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THE IMPACT OF ECONOMIC VARIABLES ON ATTRACTING FOREIGN DIRECT INVESTMENT IN LIBYA: AN ANALYTICAL STUDY OF THE PERIODS "1997–2010, 2011–2017, AND 2018–2024"

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Abstract: This study examines the impact of economic variables on attracting foreign direct investment (FDI) in Libya across three distinct time periods: 1997–2010, characterized by relative economic stability; 2011–2017, marked by economic turmoil; and 2018–2024, which witnessed a gradual stabilization following the crises. Key economic indicators such as GDP, exports, imports, and exchange rates were analyzed to assess their influence on FDI inflows. The research problem lies in understanding how economic changes affect foreign investment flows across different periods. The hypothesis tested suggests a positive relationship between these economic variables and the growth of FDI. A comparative analysis was conducted to identify significant differences in economic performance and their implications for FDI attraction. The results revealed noticeable disparities in investment responses, reflecting the unique nature of each period. Despite variations in figures, the real determinants of FDI inflows remain ambiguous, raising critical questions about how to improve Libya's investment environment. These unexplained factors present a significant area for further exploration and analysis.

Keywords: Foreign Direct Investment, GDP, Exports, Imports, Exchange Rates, Libya.

1. INTRODUCTION

Foreign Direct Investment (FDI) has long been regarded as one of the key engines of economic development, particularly in developing economies that often face limitations in domestic capital formation and technological advancement. It contributes not only to the expansion of productive capacity but also plays a transformative role in transferring managerial know-how, advanced technologies, and international business practices. This inflow of external capital is widely seen as a catalyst for integrating developing countries into the global economy, enhancing their competitiveness, and stimulating broader socioeconomic progress. According to Dunning (1993), FDI facilitates the transmission of knowledge, skills,

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and capital into the host country's economic system, thereby strengthening its capacity for sustainable development. This view is further supported by the United Nations Conference on Trade and Development (UNCTAD, 2023), which emphasizes in its most recent annual report that FDI remains a major source of external financing for developing nations, contributing to productivity growth, employment generation, and the promotion of export-oriented industrialization. In the case of Libya—a country marked by significant natural resource potential as well as economic and political volatility—understanding the determinants and behavior of FDI is of critical importance. Analyzing how various economic variables have influenced FDI inflows over different time periods provides valuable insights into the opportunities and challenges that shape Libya's development trajectory and can help inform more effective and targeted policy responses.

2. FOREIGN DIRECT INVESTMENT (FDI)

In the context of evolving global economic relations and increasing competition among nations to attract foreign capital, Foreign Direct Investment (FDI) has emerged as a key indicator of the attractiveness and openness of a country's investment climate. As economies seek to integrate more effectively into the international economic system, FDI plays a pivotal role in shaping their development trajectories. It is not merely a source of financial inflows, but a strategic tool that reflects the confidence of international investors in a country's economic, financial, and regulatory environment. Several factors—including macroeconomic stability, market potential, infrastructure readiness, and institutional quality—collectively influence the volume and direction of foreign investments. In this sense, FDI serves as a catalyst for enhancing productive capacity, promoting job creation, and facilitating the transfer of knowledge and technology. For developing countries in particular, FDI offers a pathway toward achieving long-term, sustainable development goals by linking domestic markets with global value chains and fostering economic diversification

2.1 Definition of Foreign Direct Investment (FDI)

According to the Economic and Social Commission for Western Asia (ESCWA), Foreign Direct Investment (FDI) is defined as a category of international investment that reflects the objective of a resident entity in one economy to establish a lasting interest in an enterprise that is resident in another economy (UNESCWA). In line with this, the United Nations Conference on Trade and Development (UNCTAD, 2023) states that, for an investment to be classified as FDI rather than portfolio investment, the foreign investor must own at least 10% of the equity shares of the target company. This threshold is considered sufficient to establish a significant degree of influence or control over the management of the enterprise.

Foreign Direct Investment (FDI) refers to an ownership stake in a foreign company or project made by an investor, company, or government from another country. FDI is generally used to describe a business decision to acquire a substantial stake in a foreign business or to buy it outright to expand operations to a new region. The term is usually not used to describe a stock investment in a foreign company alone. FDI is a key element in international economic integration because it creates stable and long-lasting links between economies (Kenton, 2022).

2.2 The Economic Factors Influencing Foreign Direct Investment (FDI) Inflows:

Foreign direct investment (FDI) inflows are considered one of the key indicators reflecting the attractiveness of the investment climate in any economy. These inflows are

influenced by a set of economic variables that play a pivotal role in shaping foreign investors' decisions to enter specific markets. In this context, the present study aims to shed light on the most prominent economic factors affecting the volume and direction of FDI inflows.

Particular emphasis is placed on gross domestic product (GDP) as a general indicator of overall economic performance, in addition to exports and imports as measures of economic openness and the degree of integration into the global market. Moreover, the exchange rate is examined as a critical factor in determining the costs and potential returns for foreign investors.

The selection of these variables in this study is based on extensive evidence from previous research, which consistently highlights their significant and effective role in influencing FDI inflows. Economic literature indicates that these factors are among the most influential economic determinants that investors consider when evaluating the attractiveness of foreign markets. As such, they serve as essential components for analyzing and understanding the dynamics of FDI attraction across different economic contexts, particularly within the unique economic environment of the country under study.

– Gross Domestic Product (GDP)

"Gross domestic product is the most commonly used single measure of a country's overall economic activity. It represents the total value of final goods and services produced within a country during a specified time period, such as one year." (IMF) ."In 2022, the Arab Monetary Fund published a comprehensive study titled "Determinants of Foreign Direct Investment Inflows to the Arab Region," which revealed a positive relationship between GDP growth and foreign direct investment (FDI) inflows. The findings indicate that countries experiencing economic growth and flourishing economic activity tend to be more attractive to foreign investors. As national economic performance improves and economic expansion increases, the capacity to attract foreign investments also rises, thereby contributing to long-term economic growth (Arab Monetary Fund, 2022).

In a study entitled "Analyzing the Determinants of Foreign Direct Investment in Arab Countries Using Principal Component Analysis (PCA)," published in October 2019 in the Journal of Finance and Business Economics by the University Center Abdelhafid Boussouf – Mila, Algeria, researchers Mohamed Khaled Sahel and Abdelhak Ben Tefat investigated the key factors influencing foreign direct investment (FDI) inflows in Arab countries. The study employed PCA to identify the most significant variables and found that Gross Domestic Product (GDP) was among the most influential, as it reflects the size of the market and overall economic activity, making it a major attractor for foreign investors (Sahel & Ben Tefat, 2019).

– Exports

The World Bank defines exports as "the total value of all goods and services provided by a country to the rest of the world. This includes not only merchandise but also services such as freight, insurance, transport, travel, royalties, license fees, and other services like communications, construction, financial services, information, business services, personal services, and government-provided services" (World Bank).

Exports are considered a vital indicator of a country's ability to compete in global markets, as well as a reflection of the efficiency of its production and marketing institutions. This, in turn, enhances the attractiveness of the national business environment to foreign investors. The World Investment Report 2024, published by the United Nations Conference on Trade and Development (UNCTAD), indicated that an increase in export capacity is among the key drivers of foreign direct investment (FDI) inflows. Many FDI promotion policies focus on strengthening the international competitiveness of domestic firms, which contributes to creating a more stable and attractive investment environment for foreign capital (UNCTAD, 2024).

– Imports

"Imports are goods and services purchased by residents of a country from the rest of the world. They include both tangible goods and intangible services, and are measured on a transaction basis between residents and non-residents" (OECD).

Economic literature suggests that imports have a dual impact on foreign direct investment (FDI) inflows. On one hand, an increase in imports may indicate a dynamic and attractive domestic market, encouraging foreign companies to invest in order to meet growing local demand. On the other hand, high import levels may exacerbate trade deficits, potentially deterring some foreign investors due to concerns about economic stability. In this context, the World Investment Report 2024 published by the United Nations Conference on Trade and Development (UNCTAD) highlights that trade tensions and global economic slowdown have affected FDI flows, underscoring the importance of understanding the relationship between imports and foreign investment (UNCTAD, 2024).

– Exchange

"The price of one currency in terms of another. An exchange rate indicates how much of one currency you need to buy a unit of another currency. Exchange rates play a key role in international trade and capital flows" (IMF, 2024).

The exchange rate is a crucial determinant of foreign direct investment (FDI) flows, as its fluctuations can significantly impact investment costs and expected returns. A depreciation of the local currency makes domestic assets cheaper for foreign investors, thereby enhancing the host country's attractiveness. A recent study using a global vector autoregressive (GVAR) model confirmed this effect, showing that even third-country exchange rate changes can influence FDI decisions (Sarnstrom & Ryan, 2023).

3. DATA AND METHODOLOGY

This section of the study aims to analyze the relationship between foreign direct investment (FDI) and key macroeconomic variables in Libya, based on annual data covering the period from 1997 to 2024. The timeline is divided into three distinct phases — 1997–2010, 2011–2017, and 2018–2024 — each reflecting major political and economic shifts that have shaped the investment climate in the country.

– Period One (1997–2010):

During this phase, Libya began emerging from international isolation following the lifting of sanctions, which gradually opened the door for the return of foreign investment, particularly in the oil sector. However, the business environment continued to suffer from bureaucracy, weak infrastructure, and a lack of transparency, limiting the effectiveness of efforts to attract foreign capital.

– Period Two (2011–2017):

Following the 2011 revolution, Libya entered a period of deep instability marked by political vacuum and armed conflict, which had a direct impact on the economy. Investment projects were halted, oil production declined, and foreign direct investment plummeted due to heightened risks and the absence of clear economic policies.

– Period Three (2018–2024):

Despite ongoing political division and security challenges, this period witnessed relative stability in certain regions, contributing to a partial recovery in oil production and a modest revival of economic activity. Government efforts emerged to improve the investment climate through incentives and administrative reforms, but overall fragility continued to hinder the establishment of a stable and attractive investment environment.

The study adopts two complementary approaches: the descriptive approach was used to review the literature and define the variables, while the quantitative analytical approach was applied to measure the relationship between foreign direct investment (FDI)—considered the dependent variable—and a set of independent macroeconomic variables, namely: GDP, exports, imports, and the exchange rate. Annual data were analyzed across three time periods (1997–2010, 2011–2017, and 2018–2024), each reflecting major political and economic transformations that influenced the investment environment. Appropriate statistical tools were employed based on the nature of the data, most notably descriptive analysis and correlation matrices, using Python for its precision and efficiency in data processing. This approach aims to trace the evolution of these relationships over time and assess whether conventional economic indicators continue to exert a clear influence on FDI, or whether the unique Libyan context reveals unexpected patterns in investor behavior.

Table 1. Economic Variables and FDI in Libya – First Period (1997–2010)

Year	Foreign Direct Investment (Million USD)	GDP (Billion USD)	Exports (Billion USD)	Imports (Billion USD)	Exchange Rate (LYD/USD)
1997	301.4	30.7	8.22	6.71	0.46
1998	383.7	27.25	5.28	5.69	0.47
1999	354.0	35.98	7.27	5.25	0.46
2000	-43.0	38.27	12.08	5.25	0.51
2001	308.0	34.11	9.05	5.67	0.61
2002	-281.0	20.48	9.17	6.98	1.27
2003	-80.0	26.27	15.05	8.75	1.29
2004	-71.0	33.12	21.12	10.72	1.3
2005	-910.0	47.33	30.16	12.85	1.31
2006	-1590.0	60.09	43.17	15.56	1.31
2007	-756.2	68.03	49.96	19.93	1.26
2008	1776.9	86.71	64.27	25.26	1.22
2009	-206.0	60.81	38.45	26.99	1.25
2010	1780.0	75.38	49.96	23.98	1.27

Table 2. Economic Variables and FDI in Libya – First Period (2011–2017)

Year	Foreign Direct Investment (Million USD)	GDP (Billion USD)	Exports (Billion USD)	Imports (Billion USD)	Exchange Rate (LYD/USD)
2011	-77.6	48.17	18.37	11.97	1.22
2012	394.9	92.54	61.88	29.02	1.26
2013	439.5	75.35	45.13	35.0	1.27
2014	-294.5	57.37	18.5	25.41	1.27
2015	-159.8	48.72	10.83	16.89	1.38
2016	394.9	49.91	7.28	13.24	1.39
2017	-160.0	67.16	18.26	13.67	1.39

Table 3. Economic Variables and FDI in Libya – First Period (2018–2024) (IndexMundi; IMF – Article IV Consultation (2024); The Global Economy)

Year	Foreign Direct Investment (Million USD)	GDP (Billion USD)	Exports (Billion USD)	Imports (Billion USD)	Exchange Rate (LYD/USD)
2018	275.6	76.69	31.5	20.0	1.38
2019	-101.9	72.08	29.0	21.0	1.39
2020	-351.0	65.69	25.0	18.0	1.39
2021	-399.0	47.79	28.0	22.0	1.39
2022	-439.0	55.94	33.0	25.0	1.39
2023	-160.0	50.49	35.4	26.0	1.39
2024	-483.0	49.13	34.0	24.0	1.39

4. RESULTS AND DISCUSSION

Table 4. Descriptive Analysis

Variable	Mean (1997–2010)	Std	Mean (2011–2017)	Std	Mean (2018–2024)	Std
GDP	46.04	20.60	62.75	16.68	59.69	11.76
Exports	25.94	19.78	25.75	20.03	30.84	3.68
Imports	12.83	8.07	20.74	9.05	22.29	2.87
Exchange_Rate	1.00	0.39	1.31	0.07	1.39	0.00
FDI	69.06	910.62	76.77	318.25	-236.90	266.93

Descriptive analysis reveals significant variations in the performance of Libya's economic indicators across the three periods. Foreign direct investment (FDI) experienced a substantial decline in the most recent period (2018–2024), reaching a negative average despite improvements in GDP and import levels. Meanwhile, the exchange rate showed signs of stabilization, albeit at relatively high levels. These shifts reflect the ongoing economic and political tensions that have affected FDI flows and highlight the evolving relationship between FDI and macroeconomic variables over time.

The results raise several interesting observations, highlighting the complexity of the investment environment in Libya, which may go beyond the direct influence of economic variables.

– Statistical Analysis of the Relationships Between FDI and Other Variables:

The correlation matrices reveal a notable evolution in the relationship between foreign direct investment (FDI) and key economic variables in Libya. While the relationship was weak during the first period (1997–2010), it showed relative improvement in the second period (2011–2017), eventually reaching its peak in the third period (2018–2024). During this phase, GDP exhibited a strong positive correlation with FDI, while the exchange rate showed a strong negative correlation.

Although the second period (2011–2017) was marked by war and political instability, the statistical relationships between foreign direct investment (FDI) and economic variables appeared stronger compared to the previous period. This can be attributed to the liberation of variables from the artificial stability that prevailed prior to 2011, as well as the heightened sensitivity of investor behavior to economic changes in a context of uncertainty. Such an environment allowed for the observation of more transparent and realistic relationships in the data, suggesting that crisis periods—despite their challenges—may reveal economic interactions more clearly due to intensified market responses.

Table 5. Analysis of the correlation between foreign direct investment and other economic variables

Time Period	GDP	Exports	Imports	Exchange Rate
1997–2010	0.30	0.17	0.23	-0.20
2011–2017	0.52	0.57	0.44	-0.08
2018–2024	0.76	0.06	-0.33	-0.85

The results indicate that the relationship between foreign direct investment (FDI) and economic variables in Libya varies significantly across the three time periods. During the first period (1997–2010), no statistically significant correlations were observed. However, in the second period (2011–2017), some indicators—such as GDP and exports—began to show clearer associations, despite the context of war and instability. These relationships reached their peak in the third period (2018–2024), particularly between FDI and GDP on one hand, and the exchange rate on the other. This reflects a shift in investor behavior and increased sensitivity to economic indicators in an unstable environment.

Table 6. Descriptive Analysis

Variable	Mean (1997-2010)	Std	Mean (2011-2017)	Std	Mean (2018-2024)	Std
GDP	46.04	20.60	62.75	16.68	59.69	11.76
Exports	25.94	19.78	25.75	20.03	30.84	3.68
Imports	12.83	8.07	20.74	9.05	22.29	2.87
Exchange_Rate	1.00	0.39	1.31	0.07	1.39	0.00
FDI	69.06	910.62	76.77	318.25	-236.90	266.93

Analysis shows variation in the performance of economic indicators in Libya over the three periods. Foreign direct investment (FDI) experienced a significant decline in the recent period (2018–2024), with a negative average, meaning that the outflows of investment were greater than the inflows, reflecting a lack of confidence in the investment climate due to economic and political tensions. Despite improvements in GDP and imports during that period, exports did not show the same noticeable improvement, reflecting the challenges faced by the Libyan economy in diversifying its income sources and increasing its exports. As for imports, they continued to increase, indicating a growing reliance on foreign products to meet domestic market needs. Meanwhile, the exchange rate remained at high levels, which impacted the competitiveness of exports and raised the cost of local products. These changes illustrate the complex relationship between foreign direct investment, exports, imports, and macroeconomic factors over time."

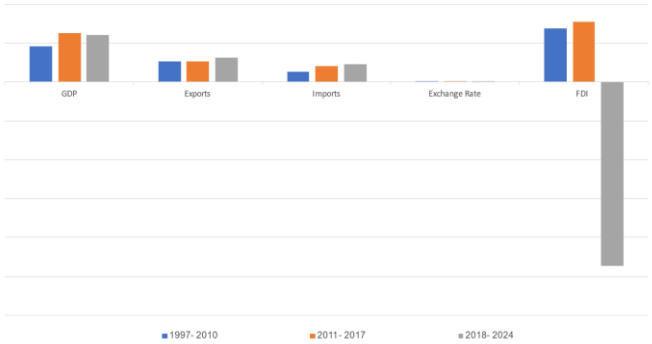

Figure 1. Comparison of Economic Variables Across Three Time Periods

- The Gross Domestic Product (GDP) increased from 46.04 to 62.75 in the second period (+36%). This rise coincided with an increase in Foreign Direct Investment (FDI) from 69.06 to 76.77 (+11%). This represents the strongest apparent relationship, with an estimated approximation of the effect: approximately 30–40% of the change in FDI may be attributed to the change in GDP.
- Exports remained almost stable before rising to 30.84 in the third period (+20%). However, FDI declined sharply to –236.90. This indicates a weak or inverse relationship.
- Imports increased from 12.83 to 22.29 (+74%). Meanwhile, FDI decreased, indicating an indirect relationship. This suggests a weak or unstable effect.
- The exchange rate increased from 1.00 to 1.39 (+39%). However, this did not coincide with an improvement in FDI, especially in the recent period. This indicates an unclear relationship.

Among the economic variables, GDP is the most influential factor on FDI, with an estimated effect ranging between 30% and 40%, particularly during the period 2011–2017. However, the sharp decline in FDI during the 2018–2024 period, despite the relative stability of GDP, indicates that non-economic factors have become the primary drivers of foreign direct investment behavior in Libya.

5. CONCLUSION

The preceding analysis reveals a clear discrepancy between the assumptions of conventional economic theories and previous empirical studies regarding the influence of macroeconomic variables on foreign direct investment (FDI), and the empirical realities of the Libyan economy. This divergence is evident in the patterns observed across the examined periods.

Although certain macroeconomic indicators displayed a degree of correlation with FDI flows, such associations lacked consistency over time, suggesting a disconnect between macro-level performance and actual investment behavior. This inconsistency underscores the dominant role played by structural and institutional factors—particularly political instability, weak governance, and regulatory uncertainty—which appear to overshadow the explanatory capacity of traditional economic variables.

Accordingly, future econometric models aimed at analyzing or forecasting FDI in Libya should incorporate non-economic determinants such as political stability, institutional quality, and risk perceptions. The economic indicators analyzed in this study—despite their theoretical significance—prove to be inadequate proxies for investor decision-making in the Libyan context. As such, these variables fail to constitute a robust or credible foundation for modeling aggregate investment behavior, and should be treated with caution in future empirical frameworks.

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