000	Yes
CPI	-8.293787	-3.481217	-2.883753	0.0000	Yes
ER	-11.74920	-3.481217	-2.883753	0.0000	Yes
GDP	-7.751192	-3.485115	-2.885450	0.0000	Yes
IPI	-5.886047	-3.486064	-2.885863	0.0000	Yes

As shown in Table (13) a rejection of the null hypothesis of non-stationary at the 1% level for all macroeconomic variables, so we can conclude that all of the macroeconomic series are stationary and can continue to estimate the OLS test or ARCH/GARCH models.

Then, we apply the correlation analysis in order to make sure that no evidence of autocorrelation.

Table (14) illustrates the correlation tests results for Jordan Market.

	BT	CPI	GDP	ER	IPI
BT	1	0.00085939	-0.09771481	0.03614071	0.22773278
CPI	0.0008593	1	-0.09879875	0.09181592	-0.04103719
GDP	-0.0977148	-0.09879875	1	-0.17266099	0.04536957
ER	0.03614071	0.09181592	-0.17266099	1	0.16045336
IPI	0.22773278	-0.04103719	0.04536957	0.16045336	1

As indicated in Table 14, all the correlation coefficient values of macroeconomic factors are less than 0.23, which means that there is no problem of Multi-collinearity in this study.

Now we can proceed with regression model in order to investigate the macroeconomic variable effect on index return, we will start by applying ordinary least squares on the Jordan general index return.

Table (15) illustrates the OLS tests results for Jordanian general index return .

Dependent Variable: MIR			
Method: Least Squares			
Sample: 2007M02 2017M12			
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.004451	0.003339	-1.332725	0.1850
BT	0.007835	0.017343	0.451759	0.6522
CPI	-0.217437	0.374581	-0.580480	0.5626
ER	-0.529992	0.131470	-4.031271	0.0001***
GDP	-0.203519	0.115395	-1.763674	0.0802*
IPI	-0.080302	0.066435	-1.208720	0.2291
R-squared	0.143659	Mean dependent var	-0.006068
Adjusted R-squared	0.109405	S.D. dependent var	0.038193
S.E. of regression	0.036043	Akaike info criterion	-3.763472
Sum squared resid	0.162390	Schwarz criterion	-3.631784
Log likelihood	252.5074	Hannan-Quinn criter.	-3.709962
F-statistic	4.193963	Durbin-Watson stat	1.399923
Prob(F-statistic)	0.001476		

Note: *** P< .01, ** P<.05, * P<.1

In order to ensure having reliable results, we applies the ARCH/GARCH model too.

Table (16) illustrates the ARCH tests results for Jordanian general index return.

Variable	Coefficient	Std. Error	z-Statistic	Prob.
Dependent Variable: MIR				
Method: ML - ARCH (Marquardt) - Student's t distribution				
Sample: 2007M02 2017M12				
@SQRT (GARCH)	-0.400602	0.396390	-1.010625	0.3122
C	0.008961	0.010251	0.874182	0.3820
BT	-0.005853	0.015463	-0.378513	0.7050
CPI	-0.610664	0.416222	-1.467158	0.1423
ER	-0.243688	0.120575	-2.021043	0.0433**
GDP	-0.245113	0.076713	-3.195189	0.0014***
IPI	-0.041354	0.049691	-0.832213	0.4053
Variance Equation				
C	9.87E-05	0.000100	0.984850	0.3247
RESID(-1)^2	0.205944	0.133250	1.545544	0.1222
GARCH(-1)	0.679592	0.210032	3.235652	0.0012
R-squared	0.134972	Mean dependent var		-0.006068
Adjusted R-squared	0.093116	S.D. dependent var		0.038193
S.E. of regression	0.036371	Akaike info criterion		-4.084985
Sum squared resid	0.164037	Schwarz criterion		-3.865504
Log likelihood	277.5665	Hannan-Quinn criter.		-3.995800
Durbin-Watson stat	1.399155			

Note: *** $P < .01$, ** $P < .05$, * $P < .1$

Regarding Amman Stock Exchange, the statistical results in (Table 16) illustrated that exchange rate has an impact with statistical significance less than 0.05, and gross domestic product has an impact with statistical significance less than 0.01 on the dependent variable (Jordanian general index return). We can see that value of coefficient for the exchange rate is

negative; thus, the more increase in the ER, the more decrease of demand on the shares and the Jordanian general index return decreases. There is an adverse relationship. The explanation of this result is mainly as follows: Since Jordan is an importing country and not an exporter, the increase in the US dollar index is negatively reflected, in terms of increasing the cost of sales, leading to a decline in the demand on shares and decrease on the stock index return. This result is consistent with (Ouma & Muriu, 2014; Dimitrova, 2005).

We can also note that the value of coefficient for the gross domestic product is negative; therefore, the more increase in GDP, the more decrease of Jordanian general index return. The reason behind this finding is the same as the reason justified for the Palestinian indices results. Despite the increase in GDP and growth in the economy, investment is moving towards other sectors or even saving instead of attracting investment in the stock market. The difference in the result of this study from the previous studies that have been reviewed relates to the fact that the Jordan market also is considered as a weak form of efficiency. We can just note this negative relation in (Table 3) showing that the GDP in Jordan increased from 20,513 million JDs in 2011 to 28,903 million JDs in 2017, whereas Amman Stock Exchange total market capitalization amounted to 19,273 million JDs in 2011 declined to 16,963 million JDs in 2017.

Continuing with (Table 16), we noted that there is no significant relationship between the balance of trade and Jordanian general index

return. The continuing deficit in the Jordanian balance of trade as imports are more than exports, therefore the improvement or non-improvement, in this factor did not affect investors decisions or the demand on shares. This result is consistent with Bhattacharya & Mookherjee (2001).

Regarding the industrial production index and consumer price index, the results showed that there is no significant relationship between IPI & CPI and Jordanian general index return. The weakness of liquidity in the Jordanian stock market and the weakness of investors' confidence in it led to this. It is the same situation with the Palestinian stock exchange. Even the improvement in the macro economy or the decline, does not reflect the impact on the Jordanian stock exchange, in addition we do not forget to mention the political risk factor that has a big role in that. This result is consistent with (Zhu, 2012; Ilahi et al., 2015)

Then we apply the ARCH/GARCH model in each sectors index return in Jordan market.

Table (17) illustrates the ARCH tests results for Jordanian bank index return.

Dependent Variable: BIR			
Method: ML - ARCH (Marquardt) - Student's t distribution			
Sample: 2007M02 2017M12			
Variable	Coefficient	Std. Error	z-Statistic	Prob.
@SQRT (GARCH)	-0.418808	0.429619	-0.974837	0.3296
C	0.010294	0.010831	0.950476	0.3419
BT	-0.016188	0.014511	-1.115587	0.2646
CPI	-0.682696	0.415000	-1.645053	0.1000
ER	-0.183111	0.097004	-1.887665	0.0591*
GDP	-0.265576	0.079495	-3.340790	0.0008***
IPI	-0.001708	0.049378	-0.034592	0.9724
Variance Equation			
C	4.36E-05	4.65E-05	0.937506	0.3485
RESID(-1)^2	0.092264	0.058232	1.584406	0.1131
GARCH(-1)	0.836347	0.101332	8.253543	0.0000
R-squared	0.117185	Mean dependent var	-0.003317
Adjusted R-squared	0.074468	S.D. dependent var	0.032402
S.E. of regression	0.031172	Akaike info criterion	-4.213045
Sum squared resid	0.120490	Schwarz criterion	-3.993564
Log likelihood	285.9545	Hannan-Quinn criter.	-4.123860
Durbin-Watson stat	1.443464		

(Table 17) results confirmed that the gross domestic product have an impact with statistical significance less than 0.01 on the Jordanian bank index return with negative value of coefficient. And the exchange rate have an impact with statistical significance less than 0.10 on the Jordanian bank index return with negative value of coefficient. The remaining factors of

balance of trade, consumer price index and industrial production index have no significant relationship with Jordanian bank, index return.

Table (18) illustrates the ARCH tests results for Jordanian insurance index return.

Dependent Variable: INSIR				
Method: ML - ARCH (Marquardt) - Student's t distribution				
Sample: 2007M02 2017M12				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
@SQRT (GARCH)	-3.265829	1.366639	-2.389680	0.0169
C	0.063688	0.031034	2.052173	0.0402
BT	0.007288	0.010496	0.694327	0.4875
CPI	-0.828361	0.277498	-2.985105	0.0028***
ER	-0.129054	0.076130	-1.695190	0.0900*
GDP	-0.069891	0.063714	-1.096946	0.2727
IPI	0.006920	0.038696	0.178840	0.8581
Variance Equation				
C	1.81E-05	1.27E-05	1.429349	0.1529
RESID(-1)^2	0.021197	0.012933	1.638938	0.1012
GARCH(-1)	0.931231	0.032980	28.23608	0.0000
R-squared	0.156065	Mean dependent var		-0.008054
Adjusted R-squared	0.115229	S.D. dependent var		0.027380
S.E. of regression	0.025754	Akaike info criterion		-4.535334
Sum squared resid	0.082247	Schwarz criterion		-4.315853
Log likelihood	307.0644	Hannan-Quinn criter.		-4.446149
Durbin-Watson stat	1.931279			

(Table 18) results suggested that the consumer price index have an impact with statistical significance less than 0.01 on the Jordanian insurance index return with negative value of coefficient. And the exchange rate have an impact with statistical significance less than 0.10 on the Jordanian

insurance index return with negative value of coefficient. The remaining factors of balance of trade, gross demestic product and industrial production index have no significant relationship with Jordanian insurance index return.

Table (19) illustrates the ARCH tests results for Jordanian industry index return.

Dependent Variable: INDIR			
Method: ML - ARCH (Marquardt) - Student's t distribution			
Sample: 2007M02 2017M12			
Variable	Coefficient	Std. Error	z-Statistic	Prob.
@SQRT (GARCH)	-0.178878	0.327110	-0.546844	0.5845
C	0.004693	0.011318	0.414672	0.6784
BT	0.004010	0.019503	0.205602	0.8371
CPI	0.138137	0.515458	0.267989	0.7887
ER	-0.331714	0.142892	-2.321436	0.0203**
GDP	-0.082893	0.111954	-0.740416	0.4590
IPI	-0.098059	0.062955	-1.557596	0.1193
Variance Equation			
C	0.000200	0.000127	1.577157	0.1148
RESID(-1)^2	0.313381	0.135286	2.316442	0.0205
GARCH(-1)	0.612459	0.126792	4.830431	0.0000
R-squared	0.100300	Mean dependent var		-0.003721
Adjusted R-squared	0.056766	S.D. dependent var		0.058915
S.E. of regression	0.057218	Akaike info criterion		-3.356535
Sum squared resid	0.405970	Schwarz criterion		-3.137055
Log likelihood	229.8531	Hannan-Quinn criter.		-3.267350
Durbin-Watson stat	1.635604			

(Table 19) results illustrated that the exchange rate have an impact with statistical significance less than 0.05 on the Jordanian industry index return with negative value of coefficient. The remaining factors of balance of trade, gross domestic product, consumer price index and industrial production index have no significant relationship with Jordanian industry, index return.

Table (20) illustrates the ARCH tests results for Jordanian service index return.

Dependent Variable: SIR				
Method: ML - ARCH (Marquardt) - Student's t distribution				
Sample: 2007M02 2017M12				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
@SQRT (GARCH)	0.128142	0.280009	0.457635	0.6472
C	-0.006225	0.007847	-0.793333	0.4276
BT	-0.007600	0.013824	-0.549766	0.5825
CPI	-0.917485	0.369874	-2.480532	0.0131**
ER	-0.215565	0.125855	-1.712801	0.0867*
GDP	-0.269104	0.089825	-2.995855	0.0027***
IPI	0.005334	0.052064	0.102446	0.9184
Variance Equation				
C	8.57E-05	7.66E-05	1.119795	0.2628
RESID(-1)^2	0.209125	0.123582	1.692194	0.0906
GARCH(-1)	0.703830	0.147315	4.777715	0.0000
R-squared	0.052823	Mean dependent var		-0.005223
Adjusted R-squared	0.006992	S.D. dependent var		0.039149
S.E. of regression	0.039012	Akaike info criterion		-3.968872
Sum squared resid	0.188719	Schwarz criterion		-3.749391
Log likelihood	269.9611	Hannan-Quinn criter.		-3.879687
Durbin-Watson stat	1.406315			

(Table 20) results showed that the consumer price index has an impact with statistical significance less than 0.05 and gross demestic product has an impact with statistical significance less than 0.01 on the Jordanian service index return with negative value of coefficient. Also, the exchange rate have an impact with statistical significance less than 0.10 on the Jordanian service index return with negative value of coefficient. The remaining factors of balance of trade and industrial production index have no significant relationship with Jordanian service, index return.

The main results revealed in Jordan Market that the consumer price index has a negative significant effect on Jordanian service, index return and insurance index return. In addition, the exchange rate has a negative significant effect on Jordanian general index return, bank index return, insurance index return, service index return and industry index return. From one hand, gross domestic product has a negative significant effect on Jordanian general index return, bank index return and service index return. On the other hand, the balance of trade and industrial production index has no significant effect on Jordanian general index return or sectors' indices returns.

Table (21) illustrates the results of macroeconomic factors impact on market index return.

Market	Index	IPI	CPI	ER	GDP	BT
Palestinian Market Index Return	General	No	Yes	Yes	Yes	No
	Bank	No	Yes	Yes	No	No
	Industry	No	Yes	No	No	Yes
	Insurance	No	Yes	No	No	No
	Investment	No	No	Yes	No	No
	Service	No	Yes	No	Yes	No
Market	Index	IPI	CPI	ER	GDP	BT
Jordanian Market Index Return	General	No	No	Yes	Yes	No
	Bank	No	No	Yes	Yes	No
	Industry	No	No	Yes	No	No
	Insurance	No	Yes	Yes	No	No
	Service	No	Yes	Yes	Yes	No

Yes, rejection of the null hypothesis states, "There is no significant relationship between the macroeconomic variables and market index return".

No, acceptance of the null hypothesis states, "There is no significant relationship between the macroeconomic variables and market index return".

4.2 Empirical results and Discussion of Political Events.

In this section we showed the effect of political events on the return of general stock index, tested by applying the paired t-test on the abnormal returns before and after the event windows of 5, 10 and 30 days, for both Palestinian and Jordanian general index. The results were illustrated in the following tables.

Table (22) illustrates the average abnormal returns before and after the event day.

Political Events	Market	5 Days		10 Days		30 Days	
		before	after	before	after	before	after
Tunisian President fled to Saudi Arabia.	Palestine	-.0003	.0003	.0017	-.0017	.0013	-.0013
Tunisian President fled to Saudi Arabia.	Jordan	.0015	-.0015	.0028	-.0028	.0021	-.0021
Jordanian Prime Minister resigned on 1st, Feb 2011.	Jordan	-.0011	.0029	.0002	.0006	.0015	-.0016
Egyptian President stepped down.	Palestine	.0004	-.0004	-.0006	.0006	-.0004	.0004
Egyptian President stepped down.	Jordan	.0035	-.0035	.0007	-.0007	.0016	-.0016
Jordanian Prime Minister resigned on 17th, Oct 2011.	Jordan	-.0011	.0018	-.0028	.0033	-.0006	.0020
The resignation of the Jordanian Prime Minister on 26th, Apr 2012.	Jordan	.0008	.0001	.0006	-.0001	.0012	-.0011
Jordan's King appointed a new prime minister on 10th, Oct 2012.	Jordan	-.0018	.0010	-.0007	.0003	-.0006	.0005
Israel launched Operation Cloud Pillar in the Gaza Strip.	Palestine	-.0013	.0020	-.0013	.0016	-.0003	.0003
Palestine was granted observer status as a non-member of the international organization.	Palestine	-.0002	-.0009	-.0002	-.0003	-.0009	.0007
The Egyptian President was sacked by the Defense Minister.	Palestine	-.0003	.0002	-.0004	.0003	-.0011	.0011
The Egyptian President was sacked by the Defense Minister.	Jordan	-.0005	.0012	-.0003	.0006	-.0002	.0003

The National Accord Government was formed to heal the rift in the Palestinian political reality.	Palestine	.0022	-.0018	.0013	-.0015	.0001	-.0002
Israel launched an offensive against the Gaza Strip.	Palestine	.0000	.0006	-.0010	.0014	-.0010	.0011
Al-Quds Intifada began.	Palestine	.0000	.0000	.0000	.0000	-.0009	.0009
The end of the security operation on the attacks in the city of Irbid.	Jordan	.0000	-.0011	-.0003	-.0004	.0000	-.0002
Attacks and shootings in the historic Karak Fort in Karak.	Jordan	.0009	-.0008	.0004	-.0004	.0007	-.0007
The inauguration of the President of the United States.	Palestine	-.0005	.0005	-.0001	.0001	-.0001	.0001
The inauguration of the President of the United States.	Jordan	-.0005	.0001	-.0009	.0009	-.0007	.0007
Saudi Arabia, the United Arab Emirates, Bahrain, and Egypt, cut off links with Qatar.	Palestine	-.0003	.0009	-.0006	.0010	-.0007	.0008
Saudi Arabia, the United Arab Emirates, Bahrain, and Egypt, cut off links with Qatar.	Jordan	.0016	-.0007	.0010	-.0006	.0002	.0000
The recognition of US President that Jerusalem is the capital of Israel.	Palestine	.0007	.0005	-.0006	.0011	-.0009	.0011

Table (23) illustrates the paired t-test for political events

Political Events	Market	5 Days		10 Days		30 Days	
		t value	Sig.	t value	Sig.	t value	Sig.
Tunisian President fled to Saudi Arabia.	Palestine	-.256	.811	2.660	.026**	2.171	.038**
Tunisian President fled to Saudi Arabia.	Jordan	1.745	.156	2.378	.041**	2.550	.016**
Jordanian Prime Minister resigned on 1st, Feb 2011.	Jordan	-1.441	.200	-.188	.855	1.798	.083*
Egyptian President stepped down.	Palestine	.254	.812	-.508	.624	-.692	.494
Egyptian President stepped down.	Jordan	3.314	.030**	.308	.765	1.636	.113
Jordanian Prime Minister resigned on 17th, Oct 2011.	Jordan	-.895	.422	-3.209	.011**	-2.340	.026**
The resignation of the Jordanian Prime Minister on 26th, Apr 2012.	Jordan	.293	.784	.328	.751	1.654	.109
Jordan's King appointed a new prime minister on 10th, Oct 2012.	Jordan	-2.585	.061*	-1.131	.287	-1.532	.136
Israel launched Operation Cloud Pillar in the Gaza Strip.	Palestine	-.666	.542	-.974	.356	-.393	.697

Palestine was granted observer status as a non-member of the international organization.	Palestine	.599	.581	.214	.835	-1.944	.062*
The Egyptian President was sacked by the Defense Minister.	Palestine	-.300	.779	-.730	.484	-2.176	.038**
The Egyptian President was sacked by the Defense Minister.	Jordan	-3.131	.035**	-1.093	.303	-.674	.505
The National Accord Government was formed to heal the rift in the Palestinian political reality.	Palestine	1.038	.358	.599	.564	.226	.823
Israel launched an offensive against the Gaza Strip.	Palestine	-.310	.772	-1.656	.132	-1.728	.095*
Al-Quds Intifada began.	Palestine	.009	.994	.054	.958	-2.192	.037**
The end of the security operation on the attacks in the city of Irbid.	Jordan	.558	.607	.085	.934	.219	.828
Attacks and shootings in the historic Karak Fort in Karak.	Jordan	1.227	.287	.679	.515	1.807	.081*
The inauguration of the President of the United States.	Palestine	-1.005	.372	-.119	.908	-.200	.843
The inauguration of the President of the United States.	Jordan	-.525	.627	-1.050	.321	-2.101	.044**
Saudi Arabia, the United Arab	Palestine	-	.205	-3.366	.008***	-2.364	.025**

Emirates, Bahrain, and Egypt, cut off links with Qatar.		1.512					
Saudi Arabia, the United Arab Emirates, Bahrain, and Egypt, cut off links with Qatar.	Jordan	1.320	.257	1.996	.077*	.361	.721
The recognition of US President that Jerusalem is the capital of Israel.	Palestine	.058	.956	-.754	.470	-2.131	.042**

Note: *** Sig< .01, ** Sig <.05, * Sig <.1

Through the statistical results, it was shown in (Table 22) and (Table 23) that there is a significant effect of political events on both Palestine and Amman stock market.

The first political event tested was, the Tunisian President fled to Saudi Arabia on 14th, Jan 2011, after a 23-year of ruling, under the pressure of a popular uprising in December that killed 300 people, according to UN figures. The Tunisian President was sentenced to 66 and half years in three trials in absentia. This was the beginning of the Arab Spring which had been followed by demonstrations and protests throughout the Arab world. Jordan was influenced by this, and a wave of demonstrations and protest rallies began throughout Jordan in early 2011. One of the main reasons for these protests was the deterioration of economic conditions, high prices and widespread of unemployment. This event showed a statistically negative response at 5 percent significance level for both Palestinian and Amman stock exchange, in both event windows 10 and 30 days. The abnormal returns were positive before the event and negative abnormal returns were observed after the event.

On February 1, 2011, the Jordanian Prime Minister resigned following popular protests against him. The Jordanian Royal Court appointed a new Prime Minister to form a new government. This event showed a statistically negative response at 10 percent significance level for Amman stock exchange in event window 30 days. The abnormal returns were

positive before the event and negative abnormal returns were observed after the event in event window 30 days.

On 11th, Feb 2011, the Egyptian President, who has ruled the country since 1981, stepped down on the 18th day of a popular uprising. 850 civilians were killed in the unrest. On August 3, Mubarak's trial began on charges of corruption and the killing of demonstrators. The Palestinian market did not show any statistically significant response to the event in the three event windows. However, this event had a statistically negative response at 5 percent significance level for Amman stock exchange in event windows 5 days. The average abnormal returns were positive 5,10, and 30 days prior to the event and average abnormal returns were negative for next 5,10, and 30 days.

On 17th, Oct 2011, the Jordanian Prime Minister resigned. Jordan's King issued a decree under which a new Prime Minister was appointed to form the new government. This event showed a statistic response at 5 percent significance level for Amman stock exchange in event windows 10 and 30 days. On 26th, Apr 2012, there was the resignation of the Jordanian Prime Minister, the protests continue, and a new Prime Minister was appointed in Jordan. The Jordanian market did not show any statistically significant response to this event but average abnormal returns were positive 10 and 30 days prior to the event and average abnormal returns were negative for the next 10 and 30 days. Although the event is insignificant but its impact is negative on Amman general index returns. Then, on 10th, Oct 2012,

Jordan's King dissolved parliament to hold new early elections, and appointed a new prime minister in Jordan. This event showed a statistically response at 10 percent significance level for Amman stock exchange in event windows 5 days, average abnormal return were negative before the event day then transfer to become positive after that.

On 14th, Oct 2012, Israel launched Operation Cloud Pillar in the Gaza Strip with the assassination of Hamas military commander. 174 Palestinians and six Israelis were killed. The Palestinian market did not show any statistically significant response to this event. The main reason for this is the division between the West Bank and the Gaza Strip, which had led to a reduction in the impact of political events and incursions that happened in the Gaza Strip on the West Bank.

On 29th Nov 2012, there was a historic Vote in the United Nations, Palestine was granted observer status as a non-member of the international organization by a majority of 138 votes in the General Assembly against 9 opposing and 41 abstentions. In response, Israel announced plans to build 3,000 settlement units in the occupied West Bank and East Jerusalem, drawing widespread criticism from the United States and several European countries. This event showed a statistically positive response at 10 percent significance level for Palestine stock exchange in event window 30 days. The abnormal returns were negative before the event and positive abnormal returns were observed after the event in event window 30 days.

On 3rd, Jul 2013, after massive demonstrations that began on June 30, 2013, the first elected Egyptian president was sacked by the Defense Minister, after July 1st deadline to find a solution to the crisis. This event showed a statistically positive response at 5 percent significance level for Palestinian market in event window 30 days and for and Amman stock exchange in event window 5 days. The abnormal returns were negative before the event and positive abnormal returns were observed after the event in both Jordan and Palestine markets.

In June 2014, the National Accord Government the first Palestinian government was formed, after consultations with all the Palestinian factions, to heal the rift between Gaza Strip and West Bank in the Palestinian political reality. The Palestinian market did not show any statistically significant response to this event. In July 2014, Israel launched an offensive attack against the Gaza Strip. The objective was to stop rocket fire from the Gaza Strip, Israeli authorities announced. The war continued 50 days, killing 2,100 Palestinians and 70 Israelis and destroying more than 20,000 homes for Palestinians in Gaza. This event showed a statistically response at 10 percent significance level for Palestinian market in event window 30 days. The main reason for this is the division between the West Bank and the Gaza Strip, which has led to a reduction in the impact of political events and incursions that occur in Gaza Strip on the West Bank.

On third, Oct 2015, Al-Quds Intifada began with the killing of settlers and the shooting of 19-year-old from Ramallah during an operation in the Old

City of Jerusalem, ignited the Palestinian territories in what is known as "Jerusalem Intifada." This event showed a statistically response at 5 percent significance level for Palestinian market in event window 30 days.

On 2nd, Mar 2016, the end of the security operation on the attacks in the city of Irbid, the death of a security officer in the rank of captain, while killing seven of the armed group after clashes with security forces and the arrest of others. The Jordanian market did not show any statistically significant response to this event. However, average abnormal returns were positive before the event and negative after that, although the event is insignificant but its impact is negative on Amman general index returns. On 18th, Dec 2016 attacks and shootings in the historic Karak Fort in Karak, which resulted in the killing of 10 people, including seven security men and a Canadian tourist. This event showed a statistically negative response at 10 percent significance level for Amman stock exchange in event window 30 days. The abnormal returns were positive before the event and negative abnormal returns were observed after the event.

The inauguration of the 45th President of the United States, took place on January 20, 2017, before formally taking office for a four-year renewable term. The Palestinian market did not show any statistically significant response to this event. However, The Jordanian market showed a statistically positive response at 5 percent significance level for Amman stock exchange in event window 30 days. Average abnormal returns were negative before the event and positive after that.

In June 2017, Saudi Arabia, the United Arab Emirates and Bahrain, as well as Egypt, cut off diplomatic relations, transportation and trade links with Qatar accusing it of financing terrorism, which Doha denies. The Palestinian market showed a statistically response at 1 percent significance level for Palestine stock exchange in event window 10 days, and at 5 percent significance level in event window 30 days . Regarding the Jordanian market, this event had a statistically significant effect at 10 % on Amman general index return in event window 10 days. Noting that average abnormal returns were positive before the event and negative after that in Jordan market.

The last event tested was, the Palestinian popular revolution, which took place in the West Bank (including Jerusalem) and the Gaza Strip, following the recognition by US President that Jerusalem is the capital of Israel and the announcement of the transfer of his embassy from Tel Aviv to Jerusalem on 8-12-2017. This event had a statistically significant effect at 5 % on Palestinian market in event window 30 days.

The main results concluded that the political events have a significant impact on the Palestine and Amman stock market returns. Regarding Palestine stock exchange, seven out of eleven events had a significant impact on the Palestinian general index return. Four out of six political events took place in Palestine and three out of five political events occurred in other countries. Such as, the Tunisian President fled to Saudi Arabia, the Egyptian President was sacked by the Defense Minister, and Saudi Arabia,

the United Arab Emirates, Bahrain, and Egypt, cut off links with Qatar. Concerning Amman stock exchange, there were nine out of eleven events that had a significant impact on the Jordanian general index return. Four out of six political events happened in Jordan and five out of five political events happened on the other countries such as; Tunisian President fled to Saudi Arabia, Egyptian President stepped down, the Egyptian President was sacked by the Defense Minister, and the inauguration of the President of the United States. Depending on these results, the study shows that both Palestine and Jordan stock market is inefficient and the markets does not adsorb uncertain information and noisy events. For events that are insignificant, we can assume that they are less important from other events.

Chapter Five
Conclusions, Recommendations and Limitations

5.1 Conclusions

This study aims to investigate the Macroeconomic Factors effect on Palestine Stock Exchange Return, identified by the return of general price index and the return of Palestine Exchange sectors' indexes of banks, industry, insurance, investment and services in particular. The study also illustrates the effect on Amman Stock Exchange Return identified by the return of general price index and the return of Amman Exchange sectors' indexes of banks, industry, insurance and services in particular. In order to identify different results between different sectors and markets. The macroeconomic factors represented by five variables that are: gross domestic product, balance of trade, consumer price index, exchange rate, and industrial product index. Moreover, to study the political events effect on Palestine Stock Exchange Return identified by the return of general price index, in addition to Amman Stock Exchange Return identified by the return of general price index.

This study exploits time series depending on monthly data for macroeconomic factors from January 2011 to December 2017 for Palestinian market and from January 2007 to December 2017 for Jordanian market. This exploitation aims to illustrate the impact of macroeconomic factors on stock index return by applying macro-econometric model based on Arbitrage Pricing Theory, and testing these variables with unit root test,

correlation coefficient, ordinary least square test and ARCH/GARCH model. Moreover, the impact of the most 17 important political events during the period 2011-2017 on stock index return is studied. Event study methodology is used, in event windows of 5, 10 and 30 days before and after the event and by applying the paired t test.

The main results related to the macroeconomic variables in Palestine Market showed that the consumer price index has a negative significant effect on Palestinian general index return, insurance index return, industry index return, service index return and bank index return. The exchange rate, as well has a negative significant effect on Palestinian general index return, investment index return and bank index return, added to gross domestic product that has a negative significant effect on Palestinian general index return and service index return. Moreover, balance of trade has a positive significant effect on Palestinian industry index return, but industrial production index has no significant effect on Palestinian general index return or sectors' indices returns. In Jordan Market, main results revealed that the consumer price index has a negative significant effect on Jordanian service index return and insurance index return. The exchange rate has a negative significant effect on Jordanian general index return, bank index return, insurance index return, service index return and industry index return. In addition, gross domestic product has a negative significant effect on Jordanian general index return, bank index return and service index return. On one hand, the balance of trade and industrial production

index has no significant effect on Jordanian general index return or sectors' indices returns.

On the other hand, the main results related to the political events concluded that the political events have a significant impact on the Palestine and Amman stock market returns. To start with, Palestine stock exchange, seven out of eleven events had a significant impact on the Palestinian general index return. Four out of six political events happened in Palestine and three out of five political events happened on the other countries such as; Tunisian President fled to Saudi Arabia, Egyptian President was sacked by the Defense Minister and Saudi Arabia, the United Arab Emirates, Bahrain, and Egypt, cut off links with Qatar. Regarding Amman stock exchange, there were nine out of eleven events had a great significance on the Jordanian general index return. Four out of six political events happened in Jordan and five out of five political events happened in other countries such as; the Tunisian President fled to Saudi Arabia, Egyptian President stepped down, Egyptian President was sacked by the Defense Minister, and the inauguration of the President of the United States. Based on these results, it shows that both Palestine and Jordan stock market is inefficient and the markets do not adsorb uncertain information and noisy events.

5.2 Recommendations

Based on the study results, it is necessary to note the importance of implementing prudent economic policies, due to their impact on the stock markets and investors' decisions. Such as working on reducing the inflation rate, since we found that it has a significant effect on stock return.

Moreover, development of a strong financial strategy that can face challenges to protect investors from the political events, to reduce their impact on stock price returns.

We also recommend studying the impact of macroeconomic factors on the stock returns on a wider scale as a study of the impact of other economic factors, such as unemployment rate and interest rates that would provide more information about the stock market returns and economic activity relationship.

Moreover, studying the effect of additional political events on stock market return on a large scale, in order that we can have a more comprehensive view and generalize the results.

Furthermore, we recommend extending the study to include other countries and markets, whether they are advanced or developing countries, to get different results, and comparison among them.

5.3 Limitations

1. The absence of the monthly data of the industrial production index and trade balance in Palestine before 2011.

2. Different nature of disclosure of economic factors. There are monthly factors and other quarterly.

3. The difference in the base year on which economic factors are calculated from one period to another.

4. The existence of an old base year for some economic factors that need to be updated.

5. There are many economic factors that cannot be measured in Palestine market due to the special circumstances, such as interest rates and money supply.

6. The large number of political events that happened during the study period, so it is hard to test all of them.

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Appendix (1): the list of abbreviations that have been used in the study:

Phrase	Abbreviations
Industrial Product Index	IPI
Consumer Price Index	CPI
Exchange Rate	ER
Gross Domestic Product	GDP
Balance of Trade	BT
The return of market general index	MIR
The return of bank sector index	BIR
The return of industry sector index	IndIR
The return of insurance sector index	InsIR
The return of investment sector index	InvIR
The return of services sector index	SIR
Efficient Market Hypothesis	EMH
Arbitrage Pricing Theory	APT
Capital Asset Pricing Model	CAPM
Palestine Stock Exchange	PEX
Amman Stock Exchange	ASE
The Augmented Dickey-Fuller Test	ADF
Ordinary Least Squares technique	OLS
Autoregressive Conditional Heteroskedasticity	ARCH

Appendix (2): the websites that have been used to select the historical data of the study:

1. Palestine Monetary Authority, available at http://www.pma.ps
2. Palestinian Central Bureau of Statistics, available at http://www.pcbs.gov.ps
3. Palestine Stock Exchange, available at http://www.pex.ps
4. Jordanian Department of Statistics, available at http://dosweb.dos.gov.jo
5. Central Bank of Jordan, available at http://statisticaldb.cbj.gov.jo
6. Amman Stock Exchange, available at https://www.ase.com.jo

جامعة النجاح الوطنية

كليّة الدراسات العليا

أثر العوامل الاقتصادية الكليّة والأحداث السياسية على عائد مؤشر السوق في سوقيّ فلسطين وعمّان للأوراق المالية

إعداد

مي ناصر فرح جبارين

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قدّمت هذه الأطروحة استكمالا لمتطلّبات الحصول على درجة الماجستير في المحاسبة، بكليّة الدراسات العليا في جامعة النجاح الوطنية، في نابلس ــ فلسطين.

2019

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الملخص

تهدف هذه الدراسة إلى التحقق من أثر العوامل الاقتصادية الكليّة على عوائد مؤشرات السوق المالي الفلسطيني بالإضافة إلى عوائد مؤشرات بورصة عمّان، والتي تتمثّل بالعائد على المؤشر العام والعائد على مؤشرات قطاعات الأسهم من قطاع البنوك والصناعية والتأمين والاستثمار والخدمات على وجه الخصوص. من أجل تحديد النتائج المختلفة بين مختلف القطاعات والأسواق. تتمثّل العوامل الاقتصادية الكلية بخمسة متغيرات هي؛ الناتج المحلي الإجمالي، الميزان التجاري، مؤشر أسعار المستهلك، سعر الصرف، ومؤشر الإنتاج الصناعي. بالإضافة إلى دراسة أثر الأحداث السياسية على عائد مؤشر السوق المالي الفلسطيني وبورصة عمّان الذي يتمثّل بالعائد على المؤشر العام. تم الاعتماد في هذه الدراسة على البيانات الشهرية لعوامل الاقتصاد الكلي من شهر كانون الثاني 2011 للسوق الفلسطيني ومن شهر كانون الثاني 2007 للسوق الأردني إلى شهر كانون الأول 2017 لتوضيح أثرها على عائد مؤشر الأسهم من خلال تطبيق نموذج الاقتصاد الكلي القائم على Arbitrage Pricing Theory واختبار هذه المتغيرات بواسطة unit root, correlation coefficient ,ordinary least square test بالإضافة الى ARCH/GARCH model؛ بالإضافة إلى اختيار أهم الأحداث السياسية خلال الفترة 2011−2017 والتي بلغ مجموعها 17 حدثًا واختبار اثرها على عائد مؤشر السوق من خلال منهجية event study في event windows لمدة 5 و10 و30 يومًا قبل الحدث وبعده من خلال تطبيق اختبار paird t . أظهرت النتائج الرئيسية المتعلّقة بمتغيّرات الاقتصاد الكلّي في سوق

فلسطين أنّ مؤشّر أسعار المستهلك له تأثير سلبي كبير على عائد المؤشر العام الفلسطيني، وقطاعات التأمين، الصناعة، الخدمات، والبنوك، كما أن لسعر الصرف تأثير سلبي على عائد المؤشر العام الفلسطيني، وقطاعيّ الاستثمار والبنوك، بالإضافة إلى الناتج المحلي الإجمالي الذي له تأثير سلبي على عائد المؤشر العام الفلسطيني ومؤشر قطاع الخدمات، علاوة على ذلك، فإنّ لميزان التجارة تأثير إيجابي على عائد مؤشر قطاع الصناعة الفلسطيني، لكن مؤشر الإنتاج الصناعي ليس له أثر على السوق الفلسطيني. وفيما يتعلق بالسوق الأردني، أظهرت النتائج الرئيسية أن مؤشر أسعار المستهلك له تأثير سلبي على مؤشر قطاعيّ الخدمات والتأمين الأردني، كما أن لسعر الصرف تأثير سلبي كبير على عائد المؤشر العام الأردني وقطاعات البنوك، التأمين، الخدمات والصناعة. بالإضافة إلى الناتج المحلي الإجمالي الذي له تأثير سلبي على عائد المؤشر العام الأردني وقطاعي البنوك والخدمات، لكن ميزان التجارة ومؤشر الإنتاج الصناعي ليس له أثر على السوق الاردني. من ناحية أخرى، خلصت النتائج الرئيسيّة المتعلقة بالأحداث السياسية إلى أن الأحداث السياسية لها تأثير كبير على عوائد سوقيّ فلسطين والاردن. فيما يتعلق ببورصة فلسطين فقد كان هناك 7 من أصل 11 حدث لها تأثير كبير على عائد المؤشر العام الفلسطيني. أما فيما يتعلق ببورصة عمّان، كان هناك 9 من أصل 11 حدثًا لها تأثير كبير على عائد المؤشر العام الأردني. وبناءً على هذه النتائج، يظهر أن سوقي فلسطين وعمان للأوراق المالية غير كفؤين.