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THE RELATIONSHIP BETWEEN KEY ECONOMIC FACTORS AND ECONOMIC GROWTH IN ALGERIA (2000-2022)

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Abstract

This study analyzes the impact of crude oil exports, non crude oil exports, government spending, domestic investment, and foreign direct investment (FDI) on Algeria's economic growth. Using a quantitative approach, data from 2000 to 2022 ***are observed*** to assess the contributions of these factors to GDP. The findings indicate that crude oil exports, non crude oil exports and government spending significantly drive economic growth, while domestic investment and FDI show limited impact due to structural constraints and regulatory challenges. These results highlight the need for economic diversification and improved investment policies to enhance sustainable growth and reduce dependence on hydrocarbons in Algeria.

Key Words: Crude Oil Exports, Non Crude Oil Exports, Government Spending, Domestic Investment, Foreign Direct Investment, Economic Growth, Algeria.

INTRODUCTION

The Algerian economy, one of the largest ***countries*** in North Africa, heavily depends on the oil sector, which accounts for over 90% of exports and serves as a primary source of government revenue. However, this reliance creates structural fragility, exposing the economy to global price fluctuations and necessitating strategies for economic stability and sustainable development (Abdellaoui, 2022) Since the early 2000s, rising oil prices boosted government revenues, increased public spending, and stimulated local investment. Despite this, the oil and gas sector remained dominant, while manufacturing and services continued to struggle with weak diversification (Djorfi et al., 2022).

The 2014 oil price collapse triggered a severe economic crisis in Algeria, leading to a sharp decline in government revenues and forcing austerity measures to reduce the fiscal deficit. This crisis negatively impacted both local and foreign investments, slowing efforts to diversify the economy (Willis, 2023). While the economy has since shown signs of gradual recovery, challenges persist due to limited private sector involvement and political instability. In response, Algeria introduced a new investment law in 2020, aiming to attract domestic and foreign investment through tax incentives, reduced regulatory burdens, and a more business-friendly environment. These measures target growth in non-oil sectors such as agriculture,

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technology, and manufacturing, alongside infrastructure development and institutional reforms (The world bank, 2022).

Despite the growing body of literature on Algeria's economic performance, few studies have quantitatively examined the combined impact of oil and non-oil exports, government spending, and both domestic and foreign investment on economic growth over a long and dynamic period that includes oil shocks, reform efforts, and policy shifts. Algeria represents a relevant case study due to its dependence on hydrocarbons and its recent shift toward economic diversification, making the selected variables—exports, investment, and government spending—particularly relevant for assessing how oil wealth has influenced growth. Their inclusion allows for a comprehensive assessment of the country's economic structure and development prospects. This study analyzes the impact of key economic variables—crude oil exports, non-crude oil exports, government spending, domestic investment (gross fixed capital formation), and foreign direct investment (FDI)—on economic growth in Algeria from 2000 to 2022. Using quantitative analysis, it seeks to measure these factors' contributions to GDP while providing insights into the dynamics of the Algerian economy and exploring strategies for improving economic performance.

Literature review

1. Impact of Crude Oil Exports on GDP in Algeria

Oil exports are a key revenue source for Algeria ***so that*** GDP is very volatile due to global price fluctuations. (Chikouri et al., 2017) found that rising oil prices boost GDP, while declines slow economic growth. Uwaleke et al., (2024) highlighted that oil revenues finance government spending in infrastructure, education, and health, ***which are very crucial for*** economic development. Additionally, Abdusalam F, (2014) emphasized that these revenues enable investment in agriculture and industry ***which can foster economic*** diversification. However, dependence on oil makes the economy vulnerable to price fluctuations affecting long-term stability.

2. **Impact of Non-Crude Oil Exports on GDP in Algeria**

Several empirical studies have explored the impact of the non-crude oil sector on economic growth. Okodua, (2009) analyzed the interaction between FDI, non-oil exports, and GDP in Nigeria using variance decomposition and impulse response analysis finding that policy shocks do not yield immediate desired effects. Research on public spending in 25 EU economies (1996–2017) using GMM, fixed effects panel, and OLS models indicated that expenditures on social protection negatively impact GDP growth, while lagged education and health spending positively influence economic performance. Similarly. Chika, (2013) found that non-oil exports and money supply had a significant positive effect on Nigeria's economic growth.

3. Impact of Government Spending on GDP In Algeria

Government expenditure plays a key role in economic growth, particularly through investments in infrastructure, health, and education. Barro, (1991) emphasized that productive government spending enhances long-term GDP growth, while Keynesian theory suggests ***tha***t it stimulates aggregate demand ***and*** boost short-term growth (Blanchard & Perotti, 2002). However, excessive spending on consumer sectors and subsidies may create fiscal imbalances, limiting investment in productive sectors (Kutasi & Marton, 2020). Redirecting spending toward infrastructure, education, and health is crucial for maximizing economic benefits.

4. Impact of domestic investment on GDP in Algeria

Domestic investment in fixed capital is crucial for economic growth, as it enhances productivity and expands production capacity (Solow, 1956; Barro, 1991). It includes spending on infrastructure, factories, and equipment to boost efficiency. In Algeria, investments in construction, transportation, and energy have significantly contributed to economic expansion (Oxford Business Group, 2018). From 2015 to 2019, the government allocated substantial funds to infrastructure ***to improve*** production efficiency (Oxford Business Group, 2017).

5. **The impact of foreign direct investment on GDP in Algeria**

Foreign direct investment (FDI) plays a crucial role in economic diversification by attracting modern technologies and enhancing productivity. According to Alsnusy O. Alfadel et al., (2013), FDI can stimulate economic growth in Algeria by fostering non-oil industries and opening new markets. Despite Algeria's significant efforts since independence to enhance FDI inflows through tax incentives, the results remain below expectations (Mohamed, 2024). The limited impact of FDI on economic growth is largely due to the country's weak investment attractiveness ***although*** the government has struggled to implement effective strategies to create a favorable investment climate (Njuguna & Nnadozie, 2022)

Methodology of the study

A quantitative approach is employed to analyze the impact of crude oil exports, non-crude oil exports, government spending, domestic investment, and foreign direct investment on Gross Domestic Product (GDP) in Algeria during the period 2000-2022. The study ***uses*** a multiple linear regression model to assess the relationships between these variables and their effects on GDP growth. Data is sourced from [Algeria's National Statistics Office, World Bank, IMF. The analysis will be conducted using SPSS to estimate the relationships between the variables. The study utilizes annual data covering a 23-year period (2000-2022) for each of the variables. This methodology offers valuable insights into the economic structure of Algeria and serves as a foundation for further research in this area.

The Impact of Exports, Government Spending, Domestic Investment (GFCF), And Foreign Investment on Economic Growth In Algeria.

The following are the *descriptive data of the variables above.*

Figure 1 shows the value of crude oil export ranging from $1.89 billion to $30.51 billion indicating significant variability. Figure 1 shows that crude oil exports fluctuated between 2000 and 2022, peaking at $30.51 billion in 2008 before dropping sharply to $16.85 billion in 2009 due to the global economic crisis. After a brief recovery in 2010–2011, reaching $28.74 billion, exports declined from 2013 onward which was influenced by oil price fluctuations and production adjustments. The sharpest drop occurred in 2015, falling to $10.03 billion, and further declined to $8.87 billion in 2016. Despite a modest rise to $12.11 billion in 2018, volatility persisted, with exports falling to $11.23 billion in 2019 and plunging to $5.50 billion in 2020 due to the COVID-19 pandemic. However, as global demand rebounded, Algeria's crude oil exports recovered to $9.74 billion in 2021 and $15.30 billion in 2022, approaching pre-pandemic levels.

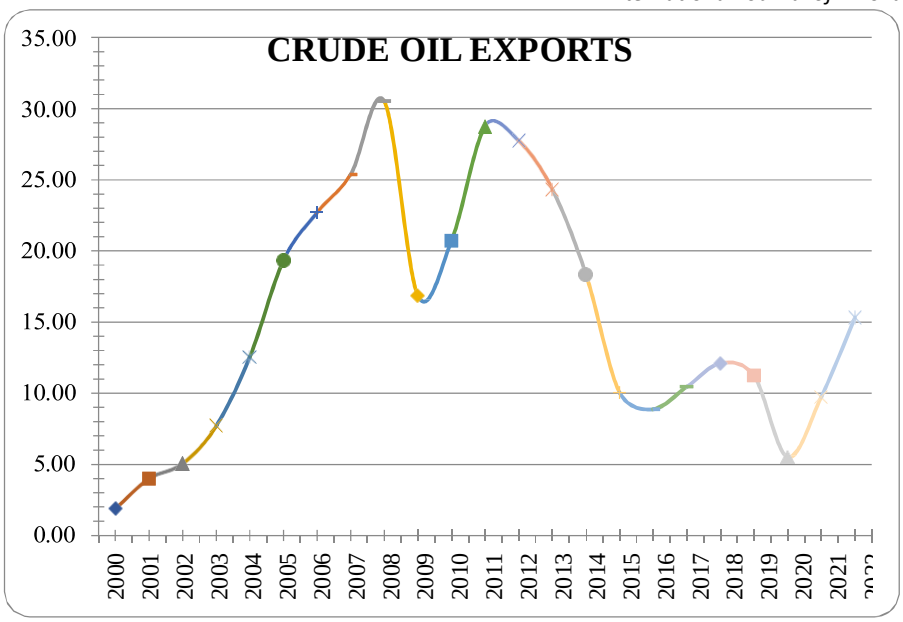

Figure 1. Crude Oil Export Data 2000-2022

Figure 2 shows that non-crude oil exports ranged from $15.33 billion to $66.13 billion, reflecting fluctuations in Algeria's diversification efforts. As illustrated in Figure 2, non-crude oil exports peaked at $21.16 billion in 2000 before declining to a low of $15.33 billion in 2002. Exports then grew steadily, reaching a record $66.13 billion in 2008, likely driven by favorable market conditions and supportive policies. However, the global financial crisis led to a decline to $41.48 billion in 2009, followed by relative stability between 2010 and 2014, averaging around $47 billion annually. From 2015 onward, exports fell sharply to $28.46 billion and further to $20.11 billion in 2020, likely due to economic challenges and COVID-19-related disruptions. Despite this, non-crude oil exports rebounded to $34.74 billion in 2021 and $55.63 billion in 2022, demonstrating resilience in Algeria's non-oil sectors.

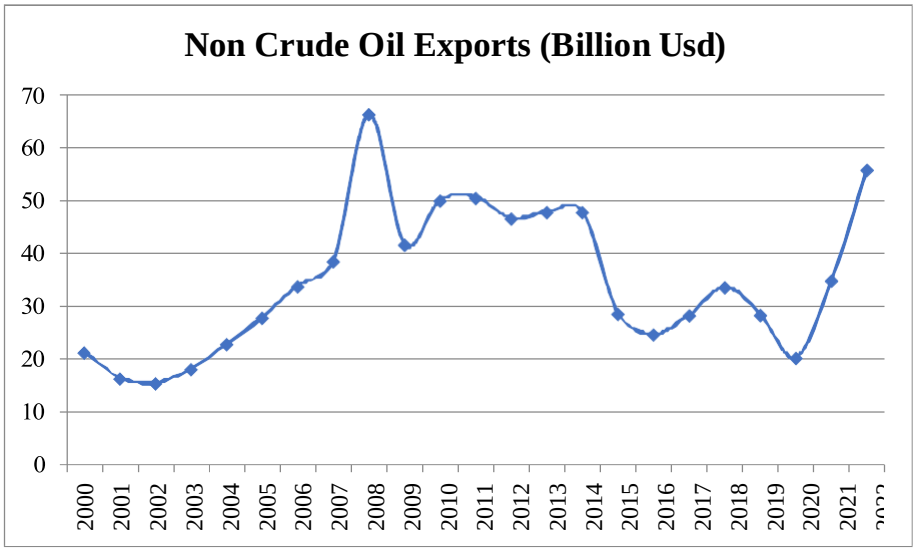

Figure 2. Non Crude Oil Exports (Billion USD) Data 2000-2022

Figure 3 shows that government spending ranged from $43.13 billion to $242.97 billion, indicating substantial variability in fiscal policies. As illustrated in Figure 3, government

spending increased significantly from $43.13 billion in 2000 to $148.98 billion in 2009, likely due to fiscal stimulus measures following the global financial crisis. Expenditure peaked at $242.97 billion in 2014 before declining to $210.27 billion in 2015 and stabilizing between $204 billion and $207 billion from 2017 to 2019. The economic impact of the COVID-19 pandemic led to a sharp decline to $180.24 billion in 2020, followed by a gradual recovery to $185.35 billion in 2021 and $200.63 billion in 2022.

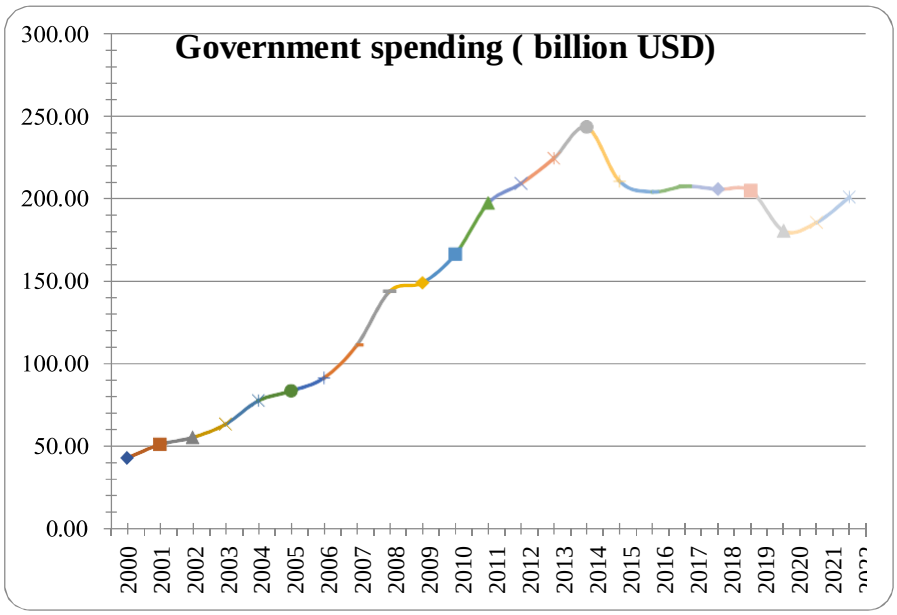

Figure 3. Government Spending Data 2000-2022

Figure 4 shows that domestic investment (GFCF) ranged from $11.33 billion to $92.23 billion, indicating moderate variability in capital formation. As illustrated in Figure 4, domestic investment fluctuated between 2000 and 2022, initially rising from $11.33 billion in 2000 to $54.19 billion in 2008, reflecting strong economic growth. Investment continued to rise despite the global financial crisis, peaking at $92.23 billion in 2014, before declining to $80.26 billion in 2015. Between 2016 and 2019, investment levels remained stable between $77 billion and $79 billion, suggesting economic adjustments. However, a sharp decline to $64.45 billion in 2020 was likely due to the COVID-19 pandemic, before partially recovering to $67.98 billion in 2022.

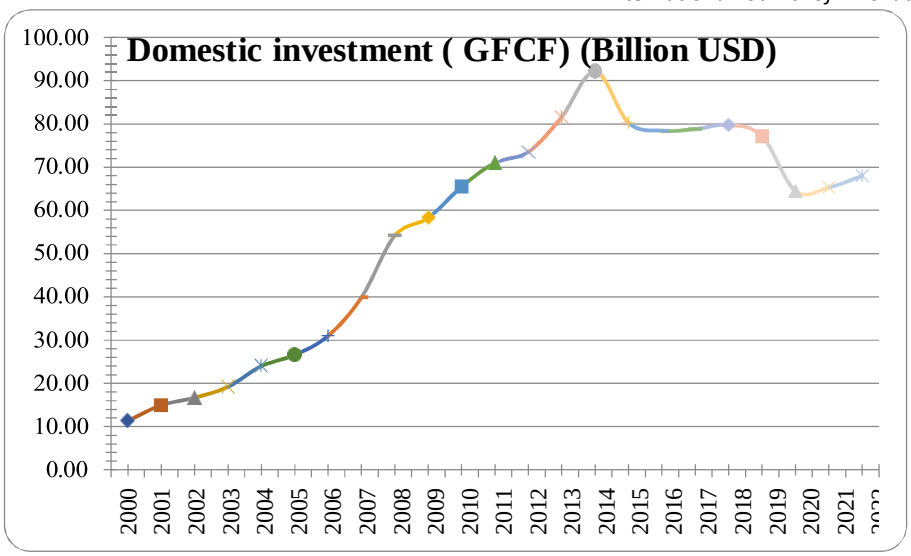

Figure 4. Domestic Investment Data 2000-2022

Figure 5 shows that FDI ranged from $0.09 billion to $2.75 billion, indicating moderate variability in foreign investment. As illustrated in Figure 5, FDI fluctuated between 2000 and 2022, initially rising from $0.28 billion in 2000 to $1.11 billion in 2001, followed by fluctuations, including a drop to $0.63 billion in 2003 and a peak of $2.75 billion in 2009, likely due to favorable investment conditions. Between 2010 and 2014, FDI remained stable, ranging from $1.50 billion to $2.64 billion, before plunging to $0.53 billion in 2015. Despite a brief recovery to $1.64 billion in 2016, the overall trend remained negative, with FDI steadily declining, reaching its lowest level of $0.09 billion in 2022. This sharp decline was likely driven by factors such as the COVID-19 pandemic, geopolitical tensions, and an unfavorable business climate that discouraged foreign investors.

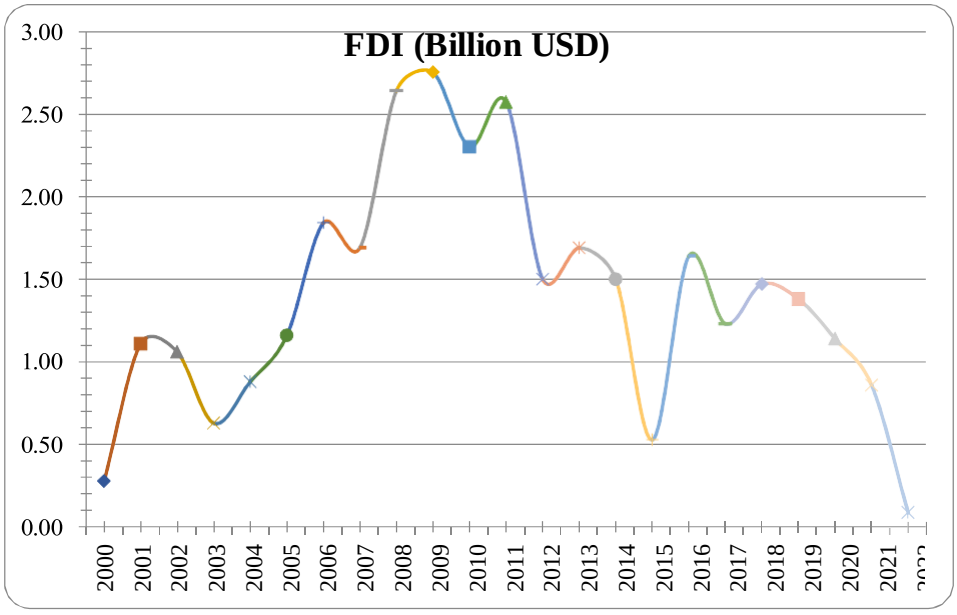

Figure 5. FDI Data 2000-2022

Figure 6 shows that GDP ranged from $59.41 billion to $238.94 billion, reflecting significant economic variability. As illustrated in Figure 6, GDP fluctuated between 2000 and 2022,

starting at $59.42 billion in 2000 and gradually rising to $180.38 billion by 2008, driven by favorable economic conditions. The 2009 global financial crisis caused a sharp decline to $150.32 billion, but the economy rebounded, peaking at $238.94 billion in 2014. However, GDP dropped to $187.49 billion in 2015 due to falling oil prices, economic challenges, and geopolitical factors. Between 2016 and 2019, GDP stabilized between $180 billion and $194 billion, before declining to $164.77 billion in 2020 due to the COVID-19 pandemic. A strong recovery followed, with GDP reaching $225.63 billion by 2022 as post-pandemic economic activity resumed.

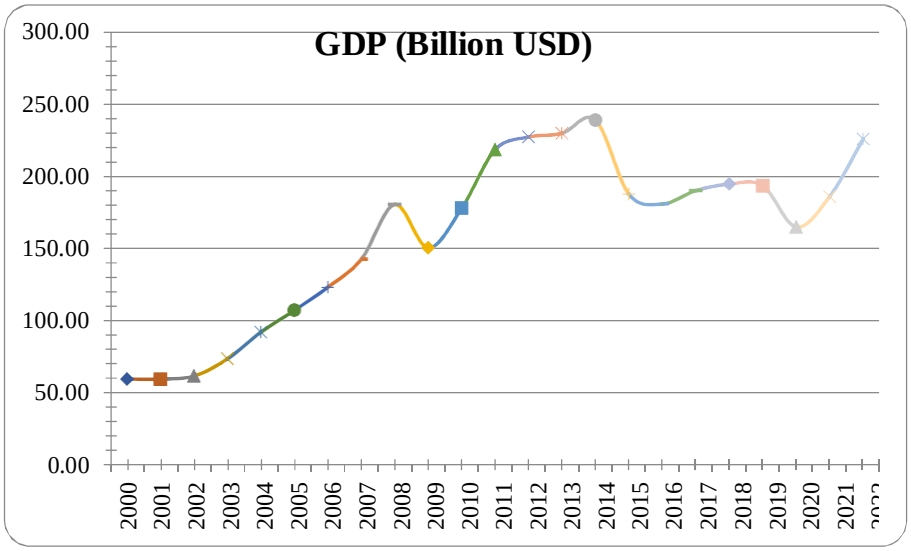

Figure 6. GDP Data 2000-2022

The results of regression analysis

Normality test and heteroscedasticity test show that the data is normal and free of heteroscedasticity.

The following are the results of the multiple linear regression analysis

Table 4. Coefficient Of Determination

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,999[a]	,998	,997	3,33154

a. Predictors: (Constant), FDI, Government_spending, Non Crude Oil_Exoprts, CRUDE_OIL_EXPORTS, Domestic_investment

b. Dependent Variable: GDP

Based on the results shown in table 4. it can be seen that the adjusted R-square value is 0.999. This means that the independent variables of this study, namely crude oil exports, non oil exports, government spending, domestic investment and FDI can influence the dependent variable, namely GDP, by 99.9% and the remaining 1.1% is influenced by other variables.

Table 5. Results of F Test

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.

1	Regression	75543,598	5	15108,720	1361,246	,000[b]
	Residual	188,686	17	11,099		
	Total	75732,284	22			

a. Dependent Variable: GDP

b. Predictors: (Constant), FDI, Government_spending, Non Crude Oil_Exoprts, CRUDE_OIL_EXPORTS, Domestic_investment

Based on the results shown in table 5.5. It can be seen that sig. in the F test shows a value of 0.00 < 0.05 which means that this research model is fit and can be used in further research.

Table 6. The estimates of regression coefficients

Coefficients[a]						
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	**(Constant)**	.052	3.529		.015	.988
	Crude_Oil_Exports	.942	.194	.136	4.852	.000
	Non Crude Oil_Exoprts	.706	.104	.167	6.813	.000
	Government_spending	1.333	.151	1.474	8.833	.000
	Domestic_investment	-1.436	.377	-.637	-3.810	.001
	FDI	-2.389	1.943	-.029	-1.229	.236
a. Dependent Variable: GDP						

The regression equation for this research analysis is as follows:

GDP = 0.052 + 0.942 crude oil exports + 0.706 non oil exports + 1.333 government spending – 1.436 domestic investment – 2.389 FDI

The regression results indicate that GDP in Algeria is influenced by crude oil exports, non-oil exports, government spending, domestic investment, and foreign direct investment (FDI). The model suggests that without these factors, GDP would be $0.052 billion. Crude oil exports have a significant positive effect on GDP, with a coefficient of 0.942 (sig. = 0.000), while non-oil exports also contribute positively, with a coefficient of 0.706 (sig. = 0.000). Government spending has the highest positive impact on GDP, with a coefficient of 1.333 (sig. = 0.000). However, domestic investment and FDI show negative coefficients of -1.436 and -2.389, respectively, indicating an adverse impact on GDP. Despite this, the significance value for domestic investment (0.001) suggests that H4 is rejected, meaning it does not have a significant negative effect on GDP. Similarly, FDI also negatively impacts GDP, reinforcing concerns about its effectiveness in driving economic growth in Algeria.

Discussion

Crude Oil Exports on GDP in Algeria

The research findings confirm that crude oil exports significantly impact Algeria's GDP, with a coefficient of 0.942 and a significance level of 0.000 < 0.05, supporting H1. A 1% increase in crude oil exports contributes approximately 0.942% to GDP growth, highlighting Algeria's heavy reliance on hydrocarbons. The sector accounts for over 97% of total exports and nearly 40% of the national budget through oil taxes (Abdellaoui, 2022)Empirical studies affirm that oil exports generate substantial revenue, strengthening the balance of payments and national

currency, while also facilitating domestic investment that could foster diversification beyond hydrocarbons (Amuda et al., 2023). According to the Resource Dependence Theory, economies that heavily rely on a single resource are shaped by their dependence on external markets and revenue streams (Hillman et al., 2009). However, this dependence underscores the need for sustainable resource management to ensure long-term economic stability (Vasiljeva et al., 2022).

Despite hydrocarbons' dominance, Algeria's economy showed signs of diversification in 2022, with growth in services and agriculture. Rising global oil prices and crude oil production recovery increased export revenues to $28.4 billion, leading to a current account surplus and higher foreign currency reserves (The world bank, 2022)Government initiatives, including salary increases and subsidies, helped stabilize trade balances. Algeria's energy partnership with the EU remains vital, with increased gas exports potentially driving economic reforms (Escribano, 2016)To reduce reliance on hydrocarbons, the country aims to generate 22 gigawatts of renewable energy by 2030, representing 27% of its energy mix (Zahraoui et al., 2021).However, economic diversification remains challenging due to Algeria's oil dependence, which exposes it to financial constraints during price declines (Cao et al., 2023). Strategic oil revenue management and reinvestment in manufacturing, technology, and renewable energy are essential to mitigating volatility and ensuring a sustainable economic future (Abdellaoui, 2022)

Non Crude Oil Exports on GDP in Algeria

The research confirms that non-crude oil exports significantly and positively impact Algeria's GDP, as indicated by a coefficient value of 0.706 and a significance level of 0.000. In line with Diversification Theory (Fisher, 1961), Algeria has expanded its non-oil exports, including natural gas, refined petroleum, industrial, and agricultural products, to reduce dependence on crude oil and enhance economic resilience (Zemrı & Boumediene, 2024).This diversification strengthens foreign currency reserves, improves the balance of payments, and supports infrastructure, industry, and public services, contributing to broader economic stability (Hadji & Abderrahmane, 2024) Empirical evidence highlights a strong correlation between non-oil exports and GDP growth, as seen in 2008 and 2022, when export revenues peaked at 66.13 billion USD and 55.63 billion USD, respectively (Olayungbo, 2021).

Government policies, including trade agreements, industrial zone investments, and tax incentives, have bolstered non-oil exports by increasing competitiveness and stimulating job creation (Al-Maliki, 2021) However, challenges such as global demand fluctuations, limited infrastructure, and dependence on a narrow export base hinder sustained growth. Addressing these constraints requires industrial diversification, enhanced export infrastructure, and strategic trade policies to expand market access (Hasanov et al., 2022). By overcoming these barriers, Algeria can maximize the long-term contribution of non-oil exports to economic diversification and sustainable growth.

Government Spending on GDP in Algeria

The research findings confirm that **H3 is accepted**, as the coefficient value of **1.333** and significance level of **0.000 < 0.05** indicate that **government spending has a significant positive effect on Algeria's GDP**. According to **Keynesian Theory** Keynes, (1965), public expenditure stimulates economic growth by increasing demand and investment. In Algeria,

government spending is primarily directed toward **infrastructure, healthcare, and education**, which enhance productivity and living standards. Investments in **ports, highways, and energy facilities** have attracted both local and foreign investment, further boosting economic activity (Ernawati et al., 2021). Additionally, government spending on **education and training** strengthens human capital, leading to **higher productivity and innovation** across economic sectors. This cycle generates a **multiplier effect**, reinforcing the positive relationship between government expenditure and GDP (Kaharudin & Ab-Rahman, 2022).

To sustain long-term economic growth, **efficient allocation of public funds** is crucial, as mismanagement could reduce the effectiveness of investments. **Improved financial management, transparency, and accountability** can enhance the impact of government spending (Abd Rahman et al., 2022). Moreover, during economic downturns, public expenditure serves as a **stabilizing factor**, mitigating external shocks such as fluctuations in global oil prices. Fiscal stimulus can help maintain economic activity, but **careful debt management** is necessary to avoid long-term financial instability. Balancing **short-term economic stimulus with sustainable fiscal policies** is essential to maximizing the long-term benefits of government spending, particularly when funded by oil revenues (Amin et al., 2024).

Domestic Investment on GDP in Algeria

The research findings indicate that H4 is rejected, as the coefficient value of -1.436 and a significance level of 0.001 < 0.05 show that domestic investment has a statistically significant negative effect on Algeria's GDP. While domestic investment holds potential for contributing to economic growth, its actual impact in Algeria remains limited due to several structural and institutional challenges.

The dominance of the oil sector restricts economic diversification, leading to underinvestment in vital sectors such as manufacturing and agriculture (Vasiljeva et al., 2022). Bureaucratic hurdles and regulatory inefficiencies discourage local investors from engaging in productive activities, further diminishing the effectiveness of domestic investment (Prasetiadi, 2021). According to Bakari (2018), inefficient allocation of domestic investment, compounded by the lack of a clear development strategy, has led to negative long-term effects, potentially aggravating economic instability instead of fostering growth.

Moreover, according to institutional theory, corruption, bureaucracy, and an opaque business environment undermine investor confidence, leading to sub-optimal investment decisions (Martinsson, 2021). As a result, a significant portion of investment is spent on importing capital goods rather than supporting domestic production, which causes financial outflows and limits its contribution to GDP. In addition, insufficient infrastructure and limited financial resources worsen the difficulties encountered by local investors. Infrastructure deficits delay project completion and reduce efficiency, while many local enterprises face challenges in accessing capital for expansion or innovation (Sijabat, 2023). These limitations prevent domestic investments from achieving their intended economic impact, thereby reducing their potential contribution to GDP.

Algeria's small private sector and the dominance of state-owned enterprises (SOEs) further reduce the effectiveness of domestic investment in promoting broad-based economic development (Xiao et al., 2022). The country's overreliance on hydrocarbon revenues reinforces the "resource curse," in which oil profits overshadow and suppress investment in other productive sectors, such as technology, agriculture, and manufacturing (Kherddine &

Saliha, 2023). To enhance the impact of domestic investment on GDP, Algeria must restructure its economic policy framework by encouraging value-added investments and prioritizing sectors with high growth potential. Additionally, comprehensive reforms to combat corruption, improve transparency, strengthen infrastructure, and foster an investor-friendly business environment are essential for leveraging domestic investment as a driver of sustainable economic growth (Bakari, 2018; Sijabat, 2023).

FDI on GDP in Algeria

Research findings indicate that FDI does not have a significant positive effect on Algeria's GDP, as reflected by the coefficient value of -2.389 and a significance level of 0.236. This weak impact can be attributed to several structural and institutional challenges. According to Ibgay (2023), FDI in Algeria is predominantly concentrated in the extractive sector, which limits its spillover effects on the broader economy. Similarly, Sethi & Sucharita, (2015) and Tawiri (2013) observed that in many developing countries—including Libya and Bangladesh—FDI fails to significantly boost economic growth due to low productivity and inefficient investment allocation.

In Algeria's case, the limited economic benefits of FDI are further compounded by bureaucratic inefficiencies, corruption, and institutional weaknesses, which undermine investor confidence and reduce the effectiveness of capital inflows (Martinsson, 2021; Chaplyuk et al., 2022). The lack of technological transfer and insufficient job creation outside the hydrocarbon sector diminish FDI's long-term developmental impact. Moreover, persistent infrastructure deficits—such as inadequate transportation, logistics, and communication systems—raise operational costs and deter investment in non-oil sectors (Nguyen, 2023).

Institutional theory supports the view that well-functioning institutions are essential for attracting and sustaining investment, as they ensure transparency, regulatory stability, and enforceable rules for economic activity. However, Algeria's weak institutional environment has resulted in regulatory inconsistencies and administrative inefficiencies, deterring long-term capital inflows (Martinsson, 2021). Additionally, a considerable portion of FDI is directed toward importing capital goods rather than developing domestic productive capacities, which leads to financial outflows and limits its contribution to GDP.

Despite these challenges, some studies offer a more optimistic outlook.Kaddouri & Benelbar, (2024) argue that under favorable conditions—such as improved regulatory frameworks and a better business climate—FDI can positively contribute to economic expansion. This underscores the importance of institutional reform and policy coherence in maximizing the developmental benefits of foreign investment. To enhance the impact of FDI on GDP, Algeria must adopt comprehensive reforms focused on strengthening governance, improving institutional quality, and promoting investment diversification beyond hydrocarbons. Addressing these core issues is vital for transforming FDI into a catalyst for sustainable economic growth.

Conclusion

The findings highlight the critical role of crude oil exports and government spending in driving Algeria's economic growth. Crude oil exports significantly boost GDP, reinforcing national income and supporting key sectors such as infrastructure, healthcare, and education. Additionally, non-crude oil exports—such as natural gas, refined petroleum, industrial, and agricultural products—also show a strong positive impact, supporting diversification efforts

and contributing to economic resilience. However, the heavy reliance on hydrocarbons exposes the economy to global oil price volatility, underlining the urgent need for broader economic diversification. Government spending has a strong positive effect, acting as a key growth driver through public investment. Ensuring efficient allocation and transparency in spending is essential to maximize long-term benefits and cushion against external shocks.

In contrast, domestic investment and foreign direct investment (FDI) show limited influence on GDP. The weak impact of domestic investment reflects structural issues such as bureaucratic inefficiencies, an over-reliance on hydrocarbons, and an underdeveloped private sector. FDI's limited effect is mainly due to its concentration in the oil sector and regulatory constraints, reducing its broader economic value. Moreover, much of the investment is spent on imported capital goods rather than locally produced ones, meaning these investments contribute more to exporting countries than to Algeria's own GDP. To address this, Algeria must improve its business climate, strengthen regulatory frameworks, and encourage investment in high-impact, non-oil sectors. The lag effect of investment may also play a role and should be explored further as it might yield delayed positive outcomes

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