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THE IMPACT OF FOREIGN DIRECT INVESTMENT ON PER CAPITA GDP IN THE KINGDOM OF SAUDI ARABIA DURING THE PERIOD (1990-2022)

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ABSTRACT

The current study, aimed to analysis the impact of the foreign direct investment on the per capita GDP. in the kingdom of Saudi Arabia during the period (1990-2022). Through the standard method, the study hypothesis was not achieved as it was found that, there is no long-term balanced relationship, between the dependent and the independent variables of the study, the study also found appositive and significant effect of net foreign direct investment flows as a ratio to GDP on the growth rate of per capita GDP, this contrasts with the presence of negative and significant effect of net foreign direct investment, of both the interest rate D (INTER – RAT) and the ratio of capital accumulation over the gross domestic product, (GCP OF GDP) on the growth rate in the per capita, share. of GDP, this indicates to the importance of promoting the foreign investment. and creating a suitable and attractive environment for business, which helps to reduce the fluctuations in the economic growth, and contributes to achieving stability in the Saudi economy

KEYWORDS: foreign direct investment per capita GDP – Interest rate, physical capital accumulation.

1. INTRODUCTION

Investment is an important driver for the development in both the developed and the under developed countries equally. it contributes in avital role for supporting the development process, for achieving the industrial progress – due to what results of it of technology. developed management systems, in addition to providing specialized experience in the production, the service sectors, thus the states try to design the direct foreign investment policies, on terms to be an integration factor for the developmental strategy, in a wider scope, and more merged for the aim of increasing the growth, for creating labor opportunities. for building the productive capability, for raising the private sector, which can play a pivotal role in the v development process. (the United Nations 2013)

Accordingly, most of the countries around the world, compete sharply. to attract the direct foreign investment.

The direct foreign investment may take the shape of investment through the borders as it possesses a resident or accompany. with its head quarter in a country basically a productive country located in another state or may take the shape of investment looking for having control over the production – utilities, abroad (keremer 2014)

2. LITERATURE REVIEW

The Saudi Arabia kingdom plays an important role in attracting more of the direct foreign investment, which can help in developing its productive bases, Enhancing the whole productivities for the production factors, as the Saadians economy can help in achieving this economical variation in the context of 2030 vision.

2.1 Questions of the Study

1- What is the relation between the direct foreign investment, the economic growth, in both the theory and the applied study.
2- how it is possible to analysis the developments of the direct foreign investments, the economical growth in the Saudi Arabia the kingdom during the period from (1990-2022).
3- What is the effect of the direct foreign investment on the per capita, from the gross domestic product, in Saudi Arabia kingdom. by using the auto decline model, for the periods the distributed slowing (ARD).

2.2 The Objectives of the Study

1. To show the relation between the direct foreign investment, the economic growth, in the economic literatures.
2. To analysis the direct foreign investment development, the economic growth, on the Saudi Arabia kingdom –
3. To measure the effect of the direct foreign investment on the per capita from the gross domestic product, in the Saudi Arabia kingdom – by using the auto decline model, for the periods of the distributed slowing (ARDL)

2.3 The Hypothesis of the Study

There is appositive relationship and of long term between the direct foreign investment and the per capita from the gross domestic product in the Saudi Arabia kingdom during the period from (1990-2022)

2.4 Study Methodology

The study used the descriptive analytical approach, given its theoretical nature, which addresses foreign direct investment. It also identified the study's problem, hypotheses, and significance, as well as data collection and analysis. The standard approach was also used, using the Extended Dickey-Fuller test model and the cointegration test model, relying on the Eviews 13 program to analyze the data and estimate the models.

2.5 Study Division

1- The relation between the direct foreign investment and the economic growth.
2- Analyzing the direct foreign investments. developments, and the economic growth in the Saudi Arabia kingdom
3- Measuring the effect of the direct foreign investments on the per capita from the gross domestic product in the Saudi Arabia kingdom by using model.

3. THE THEORETICAL FRAMEWORK THE STUDY

3.1 The Relation Between the Direct Foreign Investment and Economic Growth.

The direct foreign investment received–unlimited interest in the economic literatures. the studies and among the articles which discussed the determinants that help in attracting it, enhancing its revenues, and in looking to the direct foreign investment as avital factor for achieving the sustainable development for any country, Studying the determinants of the direct foreign investment, started since long time, the infrastructure. The nature of the contracts. the economic standard. Of the country, the business environment, the facilities, usually come in the front of the determinants. (Solocha et 1990)

The study of (Grubough 1987) showed that the companies will become multinational and will practice the direct foreign investment for exploiting the non-touchable assets, internal and external –

during the sixtieth, due to the evolution of the globalization policies, freeing the trade also, the expansion of the direct foreign investment grew. remarkably.

These changes motivated several economists to study the topic of the multinational companies. the world movement for the capital.

The researcher used the theory of the production cycle, for (Vernon) Vernon thought that there are 4 stages for the production cycle, they are: the innovation stage. the growth stage, the maturity stage, the decline stage according to VERNON – in the first stage, the American companies through the nationalism concept, established a new innovated products for the local consumption. exporting the surplus of the service out of the markets. according to the production cycle, theory.

After the second world war demand increased in Europe. on the manufactured products, like that produced in the United States of America. (Denisia 2010 p106)

According to the theory of the location. the direct foreign investment is affected by the behavior of the company (the micro economic factor) with the same effect, due to the motivation of its location – meaning that if it looked for the resources or looked for the market or looked for the efficiency for the strategic assets, making the exclusive decision in reality.

Depending on the economic geography – it is a decision related with the macroeconomics, because it takes into account the characteristics on the level of the state,(makoni 2018 p 80)

In the context of the internationalization theory. This theory tried to introduce another illustration for the direct foreign investment why focusing on the inputs, the mediated technology.

This theory was built by (Buckly, Casson – 1976) it tried to answer the question of : why do applying the production process take place by the same company in the different locations ? in this context both of (Buckly 1976 and Casson 1976 (Hennart 1982) developed the internationalization theory. that depended mostly on the assumption that the companies expand its activities abroad to n overcome the failure of the market, also to enhance the monopolizing advantage – the assumption of this theory depends on that the existing multinational companies, are motivated to reduce the cost of the dealings in relation with the failure among the mediated products markets, the matter which will lead to raising the profitability of these companies.

On the level of the economic literatures. the study of (Krishna& Venugopal 2003) found that the prices of the shares, and the exchange rate, the institutional investment, the infrastructure, the interest rate, that is offered between the banks of London. and the skillful employees are main determinants for attracting the foreign investment in India.

The direct foreign investment became an increasing element of importance for the economic development. and for the integration between the underdeveloped countries and the economies, passing a transitional stage in this period, with the world economies.

The growth of the gross domestic product. the wages (the costs of the labor unit (the commercial opening, the real interest rate. The inflation rate, the domestic investment are the main determinants also.(Cevis, Camurdan 2007)

The research study of (Hakro.& Ghumro, 2011) about the determinants for the flows of the direct foreign investment in the dynamic on measuring economic model, on the data of a group of the Pakistenian economy (1970- 2007).

The results indicate to that the factors in relation with the cost, the macroeconomic, the variables of the risks indicator, are the main determinants which appeared in the analysis process the short term, the results indicate also to the existence of long-term relation between the direct foreign investment, the opening and the factors of the macroeconomy in affixed shape.

The study of (Coy & Comican, 2014) showed that the direct foreign investment is considered as a determinant factor helping to motivate the economic growth for each state, the results of the study conducted by (Eregha, 2015) revealed that the flow of the direct foreign investment was replaced by the domestic investment in the region of west of Africa.

It showed also that the fluctuation of the direct foreign investment will impede the domestic investment in the region.

The study of (Rjoub et al, 2016) concluded that the economic growth is affected positively by the flows of the direct foreign investment in latin America.

The same finding was applied on Africa, south of the desert. according to the study of (Rjoub et al, 2017)

The factors of the location including the size of the market, the human capital, the opening, the infrastructure. Shape important determinants for the flows of the direct foreign investment.

The study of (Hussien & Hussien 2016) studied of China working for competing with the investment in Pakistan, by using the approach of testing the borders (ARDL) for the period of (1980-2014) it appeared that the human capital has appositive and important impact on the flows of the direct foreign investment, in return that the impact of the infrastructure is

negative and important. the investment in the human capital plays an important in enforcing the flows of the foreign investment inside.

In Pakistan also. the study of (Rehman, 2016) Concluded that the social & economical determinants equally. have long term impact. on the flowing of the direct foreign investment. in Pakistan.

In addition to that the model of correcting the error assures the existence of relation in the short term, the results indicate to that the social factors are more important than the economical factors, regarding attracting the direct foreign investment into PAKISTAN,

The study of (Bekana, 2016) Showed that the important force behind the direct foreign investment which is the gross domestic product per capita.

The ratio for the growth of the gross domestic product, the real interest rate, the inflation ratio. The gross constituting of the capital, the ratio of knowing reading, writing among the adults, the ratio of the manpower growth, the telephone lines, for each 1000 subscriber. The formal exchange rate, in ATHIOPIA during the period from. (1991- 2013)

The study of (My burgh & Paniagua 2016) showed that appealing to the trade arbitration will lead to increasing the direct foreign investment, the study of (Asongu et al, 2018) showed that the size of the market, providing the infrastructure, the commercial opening, play the most important roles in attracting the direct foreign investment to Brix (Brazil, Russia, China, South Africa, The Group of Mint States including (Mexico. Indonesia, Nigeria, turkey) while the roles of providing the natural resources, the institutional quality, are not important.

In Ghana The study conducted by (Asiamah, Ofori And Afful, 2019) found integrated relation between the direct foreign investment and its determinants. the study showed that the results on the long run and on the short run. found the existence of negative effects of statistical significance for the inflation ratio, for the exchange rate, and for the interest rate on the direct foreign investment, while the gross domestic product. producing electricity, using the phone, they have appositive effect on the direct foreign investment.

The study of (Moghadam et al, 2019) analyzed the extent of the effect for the determinants like the size of the market, the exchange rate, the market opening, in 6 chosen states, from the states of the league for the nations of south east of Asia (Asean-6) On choosing the one way of the entry for the direct foreign investment on the others.

It was found a strong correlation between the size of the market, the exchange rate, with the new in flows, instead of the sales for merging processes, and acquisition.

The study of (Polvxeni et al 2019) when analyzing the sample of 18 underdeveloped states, which have the terrorism activities, and from different geographical regions. by using the model of (panel data), the study concluded to that, terrorism is a strong factor for impeding the direct foreign investment, and that the classical determinants, the evolving one, effect on the flows of the direct foreign investment in the receiving states,

The study of (Kriebitz, 2020) revealed that, receiving the direct foreign investment in northern Korea, under the process of the current updating for it, must be determined by the transferring towards the knowledge economy.

the study of (Phuc et al, 2020) studied the effects of no trust in domestic economic policies, and the world non trust, on the net direct foreign investment flows, for 21 economies, during the period from (2003-2013).

By using (the panel data) of two stages, (the sequential two stage) technique of linear panel data models).

It appeared that the growth ratio for the European union, will affect passively on the direct foreign investment.

Secondly: when merging it with the standard of the local mistrust, the world mistrust measurement which includes the measurement of the mistrust in the economical policy for (143) states, and will have a positive effect on the flows of the direct foreign investment in the hosting state,

In China the study of (Panthamjit & Chaiboonsri, 2020), during the period from (2007-2016) analyzed and showed that: the increase and raising for the economic growth rate, the gross domestic product, the political stability, tend to increase the probability of receiving the Chinese direct foreign investment abroad.

From another view, raising the performance of the direct foreign investment, the ratios of inflation, the supremacy of law., the freedom of business, tend to reduce the probabilities of receiving the Chinese direct foreign investment going abroad.

While the correlation between the direct foreign investment and the financial development, is an important topic.

the study of (Carson et al, 2021) ascertained that: the direct foreign investment coincides with, the increases of the life insurance expense, But the study of (Bun 2021) in Cambodia, the republic c democracy of Lao and Myanmar, showed that, the flows of the direct foreign investment, work for mitigating the financial restrictions, which the domestic companies face, through the partnership, or through the joint projects,

The increase of the direct foreign investment share in the industries in relation horizontally and vertically, will lead to increase the credit restrictions, imposed on the domestic companies.

In Vietnam: The study of (My et al,2021) found that the free trade agreements in general are associated with the increase of the direct foreign investment flows, with more effect during the sub – period. The more additional inspection for the next sub period, showed that the free trade agreements, also have great effect on the direct foreign investment, through the interaction with the real exchange rate & with the human capital and on the production factors

The study of (Tahir 2022) revealed that: the way to achieve the sustainability, depends on the nature of the movements for both the trade & investment, which the state of Pakistan practices

The more the flows of the investment and trade increased, the more that helped to achieve the sustainability,

The study of (Shokhrul et al 2023) concluded that: raising the economic freedom, will help the states to attract additional foreign investments, in addition to that, the study found that, increasing one unit in the indicator of the economic freedom, will lead to increasing the precipitate, of the real gross domestic product, by the rate of,009%-

The study also revealed that: the increase of the direct foreign investment with the rate of 1% will lead to the increase by the rate of,585% for the percapita of the real income, while the commercial opening, will lead to the increase of the income by the rate of1.24%.

These results showed that: the direct foreign investment has appositive effect on the economic growth, Which indicates to that: the direct foreign investment is an important factor for motivating or driving the economic development and social in the former states.

While the study of (Atobatele, 2023) showed that: The African continent focuses on the classical determinants for the direct foreign investment like the growth, the trade and the location.

The study of Shaari et al 2023) (Shaari, M. S., Asbullah, M. H., Zainol Abidin, N., Karim, Z. A., & Nangle, B. (2023). Determinants of Foreign Direct Investment in ASEAN+3 Countries: The Role of Environmental Degradation. International journal of environmental research and public health, 20(3), 1720. https://doi.org/10.3390/ijerph20031720) found that: in the states of the league for the nations of south east Asia (+3 found that: several previous studies (literatures) searched many factors which can effect on the direct foreign investment, like the size of the market, the inflation. The trade opening and the corruption.

(Akinwalere and Chang 2023) showed that the (Akinwalere, S. and Chang, K.(2023). The Determinants of Foreign-Direct-Investment (FDI) Inflows in Nigeria. University of East London. https://repository.uel.ac.uk/item/8w468.) interest rate, the external debit, the oil revenue, the growth of the gross domestic product, are important determinants and have long term effect on the direct foreign investment.

4. DATA, MODEL SPECIFICATION, AND METHODOLOGY

4.1 Analyzing the developments of the foreign direct investment& the economic growth in Saudi Arabia kingdom

There is no wonder, that Saudi Arabia kingdom, does not have interest rate, but it receives the American interest rate as givens. managing the monetary policies, is the responsibility of the Saudi Arabia monetary foundation, which is the central bank of the Saudi Arabia kingdom. it was founded in 1957. Its main tasks are: most important tasks of them is to issue, to support, to strengthen the Saudi Money. to enhance its value inside and outside the country, to do the government bank. works and to control the commercial banks, the tools used by the foundation were developed for achieving these objectives, according to the developments, which the Saudi economy & the local (https://www.sama.gov.sa/ar-sa/News/Pages/News14240808.aspx) financial markets witnessed, thus in this

4.1.1 The development of the foreign direct investment during the period from (1990-2022)

The net foreign direct investment recorded a development from 1,9 milliard $ in 1990 b to 1,8 milliards $ in the year of 1995, meaning that it moved from net passive into net active. within the first five years. of the last 90s,

In addition to that, during the crisis of the Asian tigers in 1997, the net investment recorded 4,3 milliards $ in 1998, but it returned to the positive values in 2000 recording 1,9 milliards $.

In return, within the first decade of the millennium, the net investment recorded negative ratio under sequential series, which reached to its peak at 36 milliards $ in 2008,. but within the period of (2009-2018) it returned its positive value to record a development reached to 15 milliards $ at the end of this period.

Despite its retreat (backward) into passive values in 2022 – however it returned to raise into 11milliar $ in 2022, but as it appears from the following diagram:

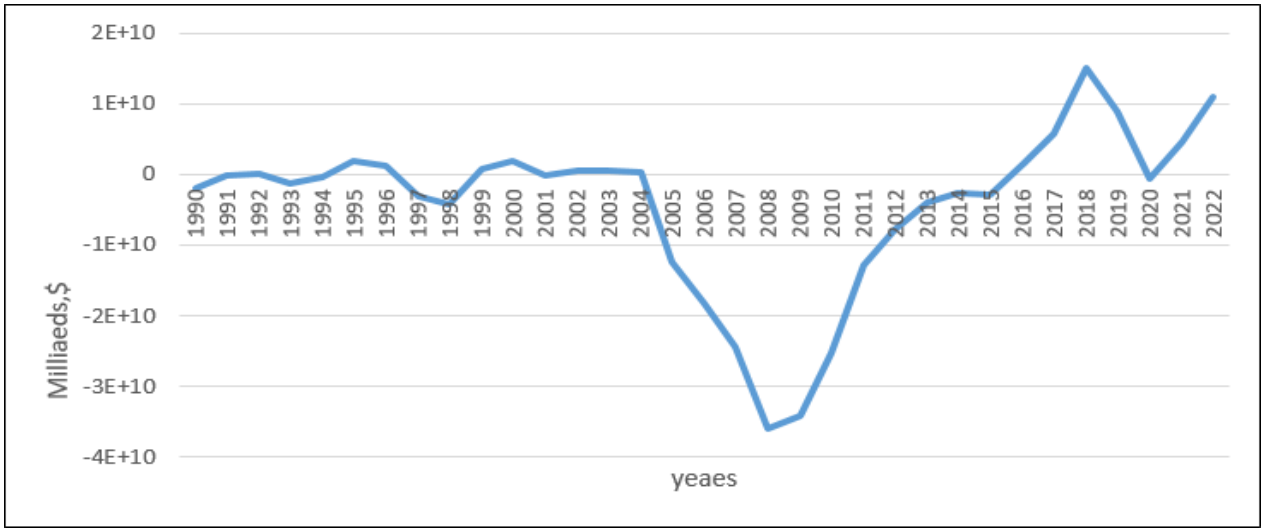

Figure 1: The development of net foreign direct investment during the period from (1990 – 2022)
The source: prepared by the research depending on the world bank data base.

About the percentage of the inflows of the foreign investment s incoming and outgoing, the figure number 2 shows this comparison, as the net internal flows to the gross domestic product, recorded 1,6% in 1990, in return for -,5% for the external or out flows. the percentage of the inflows started retreating during the year of 1999-1993, but it increased to 1% in 1993, in return for relative fixation during this rate for the percentage of outflows as rate to the gross domestic product.

During the period from (1993/1996), the net internal (inflows for the investment) recorded retreating from 1% to -1,3% in return for the rate of,03% for out flows in this period, in return, the net inflows recorded increase to 2,9% in 1998, that is in return for the rate of,08% for the outflows.

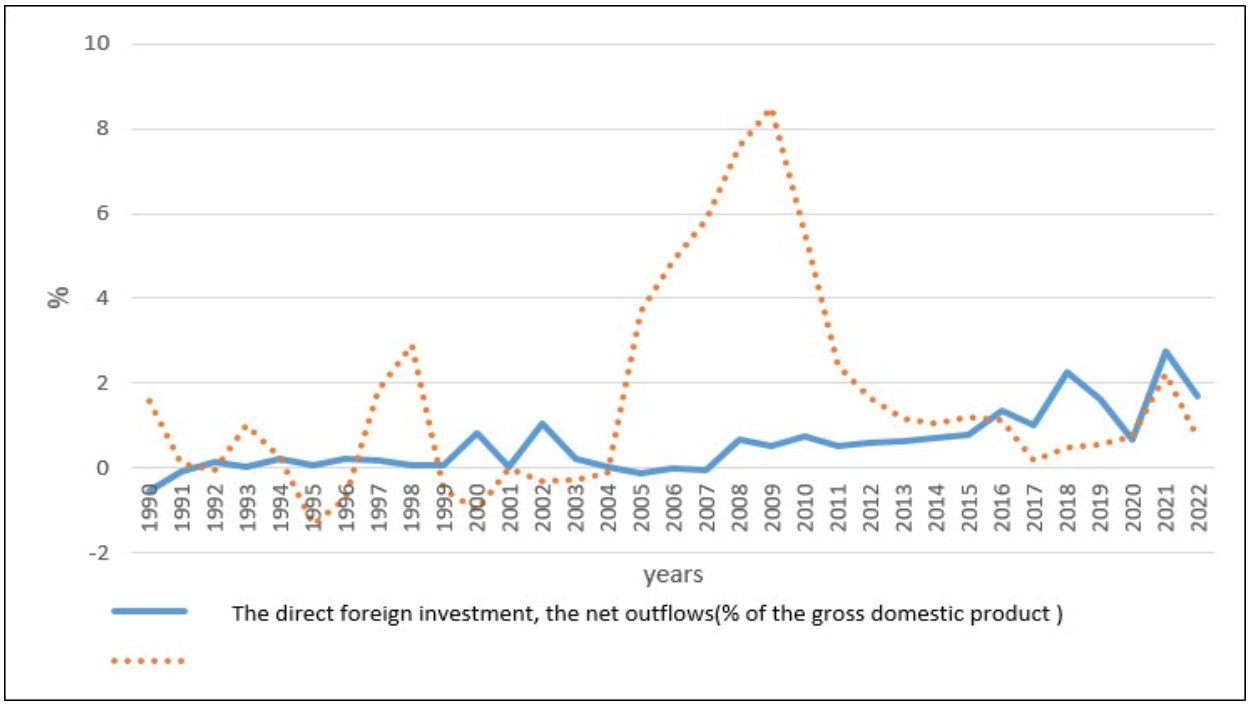

Figure 2: The rate of the incoming investments in return for the outgoing investments to the gross domestic product in Saudi Arabia kingdom, during the period from (1990- 2022)
Source: Prepared by the researcher based on the World Bank database.

During the period from 1999-2000, the inflows rate retreated to record1% in return for relative fixation for the outflows as rate on the gross domestic product, at,08%.

This percentage remained in its declining path during the period from (2001-2004), and during the period from 2005-2009 increased the net outflows investments at rate not exceeding,07%

In return, during the period (2010-2017),the investment flows rate returned as rate to the declining domestic product to,02%. While the outflow rate increased to record raising to 2,03% in 2017, and during the last years (2018-2022) in return for the increase, the reaching of outflows investments rates to 1,07% in the year of 2022,

4.2 The major determinants for the foreign direct investment in Saudi Arabia kingdom. during the period of the study.

4.2.1 The developments of the American interest rate during the period of the study.

On the light of the American interest rate, it sheds its shadow on all the economies. as the federal reserve amends the scope of the targeted rate for the federal money, in response to what happens in the economy. Also amending the interest rate: will help the federal reserve bank to achieve the conditions which satisfy the double task, to maintain the stability of the prices, enhancing the. labor opportunities, through raising the interest rate by the federal reserve bank, when the economy starts its activity of the excessive inflation. - reducing the interest rate when the economy appears faint.

The raise of the unemployment rate: there are several other data which impact on the decisions of the monetary policy, for the federal reserve council. Including the gross domestic product, the consuming expenditure, the industrial production, in addition to the great events like the financial crisis or the world epidemic, or the great terrorist attack, (Tepper, and Curry, 2023) (Taylor Tepper and Benjamin Curry. 2023. Federal Funds Rate History 1990 to 2023. Forbes. 26 July. https://www.forbes.com/advisor/investing/fed-funds-rate-history/) The figure number 3 shows the developments of the American interest rate during the period from (1990-2022), which ranged about the average of 2,5% with maximum limit of 8.1% in the year of 1990, and,08% in the year of 2021.

The figure shows also that there is a general declining trend for the interest price rate during the years of (1990-2004).

However the existence of the volatility state during the period from 2005-2007) increased, while it declined, then it was settled and stable relatively during the period from 2008-2015) just before returning newly during the years (2016-2019),while it declined in the years of 2020 and 2021, but it increased another time in the year of 2022.

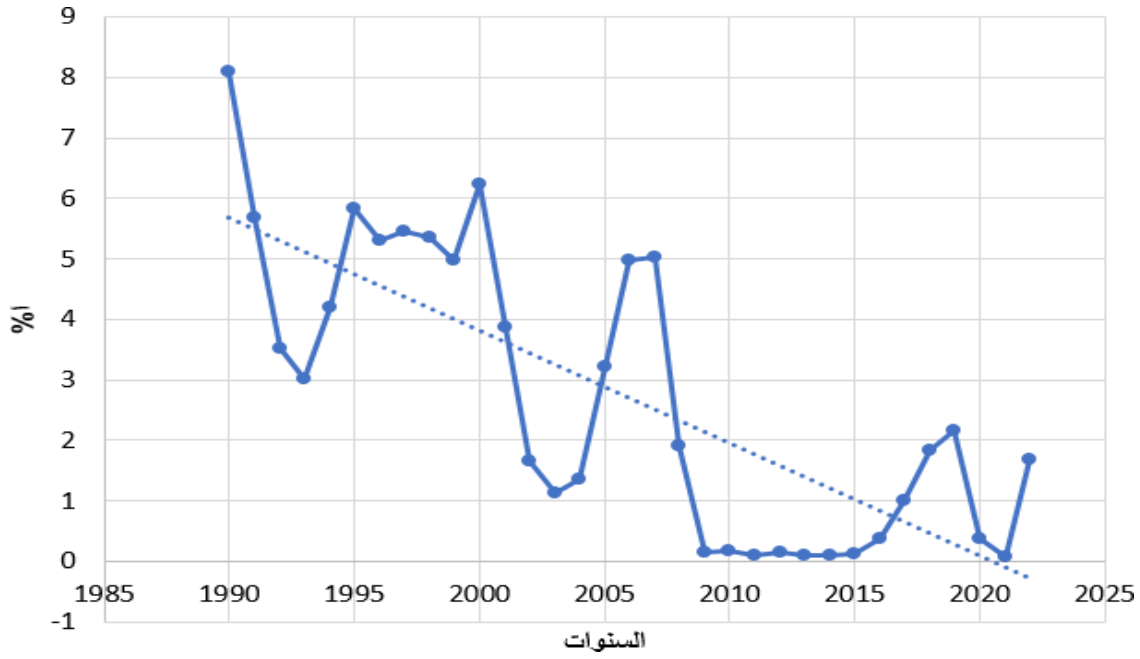

Figure 3: The American interest rate during the period from (1990- 2022)
Source: Prepared by the researcher based on the World Bank database.

Despite that the political procedures, taken by the federal reserve bank the other, central banks, will lead to the complications of interpreting the change of the real interest rate in the course of the time.

All over the world, the banks reduced the interest rates to help in motivating the whole demand after the wide spread of corona covid 2020. (Gamber, 2020 p6). on September 2023 the federal reserve bank maintained the targeted scope for the interest rate on the federal money at its highest level since 22 years. at 5,25%-5,5% I n its meeting in September 2023. (trading, economics, 2023)

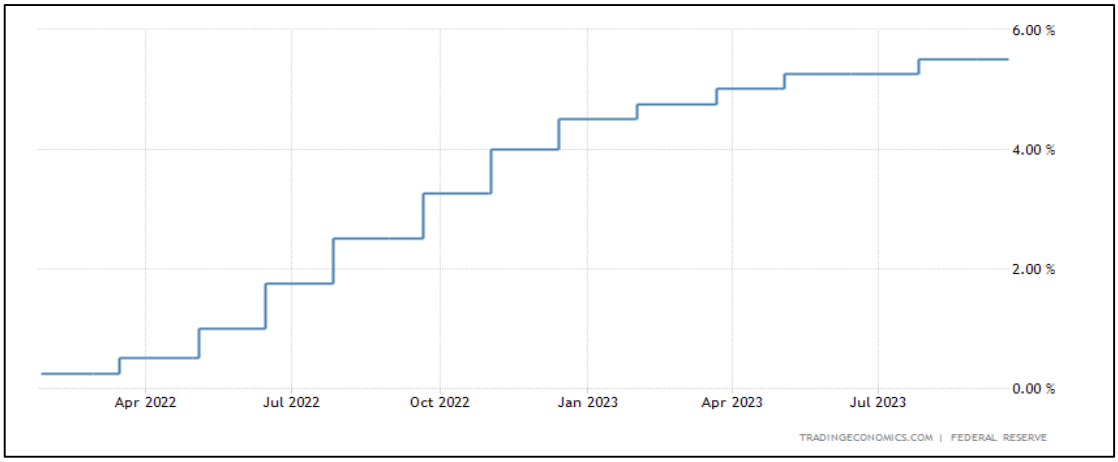

Figure 4: The developments of the American interest rate during the period from April 2022- September 2023)

Based on the above mentioned, we find that the quick raising of the interest rate in the United States of America, all over the world, that was accompanied with the world inflation raising. Which caused great threat to the economic welfare, for the United States of America, for the evolving markets, for the underdeveloped economies. besides that, the sharp increase for the American interest rate. in addition to the accompanying raise in the value of exchanging for the foreign dollar, will lead to remarkable indirect effects on the costs of credit in the evolving markets, in the underdeveloped countries, leading in its turn to increasing the burdens of the debits largely -, which will increase the difficulty of financing. paying for the debits process. and increasing the probability of the debit's burdens to the financial crisis in some evolving markets economies and in the developing economies, it will lead also to expecting these developments, which in turn will impede the financial markets in the evolving markets and in the developed countries, and will discourage the flows of the capital, causing uneasiness. in the financial markets, (Arteta, kamin, and Ulrich, Ruch 2022, p4)

Several other studies, including KOSE et al 2021): showed that the increases of the American interest rate, will cause the increase of the probability for the occurrence of financial crisis in the evolving markets economies, and among the developed economies in the next year,

4.2.2 The developments of the fixed capital in Saudi Arabia kingdom during the period of the study.

Saudi Arabia kingdom is one of the most important economies in the middle east region, and in north Africa

Its importance increases. as its exports of oil achieve about 87% of the government revenues, with possessing about15% of the assured oil reserve all over the world, Saudi Arabia kingdom is one of the biggest exporters for the oil ore, in the world, and it is a leader in the OPEC organization (the heritage foundation, 2023).

looking to the size of the gross domestic product (by the fixed prices of the American dollar in the year of 2010), it appears that it developed from 284 milliards dollar in the year of 1990 to 767 milliards dollar in 2022, that is equal to a development with the amount of 1,1 trillion Saudi rials to 2,97 trillion Saudi rial during the mentioned period, based on the world bank data, that is shown in the below figure.

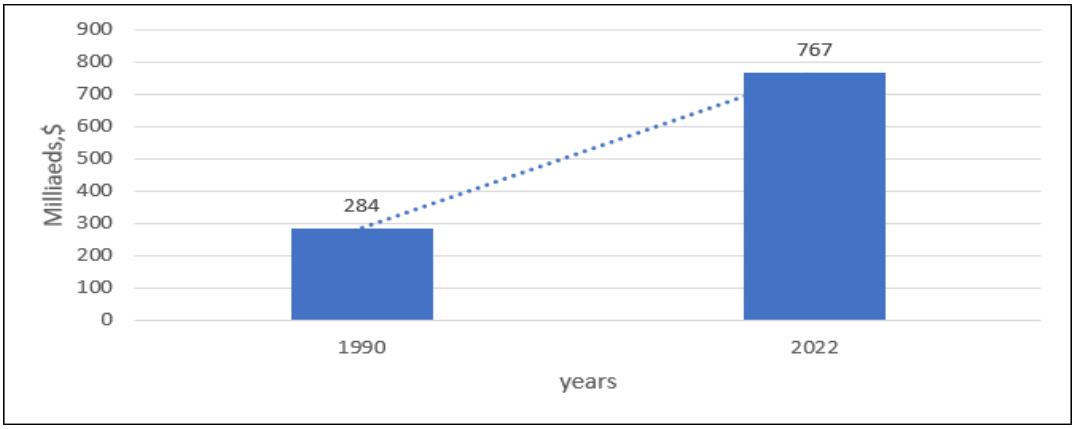

Figure 5: GDP developments constant US$ prices, during the period from (1990- 2022)
Source: Prepared by the researcher based on the World Bank database.

The Kingdom of Saudi Arabia economy witnesses new transformation. as there are reforms to limit depending on the oil. varying the income's sources, enforcing the competitive capabilities.

This year represents an important transformation, as being the point of the middle in the ambitious tripe of the Saudi Arabia kingdom's vision in2030. as it is shown in the last annual revision for the world monetary fund about the economy of the states.

this progress was reflected remarkably In the non–oil growth in the (Mati and Rahman 2023) the real gross domestic product grew in the Kingdom by the rate of 8,7% in the year of 2022, compared with the raise by the rate of 3,9% payments for the oil activities basically (the Saudi Monetary Foundation 2023).

The Saudi Arabia Kingdom tries to enforce its economic capabilities through increasing the providing process with the fixed capital, moving from an economy depending on the oil. into varied economy according to the definition of the world bank to it, as it includes the gross of the fixed capital formation (the former domestic fixed investment gross) the land improvements,) the walls, the trenches, the water drains, etc. …), buying the factories, the tools, the equipment's, establishing the roads, the railway stations, etc. besides building the schools, the offices, the hospitals, the houses, the commercial and industrial buildings, according to the national accounts system of 1993.

The net of the precious things is considered also as formation for the capital.

Diagram number 6 shows the gross formation of the fixed capital in the Kingdom of Saudi Arabia, which recorded 1,04 trillion rials in 2022.it constitutes an increase by the rate of 31% annually, compared with the year of 2021.

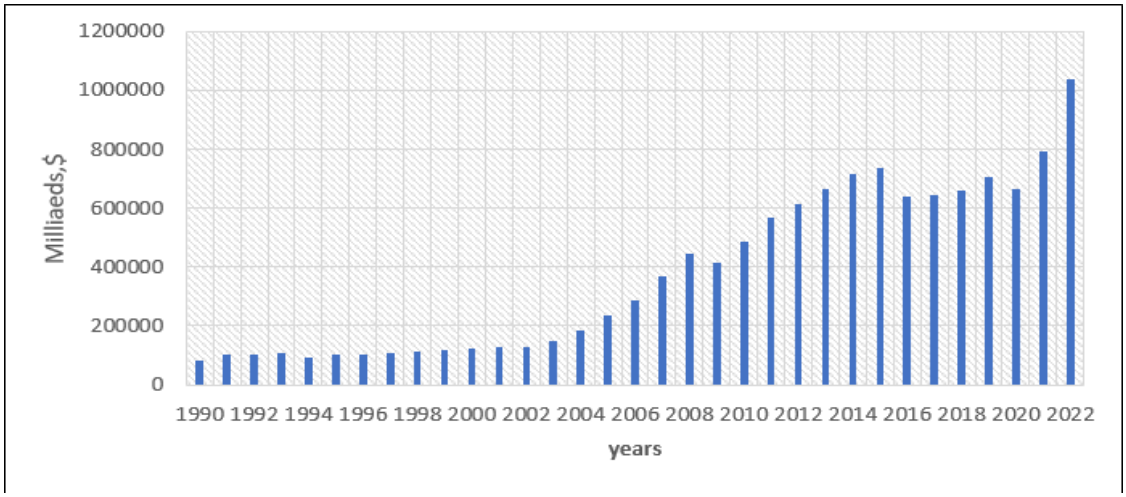

Figure 6: The developments of the gross formation of the fixed capital in the Kingdom of Saudi Arabia during the period from (1990- 2022)
Source: Prepared by the researcher based on the World Bank database.

The gross of the fixed capital formation. reached to (%) of the gross domestic product) in the Saudi Arabia kingdom with the rate of 27,,3% in the year of 2022, compared with the rate of 16% in the year of 1990.

Based on the data of the world bank. as it is shown in the following figure number 7

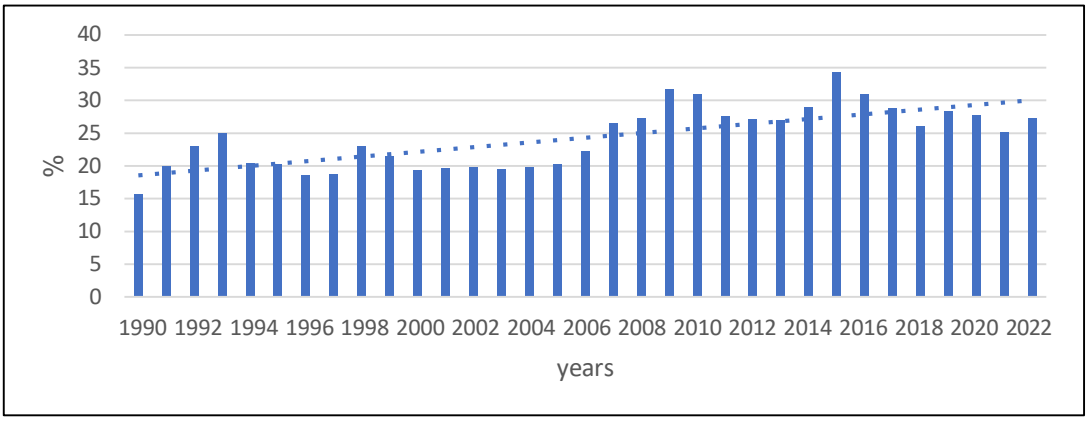

Figure 7: The developments of the gross capital formation (% of the gross domestic's product in the Kingdom of Saudi Arabia during the period from (1990- 2022)
Source: Prepared by the researcher based on the World Bank database.

The nongovernmental contribution in the capital formation is the biggest, as it reaches to 9,7 milliard rials. compared with 1,32 milliard rials in the year of 2022,

The figure number 8 shows this contribution. appearing the development of the role of contribution for the non-government. across the time, in return for its governmental. counterpart.

The variation was motivated by the improvement in the organizational and commercial environment due to new set of the laws aiming to enforce the business leadership. protecting the rights of the investors, reducing the costs of practicing the business,

The bargains, the licenses for the new investment, grew by the rate of 95% and 267% in order. in the year of 2022.

In addition to this, the Saudi investment fund. distributed the capital. including the help to encourage the investments of the private sector (MATI AND REHMAN 2023 P5)

Figure 8: The developments of the gross capital formation (% of the gross domestic's product in the Kingdom of Saudi Arabia during the period from (1990- 2022)

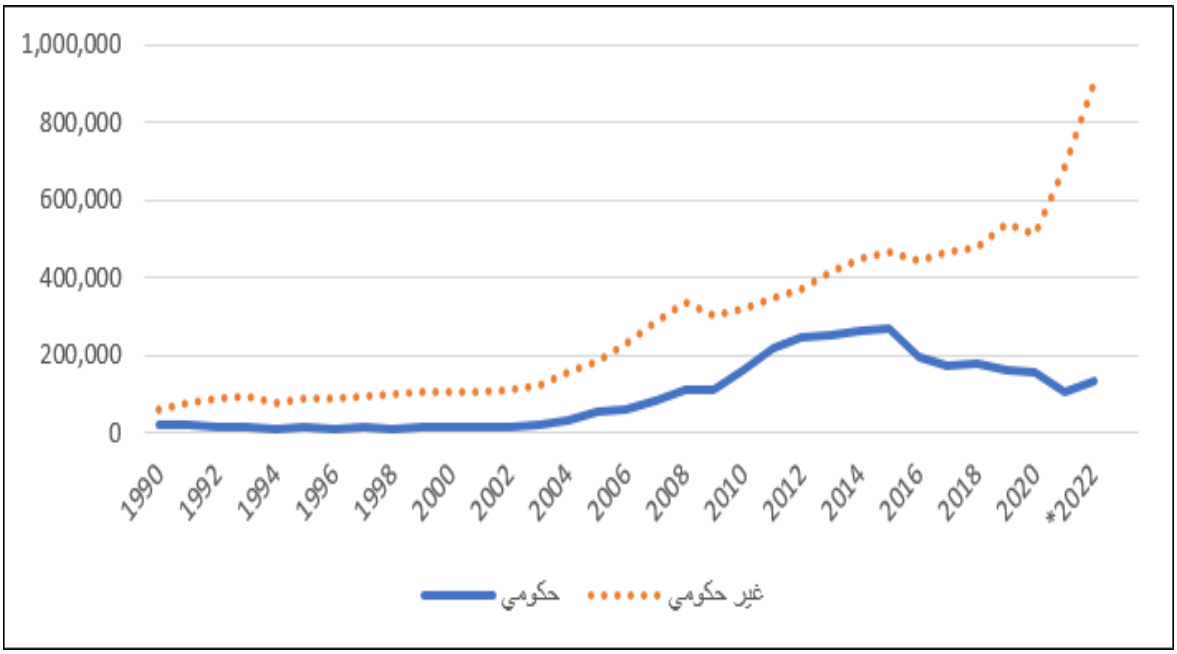

Figure 8: Contribution of the government and non-government sectors to the formation of fixed capital in the Kingdom of Saudi Arabia during the period from (1990- 2022)
The source: prepared by the researcher depending on the data of the statistic authority.

That is as part of its vision in 2030. Which the Saudi Arabia kingdom revealed its national strategy for investment, that was designed for varying the Saudi economy, for increasing the growth of the expected gross domestic product including several general objectives, which when supported by the financial reforms reforming the labors supply.

Increasing the efficiency of the public sector. enforcing the non-oil development – the Saudi Arabia kingdom aims to increase the contribution of the fixed capital formation to 30% by 2023.(international monetary fund, middle east and central Asia dep - 2022)about the development of the economic growth rate, figure number 9 shows the sharp volatility state in the rate from one year to another, as it is reduced from 10,5% during the years of 1990-1991 to 4,5 % in 1994 to increase to 2,9% in the year of 2000 but it declined into 5,1% in 2002. however, it increased to 8,7% in 2003- but it declined newly to 2,1% in 2007. then in 2008, it recorded 2,2% in 2008 – but it declined into 5,6% in 2009. in 2010, it recorded 1,7% but increased to 8,3% in 2011. But it is reduced into 3,1% in 2012. the reduction continued to be,07% in 2013- despite that, it increased to become 1,9% in 2014- then reached to 2,9% in 2015,

In the years of 2016-2017 this rate recorded decline to,3% and -2,3% reaching to the rate of 4,8% in 2020. but it increased newly to 4,1% and 7,4% in the years of 2021 and 2022, as it is shown in the following figure nomber9:

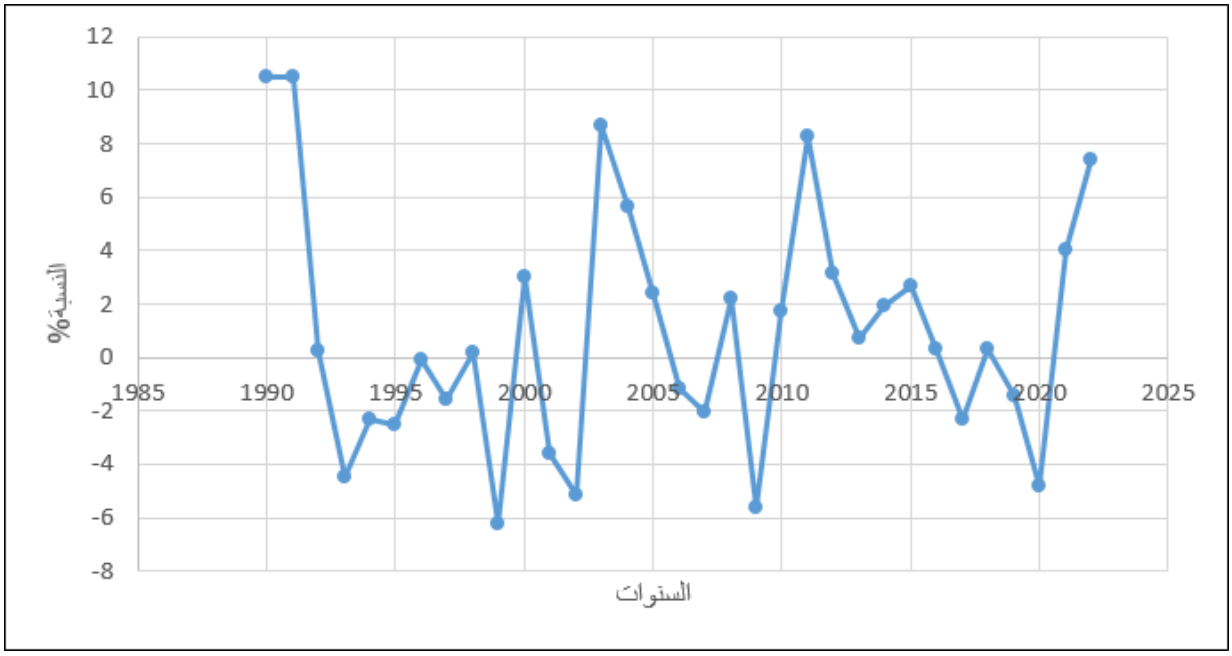

Figure 9: The developments of the percapita form the gross domestic product (%) in the Kingdom of Saudi Arabia during the period from (1990- 2022)
Source: Prepared by the researcher based on the World Bank database.

4.2.3 Estimating the effect of the foreign direct investment on the economic growth in the Saudi Arabia Kingdom

Estimating the effect of the foreign direct investment over the percapita from the gross domestic product. in Saudi Arabia Kingdom during the period from (1990-2022) through testing the hypothesis of the study, concluding that there is no balanced relation of the long-term between the foreign investment.

thus this section includes the sources of the data, the primary analysis of it, through conducting the tests for the root of the unit, to inspect the degree of silence for the variables of the study.

In addition to conducting the joint integration test, to examine the possibility of the existence for balanced relation in the long term – or not.

4.2.4 Choosing the variables of the model:

the table number 1 shows the variables of the study as the following:

Table 1: An outline for the definitions of the variables

The source of the data	The variable	The model
The world bank data base	The growth of percapita (%) gross domestic product The net foreign direct investment The ratio of incoming investment flows to the gross domestic product %	The dependent variable
	The interest rate	The independent variables
	The gross capital formation (% of the gross domestic product)	

Source: Prepared by the researcher.

Consequently, the mathematical shape of the estimated model will appear as the following:

GDP percapita =a0+B1FDIt+b2FDI TO GDP T+B3 IN flat inter ratt+B4GCF of GDP (1)

By adding the random variable in the former equation, The model will become measuring model. and will take the following shape.

GDP percapita at+a0+B1F1DIt_B2FDI to GDPt+B3 IN FLAT INTR R rat t+B4 OIL R +B5 GCF of GDP +U(2) the figure number 10 shows the sharp volatility for the three independent variables (the foreign direct investment flows, to the product. the interest rate, the gross capital accumulation. in continual context). the graph shows also the existence of sharp volatility among the value of the investments in the portfolio of the Egyptian economy during the period of the study

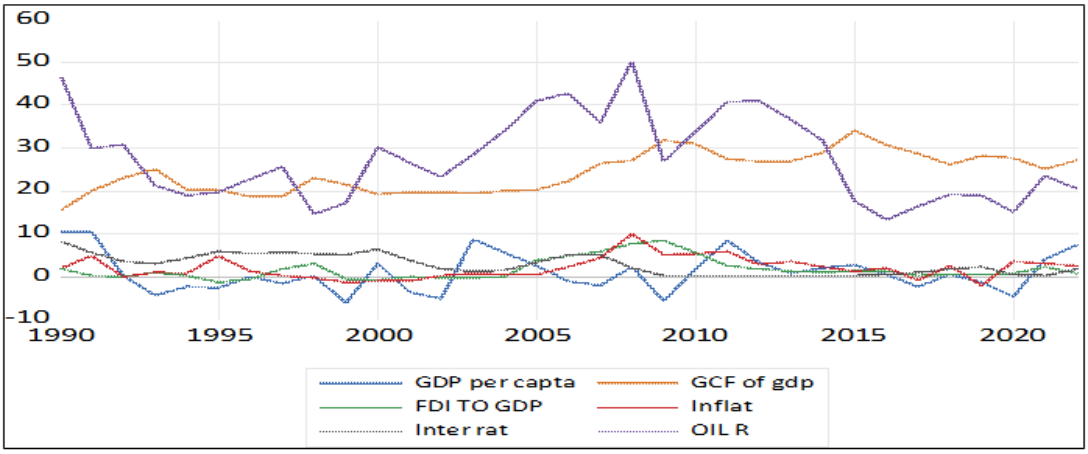

Figure 10: The sharp volatility for the three independent variables (the foreign direct investment flows, to the product. the interest rate, the gross capital accumulation. in continual context)
source: prepared by the researcher by using the EVIEW 13 program.

4.2.5 The test of A.D.F for the series of time

By looking to the table number (2), it appears that the dependent variable which is the rate of the percapita from the gross domestic product by the fixed prices (it is fixed in the level) about the independent variables, it appears that all the independent variables are integrated in the difference, as it is shown in the following table number 2:

Table 2: The results of the test for the root of the unit by using the expanded volar dicky model

The variable	The lag period	The statistical value accounted	P – value	The silent series in the level
The growth of percapita (annual %) GDP percapita	Zero	-4,431865	,0014	The series is silent in the level
The net foreign direct investment FDI	Zero	,0229	-,312143	
The ratio of the incoming investment flows to the gross domestic product FDI TO GDP %	Zero	,0028	-4,167487	The series is not silent in the level, the first difference was taken to become stable.
The interest rate	Zero	,0002	-5,265003	The series is not silent at the level, the first difference was taken to become stable.
The gross formation of the capital (% of the gross domestic product) GCF of GDP	Zero	,0002	-5,114874	The series is not silent in the level – the first difference was taken to become stable.

source: prepared by the researcher by using E VIEWS 13 program

4.2.6 The descriptive statistics for the model "presented in table number 3 it appears as the following:

Table 3: The descriptive statistics for the model.

	GDP_ PER CAPITA	FDI	FDI – TO GDP	Interest rate	GCF_ OF G DP
Mean	0,922431	-4,19E+09	1.606046	2,705455	24.29880
Median	0,321644	-3,49E+08	1,028218	1,920000	25,05503
Maximum	10,52260	1,50E+10	8,496352	8.100000	34,22350
Minimum	-6,223430	-3.60e+10	-1,307819	0,80000	15,68415
Stand dev	4,558158	-1,17e+10	-1.307819	2,351987	4,656957
skewness	0,530017	-1,280430	2,411153	0,435957	0,181237
Kurtosis	2,583600	-4,257404	1,403578	1,952200	2,017873
Jarque-bear	1,783458	11,19122	13,00192		
Probability	0,409946	0,003714	0,001502	0278745.2,554915	0, 4707291
Sum	30,44022	-1,38e+11	52,99951	89.28000	801,8604
Sum – square.dev	664,8577	4,40e +21	186,0370	177,0190	693,9920
observations	33	33	33	33	33

source: prepared by the researcher by using E VIEWS 13 program

4.2.7 Determining the lag period before initiating to estimate the error correcting model, determining the ideal lag period for all the model,

then estimating the model for the consequential lag periods for the aim of obtaining the best period of lag, by using the standards of (HQ, SC – AIC – FPR- LR – LOGL)

Thus, the best number for the lag periods, by this number on which agreed on most of the criteria, on terms that this number may possess the less values of all the criteria, as it is shown in the next table, from which we can infer that all the criteria indicate to choosing the two lag periods.

Table 4: The criteria for choosing the ideal lag periods for the errors correcting model

VAR Lag Order Selection Criteria						
Endogenous variables: GDP_PER_CAPTA FDI FDI_TO_GDP INTER_RAT CF_OF_GDP						
Exogenous variables: C						
Date: 10/28/23 Time: 22:25						
Sample: 1990 2022						
Included observations: 31						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1033.605	NA	8.68e+22	67.00678	67.23807	67.08217
1	-960.9473	117.1899	4.11e+21	63.93209	5.31982*	64.38445
2	-926.7464	4.13030*	.60e+21*	63.33848*	65.88265	4.16781*

source: prepared by the researcher by using E VIEWS 13 program

4.2.8 The test of the joint integration by using the auto decline model for the distributed lag periods

the test of the joint integration by using the auto decline model for the distributed lag periods and the approach of the borders the approach of testing the borders (the limitations) is used for determining the extent of the existence for a balanced correlation in the long term between the percapita over the gross domestic product, and the direct foreign investment IN The Saudi Arabia kingdom during the period from (1990-2022).

Table 5: shows evaluating the joint integration model.

Dependent Variable: GDP_PER_CAPTA				
Method: ARDL				
Date: 11/04/23 Time: 12:51				
Sample: 1994 2022				
Included observations: 29				
Dependent lags: 4 (Automatic)				
Automatic-lag linear regressors (4 max. lags): FDI FDI_TO_GDP				
INTER_RAT GCF_OF_GDP				
Deterministic: Restricted constant and no trend (Case 2)				
Model selection method: Akaike info criterion (AIC)				
Number of models evaluated: 2500				
Selected model: ARDL(4,4,4,4,4)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GDP_PER_CAPTA(-1)	-1.010360	0.359854	-2.807692	0.0484
GDP_PER_CAPTA(-2)	-0.681883	0.495344	-1.376584	0.2407
GDP_PER_CAPTA(-3)	-0.491983	0.221812	-2.218015	0.0908
GDP_PER_CAPTA(-4)	0.220830	0.240633	0.917703	0.4107
FDI	7.08E-10	2.34E-10	3.022850	0.0391
FDI(-1)	1.74E-10	3.38E-10	0.515598	0.6333
FDI(-2)	-3.49E-11	1.93E-10	-0.181070	0.8651
FDI(-3)	-4.21E-10	2.18E-10	-1.931175	0.1256
FDI(-4)	2.00E-10	2.16E-10	0.926037	0.4068
FDI_TO_GDP	1.925303	0.682511	2.820909	0.0478
FDI_TO_GDP(-1)	0.433162	1.135685	0.381410	0.7223
FDI_TO_GDP(-2)	0.140745	0.767469	0.183388	0.8634
FDI_TO_GDP(-3)	1.148854	0.769339	1.493301	0.2097
FDI_TO_GDP(-4)	0.927212	0.779570	1.189389	0.3001
INTER_RAT	-0.929566	0.734304	-1.265914	0.2743
INTER_RAT(-1)	-0.052361	1.404242	-0.037288	0.9720
INTER_RAT(-2)	-3.840553	1.469990	-2.612639	0.0593
INTER_RAT(-3)	0.695351	1.668472	0.416759	0.6982
INTER_RAT(-4)	-2.551267	0.851045	-2.997805	0.0400
GCF_OF_GDP	-0.525465	0.371173	-1.415689	0.2298
GCF_OF_GDP(-1)	-0.171051	0.327863	-0.521716	0.6294
GCF_OF_GDP(-2)	-0.704464	0.338764	-2.079511	0.1061
GCF_OF_GDP(-3)	-1.825868	0.489101	-3.733111	0.0202
GCF_OF_GDP(-4)	-0.402607	0.728936	-0.552321	0.6101
C	101.9948	26.51696	3.846398	0.0184
R-squared	0.971566	Mean dependent var		0.471946
Adjusted R-squared	0.800963	S.D. dependent var		3.987651
S.E. of regression	1.779035	Akaike info criterion		3.733155
Sum squared resid	12.65986	Schwarz criterion		4.911859
Log likelihood	-29.13075	Hannan-Quinn criter.		4.102311
F-statistic	5.694878	Durbin-Watson stat		2.109757
Prob(F-statistic)	0.051223			
*Note: p-values and any subsequent test results do not account for model selection.				

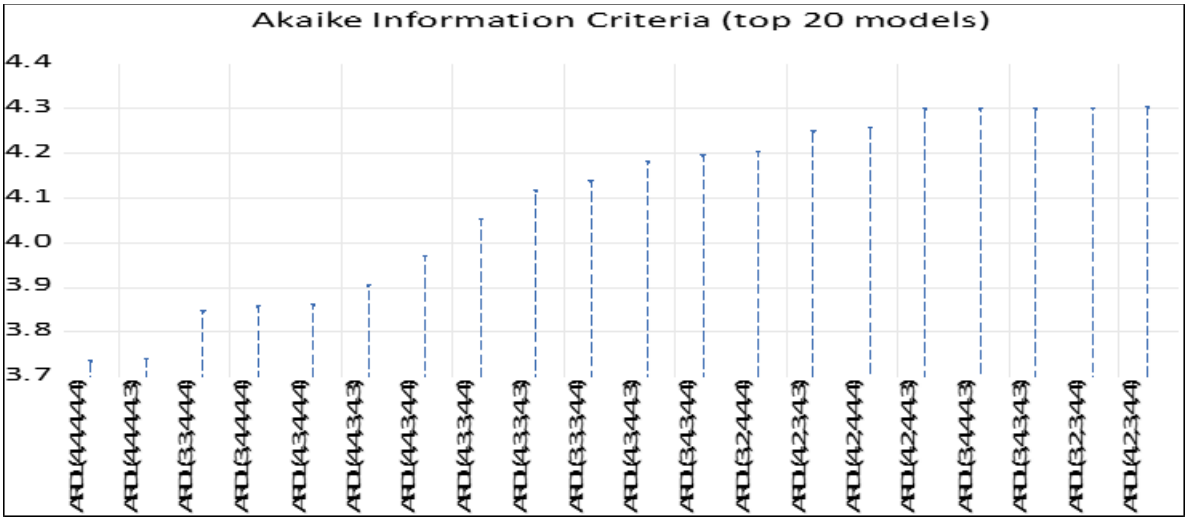

Figure 11: The criteria for choosing the lag periods
source: prepared by the researcher by using E VIEWS 13 program

By looking to the table number 6, it appears that the calculated statistical value F with 3,767111 is less than the value of the highest level on the significant level of 5%& 1%.-

which means accepting the hypo this of the null saying that, there is no existence for a balanced relation in the long term., between the percapita and the independent variables, (the foreign direct investment – the interest rate – the capital accumulation) refusing the alternative hypo this saying that: there is a balanced relation in the long term. between the percapita, and the independent variables, meaning that there is no joint integration relationship, between the variables, subject to the study at the significant level of 1%& 5 %

Table 6: The results of the joint integration test. by using the borders (limitations approach) ARDL

- The sample	- 5%	- 1%	- F Statistic
- Sample size	- 1(zero) 1(1)	- 1(zero)1(1)	-
- 30	- 3,058 4,223	- 4,2805,840	- 3,767111
Asymptote C	- 2,560 3,490	- 3,290 4,370	-

1(zero) 1(1) are respectively the stationary and non-stationary bounds
source: prepared by the researcher by using E VIEWS 13 program

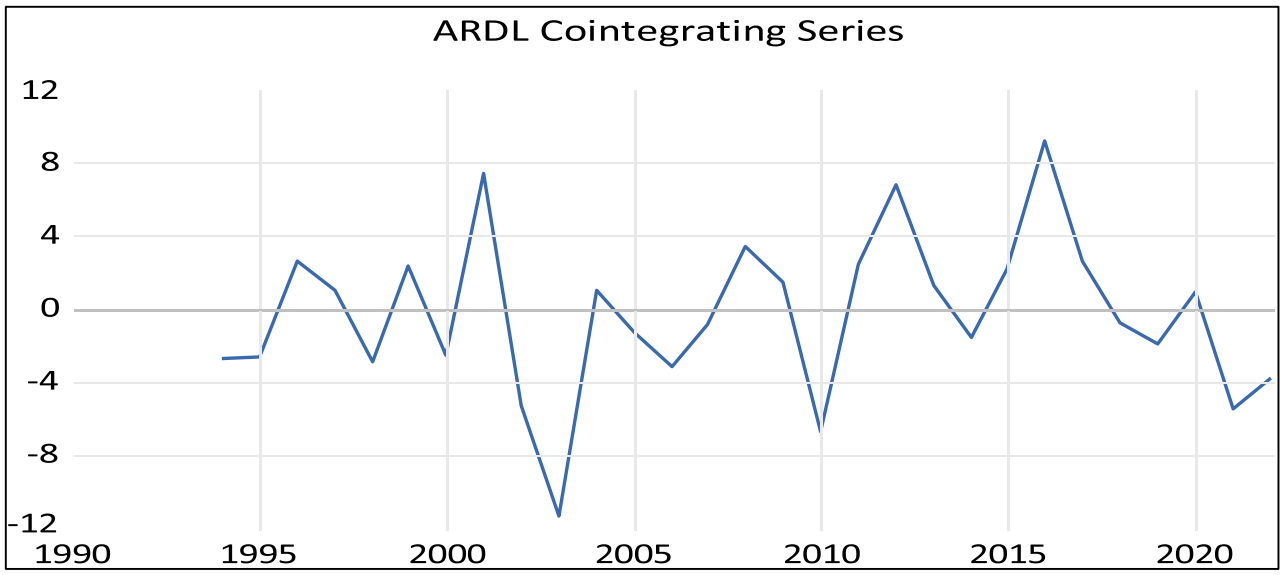

Figure 12: The direction of the joint integration series. between the variables
source: prepared by the researcher by using E VIEWS 13 program

4.2.9 Evaluating the features of the long term.

evaluating the features of the long term, which appear from the table number (7)

Table 7: The results of the evaluations for the features of the model in the long term.

- Variable	- Coefficient	- St. error	- T statistic	- Prob
- FDI(-1)	- 2,12e-10	- 8,65e-11	- 2,444755	- 0,222
- FDI_ TO GDP (-1)	- 1,543930	- 0,503063	- 3,069059	- 0,0053
- INTERSET RATE (-1)	- -2.253630	- 0,450700	- -5.000288	- 0,0000
- GCF _OF GDP (-1)	- -1,224762	- 0,285083	- -4.296156	- ,0002
- C	- 34.41822	- 7,806335	- 4,409011	- 0,002
- Note : coefficients derived from CEC regression	-	-	-	-

source: prepared by the researcher by using E VIEWS 13 program

By looking to the table above, we find that some of the illustrative variables for the changes of the percapita of the gross domestic product is of positive effect, which is the net foreign direct investment, (fdi -1) by the statistical value of (2,12_, and the statistical significance reached to (,0222) which is less than 5%. Meaning that, it is of statistical significance. also, we find the effect of the incoming investment flows ratio To the domestic product, which shows appositive statistical value of (1,54) and with significant probability of (,0053) which is less than 5% . also. in return, we notice the appearance for the interest and for the capital accumulation ratio. To the gross domestic product negatively., the first: its value reached to (-2,25) with the probability (0,000) which is less than 5% indicating to its significance. the second one is the fixed capital accumulation by the value of (-1,22) and by the probably value of (0,0002) which is less than 5%.

Meaning that it is significant.

from the results of evaluation in the above-mentioned table, it appears, that the equation of correcting the error takes the following form:

- Deterministic: rest, constant (case 2)
- CE =GDP _PER CAPTA (-1)-(0,000000)FDI(-1)+1,543930 FDI- TO GDP (-1)- 2,253630 INTERST RATE (1)- 1,224762GCF- OF GDP (-1)+
- 34,418215)
-

source: prepared by the researcher by using E VIEWS 13 program

Table 8: The results of the features of the model in the short term

Variables	Coefficient	St. Error	T statistic	Prob
Cointeq	-2.963396	0,415545	-7,131339	0,0001
D(GDP PER-CAPTA(-1)	0,953035	0,281195	3,389230	0,0080
D(GDP PERCAPTA(-2)	0,271152	0,120294	2.254083	0,0507
D(GDP-PERCAPTA(-3)	-0.220830	0,079639	-2.772884	0,0217
D(FDI)	7,08e_10	1,06e_10	6,705076	0,0001
D(FDI(-1)	2,56e-10	9,17e_11	2,789061	0,0211
D FDI(-2)	2,21e-10	1,08e_10	2.054228	0,0701
D FDI(-3)	-2.00e10	9,16 e11	-2,184969	0,0567
D(FDI_TOGDP)	1.925303	0,337601	5,702897	0,0003
D(FDI_ TO GDP(-1)	-2,216810	0,417248	--5,312934	0,0005
D(FDI_TO GDP(-2)	-2.076066	0,453883	-4.574008	0,0013
DFDI_TOGDP(-3)	-0,927212	0,444560	-2,085682	0,0666
D(INTERST RATE	-0,929566	0,373146	-2,491159	0,0344
D INTER RA(-1)	5,696470	0,803802	7,086910	0,0001
D(INTER RAT(-2)	1,855917	0,837431	2,216202	0,0539
D INTER_RAT(-3)	2,551267	0,460051	5,545618	0,0004
D(GCF OF _GDP)	0-525465	0,151658	-3,464802	0,0071
D(GCF _ OF _GDP(-1)	2.932938	0,486290	6,031253	0,0002
D(GCF_OF GDP (-2)	2,228474	0,415162	5,031253	0,0005
D(GCF_ OF GDP(-3)	0,402607std	0,324059	1,242388	0,2455

source: prepared by the researcher by using E VIEWS 13 program

by looking to the above-mentioned table, it appears that the value of the error correcting factor is _2,9633 with the level of significance (0,0001) which is less than 1%%5%

it shows that there is correcting of the short run to the long run. in speed reaching to 209 years for the variables subject to the study.

4.2.10 Evaluating the model from the economic al and measuring view

This part aims to evaluate the estimated model based on two bases.

They are the economic base to determine the extent of homogeneity for the4 estimates of the borders (limitations) model with what is decided by the economical theory.

the second basis is the measuring basis to know the credibility of the measurement depending on the inspecting tests, as the following:

4.2.11 The results of evaluating the model in both the long and the short run

It is inferred from the two tables number 7&8 the following:

1. The factor of D/(FDI) which expresses the direct foreign investment, the investment inflows, as percentage to the gross domestic product D(FDI_to GDP) indicates to positive and significant signals, proving that the direct foreign investment is of importance for the Saudi economy.
2. It helps to enforce the percapita from the gross domestic product, through strengthening its pillars. and supply it with investments in the vital sectors, moving the means of the modern technology, increasing the productivity. This results coincidence with the economical theory.
3. The factor of D(INTER_RAT) expressing the interest rate, refers to the negative effect and to the significant effect, especially under the changes of this price, with the raise of the interest rate, the cost of investment also increases, and the prices also increases, the matter that will lead to reducing the purchasing power.This results coincidence with the economic theory.
4. The factor indicates to the ratio of the capital accumulation to the gross domestic product, (D(GCF_OF GDP) and shows the significant and the passive effect on the percapita from the gross domestic product. which does not coincidence with the economical theory.
5. 5-It may return to the economic growth and to the percapita from the gross domestic product, and will be affected largely by the oil incomes and revenues, more than depending on the capital accumulation.
6. 6-In another words the capital accumulation did not reach to the level which can help to increase the percapita from the gross domestic product.

4.2.12 The measuring evaluation of the model.

This item aims to evaluating the estimated measuring model through conducting some diagnosing tests. as the following:

1- The test of the natural distribution for the random errors,

As the statistical value of JARQUE-BERA reached to 1,569 with significant level at(,45) which is the highest significant level at 5 %

These values indicate to that these errors are distributed naturally in the evaluated model.

That is as it is shown in the following figure “

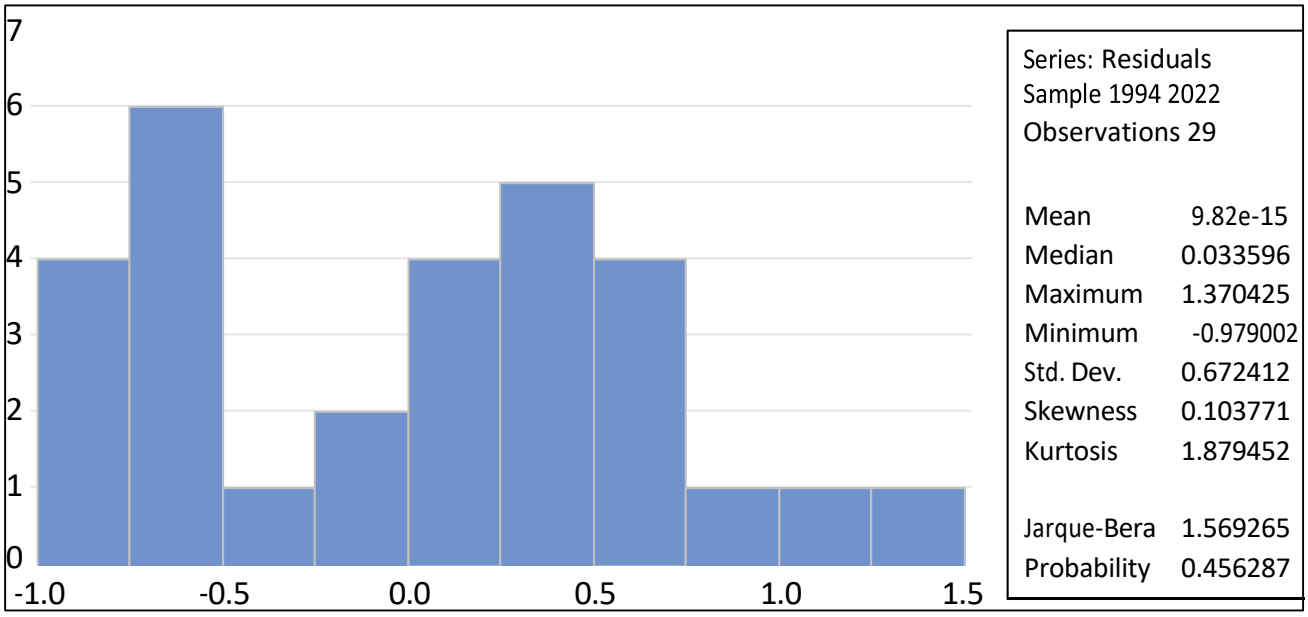

Figure 9: The developments of the percapita form the gross domestic product
Source: Prepared by the researcher based on the World Bank database.

2-The test of (auto correlation) for correcting the errors to verify the nonexistence of correlation for the estimated model (BREUCH –GODFREY SERIAL CORRELATION LM TEST)

it shows that the value of F STATISTIC reached to -,2142 with the significant level of,823 which

is bigger than 5% as it is shown in table number (9)

Table 9: The test of auto correlation for correcting the errors

Reusch-Godfrey Serial Correlation LM Test:			
Null hypothesis: No serial correlation at up to 2 lags			
F-statistic	0.214211	Prob. F(2,2)	0.8236
Obs*R-squared	5.116178	Prob. Chi-Square(2)	0.0775

source: prepared by the researcher by using E VIEWS 13 program

3-The heteroscedasticity test "which appears that the value of F STATISTIC equals 1,2364 at the significant level of,30 bigger than 5% as it is shown in the next table "

Table 10: Heteroscedasticity test: ARCH

HETEROSKEDASTICITY TEST :ARCH			
F / statistic	1.236467	Prob.F(2,24)	0,3083
OBS R – Squared	2,522`168	Prob, chi square (2)	0,2833

source: prepared by the researcher by using E VIEWS 13 program

4-The structural stability test for the model "It appears from the figure number 13 that the evaluated correlations for the used model is structurally stable through the period of the study. which assures that there is stability between the variables of the study. and there is also homogeneity in the model. as the graph of the statics for the above mentioned two tests of this model fall inside the critical limitations at the significant level of 5%.

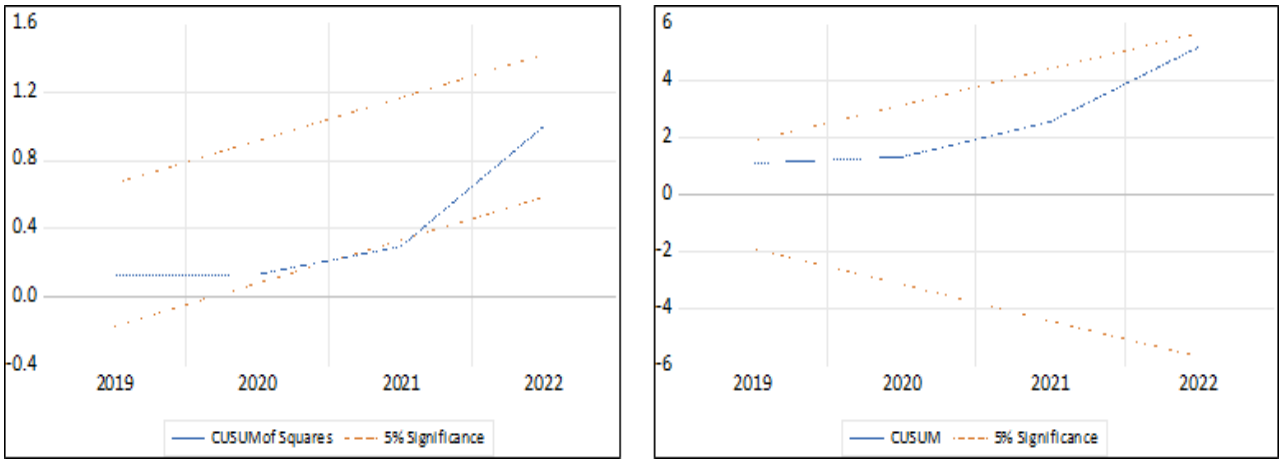

Figure 14: The natural distribution for the variables of the model
source: prepared by the researcher by using E VIEWS 13 program

5. RESULTS

This study aimed to analyze the impact of foreign direct investment (FDI) on per capita GDP in the Kingdom of Saudi Arabia during the period (1990-2022) using the measurement method. The study tested the existence of a long-term direct relationship between FDI and per capita GDP. The study reached the following results: -

1. There is strong correlation between the foreign direct investment and the percapita from the gross domestic product, in the economical literatures.
2. This correlation is determined through main determinants including the interest, the inflation rate. the exchange rate, the commercial opening, etc.
3. The difference of the applied studies results, according to each country and based on the nature of the time, the nature of the variables subject to each study, while it was in some studies, a correlation of positive effect. on the direct foreign investment for the percapita from the gross domestic product.
4. At the same time some other studies proved the negative of this study.
5. The current study found a state of sharp fluctuation in the value of the net direct foreign investment. during all the period of the study.
6. Those dates basically to the nature of the middle east region and the north of Africa region. which live under conditions of non-economical nor political stability, from one time to another.]
7. The study found that the percapita ration of the gross domestic product is fluctuated and volatility from a year to another and from time to time between the positive and the negative ratios, which indicates to a sharp state of fluctuation, instability for this ratio.

8. The hypothesis of the study was not achieved as it showed the existence of no balanced correlation in the long term, between the dependent variable and the independent variables of the study.
9. There is positive and significant effect for the net direct foreign investment and the investment inflows as percentage to the gross domestic product, the matter that will enforce the percapita from the gross domestic product.
10. There is significant and negative effect for the interest rate, on the growth ratio for the percapita from the gross domestic product.
11. There is significant and negative effect for the capital accumulation rate on the gross domestic product (D GCF -_OF GDP _ on the percapita from the gross domestic product.

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