

## ***The impact of foreign direct investment on economic growth in the Gulf Cooperation Council countries***

Dr. Rekabi Saddam<sup>1</sup>, Dr.Rania Iddir <sup>2</sup>, Dr.Abdel Moumen Ben Ali <sup>3</sup>, Dr.Madjidi Yahia <sup>4</sup>

1. University of El-Oued - Algeria, [rekabi-saddam@univ-eloued.dz](mailto:rekabi-saddam@univ-eloued.dz)
2. Lounisi Ali University - Blida2 [r.iddir@univ-blida2.dz](mailto:r.iddir@univ-blida2.dz)
3. University of El-Oued - Algeria, [abdelmoumen-benali@univ-eloued.dz](mailto:abdelmoumen-benali@univ-eloued.dz)
4. University of El-Oued - Algeria, [Yahia-madjidi@univ-eloued.dz](mailto:Yahia-madjidi@univ-eloued.dz)

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### **Abstract:**

The Gulf Cooperation Council countries have worked to achieve a remarkable upward trend in the flow of foreign direct investment to support economic growth policy, as it is the most important source of external financing that transmits modern technology in addition to increasing the opportunities for national employment and development of one's administrative and technical skills. In this regard, this research paper aimed to measure the impact of (*FDI*) on the economic growth of the six GCC countries over the period 2000-2021, Based on Balanced panel data and the statistical program Stata. In the analysis of variables related to (*FDI*) and its impact on the growth represented by the average real GDP per capita. The results of the assessment concluded that there is a positive impact of (*FDI*) at a significant level of 1%, meaning that an increase in (*FDI*) will lead to an increase in economic growth of 0.2863 % in the GCC countries, and this is what encourages further coordination and joint cooperation among the GCC countries in the field of attracting foreign investment, especially with regard to the business environment of investment.

**Keywords:** Foreign direct investment, Gulf Cooperation Council, economic growth

### **Introduction**

The importance of foreign direct investment has increased as it is one of the most important tools for achieving comprehensive economic development for developing countries or countries on the path to growth, due to the many positives it provides, from transferring modern technology and advanced techniques to host countries in management and administration processes as well as modern marketing methods, as well as increasing the flow of capital and raising the efficiency of human capital and developing the necessary expertise and skills and reducing unemployment rates through the provision of permanent and seasonal job opportunities.

Therefore, the Gulf Cooperation Council countries have worked to increase foreign investment flows by providing the appropriate climate and conditions from laws and facilities granted in addition to the speed in processing investment requests and files, which led to an increase in the index of the latter in these countries.

### **Research problem:**

What is the impact of foreign direct investment on economic growth in the Gulf Cooperation Council countries?

Through this problem, we pose the following sub-questions:

- ☐ Is there an impact of foreign direct investment on economic growth in the short term?
- ☐ Is there an impact of foreign direct investment in the long term on economic growth?
- ☐ Is there an impact of other economic variables on the relationship between foreign direct investment and economic growth?

### **Study hypotheses:**

- ☐ There is a direct relationship between economic growth and foreign direct investment in the GCC countries.
- ☐ There is a positive impact of foreign direct investment on economic growth in the short term.
- ☐ There is a positive impact of foreign direct investment on economic growth in the long term.

#### **Study importance:**

The importance of this study is that it addresses a renewed topic, which is foreign direct investment and its relationship and importance in achieving economic growth, as foreign direct investment has several advantages that contribute to raising the economic efficiency of countries, especially those on the path to growth.

#### **Research objectives:**

This study aims to measure the extent of the ability of foreign direct investment to raise economic growth rates in the GCC countries, by studying many previous studies that dealt with one of the variables, highlighting the most important methods used and the results reached, then measuring the impact using balanced panel data in the (stata) program.

#### **Previous studies:**

- 1. Study (Sonja Milutinovic and 2016, Tanja Stanisic),** this study aimed to measure the impact of foreign direct investment on economic growth in the European Union countries during the period (from 2005-2015), by using correlation and regression analysis to study the relationship between the selected variables represented by foreign direct investment and gross domestic product as a measure of economic growth, and the study concluded that there is no positive impact of foreign direct investment on the value of gross domestic product because the result of the simple regression analysis was negative ( $b=-0.119$ ), where the researchers explained this negative result to the repercussions of the global crisis of the year (2008), and the researchers talked about the value of Pearson's correlation coefficient being positive during the period preceding the crisis from (2005-2008), between foreign investment and gross domestic product.
- 2. Study (Steve Loris Gui-Diby),** this study investigated the extent of the impact of foreign direct investment on economic growth in Africa and the sample studied was determined by 50 African countries during the period Extending from 1980 to 2009 using the System of Generalized Moment (SYS-GMM) method, this research paper found a significant impact of foreign direct investment on economic growth in the studied region, and it also showed that despite the low level of human resources in African countries, this did not limit the impact of foreign direct investment, and the latter had a negative impact during the first half of the studied period from 1980 to 1994 and a positive impact from 1995 to 2009,
- 3. Study (Yue Sheng Chen et al. 2022)** This study aimed to identify the interconnected dynamic effects of financial inclusion on foreign direct investment in East Asian and Pacific countries. It used a modern method to measure the impact called DCCE, which can address these problems accurately. The short-term and long-term estimates showed that financial inclusion has a positive and significant impact on foreign direct investment in high-income countries and countries with economic growth in general. In addition, financial inclusion in economically successful low-income countries has little correlation with FDI, and therefore governments and policy makers in important or successful economies should try to increase financial inclusion in order to achieve the optimal and sustainable level of FDI inflows to promote economic growth.
- 4- Study (Reem Thawamria 2018/2019)** This study focused on the impact of foreign direct investment on sustainable development in Algeria, based on the Eviews10 program, and using the simple linear regression model and the ARDL methodology, during the period 2000-2015. The researcher concluded through the standard study in the aforementioned period that there is a positive impact of foreign direct investment on economic growth in the long term, and a negative impact on the economic growth rate and the human development index in the short term at a very weak rate. The study also showed that most of the

changes in the economic growth rate and the human development index are due to the rise in oil prices, with the possibility of an impact of foreign direct investment on sustainable development in the long term if the Algerian countries adopt corrective measures through which they attract foreign direct investment in various fields.

**5. The study (Rehab Magdy Abdel Salam and others 2019/2020)** aims to study foreign direct investment and its relationship to economic growth in the gross domestic product in Egypt, during the period 1980-2020, by studying the theoretical and applied relationship between the selected variables in order to reach results that facilitate the process of coming up with recommendations that contribute and help in attracting foreign direct investment. Using the (Stata) program, the results showed the existence of a weak positive moral relationship between foreign direct investment and growth in the gross domestic product, and the researchers used the (Augmented-Dickey Fuller) test to verify the stability of the time series of variables, which led to the same previous result.

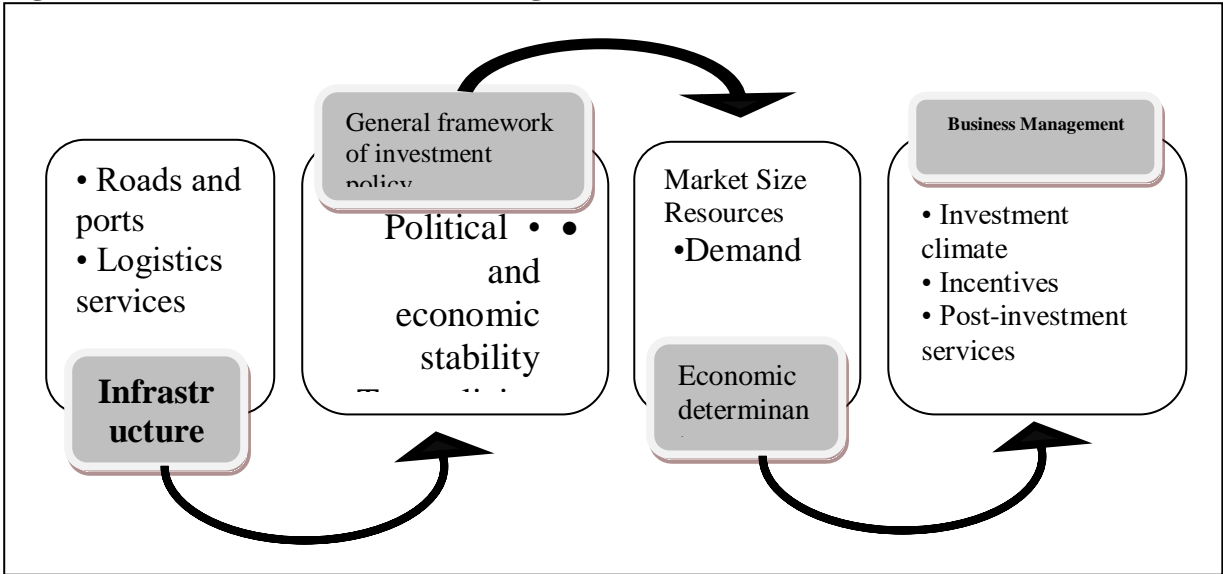
**1.Theoretical aspect of the study**

Foreign direct investment is defined as the directing of capital to another country by an investor residing in his country of origin, with the aim of effectively managing assets acquired in the host country. Governments usually prefer this type of investment because it shows a full commitment to directing and managing assets directly, which indicates the transfer of technologies and expertise to the host country.

**2. Determinants of foreign direct investment:**

The process of attracting foreign direct investment by the host country depends on many factors that determine it, as shown in the following figure:

**Figure No. (01): Determinants of Foreign Direct Investment**



Source: Suhaila Abdul Zahra Mastour Al-Hajimi and others, The Role of Foreign Direct Investment in Economic Growth and Sustainable Development in Iraq, Journal of Kut University College, March 2022, p. 357.

From the figure, we note that there are four basic determinants for attracting foreign direct investment, which are:

1. Economic determinants: The availability of a suitable economic environment, including natural resources and manufacturing capabilities, is a vital factor in attracting foreign investment, accompanied by incentives such as the growth rate of the gross domestic product, per capita income, and market size, as economies with large markets attract more diverse investments in all industrial, agricultural, and service fields.
2. Business management: It includes activities that facilitate the business environment, such as investment incentives, political neutrality, low financial and administrative corruption, and post-investment services.
3. Investment policies: These include the desire of decision-makers to develop investments, political,

social and economic stability, laws and legislation that stimulate investment, etc.

4. Infrastructure: These include the extent of development of road networks, bridges, electricity, water, transportation, communications, etc.

### **1. The role of foreign direct investment in the economic growth of the host country:**

Foreign direct investment is one of the most important features of the modern economy based on a market economy, as it plays a pivotal role in promoting sustainable development and enhancing economic opportunities. Foreign direct investment contributes to stimulating economic growth through several mechanisms:

1. Stimulating capital: Foreign investment contributes to increasing the capital available to the host country, which leads to increased production and productivity.
2. Transfer of technology and expertise: Foreign direct investment enhances the transfer of technology and technical knowledge to the host country, which enhances its ability to improve operations and production.
3. Providing job opportunities: Foreign investment contributes to creating local job opportunities, which reduces unemployment rates and enhances the standard of living.
4. Diversification of the economy: Foreign investment helps diversify sectors of the local economy, thus reducing dependence on certain economic sectors, such as oil in many cases.
5. Promoting trade exchange: Foreign companies can contribute to promoting trade exchange between the host country and other countries, which opens up opportunities to increase exports and improve the balance of payments.

In general, foreign direct investment is a vital partner in achieving economic growth for the host country by creating positive effects on several economic aspects.

### **2. Specific theories of the relationship between foreign direct investment and economic growth:**

Among these theories that addressed the impact of foreign direct investment on economic growth, we briefly mention them as follows:

1. Keynes's theory (aggregate demand theory)
  - This theory was established in 1936.
  - It focuses on the role of investment in expanding production capacity and raising growth rates in the long term.
  - It explains that any change in the size of additions (investment, public spending, exports) will lead to a greater change in the size of income or output in the same direction (direct relationship)

### **3. Harrod-Domar Model:**

- It appeared after World War II.
- It focuses on how to achieve growth in developing countries.
- It indicates a direct relationship between the investment rate and economic growth.

### **3. Solow Neoclassical Model:**

- It appeared in 1956.
- It links the investment rate to the growth rate.
- It depends on the elements of labor, capital, and technology.

### **4. Modern Theories:**

The neoclassical analysis attributed the causes of growth to the importance of technical progress in stimulating it, but it neglected to explain the mechanism on which technological progress accompanying foreign direct investment is based in stimulating growth. This criticism contributed to laying the foundation for modern analysis, which is concerned with identifying the features of the relationship between technological progress and economic growth through four channels, which are as follows:

- The imitation channel: Transferring technology from foreign to local companies.
- The competition channel: Increasing competition stimulates innovation and economic welfare.
- The training channel: Improving the skills of local workers.
- Channel links: Increasing links between local and foreign companies enhances exchange and technology transfer.

These channels enable local companies to improve their competitiveness and achieve their goals by developing local production methods or simulation processes. The positive effects of technology transfer through foreign direct investment are evident.

### 1-Policies and Incentives to Attract Foreign Direct Investment in the Gulf Cooperation Council Countries:

In an effort to attract foreign direct investment to enhance sustainable development and diversify sources of income, and thus reduce dependence on the oil sector. Therefore, the GCC countries have focused on improving the business environment, developing systems, and developing joint projects, especially in the service sectors targeting the local market and contracting. It appears that the commercial and contracting sectors constitute the largest part of foreign direct investment, which calls for a review of these activities and the added value they provide by influencing the GDP and employment. As for the non-oil industrial sector, the data indicate a decline in foreign direct investment, which requires focusing on attracting investment to this sector and overcoming difficulties to achieve diversification, create job opportunities and enhance competition in its exports. The following table shows the policies followed by each country:

**Table No. (01): Policies and incentives to attract foreign direct investment in the GCC countries**

<ul style="list-style-type: none"> <li>-Announced several new free trade zones with the aim of making the UAE a global hub for gold bullion trading, technology research and development, and financial activities.</li> <li>Restrictions on foreign investment in certain real estate projects were relaxed.</li> </ul>	<b>United Arab Emirates</b>
<ul style="list-style-type: none"> <li>-Rules for non-GCC companies to own buildings and lease land have been eased and a one-stop shop has been established to facilitate procedures and licensing.</li> <li>-Foreign ownership has been increased from 49% to 100% of businesses overall but in a few key sectors.</li> </ul>	<b>Kingdom of Bahrain</b>
<ul style="list-style-type: none"> <li>-Passing the law allowing foreigners to own 100% of Kuwaiti companies and reducing corporate taxes from 55% to 25%.</li> <li>-Establishing a large office to process foreign direct investment applications.</li> </ul>	<b>Kuwait</b>
<ul style="list-style-type: none"> <li>-Allowed 100% ownership of companies in most sectors</li> <li>-Reduced the inequality of reduced income tax between Omani and foreign companies by raising the single rate for Omani companies from 7.5% to 12% and reducing the rate for foreign companies from (15-50%) to (5-30%).</li> <li>-Allowed non-Gulf companies to own buildings and lease land</li> <li>-Allowed full foreign ownership in the services sector in accordance with World Trade Organization agreements.</li> </ul>	<b>Oman</b>
<ul style="list-style-type: none"> <li>-Allowed 100% foreign ownership in agriculture, industry, health, education, and tourism sectors, and efficient investment measures.</li> <li>-Reduced the maximum tax rate from 35% to 30%.</li> </ul>	<b>Qatar</b>
<ul style="list-style-type: none"> <li>-Enacted a new investment law and established the Joint Investment Authority to facilitate foreign direct investment operations that include a one-stop shop for procedures.</li> <li>-Allowed 100% foreign ownership in most sectors, including gas and power</li> </ul>	<b>Kingdom of Saudi Arabia</b>

generation, petrochemicals. -Cut corporate income tax to the maximum limit on foreign investment from 45% to 30%. -Allowed non-Saudis to own real estate for their work or residence, except in the two holy cities.	
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**Source: Moawia Ahmed Hussein, Foreign Direct Investment and its Impact on Growth and Economic Integration in the Gulf Cooperation Council, King Abdulaziz University Journal: Economics and Management, Volume 28, Issue 2, 2014, p. 120.**

### **The applied aspect of the study**

#### **1-Study sample and data sources:**

The study aims to measure the impact of foreign direct investment on economic growth during the period (2000-2021) for a sample consisting of 06 countries from the Gulf Cooperation Council countries, namely: the United Arab Emirates, Bahrain, Kuwait, Oman, Qatar and Saudi Arabia. Therefore, this study will use balanced panel data, and as for the data sources, the World Bank database was relied upon.

#### **2- Study model:**

After following the literature related to the impact of foreign direct investment on economic growth; The average growth rate of real GDP per capita (economic growth) will be used as a dependent variable, while the explanatory variables are: the ratio of fixed capital to GDP, the ratio of workers in the age group 15-64 years, the population growth rate, the inflation rate, and the ratio of foreign direct investment flows to GDP, according to the following mathematical formula:

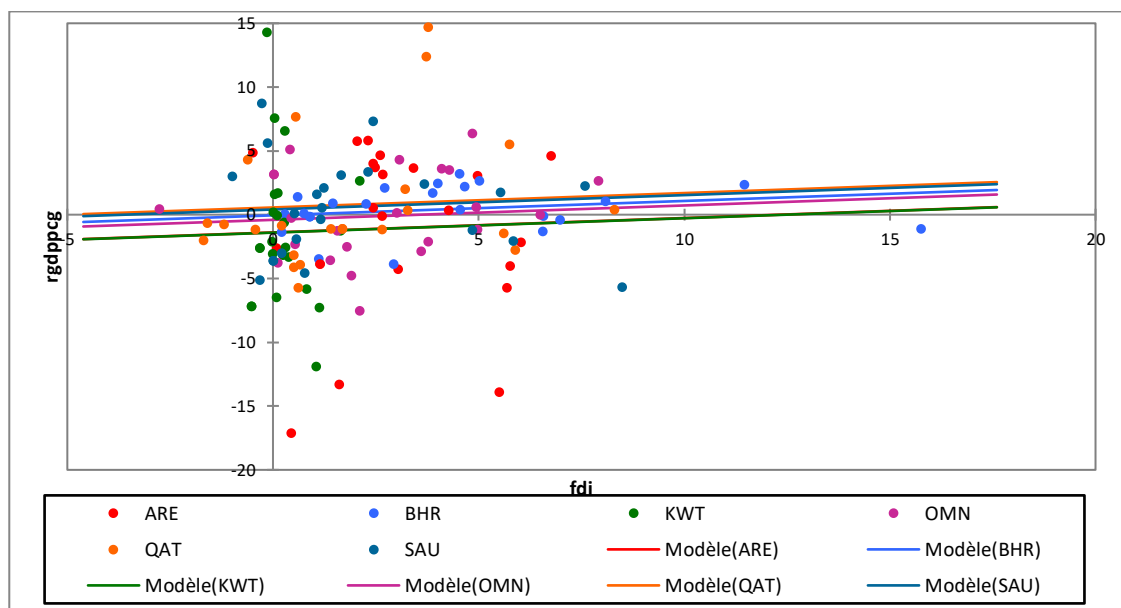
$$rgdppcg = f(k, l, pop, inf, fdi) \dots (01) \quad t = 2000-2021$$

Where:

- rgdppcg: average growth rate of real GDP per capita;
- K: gross fixed capital formation as a percentage of GDP;
- L: workers in the age group 15-64 years as a percentage of the total population;
- POP: population growth;
- INF: inflation rate;
- FDI: foreign direct investment as a percentage of GDP.

3- Descriptive analysis of the relationship between foreign direct investment and economic growth in the Gulf Cooperation Council countries during the period (2000-2021): Figure No. (03) shows the relationship between foreign direct investment (fdi) and the average growth rate of per capita GDP (rgdppcg) in the Gulf Cooperation Council countries during the period (2000-2021), and it is clear that there is a direct relationship between foreign direct investment and economic growth in most of the countries in the study sample.

**Figure No. (03): The relationship between foreign direct investment and economic growth in the Gulf Cooperation Council countries during the period (2000-2021)**



Source: Software output (XLSTAT.16)

#### 4- Diagnostic tests:

The correlation matrix test allows for identifying correlation pairs between study variables, thus ensuring that the model is free of some problems that may occur during estimation.

Table No. (02): Correlation matrix between variables

	rgdppcg	k	l	pop	inf	fdi
rgdppcg	1.0000					
k	-0.0688	1.0000				
l	-0.0670	0.3645	1.0000			
pop	-0.3330	0.1989	0.3074	1.0000		
inf	0.2447	-0.1755	-0.1155	0.1369	1.0000	
fdi	0.0852	0.1662	-0.0131	0.2179	0.1781	1.0000

Source: Software outputs (stata. 14)

Perhaps the most important thing that can be observed from the correlation matrix shown in the table above is the presence of a weak direct correlation between the dependent variable and the independent variables, and despite the presence of a relatively weak correlation between most of the variables; the correlation does not definitively determine the nature of the relationship between the study variables, which leads us to conduct an in-depth analysis of the correlation between economic growth and the independent variables in the GCC countries based on a standard methodology.

A set of diagnostic tests will be applied in order to detect the standard problems that the panel data may suffer from, which are: the (Pesaran, Yamagata, 2008) test to verify the homogeneity of the regression parameters (Slope) for all individuals; and the (Pesaran, 2004) test to detect the correlation between the cross-sections, and these tests are shown as follows:

Table No. (03): Results of the homogeneity test for the regression parameters (Slope) according to (Pesaran, Yamagata, 2008)

probability value	Statistical value	Test
0.154	1.425	Delta
0.084	1.726	Delta Adj

Source: Software output (stata. 14).

The table above shows the results of the homogeneity test, and using the calculated values (Delta) and (DeltaAdj) and their corresponding probability values; the null hypothesis that states that the regression coefficients are homogeneous at a significance level of 5% will be accepted, and thus there is homogeneity in all variables under study.

Detecting the correlation between the sections is an urgent necessity in Panel models, and the presence or absence of a correlation between the sections leads to following a specific path that requires subsequent tracking; if the Panel data are related to each other, i.e. there is a correlation between the sections, the next stages of the study must pass through tests that agree with the presence of a correlation between the cross-sections; in this study, the CD-test will be used to detect the correlation between the cross-sections (Pesaran, 2004)

**Table No. (04): Results of the CD-test to detect the correlation between the cross-sections (Pesaran, 2004)**

<i>Abs(Corr)</i>	<i>Corr</i>	<i>CD-test value</i>	<i>Variables</i>
0.33	0.15	2.724*	<i>rgdppg</i>
0.50	0.50	9.125*	<i>k</i>
0.75	0.75	13.641*	<i>l</i>
0.54	0.49	8.861*	<i>pop</i>
0.83	0.83	15.108*	<i>inf</i>
0.25	0.20	3.629*	<i>fdi</i>

Note: (\*), (\*\*), (\*\*\*) represent the significance of the parameter at a significance level of 1%, 5% and 10% respectively.

Source: Software outputs (stata. 14)

The results in the table above indicate the rejection of the null hypothesis that there is no correlation between the items at a significance level of 5%, and therefore we rule that there is a correlation between the cross-sections of all study variables.

5-Stability study of study variables:

For the purpose of revealing the integration characteristics of the study variables and whether they include a unit root, and in the case of a correlation between the cross-sections (Cross-SectionalDependence); the second-generation unit root tests for panel data will be used, which are more powerful in correcting heterogeneity than the first-generation tests. The most important of these tests are: the (CIPS) test and the (CADF) test, where the null hypothesis (H0) for each of these tests states that the studied series contains a unit root (the series is not stable: H0: Unit Root/Non-Stationarity).

**Table No. (05): Stability tests for study variables**

<i>Variables</i>	<i>Levels</i>		<i>First diff</i>	
	<i>CADF Test</i>	<i>CIPS Test</i>	<i>CADF Test</i>	<i>CIPS Test</i>
<i>rgdppg</i>	-3.063*	-3.389*	-	-
<i>k</i>	-1.620	-0.801	114.795*	-5.503*
<i>l</i>	-1.744	-0.775	-2.809*	-4.306*
<i>pop</i>	-1.459	-0.932	-2.924*	-4.242*
<i>inf</i>	-2.445*	-6.866*	-	-
<i>fdi</i>	-2.247	-0.808	-2.768*	-4.503*

Note: (\*), (\*\*), (\*\*\*) represent the significance level at 1%, 5% and 10% respectively.

Source: Prepared by the researchers based on the (stata.14) software.

From the results shown in Table No. (05); it is clear that each of the stability tests (CIPS Test, CADF Test) indicated the stability of each of the variables (*inf*, *rgdppcg*) and therefore these variables are integrated of degree I(0).

While the results indicated the instability of the cross-sectional time series of the study variables (*k*, *l*, *pop*, *fdi*) at the level (Level), but when conducting the first-degree differences (First diff) on these variables and re-conducting the same previous stability tests; it was found that all of these variables became stable, and therefore they are integrated of degree I(1)

As a result of the above; we will rely in our study of the impact of foreign direct investment on economic growth in the Gulf Cooperation Council on the Panel-ARDL model.



## 6- Estimation of the appropriate dynamic panel model

The panel-ARDL model was estimated according to the group mean model (MG: Mean Group), the pooled mean model (PMG: PooledMeanGroup) and the dynamic fixed effects model (DFE: DynamicFixedEffects). To compare between these models, the Hausman test was used and the results are shown in the following table:

**Table No. (06): Trade-off tests**

<i>PMG</i>	<i>0.9254</i>	<i>1.36</i>	<i>MG/PMG</i>	<i>Hausman</i>
<i>PMG</i>	<i>0.8719</i>	<i>1.83</i>	<i>PMG/DFE</i>	

Note: (\*), (\*\*), (\*\*\*) represent the significance level at 1%, 5% and 10% respectively.

Source: Prepared by the researchers based on the (stata.14) software.

Table No. (06) shows the results of the Hausman test to choose the appropriate Panel-ARDL model. The test results indicate that the combined group mean (PMG) model is better than the group mean (MG) model, as the calculated value is less than the tabulated value at a significance level of 5%, thus accepting the null hypothesis, which means that the short-term estimates are heterogeneous according to each country. The results of the comparison between the combined group mean (PMG) model and the dynamic fixed effects (DFE) model also indicated that the (PMG) model is the best.

To estimate the autoregressive model with distributed lags for Panel data (Panel-ARDL), we use the Pooled Mean Group Estimator (PMG) method developed by (Pesaranandal, 1999). This method is characterized by the efficiency of estimation and its treatment of the inconsistency problem resulting from the integration of heterogeneous dynamic relationships. To estimate the Panel-ARDL model, we will reformulate Equation No. (02) as follows:

$$rgdppcg_{it} = \sum_{j=1}^p \lambda_{ij} rgdppcg_{i,t-j} + \sum_{j=1}^q \delta'_{ij} X_{i,t-j} + \mu_i + \varepsilon_{it} \dots \dots \dots (03)$$

Where:  $rgdppcg_{it}$  represents the average growth rate of GDP per capita of country  $i$  in period  $t$ ;  $X_{it}$  represents the explanatory variables included in the study model;  $\lambda_{ij}$  are constants;  $\delta'_{ij}$  is the matrix of parameters of the explanatory variables;  $\mu_i$  are individual fixed effects;  $\varepsilon_{it}$  represents the random error term;  $(p,q)$  represent the lag periods which can vary from country to country. Equation (03) can be reformulated in the form of a vector error correction model (VECM) as follows:

$$\Delta rgdppcg_{it} = \theta_i (\Delta rgdppcg_{it-1} - \beta_i X_{it-1}) + \sum_{j=1}^{p-1} \lambda_{ij} \Delta rgdppcg_{it-j} + \sum_{j=0}^{q-1} \delta'_{ij} \Delta X_{it-j} + \mu_i + \varepsilon_{it} \dots \dots \dots (03)$$

Where:  $(\theta_i)$  is the imbalance correction parameter, or the rate of adjustment of the dependent variable (the average growth rate of GDP per capita) towards its equilibrium relationship;  $\beta_i$  is the long-run parameter;  $\delta'_{ij}$  is the short-run dynamic relationship parameter. Table No. (07):

Estimation results using the Panel-ARDL model

<i>DependentVariable:Δrgdppcg</i>		
<i>PooledMean Group Regression (PMG)</i>		
<i>Long-Run Relationship</i>		
<i>Regressors</i>	<i>Coefficient</i>	<i>Prob</i>
<i>k</i>	<i>-0.1372</i>	<i>0.001*</i>
<i>l</i>	<i>0.2140</i>	<i>0.032**</i>
<i>pop</i>	<i>-1.0173</i>	<i>0.000*</i>
<i>inf</i>	<i>0.1127</i>	<i>0.001*</i>
<i>fdi</i>	<i>0.2863</i>	<i>0.000*</i>
<i>Short-Run Relationship</i>		
<i>ECT</i>	<i>-0.7584</i>	<i>0.000*</i>
<i>Δk</i>	<i>-0.0589</i>	<i>0.521</i>
<i>Δl</i>	<i>1.8085</i>	<i>0.023**</i>

$\Delta pop$	-0.3535	0.218
$\Delta inf$	0.0794	0.002*
$\Delta fdi$	0.0832	0.769
<i>Const</i>	-6.6534	0.000*

Note: (\*), (\*\*), (\*\*\*) represent the significance level at 1%, 5% and 10% respectively.

**Source: Prepared by the researchers based on the (stata.14) software.**

From the above table, it is clear that the estimated coefficient for the error correction limit was negative and significant (ECT = -0.75) at the 1% level, which confirms the existence of joint integration and a long-term equilibrium relationship between the independent variables and the dependent variable (economic growth). As a result, the (Panel-ARDL) model used in studying the impact of foreign direct investment on economic growth in the Gulf Cooperation Council countries includes a mechanism to adjust the equilibrium line by 75% to correct deviations in the short term from one period to another to return to the equilibrium position in the long term.

As for the results of the short-term estimation, it is clear that economic growth in the short term is positively affected by an increase in both the percentage of workers in the age group 15-64 years and inflation at the level of 5%, while the rest of the independent variables were statistically insignificant.

**The results of the long-term estimation were as follows:**

There is a negative impact of gross fixed capital formation as a percentage of GDP on economic growth at a significance level of 5%, meaning that increasing it by 1% will lead to a decrease in economic growth by 0.1372% in the GCC countries, and this result is not consistent with economic theory;

There is a positive impact of the percentage of workers in the age group 15-64 years on economic growth at a significance level of 1%, meaning that increasing it by 1% will lead to a decrease in economic growth by 0.2140% in the GCC countries, and this result is consistent with economic theory;

There is a negative impact of population growth on economic growth at a significance level of 1%, meaning that increasing it by 1% will lead to a decrease in economic growth by 1.0173% in the GCC countries, and this result is consistent with economic theory;

There is a positive effect of inflation on economic growth at a significance level of 1%, meaning that increasing it by 1% will lead to an increase in economic growth by 0.1127% in the Gulf Cooperation Council countries. This result is consistent with some experimental studies such as the study (Fabayo and Ajilore, 2006) and the study (Hye and Lau, 2015). Theoretical analyses and experimental studies of the relationship between inflation and economic growth have shown three main results. The first is the lack of a significant relationship between inflation and real output growth, which is what the demand-pull theory confirmed. Within the framework of classical theory, an increase in aggregate demand and a rise in prices will not be accompanied by an increase in the level of aggregate output. While other studies have shown a positive relationship between the two variables, which is known as the Tobin Effect (1965), studies conducted by Stockman (1981) confirmed the existence of a negative relationship between inflation and GDP growth, which is known as the anti-Tobin effect. As for foreign direct investment as a percentage of GDP, the estimation results showed a positive impact of foreign direct investment on economic growth at a significance level of 1%, meaning that increasing it by 1% will lead to an increase in economic growth by 0.2863% in the GCC countries, and this result is consistent with economic theory and previous empirical studies;

## Conclusion:

This study highlights the importance of foreign direct investment in achieving and increasing economic growth in the Gulf Cooperation Council countries, due to the ability of foreign direct investment to develop infrastructure and economic facilities in the receiving countries, as well as the use of modern and advanced technology it provides, and the extent to which it provides jobs and

integrates the labor of the host countries in the industrial and economic fields in addition to business management, and from there we raised the problem that we answered through the standard study using the (Stata) program, and we worked on choosing the variables that show and highlight the results that clarify, show, support or refute the validity of the proposed hypotheses, and we reached the existence of a positive impact of foreign direct investment as a percentage of the gross domestic product, as the estimation results showed a positive impact of foreign direct investment on economic growth at a significance level of 1%.

### **Hypothesis testing:**

There is a direct relationship between economic growth and foreign direct investment in the Gulf Cooperation Council countries.

The standard study proved the validity of this hypothesis through the results obtained, which is consistent with reality and economic theories

There is a positive effect of foreign direct investment on economic growth in the short term

As for the results of the short-term estimation, it is clear that economic growth in the short term is positively affected by an increase in both the percentage of workers in the age group 15-64 years and inflation at a level of 5%, while the rest of the independent variables were statistically insignificant.

There is a positive effect of foreign direct investment on economic growth in the long term.

This hypothesis is correct, as the results showed that an increase of 1% will inevitably lead to an increase in economic growth by 0.2863% in the Gulf Cooperation Council countries.

### **Study results:**

-The Gulf Cooperation Council countries have implemented many reforms and amendments in order to increase the flow of foreign investment.

-The existence of a suitable work environment for foreign companies within the Gulf Cooperation Council countries due to the diversity of resources and wealth in them.

-Stability tests using first-degree differences showed that all variables are stable, and therefore they are integrated in the first degree?

-There is a long-term equilibrium relationship between the independent variables and the dependent variable, and as a result, the model used in the study includes a mechanism to adjust the equilibrium line by 75%.

-There is a positive impact of foreign direct investment in the GCC countries as a percentage of GDP on economic growth at a significance level of 1%, meaning that every 1% increase is met by an increase in growth of 0.2863%.

### **Recommendations:**

-Work more on updating the laws, especially in some GCC countries, and expanding them to strategic sectors.

-Develop human capital and integrate it into foreign companies in order to enhance local capabilities and integrate with work requirements.

-Work more on improving and developing the financial and banking business environment and enhancing regional integration, in order to facilitate the movement of inter-regional capital

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