

**THE REPUBLIC OF AZERBAIJAN**

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**ABSTRACT**

Of the dissertation for the degree of Doctor of Philosophy

**ASSESSING THE IMPACT OF FOREIGN  
DIRECT INVESTMENT ON JORDAN'S ECONOMIC  
DEVELOPMENT**

Speciality: 5310.01 – World Economy

Field of science: Economy

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**Baku – 2024**

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## DISSERTATION GENERAL DETAILS

**Relevance and degree of study of the subject.** Since the 1980s, FDI flows have grown at an exponential rate, making them one of the most significant recent shifts in the global economy. According to a UNCTAD assessment, these flows have grown at a rate faster than the growth rates in international commerce and world GDP.

The United Nations' Millennium Development Goals (MDGs) are becoming increasingly difficult to implement due to a lack of investable finances. Most developing nations consider foreign direct investment (FDI) as a major source of funding for investments; hence they offer incentives to attract FDI.

Economic policymakers, particularly in emerging nations, have concluded that FDI is necessary to enhance their economies. Many people believe that foreign direct investment (FDI) can boost employment, technical advancements, and the overall economic health of the host country.

One of Jordan's most important economic policies is its openness to the rest of the world in all of its dimensions. All of Jordan's economic privileges would be transferred to the present stage of the economy, which is based on economic liberalization, productivity increases, as well as the establishment of a competitive edge for the private sector by allowing the Jordanian economy to open up. To improve the investment climate, Jordan's governments have updated and developed laws and legislations to attract international capital, and economic openness was a key issue in various accords negotiated with other countries. Along with the other Arab and European countries, Jordan also inked trade deals with the United States and the EU. Furthermore, in the year 2000, it became a member of the World Trade Organization and signed the Agreement for the Establishment of a Qualified Industrial Zone in Jordan.

The expansion of FDI has reignited the discussion of FDI's influence on the host country. Many researchers have discussed the importance of foreign investment for economic growth and the creation of an ideal economic environment, as well as the deployment of technology and the transfer of expertise from developed countries, in order to boost productivity and increase competitiveness in sectors that

enter and accumulate capital. If foreign investment increases the number of imports, which are frequently linked to manufacturing inputs from FDI, it could leave undesirable imprints on the economy. As a result, the trade deficit and balance of payments deterioration may occur as a result of the transfer of profits to other countries. As a result of these factors, this research will examine the effects of foreign investment on Jordan's economic development indices.

The relevance of the degree and study of the subject stems from the fact that decision-makers in Jordan view foreign direct investment as one of the most important solutions to access the financing necessary to carry out many economic development projects, and thus replace it as an alternative to external borrowing because of its negative effects on the wheel of development, in addition to The importance of evaluating and analyzing the Jordanian investment climate and preparing it to attract foreign investments and identifying its strengths and also weak points that limit the flow of these foreign investments to it and benefiting from them in a way that reflects positively on Jordanian economic development indicators.

**The object and subject of research.** Jordan's interest in achieving comprehensive economic development and benefiting from the experiences of developed countries has made it look to new financing and implementation sources for economic development projects away from external borrowing and the debt burden it carries. Therefore, the trend was to attract foreign direct investment to achieve that goal, and hence the main goal of the study was to investigate and comprehensively evaluate the impact of foreign direct investment on economic development and also to evaluate the Jordanian investment climate and the extent of its ability to keep pace with attracting these foreign flows.

**Goals and objectives of dissertation.** There are fundamental economic imbalances in the economies of emerging countries, such as Jordan, resulting from the lack of financing and domestic savings and their waste abroad, as the bulk of this money is used for consumption and entertainment purposes, which prompts these countries to move towards external financing and foreign direct investment, which are supposed to play a fundamental and effective role in promoting economic

development, enhancing productive capacity, transferring technology, and rehabilitating human capital.

However, from the point of view of some economists and previous studies, foreign direct investment can also be a deterrent in some circumstances because it may focus on extractive industries and therefore not be accompanied by the required technical and technological progress and contribute negatively to the exploitation of the host country's natural resources. It may also increase imports of capital and intermediate goods, thus destroying the balance of trade. In addition, most of the profits of foreign companies flow abroad or to the home country of the foreign investor, and this may also lead to destroying the balance of payments.

Hence, the object of the research is to give a comprehensive and clear picture to decision-makers in Jordan about the role and impact of these investments on economic development. The study aimed to comprehensively assess and evaluate the impact of foreign direct investments on economic development in Jordan from 1980 to 2018, 2019, and 2022, depending on the models and periods chosen to serve the study's objectives. To achieve this goal, a set of macroeconomic variables was used as variables representing economic development, where the impact of foreign direct investment on both economic growth was studied and evaluated, and then going beyond economic growth to unemployment, exports, and the tax burden. For the picture to become clearer and more comprehensive, it was necessary to evaluate and assess the Jordanian investment climate. To achieve this goal, the impact of both fiscal and monetary policy on improving the Jordanian investment climate and increasing Jordan's ability to attract this type of foreign inflow was investigated and tested. Descriptive and standard statistical analyses are used to achieve this.

The following hypotheses were developed to assess the study's capacity to meet its goals and objectives:

Ha1: There is a significant and positive statistical effect of FDI on economic growth.

Ha2: There is a significant and negative statistical effect of FDI on unemployment.

Ha3: There is a significant and positive statistical effect of FDI on exports.

Ha4: There is a significant and positive statistical effect of FDI on the tax burden.

Ha5: There is a significant and positive statistical effect for both fiscal and monetary policy in attracting FDI inflows to Jordan.

**Research methods.** The study used a quantitative method to collect and analyze data. It used time series data (secondary data) from the World Bank, the International Monetary Fund, UNCTAD, the United Nations for Development Programs, the Arab Investment and Export Credit Guarantee Corporation, the Central Bank of Jordan, the Jordanian Department of Statistics, and the Jordanian Ministry of Labor. The research method was characterized by the following:

- The temporal data were subjected to unit root tests to verify the validity of an integrative relationship between the study variables.

- Five standard models were built based on many diagnostic tests, such as the normal distribution test, the serial correlation test, the heteroscedasticity test, and other tests.

- Two types of temporal data were used: time-series data and cross-sectional data.

- The co-integration was tested to ensure that there is an integrative relationship in the long run between the model variables.

- The short-term causal relationship between the study variables was also examined.

- Finally, modern statistical tools were used to understand the relationship between the study variables, such as ARDL, Panel VAR, Fully Modify OLS, Fixed Effect Model, Random Effect Model, Redundant Fixed tests, and Hausman test.

### **Basic provisions for defense:**

1. Many studies deal with the impact of foreign direct investment on economic growth and some macroeconomic variables such as unemployment, exports, and imports.

2. This study was distinguished by going beyond economic growth, as it included a number of economic variables such as unemployment, exports, and the tax burden, in addition to its assessment of the investment climate in Jordan.

3. The controversy is great regarding the impact of foreign investments, especially on developing countries. Some economists

support them and consider them to be the engine of the national economy, while others see them as an obstacle to the wheel of economic growth and the exploitation of the natural resources of the host country.

4. Fiscal and monetary policies are one of the most important factors stimulating the attraction of foreign investments and also one of the most important determinants of attracting them.

5. Standard statistical models used to understand the impact of foreign investments on economic development often suffer from various statistical problems and are not subject to the necessary diagnostic tests to ensure that they are free of these problems, thus increasing the robustness and reliability of the results of the analysis.

6. The use of two types of data (time-series data and cross-sectional data) enriches the study and makes it more comprehensive.

7. The majority of researchers were interested in studying the impact of foreign direct investment on the indicators of economic development in the long run, and accordingly, the existence of a study concerned with this effect in the short and long term (in the second study model) is considered one of its distinctive elements.

8. After reviewing the economic literature, this study is one of the rare studies and may be the only one that concerned the impact of foreign investments on macroeconomic indicators in Jordan and a group of Middle Eastern and North African countries, with this comprehensiveness, and modernity in the methodology followed.

**Scientific novelty of the research.** The scientific novelty of this research lies in several aspects. It is one of the few studies that investigated the impact of foreign investment on economic development in this comprehensive and detailed manner, as most studies did not go beyond economic growth, and if they did, they targeted one economic variable. However, this study targeted four macroeconomic variables as variables representing economic development, which are economic growth, unemployment, exports, and the tax burden. This study is also one of the rare studies that used two types of temporal data, which are annual serial data and cross-sectional panel data, and this enriches the analytical and standard aspects.

This research is also considered the first of its kind to investigate and test the impact of foreign direct investment on unemployment in a

group of countries in the Middle East and North Africa, and therefore it is considered an addition to the economic literature library. One of the most important points of the scientific novelty of this research work is that it is also the first of its kind to link two basic axes, which are to comprehensively evaluate the impact of foreign direct investment on economic development and, at the same time, evaluate and analyze the Jordanian investment climate in two ways: the first is descriptive analysis and the second is econometric analysis.

### **The theoretical and practical significance of the research.**

Foreign direct investment and its relationship to economic variables may have different consequences in different countries, according to previous research. Economic growth may be stimulated by providing physical capital, enhancing job skills through technology transfer, and creating new job opportunities, or it may not be stimulated by not benefiting from technological developments or focusing these investments on the industrial sector at the expense of a country's wealth and resources.

Prior studies did not examine the investment climate and its impact on attracting foreign investment, as we also remark in this study. However, the vast majority of previous studies have only looked at one or two indicators of economic development in addition to growth, which the researcher believes is insufficient to provide a complete picture of how FDI impacts economic development. Some studies have only looked at one or two indicators of economic development in addition to growth.

This study differed from others in that it looked beyond economic growth to exports, unemployment, and tax burden, as well as attempted to determine whether the impact of foreign direct investment reaches the individual through the creation of job opportunities and the ability to replace goods produced by foreign investment with imported goods, lowering prices and thus lowering the cost of living for citizens.

The research covers the years 1980 to 2018, 2019, and 2022 and employs a novel methodology to achieve its goals by combining two types of data (time series and sectional panel data). This study is the first of its type in terms of examining the influence of foreign direct investment on a variety of macroeconomic indicators, as well as assessing Jordan's investment climate. Furthermore, this study may be the first to look at the



impact of foreign direct investment on Jordan and the Middle East and North Africa.

The researcher believes that the scientific importance of the research lies in the comprehensive picture that the study dealt with in terms of the impact of foreign direct investment on a set of macroeconomic indicators and that this research will be an introduction to further studies dealing with other important indicators, such as financial depth in both parts (the depth of financial institutions and financial markets), and unemployment of Females, the country's ability to repay foreign debt, economic dependency, and other indicators theoretically related to foreign direct investment. In addition to conducting comparative studies on the impact of these foreign flows on developing and developed countries.

Regarding the practical importance of the research; The research, through its use of a modern methodology in data analysis, presented a set of results and recommendations to take advantage of foreign direct investment and employ it to achieve the desired economic growth, increase exports, and the tax burden, and reduce unemployment, in addition to improving the investment climate using fiscal and monetary policy instruments. The research also explained the importance of enacting a set of legislation and laws that determine the optimal use of these foreign flows to ensure the reduction of unemployment, the preservation of local employment and the guarantee of transferring expertise and technology to it, and avoiding the crowding out the local investment, and ensuring that foreign investment does not waste natural resources and that these investments be accompanied by the transfer of advanced technology to the host country.

**Approval and application of the research.** This research work has attained approval from the Khazar University Scientific Council while the main findings of the thesis were reviewed by the scientific supervisor and the department of “Graduate School of Economics and Business” at Khazar University. The partial concepts of the research literature were applied for the publication of required scientific articles, also some of the resources of the statements presented at the international and local scientific seminars, conferences, and symposiums.

**Name of the organization where the dissertation work is carried out.** Graduate School of Economics and Business of Khazar University.

The dissertation consists of an introduction, three chapters, a conclusion, a list of references, and appendices. Introduction (14156 characters), Chapter I (90723 characters), Chapter II (43572 characters), Chapter III (46471 characters), conclusion (6951 characters), the list of references consists of 17 pages, in general, the dissertation consists of 208185 characters.

## **THE ESSENTIAL CONTENTS OF THE DISSERTATION**

Foreign direct investment (FDI) is part of international investment; and international investments are those investments that are made outside their own territory, whether directly or indirectly, whether they are for one country, several countries, one company, or several companies, i.e. Foreign investment is the flow of capital, regardless of its form, between two countries for the purpose of establishing new companies, contributing to the capital of existing companies or developing them to produce goods or services, and achieving more than what the investor expects in his country, whether was human effort or not.

As mentioned previously, the dissertation consisted of an introduction and three chapters in addition to the results and additions. In the introduction, the main idea of the dissertation was clarified, its objectives and the problematic that this study attempts to answer, and the hypotheses on which it is based, in addition to a review of a number of different economic studies, which varied in their results in terms of the impact of foreign direct investment on economic development and indicators. The macro-economic, some of which are between the positive impact, while others show that these investments have a negative impact on the economies they receive. Also, in the introduction, what distinguishes this study from other studies and the recent scientific contribution it provides has been clarified.

**The study's theoretical framework is expressed in the first chapter**, which is divided into three parts. The many definitions of

foreign direct investment, as well as the researcher's own definition, were clarified in the first part, as were the most important forms of FDI and their determinants, FDI inflows trends, and the most essential theories on which FDI is based.

Economists explain foreign investment as a person or organization from a country that invests its money in another country, either through full ownership of the project or partial ownership, to generate revenue. Also, it means that a company or an enterprise invests in projects outside the borders of the motherland intending to exert some influence on the operations of those projects. FDI can also take many forms, such as the establishment of a wholly new enterprise, the acquisition of existing assets, or through mergers and acquisitions.

FDI can also be defined as the establishment of new projects in the host country, the addition of machinery and equipment, or the purchase of domestic companies by foreign investors in the host country (10% or more of the company's assets).

There are also a number of definitions of some institutions and international bodies of foreign direct investment, the most important of which are: The United Nations Conference on Trade and Development (UNCTAD) defines it as an investment involving a long-term relationship that reflects permanent interests and the ability to govern between a company in the home country (the country of the investee) and a company or productive unit in another (country of investment). And for the International Monetary Fund (IMF), foreign investment is considered direct when the investor owns 10% or more of the shares of the joint-stock company or the equivalent of this percentage in the non-contributing company.

After studying all these definitions of economic researchers or international organizations and bodies, for foreign direct investment, the study defines foreign direct investment as the establishment of a new project or the contribution or purchase of all or part of an existing project by one or more persons with a different nationality than those Borne by the project concerned, in order to achieve economic returns, provided that the project has a physical entity that produces goods or services that are not legally prohibited for the purpose of marketing locally or internationally.

The dissertation in this chapter focused on explaining the most important economic theories on which foreign direct investment was built. The theories were divided into three sections; the first section sees that the main motive for foreign direct investment is the foreign company's possession of competitive advantage or a monopoly advantage. These theories were called market structure theories and the most important pioneers and theorists were Heimer, Kindlerberg, Buckley, Casson, and David Raymond. The second part of the theories is the theories based on protection and the institution, and that the main motive for foreign investment is due to the policy of the institution, the capabilities, and qualifications of the managers of these foreign companies, their psychological inclinations, and the desire to expand and create new markets outside the borders of the mother country. The third section of these theories, they are the synthesis or synthetic theories, which focus on the importance of the location as a major motive for foreign investment and the characteristics of the host country, and the privileges, facilities, and incentives it offers to attract this type of foreign investment. The most famous theorists of these theories are the economist Dunning, The author of the selective theory, which combined the three theories (competitive or monopolistic advantage, institution and protection, and location theory) as the main motives for the foreign investor or the foreign company to take the decision to invest outside the borders of the mother country.

One of the main themes in the dissertation was included in the second section of the first chapter, which dealt with the investment climate, its components, determinants, and indicators for measuring and evaluating it. The investment climate is defined as a combination of policies, indices, and tools that directly or indirectly influence investment decisions. It is a set of components, limitations, methods, and indicators that indicate whether or not there is a sense of encouragement, incentive, and attraction for investment. The investment climate can also be defined as a broad concept that encompasses the overall circumstances and conditions of the environment in which the investment process takes place, as well as the impact these conditions and circumstances have on the likelihood of investment project success. The researcher describes the investment climate as a set of laws,

regulations, and economic and political institutions that influence investor confidence and encourage him to invest in a country where there is no other. The investment climate is more than just economics; it includes social and political issues as well. Foreign investment is expelled from the country if there is a lack of both internal and exterior political stability, regardless of the potential and advantages of investment. Investment decisions are always guided by the notion of pre-profit safety.

The importance of the investment climate stems from its impact on bringing or expelling foreign and national investments. This climate includes all the aspects that the investor deems necessary for the success of his investment and suitable for his current and future activity. The investment climate includes policies, indicators, and instruments that directly or indirectly affect investment decisions, including other macroeconomic policies, namely fiscal, monetary, and trade policies, as well as economic, environmental, and legal systems that affect the direction of investment decisions in a national economy. The investment climate consists of a set of factors that determine the appropriateness of the political, economic, investment, and legislative environment to attract and settle investment and achieve increasing trade exchange rates in the open markets, which in turn raises the rate of economic growth and drives it towards achieving comprehensive and sustainable economic development. The study summarized the investment climate determinants in the economic policy, whether financial, monetary or commercial, the strength and growth of the local economy, infrastructure, political and economic stability, the size of the local market, and the degree of economic openness, administrative and institutional determinants, the degree of durability, modernity and flexibility of investment legislation, in addition to the availability of trained and qualified manpower (human capital).

The theoretical framework of the study is completed through the third part of the first chapter, which deals with economic development in terms of its various definitions, objectives, economic growth, economic growth theories, and the impact of FDI on economic growth and some macroeconomic indicators such as exports, employment, and capital formation and human capital and the role of these investments in

transferring modern technology to the host country. It is worth noting that the representative variables of economic development are the dependent variables in the study. The definitions of economic development have been varied, and some define it as the process by which the transition from underdevelopment status to progress status, where this transition requires many radical and fundamental changes in the economic structure. Economic development also includes improving the skill, efficiency, and ability of the worker to create income, regulate production, develop transport and communications, progress financial institutions, and increase the urbanization rate in society. However, This study defines economic development as Modernization and comprehensive development that is both constructive and leads to higher rates of economic growth while also ensuring that this growth is balanced and sustained over time in order to meet individual needs and achieve the greatest possible social justice for the poor without causing any harm to the environment or natural resources. The study focused on clarifying the most important theories on which economic development is based and clarifying its most important characteristics, such as the classical theory, the new classical theory, and the Harrod-Domar theory, which focused on the fact that the real driver of economic development is the marginal propensity of saving and therefore the marginal propensity of investing, and thus the accumulation of capital, the theory of Walt Rostow, the theory of Arthur Lewis, and finally Schultz's theory, which focused on human capital as the basis of economic development and that it increases and decreases like physical capital.

**The second chapter of the dissertation** presented a descriptive analysis of the study variables in the Jordanian economy, as it discussed the nature and characteristics of the Jordanian economy and foreign direct investment in Jordan, and the relationship of foreign direct investment with a number of macro variables in the Jordanian economy like economic growth, exports, tax burden, and unemployment. The investment climate in Jordan was also evaluated through a number of indicators such as the composite index of economic policy issued by the Arab Corporation for Investment and Export Credit Guarantee, the global competitiveness index, the human development index, and the Indicator of legislative restrictions on foreign direct investment, in

addition to the Euromoney index of investment risks. This chapter was distinguished by its reliance on the analysis of many graphs and tables to give a clear picture of the path of foreign direct investment and economic development in Jordan. And the flows of foreign direct investment to Jordan were compared also with a number of countries in the Middle East and North Africa and the State of Azerbaijan.

The Importance of FDI lies due in Jordan's reliance on remittances, aid, and loans and the country's vulnerability to uncontrollable external factors including export markets, tourism demand, oil price swings, and global demand conditions, the country's economy presents a unique set of challenges for policymakers. Other internal issues include a lack of natural resources, such as energy, arable land and water, a small local market, and a huge government and public sector, as well as labor imports from abroad, brain drain, and national labor migration. These are all contributing factors. In contrast, Jordan's trained human resources, quality of education system, solid infrastructure, political and social stability, and openness to the world allow it to adapt to internal and external situations and changes and attract this type of foreign flow. It is very useful to compare the descriptive analysis in this chapter with the results of the standard and statistical analysis in the third chapter of the study, as this, in the opinion of the researcher, will increase the reliability and robustness of the results.

**The third chapter of the dissertation** included the study methodology and empirical statistical analysis. Several forms of secondary data were employed in the study to fulfill its objectives. These included data from time series and cross-sectional panel data, both of which were obtained throughout a period ranging from 1980 to 2018, 2019, and 2022. Among the sources of information are the World Bank, the United Nations Conference on Trade and Development (UNCTAD), the International Monetary Fund (IMF), and the United Nations Development Program (UNDP), as well as official data from the Jordanian Ministry of Labor, the Jordanian Ministry of Planning, the Jordanian Department of Statistics, and the Central Bank of Jordan, as well as The Arab Corporation for Investment and Export Guarantee. To achieve the objectives of the study and by relying on many economic literary studies and theories of foreign direct investment and theories of

economic development, five standard economic statistical models were built, so that the first model examined the relationship between FDI and economic growth, and the second model with unemployment, and The third is with exports, and the fourth is with the tax burden, and finally, the fifth and final model was to assess the investment climate by examining the role of financial and monetary policy instruments on the imported FDI flows to Jordan. It is noteworthy that all of these models were subjected to several diagnostic tests as stationary unit root tests (the Augmented Dicky Fuller test), the Autocorrelation test, the Heteroscedasticity test, the normal distribution test, the bounds test, the Redundant Fixed Effects test, and the Hausman test. Based on the results of these tests, the statistical analysis tools used in the dissertation were as follows: Ordinary Least Square (OLS), Fully Modified Least Square (FMOLS), Auto-Regressive Distributed Lags (ARDL), Vector Error Correction Method (VECM), Vector Auto-Regressive (VAR), Panel VAR, Fixed Effect Model (FEM) and Random Effect Model (REM).

An important point to note and clarify is that the study used real values of the economic variables because the five standard models included the Consumer Price Index (CPI), which means that the data values are real. and is not affected by inflation. The base year was approved by the Central Bank of Jordan and was 2010. This is clearly explained in the methodology of the first model.

**First Model: FDI and Economic Growth.** As a result, the study relied on a series of temporal data from 1984 to 2022 so that the long-term association between the variables could be demonstrated. Human development index (HDI), growth in foreign direct investment (GFDI), and the share of real gross domestic product (GWP) attributed to workers were all part of the analysis. The dissertation clarified the methodology used in deriving the equations to come up with the final form of the model, which will be subject to standard analysis, and it was as follows:

$$GAWP = \beta_0 + \beta_1 GWSK_t + \beta_2 GFDI_t + \beta_3 HDI_t + Dum + U_t$$

..... (1)

Where: GAWP: Real productivity growth of the labor force (economic growth), GWSK: The average growth in the employee's share of real capital, GFDI: Real growth of FDI inflows, HDI: Index of human



development,  $\beta_0, \beta_1, \beta_2, \beta_3$ : The model's parameters, U: Random error, t: Period of time. Data were analyzed using a standard model over the study period through diagnostic tests (1984-2022). The Augmented Dicky Fuller test, the stationary unit root test, the autocorrelation test, the heteroscedasticity test, the normal distribution test, and the bounds test are some of the diagnostic tests included in this list. Auto-Regressive Distributed Lag Bounds Testing (ARDLBT) was employed as a statistical analysis method. Following that, the time series of (GWP) and (GWSK) are static at the level, and the time series of (GFDI) and (HCI) become static after the first difference, and ARDLBT was used to test for the potential of a long-term equilibrium connection using Pesaran's bound test. Because the variables had a common integration, this indicated that they had a long-term equilibrium relationship; hence the ARDL model was used to estimate the long-term relationship. The following tables 1 and 2 illustrate the results of the ARDL bound test and the long term relationship:

**Table 1 The results of the ARDL co-integration test (1, 0, 0, 0)**

F- statistic	Significance level	Low bound	Upper bound
FW= 6.974	10%	2.2	3.09
	5%	2.56	3.49
	2.5%	2.88	3.87
	1%	3.29	4.37

*Notes: According to F-statistic = 6.97, the null hypothesis (no long-term link exists) has been ruled out, and there is a common integration among the variables across time.*

*Source: own editing.*

**Table 2 Results in the long term**

Panel A: ARDL Co integrating And Long Run Form
Dependent Variable: GWP
Selected Model: ARDL (2,2,2,2,0)
Sample: 1984 2022

Variables	Coefficient	St. error	t- statistic
GWSK	1.223***	0.0929	13.164
FDI	0.004***	0.0021	2.034
HDI	-0.351*	0.234	-1.501
DUM	0.011	0.021	0.524
Intercept	0.217	0.158	1.377

Panel B: ARDL specification.

**ARDL (1, 0, 0, 0):**  $\text{Cointq} = \text{GWP} - (1.223*\text{GWSK} + 0.004*\text{GFDI} - 0.351*\text{HDI} + 0.011*\text{DUM} + 0.217)$ .

**Panel C: Residual Diagnostics and Misspecification test results for ARDL (1, 0, 0, 0).**

$\chi^2_{SC}(2) = 0.715 [0.497]$ ,  $\chi^2_{ARCH}(1) = 2.055 [0.972]$ ,  $\text{JB}_N = 5.709 [0.578]$ ,  
 $F_{\text{statistic}} = 19.570 [0.000]$ ,  $R\text{-squared} = 0.825$ ,  $\text{Adjusted } R\text{-squared} = 0.770$ .

*Source: own editing.*

We note that the growth of the foreign direct investment coefficient is positive; If (GFDI) rose 1%, economic growth (GWP) would rise by 0.004%, other factors being held constant. This result is consistent with the economic theory and the nature of the Jordanian economy during the study period as shown in the second chapter of the study in that economic growth develops and grows in the same direction as a foreign direct investment because foreign companies invest not only to supply the local market but also to supply the foreign market, especially the markets of Arab countries neighboring Jordan. The results of this study are consistent with the results of several previous studies, such as Saleem, Raisi, and Sadik (2016), which found a positive effect of foreign investment on exports in Eastern Balkan countries, and Mukhtarov and Alawneh (2019) paper, found a positive impact of foreign direct investment on Jordanian exports.

**Second Model: FDI and Unemployment.** Six nations in the Middle East and North Africa (MENA) area were surveyed over the period from 1990 to 2018 for cross-sectional panel data. Net inflows from FDI and export are shown as a percentage of a country's gross domestic product, unemployment rate, GDP growth, and inflation (GDP deflator) are shown as a percentage for the sake of comparability. So, it doesn't really matter how big these six economies are compared to each other. Using a statistical model that adhered to

traditional economic theory and past research, we looked at FDI and unemployment in the six countries that make up this region of the Middle East and North Africa. Researchers studied the long-term correlation of variables since FDI takes a long time to show its impact on host economies. As a result, the diagnostic test findings were used to create the following standard model:

$$UNEt = \alpha_1 + \beta_1 FDI_t + \gamma_1 EXP_t + \varphi_1 GGDP_t + \omega_1 INF_t + \mu_t \dots \dots \dots (1)$$

Where: UNE: The rate of unemployment (%), FDI: Inflows of net FDI (percent of GDP), EXP: Exports as a percentage of GDP, GGDP: GDP growth (%), INF: Inflation (%),  $\alpha, \beta, \gamma, \varphi, \omega$ : Model parameters,  $\mu$ : random error, t: Period of time. Panel data unit root test showed that the variables are non-stationary at their levels, but they are stationary at the first difference, which is integrated of order one, I (1). Using the Redundant Fixed Tests, it is clear that the null hypothesis has been rejected and the alternative hypothesis has been accepted. The Hausman test was used to determine whether to use the Fixed Effect model or the Random Effect model, and the results show that the Random Effect model was rejected and the Fixed Effect model was accepted. Fixed Effect Model estimate results for the second model were shown in Table 5 (Tables 3 & 4 for Redundant Fixed Tests and Hausman test).

**Table 3 Redundant Fixed Tests**

Effects Test	Statistics	d.f.	Prob
Cross- section F	39.146	(5, 164)	0.000***
Cross-section Chi-square	136.675	5	0.000***

\*\*\* Denotes rejection of the null hypothesis at a significance level of less than 5%, these tests have a null hypothesis that the panel data regression model is a Common Effects Model, and the panel data regression model is a Fixed Effects Model, according to the alternative hypothesis of these tests.

Source: own editing.

**Table 4 Hausman Test**

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob
Cross-section random	56.851	4	0.000***

\*\*\* Denotes rejection of the null hypothesis at a significance level of less than 5%, these tests have a null hypothesis that the panel data regression model is a Random Effect Model, and the panel data regression model is a Fixed Effects Model, according to the alternative hypothesis of these tests.

Source: own editing.

**Table 5 Estimation for the Fixed Effect Model and test results**

Panel A: Panel Least Squares results.							
Dependent Variable: UNE							
t- statistic				t- statistic		St. error	
-2.291				-2.291		0.039	
-2.948				-2.948		0.021	
-0.471				-0.471		0.023	
-4.653				-4.653		0.006	
20.491				20.491		0.697	
<b>UNE = 14.286 – 0.091 FDI – 0.062 EXP – 0.011GGDP – 0.029 INF + [CX=F]</b>							
Panel B: Residual Diagnostics and Effects Specification.							
$JB_N = 3.83 [0.147], F_{statistic} = 61.8 [0.000], R\text{-squared} = 0.770,$ $Adjusted R^2 = 0.757.$							
Panel C: Cross-section Fixed Effects							
	6	5	4	3	2	1	CROSSID
	-1.022	-1.991	-2.44	3.820	-4.341	5.979	Effect

Source: own editing.

The coefficient (FDI) is negative, meaning that a one percent increase in foreign direct investment results in an unemployment rate (UNE) decline of 0.092%, provided that all other variables remain constant. Findings are in line with previous research showing how FDI boosts wages and productivity of workers by encouraging vertical and horizontal integration, as well as the development of complementary investments, which in turn results in new job opportunities for those workers who benefit from it. The results of this study are consistent with other studies, such as the study of Johny et al., (2018) which indicated that FDI reduces unemployment in Nigeria, and the study of Bayar (2014), which also revealed that FDI reduces unemployment in

Turkey, and the study of Mustafa Alalawneh and Nessa (2020), which illustrated that FDI affects negatively the unemployment rate in Jordan.

The standard analysis in this model is distinguished also by the investigation of the relationship between the model variables in the short term, as the study used a vector autoregressive model (VAR) to test the causality relationships between the variables. The VAR model's main advantage is that it treats each system variable as endogenous and relates each variable to its own past values as well as the past values of all other variables in the model. To evaluate the causal relationships between the relevant variables, the researchers employed panel data VAR with lag order (2). The smallest value of the Schwarz criterion determines the appropriate lag length. Table 6 shows the estimated coefficients for the six countries, and the Wald coefficients test is used to determine the Granger causality directions. The results of Table 6 reveal that there are two bidirectional causality linkages between FDI and Export, and economic growth and inflation, and two unidirectional causality ties from unemployment to FDI and unemployment to economic growth.

**Table 6 Causal Granger tests for panel data from a group of countries**

<b>Dependent Variables</b>		<b>DUNE</b>	<b>DFDI</b>	<b>DEXP</b>	<b>DGGDP</b>	<b>DINF</b>
<b>Model</b>		<b>FEM</b>	<b>FEM</b>	<b>FEM</b>	<b>FEM</b>	<b>FEM</b>
<b>Coeff.</b>	C (c1)	-0.004 (0.958)	0.087 (0.649)	0.150 (0.55)	-0.417 (0.168)	-0.139 (0.86)
	DUNE(-1) (c2)	0.015 (0.856)	-0.431 (0.022)	-0.147 (0.552)	-0.875 (0.00)	-0.61 (0.44)
	DUNE(-2) (c3)	0.003 (0.966)	-0.086 (0.649)	0.1403 (0.576)	0.367 (0.221)	0.375 (0.647)
	DFDI(-1) (c4)	-0.010 (0.771)	-0.283 (0.00)	0.264 (0.014)	0.139 (0.27)	-0.202 (0.563)
	DFDI(-2) (c5)	-0.016 (0.644)	-0.013 (0.864)	0.331 (0.001)	0.047 (0.704)	-0.066 (0.84)
	DEXP(-1) (c6)	-0.047 (0.087)	0.146 (0.015)	0.008 (0.914)	0.118 (0.213)	0.395 (0.127)
	DEXP(-2) (c7)	0.009 (0.740)	0.114 (0.060)	-0.069 (0.387)	0.118 (0.216)	0.049 (0.849)

	DGGDP (-1) (c8)	0.013 (0.50)	0.023 (0.598)	0.074 (0.210)	-0.501 (0.00)	0.845 (0.00)
	DGGDP (-2) (c9)	0.0058 (0.799)	0.023 (0.587)	0.006 (0.913)	-0.060 (0.380)	0.530 (0.005)
	DINF(-1) (c10)	-0.012 (0.124)	-0.013 (0.438)	-0.023 (0.299)	-0.059 (0.028)	-0.399 (0.00)
	DINF(-2) (c11)	-0.004 (0.589)	-0.010 (0.504)	-0.037 (0.083)	-0.019 (0.458)	-0.197 (0.005)
Wald test of Coefficients Causality Direction (1)	Ho F-stat	B [0.245] (0.884)	A [5.298] (0.070) <b>UNE→ FDI*</b>	A [0.718] (0.698)	A [10.75] (0.004) <b>UNE→ GDP***</b>	A [0.833] (0.657)
Wald test of Coefficients Causality Direction (2)	Ho F-stat	C [2.983] (0.225)	C [10.03] (0.006) <b>EXP→ FDI***</b>	B [12.93] (0.001) <b>FDI→ EXP** *</b>	B [1.188] (0.552)	B [0.336] (0.845)
Wald test of Coefficients Causality Direction (3)	Ho F-stat	D [0.471] (0.790)	D [0.373] (0.829)	D [2.008] (0.366)	C [3.269] (0.195)	C [2.403] (0.300)
Wald test of Coefficients Causality Direction (4)	Ho F-stat	E [2.404] (0.300)	E [0.861] (0.649)	E [3.470] (0.176)	E [4.887] (0.086) <b>INF→ GDP*</b>	D [19.28] (0.00) <b>GGD → INF** *</b>

*Notes: The numbers in () and [] are p-values and Chi-square values, respectively. The symbols \*\*\*, \*\*, \* imply rejection of the null hypothesis at the 1%, 5%, and 10% levels of significance, respectively. F-stat=F-statistic, H0=null hypothesis. The null hypothesis in the Wald test of coefficients A is  $c2=c3=0$ , B is  $c4=c5=0$ , C is  $c6=c7=0$ , D is  $c8=c9=0$ , and E is  $c10=c11=0$ , respectively.*

*Source: own editing.*

**The third and fourth models** of the study aimed to analyze the long-term relationship between foreign direct investment and exports, and between foreign direct investment and the tax burden. As in the

previous models, the statistical model was built based on various economic theories and previous studies, and through various diagnostic tests, the standard analysis tool was chosen. The results of the standard analysis of the third model showed the existence of an integrative common relationship between exports and incoming foreign investment flows to Jordan and that these flows increase Jordanian exports. Also, for the fourth model, there is an integrative common relationship between the tax burden and foreign direct investment, and foreign direct investment positively affects the tax burden in Jordan (the ratio of tax revenues to Jordanian GDP).

**Fifth Model: The Assessment of Investment Climate.** Data from 1991 to 2022 was used for empirical analysis in the study. Inflows of FDI, money supply (Ms), interest rate (INT), and tax revenues (TR) were the data series examined in this study (TR). The study's functional specification can be summarized thusly:

$$\ln FDI_t = \beta_0 + \beta_1 \ln M_s t + \beta_2 \ln INT_t + \beta_3 \ln TR_t + \varepsilon_t \dots \dots \dots (1)$$

FDI<sub>t</sub> is the real (\$) flow of foreign direct investment, M<sub>s</sub><sub>t</sub> is the real (\$) money supply (M1 + quasi-monetary), INT<sub>t</sub> is the yearly percent change in real interest rates, TR<sub>t</sub> is the annual (\$) change in real tax revenues, t is the time period, and ε is an error term. We use VECM, CCR, and FMOLS methods for empirical estimation. Following are the stages of our empirical investigation: First, a unit root test is used to determine whether a variable is non-stationary. It is used to examine the non-stationary properties of variables by using the Augmented Dickey-Fuller unit root test, and the findings showed that the variables are non-stationary at their levels, but they are stationary at the first difference, which is integrated of order one, I (1). The Johansen co-integration test is then used to examine the co-integration of variables. Since there are more than two variables involved, the Vector Error Correction Method (VECM) is used to estimate the long-term relationship among them. In addition, the relationship can be examined as a system rather than a single equation under the VECM framework. When doing a robustness check, we employ the Canonical Co-integration Regression (CCR) and Fully Modified Ordinary Least Squares (FMOLS) approaches. The diagnostic tests indicated the VAR

has good features since it is stable, there is no serial correlation, there are no heteroscedasticity problems in the residuals, and the residuals are normally distributed. The trace and Max-Eigen value test statistics both showed that the variables have a co-integration relationship. As a result, we can conclude that the variables are co-integrating. Finally, in addition to the VECM, we estimated the long-run coefficients using CCR and FMOLS methods as a further robustness check. In Table 7, we compared the estimated long-run coefficients from each of the four techniques.

**Table 7 Long-run coefficients from the methods**

Methods	<i>Ms</i>	<i>INT</i>	<i>TR</i>
	Coef. (Std. Er.)	Coef. (Std. Er.)	Coef. (Std. Er.)
VEC	2.73*** (0.47)	0.74 (0.6)	2.37* (0.77)
CCR	2.08*** (2.85)	-1.04 (1.73)	-0.085 (1.43)
FMOLS	2.17*** (0.758)	-0.968 (-0.576)	-0.08* (0.930)

Panel B: Residuals diagnostics tests results of VECM and Speed of Adjustment Coefficient

<i>SoA</i>	-0.756 [0.000]
<i>LM<sub>SC</sub></i>	4.216 [0.235]
<i>χ<sup>2</sup><sub>HETR</sub></i>	1.895 [0.445]
<i>JB<sub>N</sub></i>	0.105 [0.887]

Source: own editing.

The long-run coefficients from the VECM approach are statistically significant, as shown in Table 7. Furthermore, the estimated specifications' residuals pass the residuals diagnostics tests, indicating the estimation results' robustness. *Ms* has a favorable and statistically significant influence on FDI at the 1% level, according to our findings. According to the findings, a 1% increase in money supply increases FDI by 2.73 percent. This result is consistent with economic theory and the findings of Mukhtarov and Alalawneh (2020) for Jordan,



Shafiq et al. (2015) for Nigeria, Hina and Ullah (2019) for Pakistan. From a theoretical standpoint, increasing the money supply increases national liquidity, which should attract more FDI inflows because the cost of financing in the host country is supposed to be lower. Furthermore, interest rate effects on FDI are statistically small. Because Jordan does not have a sophisticated financial system, this result is appropriate. Boateng et al. (2011) and Faroh and Shen (2015) also came to similar conclusions. We also find that the tax revenue effect is statistically significant with a negative sign at the 1% level, which is in line with economic theory and other research such as Leibrecht and Bellak (2005), Abdioglu et al. (2016), and Esteller-Moré et al. (2020). According to a study conducted by the Jordanian Strategy Forum (2017), tax revenues are important in raising GDP, but they also have a detrimental influence on foreign direct investment flows into Jordan. Furthermore, at the 1% confidence level, Table 3.18 demonstrates that Jordan's error correction term coefficient (ECT) is negative and statistically significant. These estimates reveal that any divergence from the short-run disequilibrium among the variables is adjusted in each period to bring the variables back to the long-run equilibrium level.

### **Conclusions**

The theoretical framework for the research the key ideas and explanatory theories about the study variables, and the theoretical relationship between variables related to economic development and foreign direct investment were all clarified and covered in detail in the first chapter of the study. The second chapter assessed the investment climate using the descriptive approach and investment climate metrics, as well as providing a descriptive analysis of the study variables and the response of economic development indicators to foreign investment flows. In the third chapter, econometric and statistical analyses were also employed. Five statistical mathematical models were constructed, and to make sure these models were free of diagnostic issues, they underwent numerous diagnostic tests as well as unit root tests. Numerous contemporary standard analysis tools, including Panel VAR, Fixed Effect Model (FEM), Autoregressive

Distributed Lags (ARDL), Fully Modified Ordinary Least Square (FMOLS), Ordinary Least Square (OLS), Vector Auto Regression (VAR), Vector Error Correction Method (VECM), Canonical Co integration Regression (CCR), and Random Effect Model (REM), all of these tools were used in conjunction with co integration tests to examine and assess the effect of FDI on Jordan's economic development.

In light of the aforementioned, the study's most significant findings are as follows:

1. There has been a significant improvement in the Jordanian investment climate during the study period, and Jordan is classified as one of the countries with a medium investment climate among the countries of the world, and the degree of seriousness of the Jordanian investment climate is also considered to be classified as medium compared to the countries of the world.

2. The most comprehensive theory for understanding the behavior and motivations of foreign investors as well as the patterns of this kind of foreign flow, according to the researcher who examined the theories of foreign direct investment, is the selective theory, which is composed of three major ideas. The location theory, the institution theory, and the theory of competitive advantage are these theories. The study concludes, after examining the most significant forms of FDI, that FDI in the form of foundation investments is the most advantageous for the receiving nation because it helps with unemployment, technology transfer, and local worker rehabilitation.

3. There is a long-term integrative relationship between human capital, FDI, and economic growth, and the impact of FDI on economic growth is positive and significant.

4. There is a co-integrative relationship in the long run between exports, FDI, and unemployment, and FDI reduces unemployment in the six countries in the MENA region in the long run.

5. The Granger causal relationship in the short term does not exist between FDI and unemployment. At the same time, there is a

bilateral direction relationship between FDI and exports in the MENA study sample countries.

6. The results of the study showed the existence of a long-term integrative relationship between exports and foreign direct investment and that FDI positively and morally affects Jordanian exports.

7. The study results showed the existence of a co-integrative relationship between official development assistance, FDI, and the tax burden, that FDI positively and morally affects the tax burden in the long run; and that its impact is greater than official development assistance.

8. The last axis of the study was concerned with evaluating the Jordanian investment climate by studying the impact of monetary policy represented by the money supply and interest rate, and the financial policy represented by tax revenues on foreign direct investment flows to Jordan. The study showed that the expansionary monetary and fiscal policies positively affect the attraction of direct foreign investment to Jordan.

9. In conclusion, the results of the study agree with many previous studies that showed the impact of foreign direct investment on various macroeconomic indicators, but this study was characterized by its comprehensiveness in terms of the number of variables that were investigated, and it also evaluated the Jordanian investment climate. Therefore, this confirms this study is the first of its kind in Jordan and the countries of the Middle East and North Africa.

**Depending on the study's findings, several recommendations can be made, such as:**

1. The study proposes that the government establish a set of rules and laws that include a variety of facilities in order to create an investment climate that is free of hurdles and difficulties. Exemptions from taxes and customs, income and profit exemptions, social benefits, land taxes, capital transfer incentives, salaries, wages of foreign employees, and capital returns are only a few examples.

2. Strengthening Jordan's appeal as an investment destination at the regional and global levels by diversifying the country's production base, streamlining the process of registering and approving new

business ventures, igniting international trade, and providing some incentives for foreign investment; such as using solar power as a means of reducing production costs, removing taxes, and providing grace periods.

3. The study suggests pursuing economic policies that attract foreign investment and improve the investment climate, with a focus on attracting types of foreign investment that increase employment rates, such as foundational investments, and enacting a set of laws and regulations that provide a set of incentives and tax exemptions that contribute to attracting foreign investments while also requiring foreign companies to qualify and employ local labor.

In addition to the focus on human capital, particularly education, is a vital strategy for lowering unemployment and attracting foreign investment. As well as limiting foreign investment into the local market by enacting a joint venture policy that allows local producers to learn new techniques and ideas while also sharing in the benefits.

4. It is important that tax policy be used to encourage international investment, with tax exemptions being formulated so that they do not harm tax revenues, but that the exemptions are granted within the limits that ensure the success of investment projects and provide a real advantage for those projects that cannot be completed without them. Governments must be able to evaluate the impact of various investment projects on the economy.

5. Monetary policy in Jordan needs to be put into action in order for the country to attract more foreign direct investment. This would necessitate the adoption of policies and actions to make the policy more effective and eliminate hindrances that are impeding it from doing so.

6. Economic growth and low inflation are necessary to sustain the purchasing power of Jordanian dinars and to maintain the standard of life for residents. Efforts should be made to cut the interest rate (based on inverse relation) in order to attract more investments from overseas.

7. The government should try to raise tax elasticity where economic indications indicate that this is achievable, such as through expanding the tax base, improving tax collection efficiency, and

diversifying revenue sources to lessen tax reliance on foreign investment.

**The following research works of the author reflect the content of the research, the main scientific ideas, and conclusions obtained:**

**A. Research work in indexed scientific journals**

1. Alalawneh, M. M. The Impact of Human Capital Development on the Average Labor Productivity / Muslum Ibrahimov // Journal Tax, – 2018, 137(2), – p.121–137.

2. Alalawneh, M. M. The Impact of Human Capital and Foreign Direct Investment on Economic Growth: An Empirical Study on Jordan // Business and Economic Research, –2020, 10(2), – p. 182–196.

3. Alalawneh, M. M. The Impact of Foreign Direct Investment on Unemployment: Panel Data Approach / Azizun Nessa // Emerging Science Journal, – 2020, 4(4), – p. 228–242.

4. Alalawneh, M. M. The Impact of Foreign Direct Investment and Official Development Assistance on Tax Burden: An Analytical Study on Jordan // Global Journal of Management and Business Research, – 2020, 20(16), – p.50–57.

5. Magableh, S. An empirical study on the effect of education on labor productivity / Mustafa Mohammad Alalawneh, Usama Alqalawi // Journal of Governance and Regulation, – 2022, 11(2), – p. 301–308.

6. Alalawneh, M. M. Trilogy” of FDI, Export, and Remittances: An Empirical Study on Jordan’s Economic Development // Modern Economy Journal, – 2023, 14 (2), – p. 112–121.

**B. Research work in international scientific conferences**

1. Alalawneh, M.M., Ibrahimov, M. The Impact of Human Capital on Economic Growth // 37th International Scientific Conference on Economic and Social Development – "Socio Economic Problems of Sustainable Development". Baku, Azerbaijan, – 2019, – p. 132-14.

2. Alalawneh, M.M. Investment climate analysis using the risk assessment methodology: FDI in Jordan // European Academic Science and Research Conference. Belarus, – 2022, – p. 5.

3. Alalawneh, M.M. Nexus relationship between FDI and unemployment in the 6 countries of MENA // 14th “China to Adriatic” international congress on social science. Ankara, Turkey, – 2022, – p. 373.

4. Alalawneh, M.M. Response of tax burden OF FDI in the light of ODA: An empirical study on Jordan // 3rd WORLD PANDEMIC RESEARCH CONGRESS. Istanbul, Turkey, – 2022, – p.14.

5. Alalawneh, M.M. JORDAN'S ECONOMIC POLICY AND INVESTMENT CLIMATE: NEXUS OF FDI INFLOWS AND FISCAL AND MONETARY POLICY // 2. INTERNATIONAL CAPPADOCIA SCIENTIFIC RESEARCH CONGRESS. Istanbul, Turkey, – 2022, – p.906.

A handwritten signature in blue ink, appearing to be 'M. Alalawneh', is located in the lower right quadrant of the page.

The defense will be held *on “23” February 2024* at FD 1.11. Dissertation council of Supreme Attestation Commission under the President of the Republic of Azerbaijan operating at Azerbaijan State University of Economics.

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The dissertation is accessible at the Azerbaijan State University of Economics Library.

Electron versions its abstract are available on the official website of the Azerbaijan State University of Economics.

Abstract was sent to the required addresses on 22 January 2024

Signed for print: 16.01.2024

Paper format: 60x84 <sup>1/16</sup>.

Number of hard copies: 20  
(32456 Symbols)

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