

# The Impact of Foreign Direct Investment on Economic Development Indicators in Egypt

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## ABSTRACT

This study aimed to verify the effects of foreign direct investment in Egypt, and to conduct a standard measure of the impact of foreign direct investment (FDI) on economic development indicators in Egypt, which are represented by the GDP growth rate, national income (NI), inflation (INF), and unemployment rate (UNemp), total capital formation (TCF). The study assumed a basic hypothesis, which is: "foreign direct investment has a positive impact on economic development indicators in Egypt". The measurement was done using multiple regression model to measure the impact of foreign direct investment on economic development indicators in Egypt. The results of the study indicate that the relationship between foreign direct investment from Egypt and both GDP and the NI is statistically significant direct relationship, despite its inconsistency with economic theory. This may be due to the exit of many foreign investments as a result of economic and political changes during the period 2011-2018, which encouraged local production from national resources and thus increased GDP and NI. In addition, the relationship between inflow foreign direct investment and both inflation and unemployment rates is consistent with economic theory, as with the increase in investment, inflation increases and the unemployment rate decreases. According to the results the research recommends, encouraging local production due to its positive impact on GDP and NI, and launching a package of investment incentives to attract foreign direct investment due to its positive impact on inflation and unemployment.

**Keywords:** Economic reform; inflows investments; national income; GDP; inflation.

## INTRODUCTION

Investment has gained great importance for both developed and developing countries, due to its role in achieving growth and driving development in countries receiving these investments (Ghoneim, 2010). It also helps stimulate local investments through participation and developing self-capacities, and the accompanying technological, administrative, marketing and organizational development, which is reflected in improving the efficiency of human resources and increasing production and exports in the countries hosting the investment. As a result of the economic and political changes witnessed by the international business environment in the recent period, many financial

problems have emerged in some countries, such as the external debt crisis, due to reliance on borrowing to finance development operations due to the weakness of these countries' resources and the decline in hard currency reserves, which necessitated improving the investment environment by making structural adjustments to the economic structure, with the aim of attracting foreign capital to drive the wheel of economic development (Megahed, 2010 and Mühleisen & Flanagan, 2019).

Egypt, like other countries, has sought in recent years to make progress in the field of infrastructure, preparing and liberalizing the business environment, to move forward with programs related to economic reform, including many financial and monetary reforms (Al-Matrawy, 2023), in an effort to achieve accelerated and sustainable growth rates, and then work to attract and attract more foreign direct investment, where Egypt spent about 6.03% of its GDP on infrastructure in 2017 (Saleh, 2023).

### Justification and problem:

Despite Egypt's tendency to provide investment attraction factors, whether related to political stability or following regulatory and legal procedures to reduce practices related to corruption, the volume of investment flows, whether foreign or Arab, to it is still at weak levels. Therefore, the following question arises: What is the impact of investment flows on economic development indicators in Egypt?

### Objectives:

The study aims to verify the effects of foreign direct investment and Arab investments in Egypt, and to conduct a standard measure of the impact of foreign direct and Arab investments on economic development indicators in Egypt, which are represented by the GDP growth rate, GDP per capita, government expenditures (GE), total capital formation (TCF), inflation, and unemployment rate (UN).

### Assumptions:

The study imposed the following hypothesis: Foreign and Arab investments have a positive impact on economic development indicators in Egypt.

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## MATERIAL AND METHODS

The study used the multiple regression model and stepwise analysis to measure the impact of foreign direct investment (FDI) and Arab investment on development indicators in Egypt.

The model takes the following form:

Economic Development Index<sub>i</sub> =  $\beta_0 + \beta_1$  FDI<sub>i</sub> in flows +  $\beta_2$  FDI<sub>i</sub> outflow + U<sub>i</sub>

The study relied on World Bank data (WB), International Monetary Fund (IMF), UNCTAD, central bank of Egypt (CBE) and OECD national accounts data

## RESULTS AND DISCUSSION

### Foreign Direct Investment:

Table (1), presents foreign direct investments over the period 2005-2023. It can be noted that inflows foreign direct investments reached an average of US\$ 13.33 billion. Regression analysis results presented in Table (2), reveal that inflows foreign direct investments followed a statistically significant increasing trend of US\$ 545.1 million representing 4.09% of the period's average.

Studying outflows foreign direct investments reveals that reached an average of US\$ 6.38 billion over the period 2005-2023. Results of applying simple regression analysis of outflows foreign direct investments, presented in Table (2), reveal that it followed a statistically significant increasing trend of US\$ 488.1 million representing 7.64% of the period's average.

As for net foreign direct investments, results presented in Table (1), reveal that net foreign direct investments reached an average of US\$ 6.95 billion. Regression analysis results reveal that net foreign direct investments followed increasing trend but the achieved results did not prove statistically significant (Table 2).

### Arab Investment:

As regards the inflows Arab direct investments in Egypt, results presented in Table (3), reveal that inflows Arab direct investments in Egypt (Investment Climate Report in Arab Countries, 2020) reached an average of US\$ 2.64 billion over the period 2005-2023. Regression analysis results presented in Table (4), reveal that inflows Arab direct investments followed a statistically significant increasing trend of US\$ 245.9 million representing 9.33% of the period's average.

**Table 1. Foreign direct investments over the period 2005-2023**

Indicators	Aver.	Mini. Value		Max. Value	
		Value	Year	Value	Year
Inflows foreign direct investments	US\$ 13.33 billion	4.14	2005	23.05	2023
Outflows foreign direct investments	US\$ 6.38 billion	0.23	2005	13.27	2022
Net foreign direct investments	US\$ 6.95 billion	2.19	2011	13.24	2008

Source: -www.albankaldawli.org -www.cbe.org.eg

**Table 2. Simple regression equations for foreign direct investments over the period (2005-2023)**

Indicators	Equation	R <sup>2</sup>	F <sub>test</sub>	Change rate (%)
Inflows foreign direct investments	$\hat{Y}_i = 7887.7 + 545.1 X_i$ (5.06)** (3.98)**	0.48	15.88**	4.09
Outflows foreign direct investments	$\hat{Y}_i = 1504.2 + 488.1 X_i$ (1.79) (6.63)**	0.72	43.96**	7.64
Net foreign direct investments	$\hat{Y}_i = 6383.5 + 57.02 X_i$ (4.73)** (0.48)	0.013	0.23	0.82

Notes: \*\*: significance at 1% level.

Source: data collected and calculated: - www.albankaldawli.org -www.cbe.org.eg

**Table 3. Inflows Arab direct investments over the period 2005-2023**

Indicator	Aver.	Mini. Value		Max. Value	
		Value	Year	Value	Year
Inflows Arab direct investments	US\$ 2.64 billion	0.213	2005	8.24	2022

Source: - www.albankaldawli.org - www.cbe.org.eg

**Table 4. Evaluation of Arab direct investments over the period (2005-2023)**

Indicator	Equation	R <sup>2</sup>	F <sub>test</sub>	Change rate (%)
Inflows Arab direct investments	$\hat{Y}_i = 176.19 + 245.9 X_i$ (0.23) (3.71)**	0.45	13.79**	9.33

Notes: \*\*: significance at 1% level.

Source: data collected and calculated: - www.albankaldawli.org -www.cbe.org.eg

### The most important indicators of economic development in Egypt

Development has a mutual impact on many economic indicators in Egypt, the most important of which are GDP, Inflation, national income, total capital formation and unemployment (Khalifa and Mahmoud, 2014). World Bank reports indicate that Egypt is progressing at a good rate of reform, but some risks of regional and international changes, whether health, political or environmental, may occur. The following are the most important of these indicators:

#### • GDP

The gross domestic product is taken as an indicator to measure the size of the country's economy, as strong economies attract more investments in all fields, whether industrial, agricultural or service.

Data presented in Table (5), reveal that GDP over the period 2005-2023 averages to US\$ 272.6 billion, ranging between a minimum of US\$ 78.8 billion in 2004 and a maximum of US\$ 476.8 billion in 2022.

#### • National Income (NI)

Foreign investments are directed towards the markets of high-income countries due to the confidence of investment institutions in the classification of these countries by credit rating institutions, political stability and the stability of economic indicators in these countries. The data presented in Table (5), reveal that NI averages to US\$ 266.5 billion over the period 2005-

2023, ranging between a minimum of US\$ 78.6 billion in 2004 and a maximum of US\$ 461.0 billion in 2022.

#### • Inflation (INF.)

It expresses the extent of stability in the economic environment of the country hosting the investment. Many studies indicate that high inflation rates are accompanied by a decrease in foreign direct investment flows, i.e. inverse relationship. The data presented in Table (5), show that INF averages to 12.4% over the period 2005-2023, ranging between a minimum of 2.27% in 2001 and a maximum of 33.9% in 2023.

#### • Unemployment (UNemp.)

The availability of efficient and experienced labor force is one of the basic factors for the flow of foreign direct investment to a country to keep up with modern technological production methods and means. This explains the inverse relationship between inflow investments and the unemployment rate. The data presented in Table (5), show that UNemp. Averages to 10.13% over the period 2005-2023, ranging between a minimum of 7.31% in 2023 and a maximum of 13.15% in 2013.

#### Total Capital Formation (TCF):

Capital formation means the appropriate means of production in terms of type and quantity, and capital formation depends mainly on investment. Data presented in Table (5), show that TCF over the period 2005-2023 averages to US\$ 45.1 billion, ranging between a minimum of US\$ 13.34 billion in 2004 and a maximum of US\$ 81.1 billion in 2022.

**Table 5. The most important indicators of economic development in Egypt over the period 2005-2023**

Indicators	Aver.	Mini. Value		Max. Value	
		Value	Year	Value	Year
Gross domestic product (GDP)	US\$ 272.6 billion	78.8	2004	476.8	2022
National income (NI)	US\$ 266.5 billion	78.6	2004	461.0	2022
Inflation (INF)	12.4 %	2.27	2001	33.9	2023
Unemployment (UNemp)	10.13%	7.31	2023	13.15	2013
Total Capital Formation (TCF)	US\$ 45.1 billion	13.34	2004	81.1	2022

Source: - www.albankaldawli.org - www.cbe.org.eg

### **The impact of foreign direct investment on economic development indicators in Egypt:**

Some studies have proven the existence of a mutual relationship between foreign direct investment and the economic development of countries (Saudi, 2019), as well as the positive impact of foreign direct investment on economic development. It may have an influential role in some development indicators or may not have an influential role in some of them in the same country. Therefore, this part is devoted to analyzing the role of foreign direct investment in economic development in Egypt, through a standard model to study the relationship between foreign direct investment and economic development.

Economic development indicators describe the characteristics of change in a country's economy, such as gross domestic product, national income, and unemployment indicators are considered an important indicator of economic development in countries.

### **The impact of foreign direct investment on GDP over the period (2005-2023):**

#### **Estimation results:**

The results obtained from functional relationship in Table (6), shows the following:

The relationship between inflow foreign direct investments and GDP is a direct relationship, means that 1% increase in inflow foreign direct investments would result in statistically significant increasing in GDP by 0.77% (Elasticity was calculated as

$$\beta_j \frac{\bar{x}}{\bar{y}},$$

where  $\beta_j$  is the coefficient of the specific variable  $j$ , and  $\bar{x}$  and  $\bar{y}$  are the means of the specific variable  $j$  and the mean of the dependent variable, respectively.

- The relationship between outflow foreign direct investments and GDP is a direct relationship, means that 1% increase in outflow foreign direct investments would result in statistically significant increasing in GDP by 0.70%.

- As for the relationship between inflow and outflow foreign investment and GDP:

The relationship between inflow foreign investment and GDP was negative, but the achieved results did not prove statistically significant. While the relationship between outflow foreign investment and GDP is positive, meaning that 1% increase in outflow foreign direct investments would result in statistically significant increasing in GDP by 0.77%.

### **The impact of foreign direct investment on NI over the period (2005-2023):**

#### **Estimation results:**

The results obtained from functional relationship in Table (6), shows the following:

- The relationship between inflow foreign direct investments and NI is a direct relationship, means that 1% increase in inflow foreign direct investments would result in statistically significant increasing in NI by 0.75%.
- The relationship between outflow foreign direct investments and NI is a direct relationship, means that 1% increase in outflow foreign direct investments would result in statistically significant increasing in NI by 0.67%.
- As for the relationship between inflow and outflow foreign investment and NI:

The relationship between inflow foreign investment and NI was negative, but the achieved results did not prove statistically significant. While the relationship between outflow foreign investment and NI is positive, meaning that 1% increase in outflow foreign direct investments would result in statistically significant increasing in NI by 0.75%.

### **The impact of foreign direct investment on INF over the period (2005-2023):**

#### **Estimation results:**

The results obtained from functional relationship in Table (6), shows the following:

**Table 6. The relationship between foreign direct investment and economic development indicators in Egypt over the period (2005-2023)**

Indicator	Equation	R <sup>2</sup>	F	Elasticity
GDP	GDP = 62.8 + 15.73 FDI inflows (3.49)**	0.42	12.2**	0.77
GDP	GDP = 82.9 + 29.71 FDI outflows (8.26)**	0.80	68.29**	0.70
GDP	GDP = 104.4 – 3.29 FDI inflows + 33.2 FDI outflows (-0.77) (5.7)**	0.81	33.62**	0.77
NI	NI = 67.2 + 14.93 FDI inflows (3.47)**	0.41	12.05**	0.75
NI	NI = 86.8 + 28.13 FDI outflows (8.0)**	0.79	64.02**	0.67
NI	NI = 106.5 – 3.02 FDI inflows + 31.35 FDI outflows (-0.72) (5.48)**	0.80	31.36**	0.75
INF	INF = -0.61 + 0.97 FDI inflows (2.8)*	0.32	7.82*	1.05
INF	INF = 7.14 + 0.82 FDI outflows (1.5)	0.12	2.32	-
INF	INF = -1.31 + 1.29 FDI inflows – 0.56 FDI outflows (2.29)* (-0.72)	0.34	4.06*	1.39
UNemp	UNemp = 14.3 – 0.31 FDI inflows (-3.43)**	0.41	11.74**	-0.40
UNemp	UNemp = 11.6 – 0.23 FDI outflows (-1.5)	0.12	2.25	-
UNemp	UNemp = 14.66 – 0.47 FDI inflows + 0.27 FDI outflows (-3.28)** (1.39)	0.47	7.15**	-0.62
TCF	TCF = 12.11 + 2.47 FDI inflows (4.05)**	0.49	16.4**	0.73
TCF	TCF = 19.29 + 4.05 FDI outflows (6.38)**	0.71	40.67**	0.57
TCF	TCF = 16.6 + 0.41 FDI inflows + 3.61 FDI outflows (0.53) (3.48)**	0.71	19.62**	0.51

Source: Calculated from Appendixes Table (1) using the Excel program.

- The relationship between inflow foreign direct investments and INF is a direct relationship, means that 1% increase in inflow foreign direct investments would result in statistically significant increasing in INF by 1.05%.
- The relationship between outflow foreign direct investments and INF is a direct relationship, but the achieved results did not prove statistically significant.
- As for the relationship between inflow and outflow foreign investment and INF:

The relationship between inflow foreign investment and INF was positive, meaning that 1% increase in inflow foreign direct investments would result in statistically significant increasing in INF by 1.39%. While the relationship between outflow foreign investment and INF is negative but the achieved results did not prove statistically significant.

#### **The impact of foreign direct investment on UNemp over the period (2005-2023):**

##### **Estimation results:**

The results obtained from functional relationship in Table (6), shows the following:

- The relationship between inflow foreign direct investments and UNemp is a negative relationship, means that 1% increase in inflow foreign direct investments would result in statistically significant decreasing in UNemp by -0.41%.
- The relationship between outflow foreign direct investments and UNemp is a negative relationship, but the achieved results did not prove statistically significant.
- As for the relationship between inflow and outflow foreign investment and UNemp:

The relationship between inflow foreign investment and UNemp was negative, meaning that 1% increase in inflow foreign direct investments would result in statistically significant decreasing in UNemp by -0.62%. While the relationship between outflow foreign investment and UNemp is positive but the achieved results did not prove statistically significant.

### **The impact of foreign direct investment on TCF over the period (2005-2023):**

#### **Estimation results:**

The results obtained from functional relationship in Table (6), shows the following:

- The relationship between inflow foreign direct investments and TCF is a direct relationship, means that 1% increase in inflow foreign direct investments would result in statistically significant increasing in TCF by 0.73%.
- The relationship between outflow foreign direct investments and TCF is a direct relationship, means that 1% increase in outflow foreign direct investments would result in statistically significant increasing in TCF by 0.57%.
- As for the relationship between inflow and outflow foreign investment and TCF:

The relationship between inflow foreign investment and TCF was positive, but the achieved results did not prove statistically significant. While the relationship between outflow foreign investment and TCF is positive, meaning that 1% increase in outflow foreign direct investments would result in statistically significant increasing in TCF by 0.51%.

### **CONCLUSION**

The previous results indicated that the relationship between foreign direct investment from Egypt and both GDP and the NI is statistically significant direct relationship, despite its inconsistency with economic theory. This may be due to the exit of many foreign investments as a result of economic and political changes during the period 2011-2018, which encouraged local production from national resources and thus increased GDP and NI. In addition, the

relationship between inflow foreign direct investment and both inflation and unemployment rates is consistent with economic theory, as with the increase in investment, inflation increases and the unemployment rate decreases.

### **REFERENCES**

- Al-Matrawy, K. 2023. Foreign investment in Egypt. Determinants, Reality, and Future Outlook, Contemporary Economic Prospects, Periodical Journal, Information and Decision Support Center of the Council Ministers.
- Ghoneim, W.M. 2010. The role of short-run foreign capital flows in the economies of developing countries with reference to the Egyptian economy. PhD Thesis, Faculty of Commerce, Department of Economics. Suez Canal University.
- Investment Climate Report in Arab Countries. 2020. Arab Investment and Export Credit Guarantee Corporation, Kuwait.
- Khalifa, A.M.M. and I.S.A. Mahmoud. 2014. Foreign direct investment and its impact on economic growth: an econometric study on the Egyptian case during the period (1970-2010). Arab Democratic Center for Strategic, Economic and Political Studies.
- Megahed, A.H.M. 2010. Evaluating the role of foreign direct investment in achieving development goals in Egypt. MSc Thesis, Faculty of Commerce, Department of Economics. Ain Shams University.
- Mühleisen, M. and M. Flanagan. 2019. Three steps to avert a debt crisis. Available at: [www.imf.org/ar/Blogs/Articles/2019/01/18/blog-three-steps-to-avert-a-debt-crisis](http://www.imf.org/ar/Blogs/Articles/2019/01/18/blog-three-steps-to-avert-a-debt-crisis).
- Saleh, N.M.A. 2023. The role of infrastructure in attracting foreign direct investment in Egypt. Journal of Business Research, Faculty of Commerce, Zagazig University. 45: 962-995.
- Saudi, O. 2019. Egypt and Africa: promising development projects. Egyptian State Information Service (SIS). Source: <https://bit.ly/36vVhyO>.
- World Bank database, [www.worldbank.org](http://www.worldbank.org)
- [www.albankaldawli.org](http://www.albankaldawli.org)
- [www.cbe.org.eg](http://www.cbe.org.eg)

## الملخص العربي

### أثر الاستثمار الأجنبي المباشر على مؤشرات التنمية الاقتصادية في مصر

ولاء على محمد أحمد، جراح مطلق الخالدي، لافي مبارك العازمي

خروج العديد من الاستثمارات الأجنبية نتيجة للتغيرات الاقتصادية والسياسية خلال الفترة ٢٠١١-٢٠١٨، مما شجع الإنتاج المحلي من الموارد الوطنية وبالتالي زيادة الناتج المحلي الإجمالي والدخل القومي. وبالإضافة إلى ذلك، فإن العلاقة بين تدفقات الاستثمار الأجنبي المباشر الواردة وبين معدلات التضخم والبطالة تتوافق مع النظرية الاقتصادية، فمع زيادة الاستثمار يزداد التضخم وينخفض معدل البطالة. ويوصى البحث وفقاً للنتائج: تشجيع الإنتاج المحلي لأثره الإيجابي على الناتج المحلي الإجمالي والدخل القومي، وإطلاق حزمة من الحوافز الاستثمارية لجذب الاستثمار الأجنبي المباشر الوافد لما له من أثر إيجابي على التضخم والبطالة.

الكلمات المفتاحية: الإصلاح الاقتصادي؛ الاستثمارات الوافدة؛ الدخل القومي؛ الناتج المحلي الإجمالي؛ التضخم.

هدفت هذه الدراسة إلى التحقق من آثار الاستثمار الأجنبي المباشر في مصر، وإجراء اختبار قياسي لتأثير الاستثمار الأجنبي المباشر على مؤشرات التنمية الاقتصادية في مصر، والتي تتمثل في معدل نمو الناتج المحلي الإجمالي، والدخل القومي، والتضخم، ومعدل البطالة، وإجمالي تكوين رأس المال. وافترضت الدراسة فرضية أساسية وهي: "إن الاستثمار الأجنبي المباشر له تأثير إيجابي على مؤشرات التنمية الاقتصادية في مصر". وتم القياس باستخدام نموذج الانحدار المتعدد لقياس تأثير الاستثمار الأجنبي المباشر على مؤشرات التنمية الاقتصادية في مصر. وتشير نتائج الدراسة إلى أن العلاقة بين الاستثمار الأجنبي المباشر الصادر من مصر وكل من الناتج المحلي الإجمالي والدخل القومي علاقة طردية ذات دلالة إحصائية، على الرغم من عدم اتساقها مع النظرية الاقتصادية. وقد يرجع ذلك إلى

## APPENDIXES

**Table 1. Foreign direct investments and economic development indicators for Egypt over the period (2005-2023)**  
US\$ billion

Year	Inflows foreign direct investments	Outflows foreign direct investments	Net foreign direct investments	GDP	National Income	Total Capital Formation	Inflation %	Unemployment %
2005	4.14	0.23	3.90	89.60	89.35	16.11	4.87	11.05
2006	9.10	2.99	6.11	107.43	107.96	20.12	7.64	10.49
2007	13.08	2.03	11.05	130.44	131.61	27.20	9.32	8.80
2008	17.80	4.57	13.24	162.82	164.18	36.45	18.32	8.52
2009	12.84	4.72	8.11	189.15	189.30	36.30	11.76	9.09
2010	11.01	4.25	6.76	218.98	214.62	42.70	11.27	8.76
2011	9.57	7.39	2.19	235.99	229.94	40.36	10.06	11.85
2012	11.77	7.79	3.98	279.12	272.64	44.73	7.11	12.60
2013	10.27	6.52	3.75	288.43	281.03	40.99	9.47	13.15
2014	10.86	6.68	4.18	305.60	298.33	41.69	10.07	13.11
2015	12.55	6.17	6.38	329.37	323.67	47.06	10.37	13.05
2016	12.53	5.60	6.93	332.44	327.97	50.00	13.81	12.45
2017	13.37	5.43	7.93	248.36	243.79	42.58	29.51	11.77
2018	13.16	5.44	7.72	262.59	256.31	49.13	14.40	9.86
2019	16.39	8.16	8.24	318.68	307.67	63.91	9.15	7.85
2020	15.84	8.38	7.45	383.82	372.46	61.39	5.04	7.97
2021	13.92	8.70	5.21	424.67	412.27	64.43	5.21	7.44
2022	22.21	13.27	8.94	476.75	460.98	81.14	13.90	7.34
2023	23.05	13.01	10.04	395.93	378.61	50.99	33.88	7.31

Source: Collected and calculated from World Bank database, [www.worldbank.org](http://www.worldbank.org)