Factors affecting Amman Stock Exchange Performance – Empirical Study

العوامل المؤثرة على أداء بورصة عمان - دراسة تطبيقية

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It is my genuine gratefulness and warmest regard that I dedicate this work to my mother. In her seventies and she still backing my journey in life. It is only through true belief in me and my potentials, my mother kept pushing me to achieve more in life. I am not sure I will be able to write the words to thank her enough, nonetheless I know she expects more from me to achieve. I am on it.
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Factors affecting Amman Stock Exchange Performance – Empirical Study
Presented by
Mohammed Ali Al-Rimawi
Supervised by
Prof. Thair Kaddumi

Abstract
The main objective of this research is to investigate the impact of the selected macroeconomic variables on ASE performance for the period 1999-2018. These variables include inflation rate (INR), interest rate (IR), economic growth rate (EGR), and foreign investment (FI). The study adopted descriptive analytical approach, also data analysis includes simple and multiple linear regression. The results of this research showed that there is no statistically significant impact of INR, IR, EGR and FI all together on ASE performance. Individually, the results indicated that there is no statistically significant impact of INR on ASE performance. Also, there is no significant impact of IR and EGR on ASE performance. Regarding FI, the results reflected a significant impact on ASE performance. Additionally, the results concluded that foreign investment has highest impact factor on ASE performance, followed by change in average interest rate, then inflation rate and the least impact attributes to economic growth rate. Finally, the research recommends that Jordanian banks should reduce lending interest rate to enhance investment in securities and improve economic growth rate, also Jordan should encourage foreign direct and indirect investment and exercise more efforts to attract more foreign investment, by either in the form of tax incentives or providing finance to them at low interest rates.

Key Words: Inflation, Interest, Economic Growth, Foreign Investment, ASE Performance.
Chapter One

Introduction
Chapter One

Introduction

1.1 Introduction

Financial market is an important tool for collecting financial resources and employing them in investment projects, as it is the place where all capital transactions are made for the purpose of investment or financing in the form of contributions or loans for long-term securities (Banerjee et al., 2016). Financial markets is a system whereby sellers and buyers are brought together for a specific type of financial instruments, whereby investors can buy and sell a number of stocks and bonds within the market through brokers or companies operating in that field (Sulong et al., 2018). Financial markets can play an effective role only if it has the competency ingredients that contribute to the evaluation of listed companies through an analysis of available information and data about investors (Salameh & Alzubi, 2018).

Dealing with financial markets is mainly linked to an analysis of the behaviour of the stock prices of these markets as well as an understanding of the factors affecting them and the extent of the relationship of the markets with each other in order to reach the results through which the investor can make the right decision (Aldass, 2017). In other words, the analysis of stock market price behaviour is closely related to dealing with those markets with the aim of providing the investor with the data and information necessary to adopt the right investment tool at the right time and in the right place. Without a scientific analysis of stock price behaviour based on transparent information and data and without prior planning for financial decision-making, the
investment will be exposed to significant risks and it may be a waste of the investment principle itself (Al Qaisi et al., 2016).

For financial markets to play an economic role in aggregating various savings, the stock exchange prices of any country must be efficient in their pricing, this does not happen unless the relevant information on companies is available and is constantly reflected in the stock price (Sharif et al., 2015). This leads to an increase in the ability of companies and individuals to invest, produce and expand to cover areas of the market with high profitability, therefore, the stock market achieves its economic role in directing savings and hence in improving economic and social development (Moqbel et al., 2015).

There are several sectors listed at the Amman stock exchange (ASE) as they are divided into three sectors, which are financials, services and industries, as it includes 191 different companies in Dec 2019 according to ASE data (Alhileen, 2020). Given the potential profit and loss for the shares of these companies, it is clear that there are many factors affecting the performance of ASE, including the interest rate, which is the main driver of capital investment, and its transfer between stocks, bonds and banks (Al Oshaibat, 2016). The inflation rate also affects the securities, as it is accompanied by an increase or decrease in investment, the balance of payments and its exposure to imbalances, either with increase or deficit, which results in disturbances in the state's economy and its financial position with respect to the outside world (Daferighe & Sunday, 2012). In addition, economic development is affected by the general budget and the deficit that may arise in it (Sharabati, 2013).
1.2 Research Questions

Stock market plays a major role in the functioning of the economic activities through trading in different sectors’ securities and the size of investment in this market, so the performance of ASE and the follow-up of stocks and their returns were examined in depth, which reflected a sharp fluctuation during the period from 1999 to 2018 during which the financial crisis has erupted and affected the world economy (Abu Aljarayesh et al., 2018). This study will be an attempt to identify some of the factors that impact ASE performance and to indicate the importance of each factor by determining the volume of its impact of each variable on ASE performance and then the impact of all the study variable together on ASE performance. Therefore, the research problem is determined in the following main question: what are the factors that have an impact on ASE performance for the period 1999-2018?

From the above main question, the following sub-questions have been raised:

1. What is the impact of inflation rate on ASE performance for the period 1999-2018?
2. What is the impact of interest rate on ASE performance for the period 1999-2018?
3. What is the impact of economic growth rate on ASE performance for the period 1999-2018?
4. What is the impact of foreign investment on ASE performance for the period 1999-2018?

1.3 Research Importance

The importance of this research stems from the fact that ASE is considered to be a financial indicator of the Jordanian economy, the study will also clarify the factors that may impact the performance of ASE because of its great role in influencing the state’s economy (Albaas, 2017). These factors include inflation rate, interest rate, economic growth rate, and foreign investment,
since there are limited studies that linkage them together in one research specifically in Jordan. Thus, it will form a motivation for other researchers to do more researches in this area of expertise. In addition, based on the contributions which would come from the relationships among variables, this research will contribute theoretically and empirically by the proposed model.

1.4 Research Objectives

As Amman Stock Exchange play a major role through reflecting the economic condition of the country, it is very essential to investigate into factors that may affect its performance. Thus, the main objective of this research is to explore factors that may possess an impact on ASE performance for the period 1999-2018. Based on that, the following sub-objectives have been raised:

1. Investigate the impact of inflation rate – INR on ASE performance for the period 1999-2018.
2. Investigate the impact of interest rate – IR on ASE performance for the period 1999-2018.

1.5 Research Hypotheses

The main hypothesis of this research (H₀): There is no statistically significant impact of INR, IR, EGR and FI all together on ASE performance.

From the main hypothesis, the following sub-hypotheses have been raised:
H$_{01}$: There is no statistically significant impact of inflation rate – INR on ASE performance.

H$_{02}$: There is no statistically significant impact of change in average interest rate - IR on ASE performance.

H$_{03}$: There is no statistically significant impact of economic growth rate - EGR on ASE performance.

H$_{04}$: There is no statistically significant impact of foreign investment - FI on ASE performance.

1.6 Organization of Chapters

This research consists of five chapters, as the first chapter has presented the introduction, research questions, research importance, research objectives, and research hypotheses. The second chapter focuses on describing financial markets and their rules and importance, ASE and factors affecting it, including inflation rate, interest rate, economic growth rate, and foreign investment, previous literature, and research gap and contribution. The third chapter presents detailed information on research methodology, as it comprises of research design, operationalization of variables, sampling and population, data collection, definition of terms and concepts, research model, research determinates, and data analysis. While chapter four presents an analysis of the data collected, which include introduction, co-linearity statistics, descriptive analysis, testing hypotheses, and discussion. The last chapter is chapter five, which provides a conclusions of the research according to the analysis and discussion of the results and give recommendations accordingly.
Chapter Two

Literature Review
Chapter Two

Literature Review

2.1 Financial Markets

The stock market is a basic pillar of the financial system structure in contemporary economic systems, because of the crucial role these markets play in mobilizing domestic savings and directing them in investment channels that support the national economy and increase rates of economic well-being for its members, as well as being a mirror of the country’s economic condition (Sharif et al., 2015). As a result of the strong links between the stock market and the economy, the stability and growth of these markets were considered a measure of the success of the country’s general economic policies, as the stock market performance indicators were considered effective in determining the trends of economic activity (Sulong et al., 2018).

The term financial markets are a broad term that describes any market in which securities are traded, including stocks, bonds, currencies and derivatives, so the financial market refers to the place or frame in which the seller and buyer are contacted through intermediaries or directly to trade in securities and cash (buying and selling) of all kinds of instruments (Al-Abedallat & Al Shabib, 2012). Moreover, financial markets can be defined as the organized means through which, the demand and supply of money are combined whether by direct or indirect contact through companies operating in this field (Salameh & Alzubi, 2018). Additionally, the financial markets are those markets in which securities are traded at the national and international levels, where investors or traders buy and sell these securities to reap potential profits while trying to keep their risks limited (Banerjee et al., 2016). Thus, financial markets can be defined as the place...
that creates a mechanism for the issuance and exchange of financial assets in light of an organized structure of financial institutions in order to protect the national economy by providing the necessary guarantees for dealers within this market (Moqbel et al., 2015).

Many traders tend to focus on a single financial market, but it is important to have a comprehensive view of all financial markets, as they may affect each other. Some of these financial markets are inherently more inclined to be long-term, short-term, or a combination of both, the mortgage market, for example, is where many long-term loans originate, while financial debt markets are focused on the short-term (Ruhani et al., 2018). Financial markets have economic functions that may not be clear, but in reality they represent the link between the different sectors of society, that is, between savers and producers. So sectors need to invest their savings in more beneficial and ambitious projects, and productive sectors always need financial resources to help them continue to perform their economic function. As the financial markets perform their basic economic function by transferring surplus funds (savings) from the sectors they own to those sectors that have a shortfall in funds (Salameh & Alzubi, 2018).

2.1.1 The Role of Financial Markets

Financial markets play a very vital role in the country, it aims at providing a fair, efficient and transparent market, secure a strong and safe environment for securities trading, develop savings by investing them in securities to serve the national economy, and regulate the issuance of securities and their ease of handling (Ali et al., 2018). The financial markets play an important role in achieving the optimal allocation of society's resources, especially if these markets are characterized by efficiency, meaning that these resources are referred to the most efficient
enterprises that society sees as a benefit to its members (Banerjee et al., 2016). According to Betz (2016), financial markets perform three basic economic functions:

1- The first function is to determine the fair price of assets that are traded on the money market.
2- The second function is to provide liquidity to the owner of financial instruments, as the financial markets provide the investor with the mechanism necessary to sell financial assets at a fair price.
3- The third economic function is to reduce the costs of financial operations; without efficient financial markets these costs will be high.

In view of the importance of the financial market in maximizing wealth, many investors have tended to trade in the financial market and study and determine the factors that affect stock returns (Salameh & Alzubi, 2018). These factors were divided into external factors which are the factors affecting the company's business, as the company has no control over its occurrence such as inflation rate, interest rate, the public budget deficit, the balance of payments, and economic growth rate, as well as internal factors that are related to the internal environment of the company such as the number of the company's employees and the company's capital (Islam et al., 2015).

The stock market is a physical or virtual space in which sellers and buyers gather to trade securities, as the exchange rates in the stock market are determined according to the law of supply and demand. The stock market includes a primary market (the issuing market) in which the securities are offered for the first time, and a secondary market in which the previously issued securities are traded (Sulong et al., 2018). The quality of securities traded in each market varies
according to the level of development of this market. They generally include the following securities (Akileng et al., 2018):

- **Stocks:** negotiable equity papers, with each stock representing a fixed share of the capital of joint stock companies.
- **Bonds:** debt securities have two types: private (corporate bonds) and government (treasury bonds).
- **Futures contracts:** contracts that require the contractor (seller or buyer) to buy or sell a specific asset (commodities or securities) on a future date and at a predetermined price.
- **Options:** non-binding contracts that give the contractor (seller or buyer) the right to buy or sell a specific asset (goods or securities) at a predetermined price when their maturities are due.

Investors in securities are generally exposed to several types of risks, the degree and strength of which vary according to the type of investment, its time, the form of the investment instrument, and the investor’s conviction in taking this risk resulting from a desire to achieve an expected return of the investment process in the securities. According to Shkolnyk et al. (2019), there are many types of risks, such as:

- **Market risk:** These are the risks resulting from unexpected fluctuations in the market. These fluctuations include changes in interest rates, equity indices, and exchange rate.
- **Interest rate risk:** the market interest rate changes according to the impact of strong supply and demand on different financial assets, as well as prevailing inflation rates, whether the economy is characterized by recovery or contraction. In particular, risks arise
in bonds due to the adverse relationship between bond market prices and market interest rates.

- **Liquidity risk**: These are the risks associated with the investors’ inability to sell their shares or bonds, and convert them into cash when they need money, due to the lack of demand for them.

- **Inflation risk**: Inflation leads to a decline in purchasing power, that is, the possibility of insufficient future returns resulting from an investment in obtaining goods and services that can be purchased. In other words, the money is exposed to a decrease in its real value, even if the monetary value of the investment increases.

### 2.1.2 Importance of Financial Markets

The importance of financial markets is highlighted by the fact that they are an accurate indication of the confidence in the economy of any country, where businessmen and investors monitor the market carefully, because it is the measure that can be taken as an accurate indicator about the investment and economic climate that surrounds the business circle (Aldass, 2017). Through financial markets, the movements of the concerned economy can be accurately recorded to reflect the stagnation, recovery or growth experienced by the economy. In addition, financial markets play a major role in implementing the nation's monetary policy, whereby the central bank can play an effective role in changing interest rates and controlling the reserves of commercial banks, and thus the central bank can achieve the monetary policy goals it desires (Ali et al., 2018). Furthermore, the financial markets organize and control the issuance of securities and their dealers alike to ensure the safety and speed of this transaction, which provides a guarantee for small savers and reflects positively on the economic situation in general (Al Qaisi
et al., 2016). In addition, the financial markets achieve justice in determining stock prices, meaning that the stock prices are not determined by brokers, stock traders or negotiations, but rather through public auctions, and therefore they reflect a more accurate picture. Finally, financial markets lead to lower costs of short-term financing that causes a rise in production capacity, which creates a real and solid economic recovery and prosperity (Sulong et al., 2018).

2.2 Amman Stock Exchange - ASE

ASE seeks to be the most important stock exchange in the region by providing all the necessary technical and legislative means to make it a focus of attention and attraction for local and foreign investors, by providing a fair market for dealing in securities characterized by a high degree of transparency, efficiency, liquidity and depth (Al-Tal, 2014). ASE was established on March 11, 1999 under the Securities Law as an independent administrative and financial institution, managed by the private sector, since it is not intended for profit, and entrusted with it to play the executive role as an organized market for the trading of securities in Jordan under the supervision of the Securities Commission (Shaban et al., 2017).

ASE is managed by a seven-member board of directors and an executive director who manages and monitors the daily business of the exchange. Membership of ASE consists of financial intermediaries and any other bodies specified by the Board of Commissioners of the Securities Commission, who constitute the Stock Exchange's General Authority. ASE is committed to providing principles of fairness, transparency, efficiency and liquidity, as ASE seeks to provide a healthy environment for securities trading, establish the foundations of sound and fair trading, and protect the dealers in the capital market. To do this, ASE implemented regulations and
instructions that are in line with international standards. Also, ASE provides electronic systems, interconnection facilities, and halls equipped with modern tools and technical means in order to monitor trading operations in the market and coordinates with the Authority in following up on these operations (Khasawneh & Staytieh, 2017).

ASE is keen on establishing cooperation relations with international stock exchanges, associations and organizations and entering into agreements with them, and participating in Arab and international conferences and seminars, as it is an active member of the Arab Stock Exchanges Union, the European Asian Stock Exchanges Federation, the International Federation of Exchanges, and the International Organization of Securities Authorities (Saymeh & Salameh, 2019). One of the most important future projects for ASE is to seek full membership in the International Federation of Exchanges, and update its technical structure, especially the trading system, the extensive land network, and the development of control, inspection and communication systems with brokers and shareholding companies, in addition to developing ways of disseminating information and restructuring all Its publications, especially the monthly statistical bulletin and corporate shareholder guide (Areiqat et al., 2019).

ASE recently started adopting a new sectorial distribution of its listed companies, in a manner consistent with international standards in this field, and helps investors in creating a clearer picture about the listed companies to make their investment decisions in an easy and safe way, as this distribution is distinguished in showing the nature and goals of companies ‘work in a clearer and more accurate way, which facilitates the financial analysis of the company and its comparison with similar companies and the sector to which it belongs (Al Omush et al., 2019). ASE has also developed a new record based on free stocks, as this record is calculated by
weighting the market value of free shares available for trading in companies and not by the total number of shares listed for each company. It should be noted that this method is supported by a large number of international institutions that calculate records for most of the countries of the world (Al-Othman & Al-Zoubi, 2019). This record is characterized by the fact that it better reflects stock price movements in the market, mitigates the influence of companies with a large market value, and gives more opportunity to small and medium-sized companies to influence their movements. Moreover, one of the most important future projects of the ASE is updating its technical structure, especially the trading system and the vast land network, developing control and inspection systems, and contacting brokers and joint-stock companies, in addition to developing the means of disseminating information and restructuring all its publications, especially the monthly statistical bulletin and the shareholder companies’ directory (Khasawneh & Staytieh, 2017).

2.3 Factors Affecting Amman Stock Exchange Performance

In general, the issue of factors affecting stock prices occupies an important place in the literature of management and financial markets, it represents a broad field for applied studies, as there are many studies and writings on this topic, some of which focused on studying these factors individually and some that focused on them together in varying proportions, so most of the decisions made by joint-stock companies are based on the factors that affect their stock prices, so it is necessary to know the most important factors that affect the prices of these companies’ shares and lead to their rise and fall on the stock market (Saymeh & Salameh, 2019). The explanation of what happens in the financial markets and the reasons behind its fluctuation may be attributed to many variables which is usually because of information leakage that may be
internal and related to the company or due to some external factors that related to some economic activities outside the control of the company (Al Oshaibat, 2016). The factors that may impose an impact on ASE performance are classified into:

2.3.1 Inflation rate

Inflation is considered one of the most important phenomena experienced by countries all over the world, especially at the present time, and this due to many economic, political and social instability (Megaravalli & Sampagnaro, 2018). Inflation is one of the variables that affect the economy at the macro level, as it is represent a continuous increase in prices without an increase in income, and thus leads to a decrease in equity returns. Inflation is a monetary phenomenon represented by the general rise in the price level, expressed in cash, as a result of the issuance of a quantity of money that exceeds the real need of the economy, an increase in total demand, or a decrease in the total supply. The main result of this phenomenon is a decrease in the purchasing power of money and its inability to perform its basic functions (Bai, 2014).

Inflation rate is one of the most important variables of the global economy, as it can be defined as the continuous increase or decrease in the general level of prices in the value of cash (Daferighe & Sunday, 2012). Inflation arises in times of economic crisis when there is no confidence in governments that is characterised by budget deficits. Moreover, inflation rate leads to a decrease in the purchasing value of different currencies, as the continuous increase in prices leads to a decrease in the purchasing power, as the money itself buys things less than it did before. Inflation is caused by a group of reasons, the most important of which is an economic imbalance resulting from a decrease in the total supply, that is, the economy reaches a stage in which it depends on all elements of production operation, which leads to the inability of the
production system to provide all the needs of high demand (Al-Abbadi & Abdul-Khaliq, 2017).

The high rate of inflation is frightening to investors because inflation means an actual decrease in the value of their money associated with that investment, as well as the low value of the returns that they expect from their investments (Shula, 2017).

With the increase in the rate of inflation, the total returns to companies will rise, and the total costs will not increase by the same amount for a period of time, because the wages that constitute the bulk of the total costs usually depend on long-term contracts in most industries (Geetha et al., 2011). The increase in the inflation rate causes an increase in the net income of companies for a few years, and accordingly the real value of stocks that represent the present value of future cash flows should increase. From the above, it can conclude that there is a positive causal relationship that goes from inflation to stock prices (Eldomiaty et al., 2019).

2.3.2 Interest rate

The basic interest rate set by the central bank has a significant impact on the country's inflation rate. It is well known that, monitoring and analysing interest rate is one of the most important concepts in the analysis of the stock market and the economy as a whole (Cairns, 2018). Interest rate is the percentage that the lender or companies’ charges for using the assets, expressed as a percentage of the capital, as the rise or fall of the interest rate affects the stock markets indirectly through companies’ financial capacity (Al Oshaibat, 2016). The increase in the interest rate leads to a rise in the exchange rate of the currency, and thus affects the stock market so that it pushes investors away from the stock market, and vice versa (Khalid, 2017). From the modern monetary school's point of view, the interest rate is determined by the savings and production forces,
therefore it links to production in terms of the demand for investment and the production conditions in each country (Er & Vuran, 2012)

Interest rate is the price paid on borrowed money, which in turn invested in economic activities with a view to generating returns on a continuous basis. The interest rate in any country is determined by several factors, since the main factor is the demand and supply of money, as it includes some other factors such as economic growth, monetary policy followed by central banks, the rate of inflation, and others (Ramsharan, 2019). The central bank usually uses interest rates as a way to reduce inflation in the economy. If the central bank changes interest rates to reduce inflation, it indirectly affects the performance of the stock market. Ultimately, this will have an impact on the overall economic development of the country. Thus, determining the optimal interest rate is a very important decision and must be taken regularly. Therefore, the Board of Directors of the central bank meets every month in order to make a decision on the interest rates that is appropriate to the country’s economy (Al-Tamimi et al., 2011).

The change in interest rates greatly affects the movement of securities’ prices that is traded on the stock exchange, whether stocks or bonds, because high interest rates make these securities uncompetitive, which leads investors to dispose of them by selling and resorting to employing money in an investment that yields a higher return (Geetha et al., 2011). In general, it can be said that expecting higher interest rates leads to lower stock prices, for example in the event of high interest rates, the investor must buy more liquid investments and debt instruments with a short maturity period, such as treasury bills, shares of investment funds and deposits (Shula, 2017). In addition, high interest rates make investing in bonds more attractive due to their characteristics
in terms of returns and risks. This may push investors to adjust their investment portfolios by buying bonds and selling shares, which adversely affects stock prices (Eldomiaty et al., 2019).

As for shareholders, a higher interest rate may cause economic growth rates to tilt toward a downward trend, due to the higher cost of borrowing. This would lower the aggregate demand levels, and thus the corporate profits would decrease. This may push companies to distribute less profits (dividend) or perhaps achieve losses, which negatively affects the market stock prices. On the other hand, high interest rates make banks deposit more attractive alternative compared to investing in stocks thus, taking a greater risk (Amarasinghe, 2015).

### 2.3.3 Economic growth rate

Economic growth occurs as a result of increase in demand for goods and services, where high demand stimulates an increase in the rate of production and manufacturing, through the consumption of a lot of resources and raw materials, where the required quantities of products can be provided through the optimal use of the available resources, with the aim of increasing goods at the lowest cost, and raising the average income of individuals, in addition to reducing the waste of resources (Camilleri & Galea, 2019). In general, economic growth leads to an increase in the income level of society that raises the level of savings, which finds its way towards more investments in the stock market, so the demand for buying stocks increases and their prices also increase (Sharabati, 2013).

The growing importance of financial markets worldwide has reinforced the general conviction that finance is an important component of economic growth. In theory, the stock markets actually reflect the economic conditions of the country, as if the economy is growing, the total
output will increase so that most companies will witness an increase in profits, and therefore the stocks of these companies will become more attractive to dealers in the financial markets because they can give greater profits to their holders (Sattar et al., 2018). But if the economy is expected to enter into a recession, then the stock markets will decline in general, this is because recession means lower profits and thus less dividend, so that there is even a possibility that some companies will be forced to bankruptcy, and such developments will represent bad news for shareholders (Masoud, 2013).

However, Bist (2018) indicated that there is a negative correlation between economic growth and stock market, meaning that countries with the highest rates of economic growth often have the worst stock markets. The biggest reason for this non-intuitive result is that the long-term correlation between GDP growth and earnings per share growth (EPS) that many believe is non-existent. In addition, Er & Vuran (2012) illustrated that GDP’s growth and stocks are linked to positive returns. In the short term, as this relationship is not as strong as it should be (average for developed countries is about 0.32) but it is at least a reliable sign. In the short term, high rates of GDP growth are associated with a periodic profitability supplement, while long-term economic growth has no such impact.

2.3.4 Foreign investment

In the light of globalization, liberalization of international trade, free movement of capital, the global new system is characterized by increasing in the volume of foreign investment, where countries seek all means to create a more favourable environment for investments, with the necessity of taking into account development requirements and adopting policies that would achieve the maximum benefit from these investments and avoid the negative consequences
arising therefrom. Foreign investment is the ownership of one of the investors or institutions a capital asset in part or in whole in another country and it is mostly long-term, since this type of investment provides many advantages for both countries, due to the transfer of technology and technical expertise (Akalpler & Adil, 2017). The concept of foreign investment in securities involves those investments directed to buying securities that are issued by public or private bodies in developing countries, provided that foreigners have the right to manage the project, make decisions or control those projects related to its investments. Foreign investment benefits the real sector of the economy, as it can complement domestic savings to improve the rate of investment through the availability of foreign exchange in developing countries, however, one of the major downsides of foreign investment is the difficulty of controlling the financial markets, as these investments may withdraw suddenly, which will negatively affect the stability of the stock market performance (Gui-Diby, 2014).

Some economists believe that there are some risks associated with foreign investment in the securities portfolio, especially if these inflows are short-term and highly volatile, which may harm the stability of the overall economy (Kim & Jo, 2019). In the event of increased capital flows for investment, when these investments flow in large quantities and suddenly, they lead to a rise in the national currency (due to the increase in demand for it), which is harmful to exports and increases imports, so the deficit in the trade balance increases. This is in addition to the expansion in the size of local financial assets and the increase in demand for local commodities, which results in an increase in inflation rates (Gupta et al., 2012).

On the other hand, it is possible for foreign investors to make a sudden decision to leave the country in which they are investing in, which may have severe damage in terms of major
fluctuations in exchange rates or increase in interest rates (Akalpler & Adil, 2017). Moreover, Abubakar & Danladi (2018) clarified that escaping foreign investment leads to a decrease in the national currency exchange rate, deterioration in the prices of real estate and financial assets and profit rates, an increase in the balance of payments deficit, loss of confidence of foreign investors in the local market, and exhaustion of the country’s international reserves especially if the central bank tries to defend the exchange rate of the national currency with strong pressure to deteriorate the value of the currency. In this regard, Kim & Jo (2019) stressed the importance of reducing the risks that economies are exposed to in developing countries from sudden entry, as well as the sudden exit of foreign capital by setting controls ranging from specifying the percentage that a foreign investor can own in a company, to the imposition of high taxes that limit the possibility of transferring money back to the country of origin.

There are supporting and opposing views for foreign investment in developing countries. Supporters of foreign investment are based on a set of advantages that they see as justifications for attracting foreign investment, the most prominent of which are (Kim & Jo, 2019):

1. Foreign investment helps the country’s central bank maintain a comfortable reserve of foreign exchange.

2. Foreign investment leads to the use of advanced technology, which will lead to lower production costs and improved product quality.

2. The foreign investor shall provide expertise and training to the appropriate local labour in this field as a result of possessing efficient performance.
3. The host country benefits from foreign investment as a result of the increase in the tax resources imposed on this investment.

4. The foreign investor may undertake some projects that build the economy, which will increase economic growth.

On the other hand, there are those who oppose foreign investment based on a set of disadvantages, the most prominent of which are the following (Gupta et al., 2012).

1. The foreign investor is usually directed towards the projects that achieve the highest profits as soon as possible, regardless of the economic and social development needs in the host country.

2. Foreign investment directly and negatively affects national projects that are not yet able to compete with similar projects that will be evaluated by the foreign investor, which weakens the local economy in the event of the withdrawal of the external investor.

3. The foreign investor often transfers profits abroad, which does not help the financial accumulation in the host country.

4. Foreign investment may expose the host country to economic instability, as this investment is characterized by rapid vulnerability, volatility and instability, which loses the developing country the ability to make the appropriate economic decision.

2.4 Literature Review

Several applied studies have been conducted to study various factors impacting the performance of the stock market. This section will explore the research's terms and the previous studies that
have been investigated. Aydemir & Demirhan (2009) sought to address the causal relationship between stock prices and macroeconomic factors such as interest rates, inflation, exchange rates, money supply, and the real economy, by using the monthly data covering the period from January-1998 to December-2008 in Turkey. For the purpose of identifying the type of this relationship, a model causality Granger was used. The results of the study indicated that there is a causal relationship between the interest rate and inflation rate, and the returns of the stocks. Also, the results analysis reached that the interest rates (CPI, PPI) are the negative determinants of stock prices. In addition, the study found that the stock markets are responding to monetary policy changes in a way that is not homogeneous, as the foreign investors will react more strongly to the unexpected and sudden changes in monetary policy. The study recommended that the imbalance in the mechanism of transmitting monetary policy impact through the interest rate channel to the financial market should be addressed.

Oskooe (2010) revealed relationship between stock market performance and economic growth in Iran. The data consisted of 45 observations during the period from 1997 to 2008, including Gross Domestic Product (GDP) and Iran stock market index (BPI). The results showed that there was a direct relationship between stock market performance and economic growth rate during the study period. Financial market activity in general is linked to economic growth, as the recession leads to a general decline in economic activity, which in turn leads to a decrease in demand for the production of all establishments and slow sales movement, which leads to a sharp reduction in profit margins, and hence lower share prices. The study indicated that the prices of securities, especially stocks, move in a coordinated and systematic manner with the
movement of economic activity, and at specific time intervals. As the stability and performance of financial markets in the best manner depends on the stability of economic activity.

Atiq & Rafiq (2010) studied the macro-economic variables affecting stock prices of the financial sector during the period 2001-2008 by using multiple regression analysis. As a sample of 15 companies listed on Karachi Stock Exchange was selected. The study found that there is statistical significance of the interest rate and the rate of inflation on stock prices for the same period. The study suggested several recommendations, the most important of which is the need to increase the awareness of investors in the Karachi Stock Exchange about the factors affecting stock prices. In addition, it is necessary to make further studies on the degree of relationship between the market value of shares on the Karachi Stock Exchange and the volatility of other international and domestic markets indices.

Geetha et al. (2011) aimed to clarify the relationship between each of the influencing factors (expected inflation rate, unexpected rate of inflation, exchange rate, interest rate, and gross domestic product) and stock prices in Malaysia, the United States of America, and China. Where the joint integration method and the error correction method were used. The results of this study concluded that there is a long-term relationship between the variables used and stock prices; and there is no relationship in the short term except for the relationship between expected inflation and stock prices in China.

Al-Tamimi et al. (2011) examined external (economic and political) factors and internal factors affecting the behaviour of financial markets. The most prominent macroeconomic variables (such as money supply, level of economic activity, interest rate, exchange rate, inflation) and their
relationship to stocks and bonds were analysed and discussed. Research sample consisted of 17 companies listed on the UAE stock markets during the period of time between 1990 and 2005. The study concluded a set of conclusions and recommendations, the most important of which was the existence of a direct relationship between the changes taking place in (the money supply, the level of economic activity, the rate of inflation) and the performance indicators of the UAE stock markets, while it was found that there was an inverse relationship between the interest rate and the mentioned market performance indicators. Finally, the study recommended the necessity of establishing active and effective centres within the stock markets that allow the investors to see information related to the measures taken by the central bank regarding monetary policy, so that they can reverse them in making the buying and selling decisions related to this securities on the one hand. As well as it is imperative that the monetary authorities balance the benefits and negative impacts of those continents on the performance of the financial markets on the other hand. In order to reduce illegal practices, it is necessary to issue laws and rules to regulate and control the stock market from the risks of fraud and manipulation practiced by a number of brokers and large investors.

On the other hand, Allahawiah & Al Amro (2012) identified the impact of most basic factors affecting market stock price of listed companies in ASE from the respondent's opinions. These factors include internal factors and external factors. The population of the study included the (227) listed companies in ASE, a random sample that of 60 companies was selected. The study adopted descriptive and analytical method. To achieve the objectives of this study, the researchers depended on two types of data that are secondary data and Primary data. For the purpose of testing hypotheses, the study relied on statistical package for Social Sciences (SPSS)
by using appropriate statistical methods. The main results of the study disclosed that internal and external factors do posit an impact on determining the market stock prices of the listed companies in ASE. The most impact was the inflation rate (External Factor), while the least one was attributed to the firm nature of business. The researchers recommended the need to understanding stock market price behavior and should prove valuable to investment in different firms in order to help managers in making their good financial decisions.

In addition, AL-Qudah (2012) identified the factors affecting the return on shares in the Amman Financial Market. The study also sought to identify the most important factors affecting the return on stocks, which causes sharp fluctuation, and to clarify which factors are more influencing than others on stock returns (internal or external factors). The study population consisted of all companies listed on the ASE during the period (2005-2010), as the sample was a random of 15 listed companies in ASE. The study reached to a set of conclusions, the most important of which is the existence of a positive relationship between stock returns and interest rates, as well as the lack of a relationship between the state's public budget deficit and equity returns. The study recommended the need for stock price movements to follow the characteristics of the normal distribution, where investors can expect future stock prices and create a simulation model for expected stock prices.

Mousa et al. (2012) determined the form of the relationship between inflation and stock prices in Jordan, as the study used time series data between 1998 and 2007 in order to achieve study objectives. The results showed that there is an inverse relationship between inflation and stock prices, as not all companies consider stocks an ideal hedge against inflation. The study recommended the necessity of creating an economic climate in order to stabilize the general
economic situation and the activity of companies within the stock market by setting safe and stable economic policies to address unexpected inflation cases.

Er & Vuran (2012) identified the factors affecting the stock return in the Istanbul Stock Exchange, as well as the reason for this sharp fluctuation. Where the study sample consisted of 64 manufacturing firms listed on ISE during the period (2003-2007). The study illustrated that economic growth contributes to an increase in financial activity, as production increases according to the increased demand for products, and this activity is beneficial to all aspects of the economy, which include the level of employment, incomes, and returns resulting from corporate profits. The results indicated economic growth, exchange rate, interest rate, and money supply can be used to explain the stock returns. The study also found that there is a positive relationship between stock returns, the rate of inflation and interest rates, the absence of a relationship between the deficit and the surplus in the balance of payments, and the absence of a relationship between the deficit of the state’s general budget and stock returns.

Moreover, Masoud (2013) studied the correlation between the level of financial markets performance and the fluctuations in economic activity. This research adopted theoretical and empirical literature framework to achieve the study objectives. This study targeted stock markets in Bahrain, Egypt, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Saudi Arabia, Tunisia etc...besides various other nations worldwide over the period from 1990 to 2006. The study reached that there was a direct relationship between stock market performance index and the state of economic activity, where the recession leads to a general decline in economic activity, which in turn leads to reduced demand for the production of all enterprises and a decline in sales. In the case of an economic boom, it may result in an increase in demand for goods and services
produced by productive and service establishments and institutions, which is reflected directly in the increase in demand for shares of companies after the increase in profits. On the other hand, the study showed that the volatility of economic activity can affect the activity of the stock market if corporate activities translate into profits or losses. Accordingly, the market value of projects listed on the stock exchange is also affected by the soundness of the financial and economic status of these projects. The study recommended the need to establish active and effective advisory centres within the financial market to allow investors to have access to abundant and complete information on companies listed in the stock market and the procedures carried out by monetary policy and the Central Bank in particular.

Bai (2014) study showed the impact of inflation rates on the performance of stock market in China, as the impact of inflation on various performance indicators was studied in terms of activity and market liquidity. As the monthly market indices data was used for the period from 2000 to 2010, using the multiple-regression correlation method. As the results of the study revealed that there is a positive correlation between the rate of inflation and the returns of shares, this indicates that investments in the stock market are flourishing regardless of the rate of inflation. The study recommended re-testing in better economic conditions, as the return of the index included many negative values.

Vena (2014) explained the impact of inflation rates on the performance of the Kenyan stock market. Market indices data was used for the period 1998-2013, using the multiple regression method. The study concluded that there is a weak relationship between the inflation rate and the performance of the financial market. This is due to the lack of awareness and experience in investing in this market as it is an emerging market, and therefore it can be said that the
psychological factor plays a big role in the reluctance of investors to invest in the Kenyan financial market. The study recommended the necessity of searching for other variables and studying their impact on the return of the financial market index.

Islam et al. (2015) aimed to identify the most important economic factors affecting the market values of stocks, as well as to determine which factor has a greater impact on the performance of the financial market, through a study of all the 148 stocks listed in the Saudi stock market, for the period between 2002 and 2010. The conclusion of this study revealed that there is a statistically significant relationship between inflation, GDP, exchange rates, interest rates, and oil prices, and the market values of stocks. The study also showed that the interest rate is the most influential factor on the performance of the financial market.

Al Qaisi et al. (2016) identified the factors that affect the stock prices of companies listed on the Amman Stock Exchange, during the period between 2011 and 2015 - which witnessed a significant increase in stock prices - through a sample consisting of (20) insurance companies representing the most important companies in terms of market value and trading volume in the market. Where the data collected from the published information, which included (the closing price of the stocks, the turnover rate of the stocks, the earnings per stock, the share of the stock from the cash dividends) for each company, in addition to interest rates and the inflation rate for the study period. The results showed that the interest rate affects the share price adversely, as this relationship is of statistical significance. Also, there was no proven significant relationship between inflation rate and share price. The study recommended that the depth and breadth of Jordan stock market need to be broadened to reduce the gap between demand and supply.
Aldass (2017) discussed that annual cash dividends are one of the factors that have a significant impact on ASE Performance. A simple random sample was adopted, which consisted of (25) industrial companies listed on ASE during the period of time between 2011 and 2015. In addition, the financial statements and published clarifications were used as study tools to gather information from these companies. The results showed that the increase in dividends will contribute to the high volume of demand, especially from long-term investors, while the value and percentage of cash dividends reflect the strength of companies, their financial solvency and their cash flows. As some of the major investors resort to re-invest part of the cash dividends distributed in the market, which contributes to increase the volume of demand. The study also concluded that interest rate on deposits plays an important role in the market performance as it is considered less risky and a strong competitor to invest in the market, as the Central Bank seeks to reduce the interest rate on loans to reduce the cost of borrowing and increase the volume of credit and purchase, which contributes to rise in shares` market prices. The study recommended the need to enhance the performance of market indices by investing a limited part of its funds in the shares of leading low-risk companies, in addition providing facilities to long term investors in stock market.

Al-Abbadi & Abdul-Khaliq (2017) examined the impact of inflation rate on stock market performance during the period of time between 1978 and 2015. The study showed that the Jordanian economy is suffering from inflation that has emerged as a result of several factors, including wars in neighbouring countries and the absence of realistic economic vision, especially after the global crisis in 2008. The study showed that high inflation rate leads to higher stock prices in the financial market because investment in stocks is a protection from the risks of low
purchasing power of the monetary unit. The results showed that there is a weak positive relationship but insignificant of inflation rate on stock market performance during the study period. In addition, the results showed that an inverse relationship between inflation rate and the total returns of market index. This paper recommended the need to maintain a stable price level ultimately leads to increase in stock market performance.

Shula (2017) revealed a possible relationship between Gross Domestic Product, the interest rate, and inflation rate as independent variables, and the change in the stock prices as dependent variable. A simple random sample was adopted, which consisted of (13) companies listed on the Lusaka stock exchange during the period of time between 1997 and 2012. The results found that there is a negative relationship between the interest rate and the stock prices, since this relationship has important statistical significance. Likewise, no statistically significant relationship has been established between the inflation rate and the stock prices, and this calls for the belief that investor does not currently look at the earnings per share or its cash dividends when buying shares, but rather looks at the capital gain resulting from the change in the stock price.

Saldanli et al. (2017) highlighted the causal relationship of stock prices with a set of macroeconomic indicators such as gross domestic product, exchange rates and money supply. The study sample consisted of 10 banks that are traded on the Istanbul Stock Exchange during the period between June 2007 and October 2016. The study showed that there is no causal relationship between the GDP index and the shares prices of these banks. The study recommended the dealers in the stock exchange to pay attention to financial factors related to the financial performance of the company and non-financial factors related to the environment or all the characteristics of the company when making their investment decisions in the market,
especially those that have an impact on stock prices, in addition to the importance of disclosing this information in a clear and detailed way by companies, in order to use it by the investor in making a healthy investment decision.

Megaravalli & Sampagnaro (2018) study aimed to test the long-run and the short-run relationship between the impact of the inflation rate on the stock return in the India, China and Japanese stock markets, as the study sample included a group of companies in the industrial, services, banking and insurance sectors, during the period 2008-2016. To address this issue, the researchers relied on identical data in the average return per sector, and also used a model to study the correlation between the phenomenon variables to find out the relationship between them. This study concluded that there is a strong negative relationship between inflation and stock returns in the industrial, services, banking and insurance sectors. While, in the short-run, there is no relationship between inflation and stock returns. The research recommended that a need to be extended over a longer period and with several countries including European, US and other developed market.

Shabbir & Muhammad (2019) analysed the impact of foreign investment on stock market returns in Pakistan. Annual time series data was used during the period from 1984 to 2016. The study found that there was a significant difference between the average returns of stocks before and after entering foreign investment, which indicates the impact of foreign investment on the returns of stocks. The results also showed that there was no significant difference between the average number of stocks traded before and after entering foreign investment, which indicates that foreign investment has not affected the number of shares traded. The study recommended that the management of Pakistani stock exchange must develop its activity through the use of
the electronic trading system in its correct manner, like many other financial markets in the world.

Eldomiaty et al. (2019) illustrated the impact of inflation rate and interest rate on stock prices by using the stock duration model. The study population consisted of non-financial firms listed in DJIA30 and NASDAQ100 during the period (1999-2016). The results showed that associations between stock prices and inflation rates are negative, while that associations between stock prices and interest rates are positive. Also, this study clarified that high interest rates attract a lot of savings towards cash deposits, which is at the expense of investing in stocks, so the demand for them to buy decreases and their prices decrease. On the other hand, the high rate of inflation would push the central bank from adopting a restrictive monetary policy (deflationary economic policy), which would result in a decrease in the cash flows of businesses - due to the low demand for their products, which would lead to a decrease in the level of stock prices.

Kim & Jo (2019) mentioned the advantages provided by foreign investment on the Korean stock exchange, and the extent of the investment's contribution to revitalizing the stock market in Korea composite stock price index. To achieve these goals, the case study approach was followed by collecting all lists of net foreign investors’ transactions during the period from January 2007 to December 2008. The study concluded that the capital and foreign flows in the stock market should be directed to underwriting in capital raising, in order to finance the expansion of projects activity and raise the rates of investment, which will lead to improving economic growth rates. The study recommended the necessity of conducting structural reforms before the liberalization of the capital market, and careful financial supervision of these flows through studying the
foreign investor’s behaviour within the markets to develop appropriate policies towards these behaviours and market stability.

### Table 2.1: The Summary of Previous Literature.

<table>
<thead>
<tr>
<th>Author/s</th>
<th>Title</th>
<th>Year</th>
<th>Objective/s</th>
<th>Population and Study Period</th>
<th>Main Result/s</th>
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<tbody>
<tr>
<td>Aydemir &amp; Demirhan</td>
<td>The relationship between stock prices and exchange rates: Evidence from Turkey</td>
<td>(2009)</td>
<td>Addresses the causal relationship between stock prices and macroeconomic factors such as interest rates, inflation, exchange rates, money supply, and the real economy</td>
<td>Monthly data covering the period from January-1998 to December-2008 in Turkey.</td>
<td>- There is a causal relationship between the interest rate and inflation rate, and the returns of the stocks</td>
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<td>Oskooe</td>
<td>Emerging stock market performance and economic growth</td>
<td>(2010)</td>
<td>Reveal relationship between stock market performance and economic growth in Iran</td>
<td>45 observations during the period from 1997 to 2008 in Iran</td>
<td>- There was a direct relationship between stock market performance and economic growth rate during the study period</td>
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<tr>
<td>Atiq &amp; Rafiq</td>
<td>Factors Affecting Stock Prices: A Case Study of Karachi Stock Exchange</td>
<td>(2010)</td>
<td>Study the macro-economic variables affecting stock prices of the financial sector during the period 2001-2008 by using multiple regression analysis</td>
<td>15 companies listed on Karachi Stock Exchange</td>
<td>- There is statistical significance of the interest rate and the rate of inflation on stock prices for the study period</td>
</tr>
<tr>
<td>Al-Tamimi et al.</td>
<td>Factors affecting stock prices in the UAE financial markets</td>
<td>(2011)</td>
<td>Examine external (economic and political) factors and internal factors affecting the behaviour of financial markets</td>
<td>17 companies listed on the UAE stock markets during the period of time between 1990 and 2005</td>
<td>- The existence of a direct relationship between the rate of inflation and the performance indicators of the UAE stock markets - There was an inverse</td>
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<td>Author</td>
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<tr>
<td>Geetha et al.</td>
<td>The relationship between inflation and stock market: Evidence from Malaysia, United States and China</td>
<td>2011</td>
<td>Clarify the relationship between each of the influencing factors (expected inflation rate, unexpected rate of inflation, exchange rate, interest rate, and gross domestic product) and stock prices.</td>
<td>Market indexes in Malaysia, the United States of America, and China - There is a long-term relationship between the variables used and stock prices - There is no relationship in the short term except for the relationship between expected inflation and stock prices in China</td>
<td></td>
</tr>
<tr>
<td>Er &amp; Vuran</td>
<td>Factors Affecting Stock Returns of Firms Quoted in ISE Market: A Dynamic Panel Data Approach</td>
<td>2012</td>
<td>Identify the factors affecting the stock return in the Istanbul Stock Exchange, as well as the reason for this sharp fluctuation.</td>
<td>64 manufacturing firms listed on ISE during the period (2003-2007). - Economic growth, exchange rate, interest rate, and money supply can be used to explain the stock returns - There is a positive relationship between stock returns, the rate of inflation and interest rates</td>
<td></td>
</tr>
<tr>
<td>AL-Qudah</td>
<td>The factors that affect shares’ return in Amman stock market</td>
<td>2012</td>
<td>Identify the factors affecting the return on shares in the Amman Financial Market.</td>
<td>15 listed companies in ASE - The existence of a positive relationship between stock returns and interest rates, as well as the lack of a relationship between the state’s public budget deficit and equity returns</td>
<td></td>
</tr>
<tr>
<td>Author/Title</td>
<td>Main Focus</td>
<td>Methodology</td>
<td>Sample Size</td>
<td>Key Findings</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
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<td>--------------</td>
<td></td>
</tr>
<tr>
<td>Allahawiah &amp; Al Amro (2012)</td>
<td>Factors affecting stock market prices in Amman Stock Exchange: A survey study</td>
<td>Identify the impact of most basic factors affecting market stock price of listed companies in ASE from the respondent’s opinions</td>
<td>60 companies listed in ASE</td>
<td>- Internal and external factors do posit an impact on determining the market stock prices of the listed companies in ASE. - The most impact was the inflation rate (External Factor), while the least one was attributed to the firm nature of business.</td>
<td></td>
</tr>
<tr>
<td>Mousa et al. (2012)</td>
<td>The Relationship between Inflation and Stock Prices (A Case of Jordan)</td>
<td>Determine the form of the relationship between inflation and stock prices in Jordan</td>
<td>All companies listed in ASE for the period 1998 and 2007 in Jordan</td>
<td>- There is an inverse relationship between inflation and stock prices, as not all companies consider stocks an ideal hedge against inflation.</td>
<td></td>
</tr>
<tr>
<td>Masoud (2013)</td>
<td>The impact of stock market performance after economic growth</td>
<td>Study the correlation between the level of financial markets performance and the fluctuations in economic activity</td>
<td>Stock markets in Bahrain, Egypt, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Saudi Arabia, Tunisia etc...besides various other nations worldwide over the period from 1990 to 2006</td>
<td>- There was a direct relationship between stock market performance index and the state of economic activity.</td>
<td></td>
</tr>
<tr>
<td>Bai (2014)</td>
<td>Study on the Impact of Inflation on the Stock Market in China</td>
<td>Show the impact of inflation rates on the performance of stock market in China, as the impact</td>
<td>Stock Market in China for the period from 2000 to 2010</td>
<td>- There is a positive correlation between the rate of inflation and...</td>
<td></td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Year</td>
<td>Summary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------------------------------------------------------</td>
<td>------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vena</td>
<td>The impact of inflation on the stock market returns of the Nairobi Securities Exchange</td>
<td>2014</td>
<td>Explain the impact of inflation rates on the performance of the Kenyan stock market. The returns of shares</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Islam et al.   | Factors affecting the stock price movement: a case study on dhaka stock exchange | 2015 | Identify the most important economic factors affecting the market values of stocks.  
- There is a weak relationship between the inflation rate and the performance of the financial market. |
| Al Qaisi et al.| Factors affecting the market stock price-The case of the insurance companies listed in Amman Stock Exchange | 2016 | Identify the factors that affect the stock prices of companies listed on the Amman Stock Exchange, during the period between 2011 and 2015.  
- There was no proven significant relationship between inflation rate and share price. |
| Aldass         | The impact of cash dividends on the market share price of industrial companies listed at Amman stock exchange | 2017 | Discuss factors that have a significant impact on ASE Performance.  
- The increase in dividends will contribute to the high volume of demand, especially from long-term investors, while the value and percentage of |
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saldanli et al.</td>
<td>The determinants of stock prices: Evidence from the Turkish banking sector</td>
<td>2017</td>
<td>highlight the causal relationship of stock prices with a set of macroeconomic indicators such as gross domestic product, exchange rates and money supply. 10 banks that are traded on the Istanbul Stock Exchange during the period between June 2007 and October 2016. - There is no causal relationship between the GDP index and the shares prices of these banks.</td>
</tr>
<tr>
<td>Al-Abbadi &amp; Abdul-Khaliq</td>
<td>The Relationship between Inflation and Stock Market Performance in Jordan</td>
<td>2017</td>
<td>Examine the impact of inflation rate on stock market performance. Jordanian Stock Market during the period of time between 1978 and 2015. - There is a weak positive relationship but insignificant of inflation rate on stock market performance during the study period. - There is an inverse relationship between inflation rate and the total returns of market index.</td>
</tr>
<tr>
<td>Shula</td>
<td>The impact of GDP, inflation, interest and exchange rates GDP on the stock market in Zambia</td>
<td>2017</td>
<td>Reveal a possible relationship between Gross Domestic Product, the interest rate, and inflation rate as independent variables, and the change in the stock prices as dependent variable. 13 companies listed on the Lusaka stock exchange during the period of time between 1997 and 2012. - There is a negative relationship between the interest rate and the stock prices, since this relationship has important statistical significance. - There is no statistically significant relationship has been established between the</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Methodology</td>
<td>Findings</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Megaravalli &amp; Sampagnaro</td>
<td>Macroeconomic indicators and their impact on stock markets in ASIAN 3: A pooled mean group approach</td>
<td>Test the long-run and the short-run relationship between the impact of the inflation rate on the stock return in the India, China and Japanese stock markets</td>
<td>There is a strong negative relationship between inflation and stock returns in the industrial, services, banking and insurance sectors during the period 2008-2016.</td>
</tr>
<tr>
<td>Kim &amp; Jo</td>
<td>The impact of foreign investors on the stock price of Korean enterprises during the global financial crisis</td>
<td>Mention the advantages provided by foreign investment on the Korean stock exchange, and the extent of the investment’s contribution to revitalizing the stock market in Korea composite stock price index</td>
<td>The capital and foreign flows in the stock market should be directed to underwriting in capital raising, in order to finance the expansion of projects activity and raise the rates of investment, which will lead to improving economic growth rates.</td>
</tr>
<tr>
<td>Shabbir &amp; Muhammad</td>
<td>The dynamic impact of foreign portfolio investment on stock prices in Pakistan</td>
<td>Analyse the impact of foreign investment on stock market returns in Pakistan</td>
<td>Stock Market in Pakistan for the period 1984 to 2016. There was a significant difference between the average returns of stocks before and after entering foreign investment, which indicates the impact of foreign investment on the returns of stocks. There was no significant difference between the stock returns before and after foreign investment.</td>
</tr>
</tbody>
</table>
average number of stocks traded before and after entering foreign investment, which indicates that foreign investment has not affected the number of shares traded

| Eldomiaty et al. | The associations between stock prices, inflation rates, interest rates are still persistent | (2019) Illustrate the impact of inflation rate and interest rate on stock prices by using the stock duration model | Non-financial firms listed in DJIA30 and NASDAQ100 during the period (1999-2016) | -Associations between stock prices and inflation rates are negative, while that associations between stock prices and interest rates are positive |

Source: The Researcher.

### 2.5 Research Gap and Contribution

It is concluded from the above literature review that most previous studies have focused only on a limited number of factors that impact ASE performance. As most of these studies did not take into account all factors that have a significant impact on ASE performance. In developing countries, there are many factors to be aware of, knowing that the factors influencing economic situation in Jordan are different from those in other countries, due to the difficult circumstances experienced by the Jordanian economy, in addition to the events in general in the Middle East. This is a very important point to consider when constructing a framework. This work is to fill the research gap in this area through attempting to benefit from all the above studies in order to collect the largest number of factors that may impact ASE performance, in addition to build a modern framework, not only suited to the situation in Jordan, but perhaps in other countries as well. Furthermore, most previous studies used small samples, so it is difficult to generalize these
results. In this research, the entire market index will be used to ensure the validity of the results and the ability to generalize them. What distinguishes our study is that it attempts to understand and diagnose factors that may impose an impact on ASE performance to assess the situation well, and provide an appropriate suggestions and recommendations to improve that. This research is characterized by its modernity, and therefore takes into account the developments that have occurred in the study environment in the last years, the behaviour of the sample members. In addition to the large number of independent variables that are adopted for this study.
Chapter Three

Research Methodology
Chapter Three

Research Methodology

3.1 Research Design

In this study, descriptive analytical approach was employed in order to perform empirical analysis of all stock prices data related to all listed companies on ASE index, as it is considered one of the most used approaches that is symmetrical to the study’s subject. Moreover, descriptive analytical approach is completely fitting as it’s realistic and precise in description, and it is essential to clarify the examination of the research subject (Creswell & Poth, 2017). Moreover, descriptive analytical approach achieves insight into obstacles and attempt to find a new solution for the current problem. It is also used to detect directions in thinking and views, and split the problem into smaller pieces (McKim, 2017). In this study, the rationale behind using quantitative approach is to give more precision to the study, which will support the results generated with deeper and more detailed information.

3.2 Research Population and Sample

The research population will include all companies listed at ASE and covered within the three main sectors that make up ASE, namely financials, services and industries, as they numbered (191) companies as on Dec 2018, where () companies were from the financial sector, () companies were from the service sector, and () companies were from the industry sector, as shown in the table 3.1. While the research sample will be reflected on listed companies composing ASE index. In this research, ASE performance acted as an indicator to measure the performance of all companies that published their financial statements during the period from 1999 to 2018 (20
consecutive years) and mainly that composes ASE index. The reason for choosing this period is due to the events and changes, whether local or global, that had a clear impact on ASE index fluctuation and movement in particular and the economy in general.

Table 3.1: Research Population and Sample.

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financials</td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td></td>
</tr>
<tr>
<td>Industries</td>
<td></td>
</tr>
</tbody>
</table>

Source:

3.3 Data Collection

The most important stage in the statistical process is the data collection stage, so any error in the data collection process will result in false statistics. Thus, data sources must be correct and accurate, as the results of the study depend largely on how the data are collected as well as the methodological tools used for this purpose (Sekaran and Bougie, 2013). In this research, the researcher relied on secondary sources represented in references, books, periodicals, bulletins, reports, and literatures related to research subject in order to develop the theoretical framework. As for the primary sources of the applied side, they collected from the financial reports of ASE website, and the monthly statistical bulletins issued by the Research and Studies Department of the Central Bank of Jordan (show appendix 1).

3.4 Definitions of Terms and Concepts

The following explains the variables in the conceptual framework.
First - Independent Variables:

**Inflation Rate:** it is an economic term that reflects the rise in the general level of prices for all goods and services, making the purchasing value of the currency decrease, as it is calculated for a specific year considered as a reference point, to be compared according to it (Hansen, 2016). Annual inflation rate as published by Central Bank of Jordan – CBJ was taken for the purpose of this research. Mathematically, according to Ball (2017), it is measured by:

\[
\text{Inflation Rate} = \frac{(T_2 - T_1)}{T_1} \times 100
\]

Where:

\( T_1 \) = Prices for the first time period (or the starting number)

\( T_2 \) = Prices for second time period (or the ending number)

**Interest Rate:** it is the return on the investment capital, which is the price that the investors obtain from giving up their right to dispose of money during the lending period for a specific period of time (Cairns, 2018). The change in average interest rate (Bank Overdraft, Loans and advances and Bills) was used for this study. Mathematically, according to Keynes (2018), it is measured by:

\[
A = P \left(1 + \frac{r}{n}\right)^{nt}
\]

\( A \) = the future value of the investment/loan, including interest

\( P \) = the principal investment amount (the initial deposit or loan amount)

\( r \) = the annual interest rate (decimal)
n = the number of times that interest is compounded per unit t

t = the time the money is invested or borrowed for

**Economic Growth Rate:** it is a measure that is used to evaluate the growth of the economy between various time periods, and it is also a measure of the percentage of changes affecting the country's GDP from year to year (Hartwell, 2017). End of the year EGR was employed for the purpose of this study. Mathematically, according to Zhang (2018), it is measured by:

\[
\text{Economic Growth Rate} = \frac{\text{GDP in current period} - \text{GDP in the previous period}}{\text{GDP in the previous period}} \times 100
\]

**Foreign investment:** it is an investment directed to buying securities that are issued by public or private agencies, or direct foreign investment as permitted by the prevailing rules and regulations. Foreign investments are the purchase of overseas physical and financial assets and this is usually done in order to diversify portfolio risk and to obtain higher returns than could be achievable comparing to domestic investments. Precisely speaking, foreign investments is when a company or individual from one nation invests in assets or ownership stakes of a company based in another nation (Sornarajah, 2017).

**Second – Dependent Variable:**

**Amman Stock Exchange Index:** Since 1980 Amman financial market started to calculate unweighted average for the index consisting of 38 companies from all sectors on the basis of 100 basis points then started on 2004 to calculate the index on 1000 basis points, Then, on 1994 the number of companies included in index calculation increased to 50 companies, then to 70 companies on 2001 then it reached 100 companies on 2007. Companies’ selection was based on
certain criteria such as: Company market value, Number of trading days, stock turnover, trading volume and number of outstanding stocks. Recently Amman stock exchange and as a result of the international development regarding index calculation to be more accurate in reflecting market performance. It adopted an index that is based on free stock (outstanding stocks), in order to represent in a better way stocks movement and reduce the impact of companies with large market value. The largest 100 companies remaining by full market capitalization will be included in the index. Weights of individual stocks are capped at 10% in order to prevent the index from being dominated by individual securities. Since 1999, the number (1000) points was selected as a base for the index number.

3.5 Research Model

![Research Model Diagram]

Independent Variable

- Inflation Rate - INR
- Change in Average Interest Rate - IR
- Economic Growth Rate - EGR
- Foreign Investment (Direct and Indirect) - FI

Dependent Variable

ASE Performance (ASE Index)

**Figure 1.1: Research Model.**

*Source: The Researcher based on the study of Al Oshaibat (2016); Sharabati (2013); Masoud (2013); Akalpler & Adil (2017).*
3.6 Research Determinants

- The current study is limited to investigate the impact of Inflation Rate, Interest Rate, Economic Growth Rate and Foreign Investment on ASE index as a proxy of ASE performance.

- Existing companies listed on ASE from 1999 to 2018 will be studied.

3.7 Data Analysis

Analysing data extracted from various sources is carried out by the researcher for the purpose of obtaining important information to help in the development of scientific research (Simpson, 2015). It is clear that statistics provides a set of methods and technical tools used by the researcher in each step of research from the preliminary stage of research, which includes the selection of study sample and data collection from the field, passing through to classification, summarization, presentation and analysis of that data, until it reaches the stage of drawing conclusions from the study. According to Sekaran & Bougie (2013), the function of statistics is centered on summarizing available data and present it in the simplest and the most appropriate form possible. In this research, SPSS was used to extract regression coefficients for independent variables, by applying Regression Analysis, and extract coefficient of determination $R^2$ to determine as what are the type of variable are responsible for the changes that occur to the dependent variable, and Beta Coefficients ($\beta$) in order to figure out as how the independent variable affect / impact the dependent variables, then it will interpret concluded results and make an appropriate decision base for rejecting or accepting hypotheses.
Chapter Four

Data Analysis
Chapter Four

Data Analysis

4.1 Introduction

The previous chapter discussed the methodology used to achieve the research objectives. Generally speaking, this chapter will emphasise mainly on statistical analysis outcome that were reached through the use of SPSS, which aims to analyse on the significant impact between the proposed constructs in the hypothesized model of the study and to present an explanation and discussion of the results.

4.2 Co-linearity Statistics

To ensure the correlation of the variables to the model being studied, and to ensure that the variables are free of linear and multiple correlation phenomenon, Co-linearity was used as shown in the Table below.

Table 4.1: Co-linearity Statistics for Research Variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflation Rate</td>
<td>0.768</td>
<td>1.302</td>
</tr>
<tr>
<td>Interest Rate</td>
<td>0.628</td>
<td>1.591</td>
</tr>
<tr>
<td>Economic Growth Rate</td>
<td>0.425</td>
<td>2.352</td>
</tr>
<tr>
<td>Foreign Investment</td>
<td>0.336</td>
<td>2.977</td>
</tr>
<tr>
<td>ASE Performance</td>
<td>0.265</td>
<td>3.115</td>
</tr>
</tbody>
</table>

Source: The Researcher.

From the previous Table, it was found that all the parameters (VIF) are greater than 1 and less than 10, which indicates the correlation of the designed model and the chosen variables, it also indicates the absence of the phenomenon of linear and multiple correlation, as the correlations between the variables are all positive (Salmerón et al., 2017). In addition, table 4.1 shows that
the values of tolerance are higher than 0.2, meaning that the non-existence of multi-collinearity problem (Kim, 2019).

4.3 Descriptive Analysis

As previously mentioned, the research sample include all listed companies that composes and reflected in ASE index (performance) and covered under the three main sectors that make up ASE, namely financials, services and industries, as they numbered (191) companies in Dec 2018. Based on that, this section will present a descriptive analysis (mean, median, Maximum, Minimum and standard deviations) that displays related results of each research variable, including inflation rate, interest rate, economic growth rate, foreign investment and ASE performance as shown in Table 4.2

<table>
<thead>
<tr>
<th>Variables</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Median</th>
<th>Mean</th>
<th>Standard Deviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflation Rate - INR (%)</td>
<td>- 0.88</td>
<td>13.97</td>
<td>3.34</td>
<td>3.25</td>
<td>3.22</td>
</tr>
<tr>
<td>Change in Average Interest Rate - IR (%)</td>
<td>-3.26</td>
<td>7.00</td>
<td>-0.01</td>
<td>-0.20</td>
<td>0.71</td>
</tr>
<tr>
<td>Economic Growth Rate – EGR (%)</td>
<td>1.90</td>
<td>7.20</td>
<td>3.15</td>
<td>4.06</td>
<td>1.82</td>
</tr>
<tr>
<td>Foreign Investment – FI (%)</td>
<td>1.91</td>
<td>23.21</td>
<td>5.50</td>
<td>7.57</td>
<td>5.39</td>
</tr>
<tr>
<td>ASE Index - Performance (Point)</td>
<td>1133.10</td>
<td>4260</td>
<td>2131.55</td>
<td>2041.61</td>
<td>1268.41</td>
</tr>
</tbody>
</table>

Table 4.2: Descriptive Analysis of Research Variables.

Table 4.2 shows that the mean, median, and standard deviations of all research variables, as the total mean and median of inflation rate during the years (1999-2018) is (3.25%) & (3.34%) respectively, with a standard deviation of (3.22), where the minimum value is (-0.88%) and the maximum value is (13.97%). As shown in the figure 4.1, it is noted that there has been a clear fluctuation in the values of inflation rate during study period, as there is a slight increase or decrease in the values of inflation rate until the end of 2007. Then inflation rate has increased.
dramatically since the beginning of 2008, as it rose from 4.74% in 2007 to 13.97% in the first half of 2008, such levels of inflation can be discouraging to invest, and thus will definitely affect stock prices and ultimately ASE index. In 2009, the value of inflation decreased dramatically to reach -0.74%, then swing between high and low until 2018.

![Figure 4.1: Jordan Inflation Rate 1999-2018.](image)

**Source:** The Researcher.

Also, Table 4.2 shows that the mean and median of change in interest rate during the years (1999-2018) is (-0.20%) & (-0.01%) respectively, with a standard deviation of (0.71), where the minimum average change in interest rate value by (-3.26%) and the maximum change in interest rate value is (7.00%). As shown in the figure 4.2, the values of interest rate witnessed a relatively stable during the study period except for the year 2018 as it dropped by 3.26% comparing to the year 2017, this means the relative success of monetary policy in maintaining price stability, which brings confidence in Jordanian banking sectors.
Additionally, Table 4.2 shows that the total mean and median of economic growth rate during the years (1999-2018) is (4.06%) & (3.15%) respectively, with a standard deviation of (1.82), as the minimum value is (1.90%) and the maximum value is (7.20%). As shown in the figure 4.3, it is noticeable that the economic growth rates witnessed an acceleration in its dynamism, accompanied by a growth rate of 3.2% between 1999 and 2003. Then, during the period 2004-2009, Jordan witnessed a real economic boom, reaching its highest levels in 2008 (7.20%). After that, it decreased significantly to achieve low levels of economic growth which reached 1.9% in 2018. This high drop due to subprime financial crisis that erupted during 2008.
Moreover, from Table 4.2 we can notice that the value of mean and median related to foreign investment during the years (1999-2018) is (7.57%) & (5.50%) respectively, with a standard deviation of (5.39), as the minimum value of foreign investments in ASE (1.91%) and the maximum value is (23.21%). As shown in the figure 4.4, this factor has undergone several changes due to the circumstances surrounding the countries neighbouring Jordan. It increased significantly in the year 2000 to reach 10.64%, then kept in increasing but with lower rates till 2005 and 2006 as it increased by 15.55% and 23.21% due to the influx of Gulf investors.

Figure 4.3: Jordan Economic Growth Rate 1999-2018.
Source: The Researcher.

Figure 4.4: Jordan Foreign Investment 1999-2018.
Source: The Researcher.
Finally, Table 4.2 also demonstrate that the mean and median value of ASE index performance during the years (1999-2018) is (2041.61) & (2131.55) respectively, with a standard deviation of (1268.41), as the minimum value is (1331.10) and the maximum value is (4260). As shown in the figure 4.5, ASE performance index witnesses a great decline in its performance especially after the eruption of the global subprime financial crisis during 2007-2008. Since the index seemed to rise until it reached its highest value in 2005 (4260 points), after that, it swayed between ascending and descending, ending up with a massive decline comparing to year 2005 from 4260 point to 1908.8 in 2018.

![Figure 4.5: Jordan ASE Performance 1999-2018.](image)

*Source: The Researcher.*

### 4.4 Testing Hypotheses

In this research, multiple regression analysis was adopted in order to test the research hypothesis, which will demonstrate the Impact of INR, IR, EGR and FI as independent variables on ASE performance as dependent variable for the period 1999-2018.

The main hypothesis of this research (H₀): “*There is no statistically significant impact of INR, IR, EGR and FI all together on ASE performance*”.

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Table 4.3: Results of Multiple Regression Analysis – The Impact of INR, IR, EGR and FI

Factors on ASE Performance.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>979.095</td>
<td>340.802</td>
<td>2.873</td>
<td>0.006</td>
</tr>
<tr>
<td>Inflation Rate</td>
<td>48.015</td>
<td>46.359</td>
<td>0.122</td>
<td>1.036</td>
</tr>
<tr>
<td>Interest Rate</td>
<td>332.953</td>
<td>197.511</td>
<td>0.187</td>
<td>1.686</td>
</tr>
<tr>
<td>Economic Growth Rate</td>
<td>46.406</td>
<td>105.825</td>
<td>0.067</td>
<td>0.439</td>
</tr>
<tr>
<td>Foreign Investment</td>
<td>100.332</td>
<td>37.055</td>
<td>0.426</td>
<td>2.708</td>
</tr>
</tbody>
</table>

R = 0.662
R² = 0.387
F = 8.679
Sig. = 0.099

**Significance at the 0.05 level (2-tailed)**

Source: The Researcher.

Multiple regression analysis was used to illustrate the impact of INR, IR, EGR and FI all together on ASE performance, as the Table 4.3 displays the value of Sig. is (0.099), which is more than (0.05) which indicates that there is statistically significant impact of INR, IR, EGR and FI all together on ASE performance at significant level of more than 5% and less than 10%, as these variable can explain 38.7% of the change in ASE index and the remaining percentage may be attributed to other factors. Also F value reached 8.679 which is higher than tabulated f = 1.95 at 5% significance level. Also we can notice from the table above that foreign investment owns the highest impact on ASE performance (β = 42.6%) and that the least impact of the study independent variable is attributed to economic growth rate (β = 6.7%), but this impact is not significant (sig. = 0.663) which higher than 5% (the study significance level).
4.4.1 Testing First Sub-Hypothesis

In this research, simple regression analysis was used in order to test the first sub-hypothesis, which illustrates the impact of inflation rate on ASE performance (ASE index volatility) for the period 1999-2018.

\[ H_{01}: \text{There is no statistically significant impact of inflation rate – INR on ASE performance}. \]

Table 4.4: Results of Simple Regression Analysis – The Impact of Inflation Rate on ASE Performance.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>( R^2 )</th>
<th>F</th>
<th>( \beta )</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflation Rate and ASE Performance</td>
<td>0.622</td>
<td>0.387</td>
<td>8.872</td>
<td>0.122</td>
<td>1.036</td>
<td>0.305</td>
</tr>
</tbody>
</table>

** Significance at the 0.05 level (2-tailed)

Source: The Researcher.

Table 4.4 shows the impact of inflation rate on ASE performance, since the value of \( \beta \) was (0.122), meaning that there is an impact of INR on ASE performance, as an increase in the level of inflation rate by one unit will lead to an increase in ASE performance by a value of 12.2%. Table 4.4 which shows that sig. value is (0.305), which is higher the study significance level of (0.05), which illustrates the non-significance of the model impact according to simple regression analysis, leading to acceptance of the first hypothesis \( (H_{01}) \) which states that: “\text{there is no statistically significant impact of inflation rate on ASE performance}” and accepting the alternative hypothesis.

Regarding the coefficient of determination (\( R^2 \)) which is equal to (0.387), as it is an acceptable value. This means that inflation rate had the ability to interpret 38.7% of the changes in ASE index, as approximately 61.3% of the ASE index changes are due to other variables.
4.4.2 Testing Second Sub-Hypothesis

In order to test the second sub-hypothesis, the study employed simple regression analysis, which demonstrate the impact of interest rate on ASE performance (ASE index) for the period 1999-2018.

\( H_{02} \): There is no statistically significant impact of change in average interest rate - IR on ASE performance.

Table 4.5: Results of Simple Regression Analysis – The Impact of Change in Average Interest Rate on ASE Performance.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R²</th>
<th>F</th>
<th>β</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Change in Interest Rate and ASE Performance</td>
<td>0.349</td>
<td>0.122</td>
<td>8.065</td>
<td>0.187</td>
<td>1.686</td>
<td>0.098</td>
</tr>
</tbody>
</table>

** Significance at the 0.05 level (2-tailed)

Source: The Researcher.

Table 4.5 results reflects the impact of change in average interest rate (Average lending Rate) on ASE performance (ASE index), where \( \beta \) value was (0.187), which indicate that there is a significant impact of change in average interest rate on ASE index, as a one-degree increase in the level of interest rate leads to an increase in ASE index by 18.7%. Moreover, table 4.5 implies that sig. value is (0.098), which is higher than (0.05), which depicts the non-significance of the model impact according to simple regression analysis. This will lead us to accept the second sub-hypothesis \( H_{02} \), that is, “there is statistically no significant impact of change in average interest rate on ASE performance”. However, the coefficient of determination \( (R^2) \) was equal to (0.122) which is low and indicates that, change in average interest rate variable had the ability to explain only 12.2% of the change in ASE performance. Considering the correlation between the
independent variable change in average interest rate and the dependent variable ASE index as a proxy for ASE performance it was low as it amounted to 34.9%.

4.4.3 Testing Third Sub-Hypothesis

In this research, simple regression analysis was used in order to test the third hypothesis, which illustrates the impact of economic growth rate on ASE performance for the period 1999-2018.

\( H_{03} \): There is no statistically significant impact of economic growth rate - EGR on ASE performance.

Table 4.6: Results of Simple Regression Analysis – The Impact of Economic Growth Rate on ASE Performance.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>( R^2 )</th>
<th>F</th>
<th>( \beta )</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Growth Rate and ASE Performance</td>
<td>0.452</td>
<td>0.204</td>
<td>14.869</td>
<td>0.067</td>
<td>0.439</td>
<td>0.663</td>
</tr>
</tbody>
</table>

** Significance at the 0.05 level (2-tailed)

Source: The Researcher.

As shown in table 4.6, the impact of economic growth rate on ASE index as proxy for ASE performance, where the value of \( \beta \) was (0.067), meaning that there is an impact of economic growth rate on ASE performance, as if the level of economic growth rate increased by one unit, this will lead to an increase in ASE performance by a value of (0.067). Table 4.6 show that the value of sig. is (0.663), which is higher than (0.05), this illustrates the non-significant impact economic growth rate as independent variable on ASE index. This will lead us to accept the third sub-hypothesis \( H_{03} \), which states: “There is no statistically significant impact of economic growth rate - EGR on ASE performance”. Moreover, calculated F value was equal to (14.869) at the significance level (0.05), since it is greater than F statistic value (1.95). However, the coefficient of determination \( (R^2) \) was equal to (0.204), as it is an acceptable value. This means that economic growth rate was able to interpret 20.4% of the changes in ASE performance.
4.4.4 Testing Fourth Sub-Hypothesis

In this research, simple regression analysis was used in order to test the fourth hypothesis, which illustrates the impact of foreign investment on ASE performance for the period 1999-2018.

\[ H_{04}: \text{There is no statistically significant impact of foreign investment} \quad – \quad \text{FI on ASE performance.} \]

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>( R^2 )</th>
<th>F</th>
<th>( \beta )</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Investment and ASE Performance</td>
<td>0.579</td>
<td>0.335</td>
<td>29.264</td>
<td>0.426</td>
<td>2.708</td>
<td>0.009</td>
</tr>
</tbody>
</table>

** Significance at the 0.05 level (2-tailed)

Source: The Researcher.

From the results shown in table 4.7 related to the impact of foreign investment (direct and indirect) on ASE performance, which shows that the value of \( \beta \) was (0.426), meaning that foreign investment does possess a significant impact of on ASE performance, as a one-degree increase in the level of foreign investment leads to an increase in ASE performance by 42.6%. Additionally, table 4.7 shows that the value of sig. is (0.009), which is less (0.05), that implies the significance of the impact according to simple regression analysis, leading to rejection of the fourth sub-hypothesis (\( H_{04} \)), that is: There is no statistically significant impact of foreign investment – FI on ASE performance. Regarding the coefficient of determination (\( R^2 \)) was equal to (0.335), as it is an acceptable value. This means that foreign investment had the ability to explain 33.5% of fluctuation in ASE performance, as approximately 61.5% of the changes of other random variables.
4.5 Discussion

The results of regression analysis showed that, there was no statistically significant impact of inflation rate on ASE performance. This result is inconsistent with Eldomiaty et al. (2019); Shula (2017); Megaravalli & Sampagnaro (2018). This is due to the fact that inflation is a reflection and a consequence of the economic policies followed by an impact on prevailing prices as any increase in inflation rate will lead to increase in goods and services prices. In fact, the presence of inflation in the national economy means the failure of economic policies to achieve one of its most important goals, which is maintaining general price stability. The high rate of inflation is not desirable to current and potential investors because inflation means an actual decrease in the intrinsic of their money associated with their investment, as well as the low value of the returns that they expect from their investments. In other words, the rise in the general level of prices creates a state of uncertainty and increases the risk of investing in financial assets, as high rates of inflation lead to higher sales of stock, which pushes the prices of stocks in the financial market towards an increase.

The results also incline that there was no statistically significant impact of average lending interest rate on ASE performance (as a proxy for ASE volatility). This result is inconsistent with Al Oshaibat (2016). The reason behind this result may be due to the fact that interest rates are still high and have not moved sufficiently to motivate fixed-vessel investors to invest in the stock market, where it is known that lowering interest rates is to have positive impact on the stock market trading, because lowering interest rates causes companies with high loans to reduce the financing costs they incur due to the huge debts. The central bank is running interest rates according to certain determinants in order to move the wheel of production on the one hand,
and to dominate inflation rates on the other hand, expecting the stock market to remain in a state of anticipation until a further reduction in the interest rate. Whereas, the Jordanian economy has gone through difficult periods since 2004, during all those years, there have been no adequate movements.

Additionally, regression analysis outcomes proclaim that, there was no statistically significant impact of economic growth rate on ASE performance. This result is inconsistent with Er & Vuran (2012), Ho (2017). As financial experts linked their expectations to the improved performance of ASE with the high rate of economic growth. So encouraging investment and granting it facilities to stay in the Kingdom or attract new investors is one of the most important element to enhance market performance. As improving the wheel of production by simplifying procedures and instructions and reducing costs will lead to a boom in growth, thus it is reflected on the stock exchange stock prices, which is the mirror of the economic activity level.

Finally, analysis results showed there is statistically significant impact of foreign investment on ASE index movement. This result is consistent with Gupta et al. (2012). There is no doubt that foreign investment is one of the major factors that contributes to the development of financial markets, and won the attention of many countries to attract foreign capital, because of its close relationship with developing investment environment and stimulating the flow of funds in order to accelerate the desired economic development wheel. Subsequently, foreign investment can achieve discipline and expertise in the local capital markets, especially regarding transparency and clarity of information, which is one of the most important requirements for the development and acceleration of investments in developing countries.
Chapter 5

Conclusions and Recommendations
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Conclusions and Recommendations

This chapter will present conclusions after analysing the results that derived from SPSS. In addition, this chapter will provide some recommendations that researchers and decision makers can benefit from.

5.1 Conclusions

The key findings of the research were as below:

- The mean and median value attributed to inflation rate during the years (1999-2018) is (3.25) & (3.34) respectively, with a standard deviation of (3.22), where the minimum value is (-0.88) and the maximum value is (13.97).

- Change in average interest rate mean and median value during the years (1999-2018) is (-0.20) & (-0.01) respectively, with a standard deviation of (0.71), where the minimum value is (-3.26) and the maximum value is (7.00).

- Total mean and median value of economic growth rate during the years (1999-2018) is (4.06) & (3.15) respectively, with a standard deviation of (1.82), as the minimum value is (1.90) and the maximum value is (7.20).

- Table 4.1 shows that the total mean and median of foreign investment during the years (1999-2018) is (7.57) & (5.50) respectively, while the standard deviation value was (5.39), as the minimum value is (1.91) and the maximum value is (23.21).
- Total mean and median of ASE performance during the years (1999-2018) is (2041.61) and (2131.55) respectively, with a standard deviation of (1268.41) and the minimum value is (1331.10) and the maximum value is (4260).

- The results indicated that there is no statistically significant impact of INR, IR, EGR and FI all together on ASE performance, as the value of sig. (0.099), which is less than (0.05).

- The results indicated that there is no statistically significant impact of inflation rate – INR on ASE performance, which means the acceptance of the first hypothesis (H\textsubscript{01}), as the value of sig. is (0.305), which is higher than (0.05), and the value of β was (0.122).

- The results indicated that there is no statistically significant impact of average change in interest rate - IR on ASE performance, which means the acceptance of the second hypothesis (H\textsubscript{02}), as the value of sig. is (0.098), which is higher than (0.05), as well as the β value was (0.187).

- The results indicated that there is no statistically significant impact of economic growth rate – EGR on ASE performance, which means the acceptance of the third hypothesis (H\textsubscript{03}), as the value of sig. is (0.663), which is higher than (0.05), and the value of β was (0.067).

- The results indicated that there is statistically significant impact of foreign investment - FI on ASE performance, which means the rejection of the fourth hypothesis (H\textsubscript{04}), as the value of sig. is (0.009), which is less than (0.05), as well as the value of β was (0.426).

- The results concluded that foreign rate (β = 0.426) demonstrated the highest impact factor on ASE performance, followed by average change in interest rate (β = 0.187), while economic growth rate variable (β = 0.067) reflected the least impact on ASE performance.
5.2 Recommendations

This research considered to highlight a set of recommendations to be mentioned, in order to provide benefit to those interested in the subject of research. Giving the results and conclusion of this research, the researcher recommends the following:

1- Jordanian banks should reduce lending interest rate to encourage borrowing which ultimately will enhance investment in securities and improve economic growth rate.

2- Jordan should encourage foreign investment in general (direct and indirect investment) and exercise more efforts to attract more foreign investment, by either in the form of tax incentives or providing finance to them at low interest rates, moreover relaxing rules and regulation.

3- The need to integrate between various financial institutions in Jordan in order to enhance and coordinate the work of monetary policy and achieve its goals without causing this fluctuation in stock prices.

4- Retesting this research in better economic conditions, as well as searching for other variables and studying its impact on the return of ASE performance index.
References


### List of Appendixes

#### Appendix 1: Research Data

<table>
<thead>
<tr>
<th>Year</th>
<th>Inflation Rate (%)</th>
<th>Change of Average Interest Rate (%)</th>
<th>Economic Growth Rate (%)</th>
<th>Foreign Investment (%)</th>
<th>ASE Performance (Point)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>0.61</td>
<td>-0.27</td>
<td>3.1</td>
<td>1.91</td>
<td>1674</td>
</tr>
<tr>
<td>2000</td>
<td>0.67</td>
<td>-0.23</td>
<td>4.1</td>
<td>10.64</td>
<td>1331</td>
</tr>
<tr>
<td>2001</td>
<td>1.77</td>
<td>-0.18</td>
<td>4.9</td>
<td>3.01</td>
<td>1727</td>
</tr>
<tr>
<td>2002</td>
<td>1.83</td>
<td>-0.13</td>
<td>4.8</td>
<td>2.45</td>
<td>1700</td>
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<tr>
<td>2003</td>
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<td>-0.09</td>
<td>3.2</td>
<td>5.29</td>
<td>2615</td>
</tr>
<tr>
<td>2004</td>
<td>3.36</td>
<td>-0.01</td>
<td>6.8</td>
<td>8.1</td>
<td>4246</td>
</tr>
<tr>
<td>2005</td>
<td>3.49</td>
<td>0.00</td>
<td>7.1</td>
<td>15.55</td>
<td>4260</td>
</tr>
<tr>
<td>2006</td>
<td>6.25</td>
<td>0.05</td>
<td>6.3</td>
<td>23.21</td>
<td>3014</td>
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<td>2007</td>
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<td>0.06</td>
<td>6</td>
<td>15.11</td>
<td>3675</td>
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<tr>
<td>2008</td>
<td>13.97</td>
<td>-0.02</td>
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<td>12.69</td>
<td>2758</td>
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<td>5.5</td>
<td>9.99</td>
<td>2534</td>
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<td>2010</td>
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<td>2374</td>
</tr>
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<td>2011</td>
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<td>-0.03</td>
<td>2.6</td>
<td>5.08</td>
<td>1995</td>
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<tr>
<td>2012</td>
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<td>2.7</td>
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<td>2013</td>
<td>4.82</td>
<td>0.01</td>
<td>2.8</td>
<td>5.71</td>
<td>2065.8</td>
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<td>2014</td>
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<td>2.25</td>
<td>1908.8</td>
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