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The Impact of Foreign Investment on Capital Formation in Jordan during (2000-2009): A Case Study on Industry, Service, Agriculture and Construction Sectors

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Abstract

This study aims at explaining the impact of foreign investment on capital formation in the private sectors of industry, services, agriculture and construction in Jordan during 2000-2009. To examine the hypotheses of the study, the present study resorted to four simple regression approaches. The study has revealed a positive relationship with statistical significance in between the Foreign Direct Investment (FDI) and the capital formation for the industrial sector, and between capital formations of the agriculture sector. This means that the foreign direct investment highly contributes to enhancing and reinforcing the economic activity and in supporting the economic development in Jordan.

The study has also found that there is a positive relationship with statistical significance between foreign direct investment and capital formation of the construction sector, which means that foreign direct investment highly contributes to supporting the sector of estate and housing sector. This is attributed to the fact that it is a secure investment and it provides much more safety for the foreign investors. The study recommended taking care of the foreign investment, to explore new ways to generate new methods to enhance the capital formation in Jordan, to combat all the difficulties that challenge and hinder the national economy and provide a suitable environment that ensures the continuity of the foreign investment.

Key Words: foreign investment, capital formation, industry, services, agriculture, constructions, Economic development.

Overview:

While considering their economic affairs, many developing countries have taken care of the subject of direct foreign investment. Accordingly, this has created a sense of competition between these countries as they attempted to seek the highest flow of foreign investment due to the vital and effective role it plays in pushing economic processes ahead. That's why these countries have made several economic and administrative reformations and have worked on combating all the hindrances that block the progress of the foreign investment. High ratios of progress were achieved by these countries due to the grand changes they made.

Jordan, as one of the developing countries, has adopted many procedures in this regard through enacting economic and administrative rules and legislations that would provide the suitable climate to attract direct foreign investment, especially with the huge state of competitiveness among developing countries to gain as many investments as possible throughout the world. Investment promotion law of 1995 article (16), along with its modification of 2000, is considered a legislative framework to attract foreign investment. This law has provided a number of the custom and tax exemptions for investment projects as part of the industry sector in addition to the service, agriculture and services sectors (Jordan investment Board, 2000).

Objectives of the Study

This study aims at:
1. Identifying the volume and kind of direct foreign investment in Jordan in the sectors of industry, services, agriculture and constructions.
2. Identifying the positive impacts achieved by these investments in the field of export volume.
3. Identifying the difficulties that face the continuity of the investment environment in Jordan.
4. Identifying the features and qualities Jordan provides to attract more direct foreign investment.

The Significance of the Study

The significance of the current study lies in its attempt in exploring the impact of direct foreign investment in Jordan in the sectors of industry, services, agriculture and constructions along with their reflections on the Jordanian economy. Also, the results and findings of the current study will greatly contribute to examining the Jordanian environment as an attraction of investment in the aforementioned sectors and also to maintain the same level of their progress and development.

The Method of the Study

This study has adopted the annual reports and symposiums available on foreign investment in Jordan which are provided by governmental institutions for purposes of statistical analysis and figuring out the averages and rates of change in direct foreign investment.

The Population of the Study

The study depended on direct investment companies acting in Jordan, along with their distribution on sectors of industry, service, agriculture and construction.

Hypothesis of the Study

First Hypothesis: there exists a positive relationship, statistically significant, between the direct foreign investment and the capital formation of the industry sector.

Second Hypothesis: there exists a positive relationship, statistically significant, between the direct foreign investment and the capital formation of the services sector.
Third Hypothesis: there exists a positive relationship, statistically significant, between the direct foreign investment and the capital formation of the agriculture sector.

Fourth Hypothesis: there exists a positive relationship, statistically significant, between the direct foreign investment and the capital formation of the construction sector.

Review of Related Studies

Al- Qaddomi conducted a study (2004) entitled "the definite factors for direct foreign investment in Jordan. Applying a statistical analysis for his study, he concluded that there is an increase in the volume of direct foreign investment for the period of 1996-2000, then there was a slight decrease for the rest of the period from 2001-2003. However, it increased in 2004 with a percent of 94.80 %. The study has demonstrated that there is a positive relationship between growth rate in capital allowances, the volume of exports and the volume of international trade.

Al-Mohataseb investigated the impact of foreign direct investment on the economic growth in Jordan from 1990-2006. Her study revealed that much of the foreign direct investment (FDI) is centered in excavation industries e.g., potash and phosphate in addition to the services and transformative light industries. However, it is still not centered in high and mid technologies. As for the foreign investment in transformative industries in qualifying industrial zones, it is directly guided towards cloths and textiles and in particular ready made clothes, and that a high percent of foreign investment is attributed to privatization.

Al-Rawashdeh (2010) conducted a study titled "the foreign direct investment and its impact on the economic growth in Jordan from the period 1980-2008. Analysis of response indications revealed that that there exists a positive impact for the investment as well as the commercial openness of the Jordanian economy in Jordan. The study therefore recommended that there is an emergent necessity to create a comprehensive national strategy to attract foreign investment in Jordan, especially in the industrial sector.

Bilal (2008) conducted a study entitled "the foreign direct investment and its impact on the economic growth in Algeria from the period 1995-2007. The study concluded that increasing the motivations offered to the foreign direct investment has greatly helped with the investment especially in the field of gas. Results have also found that there is a mere reluctance for marketing strategies and also a lack of policies by the Algerian government to promote foreign direct investments because facilitating such issues would work on attracting and increasing more foreign direct investment.

Al Fawwaz et al. (2008) also conducted a study entitled "foreign direct investment in Jordan. The study concluded that there exists a negative impact of the budget deficit on foreign direct investment in Jordanian individual institutions. As for the commercial openness, the study revealed some positive impacts on foreign direct investment in Jordanian individual institutions.

Al Yaseen (2014) conducted a study titled foreign direct investment FDI on Economic growth of Jordan. The study showed existence of a positive impact of the foreign direct investment on the local investment and that the foreign direct investment restricts the high level of unemployment.

Al Flieh and Ali's study, Analysis and measurement of the foreign investment on the industrial sector in the Kingdom Of Saudi Arabia during 1988-2012, have employed the descriptive and analytical approach. The study concluded that the foreign investment has no impact on the growth of the industrial in the Kingdom of Saudi Arabia due to the modernity of the industrial sector and also because the government dominates and possess all vital industries.

Tomah's study (2009), the concept of foreign direct investment and its forms, examines the impact of foreign direct investment on economic development and the level of motivating the national Jordanian economy during 1996-2008. Measurement approach was used and therefore the study shows a positive impact with a statistical significance for the foreign direct investment on economic development.

Al Zaharani (2004) conducted a study titled the role of foreign direct investment on economic growth in the Kingdom of Saudi Arabia during 1970-2000 using a measurement scale. The study has tackled the conception of foreign direct investment and its kinds, motivations, its effect on the host countries as well as the motivations offered by the kingdom to support investment in general in order to prepare a proper climate for investment. The study adopted on the descriptive and analytical approach for foreign direct investment. As for the recommendations of the study, it recommended studying the obstacles that restrict the flow of foreign direct investment and fostering their solutions through joining world trade organization and complying with a clear yet long term policies in order to support foreign direct investment in all sectors.

Theoretical Frame

Foreign Investment in Jordan (2000-2009)

Since the establishment of the Hashemite kingdom of Jordan, the Jordanian economy has adopted two main approaches: Foreign support, donations and loans, and Taxes imposed by the government.

Recently, these loans have caused major burden on the Government budgets, and also loans and financial aid support has gradually decreased, thus becoming insufficient. This forced Jordan to look for other alternatives. One of these alternatives was to encourage foreign investment that require special environment. Jordanian governments have sought to promote Jordan abroad to attract foreign investment for the sake of attracting more investment to Jordan. Being highly qualified with human power and recourses, Jordan was capable to achieve high growth leveling foreign direct investment (Investment Challenges in Jordan, Amman News, 2015). The Jordanian economy has witnessed an increase in foreign direct investment. According to Jordan investment board, foreign investment has reached 304.1 Million Jordanian Dinars, with a percent of 38% of the overall investment (Foreign investment in The Kingdom during 2002-2011 (*Al-Rai* Newspaper).

According to the statistics of International Bank, the foreign direct investment ratio reached 23.54 % in 2006 followed by a decrease in 2007 with 15.32 %. This decrease continued till 2011 ((*Al-Rai* Newspaper 2015).

Motivations and Opportunities of Investment in Jordan

Jordan enjoys a very fertile environment for investment that enables him to attract capitals all over the world through an attractive and safe milieu investment. It is necessary to point out that foreign direct investment in the developing countries highly depend on the economic circumstances, business milieu, and organizational framework and its efficiency in dealing with investment and the means to empower them ("Investment amidst Encouragement and Activation," The Economic and Social Jordanian Council, 2015).

Jordan has achieved an increasing level of growth if compared to the countries in the region. This, in fact, is attributed to the safe circumstances and political rest in Jordan. As for the investment in national economy, it was found that foreign direct investment was guided to achieve the total economic growth in the sectors of industry, agriculture, services and construction ("Investment amidst Encouragement and Activation," The Economic and Social Jordanian Council, 2015). The industrial sector is considered one of the most common sectors in Jordan as there are plenty of industrial states and developmental regions that support this section, which support small and large companies. This sector constitutes 22% of the Gross domestic product (GDP) in 2014 where these investments benefit from free trade agreements that Jordan enjoys (Jordanian Investment Board, The electronic Gate, 2015).

Also, the agricultural sector has achieved high growth ratio due to its expansion in irrigated agricultural areas where a number of factors have contributed to providing a proper environment of investment for this sector. These factors also helped combating major hindrances that challenge the Jordanian agricultural exports, thus leading to an increase of agricultural productivity. The agricultural sector therefore contributes with 2.8% of the TDP where 3.5% of the human power force was involved. Agricultural exports constitute a percent of 11% of Jordan's total exports (Agriculture Ministry, Studies and Policies Department, 2015). This sector has benefited out from the investment support law which includes exempting all production requirements and equipment for any company and project from taxes and fees.

Service sector was characterized with the rise of added value due to its extensive dependence on human recourses compared with other sectors. This can be attributed to the fact that Jordan has lots of universities, institutes and colleges that supply the local market withy special and highly-qualified expertise. This sector contributes with 70 % to the TDP of the Jordanian economy (www.arabyanews.com).

Construction sector has also affected the TDP of the Jordanian economy as it contributed with 33% of the TDP, the thing that made this sector alleviate the level of unemployment where manpower constituted 30 % of the manpower in Jordan (Petra Agency, 2015).

Economic Significance for investment and the factors that support investment in the Jordanian Economy

The significance of investment lies in increasing the production and productivity which leads to increasing the national income and individuals' average of income and therefore improving citizens' life standards. Also, the significance of investment arises in satisfying citizens' needs through providing goods and services and then exporting extra goods abroad, the thing that will provide more hard currency which will be employed to buying machines and equipment and therefore increases the capital formation. To achieve this, there must be some factors that support investment such as the proper economic policy and the proper infrastructure in addition to the proper administrative environment that help investors and save them formal procedures by providing a proper investment channel (Shogaery Mosa *et al*, 2012).

The Concept of Foreign Investment

Foreign direct investment is defined as the business or work conducted by a company or an organization by investing in one of the project out side the borders of the country in an attempt to practice much influence on the operations of these companies and projects. Foreign direct investment may take different forms, like establishing a complete company or possessing an already current establishment, or through the processes of integration and possession. International monetary Fund defines foreign investment as being direct when investors possess 10% of the total capital shares in any establishment with a condition that this property should be connected with its ability to affect the administration of the establishment. This is how it differs from investing in wallets and investment boxes that purchase the origins of companies in order to achieve financial refund without interfering in its administration (Khader, 2004).

Foreign investment is also defined as practicing the foreign money for a specific activity in another country, whether in extractive or transformative industries. Foreign investment, it should be said, takes numerous forms: bilateral investment through shared investment between the foreign investors and the local ones and governmental investment or both share the properties of the economic companies constructed on their land. Some times investment is fully possessed by the foreign investors which makes the foreign investor enjoys the full rights in management and marketing. Foreign investment also contributes in the transition of developed technology and technical expertise from one country to another, thus enabling more domination and supervision on the specific activity (Kanonh, 1980).

The concept of the capital formation

This concept includes buying capital goods and services such as machines and equipment, which are the goods used to producing other goods and services in addition to investment in buildings, estates and devices used during the production process. This kind of investment represents major flow recourse of capital in society.

Statistical Analysis

Independent and dependant variables

1. Independent Variable: Foreign Direct investment FDI in Jordan.

2. Dependant Variables

1. Capital formation for industry sector in Jordan
2. Capital formation for services sector in Jordan
3. Capital formation for agriculture sector in Jordan
4. Capital formation for construction sector in Jordan

Study Models:

Four models of linear with simple regression approach to study the impact of foreign investment on the economic sectors in Jordan as thus:

Model One:
This model will depend on the simple regression approach by using(E-Views) program to study the impact of the independent variable on the capital formation of the industry sector where the following equation was reached
IDS= a+B1FDI+E

Where
IDS: capital formation of industry sector / Million Jordanian Dinar
a: variable in regression equation
FDI: Foreign Direct Investment in Jordan /
B1: Partial regression coefficient for independent variables
E: Random Error

This model will depend on the simple regression approach by using E-Views program to study the impact of the independent variable on the capital formation of the services sector where the following equation was reached
SRV = a + B1FDI +E
Where
SRV: Is the capital formation of services sector in Million Jordanian Dinar in Jordan

Model Three:

This model will depend on the simple regression approach by using (E-Views) program to study the impact of the independent variable on the capital formation of the agriculture sector where the following equation was reached

AGR = a + B1 FD + E

Where
AGR: is the capital formation of agriculture sector in Million Jordanian Dinar in Jordan.

Examining the hypotheses of the study

Hypothesis one: measurement analysis for the impact of foreign investment on the capital formation of industry sector. With the help of(E-Views) program, a model was estimated and results appeared as thus,
IDS= 262.6030 +0.148548FDI
T: (3.226888) (4.052190)

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Table One
Regression Model Results
Dependant Variables

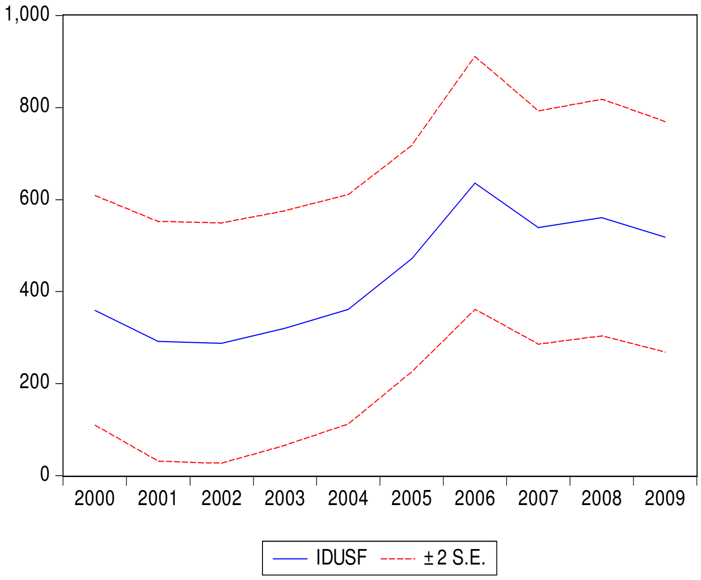
Variable	Coefficient	T-statistics	Prob.
FDI	0.148548	3.226888	0.0121
C	262.6030	4.052190	0.0037

R- Squared 56.5%
Adjusted R- Squared: 51%
F-Statistic: 10.12
Prob (F-Statistic): 0.01
Durbin-Watson Stat: 1.331

From the model above, it can noticed that the Adjusted R- Squared coefficient explains 51% of the changes that take place for the independent variable, whereas the F-Statistic was10.12 with zero Prob which means that the model is statistically significant. Also, it shows that the Durbin-Watson Stat is 1.331 which also means that the model is statistically significant as there is no systematic error between what was expected and the real for the independent variable.

The researcher further conducted some measurement tests to check the stability test for the model through a set of tests and diagrams as shown in Table 1 where Bias proportion was zero and the covariance proportion equals 85%, which means that the error committed in the model was random.

Form (1)



Forecast: IDUSF	
Actual: IDUS	
Forecast sample: 2000 2009	
Included observations: 10	
Root Mean Squared Error	104.4218
Mean Absolute Error	69.58309
Mean Abs. Percent Error	14.23274
Theil Inequality Coefficient	0.114377
Bias Proportion	0.000000
Variance Proportion	0.141546
Covariance Proportion	0.858454

It is shown, through the measurement estimation of the model, that the relation between the change in foreign investment and covariance of the foreign direct investment reached (0.148548) which means that there is a positive relationship between the impacts of change in foreign direct investment on the changes in capital formation for industry sector. This result matches with the financial and economic theories that concluded a presence of a positive relation between foreign investment and capital formation for industry sector.

Depending on T-Test, this result enjoys a positive statistics at 5% which means that confidence level for this variable equals 95%, so eventually this supports the hypothesis that states the existence of an impact of the foreign direct investment on the capital formation of industry sector.

Second Hypothesis: the measurement analysis for the impact of foreign direct investment on the capital formation of services sector. With the help of
(E-views)program, we got the following results:
SRV= 817.3759+ 1.014014 FDI
T: (4.224168) (2.418755)

Table Two

Dependant Variable: SRV

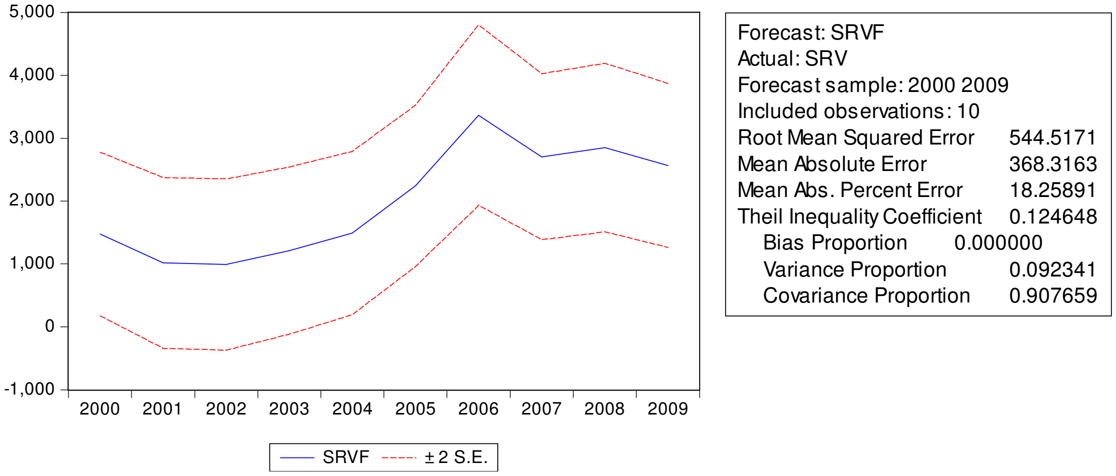
Variable	Coefficient	T-statistics	Prob.
FDI	1.014014	4.224168	0.0029
C	817.3759	2.418755	0.0419

R- Squared 69%
Adjusted R- Squared: 65%
F-Statistic: 17
Prob (F-Statistic): 0.00
Durbin-Watson Stat: 1.10

From the model above, it can noticed that the Adjusted R- Squared coefficient explains 51% of the changes that take place for the independent variable, whereas the F-Statistic was17 with zero probability which means that the model is statistically significant. Also, it shows that the Durbin-Watson Stat is 1.331 which also means that the model is statistically significant as there is no systematic error between what was expected and the real for the independent variable.

The researcher further conducted some measurement tests to check the stability test for the model through a set of tests and diagrams as shown in Table 1 where Bias proportion was zero and the covariance proportion equals 90 %, which means that the error committed in the model was random.

Form (2)



It is shown, through the measurement estimation of the model, that the relation between the change in foreign investment and the change in capital formation of services of the foreign direct investment reached (1.014014) which means that there is a positive relationship between the impacts of change in foreign direct investment on the changes in capital formation for industry sector. This result matches with the financial and economic theories that concluded a presence of a positive relation between foreign investment and capital formation for services sector.

Depending on T-Test, this result enjoys a positive statistics at 1 % which means that confidence level for this variable equals 99%, so eventually this supports the hypothesis that states the existence of an impact of the foreign direct investment on the capital formation of agriculture sector.

Third Hypothesis: The measurement analysis for the impact of foreign direct investment on the capital formation of services sector. With the help of
(E-views) program, we got the following results:
(AGR)= -2.698330+ 0.01226 1FDI
T: (-1.033500) (2.540257)

Table Three

Regression Model Results

Dependant Variable: AGR

Variable	Coefficient	T-statistics	Prob.
FDI	0.012261	2.540257	0.0386
C	-2.698330	-1.033500	0.3357

R- Squared 48%
Adjusted R- Squared: 40%
F-Statistic: 6
Prob (F-Statistic): 0.03

Durbin-Watson Stat:2.09

From the model above, it can notice that the Adjusted R- Squared coefficient explains 40% of the changes that take place for the independent variable, whereas the F-Statistic was 6 with zero probability which means that the model is statistically significant. Also, it shows that the Durbin-Watson Stat is 2.09 which also mean that the model is statistically significant as there is no systematic error between what was expected and the real for the independent variable.

It is shown, through the measurement estimation of the model, that the relation between the change in foreign investment and the change in capital formation of agriculture sector reached (0.012261) which means that there is a positive relationship between the impacts of change in foreign direct investment on the changes in capital formation for agriculture sector. This result matches with the financial and economic theories that concluded a presence of a positive relation between foreign investment and capital formation for agriculture sector.

Depending on T-Test, this result enjoys a positive statistics at 5 % which means that confidence level for this variable equals 95%, so eventually this supports the hypothesis that states the existence of an impact of the foreign direct investment on the capital formation of agriculture sector.

Fourth Hypothesis: The measurement analysis for the impact of foreign direct investment on the capital formation of construction sector. With the help of (E-views) program, we got the following results:
CON= 8.208004+ 0.009371FDI
T: (1.374011) (2.208327)

Table Four
Regression Model Results

Dependant Variable: CON

Variable	Coefficient		T-statistics	Prob.
FDI	0.009371	0.009371	2.208327	0.050
C	8.208004		1.374011	0.2067

R- Squared 37%
Adjusted R- Squared: 30%
F-Statistic: 4.9
Prob (F-Statistic): 0.05

Durbin-Watson Stat: 1.78

From the model above, it can notice that the Adjusted R- Squared coefficient explains 30% of the changes that take place for the independent variable, whereas the F-Statistic was 4.9 with zero probability which means that the model is statistically significant. Also, it shows that the Durbin-Watson Stat is 1.78 which also means that the model is statistically significant as there is no systematic error between what was expected and the real for the independent variable.

It is shown, through the measurement estimation of the model, that the relation between the change in foreign investment and the change in capital formation of construction sector reached (4.15E-10) which means that there is a positive relationship between the impacts of change in foreign direct investment on the changes in capital formation for agriculture sector. This result matches with the financial and economic theories that concluded a presence of a positive relation between foreign investment and capital formation for construction sector.

Depending on T-Test, this result enjoys a positive statistics at 5 % which means that confidence level for this variable equals 95%, so eventually this supports the hypothesis that states the existence of an impact of the foreign direct investment on the capital formation of construction sector.

Results

Generally speaking, foreign investment has positively contributed in increasing the level of GDP in sectors of industry, constructions, services and agriculture.

1. The presence of statistically significant positive relation between DFI and capital formation of industry sector which will lead to more extension in the field of industrial investment to enhance the capital formation in this sector. The reason here could be attributed to the policy adopted by the country as it provides a fertile economic environment for investment as the economic sector is considered one of the prominent sectors in employing technology due to the connection of this sector with the large amount of capital.

2. The presence of statistically significant positive relation between DFI and capital formation of services sector. There is an increase demand on this sector in order to meet people's needs, which will reflect positively on the financial benefits for this sector.

3. The presence of statistically significant positive relation between DFI and capital formation of agriculture sector. This is also attributed to the positive role played by the government in an attempt to reach self-sufficiency through the role acted by agriculture and its impact on investment and eventually on the GDP.

4. The presence of statistically significant positive relation between DFI and capital formation of construction sector. The reason for this could be the overgrowth of this sector as there has been a remarkable increase in demands on this sector.

Recommendations:

1. The current study recommends to extensively take care with the FDI and to generate new areas of reinforcing capital formation in Jordan.

2. To combat all the difficulties that challenge and hinder the national economy and provide a suitable environment that ensures the continuity of the foreign investment.

3. Plan a long term policy for foreign investment that motivates investors to settle down and ensure the continuity of their investments.

3. Find researchers in the fields of foreign investment who will enable more significant studies in this regard, fully equipped with experience and investment in different fields of the subject.

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