KAIBALLAH CONTEH

THE IMPACT OF FOREIGN DIRECT INVESTMENT ON STOCK MARKET DEVELOPMENT: A CASE OF GERMANY (1975-2019)

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KAIBALLAH CONTEH

Supervisor

Prof.Dr.Hüseyin Özdeşer

Co-Advisor

Assist.Prof.Dr.Mehdi Seraj

Nicosia

December, 2021

Approval

We certify that we have read the thesis submitted by **KAIBALLAH CONTEH** titled **"THE IMPACT OF FOREIGN DIRECT INVESTMENT ON STOCK MARKET DEVELOPMENT: A CASE OF GERMANY (1975-2019)"** and that in our combined opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Educational Sciences.

Examining Committee	Name-Surname	Signature
Head of the Committee:	Prof.Dr.Hüseyin Özdeşer	…..…..……
Committee Member:	Assist. Prof. Dr. Mehdi Seraj	…..…..……
Committee Member:	Assist. Prof. Dr. Andisheh Saliminezhad	----------
Committee Member:	Assist. Prof. Dr. Ahmad Samour	----------
Supervisor:	Prof.Dr.Hüseyin Özdeşer	…..…..……

Approved by the Head of the Department

./…../20…

……..

Prof.Dr.Hüseyin Özdeşer

Head of Department

Approved by the Institute of Graduate Studies

…../…../20…

Prof. Dr. Kemal Hüsnü Can Başer

Head of the Institute

Declaration

I hereby declare that all information, documents, analysis and results in this thesis have been collected and presented according to the academic rules and ethical guidelines of Institute of Graduate Studies, Near East University. I also declare that as required by these rules and conduct, I have fully cited and referenced information and data that are not original to this study.

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KAIBALLAH CONTEH

Abstract

The Impact of Foreign Direct Investment on Stock Market Development:

A Case of Germany (1975-2019)

Conteh, Kaiballah

Supervisor, PROF. DR. HÜSEYIN ÖZDEŞER

Co-Advisor, Assist.Prof.Dr.Mehdi Seraj

MSc, Department of Economics

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This thesis investigates the impact of foreign direct investment on stock market development in Germany between the years 1975-2019; secondary data obtained from World Bank Indicators were used. The Augmented Dickey Fuller and Philips-perron techniques were used to test the unit root properly of the series. The thesis utilized the ARDL model with bound testing approach instead of the usual Johansen cointegration analysis to capture both long-run cointegration and short-run dynamics of the links using annual time series data from 1975 to 2019. The results from the long and short run cointegration tests confirmed that foreign direct investment has a positive and complimentary impact on stock market development in Germany. The objectives of this thesis are: examine how foreign direct investment works and how the German stock market has evolved: to investigate the link between FDI and the development of the German stock market: determining the impact of FDI on the development of the German's economy: to investigate the inflows of FDI into Germany and to propose suggestions for boosting FDI in Germany. The results from the preliminary test revealed that the series are stationary. Table 5.4.1 data shows that the probability of stock market's reaction to FDI is statistically significant in the long run at 10% level. FDI has a positive coefficient. This suggests that, in the long run, FDI acts as a complement rather than a substitute for stock market capitalization.

This indicates that when stock market capitalization rises, FDI rises by 2.60 % over time. Table 5.4.2 shows that FDI is also statistically significant, with a probability of 0.07, which is less than the threshold of 0.10. Therefore, we reject the null hypothesis of no co-integration and conclude that FDI has a positive or long run influence on market capitalization. Over the short run, FDI also has an influence on market capitalization in Germany. FDI has a probability of 0.00 at 5% level and a positive coefficient of 1.99. This indicates that when stock market capitalization rises, FDI rises by 1.99 % over time This study recommends that policies be put in place to provide a stable inflation rate, so that investors may utilize the stock market to hedge against inflation, resulting in an improvement in the stock market overall.

Keywords*:* Foreign Direct Investment, Stock Market Development, Unit root, Germany, Serial Correlation

ÖZ

The Impact of Foreign Direct Investment on Stock Market Development:

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Bu tez, 1975-2019 yılları arasında Almanya'da doğrudan yabancı yatırımın borsa gelişimine etkisini; Dünya Bankası Göstergelerinden elde edilen ikincil veriler kullanılmıştır. Serinin birim kökünü doğru bir şekilde test etmek için Artırılmış Dickey Fuller ve Philips-perron teknikleri kullanıldı. Tez, 1975'ten 2019'a kadar yıllık zaman serisi verilerini kullanarak bağlantıların hem uzun dönemli eşbütünleşme hem de kısa dönem dinamiklerini yakalamak için olağan Johansen eşbütünleşme analizi yerine sınır testi yaklaşımıyla ARDL modelini kullanmıştır. Uzun ve kısa dönem sonuçları eşbütünleşme testleri, doğrudan yabancı yatırımın Almanya'daki borsa gelişimi üzerinde olumlu ve tamamlayıcı bir etkisi olduğunu doğruladı. Bu tezin amaçları şunlardır: Doğrudan yabancı yatırımın nasıl çalıştığını ve Alman borsasının nasıl geliştiğini incelemek: DYY ile Alman borsasının gelişimi arasındaki bağlantıyı araştırmak: DYY'nin Alman ekonomisinin gelişimi üzerindeki etkisini belirlemek: Almanya'ya DYY girişlerini araştırmak ve Almanya'da DYY'yi artırmak için önerilerde bulunmak. Ön testten elde edilen sonuçlar serilerin durağan olduğunu ortaya koymuştur. Tablo 5.4.1 verileri, hisse senedi piyasasının DYY'ye tepki verme olasılığının uzun vadede %10 düzeyinde istatistiksel olarak anlamlı olduğunu göstermektedir. DYY pozitif bir katsayıya sahiptir. Bu, uzun vadede DYY'nin borsa kapitalizasyonunun ikamesi yerine tamamlayıcısı olarak hareket ettiğini göstermektedir.

Bu, borsa kapitalizasyonu arttığında, doğrudan yabancı yatırımın zaman içinde %2,60 arttığını gösterir. Tablo 5.4.2, 0,10 eşiğinden daha düşük olan 0,07 olasılığıyla DYY'nin de istatistiksel olarak anlamlı olduğunu göstermektedir. Bu nedenle, eşbütünleşmenin sıfır hipotezini reddediyoruz ve DYY'nin piyasa değeri üzerinde pozitif veya uzun vadeli bir etkisi olduğu sonucuna varıyoruz. Kısa vadede, DYY'nin Almanya'daki piyasa değeri üzerinde de etkisi vardır. DYY'nin %5 düzeyinde 0,00 olasılığı ve 1,99 pozitif katsayısı vardır. Bu, borsa kapitalizasyonu arttığında, doğrudan yabancı yatırımların zaman içinde %1,99 oranında arttığını gösterir. borsa geneli.

Anahtar Kelimeler: Doğrudan Yabancı Yatırım, Borsa Gelişimi, Birim kök, Almanya, Seri Korelasyon

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ABBREVIATIONS

ADF: Augmented Dickey-Fuller

ARDL: Auto Regressive Distributed Lag

ECB: European Central Bank

EMU: Economic and Monetary Union

FDI: Foreign Direct Investment

GCC: Gulf Cooperation Council

GDP: Gross Domestic Product

GMM: Generalized Method of Moments

IMF: International Monetary Fund

IPO: Initial Public Offering

LDCs: Least Developed Countries

OECD: Organization for Economic Cooperation and Development

OLS: Ordinary Least Square

PP: Philips-perron

POLS: Pooled Ordinary Least Squares

PSTR: Panel Smooth Transition Regression

SGP: Stability and Growth Pact

UNCTAD: United Nations Conference on Trade and Development

VEC: Vector Error Correction

CHAPTER ONE

1.1 Introduction

As defined by the International Monetary Fund (IMF), foreign direct investment is an investment by a business, a person (including corporations), or an organization (including nonprofit organizations) based in one country into a firm, an individual, or an entity (including corporations) headquartered in another country **(Dunning, J. H. (1977)**. Infusion of foreign direct investment into emerging nations, especially those with limited access to finance and technical innovation is often noted as one of the most important drivers of economic growth in these regions **(Kleinert, J. (2001)**. A nation's technical growth may be aided by FDI, since technological breakthroughs can provide a country a competitive edge in the local market. The presence of important export-oriented FDI may have a significant influence when it comes to product quality and can aid in the establishment of a more solid human resource base in nations with high levels of FDI. People's living circumstances in the recipient nation will improve significantly as a result of this initiative. Foreign direct investment also gives investors with the option to quickly lower the likelihood of investment risks by spreading their assets across several nations, which is advantageous from an investor's perspective (**Kleinert, J. (2001).**

In today's world, it is commonly understood that a strong financial system plays a key role when it comes to the progress and stability in the economy. Because the stock market is such a significant component of the financial system of the economy, the success of the stock market is dictated by the economy. In business, it is a method of funding new company ventures that is based on the anticipated profitability of the venture in question. When it comes to measuring a country's total economic development and potential, the share market is frequently observed and monitored. When it comes to the expansion of any economy's investment, saving, and economic growth, the development of the country's stock market is critical.

Demirgüç-Kunt & Levine (1996); Singh (1997); Levine & Zervos (1998) have shown that the development of the stock market has a positive impact on economic growth. The stock market's growth is influenced by a variety of variables, some of which include FDI, political stability, and economic liberalization, to mention a few examples **Gay Jr, (2008) and Adam & Tweneboah (2008).**

When determining where to invest in foreign nations, an investor is expected to take a variety of things into account in order to choose the most favorable area for his or her investment. Business owners in foreign countries are always looking for countries that are both economically and politically stable, and this is especially true for those who operate in emerging markets. Transferring one's residence from one nation to another would be prohibitively costly. Therefore, investors should always strive for long-term investments rather than short-term investments in order to maximize their returns, **Carr, Gibson, & Robinson (2001**). When a nation claims to be the ideal area for foreign investors to establish and operate, its macroeconomic and microeconomic elements should be predictable. Another important step is the development of a solid institutional framework for contract enforcement, which will in turn encourage foreign investors to make long-term commitments to the nation.

An example of a sort of investment that permits foreign investors to exercise influence on the behavior of the firms in which they make investments is foreign direct investment. Production and competitiveness are becoming more globalized, and this is an important driver of FDI. The second factor contributing to the downturn is the movement of some manufacturing to more lucrative locations.

Many corporations in rich nations have outsourced labor-intensive production to developing countries, where salaries are less costly than in the developed countries itself. Without a considerable infusion of FDI from foreign-owned multinational firms, the great majority (if not all) of the world's poor nations would be unable to achieve sustained and fast development in the near future. Without the presence of foreign direct investment, it would be difficult to accomplish both technical transfer and worldwide networking goals.

Over the past few decades, finance and politics have grown at a dizzying pace, resulting in massive rises in the value of financial markets, particularly stock markets, in both developed and developing countries. Governments have liberalized FDI limits and strengthened macroeconomic stability, while privatizing state-owned enterprises and implementing domestic financial reforms, as well as capital account liberalization and tax breaks and subsidies, in order for countries to increase their share of FDI flows. The wisest course of action for many emerging nations will be to continue to create solid foundations and attract FDI rather than trading or even listing stocks

on their local markets. According to the preceding statement, stock exchanges have also been formed in order to expedite the flow of cash to and from investment projects.

Luxembourg, Netherland the United States, Switzerland, and the United Kingdom are the countries that hold the majority of German FDIs, which together account for more than 60 % of the country's total stock of assets. Only a few of countries have made large financial investments in the country, including, France, Italy, Austria, Spain, Japan, and Belgium, to name a few examples.

Financial services and insurance, manufacturing and commerce, information and communication technology (ICT), real estate development and construction and other areas are among the most popular investment targets.

The country's success can be attributed to a number of factors, including a highly powerful and diverse industrial network, a highly skilled labor force with a strong command of the English language, reliable infrastructure, a favorable social climate, a well-established legal framework, and its strategically advantageous location in the heart of Europe. There are a number of drawbacks to the nation, including a high tax rate (for both persons and businesses), severe labor restrictions, and an over-reliance on the automobile and manufacturing sectors.

Recently, the World Trade Organization designated Germany to be the world's biggest exporter of products, including exports to nations outside of the European Union, according to a recent declaration. According to purchasing power parity, Germany is the sixth most prosperous country in the world. The fact that the German Stock Exchange has one of the most important stock exchanges in the world when it comes to deciding global trade and commerce should thus come as no surprise. Germany's market capitalization of listed domestic enterprises (in current US dollars) was 1.75 trillion at the end of 2018, according to the latest available data. Since 1975, the value of this indicator has fluctuated between 2.26 trillion in 2017 and 51.4 billion in 1975, a span of 43 years (the most recent year for which data are available).

The market capitalization of publicly listed domestic enterprises in Germany represented 44.46% of the country's GDP as of 2018. Its greatest point in the preceding 43 years was 65.37% in 2001, while its lowest position in that time span was 7.55 % in 1980.

This index has fluctuated between these two extremes. When it comes to stock markets, there are a variety of ways in which foreign capital inflows might help to their expansion. On the one hand, influxes of foreign capital into local businesses frequently lead to an increase in the present market values of those businesses, which leads to an increase in the total market capitalization of the stock exchange. On the other hand, inflows of foreign capital into local businesses rarely result in an increase in the present market values of those businesses. Furthermore, foreign capital inflows help to the expansion of stock markets by strengthening the capital structure and encouraging institutionalization, both of which result in better corporate profits and, as a consequence, a rise in the overall value of the stock market (**Evrim-Mandaci et al. 2013**).

Because of the rising significance of financial markets throughout the globe, there is a popular assumption that 'finance' is a critical component of economic development, which is supported by data. As a result, the focus has remained on economic progress as well as the development of the stock exchange. According to those who believe that the stock market is a crucial foundational element of a nation's economy, it is critical in the development of industry and commerce, both of which have a significant impact on the economy of that country. The activity of the stock market is regularly watched by industry organizations, government advisors, and even the country's central bank, which is beneficial to the economy.

Finally, there is general consensus among experts on the presence of a positive link between FDI, remittances, and economic growth [for examples, see **Li & Liu (2005) and Gui-Diby (2014).**

A rise in business profitability occurs in tandem with economic growth, raising the worth of the company and contributing to its development as a result of the development of stock markets. To put it another way, there is a bidirectional causal relationship between stock market and economic growth, with these two indicators being mutually dependent on one another.

For its part, the entry of foreign capital contributes to the expansion of the quantity of money accessible in the economy, which serves to promote financial intermediation via the use of financial markets**. Desai et al. (2006), Soumaré, & Tchana (2015),** and **Henry (2000)**, and are examples of countries that have made efforts to improve the quality of their institutions in order

to attract foreign capital inflows; these efforts have also contributed to the growth of stock markets.

The stock market has a long history, both from the standpoint of investors and from the perspective of the financial sector. As **Levine & Zervos (1998**) note, there are several criteria that can be used to evaluate the development of stock markets, and as a consequence, stock markets have a direct link with the growth of a country's economy as a result of this association. Among the features that are significant to investors are liquidity, stock market capitalization, and stock market turnover, to name just a few examples.

In tandem with the advent of the age of globalization came the opening of a new era in foreign direct investment, which has since emerged as a substantial source of funds for the vast majority of developing countries. The contribution of foreign direct investment to a more competitive business climate is made possible by bridging the gap between money, technology, management competence and human capital creation, as well as a more competitive business environment. There has been considerable disagreement over this, but FDI has had a significant impact on economic growth in recent years. Infusion of commercial know-how and technical advancements brought in by FDI benefits the host country on the one hand and the host nation on the other.

Financial and other sectoral disruptions will make resource allocation more complex and thus hinder economic progress, **Brecher & Alejandro (1977); Brecher & Findlay (1983); Boyd & Smith (1999).**

Additionally, many governments rely on FDI as a major source of income (OECD, 2008). This has resulted in a huge increase in FDI inflows across the world, including in Germany and other countries. The primary objective of this research is to determine whether or not the recent surge in the German stock market has been influenced by the European Union.

One way that FDI is linked to economic growth is that it fosters economic growth, which in turn has a favorable effect on the development of the stock market. FDI also has an indirect effect on the development of the stock market (**Adam and Tweneboah, 2009**).

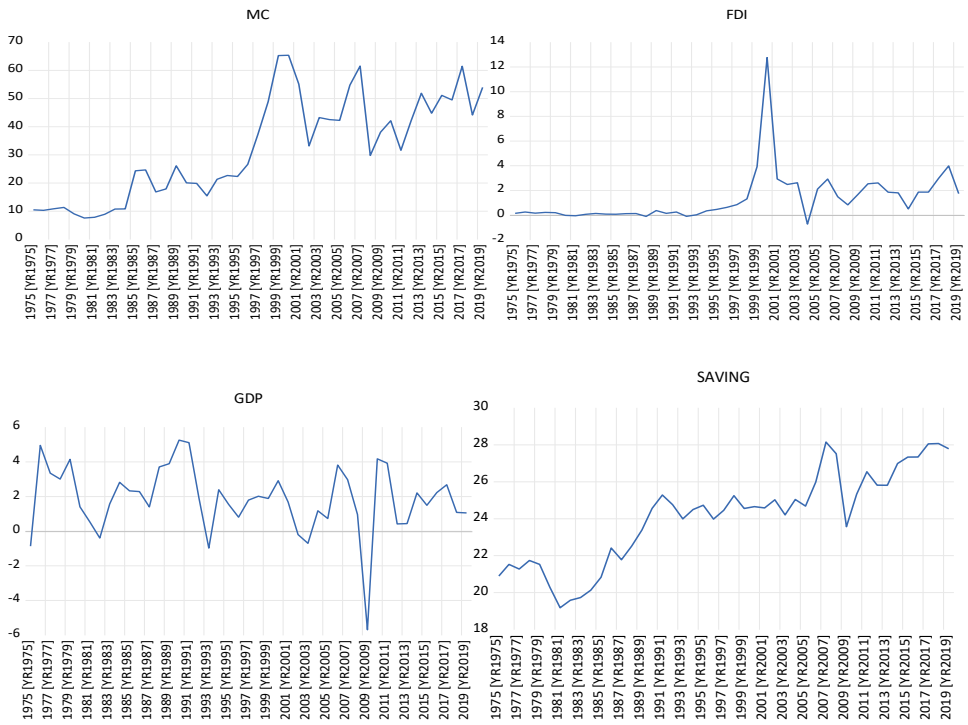


Figure 1.1: Germany's market capitalization, foreign direct investment, GDP Growth and domestic savings

Source: World Development Indicators (WDI) database.

Figure 1.1 depicts Germany's net inflows of foreign direct investment (FDI), gross domestic savings (GDS), stock market capitalization (market capitalization) and GDP growth over the period 1975–2019.

In this study, the key variables that have led to the rise of the German stock market are identified, with a special focus on the influence of FDI. The findings of this study will be used to inform future research. The question is whether FDI helps to the expansion of the stock market in a complementary or substitutive way, depending on the perspective used.

1.2 Statement of the problem

Germany, a booming market, relies on FDI to attract capital inflows and generate economic development. FDI and stock market development in Germany is the subject of this research; therefore the scope of this study is to analyze the overall link between FDI and stock market development in Germany, which is the aim of this research.

Due to measures put in place, Germany's economy has risen to one of the world's fastest-growing economies. Furthermore, in order for the developing countries to continue to prosper, a significant quantity of money is necessary. For the purpose of analyzing the present situation of FDI, empirical research has been developed and published. Using the results of this study, we will be able to better comprehend economic development in Germany and resolve the FDI difficulties**.**

1.3 Purpose of the study

FDI geared toward exports is a major source of capital flowing into developing countries. FDI may facilitate the transfer of technological, managerial, and human resources to a host country. On a long-term basis, the purpose of this research is to assess how FDI affects German stock market growth and development. FDI, according to the World Bank, has several positive outcomes, including the reciprocal desire of nations to trade technology and information, which leads to increased efficiency and a more qualified workforce. Furthermore, it gives a chance for the receiving nation to market its goods and services on a worldwide scale.

1.4. Research Questions

The overarching questions that this thesis will attempt to answer are as follows:

1. Is there a correlation between FDI and the growth of Germany's stock market?

2. When it comes to Germany's stock market, what role does FDI play?

3. FDI has what effect on Germany's economic growth?

5. What are some suggestions for increasing foreign direct investment in Germany?

6. Is the relationship between FDI and stock market growth a substitution or a complement?

1.5. Research Hypothesis

The research question is based on this idea. Our study's goals prompted us to formulate the following hypotheses, which will be examined using relevant statistical and econometric tests.

1.5.1. The null hypothesis is slated as follows:

- Stock market development is not influenced by FDI.
- Stock market development has no long-term correlation with FDI.
- FDI and stock market development have a positive relationship.

1.5.2. **The alternative hypothesis, on the other hand is stated as follows:**

- **F**oreign investments have significant correlation on the development of the stock market
- FFIs have long run link on the development of the stock market
- There is a substitute link between FDI and stock market development

1.6. **Significance of Research**

As a consequence of this attraction and interest, international business academics have selected FDI as one of the most intriguing and exciting issues to study in the field of international business. In comparison to prior economic systems, the globalization of production, logistics, and consumption is the element of the growing world economic system that distinguishes it the most from previous ones. In recent years, the globe has shrunk in size to the point that it has been reduced to the size of a global village, resulting in increased economic interdependence. As a consequence of the globalization of industry and economic growth, the notion of multinational investment has gained in prominence. For all international investors, regardless of their country, Germany has shown to be a suitable financial procreation ground even during times of economic growth, according to the World Bank. According to proponents of globalization, increasing FDI at the global level would lead to the growth of the stock market. This research will analyze the link between FDI and stock market development. This research will investigate the link between FDI and the growth of the stock market. A regression model has been used to examine the link between FDI and the growth of the stock market. The government and policymakers are expected to use the findings to analyze present policies on the link between FDI and stock market growth.

1.7. Objective of the Study:

The following objectives will be addressed in this study:

1. Examine how foreign direct investment works and how the German stock market has evolved.

2. To investigate the link between FDI and the development of the German stock market.

3. Determining the impact of FDI on the development of the German's economy.

4. To investigate the inflows of FDI into Germany.

5. To propose suggestions for boosting FDI in Germany and to assess if the link between FDI and stock market growth is a substitution or a complementary one.

1.8. Limitation

I**.** There has been no previous research on this topic that has been specifically addressed to Germany. No previous study on this issue has been conducted in Germany or has been related to Germany. There is just a little amount of research being done on this topic, despite the fact that it is tied to a number of different countries. A consequence of this is that material that originates in the country under discussion isn't especially abundant in the theoretical literature being reviewed here (Germany).

II. The sample size of the present study is inadequate to allow the results to be extrapolated to the whole population of Germany.

1.9. Contribution to study

The relationship between FDI and stock market development in Germany is an important one to understand; this thesis will provide new information to what has already been established via earlier research.

By examining whether the link between FDI and stock market growth is either substitute or complementary, the theory adds to the present research. There have been several exclusions from prior studies in Germany, and this thesis seeks to integrate such omissions in order to better match the contents with the predicted needs for future research in this nation. The contributions

to the study include both conceptual and empirical. Germany has a significant presence in the global economy and reaps the benefits of free trade. The high level of foreign direct investment in the country is one indication of the country's strong international links. Since 1990, German direct investment in foreign markets has increased fivefold, reaching more than a trillion euros. A total of around 700 billion euros has been invested in Germany by foreign investors since 2008. This helps to stimulate the German economy by generating and preserving employment.

This study will assist policymakers and the government in determining the causes of fluctuations in foreign direct investment inflows and in implementing investment-friendly policies that will attract a large portion of FDI inflows to the country, thereby contributing to the expansion of Germany's economic growth. This research can assist policymakers in focusing their attention on the areas and resources that are necessary to create incentives for Germany.

Conceptual contributions include:

I. More precise conceptual definitions of FDI and Stock Market Development.

II. The creation of new theoretical connections (i.e., research hypotheses) and their supporting logic.

III. Improvements to the theoretical justification for existing links.

Empirical contributions:

I. Putting to the test a previously untested theoretical relationship between FDI and Stock Market Development in Germany.

II. Investigating the impact of FDI on Stock Market Development in Germany

III. Determining how much a variable mediates the link between FDI and SMD.

IV. Examining their significant scale.

1.10. An Overview of the Research

It is divided into six segments to make it more manageable to read.

The first chapter outlines the historical backdrop of the research, which is followed by an introduction to the study. This chapter also contains a formulation of the research hypothesis that will be explored in order to get results that are consistent with the established aims. It also includes information on the study's scope, significance, aim, research questions, and limitations, as well as an explanation of the study's general structure and organization.

The second chapter discusses the linked literature, with a special focus on earlier German research efforts as well as the worldwide context. After conducting a comprehensive evaluation of a vast body of previously published literature, the research gap was identified.

The third chapter is largely concerned with the facts and figures relevant to foreign investment and the expansion of the stock market.

The fourth chapter includes a full review of the data, including information on the sources and study periods. This part also provides a discussion of the sample design, statistical and econometric methodologies used, and the research goal or model specification, all of which are essential for developing an understanding of the study.

The goal of the fifth chapter differs from the other chapters in that it reports on the findings of the investigation. The sixth chapter pulls all of the findings together in a summary and conclusion, as well as some proposals for policy reform. Traditionally, at the completion of a research project, bibliographic references are made accessible to readers in alphabetical order based on the surname of the author.

1.11. Definition of terms

Foreign Direct Investment (FDI) is defined as any investment made into a nation by a person or company based in another country. The term "foreign direct investment" (FDI) refers to when a foreign entity obtains ownership or control of a firm in another nation, or when a foreign corporation develops enterprises in that country.

Market capitalization is the overall stock value of a publicly listed firm within the greater stock market. It is also known as "market capitalization." The market capitalization of a firm is calculated by multiplying the number of shares of stock issued by the company by the closing price of one share of stock.

Savings refers to the money that a person has left over after subtracting his or her consumer expenditure from his or her disposable income over a certain period of time.

Gross domestic product (GDP) of a nation is the total monetary or market worth of all the completed products and services produced within the country's boundaries in a given period of time.

CHAPTER TWO

2.0. LITERATURE REVIEW

2.1. Introduction

It is possible to learn about previous study on the subject by doing a review of the existing literature on the subject. In order to choose the research topic, it is important to carry on an in-depth review of previous studies. The literature on the subject matter of the study may be obtained from the standard books, periodicals, journals, published and unpublished research works, and other sources that are readily accessible in the marketplace. FDI and stock market development are explained in detail in this chapter. Academics have conducted a number of studies on foreign direct investment and the literature that surrounds it. There is a wealth of information accessible about FDI. When it comes to the study of FDI, a huge number of professors and experts have volunteered their time and skills. With the help of a substantial body of literature on FDI and associated topics, this chapter shows the findings of the research. It is the purpose of this chapter to perform a search for theoretical and empirical research that has been carried out in the subject of FDI. Listed below are some of the most significant studies that should be discussed in the context of the current investigation.

2.2. Theoretical Framework

A range of hypotheses are advanced in an effort to understand the concept of FDI and its relationship to stock market development.

The Vernon production cycle theory, the theory of exchange rates on imperfect capital markets, internalization theory, and the Dunning Eclectic Paradigm are all discussed in depth in this investigation.

2.3. Theories of FDI

The origins of FDI are still a mystery. Despite the fact that various schools of thought have sought to explain this phenomena, there is currently no consensus on a better or more comprehensive explanation of FDI. FDI theory may be traced all the way back to Smith's (1776)

[as cited in Smith, 1937] and Ricardo's (1817) early work, when it was connected with foreign specialization in manufacturing.

Using Adam Smith's concept of absolute advantage, trade happens when one country is able to manufacture and export things with a given quantity of capital and labor more efficiently than its nearest rival.. Trading between countries has always taken place whenever a country can manufacture and export things with a certain quantity of capital or labor resources (absolute advantage). When it came to explaining how commerce developed between nations when one or both of the countries were not participating in the manufacturing sector, Smith's thesis fell short. This is when Ricardo's (1817) research on FDI was conceived, which used the theory of comparative advantage to explain the phenomenon. Ricardo considered international factor movements to be more significant than domestic factor movements because he believed that labor and capital could be moved freely within countries but not across borders, respectively.

Assuming two countries, two items, and perfect factor mobility, he failed to take into account international capital movements in his theory. In contrast to the idea that FDI would not exist in a society characterized by perfect competition, this is a harsh reality (Kindleberger, 1969). In the opinion of Denisia (2010), if markets were efficient and free of trade and competition barriers, international commerce would be the sole method for individuals to engage in global markets. Upon the publication of Hymer's 1960 thesis in 1976, he laid the framework for following authors to build more realistic FDI models. Because of the purpose to restrict or eliminate foreign competition and the desire of Multinational Corporations to maximize profits on specialized advantages, he concluded that FDI was driven by these goals. Multinational enterprises (MNEs) are explained in terms of internalization theory, which also offers light on the reasons that encourage FDI.

The theories of FDI may be divided into the following:

2.3.1. Vernon's cycle of production theory

Vernon's 1966 production cycle theory, which was created at the University of California, Berkeley, provided an explanation for certain types of FDI in the industrial sector carried out by US corporations in Western Europe following World War II. Vernon stated that the stages of the production cycle are as follows: inception, growth, maturation, and decline (or decline). In

Vernon's view, the first stage comprises multinational companies in the United States generating new and imaginative items for domestic consumption and exporting the surplus to serve worldwide markets. European demand for manufactured products from the U.S. soared following World War II, according to the notion of the production cycle.

American companies started to export their goods as a result of the improved technological skills they had over their international rivals. This gave them a competitive edge over their overseas competitors. Having unique technologies at the start of the manufacturing cycle gives enterprises an early edge in the market. As the product grows, the technology will become more widely recognized and employed. Manufacturers will standardize the product, while others will copy and sell it under their own names. As a result, European manufacturers began copying American items that were exported to these nations by American corporations.

US firms were compelled to establish manufacturing operations in emerging countries in order to retain market share in those regions. In the years between 1950 and 1970, this idea was able to explain some of the investments made by American companies in Western Europe. Although Americans lacked technical superiority in several fields and foreign direct investment was done during that time period

2.3.2. The theory of internalization

In this idea, the growth of multinational firms and their motivations for soliciting FDI are both attempted to be explained. Buckley and Casson first proposed the theory in 1976, and Hennart and Casson followed suit in 1982 and 1983. To begin with, Coase established the concept in a national environment in 1937, and then Hymer introduced it in a worldwide setting in 1976. In his Dissertation of Doctorial studies, Hymer discussed two important aspects of FDI. One of them was the cessation of all forms of competitiveness. It was also said that some firms have advantages over others in a specific field (Hymer, 1976).

It is the belief of the theory's authors, Buckley and Casson, that multinational corporations should arrange their internal processes in order to build unique advantages that may be employed in the future. Despite the fact that Dunning acknowledges the importance of internalization theory and includes it into his eclectic theory, he feels that it only accounts for a small proportion of FDI flows. Hennart (1982) further expands the concept of internalization by developing

models of vertical and horizontal integration. He invented the term "Firm-specific advantages," and his research shows that FDI occurs only when the benefits of leveraging firm-specific advantages overcome the relative costs of doing business overseas."

A divergence from ideal competition in the end-product market has led to the formation of the MNE, according to Hymer (1976). Overseas corporations have greater information costs than domestic businesses because of the differential treatment of governments and currency risk (Eden and Miller, 2004). When multinational corporations invest overseas, they incur certain transition expenses. For example, according to Hymer's definition, FDI is more about the company's strategy than it is about the capital markets.

2.3.3. Explanation of the exchange rate in an imperfect capital market.

This is another concept that sought to account for FDI. Foreign currency risk was first analyzed via the prism of international trade, which led to the conclusion that Researchers Itagaki (1981) and Cushman (1985) looked at how a lack of clarity affected FDI. According to Cushman's lone empirical study on the matter, a rise in the real exchange rate boosted FDI in dollars, while an increase in the value of the foreign currency inhibited FDI in dollars.

As a consequence of the strengthening of the dollar, Cushman & Wakefield estimates that FDI in the United States has decreased by 25% since 2008. Concurrent FDI between countries with different currencies, on the other hand, is not taken into consideration by the currency risk rate hypothesis. Sustainability advocates claim that such investments are made at different points in time, however evidence to the contrary may be found.

2.3.4. Dunning's Eclectic Paradigm

The eclectic theory of Dunning (O-L-I) is a fusion of three distinct FDI concepts:

1) The letter "O" stands for "Ownership benefits": Generally speaking, this refers to intangible assets that are the exclusive property of the company for at least a short period of time and that may be transferred affordably across multinational businesses, resulting in either higher income or cost savings.

Several characteristics must be present in order for a company to successfully enter a foreign market, and these characteristics must balance the costs involved with operating in a foreign market. Companies own skills or distinguishing advantages relate to these benefits. With its specific features, the company has an edge over its competitors that result in greater marginal profits or lower marginal costs when it is used in international markets (1973, 1980, 1988; Dunning).

There are three distinct types of benefits to be found.

a) Having limiting resources, patents, and trademarks are all factors in monopoly benefits in the form of preferential access to markets.
b) b) The broad definition of technology and knowledge, which encompasses a wide range of creative endeavors.
c) In addition, there are large-scale economies, such as those associated to education, economies of size and breadth, and increased access to financing.

2) As a result of the first condition, if a company possesses the equipment, it would be more cost-effective to utilize it rather than renting or selling it to an outside company. Choosing a country as a location for multinational firms' activity is heavily dependent on the country's geographic advantages. There are three key benefits that any nation possesses.

a) Economic benefits include both quantitative and qualitative variables such as production costs, transportation and telecommunications charges, and market size.

b) Political advantages: both general and specific government policies impacting FDI flows.

c) Social advantages, such as the distance between one's house and one's native country, cultural variation, and one's attitude toward strangers, among others.

3) Putting the "I" in Internalization: Assuming that the preceding two requirements are satisfied, the implementation of these advantages must be lucrative for the firm, and it must be done in conjunction with at least some components that are not located in the company's home territory (Dunning, 1973, 1980, 1988). With regard to organizational learning and innovation, it offers a framework for considering the different ways in which companies may exert their power ranging from the sale of products and services to the numerous agreements that can be made between

companies. Because of the growing recognition of the advantages of cross-border market internalization, firms will increasingly choose to participate in foreign production rather than licensing or franchising the option of doing so. To summarize, this study's findings demonstrate how company-specific factors, such as economic factors as well as political factors and social factors, all affect how an OLI is implemented.

Firms' goals and tactics, as well as the volume and pattern of output, will be affected by the various types of countries' barriers and potential.

2.4. Importance of FDI

The International Monetary Fund (IMF) and the Organization for Economic Cooperation and Development (OECD) characterize FDI as "the purpose of a resident entity of one country (direct investor) building a long-term ownership position in a corporation domiciled in another economy" (the direct investment enterprise).

An exception to this is when a direct investor and a direct investment company get into a long-term partnership in which the investor has a significant amount of influence over the latter's activities, as is the case in the case of the phrase "lasting interest" **(Duce & España) (2003).**

When trading company stock (shares) and derivatives, the stock market, also known as the equity market, is a public place where these assets may be exchanged at a predetermined price. These assets can be listed on a stock exchange or traded in private transactions. On exchanges and over-the-counter markets, the term "stock market" refers to the structured trading of stocks on a regular basis. Stock markets, according to the definitions above, are markets for trading stocks that are both listed on the market and those that are traded privately at a price between private organizations or persons.

According to UNCTAD (2000), it was formerly considered that FDI might have a detrimental effect on the economy of developing nations. After almost four decades of economic expansion, this perspective shifted. Over the last two decades, FDI has grown substantially across the world's nations.

Globalization and openness are accelerating in the twenty-first century, resulting in more FDI. FDI is now widely seen as good, and virtually all governments strive to create an investment-friendly environment. Countries are increasingly aware that they may influence FDI recruitment via both broad economic policies and targeted FDI policies. According to the IMF, FDI has been one of the most significant methods for technology transfer.

As the global economy developed and relationships between nations became more complex and varied, governments in many countries recognized both the good and negative effects of FDI influx and outflow on their economies.

As a result, they attempted to develop new policies and methods in trade, import, and export in order to capitalize on the phenomenon while avoiding economic damage. They eventually discovered that the relationship between FDI and development in a nation is largely reliant on foreign direct investment. Governments began planning policies along this road by educating more local workers and upgrading their technical skills in order to increase their absorptive ability to be productive.

The significance of FDI has become apparent in light of the possibility of a considerable rise in the rate of return. The theoretical framework used in this research aims to illustrate the term's development via associated hypotheses. The section that follows categorizes the many viewpoints, hypotheses, and investigations conducted on the issue by various scholars.

2.5. Introduction to Stock Market

A stock exchange is a regulated market where ownership holdings in businesses (shares) are listed and exchanged. The term 'listing' refers to the process of making a part of a company's shares accessible to the public in the so-called 'primary market.' Most of the time, a company will utilize its public listing to obtain capital by issuing more equity shares to the general public (an initial public offering or IPO). Investors may then trade these publicly traded shares on the secondary market, which is where they earn their money in the long run. For example, an initial public offering (IPO) on a main market may generate revenues for the business, while secondary market trading may not generate funds for the company.

In order to achieve these objectives, both primary and secondary market activity are controlled by a system of laws, rules, and regulations that are designed to ensure the existence of fair, transparent, and orderly markets on a consistent basis.

This legislation will handle a variety of issues, including the protection of investors' assets, the process of transferring ownership of shares, the requirements that firms listed on stock exchanges must meet, and the procedures for resolving disputes, among others.

Furthermore, exchanges ensure that trading is conducted in accordance with predetermined, public regulations and that information regarding the prices at which investors are willing to purchase and sell instruments, as well as the prices at which instruments have sold, is made available to the general public through their websites (pre- and post-trade transparency). A securities market regulator is in charge of exchanges. Different countries have developed distinct approaches for allocating responsibility for various aspects of market regulation. All exchange-traded markets will state the following:

• Listing requirement• the trading rules (the rules that govern how buy-and-sell orders are matched, how prices are determined, what occurs in the case of a mistake, and when a binding transaction is finished); and

• The clearing and settlement of financial transactions involves a number of procedures (e.g., how the transfer of ownership of shares and cash is affected, over what time period, and how defaults are managed).

s (the initial and continuing standards that firms seeking to list on the exchange must fulfill, as well as the information that they must provide to the public);

• Membership criteria (financial, educational, and behavior requirements applicable to businesses that trade on the exchange on behalf of investors);

2.6. Foreign direct investment has many good characteristics:

a) Foreign investment may help to close the gap between planned investment and available savings on the local market. A common problem is that local capital markets are undeveloped. As a result, they are unable to fund large-scale investment initiatives.

Additionally, obtaining hard money, which is required to acquire investment products that are not accessible locally, might be problematic. FDI addresses both of these issues simultaneously, since it is a direct source of foreign cash. It has the ability to meet both intended foreign currency requirements and those obtained from net export revenues.

b) Foreign investment may provide critical resources such as managerial expertise, entrepreneurial ability, and organizational/technical capabilities. Foreign investment delivers technology and expertise to emerging nations, as well as machinery and equipment. FDI is capable of resolving all issues since investment items often include modern technologies.

c) Foreign investment may help developing nations generate jobs in contemporary areas.

d) It may assist consumers in LDCs by lowering prices/improving the quality of goods and introducing new items.

e) Through forward and backward connections, foreign investment may stimulate local investment. For instance, a foreign firm's production might be considered an input to local industry. Similarly, home enterprises' products might serve as inputs for overseas businesses. If this is the case, foreign corporations create demand for sectors that produce things they need.

2.7. The disadvantages of FDI include the following:

1. Foreign investment exacerbated Germany’s development by focusing on the production and export of raw resources and manufactured products.

2. It entered areas that serviced overseas markets rather than the German domestic market.

3. The multiplier impacts of these investments were primarily transferred back to developed nations in the form of income, employment, capital, technological expertise, and expansion of foreign economies.

2.8. Empirical Literature

Kapaya (2020) examined the Tanzanian market's growth and economic progress using the ARDL and bound testing procedures. The sample included data from Tanzanian quarterly time-series from the first quarter of 2001 to the second quarter of 2019. The sample covered the years

2001 to 2019. Finally, the results show that the stock market's development may have both short- and long-term causal impacts on the economy's short- and long-run dynamics. Economic growth is shown to be the most important determinant in the creation of goods and services, and it has a negative connection with liquidity. From stock market development to economic growth, the statistics reveal that causality flow is typically unidirectional (as represented by stock market turnover, which is an indirect proxy for liquidity).

Sukhadolets et al. (2021) evaluated the effects of FDI, Investment in Construction, and Poverty in Economic Crises on the economies of the nations included in the research. After conducting their research, the authors discovered that FDI, construction investment, and poverty during economic crises all had an influence on the economies of nations included in the study (Denmark, Italy, Germany, Romania, China, India and Russia). In this investigation, the autoregressive distributed lag (ARDL) model was utilized, which takes into consideration cointegration and heteroscedasticity as well as other factors. Following the logic of this model, the present values of a time series are decided by a mix of the current and past values of the time series in question, together with the current and past values of a number of other time series. Using statistical data, the researchers were able to compare the economic progress of different countries to the predictions of various economic growth models, which supplied them with significant insights. The presence of FDI as a percentage of GDP contributes to the reduction of the negative effects of financial crises on the economy. A country's poverty level may be maintained or reduced over the long term by increasing the wealth of its population, which is achieved via investment in construction. We were also able to examine the patterns of economic development and poverty in these seven countries via the use of empirical data.

Using data covering the period 1975 to 2017, Abille and colleagues (2019) explored the role played by fiscal incentives in promoting FDI inflows into Ghana's economy. The Eclectic paradigm served as the study's theoretical foundation, and it analyzed the impact of fiscal incentives using data spanning the years 1975 to 2017 to arrive at its conclusions. ARDL (autoregressive distributed lag), often known as the boundary test procedure, was used to evaluate co-integration in the model. According to the results of the research, there was cointegration between the variables. Other factors such as openness to international commerce, corporation tax rate, currency rate, and market size were deemed independent variables, with the

corporate tax rate acting as the study's key explanatory variable. This study found that FDI into Ghana's economy had a long-term negative effect on corporate tax rates, but a short-term beneficial benefit. The government of Ghana claims that the positive short-run link between FDI inflows and GDP is due to the lag impact of the country's tax policy on FDI inflows.Khan & colleagues (2021) used a new dynamic ARDL simulations model for yearly time series data from 1985 to 2017. They discovered that oil prices and macroeconomic issues hampered the growth of Pakistan's stock market. They used data from 1985 to 2017 to perform their research. The ARDL model shows that oil prices, remittances, and FDI all positively affect the Pakistan stock market, whereas the exchange rate negatively affects it. After adopting the conclusions of this research, policymakers and investors will be able to better estimate future changes in oil prices, currency rates, and expected inflows of personal remittances and FDI.

As published by Nutassey (2018), the correlation between financial market development and FDI in Sub-Saharan Africa was explored between 1997 and 2016. Other theories outside eclectic theory backed up the results. The GMM model was used in this research. The research found a link between financial market growth and FDI into Sub-Saharan African countries. Two other findings were that growing financial markets and FDI into Sub-Saharan African countries go hand in hand. Finance and FDI in Sub-Saharan Africa are now demonstrated to be interdependent.

Majeed, Jiang, Ahmad, Khan, and Olah (2021) conducted an investigation into the influence of FDI on financial development: New evidence from panel co-integration and causality analysis. The research looked at the relationship between FDI and financial development in the 102 Belt and Road Initiative countries that were chosen from four continents: Europe, Asia, Africa, and Latin America. This research examined data from the years 1990 to 2017 using a variety of quantitative approaches. Among the methodologies explored were feasible generalized least squares and improved mean group processes, among others.

In our research, we found that FDI has statistically significant relationships with trade openness, government consumption, and inflation. FDI, trade openness, and government consumption all rose in Asia, Europe, and Latin America, while all three measures fell in Africa. An indirect causal relationship between FDI, openness to trade, and foreign investment in Asia and Europe

was found using the Dumitrescu–Harlin panel causality test, which is consistent with earlier studies. However, although FDI and other forms of foreign direct investment have a one-way connection in Latin America, the relationship is bidirectional in the United States. According to the conclusions of this research, low- and middle-income countries have higher factor costs, and as a result, they attract more FDI than high-income countries. These empirical results may provide new insights for policymakers, highlighting a variety of policy consequences for the competitiveness of FDI in the reference regions, among others.

Financial development in Africa was the topic of **Yeboua's (2019)** research into FDI, financial development, and economic growth in Africa: evidence from threshold modeling. In this study, we used the panel smooth transition regression model (PSTR) since it can cope with the heterogeneity issue associated with cross-country data. When 26 African countries were studied between 1990 and 2013, researchers found that there is a bare minimum level of financial development beyond which the growth-enhancing advantages of FDI in Africa cannot be achieved. In any event, only countries with a certain degree of financial development can reap the benefits of FDI's economic growth-enhancing impacts.

From 2007 to 2016, **Ramirez (2018)** researched the impact of FDI inflows on the size and liquidity of 14 developing country stock markets. However, FDI inflows have a statistically significant negative contemporaneous effect on market index returns, according to our panel regression study. Assuming a two-way feedback effect between FDI inflows and stock market growth, an alternative technique (such VAR analysis or Granger Causation) may have been more appropriate.

According to **Ho (2018)**, he studied macroeconomic elements that affect the South African stock exchange's development. The author uses autoregressive distributed lag bounds testing to experimentally investigate both short- and long-run correlations between stock market development and the variables that impact stock market development. The author also does a sensitivity analysis, which examines the estimated value's resilience to structural breakdowns in the underlying series. According to past research, the expansion of the banking sector and economic growth are positive for the stock market, while inflation and real interest rates are

negative. This study found that trade openness hampered the expansion of the stock market, contrary to the findings of numerous earlier studies.

Joshua, Rotimi, and Sarkodie (2020) researched FDI inflows, their implications across economic income groups, and their sources and impacts. This study assessed the influence of FDI on economic growth for a global sample of 200 economies during 1990–2018. The sampled nations were developed and developing. To compare countries across income groups and blocs, we divided the sample into World Bank income group clusters. There were three methods used to estimate the sample size: pooled ordinary least squares (POLS), dynamic panel estimation with fixed and random effects, and the generalized method of moments (GMM) (GMM). The study revealed that FDI, debt stock, and state development assistance all increase economic growth in the nations studied, while debt stock had a little impact. Factors influencing economic growth include trade openness and currency rates (having both negative and positive effects).

From 1971 to 2006, **Kalim and Shahbaz (2009)** employed an ARDL bound testing method to analyze the association between FDI and stock market performance in Pakistan. They discovered that FDI had a positive impact on the stock market's growth throughout their investigation**.**

FDI might be considered as an alternative to the growth of the stock market or as more appealing solely to overcome capital market hurdles to investment, according to **Claessens, Klingebiel and Schmukler (2001)**, a group of researchers in the Netherlands. They used models with eight variables and a regression method to find a positive and statistically significant association between FDI and stock market performance between 1975 and 1999.

Zafar et al. (2019) define a nation's environmental footprint based on the amount of natural resources, human capital, and FDI it has in the globe. Other nations were studied using the United States as a point of comparison. Natural resource usage, human capital investment, and FDI are examined in connection to the ecological footprint in the context of energy consumption and economic development between 1970 and 2015. Unit root analysis is used to examine the stationary features of data series and the existence of structural breakdowns. The ARDL model is used to estimate the short- and long-term elasticities of the variables in this research. Growth in the economy and increased energy use has been shown to have a detrimental impact on our planet's ecosystem. Natural resources and human capital, as well as the use of fossil fuels, may

be used to reduce the environmental impact of FDI. Contrary to popular belief, Granger causality holds that human capital and the environment are linked in a one-way fashion when it comes to energy consumption**;** this is also true for economic development when it comes to the environmental impact. Regression models used by **Adelegan (2000)** to investigate the impact of FDI on Nigerian economic growth seem to be unconnected at first glance. According to him, FDI promotes consumption, imports, and has a negative effect on gross domestic product (GDP). There is little statistical evidence that foreign cash has a substantial impact on Nigeria's economic progress, according to **Akinlo (2004)**.

According to **Hermes and Lensink (2003)**, "FDI, Economic Growth, and Financial Development" was studied. According to the study's findings, the receiving country's financial system must be developed before FDI may have a favorable influence on economic growth. The research was to see whether strengthening financial structure improved FDI and economic growth. According to their findings, 37 out of 67 nations had sufficient financial structures that encouraged FDI, resulting in significant economic progress. As a consequence, the nations constructed their domestic financial infrastructure before liberalizing their capital accounts to accommodate massive FDI inflows.

In their study, **Samman and Jamil (2017)** looked at the influence of FDI on the stock market from 2002 to 2015 for all six Gulf Cooperation Council nations (Saudi Arabia, Oman, Qatar, Kuwait, the United Arab Emirates and Bahrain). The study concludes that FDI has a positive and statistically significant influence on the long-term growth of stock markets, meaning that FDI has played an essential role in the long-term expansion of stock markets in the GCC nations. FDI inflows have a short-term beneficial influence on stock market growth, albeit this effect is not statistically significant.

Oke and colleagues (2012) examined the relationship between FDI and stock market capitalization from 1981 to 2010. Using co-integration and error correction models, the researchers discovered a short-run positive association between FDI and stock market capitalization in Nigeria. They couldn't find a long-term link between FDI and Nigerian stock market growth. The impact of trade openness and FDI on Malaysian economic growth was revealed by **Baharom et al. (2008).**The study spanned from 1975 through 2005.

This study used the Bounds Testing Method. The results showed that openness has a positive short-term and long-term relationship with EG. The research concluded that FDI has a positive short-term relationship but a negative long-term relationship.

Yaoxing (2010) found that FDI and trade openness boost economic development in Côte d'Ivoire. During this investigation, the Bounds Testing Cointegration Approach and Vector Auto Regressive Granger Causality were used. In this scenario, 1980-2007 is considered. The findings show a long-term link between FDI, trade openness, and industrial production in the UK. The Vector Auto Regressive Granger Causality test demonstrated a unidirectional relationship between FDI, Openness, and output, as well as a connection between output and FDI, Openness. According to the study, FDI and trade openness in Côte d'Ivoire both contribute to considerable production growth. An ideal union with a Direct Investment and institution structure plan should be formed to attract extra FDI for output growth operations, according to the paper's suggestions.

Singh and Weisse (1998) examined the connection between the formation of stock markets and capital flows, as well as long-term economic growth in developing economies. According to the report, deregulated financial markets and portfolio capital inflows would not help developing and emerging economies industrialize faster or achieve longer-term economic development.

The report recommends that developing and emerging market nations promote bank-based systems, influence capital inflows and prevent the establishment of a market for corporate control.

Umar, Ismail, and Sulong (2015) used ARDL in the presence of structural breaks to assess the impact of stock market development on FDI in Nigeria (dummies). The research used annual time series data from 1970 to 2013. The World Bank and the Nigerian Central Bank supplied these figures. The analysis found that FDI has a considerable positive long-run effect on overall value of a stock transaction, but a negative and statistically significant impact on rate of return. Unlike in this example, the FDI-market capitalization ratio correlation is not statistically significant.

Nyangoro (2013) looked at the relationship between the Kenyan stock market and foreign portfolio holdings. The research found that foreign portfolio movements had a significant

positive impact on the local stock market. The data also show that lagged unforeseen foreign portfolio moves impact stock market returns rather than their contemporaneous value.

Musonera, Nyamulinda and Karuranga (2010) used Uganda, Kenya, and Tanzania as models and data from 1995 to 2007 to analyze the institutional FDI fitness model in the Eastern African Sub-Region. They concluded that FDI into Uganda and Tanzania was influenced by many country risk factors. For example, the size of the financial markets, the economy, trade openness, population, infrastructure, and political risk are all essential factors. Their findings refuted the widely held idea that natural resource attractiveness drives FDI into Africa. Examples include Uganda and Tanzania, both of which are deemed resource-poor yet managed to attract FDI under two conditions: macroeconomic and political stability, an efficient regulatory framework, and the eradication of corruption.

Borensztein et al. (1998) observed that the impact of FDI on growth was dependent on the country in which the investment was made. The author used data on FDI from developed nations. Over two decades, 69 developing countries took part in the study. Their research demonstrated that FDI is a better way to facilitate technology transfer than local investment. The study shows that high FDI production is only attainable when the visitor countries have low Human Capital levels. As a result, FDI contributed to economic growth only when the host country possessed sufficient advanced technology to attract FDI. The FDI approach has a considerable beneficial influence on Economic Growth, according to the research.

Lyroudi Katerina and colleagues (2004) evaluated the effects of FDI on economic development in countries predominantly in the US and Western Europe. This study examined the impact of FDI on the growth rate of a group of transition economies. The authors utilized a Bayesian technique. The study revealed no link between FDI and economic development in transition countries.

Osakonor (2011) used quantitative and qualitative methodologies to examine the influence of FDI on productivity development in the Ghanaian manufacturing sector from 1979 to 2009. He estimated the relationship between variables using the Vector Error Correction (VEC) model. The study found that FDI had a negative effect on productivity growth. This negative impact of

FDI has also resulted in a shift of resources into the manufacturing sector, increasing the industry's productivity.

The impacts of several economic variables on FDI in three Central Asian nations, namely, Armenia, Turkmenistan and Kyrgyz Republic were studied by **Muhammad Azam (2010)**. The World Development Indicator provided secondary data for the study, which lasted 1991-2009.

The study found that market size and government development assistance both positively and negatively affect FDI. In addition, the effect of ODA on FDI in Armenia was found to be negligible, as was the impact of inflation on FDI in the Kyrgyz Republic. According to the study's findings, market size and government development assistance should be supported, while inflation should be handled to boost FDI and accelerate economic growth.

Using annual data for the Indian economy from 1990-91 to 2011-12, **Saiyed S. A. (2012)** examined the relationship between FDI and economic growth in India. The regression analysis shows that FDI is related to the growth of the Indian economy. Its influence on the country's development has been demonstrated. The causality tests also revealed a one-way link between FDI stock and production growth. A causal link exists between the flow of FDI and economic development, he concluded.

Soltani Hassen and Ochi Anis (2012) examined the influence of FDI on economic growth in host countries, particularly Tunisia. They found that FDI harms the host country's economic progress. The study examined the period 1975-2009 using contemporary time series research tools. Using the ECM, they found that model variables have a short-term relationship and that Valid Error Correction may be used to improve long-term stability. The analysis concluded that despite favorable benefits on a few growth-promoting characteristics like human capital and financial development, FDI had a negative impact on the great majority.

Lim Guech Heang and Pahlaj Moolio (2013) examined the relationship between FDI and GDP in Cambodia from 1993 to 2011. The ADF test, Durbin Watson test, Breusch Pagan Godfrey test, Breusch Godfrey Serial Correlation LM test, and Jarque Bera test were all used in this investigation. The study's regression analysis shows a long-term positive relationship between FDI and GDP in Cambodia.

According to this article, FDI boosts GDP and creates jobs for locals, helping to reduce long-term unemployment and poverty in Cambodia. While Cambodia's GDP has grown at about 7% annually for the previous nineteen years, FDI has surged considerably, presumably due to internal issues, such as the country's low ability to absorb new technology.

Umoh and colleagues (2012) analyzed the link between FDI and economic development in Nigeria from 1970 to 2008 and found a favorable association. According to this article's findings and statistics, there is endogeneity or a bidirectional relationship between FDI and economic growth. Simple and simultaneous systems of equations are used to determine whether or not there is any form of feedback between FDI and economic progress in Nigeria. The study shows that FDI and economic development in Nigeria are linked, with positive feedback between FDI and growth as well as growth and FDI. To guarantee that the domestic economy benefits from larger FDI spillover effects and achieves high growth rates, increasing FDI, openness, and private sector engagement should be sought and reinforced in concert with overall policies.

Ahmad et al. (2012) discovered that co-integration and ECM are used to illustrate the causal link between FDI and GDP in Pakistan. The dependent variable is then utilized. FDI, LF, and DC are independent variables. The research found a favorable short-term and long-term link between FDI and GDP. The study found a significant willingness to encourage economic development and foreign investment.

Vazakidis and Adamopoulos (2009) used Granger causality tests using a vector error correction model to examine the links between stock market performance and economic growth in France from 1965 to 2007. The Granger causality tests demonstrated that economic growth in France influenced the stock market positively. The stock market in France is favorably impacted by economic growth, but adversely by interest rates.

Regmi (2012) used unit root test, co-integration, and vector error correction models to study the causal link between stock market performance and economic development in Nepal, and developed the NEPSE Composite Index as a stock market performance indicator. The development of Nepal's stock market between 1994 and 2011 boosted the country's economic progress.

Jerome and Ogunkola (2004) studied FDI in Nigeria to evaluate its amount, direction, and future prospects. Their results found that despite tremendous advances in the country's FDI framework, fundamental flaws remain. These flaws are largely in the areas of corporate law, insolvency, labor law, institutional instability, and the rule of law and constitutional institutions.

Arestis et al. (2001) used time series methods to study the connection between stock market performance and economic development. Using data from five developed countries, it seems that the banking system has a greater influence on economic growth than the stock market. These economists claim the literature has overstated the role of stock market development in economic growth.

Caporale et al. (2004) investigated the link between stock market development and economic growth in seven nations (Korea, Argentina, Greece, Malaysia, Chile, Portugal and the Philippines. Long-term, a well-developed stock market benefits economic development, they found. This trend also lends credibility to the idea that well-functioning stock markets may boost economic growth by faster capital accumulation and improved resource allocation.

Using monthly data from the Arbitrage Pricing Theory and the Capital Asset Pricing Model, **Ouma and Muriu (2014)** investigated the impact of macroeconomic variables on stock returns in Kenya from 2003 to 2013. From 2003 to 2013, they found that macroeconomic variables had a positive impact on stock returns in Kenya. The OLS approach was used to assess the model's validity and the relative relevance of the numerous factors influencing stock returns. After doing the research, we found two conclusions. First, all variables are I. (0). First, there is a statistically significant relationship between stock market performance and macroeconomic circumstances (except interest rates). The money supply, currency rates, and inflation had an influence on the success of the Kenyan stock market. Money supply and inflation have a significant influence on return on investment on the Nairobi Stock Exchange (NSE). Exchange rates have a negative impact on stock returns, but interest rates have no effect on the NSE index's long-term returns.

Olusanya (2013) investigated the effect of FDI on economic growth in a pre- and post-deregulation Nigerian economy. Between 1970 and 2010, the researchers used the Granger causality test to conduct the study. The study looked at the relationship between FDI and economic growth in the US and abroad from 1970 to 2010. Prior to deregulation (1970-1986),

the causality test demonstrated a link between GDP and FDI inflows, demonstrating that GDP drives FDI. After deregulation, the causality test demonstrated no causal link between GDP and FDI inflows (1986-2010), demonstrating that GDP does not drive FDI. Between 1970 and 2010, there was a causal relationship between economic growth (GDP) and a FDI inflow, i.e., economic development promotes FDI inflows into a country and vice versa. Based on past experience, Nigeria might attract more FDI by decreasing capital flow restrictions. FDI will only have a positive impact on the economy if the Nigerian government ensures that the policies are properly implemented.

Jayakumar and colleagues (2014) investigated FDI in housing and real estate and the names of Indian businesses and foreign personnel. Based on data from 2007 to 2013, this study used mean, median, standard deviation, maximum, minimum, and variance.

From 2007 to 2013, FDI in housing and real estate rose steadily. The study advocated sector-specific policies, an import substitution development plan, and incentives for current and future foreign investors to help the nation prosper.

2.9. Research Issues and Research Gaps are discussed in this section

The study's aims are mostly based on the research problems and gaps identified in the literature analysis above. The research on the connection between FDI and stock market performance is dispersed due to the fact that it has been done in a range of contexts under various conditions. There are a number of common criteria used by researchers in this field that assist to define foreign direct investment. Most of the variables impacting FDI and stock market performance have been discovered and investigated in this study.

There has been a lot of research done on the relationship between FDI and stock market development in terms of the relationship between stock market development and FDI, market capitalization, economic growth, GDP, market size, openness, export/import, stability and FDI and finally, inflation and FDI.

For the last three decades, Germany has endeavored to broaden its economy via a variety of growth initiatives. The goal of this research was to evaluate the link between FDI and stock market performance in Germany.

Summary of the Literature

Table 1.1: Summary of Literature Review

Author	The Aim of the Study	Date and Country	Methodology	Results
Samman and Jamile (2017)	The study explored the impact of FDI on stock market development in Gulf Cooperation Council countries	Oman, Saudi Arabia, United Arab Emirates, Qatar, Kuwait and Bahrain Data for period between (2002-2015)	**ARDL**	According to the findings, FDI has a statistically significant positive impact on the long-term performance of the stock market
Ahmad et al. (2012)	The study shows the causal linkages between FDI and economic growth in Pakistan	Pakistan Data for the period (2001 - 2010)	Co-integration and ECM	The findings of the study paper suggested that FDI and GDP had a beneficial relationship in both the short and long term.

Ouma and Muriu (2014)	The study's primary goal was to determine the relationship between macroeconomic factors and stock returns.	Kenya Data for the period (2003-2013)	Ordinary Least Square (OLS)	The result shows that there is a statistically significant relationship between stock market returns and macroeconomic factors
Regmi (2012)	The study investigated the causal relationship between stock market development and economic growth	Nepal Data for the period (1994-2011)	Unit root test, co-integration, and vector error correction models	According to the findings, the expansion of Nepal's stock market had a considerable positive impact on the country's economic growth
Soltani Hassen and Ochi Anis (2012)	FDI and Economic Growth	**Tunisia** **Data for the period (1975-2009)**	Cointegration and ECM	The results of the study indicated that, despite the significant positive effects of FDI on a small number of growth-promoting parameters, FDI had a negative influence on the vast majority of growth-promoting variables.

Olusanya and Samuel Olumuyiwa (2013)	The research looked at the influence of FDI on economic development in a Nigerian economy that was both pre- and post-deregulated.	**Nigeria** **Data for the period (1970-2010)**	Granger Causality Test	It has been shown that there is a causal relationship between economic growth (GDP) and FDI inflows during the pre-deregulation (1970-1986) era, but that this relationship does not exist during the post-deregulation (1986-2010) period.
Prof. A. Jayakumar and L.Kannan (2014)	The study examined the FDI in the Real Estate Sector	**India** **Data for the period (2007-2013)**	Mean, median, standard deviation, maximum, minimum, and coefficient of variation	. The findings revealed that the growth rate of FDI inflows into the housing and real estate sectors had positive development

Vazakidis and Adamopoulos (2009)	The research looked at the relationships that exist between the development of the stock market and economic growth.	**France** **Data for the period (1965-2007)**	Granger causality tests based on a Vector Error Correction Model	Economic growth in France was a contributing factor to the development of the stock market, according to the results of the Granger causality tests.
Chigbu et al. (2014),	The study investigated the link between FDI and economic growth (EG)	**Nigeria** **Data for the period (1970-2011)**	Ordinal Least Square Method	It was discovered via the study that boosting electrical supply and political stability would assist to improve investor confidence, since instability scares away potential investors and makes them reluctant to invest.
Van Nieuwerburgh et al. (2006)	The study accounted for compelling evidence that the emergence of the stock market contributed to economic growth	**Belgium** **Data for the period (1873-1935)**	Causality test	The study discovered that there was long-run integration and causation between macroeconomic factors and a stock market indicator

Lim Guech Heang and Pahlaj Moolio (2013)	The study investigated the relationship between FDI and GDP	**Cambodia** Data for the period (1993-2011)	ADF Test, Durbin Watson Test, the Breusch Godfrey Serial Correlation LM Test, the Breusch Pagan Godfrey Test, and the Jarque Bera Test	The results of the study's regression analysis revealed that there is a positive relationship between FDI and GDP in Cambodia over the long term
Umoh et al. (2012)	The study investigated FDI and Economic Growth	**Nigeria** Data for the period (1970-2008)	Single and simultaneous equation systems	The research found that FDI and EG are linked in Nigeria, with positive feedback in the FDI & Growth and Growth & FDI sectors.
Saleem and colleagues (2013)	The study explored the Influence of Inflation and Economic Growth on FDI	**Pakistan** Data for the period (1970-2008)	Time series data regression	According to the findings, there is a positive relationship between FDI and inflation, and a negative relationship between GDP and FDI.

Saiyed S. A (2012)	The study examined the relationship between FDI and economic growth	**India** Data for the period (1990-91 to 2011-12	Statistical regression models	FDI is positively associated with the development of the Indian economy, according to the findings of the regression.
Muhammad Azam (2010)	The study examined the Economic Determinants of FDI	**Armenia, Kyrgyz Republic, and Turkmenistan** Data for the period (1991-2009)	Simple econometric model in log form and the least squares technique	It was discovered from the study's findings that market size and government development aid have favorable effects on FDI, whereas inflation has a negative influence on FDI.
Kaleem and Shahbaz (2009)	The link between FDI and the growth of the stock market was investigated in this research.	**Pakistan** Data for the period (1971-2006)	Tests with ARDL (AutoRegressive Distributed Lag) bounds are performed using this approach.	According to the findings of the research, FDI has a favorable influence on the growth of the stock market.
Claessens, Klingebiel, and Schmukler	The research investigates whether FDI is seen a viable	Financially underdeveloped countries Data for the	Regression approach	With the use of eight variable models, the researchers discovered a

(2001)	alternative to stock market growth in riskier and less developed countries, or if it is viewed a means of circumventing investment limitations via the use of capital markets.	period (1975-1999)		statistically significant positive link between FDI and the growth of the stock market between 1975 and 1999.

CHAPTER THREE

3.0. FDI and Stock Market Development in German: A Conceptual Framework

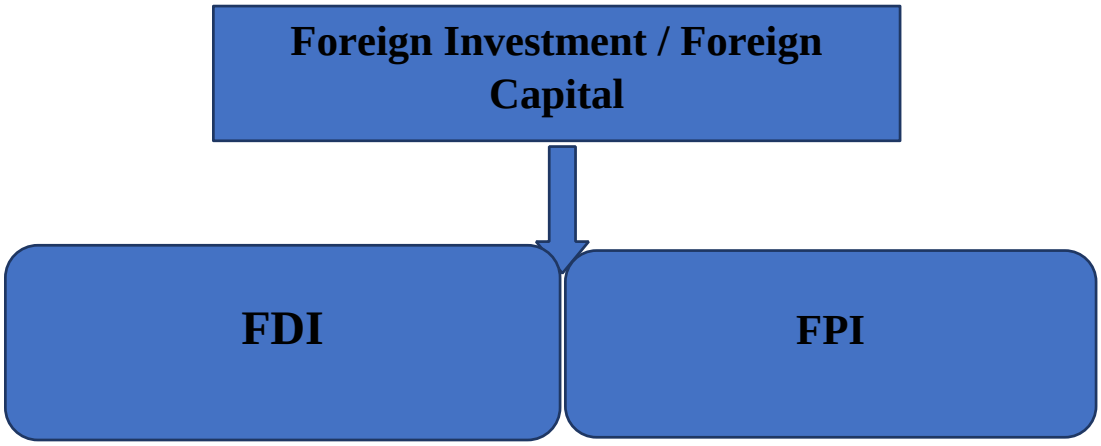
3.1. Introduction

This chapter discusses the evolution of the German stock market, as well as the theoretical elements of the link between FDI and the development of the German stock market. Since the beginning of the 1980s, FDI has increased at an unprecedented pace, and the global market for it has grown very competitive as a result.

As an investment destination, developing countries are quickly becoming more well-known. This is due in part to the fact that they can provide investors with a diverse variety of "made" assets, which are becoming more difficult to come by in wealthy countries. The surge in FDI by transnational corporations or multinational enterprises into other countries, in order to manage assets and supervise industrial activities in other countries, has been a distinguishing feature of the world economy during the previous few decades. The fact that this has occurred over the course of many decades is especially notable.

Many studies published in the "economics literature" have shown a connection between economic development and the expansion of stock markets. It is the finding and funding of productive initiatives in a nation that generates investment possibilities and leads to greater economic activity and development over the long term.

As an added benefit, a well-organized and managed stock market adds to risk diversification by aiding in the discovery and financing of productive initiatives that, as a consequence, lead to an increase in economic activity (Mishkin, 2001; Caporale et al., 2004). FDI contributes to economic growth and development in industrialized nations such as Germany and the United States. Investment in a country's economy improves output and raises the living conditions of its citizens. With this goal in mind, both developed and developing countries are putting up concerted efforts to put investment programs in place. The importance of foreign investment continues to rise as a consequence of the lack of money in many countries as a result of low domestic savings rates.



3.2. Foreign Investment/Foreign Capital

Foreign capital is divided into two categories: private capital and public capital. While public foreign capital includes things like government grants and loans, privately owned foreign capital may include things like FDI and indirect foreign investment. Investments in other nations involve the transfer of financial resources, as well as the transfer of technology and other skills across countries. Aside from cash, foreign investment brings with it managerial expertise, technical knowledge and expertise in the form of technical people, product/production process innovations, infrastructure development and demand creation, all of which contribute to a rise in domestic investment.

3.3. Meaning of FDI

A country's internal assets are invested in foreign structures, equipment, and organizations via FDI. Direct foreign investment is another name for FDI. None of this includes stock market speculation.

Indirect investment: A financial investment made by a resident entity in one nation (a Direct Investor) reflects the desire of the investor to acquire long-term ownership of a firm established in a country other than the investor's own (Direct Investment Enterprise).

According to a definition of "permanent interests," it is believed that the direct has a long-term business relationship and significant control over the company's operations. Both the original contract between the two businesses and any later capital transactions between them and any associated companies, whether incorporated or not, are included in direct investments.

Both the original contract and any future capital transfers between and among the connected companies are considered direct investments. Any subsequent capital transactions between them and linked entities are included in the initial contract for direct investments.

FDI's theoretical reasons are widely accepted to originate from international trade, which is based on concepts such as comparative advantage and differences in country-level factor endowments. According to this definition, "FDI" refers to a long-term management interest (typically 10% of voting shares) that an investor acquires by making an investment outside of their own national borders (World Bank, 1996).

- **Foreign Direct Investment**

  Capital in the form of equity, profits reinvested, and other direct investment are the three types of FDI flows that may be detected in a country's financial system (including short term and long term intra company loans as well as trade credits).

a) **Equity Capital**:

This is the true worth of a multinational company's equity investment. Non-cash assets include technology fees, brand name, and other intangible assets. These assets might be physical or intangible. It includes branch equity, all subsidiary/associate equity, and other capital inputs. Profits were reinvested in the company. This is the total of the direct investor's share of non-dividend profits by subsidiaries/associates and non-dividend earnings by branches. Other direct investment capital: Inter-company debt is the phrase used for such transactions. Supplier credit is available to direct investors, subsidiaries, branches, and associates.

b) **A Foreign Affiliate or Direct Investment Enterprise**

This kind of corporation is called a Foreign Affiliate or Direct Investment Enterprise because it is owned by a foreign direct investor from another country who has the right to a long-term stake in its management, regardless of whether it is incorporated or not (an equity stake of 10 percent for an incorporated enterprise or its equivalent for an unincorporated enterprise). There must be at least a 10 percent voting power between the direct investor and the direct investment company in order to establish a direct investment connection.

c) **Foreign Direct Investment** refers to money received by a foreign affiliate from a direct investor, whether the funds are received directly or indirectly via other affiliated enterprises.

d) **Outflows of Foreign Direct Investment** are funds transferred from a direct investor to an affiliate based in another country.

e) **Foreign Direct Investment stock**

An affiliate company's net indebtedness to the parent company is equal to the whole value of the affiliate company's share of capital and reserves attributable to the parent company, including retained profits (if any). Stocks of FDI might be hard to track down. Stocks in a broad range of countries are determined using a variety of methods. For example, the International Monetary Fund's data series on direct investment assets and liabilities may be used to calculate the stock of an economy's FDI assets and liabilities for a particular year. The stock of an economy's external financial assets and liabilities changes as a result of financial account transactions, which are transactions that occur outside of an economy (FDI inflows and outflows). All of these variables have an influence on the value of financial assets and liabilities over time, not only changes in the prices of financial assets and liabilities.

(f) The **Outward Foreign Direct Investment Stock**- This metric measures the amount of a country's foreign financial assets that are held by direct investors in abroad affiliates at the conclusion of a reporting period, either directly or indirectly via other associated firms.

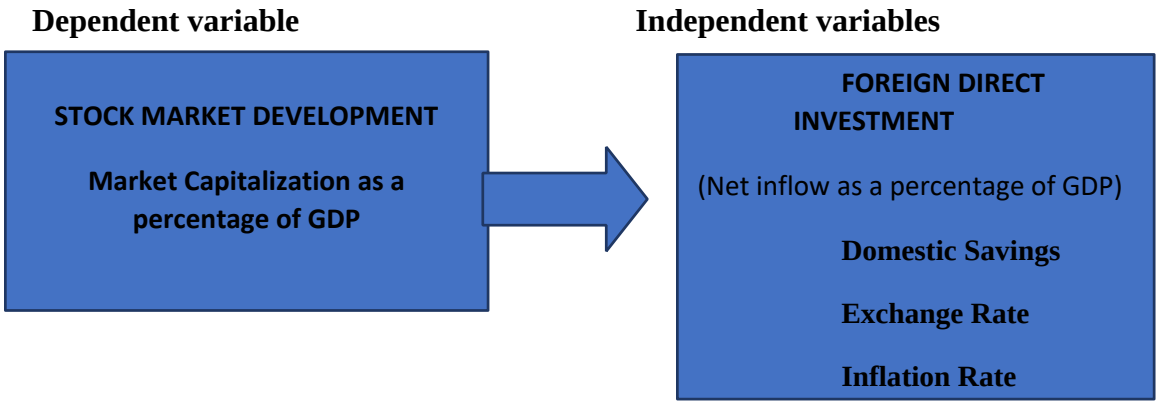
3.4. Foreign portfolio investment

Investing in foreign stock and debt securities on the secondary market for the primary aim of profit, rather than investing in a company's best interests, is known as foreign portfolio investment (or FPI). Expansion of the capital market after the entry of foreign portfolio investors into a country is not uncommon. When capital enters the main market, portfolio investment provides direct funding to local firms without the need for a controlling position in the company.

This investment in the secondary market raises stock prices, which lowers the cost of capital and encourages new share offerings as a result of increased demand. Portfolio

investment helps to increase the liquidity of the stock market. The phrase "foreign portfolio investment" (FPI) refers to a financial investment made by an investor from one country in the securities markets of another country solely for the purpose of earning income or accumulating wealth. For the most part, however, this is a short-term investment in securities such as stocks, bonds, notes, money market instruments, and financial derivatives that does not include significant control over a long-term interest in the underlying firms. As a consequence, it is more resilient to shifts in investor sentiment and financial market crises than foreign direct investment. In recent years, portfolio investment has been advocated as a means of increasing capital inflows into the economy.

3.5. Conceptual Framework



In the conceptual framework, you can see how the different components of the table are connected. Two of the topics addressed in this article are stock market expansion and FDIs. The independent variable in this study is the amount of FDI coming in, expressed as a percentage of GDP. The amount of domestic savings, the exchange rate, and the inflation rate are all control factors. The research's dependent variable will be the growth of the stock market, expressed as a percentage of GDP by market capitalization.

3.6. Germany's FDI History

According to prior research and analyses (IMF, 2010), Germany's economy is strong and trustworthy, suggesting that it can withstand economic turmoil and difficulties. When it comes to Europe's economy, recent years have seen Germany emerge as one of the continent's most powerful financial players. As a technologically sophisticated nation, Germany is also regarded as one of the best.

Investors that are prepared to invest in Germany will reap the advantages of the country's tax incentives and other incentives. The government offers large tax benefits to investors. Additionally, investors who are contemplating making a German investment will benefit from cheap interest rates on loans. When compared to other nations that favor local and international investors, the German government treats all investors equally, regardless of where they come from in the globe. In 2011, the EU-27 accounted for more than half of Germany's FDI inflows, according to the Bundesbank. Only 23 percent of the entire FDI stock came from the United States, with the remainder coming from other countries. FDI from Asia only contributed for 6% of Germany's total investment. There have been just a handful of researches on FDI in Germany in the last decade.

Juhl and Donges (1979) conducted a descriptive research focusing on Germany to examine the impact of FDI on domestic employment. According to Wilkens and Hackenbruch (1988), foreign direct investment (FDI) in the federal republic was studied in depth. They did not, on the other hand, focus only on the economic aspects of German FDI. Germany has a relatively low number of researches on the variables that influence FDI.

3.7. Fundamentals of the German’s FDI

More than 7% growth in German FDI stocks in Euro terms occurred in 2010. In contrast, there was a 1% decline in value when the currency was converted to US Dollars. The Euro's decline in value against the US Dollar triggered it. German entering FDI accounted for 70% of German outbound FDI at the end of 2010. Around 3 million Germans were employed as a result of this. They may bring in more than $1.5 billion in revenue for the German government. Germans working abroad have dropped as a result (Central Bank of Germany, Annual Report 2012).

There are numerous multinational businesses who have their headquarters in Germany, which is beneficial for them since Germany has the strongest economy in Europe and a desired location. A total of 49 billion US dollars of FDI flowed into Germany in 2011, but only managed to achieve a total of 11 billion US dollars in 2012 (Deutsche Bundesbank data).

Germany's equity investments are believed to have totaled $7 billion in the United States, according to various sources. German FDI inflows decreased considerably in the second half of 2012, according to the BMWI (2012). As a result of Europe's general condition, Germany cannot be held responsible for this. Germany hoped to help other nations, such as Greece, Spain, and Portugal, overcome their present problems and avoid a recession, but they were unable to accomplish this goal. More than two-thirds of all FDI is invested in the service sector. To understand why so many of the world's top organizations have their headquarters in Germany, consider the country's successful economic progress over the last several decades. Such high-tech businesses include automobiles; computers and information technology; chemicals; machines; and weapons.

In 2010, FDI in manufacturing expanded by around 15%. No other European country came close, despite the fact that it was down from prior years. The bulk of FDI flowing into Germany comes from wealthier nations, according to official figures.

3.8. The Factors Influencing Foreign Direct Investment

a) The extent to which the domestic market is significant

The size of the local market is one of the most important factors to consider when trying to attract FDI to a certain country. The income and growth of a nation may be used as proxy indicators to determine the size of its domestic market, allowing for more accurate estimations of the market size. Generally speaking, per capita income (PCI) is the most often used indication of effective demand, and it may be used to assess the size of a local market in the vast majority of cases. Additionally, in addition to the PCI, the GDP and population size of a nation are used as indicators to assess the size of a local market in addition to the population size of a country. FDI inflows will not be significantly affected by the size of the local market in other circumstances, such as when a business is export-oriented rather than market-seeking in nature, according to the findings (Root, & Ahmed 1979).

b) Level of Infrastructure

Thus, in today's internationally competitive business world, lack of sufficient infrastructure not only raises transaction costs for existing businesses, but it also functions as a barrier to entry for new organizations. In order to boost foreign direct investment, FDI in infrastructure development is essential. This is due to the fact that more efficient and adequate infrastructure provides improved access to natural resources as well as potentially lucrative business opportunities.

Viability in the exchange rate

FDI inflows are influenced by variations in the value of the local currency, which may be either predictable or unpredictably unpredictable (Goldberg and Klien, 1997). Currency depreciation and appreciation have an important influence in determining changes in FDI. When a country's currency is devalued, it often results in an increase in the actual worth of the capital invested by foreigners in the country in question. Foreign investors' capital is devalued when a country's currency is depreciated, on the other hand, and as a consequence, the real value of their capital decreases. An increase in the value of a host country's currency on a regular and consistent basis would be discouraging to foreign investors since it generates a significant degree of uncertainty for them in the long run (Accolley, 2003).

b) Inflation

Furthermore, inflation has an effect on the actual return on investment and the competitiveness of enterprises by increasing the cost of inputs while concurrently decreasing the cost of outputs.

Because of this, governments that implement measures to lower the rate of inflation have a better chance of attracting foreign direct investment. When it comes to long-term investment, low and predictable inflation rates are critical for both domestic and international enterprises when making long-term investments in a country. Greater and unforeseen inflation will occur as a result, which will reduce the amount of FDI that comes into the country (Berhanu Nega, 1998).

c) Debt owed to other countries

The macroeconomic situations of developing nations, particularly in Africa, are prone to instability as a consequence of the large amount of foreign debt they have accumulated. Foreign debt is expected to have a negative impact on the inflow of FDI into the nation, according to

projections. If a country's foreign debt becomes too large, it may signify the onset of fiscal difficulties, and the debt may be used to forecast the country's future economic condition (Serven et al., 1992).

d) **Deficit in the Federal Budget**

Government-induced fiscal imbalance, whether it is financed by the printing of extra bank notes or the imposition of new taxes, has the effect of decreasing the actual return on investment (Serven et al., 1992). Many emerging nations have also shown that, as a result of excessive government borrowing, financial resources accessible to the private sector are restricted, and the interest rate on these resources is very high. As a matter of fact, this is particularly true in developing markets. On the other hand, UNCTAD believes that an expansionary fiscal policy, especially in emerging countries, may be beneficial for the expansion of public sector infrastructure investments. It is a contentious issue whether a budget deficit has an overall negative effect, which has been experimentally investigated by a number of scholars. It is believed that there is a negative relationship between the budget deficit and FDI, on the other side (Accolley, 2003).

e) Political Stability

The potential for financial damage from conflicts and crises in politics is there, whether implicit or explicit, internal or external, and may be felt at all levels of a country's economic activity, and in particular at the level of FDI into a country's economy. If the political atmosphere in a nation is not stable, no matter how successful the government's efforts to create a more appealing environment for foreign investors are, their efforts will be useless

f) **Human Capital**

Workers who are educated and prepared to perform in contemporary corporate organizations, it is almost unanimously agreed, is a strong predictor of FDI flows (Rivlin, 2001). There has been a significant increase in FDI in the Republic of Ireland, which has profited from the existence of a highly educated workforce in the nation, among other things. Research shows that human capital is assessed by the percentage of the population aged 15 to 19 who are enrolled in secondary school, according to the results.

Integration of the Regions

Regional trade agreements, in addition to improving access to regional markets, have the potential to play a significant role in increasing the amount of FDI that flows into member countries, according to the World Bank.

As a result, considerable regional integration generated by trade agreements may have an impact on the investment choices made by multinational and bilateral corporations. According to Mwilima (2003), regional integration is a crucial driver of market-seeking FDI in their respective nations' economies. When compared to other member nations, the advantages of regional integration are depending on the size of the local market in a certain country, the degree of infrastructure development, and the availability of skilled and inexpensive labor.

CHAPTER FOUR

4.0. STOCK MARKET ANALYSIS IN GENERAL AND EURO AREA

4.1. General information about the economy of the Euro area

The euro area is made up of 19 EU member nations that use the euro. In order to achieve the EU's economic aims, all EU member nations are members of the Economic and Monetary Union (EMU). When the euro was initially adopted in 1999, it included 11 of the then 15 EU members, (Feldstein, M. (1997). Greece joined in 2001, one year before the cash switchover, followed by Slovenia in 2007, Cyprus and Malta in 2008, Slovakia in 2009, Estonia in 2011, Latvia in 2014, and Lithuania in 2015. Currently, there are now members of the euro area. Austria, Germany, France, Belgium, Cyprus, Finland, Estonia, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Spain, Slovenia, and Slovakia. Germany founded the Euro area. The euro boosted economic integration among euro-area nations. To fully benefit from the single currency, economic integration must be successfully managed. As a consequence, the euro area varies from other EU areas in terms of economic management, particularly monetary and economic policies, and may be distinguished from them (Eurozone, Wikipedia).

The European Central Bank (ECB) in Frankfurt, Germany, and the national central banks of the euro area members manage monetary policy. This self-governing body oversees euro area monetary policy. The ECB's Governing Council determines monetary policy for the whole euro area. An institution with a singular focus on maintaining price stability, the European Central Bank (ECB) was established in 1999, (Moutot, P., Jung, A., & Mongelli, F. P. (2008).

The euro area's economic strategy is mostly the responsibility of the member states, but they must coordinate their plans to achieve shared goals of stability, growth, and employment. Many organizations and procedures exist to create coordination, the most noteworthy being the Stability and Growth Pact (SGP). All EU members must adhere to agreed-upon fiscal discipline requirements, such as limiting government deficits and debt. However, only countries in the Euro area face financial or other penalties for non-compliance. Every year, the European Semester cycle is followed to ensure effective EU economic governance.

- **Austria’s Economy**

Austria has a well-developed market economy with a highly trained work force and a high quality of life. It is strongly linked to the economies of other EU countries, particularly Germany's, but also to the economy of the United States, which is its third-largest trading partner. Its economy is characterized by a big service sector, a robust industrial sector, and a tiny but well developed agriculture sector.

Austria's economic development accelerated in 2017, with a 2.9 percent rise in GDP. Austrian exports, which account for over 60% of the country's GDP, increased by 8.2% in 2017. Austria's unemployment rate decreased by 0.3 percent to 5.5 percent, which is low by European standards but remains the country's second highest rate since the end of World War II, owing to a rise in the number of refugees and EU migrants joining the job market .

Austria's fiscal status is favorable when compared to the fiscal positions of other euro area nations. In 2017, the budget deficit was a low 0.7 percent of GDP, while state debt fell to 78.4 percent of GDP, after hitting a post-war high of 84.6 percent in 2015. Several external concerns, such as Austrian banks' exposure to Central and Eastern Europe, the refugee crisis, and the continuation of upheaval in Russia and Ukraine, were alleviated in 2017, although they continue to be a concern for the Austrian economy. Additional concerns include exposure to the Russian financial sector as well as a long-standing energy link with Russia (World factbook, 2020).

- **Belgium’s Economy**

Belgium's geographical centrality and highly developed transportation infrastructure have helped to establish a well-diversified economy that contains a wide mix of transportation, services, manufacturing, and high technology. North-eastern Flanders is known for its service and high-tech industries, while Wallonia's south-eastern region is known for its coal and steel industry. Belgium is completely reliant on foreign supplies of fossil fuels, and the planned closure of the country's seven nuclear power plants by 2025 will further increase the country's dependency on foreign energy sources. Because of its location as a regional logistical hub, its economy is particularly vulnerable to fluctuations in international demand, particularly from trading partners in the European Union. Approximately three-quarters of Belgium's trade are with other EU

members, and the port of Zeebrugge alone handles over half of the country's trade with the United Kingdom, putting the country's economy vulnerable to the outcome of the Brexit negotiations.

In 2017, Belgium's GDP expanded by 1.7 percent, while the country's budget deficit was 1.5 percent of GDP. The unemployment rate in Flanders was 7.3 percent; however, the rate in Wallonia was 9.4 percent, while the rate in Flanders was just 4.4 percent. This is due to differences in the industrial sectors of the two regions. The economy has largely recovered from the March 2016 terrorist attacks, which had a substantial impact on the tourist and hotel businesses in the Brussels region (World factbook, 2020).

- **Cyprus' Economy**

The government-controlled portion of the Republic of Cyprus has a market economy dominated by the services sector, which accounts for more than four-fifths of GDP. The most significant services in the past have been tourism, banking, shipping, and real estate. Cyprus has been a member of the EU since May 2004, and in January 2008 joins the euro area and adopted the euro as its national currency.

Cyprus's economy increased at an average rate of approximately 4% over the first five years of EU membership, with unemployment averaging about 4% between 2004 and 2008. However, the economy entered a slump in 2009 as a consequence of the prolonged global financial crisis and reduced demand in the tourist and construction industries. The downturn was exacerbated by an overextended banking sector that was too exposed to Greek debt. Cyprus's two major banks were among Europe's top holders of Greek bonds, with a significant presence in Greece through bank branches and subsidiaries. Cyprus lost access to international financial markets in May 2011 as a result of repeated credit rating downgrades. Cyprus became the sixth euro area government to seek an economic rescue package from the European Commission, European Central Bank, and International Monetary Fund, collectively known as the "Troika" in July 2012(World factbook, 2020).

- **France’s economy**

The French economy is diverse in every industry. Many big enterprises, notably Air France, France Telecom, Renault, and Thales, have been partly or completely privatized by the government. However, the government retains a substantial involvement in several areas, most notably electricity, public transportation, and military. With 89 million international visitors in 2017, France is the most visited country in the world. France's authorities are dedicated to a capitalism in which social justice is maintained by laws, tax policies, and social expenditures that reduce economic disparity.

France's real GDP increased by 1.9 percent in 2017, up from 1.2 percent the previous year. The unemployment rate (including territories) rose from 7.8 percent in 2008 to 10.2 percent in 2015 before decreasing to 9.0 percent in 2017. In metropolitan France, youth unemployment fell from 24.6 percent in the fourth quarter of 2014 to 20.6 percent in the fourth quarter of 2017(World factbook, 2020).

- **Finland’s Economy**

Finland has a highly industrialized, primarily free-market economy, with per capita GDP about equal to that of Austria and the Netherlands, and somewhat higher than that of Germany and Belgium. In recent years, exports have accounted for more than one-third of GDP. The administration is receptive to foreign direct investment and aggressively seeks it.

Finland has a long history of industrial competitiveness, notably in the wood, metals, engineering, telecommunications, and electronics sectors. Finland excels in technology export as well as startup promotion in the information and communications technology, gaming, and biotechnology sectors. Finland, with the exception of lumber and a few minerals, is reliant on imports of raw materials, energy, and certain components for manufactured products. Because of the chilly temperature, agricultural growth is confined to basic product self-sufficiency. Forestry, a major export business, offers a supplementary source of income for the rural populace (World factbook, 2020).

- **Estonia’s Economy**

Estonia, a member of the EU since 2004 and the euro area since 2011, has a sophisticated market-based economy with one of the highest per capita income levels in Central Europe and the Baltic area, but its economy is strongly reliant on trade, making it susceptible to external shocks. Estonia's consecutive administrations have adopted a free market, pro-business economic agenda, and solid fiscal policies, resulting in balanced budgets and the EU's lowest debt-to-GDP ratio.

The economy benefits from strong electronics and telecommunications industries, as well as significant economic relations with Finland, Sweden, Germany, and Russia. The economy's 4.9 percent GDP growth in 2017 was the fastest in the previous six years, putting Estonia in the greatest position since the financial crisis ten years ago. For the first time in many years, worker productivity climbed faster than labor expenses in 2017. In 2017, inflation surged to 3.5 percent, owing to higher global food and energy costs, which account for a substantial portion of Estonian consumption(World factbook, 2020).

- **Greece’s Economy**

Greece has a capitalist economy with a public sector that accounts for over 40% of GDP and a per capita GDP that is roughly two-thirds that of the top euro area nations. Tourism accounts for 18% of GDP. Immigrants account for roughly one-fifth of the labor force, mostly in agricultural and unskilled labor. Greece is a large recipient of EU assistance, amounting to around 3.3 percent of yearly GDP.

Between 2003 and 2007, the Greek economy grew at a rate of roughly 4% per year, but it entered a recession in 2009 as a consequence of the global financial crisis, tighter lending conditions, and Athens' inability to handle a mounting budget deficit. By 2013, the GDP has declined by 26% from its pre-crisis level of 2007. In 2007-08, Greece satisfied the EU's Growth and Stability Pact budget deficit threshold of no more than 3% of GDP, but broke it in 2009, when the deficit hit 15% of GDP. In late 2009, major credit rating agencies downgraded Greece's international debt rating due to deteriorating public finances, erroneous and misreported data, and repeated underperformance on reforms, plunging the country into a financial crisis. Under tremendous

pressure from the EU and foreign market players, the government agreed to a bailout package that required Athens to slash government expenditure, reduce tax evasion, restructure the civil-service, health-care, and pension systems, and reform labor and product markets. In 2017, austerity measures lowered the deficit to 1.3 percent. In the face of enormous political resistance, notably from the country's strong labor unions and the broader public, successive Greek administrations failed to implement many of the most contentious changes (World factbook, 2020).

- **Ireland’s Economy**

Ireland's economy is modest, modern, and trade-dependent. It was one of the first 12 EU countries to use the euro, which went into circulation on January 1, 2002. GDP growth averaged 6% from 1995 to 2007, but economic activity plummeted amid the global financial crisis and the consequent collapse of the local housing market and construction sector from 2008 to 2011. Faced with substantially decreased income and a growing budget deficit as a result of measures to restore the country's weak banking system, the Irish government enacted the first of a series of severe budgets in 2009. These steps were insufficient to restore Ireland's national finances to normalcy. The budget deficit hit 32.4 percent of GDP in 2010, making it the world's highest deficit as a proportion of GDP (World factbook, 2020).

- **Italy’s Economy**

The Italian economy is divided into two parts: a prosperous industrial north controlled by private firms and a less developed, heavily subsidized agrarian south with a history of unemployment and underdevelopment. The Italian economy is mostly driven by the production of high-quality consumer products by small and medium-sized businesses, many of which are family-owned. Italy also has a significant subterranean economy, which some believe amounts for up to 17% of GDP. These activities are particularly popular in agriculture, construction, and the service industries.

Italy is the euro area's third-largest economy, but its extraordinarily high public debt and structural barriers to development have made it sensitive to financial market scrutiny. Since 2007, the public debt has gradually climbed, reaching 131 percent of GDP in 2017. Investor fears

over Italy and the wider euro area crisis subsided in 2013, with Italy's borrowing rates on sovereign government debt falling below euro-era lows. Investors and European partners continue to put pressure on the government to maintain its efforts to solve Italy's long-standing structural economic difficulties, such as labor market inefficiencies, a slow judicial system, and a weak banking sector. For the first time since 2011, Italy's economy returned to moderate growth in late 2014. In 2015-16, Italy's economy expanded at a pace of roughly 1% each year, and growth increased to 1.5 percent of GDP in 2017. The total unemployment rate in 2017 was 11.4 percent, while young unemployment remained high at 37.1 percent. GDP growth is expected to moderate marginally in 2018(World factbook, 2020).

- **Latvia's Economy**

Latvia's economy is an open economy in Eastern Europe that is a member of the European Union's Single Market. Founded in 1999, Latvia has been a member of the World Trade Organization (WTO) since 2004, a member of the European Union since 2004, a member of the Euro area since 2014, and a member of the Organization for Economic Cooperation and Development (OECD) since 2016. According to the World Bank Group's Ease of Doing Business Index, Latvia is the 14th most difficult country in the world to do business in. According to the Human Development Report 2011, Latvia is a member of the group of nations with very high levels of human development. Because of its geographic position, transportation services, as well as forestry and wood-processing, agricultural and food products, and the production of equipment and electrical gadgets, are all highly developed industries in the country(World factbook, 2020).

- **Lithuania's Economy**

After declaring independence from the Soviet Union in 1990, Lithuania experienced the standard disruption that occurs with transitions from a planned economy to a free-market one. Macroeconomic stabilization measures, including the privatization of most state-owned firms, as well as a strong commitment to a currency board system, resulted in an open and fast developing economy, as well as increased consumer demand. The change was assisted by foreign investment and EU assistance. Lithuania joined the World Trade Organization in May 2001, the EU in May

2004, and the euro area in January 2015, and is currently striving to fulfill the OECD accession roadmap it got in July 2015. In 2017, it became a member of the OECD Working Group on Bribery, which is a crucial step in the OECD membership process.

The Lithuanian economy was seriously harmed by the global financial crisis of 2008-09, but it has since recovered and is now one of the fastest growing in the EU. Increases in exports, investment, and wage growth aided the economy's 3.6 percent growth rate in 2017. In 2015, Russia was Lithuania's top commercial partner, followed by Poland, Germany, and Latvia; US-Lithuania commerce in products and services was $2.2 billion. In January 2015, Lithuania launched a self-financed liquefied natural gas terminal, providing the Baltic States with the first non-Russian supply of natural gas and lowering Lithuania's reliance on Russian gas from 100 percent to roughly 30 percent in 2016(World factbook, 2020).

- **Luxemburg's Economy**

This tiny, stable, high-income economy has a long history of good growth, low inflation, and low unemployment. Luxembourg, the world's only Grand Duchy, is a landlocked nation in northern Europe bordered by Belgium, France, and Germany. Despite its modest geographical area and population, Luxembourg is the fifth-wealthiest nation in the world in terms of gross domestic product per capita. Luxembourg has one of the euro area's greatest current account surpluses as a proportion of GDP, and it maintains a strong fiscal position, with a 2017 surplus of 0.5 percent of GDP and the region's lowest public debt level.

Luxembourg's government has been aggressively implementing policies and initiatives to foster economic diversification and attract foreign direct investment since 2002. The government concentrated on key innovative industries that demonstrated promise for supporting economic growth: logistics, information and communications technology (ICT), health technologies, including biotechnology and biomedical research, clean energy technologies, and, more recently, space technology and financial services technologies. The economy has developed and thrived, with 3.4 percent GDP growth in 2017, considerably exceeding the European average of 1.8 percent.

Luxembourg is still a financial powerhouse, which the financial industry accounts for more than 35% of GDP because to the exponential rise of the investment fund sector in the 1990s, which began with the establishment and development of cross-border funds (UCITS). With $4 trillion in assets in custody in financial institutions, Luxembourg is the world's second-largest investment fund asset domicile behind the United States (World factbook, 2020).

- **Malta's Economy**

Malta's free market economy, the smallest in the euro area, is strongly reliant on trade in both products and services, mostly with Europe. Malta generates less than a quarter of its food requirements, has limited fresh water resources, and few domestic energy sources. The economy of Malta is based on international commerce, industry, and tourism. Malta joined the European Union in 2004 and adopted the euro on January 1, 2008.

Due to a low debt-to-GDP ratio and a financially strong banking sector, Malta has weathered the Euro area crisis better than other EU member states. It boasts one of Europe's lowest unemployment rates, and growth has largely returned since the 2009 recession. Malta topped the Euro area in growth from 2014 to 2016, increasing at a rate of more than 4.5 percent each year.

Malta's services industry is expanding, with continued expansion in the financial services and online gambling industries. Advantageous tax methods remained appealing to foreign investors, despite worries among Malta's financial services and insurance firms that EU negotiations on anti-tax evasion measures might have a substantial effect on those sectors. The tourist industry grew as well, with record-breaking numbers of air and cruise passenger arrivals in 2016(World factbook, 2020).

- **Netherland's Economy**

With a regularly high trade surplus, solid industrial relations, and low unemployment, the Netherlands, the sixth-largest economy in the European Union, plays an essential role as a European transportation hub. Food processing, chemicals, petroleum refining, and electrical machinery are the main industries. A highly industrialized agriculture industry employs just 2%

of the working population but generates huge surpluses for food processing, supporting the country's position as the world's second biggest agricultural exporter.

The Netherlands is a member of the euro area, and its monetary policy is governed by the European Central Bank. The Dutch financial industry is extremely concentrated, with four commercial banks controlling more than 80% of banking assets, and it is four times the size of the Dutch economy (World factbook, 2020).

- **Portugal's Economy**

Since entering the European Community, the EU's precursor organization in 1986, Portugal has developed into a more diversified and more service-based economy. The nation became a member of the Economic and Monetary Union in 1999 and entered the euro area on 1 January 2002, along with 11 other EU countries, to begin circulating the euro.

During most of the 1990s, the economy developed at a faster pace than the rest of the EU, although the rate of growth decreased in 2001-08. Following the global financial crisis in 2008, Portugal's economy contracted in 2009 and entered a recession from 2011 to 2013, as the government implemented spending cuts and tax increases to comply with the terms of an EU-IMF financial rescue package signed in May 2011. The government implemented spending cuts and tax increases to comply with the terms of an EU-IMF financial rescue package signed in May 2011. Since Portugal's successful departure from its EU-IMF bailout program in May 2014, the country's economic recovery has gained steam, with robust exports and a comeback in private spending fueling growth in 2015. Gross domestic product (GDP) growth surged in 2016, and is expected to reach 2.5 percent in 2017. Despite the fact that unemployment remained high in 2017, at 9.7 percent, it has slowly decreased since peaking at 18 percent in 2013(World factbook, 2020).

- **Spain's Economy**

Spanish economic activity surpassed its pre-crisis record in 2017, marking the country's fourth consecutive year of positive development after a lengthy recession that started in 2008 in the wake of the global financial crisis. This was mostly due to rising private spending. The financial

crisis of 2008 ended Spain's 16-year streak of economic development, resulting in a period of economic decline that lasted until the end of 2013. With the assistance of an EU-funded restructuring and recapitalization program, the government was able to effectively stabilize its faltering banking industry, which had been significantly exposed to the fall of Spain's real estate bubble.

Until 2014, domestic consumption and investment were restrained by a reduction in bank lending, fiscal austerity, and a high level of unemployment. In 2007, the unemployment rate was about 8 percent, but it increased to more than 26 percent by 2013, although labor reforms resulted in a slight decrease to 16.4 percent in 2017. Spain's governmental finances were stretched as a result of high unemployment, which resulted in higher expenditure on social benefits as tax revenues declined. Spain's budget deficit reached a record of 11.4 percent of GDP in 2010, but the country has steadily lowered the deficit to about 3.3 percent of GDP in recent years. The public debt has expanded significantly in recent years, rising from 60.1 percent of GDP in 2010 to roughly 96.7 percent of GDP by 2017(World factbook, 2020).

- **Slovenia's Economy**

In spite of a protracted recession in the aftermath of the global financial crisis in 2008-09, Slovenia has one of the highest per capita gross domestic products (GDP) in Central Europe, thanks to excellent infrastructure, a highly educated workforce, and a strategic location between Balkans and Western Europe. As the first member state of the European Union since 2004, Slovenia became part of the euro area on January 1, 2007. Since then, the country has undergone a smooth political and economic transition to the euro.

When Slovenia graduated from borrower status to donor partner status at the World Bank in March 2004, it made history as the first transition nation to accomplish this feat. OECD membership was granted to Slovenia in 2012 after it was asked to begin the membership process in 2007. With demand in bigger European markets driving export-led development, yearly GDP growth increased over 2.3 percent from 2014 to 2016. 5.0 percent growth was achieved in 2017, with projections indicating that it would be close to or beyond 5 percent in 2018. As a result of

robust exports and rising spending, what had previously been persistently high unemployment dropped below 5.5 percent in early 2018, boosting labor demand (World factbook, 2020).

- **Slovakia's Economy**

Slovakia's economy got off to a sluggish start in the years following its 1993 separation from the Czech Republic, owing to the country's authoritarian leadership and high levels of corruption. However, economic reforms implemented after 1998 have put the country on a path of strong growth in recent years. The Slovak Republic, which has a population of 5.4 million people, has a modest, open economy that is primarily driven by exports of automobiles and electronics, which account for more than 80 percent of GDP. Slovakia became a member of the European Union in 2004 and of the euro area in 2009. The banking industry in the nation is strong and dominated by foreign investors.

Slovakia has been a regional leader in foreign direct investment (FDI) for many years, attracted by the country's low-cost but highly trained labor force, as well as its advantageous geographic position in the center of Central Europe. Exports and foreign direct investment have been two of the most important drivers of Slovakia's strong development in recent years. In 2017, the unemployment rate dropped to record lows, and growing salaries supported greater spending, which played a more important role in GDP growth in 2017. The positive forecast for the Eurozone means that Slovakia will continue to see robust growth over the next several years, while inflation is projected to rise as well (World factbook, 2020).

- **Trade relations of the Euro Area with the rest of the world**

Compared to other major economies, such as the United States, China, or Japan, the euro area's economy is comparatively open, especially in terms of trade relations. Specifically, it has seen a significant growth in trade openness since 2004, which is mostly due to increasing commerce with new EU Member States and Chinese exports. Exports of products and services to and from countries outside the Euro area account for around half of total Euro area GDP at the moment, (Schmitz, B., & Von Hagen, J. (2011).

- **Trade in goods**

It is estimated that the trade in goods accounts for around three-quarters of overall foreign trade in the euro area. Energy and raw materials, taken combined, account for a significant portion of imports from countries outside the euro area, while exports are mostly composed of processed commodities, particularly machinery and transportation equipment. These trends are a result of growing globalization, international division of labor and a lack of raw resources available in the euro area.

- **External trade in goods**

Information on the value and volume of products exchanged of imports and exports between the euro area as a whole and nations outside the euro area is provided by external trade statistics. This includes EU Member States that have not yet accepted the euro, such as Denmark, as well as the euro area's most important economic partners outside the EU, such as Japan, Switzerland, and the United States. The external trade data are offered by product group and by the key trading partners, and are quantified both in terms of value and as indices of volume and unit value.

Trade statistics evaluate imports on a c.i.f. basis (which includes the cost of transit, insurance, and freight up to the importer's border) and exports on a f.o.b. basis (which includes the cost of transit, insurance, and freight up to the exporter's border).

- **Trade in Services**

The trade in services accounts for the remaining quarter of total euro area external trade. The breakdown of trade flows for services by service classification type is similar for imports and exports, with other business services accounting for the largest share of total trade flows, followed by transportation and travel services.

- **Trading partners**

The EU Member States that are not members of the euro area, as well as the euro area's top 10 trading partners outside the EU, account for about three-quarters of the euro area's external trade.

Its three most important commercial partners are the United Kingdom, the United States, and China. The significance of emerging market economies has increased in recent years, as the importance of emerging market economies in the euro area. Non-euro area EU Member States account for a significant proportion of the EU's foreign commerce (Eickmeier, S., & Breitung, J. 2006).

Table 4.1. Per capita income, GDP levels and FDI of Euro Area

ountry	Variables	2014	2015	2016	2017	2018	2019
CYP	FDI	223.4284	145.9527	40.60528	53.55905	-24.8988	100.6678
CYP	GDP	-1.82931	3.38308	6.454554	5.85254	5.692842	5.283187
CYP	GDP per capita	-0.74282	3.807927	5.950966	4.181184	3.964773	1.686881
BEL	FDI	-2.84393	-4.22249	12.09451	-7.43512	-7.66128	-5.61855
BEL	GDP	1.578533	2.041459	1.266686	1.61958	1.819204	2.14956
BEL	GDP per capita	1.128596	1.451893	0.755269	1.228866	1.356791	1.59897
AUT	FDI	0.387373	-2.0889	-7.31588	3.247928	-6.27662	-1.82024
AUT	GDP	0.661273	1.014502	1.989437	2.258572	2.501595	1.491211
AUT	GDP per capita	-0.12237	-0.11154	0.892469	1.550724	2.003553	1.040908
FRA	FDI	0.203525	1.75643	1.327393	1.385543	2.777935	2.106468
FRA	GDP	0.956183	1.112912	1.095464	2.29142	1.865066	1.842972
FRA	GDP per capita	0.479078	0.754024	0.829057	1.994998	1.585879	1.620358
DEU	FDI	0.501769	1.859895	1.866124	2.974301	3.987459	1.739026
DEU	GDP	2.209543	1.491932	2.23	2.680231	1.086025	1.055508
DEU	GDP per capita	1.784342	0.617105	1.408102	2.297206	0.78269	0.827865
GRC	FDI	1.147096	0.648725	1.398086	1.725166	1.899281	2.437133
GRC	GDP	0.475696	-0.19609	-0.48717	1.092149	1.668429	1.803595
GRC	GDP per capita	1.147212	0.463653	-0.07242	1.29229	1.874903	1.910891

EST	FDI	6.698265	-3.12682	3.848285	6.462816	4.044478	9.866417
EST	GDP	3.011367	1.85302	3.155565	5.792045	4.13382	4.096343
EST	GDP per capita	3.281875	1.786275	3.125538	5.664039	3.772023	3.710286
FIN	FDI	6.385711	7.458254	2.129637	6.72471	-3.83616	5.808291
FIN	GDP	-0.36491	0.543659	2.811458	3.19241	1.141948	1.343755
FIN	GDP per capita	-0.77611	0.213029	2.51638	2.950531	1.007881	1.232144
ITA	FDI	0.788869	0.724628	1.367774	0.569173	2.116289	1.551979
ITA	GDP	-0.00455	0.778304	1.293463	1.667859	0.925811	0.410278
ITA	GDP per capita	-0.91781	0.875477	1.46569	1.820334	1.117817	1.574738
LVA	FDI	3.334191	2.98268	1.195177	3.793593	1.243185	3.169965
LVA	GDP	1.900096	3.885027	2.36761	3.313089	3.98948	2.484326
LVA	GDP per capita	2.864267	4.738948	3.30742	4.232735	4.802867	3.19932
SVN	FDI	2.041591	4.015178	3.232885	2.468024	2.841187	3.971174
SVN	GDP	2.768159	2.210082	3.191853	4.815381	4.422522	3.250531
SVN	GDP per capita	2.667134	2.133258	3.116347	4.747106	4.044587	2.534091
ESP	FDI	2.405673	1.927596	3.59177	2.410862	3.899357	1.063377
ESP	GDP	1.383908	3.835173	3.031301	2.973641	2.288786	2.085191
ESP	GDP per capita	1.68745	3.915768	2.944349	2.732361	1.841758	1.357963
SVK	FDI	-0.35948	1.715988	5.292556	4.440601	2.132271	2.19661
SVK	GDP	2.724374	5.21565	1.931681	2.980187	3.794411	2.605369
SVK	GDP per capita	2.624733	5.115707	1.800353	2.820507	3.650746	2.466609
PRT	FDI	5.24652	0.637193	3.565346	4.838454	3.239577	4.300252
PRT	GDP	0.79219	1.792046	2.019485	3.506345	2.849326	2.68276

PRT	GDP per capita	1.33712	2.214483	2.341823	3.759094	3.014124	2.658393
NLD	FDI	13.20199	42.15267	29.78313	25.68468	-37.7308	-18.6002
NLD	GDP	1.423395	1.95917	2.191714	2.910903	2.360915	1.955588
NLD	GDP per capita	1.059101	1.508266	1.649316	2.304285	1.764937	1.289889
LUX	FDI	27.49477	20.81642	51.30691	-10.3972	-23.518	-16.27
LUX	GDP	2.623086	2.269784	4.97819	1.317188	2.004377	3.283807
LUX	GDP per capita	0.232564	-0.11548	2.739792	-1.11611	0.055732	1.276273
IRL	FDI	37.65382	81.33464	34.45162	17.42391	17.50321	-11.684
IRL	GDP	8.713698	25.17625	2.042233	8.940013	9.030161	4.917007
IRL	GDP per capita	7.921897	23.99909	0.896822	7.760442	7.687746	3.491901
LTU	FDI	0.736238	2.503579	2.737299	2.90451	2.419451	2.877618
LTU	GDP	3.53701	2.024584	2.518828	4.282597	3.99331	4.573772
LTU	GDP per capita	4.431088	2.988913	3.829841	5.751047	4.990354	4.85095
MLT	FDI	1.340744	32.82448	23.68322	29.42283	30.09702	27.96296
MLT	GDP	7.633538	9.608133	4.090917	8.119425	5.179225	5.539566
MLT	GDP per capita	5.505675	7.023413	1.73573	5.198577	1.5698	1.47093

Source: World Bank data

The table 4.1 shows the per capita income, GDP levels and FDI of euro area from 2014-2019.

4.2 Characteristics of the stock markets in the Euro Area

In comparison to the economies of its individual member countries, the Euro area is enormous and far more closed. The nation boasts the world's third-largest economy in terms of proportion of global GDP, after only the United States and China. As in other advanced countries, the service sector accounts for the bulk of total output, followed by the industrial sector, with

agriculture, fishing, and forestry accounting for a relatively small share of total output. Furthermore, with a population of around 340 million people, the Euro area ranks as one of the world's largest economies in terms of size.

The first facility is the stock market, which may be used as a reliable economic barometer to evaluate a country's overall economic strength. Whatever changes occur in the Euro area and the economy, their influence on the stock price may be seen in the stock price's reflection. The rise or fall in the value of a company's stock indicates whether the economy is in a boom or a recession cycle.

- **It adds to the expansion of the economy**

It is one of the most comprehensive facilities accessible at a Euro area stock exchange. A stock market is a marketplace where investors may purchase and sell securities issued by various companies. This disinvestment and reinvestment process will aid in the allocation of resources to the most productive investment projects, resulting in enhanced economic activity.

- **It encourages the creation of new capital**

In the Euro area, the stock market's capabilities also include tools for stimulating capital creation. The stock market helps to accelerate the capital generating process. It also instills in investors the habit of saving, investing, and taking risks to optimize their profits. It also functions as a safe and profitable investment instrument.

- **It makes lending simpler for banks**

The Euro area stock market enables banks to lend money to customers in return for firm assets that they may buy on the market. The ease with which banks may get information regarding the prices of listed securities through the stock market benefits holders of such assets as well.

- **It makes borrowing easier for the general public**

The Euro area stock market serves a vital service by serving as a platform for the selling of government assets, allowing the government to issue public debt in a straightforward and

efficient way. According to the preceding definition, stock markets are open marketplaces where financial assets are exchanged on a daily basis. Every major stock exchange market in the world, including the United States and Europe, plays an important part in defining the global economic situation.

- **Educating and informing investors**

The Euro area stock exchange allows investors to access vital information on their websites. Advertisements for the stock market are also being put in newspapers and business periodicals as part of an effort to enhance awareness about what should and should not be done while investing. This service assists investors in becoming more aware about stock market investing and making better informed financial decisions.

4.3 Main factors that affect the stock markets in general and also in the Euro Area

4.3.1. Main factors that affect the stock market in general

- **Inflation**

Inflation may have a detrimental influence on stock market movements. It refers to the rate at which the price of goods and services rises over time. Inflation may be caused by a variety of circumstances. These factors include an increase in the cost of transportation, manufacturing, and product sales. When inflation is low, stock market sales tend to rise; conversely, when inflation is high, firms tend to cut down on spending, resulting in a decline in income and an increase in product costs. As a consequence, the stock market has dropped precipitously.

- **Foreign Market**

When the global economy is experiencing a downturn, products and services are unable to be marketed as widely as they once were. Because of this, revenue decreases and the stock market declines as a consequence of the decrease in revenue. If international stock exchanges begin to collapse or see dramatic falls, it is possible that a ripple effect could occur, which would eventually result in a reduction in the entire value of the global stock market.

- **Government policies**

The policies implemented by the government have a direct impact on the direction of the stock market. This is due to the fact that, in the majority of cases, the policies have a direct influence on investor mood as well as the economy as a whole. If investors believe that the policies are favorable, the stock market will benefit. If, on the other hand, they are thought to be undermining investor confidence, this has a negative impact on the market.

4.3.2. Main factors that affect the stock market in euro area

- **Rates of interest**

The actions of the European Union's Central Bank have a direct influence on the stock market. The Central Bank of the European Union sets interest rates in the Euro area, which it adjusts on a regular basis to keep the EU's economy stable. A higher interest rate would imply that firms in the Euro area would have to pay more for loans, resulting in fewer profits.

As a consequence, stock values will plummet. Reduced interest rates, on the other hand, imply that a firm may now borrow money from banks at much lower rates, enabling them to save money while growing profits. Stock prices will increase as a consequence of this situation.

- **Currency exchange rates**

Another factor influencing euro stock market values in the Euro area is the value of the euro in relation to the dollar or another foreign currency. A strong euro signifies that the economy is growing, which means that stock market prices will rise in the near run.

As a consequence, when compared to other sorts of investments, stock market investing offers the greatest potential for profit. However, it also carries a high level of risk. Regardless, no one can deny that if these risks are properly assessed, the return will nearly always be equivalent to the dangers. The factors described above are some of those that have a direct influence on the stock market, and keeping a careful eye on them may help you decide whether to buy or sell stocks.

4.3.3. Differences about the main factors the factors that affect the stock markets in the Euro Area with the factors that affect the Stock markets in General

Table 4.3.3 The differences between factors that affect the stock markets in Euro area and in general

Main factors that affect stock market in the General	**Main factors that affect stock market in the Euro area**
High risk of Inflation	Low risk of inflation
Interest rate is controlled by a particular country	Collectively control interest rate
Different currencies	Same currency

4.3.4. Why these factors are different?

Inflation

Prior to the introduction of the euro as the euro area single currency, each country assessed inflation using its own set of national processes and methodologies. It became important, as a result of the adoption of the euro, to establish a method of monitoring inflation for the whole euro area that was free of gaps or overlaps and that could be compared across different nations. This is exactly what the HICP, which is backed by a set of legally enforceable standards, does. The introduction of the euro for euro area members help to reduce the high risk of inflation in these states as compared to other countries outside the EU.

Inflation was quite high in several European nations throughout the 1970s and 1980s. However, since the mid-1990s, inflation rates have fallen dramatically as a result of nation's preparedness for the introduction of the euro as well as the ECB's monetary policies.

- **Interest rate**

The main interest rates for the euro area are decided by the ECB's Governing Council, which consists of the following members:

The interest rate on the main refinancing operations (MRO), which account for the vast majority of the liquidity provided by the banking system, is known as the repo rate. Deposit facility interest rates are those charged to financial institutions that make overnight deposits with the European Central Bank (Eurosystem).The interest rate on the marginal lending facility, which provides banks with overnight credit from the European Central Bank. Unlike the euro, others nation's interest rates are decided by the individual nation. In general, the interest rate is determined by their respective central banks.

- **Currency exchange rate**

As a result of monetary policy measures having an influence on financing conditions in the economy and on market expectations, changes in asset values (for example, stock market prices) and the exchange rate may be made in the economy. In general Changes in the currency rate may have a direct impact on inflation in the sense that imported items are directly consumed, but they can also have an impact on inflation via other routes.

4.4 Can Stock Market Boom with Economic Growth?

Emerging stock markets contribute significantly to global economic growth via channels such as liquidity, market capitalization, risk sharing, and variety. According to Bencivenga et al. (1996), stock market liquidity helps economic growth by improving corporate governance and easing business information acquisition.

The link between the stock market and the economy may be generally defined as follows: investment stimulates economic growth, the facilitation of firm ownership improves personal

wealth, and stocks serve as a barometer of economic growth. These three elements will be discussed in further detail below:

- **Investment in the stock market has the potential to stimulate economic growth**

Investors' money allows businesses to expand. A new firm may have to depend on its own resources or survive on a tight budget. However, by going public, it can hire more personnel, drive innovation, and achieve economies of scale. Companies may improve sales and acquire a legitimate competitive advantage in the marketplace, which directly affects the GDP and stimulates the economy.

In 2012, Facebook generated global revenues of $5 billion and employed roughly 5,000 people. The company's IPO garnered over $16 billion that year, propelling it to a market valuation of $630 billion by January 2020, with about $55 billion in global sales and over 40,000 workers globally - all evidence of the IPO's tremendous economic effect.

- **Excessive profits from business ownership are possible.**

Investing in shares and major stock indexes may allow individual investors, not only venture capitalists, to have a stake in successful enterprises and grow wealth over time. As a consequence, capital may be reinvested or spent, affecting the economy. Stocks have historically outperformed bonds in battling inflation, with some indices recording triple-digit gains since the turn of the century.

- **The stock market might indicate economic strength.**

The stock market is typically viewed as a reliable economic indicator. It gives data on major businesses performance, which in turn provides data on economic indicators like consumer spending. Rising stock prices are linked to improve corporate and consumer confidence, but falling stock prices are not.

4.5. The impacts of Brexit on the Economy of the EU and on the Stock Market in the EU as General

The transition phase for the UK's withdrawal from the European Union (EU), sometimes known as "Brexit," ended on December 31, 2020. Brexit stood for "British exit" from the EU, which the UK had been a member of since 1973. In 2016, the UK voted to exit the EU. The citizens determined that the advantages of free commerce didn't outweigh the downsides of open borders. 17.4 million Voted to leave, while 16.1 million opted to stay.

- **The impacts of Brexit on the Economy of the EU**

Brexit is a vote against the globalization of the economy. As a consequence, it has undermined the forces in the EU that are in favor of further integration of the country. Members of right-wing, anti-immigrant parties are notably anti-EU in France and Germany, as seen by their opposition to the European Union. If they win enough momentum, they may be able to compel a referendum against the EU. If one of those nations were to leave, the EU would lose one of its most powerful economies and would be forced to disintegrate as a result. The majority of EU people, on the other hand, continue to be staunch supporters of the union.

According to a Pew Research Center poll conducted across ten European countries, over 75% of respondents feel the EU fosters peace, and 55% believe it produces wealth. Furthermore, more than a third believes that the United Kingdom's influence is waning.

The exit of the United Kingdom from the European Union, the Single Market, and the Customs Union has resulted in commerce and cross-border exchanges being hindered in ways that were not present before to the first day of January 2021.

It was obvious that there would be consequences for public administrations, companies, and individuals. The consequences were wide-ranging and far-reaching even with the EU-UK Trade and Cooperation Agreement in place.

EU-UK Trade and Cooperation Agreement

Preferential arrangements in areas such as trade in goods and services, digital trade, intellectual property, public procurement, aviation and road transport, energy, fisheries, social security coordination, law enforcement and judicial cooperation in criminal matters, thematic

cooperation, and participation in Union programs are included in the EU-UK Trade and Cooperation Agreement, which was signed between the EU and the United Kingdom last year. It is supported by laws that ensure a fair playing field and the protection of basic rights for all parties involved. It will not be able to match the degree of economic integration that existed when the United Kingdom was a member of the EU, but it goes beyond standard free trade agreements and offers a firm foundation for the continuation of our long-standing friendship and collaboration. The Trade and Cooperation Agreement (TCA) were signed on December 30, 2020, and it went into effect on January 1, 2021, with a provisional implementation date of January 1, 2021, and a final implementation date of May 1, 2021.

- **The impacts of Brexit on the Stock market in the EU and general**

The currency markets were in a state of chaos the day after the Brexit voted. The euro sank by 2% to $1.1139 US dollars. Against the dollar, the pound plummeted by 8% to $1.36.25. Both of these factors raised the value of the dollar. The stock markets in the United States are suffering as a result of this. As a result, international investors are forced to pay more for American stocks.

A weak pound makes exports from the United States to the United Kingdom more costly; however this hasn't deterred the country's exports. Exports from the United States to the United Kingdom were $147.4 billion in 2019, an increase from $141 billion in 2018. As a result, the United States has a $21.8 billion trade surplus. Imports, on the other hand, were just $125.6 billion.

Businesses that operate in Europe have had their company development slowed as a result of Brexit. In 2019, U.S. corporations made $851.4 billion in investments in the United Kingdom. This was mostly concentrated in the financial and insurance industries, as well as manufacturing and nonbank holding firms. Previously, these U.S. corporations relied on the United Kingdom as a gateway to free trade with the countries of the European Union. Businesses in the United Kingdom, on the other hand, invested $505.1 billion in the United States in 2019, an increase of 1.7 percent over the previous year. The majority of this was in the manufacturing, wholesale commerce, and financial services industries.

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CHAPTER FIVE

5.0. DATA AND METHODOLOGY

5.1. Introduction

In this chapter of the research, the various methodologies, processes, or strategies that were used to acquire the essential information for the study are discussed in detail. This section also includes an examination and discussion of the different statistical approaches that were used to analyze the material acquired throughout the study.

5.2. Types of data and sources

For the most part, each research project depends on two types of data to reach its ultimate findings: theoretical information and statistical-econometric analysis, which is often used to arrive at those final results. The author of this study used the same route as the previous one. It is necessary to utilize the World Bank Data Base in order to get numerical data for numerous components and variables. The study will be done over a 45-year period, commencing in 1975 and ending in 2019, with data being gathered on an annual basis. It is recommended that when econometric variables such as FDI or stock market development are studied, the study employ annual data in order to improve the reliability and accuracy of the estimates.

5.3. Variables and the Measurement of Variables

The World Development Indicators database was used to gather data for both the dependent and independent variables in this study. Even though most variables were submitted in a format that could be used to accomplish the study's goals, a tiny subset was entered in an unusable format. We looked at market capitalization as a dependent variable, while we looked at foreign direct investment (FDI, domestic savings, and GDP growth) to see how the economy was doing. The following were the variables that were examined:

- The **stock market's development** is represented by the **market capitalization (MC)** in relation to the GDP. In contrast to other market indicators, market capitalization is a more trustworthy gauge of the health of the stock market since it represents the value of all publicly traded shares. Previously, it has been used in research studies (Adam &

Tweneboah, 2009; Al Nasser & Garza, 2009; Boyd et al., 2001; Levine & Zervos, 1998; Raza et al., 2012).

- **Foreign Direct Investment (FDI) -** This metric measures direct equity inflows into the reporting economy from other countries. In the case of a corporation, it is the total of its equity, profits reinvestment, and other capital. Most FDI research use foreign direct investment (FDI) inflow as a percentage of GDP to proxy for it (Alfaro et al., 2004; Azman-Saini et al., 2010; Asongu & Nwachukwu, 2016).
- **Domestic Savings (SAV):** The stock market benefits from domestic savings, which helps to stimulate economic growth. It also raises the amount of investment while simultaneously increasing the quality of that investment (Yartey, 2008). According to Liu and Garcia (1999), higher domestic savings lead to a rise in capital inflows via stock markets, which is beneficial to the economy. A significant positive connection exists between domestic savings and the growth of the stock market, according to Kalim and Shahbaz (2009), Yartey (2008), and Liu and Garcia (1999). As a proxy for Domestic Savings (SAV), we utilize Gross Domestic Savings (in current US dollars) as a measure of Stock Market Development, and we expect Domestic Savings (SAV) to have a positive impact on SMD.
- **Gross Domestic Product Growth (GDP) -** The rate of increase in the gross domestic product (GDP) reflects how rapidly the economy is expanding or declining. It is driven by the four components of GDP, with personal spending being the most significant. GDP growth reflects where the economy is in the economic cycle at any given point in time. Real GDP is adjusted for inflation, and as a result, it must be utilized to make year-to-year comparisons.

5.4. Stationary

Stationary series are ones in which the mean and autocorrelation of the series are not altered by changes in the amount of time that has passed from the beginning of the series (Gujarati and Porter, 2009). If the series in question is not stationary, we may infer that the series in question is also non-stationary by looking at the series in question. When the mean, covariance, variance, and other features of a series do not change over time, it is possible to conclude that the series is stationary. To put it another way, the series is not harmed by the passage of time. Regardless of

whether or not the adjustment is done, the series will remain non-stationary in nature. It is common to hear phrases like unit root and non-stationary, as well as other identical terms, used interchangeably. In order to create predictions with regard to a time series, it is generally known that the time series must be stationarized. This is true for every time series. In this thesis, the Augmented Dickey-Fuller and Philips-Perron tests were used to determine the stationarity of the variables. Both of these tests were upgraded from their previous versions. It is advised that a threshold of significance of 5% be utilized as a starting point for statistical analysis. If we consider the following equation in the context of a random walk scenario, we get an example of a non-stationary series:

У t= У t-1 + ϵt……..5.1.0

It should be noted that in this scenario, the Epsilon variant/epsilon is a stationary random disturbance term. For the series y, the prediction value is constant conditional on time, as shown in the preceding equation. The variance of the series y is increasing with time, as shown in the preceding equation. Because the random walk is a difference stationary series, the initial difference of y is stationary as well:

У t – Уt-1= (1- L) Уt = ϵt……..5.1.1

It is represented by the symbol I (d) when a difference stationary series is integrated; the symbol I (d) indicates that the difference stationary series has been integrated at the given time. The number of unit roots that may be tolerated in the series, or the number of differencing operations that are necessary to get the series to a point of equilibrium, is specified as the order of integration. Because the random walk described above has only one unit root, the series is referred to as the I(1) series due to the fact that there is only one unit root. When a series is stationary, on the other hand, we may conclude that the series is I (0). When dealing with regressions with an integrated dependent variable or integrated repressors, standard inference procedures do not apply. These are characterized as follows: Consequently, it is crucial to ascertain whether a series is stationary before using it in a regression to ensure that the results are accurate. Among the methods for assessing whether or not a series is stationary, the unit root test is the most often employed. Can you tell me how the fact that the data is stationary helps us in any way? When the mean and variance of the data do not change over time, the data is said to be

stationarily distributed (Jeffrey M. Wooldridge, 2013). Whenever any one of these variables changes; there is proof of the existence of a unit root somewhere within the data. A comparison between a stationary series and a non-stationary series may be drawn in the fact that when a non-stationary series is undertaken, it will provide erroneous and incorrect data.

5.4.1. The Augmented Dickey-Fuller (ADF)

For the purpose of verifying their theory, Dickey and Fuller (1979) designed and implemented a computer program to determine if a variable has a unit root, or alternatively, whether the variable is subjected to an a priori random walk. Hamilton (1994) provides four alternative situations in which the expanded Dickey–Fuller test may be utilized to illustrate the test's applicability and effectiveness. Whatever the case, the null hypothesis is that the variable has a single unit root at each and every point in the distribution, regardless of the circumstance.

When comparing the two approaches, the key differences are whether or not a drift term is included in the null hypothesis and whether or not a constant term and a temporal trend are included in the regression used to construct the test statistic in the second technique. Essentially, it is the same testing procedure as the Dickey–Fuller test, with the difference that it is applied to the model rather than the other way around as in the previous test.

$$\Delta y_t = \alpha + \beta t + \gamma y_{t-1} + \delta_1 \Delta y_{t-1} + \cdots + \delta_{p-1} \Delta y_{t-p+1} + \varepsilon_t \quad \text{.....5.1.2}$$

Because the ADF formulation contains delays of the order p, it is conceivable to have higher-order autoregressive processes when utilizing the ADF formulation. Consequently, it is necessary to compute the duration of the lag p before the test can be effectively applied to the data.

5.4.2. Philip-Perron Test

The Phillips–Perron test is a unit root test that is used in statistical analysis. It was named after two statisticians, Peter C. B. Phillips and Pierre-Perron, who worked together in the field of statistical analysis. Consequently, while doing a time series analysis, it is employed in order 1 integration to test the null hypothesis that a time series is integrated in the first order of integration. Comparatively to the Dickey–Fuller test of the null hypothesis, a different approach is applied in this case.

$$y_t = c + \delta t + a\, y_{t-1} + e(t) \text{ …….. 5.1.3}$$

The null hypothesis constrains a = 1 to a single value. The test's variants, which are applicable to series with varied growth characteristics, are meant to restrict the drift and deterministic trend coefficients of series, c and δ, to be zero in order to constrain the growth characteristics of series to be zero. To account for serial correlations that occur throughout the innovation process, modified Dickey-Fuller statistics are employed in the tests to account for serial correlations that occur during the innovation phase e *(t).*

5.4.3. ARDL Bound Test

Bound testing, a version on ARDL modeling, is used to establish the importance of delayed levels of variables in a univariate equilibrium correction system when it is unclear whether the data creating process underlying a time series is trend or first difference stationary.

Even more importantly, Haug (2002) claims that the ARDL bounds testing strategy is better suited to and generates better results when a small sample size is utilized, since in the short run, both the short- and long-run parameters are calculated at the same time, making the procedure more accurate.

The following is an example of how the ARDL depiction of the link between trade and economic development may be built:

InMCt = β0 + β1In (FDIt-1) + β2 In (GDP-1) + β3In (SAVt -1) + εt …….5.1.4

The hypothesis of no co-integration is concerned with the following: H0: **β 1 = β 2 = β 3 = 0 and H1: β 1 ≠ β 2 ≠ β 3 ≠ 0** is an alternative hypothesis of co-integration.

5.5. Pearson's Correlation

In order to demonstrate statistically significant relationships between two or more variables, it is necessary to determine if and, if so, how strong or how much of a connection exists between the two or more variables. Using the correlation coefficient to assess the strength of a link between two variables is also an option. A similar technique will be used to compare the results of the two sets of independent variables in this study. When it comes to linear connections, the correlation coefficient may be relied on to provide a straightforward judgment.

Formula: $r = \frac{1}{n-1} \frac{(x-x')(y-y')}{\sigma x \, \sigma y}$

Where, R= Correlation

σx = Standard Deviation of X

σy = Standard Deviation of Y

n = No. Of Observations

5.6. Regression analysis

Relationships between variables are described using regression, which is a statistical approach that may be used to predict the value of one variable based on the values of other variables as well as to define the nature of the relationship between two variables. A mathematical equation describing the relationship between the variable to be forecasted, which is known as the dependent variable (MC/SMD), and the variables the researcher believes are related to the dependent variable, which are known as independent variables, is developed by the researcher using this technique (MC/SMD) (FDI, GDP, SAV). MC is shown to be related to the independent variables (FDI, GDP, and SAV).

ln (MC) = β0+ β1ln (FDI) + β2ln (GDP) + β3ln (SAV) + Ɛt

In the equation, **ln (MC) = β0+ β1ln (FDI) + β2ln (GDP) + β3ln (SAV) +Ɛt,** where the coefficient **β0, β1, β2, β3** are to be determined and **Ɛt** is the error term.

Where **MC** denotes Market Capitalization/Stock Market Development, and

FDI is an abbreviation for Foreign Direct Investment.

SAV is an abbreviation for Domestic Savings.

GDP is an abbreviation for Gross Domestic Product.

5.7. Diagnostic and stability test

Other diagnostic tests are being utilized in this study to verify the dependability of the model that was employed, in addition to the ones already mentioned. Among the tests that fall into this

category are the White (heterocedasticity) test, the normality test of the residuals (Serial correlation) test, and the autocorrelation test. It is possible to determine the amount of autocorrelation in the data by plotting the residuals values against the expected values and presenting the value of the residuals values against the projected values. When the probability value is compared to the estimated F-statistics, the null hypothesis is rejected, and the conclusion that heteroscedasticity exists in the model is obtained.

CHAPTER SIX

6.0. RESULTS AND DISCUSSIONS

6.1. Introduction

There are four parts to this chapter, which summarizes the findings of the research, and the following section discusses how FDI has influenced development of the German stock market and how that effect has been interpreted. The first part of this paper goes into great detail on descriptive statistics and data analysis techniques. A look at and discussion of the stationary test of a data set is provided in the second part, and a look at and discussion of co-integration in the third section is provided in the fourth section. At long last, in the last part, we will look at and discuss regression analysis, as well as diagnostic tests and stability tests of data or outcomes, among other things. Despite this, the presentation was done in accordance with the research objectives, and E-views software was used to carry out the tests, which were successful.

6.2. Descriptive Statistics

We will be able to assess whether or not there is a connection between FDI and the development of the stock market. The nature of the relationship's directional movement will be revealed in this section. To offer readers with a previous knowledge of the data that will be evaluated, the descriptive statistics in this study were produced using EVIEWS. The findings of the tests are summarized in the table that follows:

Table 6.1. Descriptive statistics

	MC	FDI	GDP	SAV
Mean	**32.12373**	**1.341558**	**1.850425**	**24.11893**
Median	**29.77403**	**0.501769**	**1.887261**	**24.55797**
Maximum	**65.37046**	**12.76319**	**5.255006**	**28.15103**
Minimum	**7.546707**	**-0.726488**	**-5.693836**	**19.17953**
Std. Dev.	**17.96210**	**2.113634**	**1.944225**	**2.521270**
Skewness	**0.238745**	**3.646067**	**-1.100276**	**-0.252357**
Kurtosis	**1.796801**	**20.04094**	**6.392550**	**2.149462**
Jarque- Bera	**3.141906**	**644.1916**	**30.65967**	**1.834033**
Probability	**0.207847**	**0.000000**	**0.000000**	**0.399710**
Sum	**1445.568**	**60.37013**	**83.26912**	**1085.352**
Sum Sq. Dev	**14196.03**	**196.5677**	**166.3205**	**279.6993**
Observations	**45**	**45**	**45**	**45**

It is estimated that the mean for foreign direct investment is 1.341558, based on data and the time period studied. The market capitalization of in Germany, on the other hand, is assessed to be a mean of 32.12373. According to reports, the maximum amount of market capitalization is as high as 95.58685, which is regarded to be a high number for a nation in this category.

The results of descriptive statistics on GDP for the time period chosen for the study, which is from 1975 to 2019, are fairly outstanding, especially when compared to previous findings. The average annual rate of GDP throughout this 45-year period is merely 1.850425. This time span includes two separate financial crises, notably the Asian Financial Crisis of 1997 and the Global Financial Crisis of 2007. As a result, this time span is of great historical significance. The Gross Domestic Product (GDP) is the second factor to consider, and it is highly significant (GDP). According to the Association of Southeast Asian Nations, Germany is the fourth most developed country in the world out of more than 180 countries.

6.3. Stationary test

In this work, two-unit root tests were performed using both Augmented Dickey-Fuller (ADF) and Philips-Perron (PP) experiments as two-unit root tests. The selection of these measures was influenced by the need for great contrast and accuracy in the measurements. PP unit root tests are more trustworthy than ADF tests, according to Hamilton (1994). This is because the PP unit root tests are more resistant to serial correlation and heteroscedasticity. It does, however, have its own set of drawbacks as well as perks to consider. A novel estimation methodology known as bounds testing will be used to evaluate the proposed autoregressive distributive lag (ARDL) system developed by Pesaran and colleagues in addition to the traditional methods of estimation (Pesaran 1997, Pesaran, Shin & Smith 1999,). When the p-value was compared to 0.05, it was determined whether or not the difference was statistically significant.

Table 6.3.1: Unit root test with trend and without trend

ADF unit root test without trend and with trend						
	Constant without trend			**Constant with trend**		
Variable	Level	1st difference	Order of integration	Level	1st difference	Order of integration
MC/SMD	0.3879	0.0000	I (1)	0.0718	0.0000	I (1)
FDI	0.0028	-	I (0)	0.0034	0.0000	I (0)
GDP	0.0000	-	I (0)	0.0003	-	I (0)
SAV	0.8635	0.0000	I (1)	0.0867	0.0000	I (1)
Philips-Perron unit root test without trend and with trend						
	Constant without trend			**Constant with trend**		
Variable	Level	1st difference	Order of integration	Level	1st difference	Order of integration
MC/SMD	0.3879	0.0000	I (1)	0.0699	0.0000	I (1)
FDI	0.0026	0.0000	I 0)	0.0036	0.0000	I (0)
GDP	0.0000	-	I (0)	0.0000	-	I (0)
SAV	0.7431	0.0000	I (1)	0.0682	0.0000	I (1)

The variables were submitted to the unit root test, which was performed using the PP test statistics and ADF test to demonstrate stationarity at level and first difference, as indicated in table 6.3.1, in order to assess if they were stationary at level and first difference with and without trend (ADF). Making a unit root calculation on the data allows us to know that there is a relationship between FDI and the development of stock markets. The probability of FDI using

the ADF and the PP are less than 0.05 (0.0028 and 0.0026, respectively).This means that the series are stationary at level. Therefore, the null hypothesis of no unit root will be rejected. For GDP growth, the probabilities are less than 0.05 (0.0000 and 0.0000) in both cases, respectively. This indicates that the series are stationary at level. We reject the null hypothesis of no unit root of GDP on the basis of the data. In the case of market capitalization, the probabilities were non-stationary at level, but became stationary at 1st difference. It can also be concluded that the null hypothesis of no unit root will also be rejected.

For saving, the probability is also more than 0.05, which simplifies non-stationarity at level in Table 6.2.1. Nonetheless, the table demonstrates that in the case of the 1st difference, the t-statistic is more than the crucial value at 5% and the probability of the 1st difference is less than 0.05(0.0000). In other words, there is a stationarity at 1st difference. It may also be stated that the null hypothesis of no unit root will be ruled out.

6.4. ARDL Bound Test

Table 6.4: ARDL Bound Test

F-Bounds Test Null Hpothesis is: No levels relationship

Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	5.277668	10%	2.37	3.2
k	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66

Result of the ARDL long-run Bound test

This study used the Bound Test, which was developed on the basis of the ARDL approach, to identify whether or not co-integration existed in the data set under review. If the F-statistic is less than the lower limit (critical values for I (0)), the null hypothesis cannot be rejected.

If, on the other hand, the statistic exceeds the upper limit I (1), the null hypothesis of no co-integration is rejected from consideration I (1). As a result, if the test statistic falls within the test's range of possibilities, the test is considered inconclusive. The result of the F-statistic (5.277668) indicates that we reject the null hypothesis and conclude that there is a long-term link between the independent variables and the dependent variable at both 5% and 10% level of significance.

6.5. ARDL results

Table 6.5.1: ARDL Long-run

Variable	Coefficient	Prob.
FDI	2.60	0.07
GDP	-7.58	0.01
SAV	3.88	0.00
C	-49.91	0.01

Table 6.5.1 data shows that the probability of stock market's reaction to FDI is statistically significant in the long run at 10% level of significance with positive coefficient of 2.60. This suggests that, in the long run, FDI acts as a complement rather than a substitute for stock market capitalization. This indicates that when stock market capitalization rises, FDI rises by 2.60% over time. This indicates that, in the long term, FDI serves as a complement rather than a substitute for stock market capitalization. This outcome may be attributed to the stock market's solid institutional foundation. Therefore, we reject the null hypothesis and conclude that there is

a positive effect between FDI and market capitalization in the long run at 10% level of significance.

On the other hand, GDP growth is statistically significant at 5% level with the probability of 0.00, even though the coefficient is -7.58. This implies that we reject the null hypothesis and conclude that there is a positive effect between GDP and market capitalization in the long run.

Saving is also statistically significant at 5% level with the probability of 0.00 which is less than threshold of 0.05. Moreover, there is a positive coefficient of 3.88. Therefore, we reject the null hypothesis and conclude that there is a positive or long run effect between FDI and market capitalization.

Table 6.5.2: Short-run ARDL

Variable	Coefficient	Prob.
D(FDI)	1.99	0.00
D(FDI(-1)	1.17	0.04
D(GDP)	-1.03	0.10
D(GDP(-1))	3.17	0.00
D(GDP(-2))	2.59	0.00
D(GDP(-3))	1.68	0.00
ECT(-1)	-0.75	0.00

Table 6.5.2 illustrates how FDI has an effect on the development of the stock market. Data shows that the probability of stock market's reaction to FDI is statistically significant at 5% with D(FDI) having a probability of 0.00. FDI has a positive coefficient and positive effect. An increase in the market capitalization will lead to an increase of 1.99 in the coefficient of FDI. Therefore, we reject the null hypothesis and conclude that there is a short run relationship

between variables. Foreign direct investment at D(FDI(-1) is also significant at 5% level with a probability of 0.04.

Gross Domestic Product at D(GDP) is statistically significant at 10% level with a probability of 0.10. Gross Domestic Product at D (GDP(-1)) became significant at 5% level with a probability of 0.00. Gross Domestic Product also became stationary at 5% with a probability of 0.00 at D (GDP(-2)) and D(GDP(-3)) respectively.

Thus, we reject the null hypothesis and we come to the conclusion that there is a positive influence between variables in the short run, or that there is a positive relationship between variables in the short- run.

6.6. Residual Diagnostic test

Table 6.6.1: Residual Diagnostic test result

Name of the Test	Null Hypothesis result	Statistics value	Probability
Seria Correlation Test	No serial correlation at up to 2 lags	0.177680	0.3367
Jarque-Bera (JB) Test	Residuals are not normally distributed at 5% level	5.152592	0.076055
White (CH-sq) Test	No conditional heteroskedasticity at 5%	1.857073	0.0928

According to the data in Table 6.6**.1**, there is no serial correlation, no conditional heteroskedasticity, and no normal distribution in the residuals. In fact, there is no normal distribution in the residuals.

Null hypothesis shows that there is no serial correlation; while the alternative hypothesis shows that serial correlation exists in the model. The probability value which is 0.3367 is greater than the threshold of 0.05%. Therefore, we accept the null hypothesis and conclude that there is no serial correlation in the model.

Specifically, the null hypothesis of the heteroskedasticity test indicates that there is no heteroskedasticity in the model at 5% level, but became stationary at 10% level. Based on the residual diagnostic test, the probability value of 0.0928 is larger than the threshold of 0.05 percent, indicating that the condition is more severe. As a result, we cannot reject the null hypothesis at 5% and come to the conclusion that the model does not exhibit heteroskedasticity, but at 10%, we reject the null hypothesis and conclude that there is a heteroskedasticity in the model.

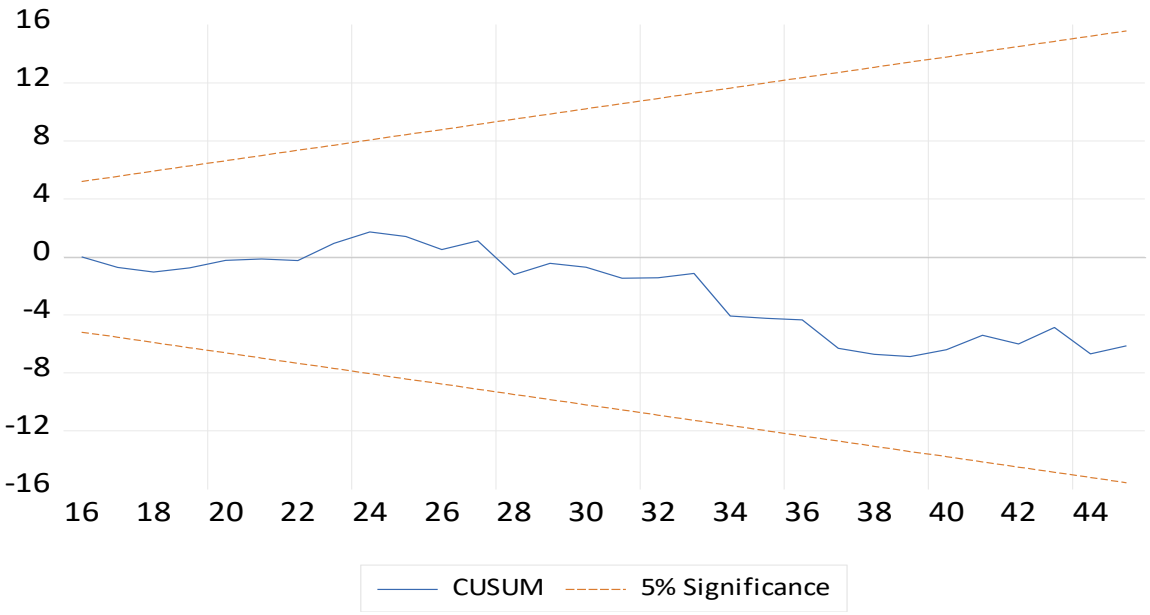
Finally, the null hypothesis demonstrates that residuals are not normally distributed at 5%, but the alternative hypothesis demonstrates that residuals are normally distribution. The Jarque-Bera probability of 0.076055 is greater than 0.05%. Therefore, we accept the null hypothesis and conclude that residuals are not normally distributed at 5%, but became significant at 10%.

6.7. TR Stability test

Parameter instability is a problem that nonlinear models often encounter (Saliminezhad et al., 2018). As a consequence, it is necessary to assess the stability of the estimated model in order to determine the accuracy of the findings. In order to do this, we use the CUSUM test developed by Brown et al (1975). If the post estimation test is to be relied upon, the model's stability must be ensured at all times (Hansen, 2000)

CUSUM TEST

Figure 6.7.1: TR Stability test

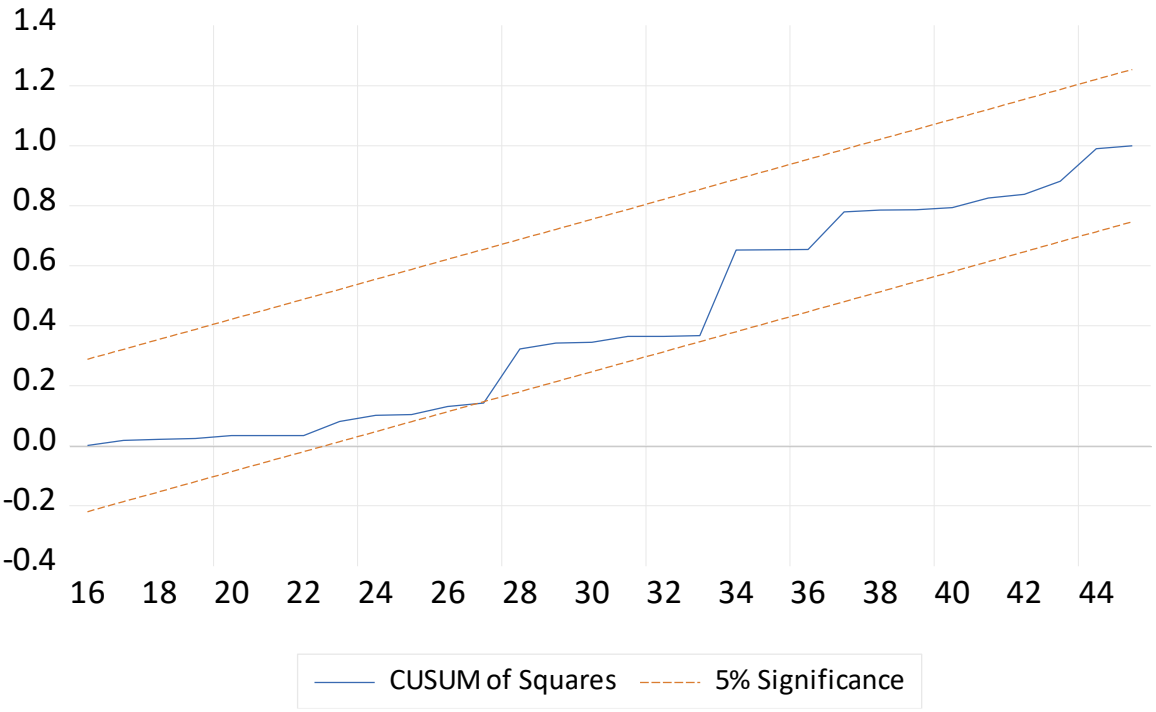


The Null hypothesis makes the assumption that the parameters are stable, while the alternative hypothesis makes the assumption that the parameters are not stable.

According to the results of the test, the BLUE line is contained inside the red lines. As a result, we accept the null hypothesis (which is desired) and reject the alternative hypothesis (which is not desirable), and we get to the conclusion that the residual variances are not unstable, but rather stable (for details see Brown, Durbin, and Evans, 1975).

CUSUM OF SQUARE TEST

Figure 6.7.2: TR Stability test



The Null hypothesis assumes that the parameters are stable, while the alternative hypothesis assumes that the parameters are not stable.

According to the test findings, the BLUE line is confined inside the red lines. As a consequence, we accept the null hypothesis (which is intended) and reject the alternative hypothesis (which is not desired), and we conclude that the residual variances are stable rather than unstable (for details see Brown, Durbin, and Evans, 1975).

CHAPTER SEVEN

7.0. SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.1. SUMMARY

The thesis examines the influence of FDI on the development of the German stock market over a 45-year period, from 1975 to 2019. The annual data used in the study. The subject of whether FDI has a beneficial or negative impact on the development of stock markets is still up for dispute in the area of economics. Whether the link between FDI and stock market development is complimentary or substitutive was also taken into account in this study. These were the predictor variables that had been chosen: FDI, stock market capitalization, GDP growth and savings. The study used a descriptive research approach to gather information. The secondary data was gathered from the World Bank and evaluated with the help of the Eviews software.

Based on the result of the ARDL Bound test, the F-statistic value (5.277668) showed that we can reject the null and conclude that there is long run relationship between the independent variables and dependent variable.

The result of the Long-run co-integration test showed that the probability of stock market's reaction to FDI is statistically significant at 10% and later at 5%. FDI has a positive coefficient. This suggests that, in the long run, FDI acts as a complement rather than a substitute for stock market capitalization. This indicates that when stock market capitalization rises, FDI rises by 2.60 % over time.

The short-run ARDL co-integration test also showed that the probability of stock market's reaction to FDI is statistically significant. FDI has a positive coefficient. An increase in the market capitalization will also lead to an increase of 1.99 in the coefficient of foreign direct investment. The normality test showed that residuals are not normally distributed at 5% while the stability test showed that parameters are stable. The link between foreign direct investment and stock market capitalization was investigated by **Oke & Adeusi (2012)** throughout the period 1981 to 2010. The researchers found a significant positive relationship between FDI and stock market capitalization in Nigeria in the short run using co-integration and error correction modeling techniques.

7.2. Conclusion

On the basis of the data, it was determined that FDI had a positive influence on the German stock market when compared to variables such as GDP, savings, market capitalization, and FDI.

Furthermore, from 1975 to 2019, the relationship between FDI and stock market development is complementary rather than substitutive in Germany. As a result, the research suggests that FDI inflows are key predictors of the growth of the stock market. According to the findings of the research, FDI is significant in the long term at 10%, and has a positive impact on the development of the German stock market.

GDP has a significant impact on the economy over the long term, and the impact is positive. Saving for the long term has a positive impact on the development of the stock market, and this impact is statistically significant**.** The link between FDI and stock market capitalization was investigated by **Oke & Adeusi** (2012) throughout the period 1981 to 2010. The researchers found a significant positive relationship between FDI and stock market capitalization in Nigeria in the short run using co-integration and error correction modeling techniques. However, they were unable to discover a relationship between FDI and stock market development in Nigeria in the long run. Vazakidis and Adamopoulos (2009) used Granger causality tests based on a vector error correction model (VECM) to analyze the causal relationships between stock market performance and economic growth in France over the period 1965-2007. The results of Granger causality tests showed that economic growth in France contributed to stock market development. Accordingly, economic growth has a positive influence on the development of the stock market in France, while interest rates have a negative influence on the development of the stock market in this country.

In the short term, the research found that FDI has a statistical significance relationship using the error correction technique, and has a positive impact on the development of the stock market.

It is believed that GDP and saving are both statistically significant in the short term, and that their relationships are positive in the both long and runs.

7.3. Recommendation

It is important to note that the stock market is an integral part of today's market-based economic system since it is the main means of moving money from depositors to borrowers. For the German government to effectively promote FDI, a variety of measures should be implemented, including ensuring political stability in the country, adequate infrastructure development, attempting to reduce volatility of foreign exchange and interest rates through appropriate and effective macroeconomic policy, tax breaks, such as tax exempt status, and infrastructure investment.

This study recommends that policies be put in place to provide a stable inflation rate, so that investors may utilize the stock market to hedge against inflation, resulting in an improvement in the stock market overall.

FDI has been increasing in recent years, which may be an indication that foreign investors are developing trust in the German economy and its capacity to stay stable in the global economy.

Additionally, according to the findings of the research, the central bank of Germany should establish an interest rate that will assist attract investors to the nation, as it has been shown that a high interest rate is associated with the growth of the stock market, but not significantly. According to the findings of the research, the government should establish policies that foster an atmosphere conducive to the conduct of business activities that promote economic growth, since this has been shown to have a favorable impact on the development of the country's stock market. It has been shown that high exchange rates have a detrimental impact on the growth of the stock market. As a result, policymakers should seek to keep exchange rates at levels that do not inhibit the growth of the stock market.

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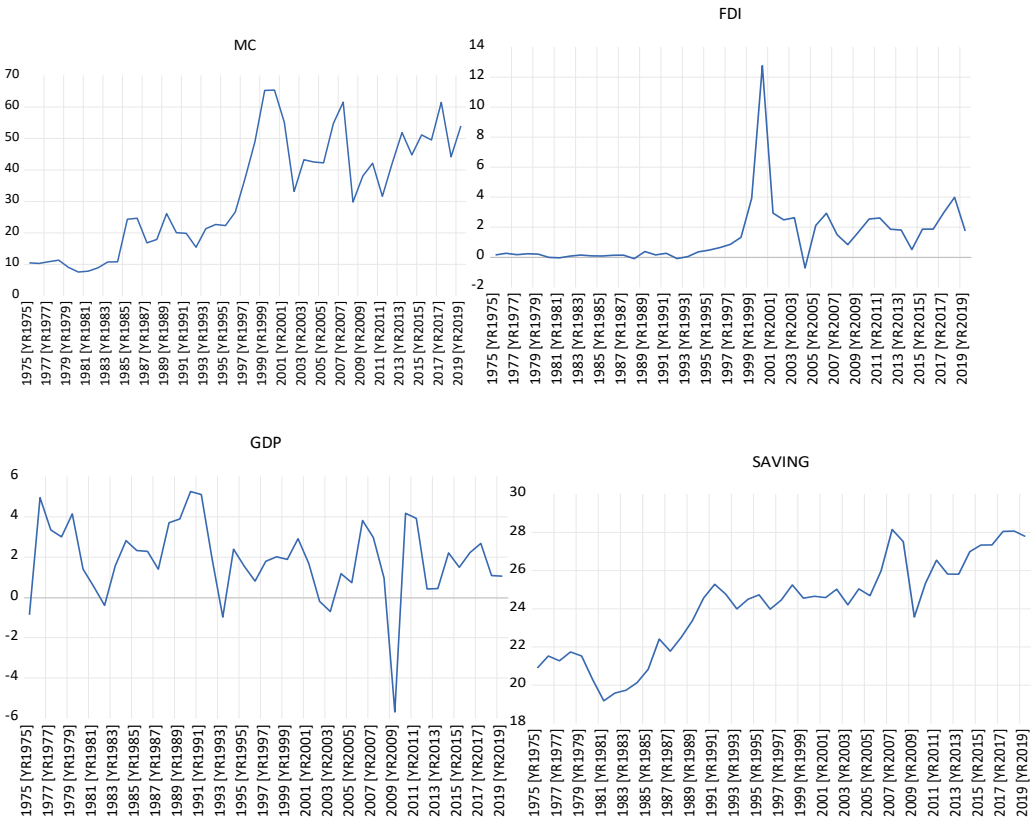
APPENDIX

Appendix 1: Graphs of Germany's market capitalization, GD, foreign direct investment and domestic savings



Appendix 2: Descriptive Statistics

	MC	FDI	GDP	SAVING
Mean	32.12373	1.341558	1.850425	24.11893
Median	29.77403	0.501769	1.887261	24.55797
Maximum	65.37046	12.76319	5.255006	28.15103
Minimum	7.546707	-0.726488	-5.693836	19.17953
Std. Dev.	17.96210	2.113634	1.944225	2.521270
Skewness	0.238745	3.646067	-1.100276	-0.252357
Kurtosis	1.796801	20.04094	6.392550	2.149462
Jarque-Bera	3.141906	644.1916	30.65967	1.834033
Probability	0.207847	0.000000	0.000000	0.399710
Sum	1445.568	60.37013	83.26912	1085.352
Sum Sq. Dev.	14196.03	196.5677	166.3205	279.6993
Observations	45	45	45	45

Appendix 3: MC Unit

Null Hypothesis: MC has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.774538	0.3879
Test critical values:	1% level	-3.588509	
	5% level	-2.929734	
	10% level	-2.603064	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(MC) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.588810	0.0000
Test critical values:	1% level	-3.592462	
	5% level	-2.931404	
	10% level	-2.603944	

*MacKinnon (1996) one-sided p-values.

Appendix 4: FDI unit root

Null Hypothesis: FDI has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.050554	0.0028
Test critical values:	1% level	-3.588509	
	5% level	-2.929734	
	10% level	-2.603064	

*MacKinnon (1996) one-sided p-values.

Appendix 5: GDP unit root

Null Hypothesis: GDP has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.754608	0.0000
Test critical values:	1% level	-3.588509	
	5% level	-2.929734	
	10% level	-2.603064	

*MacKinnon (1996) one-sided p-values.

APPENDIX 6: SAVING

Null Hypothesis: SAVING has a unit root
Exogenous: Constant
Lag Length: 2 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.583509	0.8635
Test critical values:	1% level	-3.596616	
	5% level	-2.933158	
	10% level	-2.604867	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(SAVING) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.048769	0.0000
Test critical values:	1% level	-3.596616	
	5% level	-2.933158	
	10% level	-2.604867	

*MacKinnon (1996) one-sided p-values.

Appendix 7: Bounds Test

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	5.277668	10%	2.37	3.2
k	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66

Appendix 8: ARDL Long run

Levels Equation
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI	2.603660	1.413250	1.842320	0.0753
GDP	-7.583168	2.522088	-3.006702	0.0053
SAVING	3.876947	0.747810	5.184405	0.0000
C	-49.91649	18.66642	-2.674133	0.0120

EC = MC - (2.6037*FDI -7.5832*GDP + 3.8769*SAVING - 49.9165)

Appendix 9: ARDL Short run

ARDL Error Correction Regression
Dependent Variable: D(MC)
Selected Model: ARDL(1, 2, 4, 0)
Case 2: Restricted Constant and No Trend
Date: 02/09/22 Time: 16:32
Sample: 1 45
Included observations: 41

ECM Regression
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FDI)	1.991886	0.542042	3.674785	0.0009
D(FDI(-1))	1.165153	0.543439	2.144037	0.0403
D(GDP)	-1.033405	0.611379	-1.690287	0.1013
D(GDP(-1))	3.167149	0.880683	3.596243	0.0011
D(GDP(-2))	2.589997	0.716408	3.615254	0.0011
D(GDP(-3))	1.676520	0.569431	2.944204	0.0062
CointEq(-1)*	-0.757139	0.138449	-5.468709	0.0000

Appendix 10: Serial Correlation

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

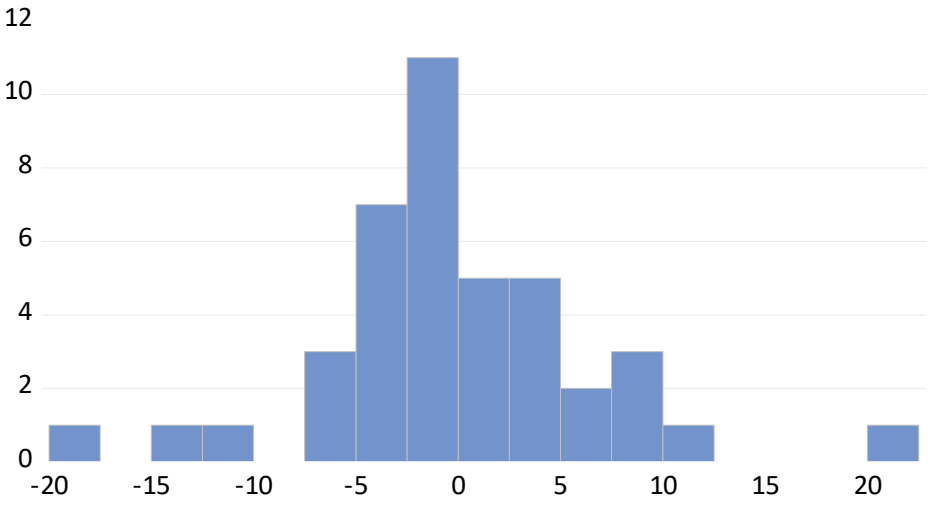
F-statistic	0.177680	Prob. F(2,28)	0.8381
Obs*R-squared	0.513827	Prob. Chi-Square(2)	0.7734

Appendix 11: Heteroskedasticity test

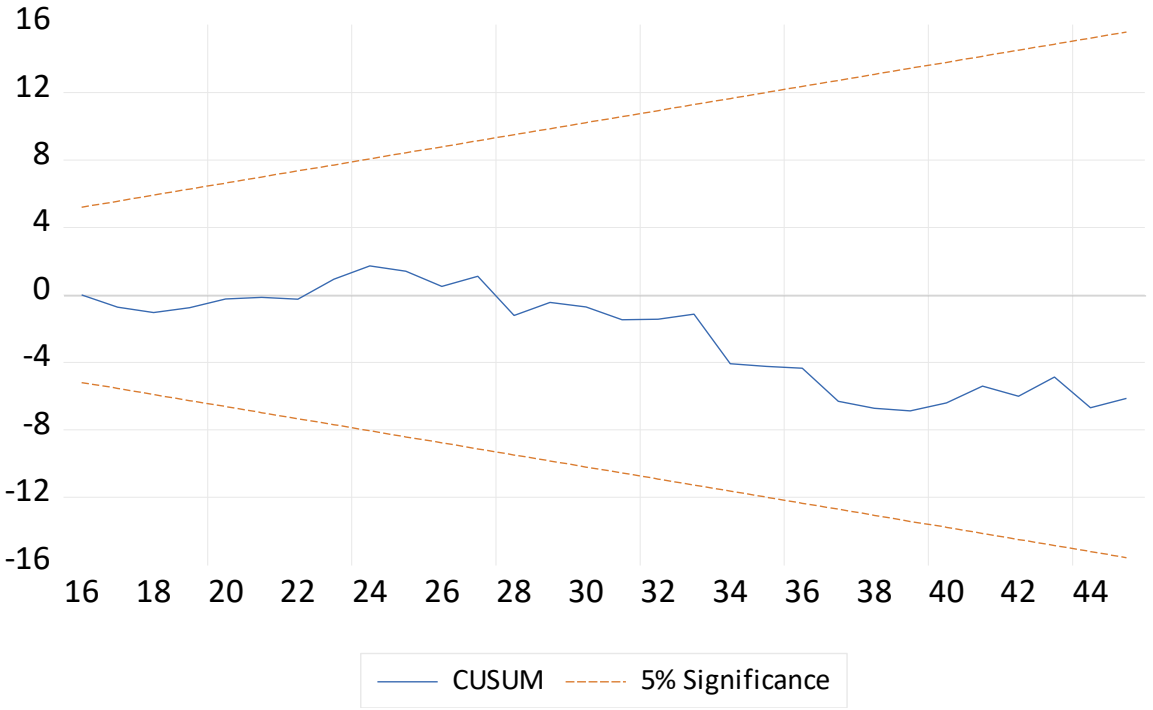
Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	1.857073	Prob. F(10,30)	0.0928
Obs*R-squared	15.67610	Prob. Chi-Square(10)	0.1093
Scaled explained SS	15.50399	Prob. Chi-Square(10)	0.1147

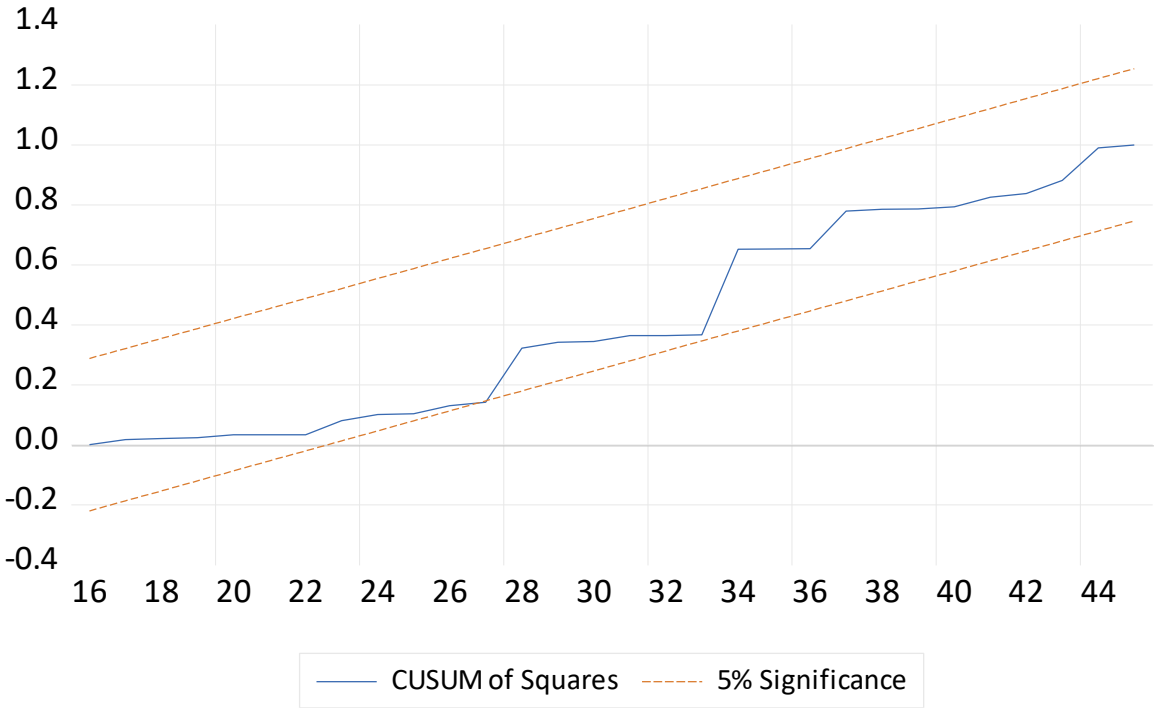
APPENDEX 12: Normality test



Appendix 13: CUSUM test



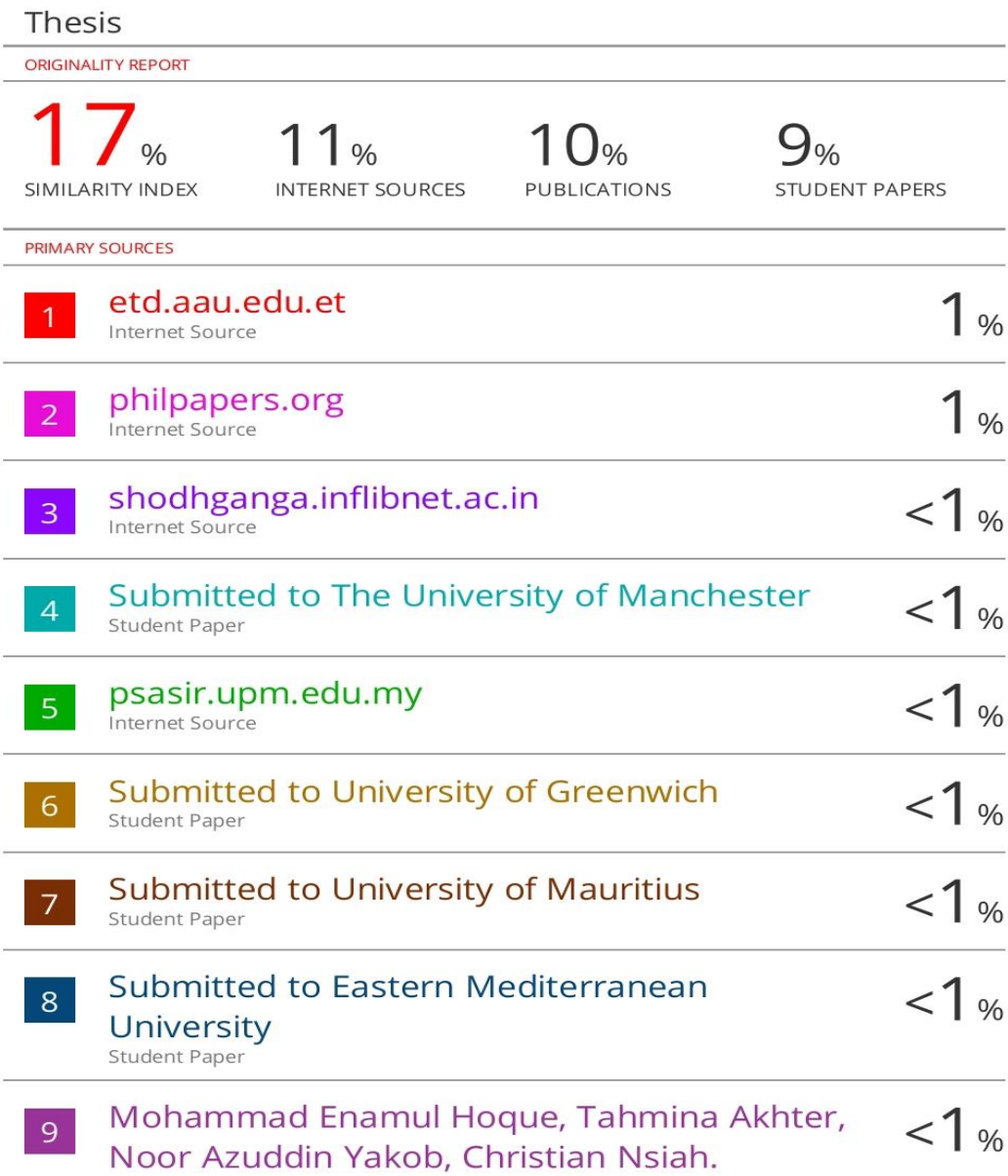
Appendix 14: CUSUM OF SQUARE test



Appendix: 15

TURNITIN

Kaiballah Conteh



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Appendix: 16

ETHICS COMMITTEE APPROVAL

Lisansüstü Eğitim enstitüsü Müdürlüğü'ne;

Tezin yazılıp hazırlanmasında etik kurallarına aykırı hiçbir unsurun yer almadığını tez danışmanları olarak beyan ederiz.

Prof.Dr.Hüseyin ÖZDEŞER (Supervisor)

Yrd.Doç.Dr.Mehdi SERAJ(Co-Supervisor)