

The Impact Of Exports On Economic Growth In Algeria During The Period 2000–2024 An Econometric Study



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Abstract

This study aims to analyze the impact of exports on economic growth in Algeria during the period 2000–2024, drawing on annual data extracted from the World Bank's World Development Indicators database. The study focused on testing the nature of the relationship between real GDP growth and real export growth, incorporating the change in the export share of GDP and a time trend within an extended model. The estimation results, using the Ordinary Least Squares method with Newey-West corrected standard errors, showed a positive and statistically significant relationship between export growth and GDP growth; the export coefficient reached 0.269, meaning that a one-percentage-point increase in export growth is associated with an approximately 0.27 percentage-point increase in economic growth. In contrast, neither the change in the export share of GDP nor lagged export growth showed a significant effect. Diagnostic tests also revealed the presence of autocorrelation and issues related to the normality of residuals and model specification, which requires interpreting the results with caution and not treating them as evidence of a purely causal relationship. The study concludes that strengthening the impact of exports requires diversifying them beyond the hydrocarbon sector, improving competitiveness, supporting productive enterprises, developing logistical and financial infrastructure, and adopting more advanced econometric models in future studies.

Keywords: Exports, Economic Growth, Algeria, Hydrocarbons, Econometrics, Economic Diversification.

1. Introduction

Economic growth represents one of the fundamental pillars in evaluating the performance of national economies, reflecting the economy's capacity to expand its production base, improve income levels, create job opportunities, and strengthen economic and social stability. In this context, exports occupy a central place within the economic literature, being regarded as a channel that allows for the expansion of markets for domestic products, an increase in foreign currency inflows, and improved efficiency in resource allocation, in addition to their potential contribution to technology transfer and the stimulation of investment and productivity. However, the impact of exports on growth is not determined merely by the rise in their value, but is also linked to the nature of the exported goods, their degree of diversification, the level of the economy's integration into international markets, and its ability to convert external earnings into productive and sustainable investments.

The study of this relationship acquires particular importance in the case of Algeria, given the role played by foreign trade in determining the trajectory of economic activity, and given that a significant share of national exports is linked to natural resources, particularly hydrocarbons. This pattern of export concentration may provide substantial financial resources during periods of favorable international prices, but it also makes economic growth more exposed to fluctuations in external

markets, changes in global demand, and shocks related to energy prices. Consequently, an increase in exports does not necessarily entail a lasting developmental effect unless it is accompanied by structural diversification, an expansion of the production base, and an enhancement of the competitiveness of non-oil sectors in international markets.

The period extending from 2000 to 2024 allows this relationship to be studied within a time frame marked by numerous economic transformations and external conditions affecting the Algerian economy. This period witnessed changes in the international environment, fluctuations in hydrocarbon prices, shifts in economic and trade policies, alongside attempts to support investment and develop exports outside the energy sector. It was also punctuated by global economic and health shocks that had varying repercussions on trade, production, and income. Therefore, analyzing the impact of exports on growth during this period cannot be limited to measuring a simple correlation, but requires examining the nature and direction of the relationship, and distinguishing between short-term effects and effects extending over the long term.

The research problem stems from the question of the extent to which Algerian exports are genuinely capable of contributing to sustainable economic growth, amid the dominance of energy exports and the persistence of challenges to economic

diversification. Accordingly, the main research question can be formulated as follows:

To what extent do exports affect economic growth in Algeria during the period 2000–2024?

Several sub-questions branch out from this problem, including: Is there a long-term equilibrium relationship between exports and economic growth? Does the impact of exports differ between the short and long run? Does the development of exports reflect an improvement in the economy's productive capacity, or is it mainly linked to price factors and external conditions?

Based on this problem, the study aims to analyze the nature of the relationship between exports and economic growth in Algeria during the period under study, and to measure the direction and strength of this relationship using econometric tools appropriate to the nature of time series. It also seeks to test the existence of a short- and long-term relationship between the study variables, and to determine the extent to which the results are consistent with the export-led growth hypothesis, or with the opposite hypothesis that export expansion may be a result of improved economic activity rather than a direct cause of it. The study derives its importance from contributing to the evaluation of the effectiveness of exports as a growth driver, and from providing an analytical basis that can be relied upon when discussing policies for economic diversification and enhancing the competitiveness of Algerian products.

The study initially assumes that exports have a positive effect on economic growth, although the magnitude and persistence of this effect may depend on the structure of exports and the extent to which their proceeds are linked to domestic investment and production. Accordingly, the expected relationship should not be understood mechanically or in isolation from other economic variables, but should be analyzed within a system that includes investment, trade openness, the exchange rate, government spending, hydrocarbon prices, inflation, and other factors that may influence the growth trajectory. Including these variables, when appropriate data are available, reduces the likelihood of attributing changes in growth to exports alone and improves the explanatory power of the econometric model.

To achieve the objectives of the study, annual data covering the period 2000–2024 will be used, with the selection of quantitative indicators expressing economic growth, exports, and other explanatory variables, which will then be subjected to the necessary econometric tests related to the stationarity of time series, cointegration, and the dynamics of the relationship between variables. The economic and econometric results will also be discussed in light of the specific characteristics of the

Algerian economy and the nature of its export structure, allowing for a more accurate reading of the extent of exports' contribution to growth, and distinguishing between the conjunctural effect resulting from changes in international markets and the structural effect linked to improvements in the national economy's productive capacity and competitiveness.

Thus, this study falls within efforts aimed at understanding the determinants of economic growth in Algeria, not merely by focusing on the volume of exports, but by questioning the quality of this expansion, its sources, and the extent of its repercussions on productive sectors and the long-term development path. The real challenge does not lie in temporarily increasing the value of exports, but in transforming foreign trade into a tool for diversifying economic activity, supporting domestic production, improving productivity, and reducing the economy's sensitivity to external shocks.

2. The Relationship between Exports and Economic Growth in Economic Theory

2-1 Definition of Exports

The ability of the state and its institutions to achieve flows of goods, services, information, finance, culture, tourism, and human resources to other international and global markets, with the aim of achieving the objectives of exports in terms of profit, added value, expansion, growth, diffusion, job creation, and exposure to other cultures and new technologies, among others.[Farid Al-Najjar, *Contemporary Exporting and Strategic Alliances*, Alexandria, Dar Al-Jami'a, 2008, p.15.]

"The value of productive goods and services produced by residents and finally transferred to non-residents."[Qadah Aqasem, *National Accounting*, Office of University Publications, Algeria, 2002, pp.71.]

It has also been defined as "the sale of goods abroad."

It is also defined as those operations relating to goods and services finally performed by residents for non-residents within the country. In other words, exports represent a foreign openness with respect to the goods and services produced within the country, which leads to an increase in national income. Exports are therefore classified among the injection factors, i.e., those that add a new force to the overall stream of spending through the multiplier effect.[Ali Al-Absi, Ahmed Boudissa, and Hicham Labza, "The Impact of Non-Hydrocarbon Export Development on Economic Growth in Algeria 2000–2015," *Journal of Economics and Sustainable Development*, March 2020, Vol. 03, p.26.]

From the foregoing, exports can be defined as follows:

Exports are the sum of goods, services, and resources (financial, human, and informational) produced

domestically by residents and finally transferred to non-residents in international markets; they constitute a positive injection into the national economic cycle, leading to an increase in national income, the provision of foreign currency, and the achievement of economic growth and expansion through the multiplier effect.

2-2 Determinants of Exports

Exports represent the backbone of national economies and reflect the extent of industrial and service development in a given country. The factors affecting exports are diverse and interconnected; among these factors are the following:

2-2-1 First Branch: Internal Factors

a. Economic Structure: The economic structure constitutes one of the most prominent factors affecting export volume. The differences become evident when comparing developing countries with developed ones, as the latter exploit the resources of developing countries to support their industries and turn these countries into markets for their industrial products, without providing sufficient support for the development of local industry. This colonial exploitation led to economic dependency and the specialization of developing countries in primary production such as agriculture, which contributed to the spread of poverty and unemployment and delayed industrial development. Exports in these countries are limited to primary products.

The profits generated from exporting are often transferred abroad instead of being reinvested locally, which benefits developed countries either through lower consumer goods prices or higher profits for industrial producers, while developing countries are harmed both as consumers and as producers of primary goods.

b. Production Functions: In developing countries, production relies heavily on natural factors, particularly in the agricultural sector. This makes production functions unstable and lacking in flexibility, leading to lower productivity and higher costs and prices, which in turn reduces competitiveness in international markets and hinders export growth.

Low productivity reflects a lack of technical efficiency and insufficient investment in capital, in addition to the widespread unemployment problem, making exports a weak sector unable to develop and grow.

c. Demographic Pressures: The enormous population growth that characterizes developing countries negatively affects export growth, as this increase leads to substantial consumption of economic resources in order to meet the growing needs of the population, which hinders the achievement of a surplus that could be directed

toward exports and thus affects export growth.

d. Investment Trends: The direction of investment constitutes one of the main factors affecting the volume and composition of exports, particularly in developing countries. This requires developing alternative strategies for export development when allocating investment across different economic sectors, taking into account the persistent balance-of-payments deficit and fluctuations in the prices of primary commodity exports, since exporting is the primary source of financing investment projects in foreign currency.

e. Trade Policy: To strengthen the exports of developing countries, it is essential to increase production volume and improve its quality in order to meet global competition. This requires a comprehensive and consistent development policy, based on a strategy that efficiently exploits available resources. In this context, trade policy can contribute to improving terms of trade through the application of trade practices that benefit the national economy, while taking into account responsiveness to the policies of developed countries in order to avoid creating obstacles to exports.

2-2-2 Second Branch: External Factors

These determinants include several aspects, among them:

a. Effect of Global Demand: Studies show that global demand for the exports of developing countries is slowing, leading to a decline in exports. This slowdown reflects the emergence of industrial alternatives in developed countries and increasing obstacles facing exports from developing countries, particularly in light of economic blocs among developed countries.

b. Effect of International Terms of Trade on Developing Countries: Research conducted by the United Nations and a number of economists indicates that developing countries face challenges in terms of trade as a result of their heavy reliance on primary production. This challenge is attributed to several supply- and demand-related factors, including the technological development that led developed countries to become producers of industrial goods and consumers of raw materials. This development negatively affects developing countries, leading to a deterioration in their terms of trade.

2-3 Importance of Exports

Exporting holds great importance in the economies of different countries and is one of the fundamental factors of economic growth and development as a whole. For a long time, trade theorists considered it an effective means of achieving desired growth rates, and also regarded it as an efficient way of accumulating the largest possible amount of hard

currency. Its importance is also linked to the volume of openness, as the greater this openness, the more institutions and companies are compelled to increase production to cover this increase in market demand.[Nafeimi Fawzi, International Trade: Lectures on International Business Law, Part 1, Office of University Publications, Algeria, 1999, p.67.]

The importance of exports increases within the economic thought associated with the economic development of developing countries, given the widening gap between advanced industrial countries and developing countries. The importance of exports for developing countries stems from the structural imbalances afflicting their balances of payments, as the trade balance deficit worsens and the volume of external debt and its burdens increase, thereby weakening their import capacity due to policies pursued by some developing countries, such as import-substitution policy and external borrowing policy.

It is worth noting that the increase in the economic growth rate resulting from higher exports is accompanied by changes in technological consumption patterns, which illustrates the reciprocal and interwoven relationship between the export growth rate and the income growth rate. For this reason, exports and their development in developing countries must be considered among the fundamental objectives of these countries[Mohamed Abdel Moneim Afar and Farid Mostafa, International Economics, Muassasat Shabab Al-Jami'a, Alexandria, 1999, p.98.], since the goal of any economic policy is to achieve high growth rates. Attention to exports through their development, promotion, and encouragement by creating an appropriate climate for this will have a positive impact on attracting domestic and foreign investment, on creating new job opportunities, and on correcting the trade balance deficit and consequently the balance of payments. This can only be achieved by working to solve the problems that hinder export growth and by drawing up coherent, integrated, and clearly defined policies among the various institutional entities that affect exports in the country.

Numerous empirical studies have demonstrated that rapid export growth accelerates economic growth. The experiences of several developing countries, such as the East Asian countries that adopted an export-promotion strategy as a rapid development option for achieving economic growth, have also demonstrated this.[Qadi Abdelmadjid and Wassaf Saïdi, "Credit Guarantee Mechanisms and Export Development: The Case of Algeria," Journal of Human Sciences, No. 2, University of Biskra, 2002, p.218.]

The importance of exports is highlighted by the fact that they play several roles in the field of economic growth, through the following:

- Exports contribute to creating new job opportunities, because an increase in exports leads to an increase in demand for domestic goods and services; the conversion of external demand toward locally produced goods drives the production of these goods and thus increases profitable investment opportunities, enabling the latter to grow to their maximum productive capacity, which in turn leads to higher employment levels and thus a reduction in the unemployment rate.

- Exports play a direct role in addressing the imbalance in the trade balance, and consequently the balance of payments, as they are one of the main sources of foreign currency, which directly affects the financial balance, monetary stability of the domestic currency, and exchange rates.

- Exports work to attract foreign and domestic investment through investment flows of capital and its availability for expanding production, diversifying products, and improving their quality. They also contribute to bringing in modern technology and developing production methods and reducing their costs, which translates into increased exports, which in turn attracts new investments.

Attention to exports produces many gains for the economy, through channeling surplus to external markets for growth and expansion, which leads to earning income and profits and also benefiting from the advantages of large-scale production, reaching optimal scale and maximum capacity, which contributes to creating new job opportunities to reduce unemployment, attracting new domestic and foreign investments, and providing sources of foreign currency. This creates a cycle linking investment and exports and their contribution to national income growth through the optimal exploitation of available capabilities and resources. It also leads to restoring balance to the balance of payments, which strengthens the orientation of economic policy toward exporting, since it is capable of achieving continuous and high growth rates, achieved through different types of exports and by certain methods or approaches.

2-4 The Relationship between Exports and Economic Growth in Economic Theory

Economic thought abounds with numerous views that have attached particular importance to exports as one of the fundamental components of economic growth and their role in advancing development in both developed and developing countries alike. Exports have occupied an important place in economic thought through their role in distributing productive resources among the countries of the world in a manner that ensures the best economic use, and through the resulting exploitation of potential and market expansion in improving

production and applying the principle of specialization and the international division of labor. The relationship between exports and economic growth remains a subject of debate among economists, both theoretically and empirically, regarding the role of exports in economic growth and determining the direction of causality — whether economic growth drives exports or vice versa — since determining the direction of causality plays an important role in choosing a growth strategy. If the export sector is what stimulates economic growth, then attention should be focused on expanding the export sector, since this leads to increased demand for the country's products and thus an increase in real output; it also encourages specialization in the production of export products, which in turn can raise productivity levels and elevate the overall skill level in the export sector. If, on the other hand, economic growth is what stimulates the development of exports, then attention should focus on policies and measures that promote economic growth, or else there is feedback between the two.

1. Exports Lead to Economic Growth

Theoretically, exports lead to economic growth, as demonstrated among neoclassical economists following the successful experience of the newly industrialized Asian countries, for example the four Asian growth economies — Taiwan, Hong Kong, Singapore, and Korea — which succeeded in achieving high and sustained economic growth rates since the early 1960s due to their free markets and integration into the global economy, according to the World Bank's 1984 report. However, the distinctiveness of the Asian growth economies is not fully supported by the data, since production and export structure were not simply left to the market but involved a degree of carefully planned government intervention. In 1989, Adsden argued that the philosophy underlying the strong emergence of these new countries, the "Asian Tigers," was the generous provision of tariff support in addition to a substantial increase in export volume in its own right, for the following reasons:[Ben Slimane, Kabir and Ismail, "Export Development and Its Long-Run Impact on Economic Growth in Algeria and Some MENA Countries during the Period 1990–2018," *Al-Wahat Journal for Research and Studies*, Vol. 15, No. 2, Algeria, 2022, p.887.]

- There is a limited number of goods available for export. Export sectors therefore depend on international developments affecting the global market. Examples include the decline in the price of cotton and basic metals, which constitute a large share of export revenues in Central Asia.

- Industrial production of goods is limited, due to the absence of manufacturing activities, which does not

allow enterprises to produce distinctive products for export or to achieve a form of export diversification.

- Dependence on a small number of main export markets, possibly one or two, as well as on sources of supply. This does not give enterprises the opportunity to develop products according to the standards of more advanced markets and also leads to a lack of knowledge of foreign markets.

- Enterprises lack export flexibility, which may be due to a reluctance to venture into foreign markets, since the domestic market offers comfort and security. Nevertheless, the transition to a market economy may force the enterprise to look beyond the domestic market in order to earn foreign currency, which is badly needed, along with increasing job opportunities. International marketing is also a more complex process than marketing and selling in the domestic economy.

- Transition economies need superior management to direct efforts toward appropriate exporters at the industrial and manufacturing level.

2-4-2 Export Expansion Followed by Economic Growth[Ben Slimane, Kabir and Ismail, op. cit., p.888.]

The idea of economic growth resulting from export expansion has not achieved consensus. In fact, some researchers believe that it is economic growth that creates a favorable environment for the expansion of exports in a given country, rather than the reverse — a view shared by Kaldor (1964), Lancaster (1980), Krugman (1984), and Stavrinou (1987).

Economic growth leads to improvements in talents, skills, and technologies that contribute to export expansion. Along the same lines, Michaely (1977) and Helleiner (1986) see the need for a minimum level of development before beneficial effects of export expansion can be obtained; thus, if development is defined as sustained economic growth over a long period of time, accompanied by a satisfactory structural transformation, it appears that economic growth leads to export expansion.

2-4-3 The Reciprocal Relationship between Exports and Economic Growth

Some researchers, including Helpman, Krugman (1985), and Bhagwati (1988), confirmed that export expansion resulting from productivity gains would lead to economies of scale and thus lower production costs, which lead to a significant improvement in productivity; this improvement in productivity would in turn lead to increased exports, and so on. In other words, as Krishna and others stated, every effect has a cause and every cause has an effect; thus export expansion leads to economic growth, and economic growth leads to export expansion.

The following table illustrates the causal relationship between exports and economic growth:

Hypothesis	Direction of Relationship	Theoretical Rationale
Export-led growth	Exports → Growth	External demand, foreign currency, production economies of scale
Growth-led exports	Growth → Exports	Improved productivity and productive capacity make firms more able to export
Feedback	Exports ⇌ Growth	Cumulative cycle: export expansion raises productivity, and growth strengthens export capacity
Neutrality	No stable relationship	Common variables such as the exchange rate or external shocks explain the apparent co-movement

Source: Prepared by the researchers.

3. Econometric Study of the Impact of Exports on Economic Growth

3-1 Formulation of the Analytical Model of the Study

This study relies on annual time-series data extracted from the World Bank's World Development Indicators (WDI) database for Algeria covering the period (2000–2024). To determine the impact of exports on economic growth, the real GDP growth rate was defined as the dependent variable, while the growth rate of real exports of goods and services represents the main explanatory variable. The econometric estimation strategy included two stages: the first was based on the Ordinary Least Squares (OLS) method in the baseline model, while the extended equation added the change in the export share of GDP as a control variable alongside a general time trend. Given the confirmed presence of first-order autocorrelation, AR(1), in the model errors, corrected standard errors were used to address this issue and ensure the validity of the statistical tests and the quality of prediction.

This study is based on reproducible secondary time-series data drawn from the World Bank's World Development Indicators (WDI) database, covering the period extending from 2000 to 2024, excluding 2025 to avoid including incomplete preliminary estimates. The sample size therefore amounts to 25 annual observations in the baseline bivariate model. In the extended model equation, the effective estimation sample size decreased to 24 observations, due to the loss of one observation resulting from calculating the annual change (first differences) in the export share of GDP.

$$g_t = \alpha + \beta_1 x_t + \beta_2 \Delta s_t + \beta_3 t + \varepsilon_t$$

where g_t represents real GDP growth, x_t real export growth, Δs_t the annual change in the export share of GDP, and t a time trend. The paper presents three estimates: a bivariate regression, an extended model, and a sensitivity test that replaces contemporaneous export growth with one-year-lagged export growth.

3-2 Estimation Results

The tables use Newey–West HAC(1) standard errors, after the Breusch–Godfrey test showed evidence of first-order autocorrelation. These errors address heteroscedasticity-robust autocorrelation in inference, but do not solve the problem of simultaneity or omitted variables; therefore the coefficient should not be interpreted as a pure causal effect.

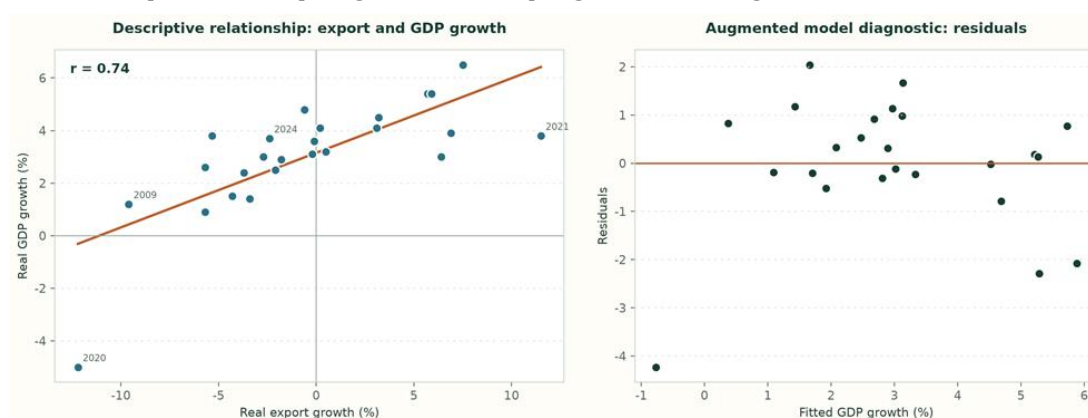
“The estimation results of the extended model showed that the export growth coefficient is 0.269, statistically significant at the 1% level ($p = 0.01$) under the HAC correction of standard errors. Economically, this result indicates that a one-percentage-point increase in real export growth is associated with a 0.27 percentage-point increase in the GDP growth rate. The explanatory power of the model reached $R^2 = 0.624$ and adjusted $\bar{R}^2 = 0.568$, with the overall significance of the model confirmed by the F-test at $p < 0.01$.”

“The results showed no statistically significant effect of the change in the export-to-GDP ratio in this specification, with the coefficient reaching 0.025 and a non-significant p -value ($p = 0.637$). This indicates that the direct effect in the sample lies in the contemporaneous real export growth rate within the same year, rather than in structural changes in the export-to-GDP ratio after controlling for the general trend.”

Model	Variable	Coefficient	Std. Error	p-value	95% CI
Bivariate regression	Real export growth	0.284	0.075	<0.001	(0.128, 0.439)
Extended model	Real export growth	0.269	0.070	0.001	(0.123, 0.416)
Extended model	Change in export share of GDP	0.025	0.053	0.637	(-0.084, 0.135)
Extended model	Time trend	-0.059	0.048	0.230	(-0.159, 0.040)
Sensitivity	One-year-lagged export growth	0.064	0.054	0.247	(-0.048, 0.177)
Sensitivity	Change in export share	0.131	0.077	0.104	(-0.030, 0.293)

Source: Prepared by the researcher using Eviews13 output.

Figure 1. Relationship between export growth and output growth, and diagnostic of the extended model residuals.



Source: Prepared by the researcher using Eviews13 output.

Test	Statistic	p-value	Analysis
Breusch-Pagan: Heteroscedasticity	3.32	0.345	No evidence of heteroscedasticity
Breusch-Godfrey Autocorrelation AR(1):	4.325	0.038	Evidence of autocorrelation; HAC(1) used
Jarque-Bera: Normality of residuals	14.162	<0.001	Residuals do not fully follow a normal distribution
Ramsey RESET	15.268	<0.001	Risk in model specification
ADF: gdp_growth_pct	-3.305	0.008	Stationary at 5%
ADF: exports_growth_pct	-9.913	0.044	Stationary at 5%
ADF: exports_share_gdp_pct	-0.788	0.822	Non-stationary at level
ADF: exports_share_change	-4.083	0.001	Stationary at 5%

Source: Prepared by the researcher using Eviews13 output.

Variable	VIF	Analysis
Real export growth	1.32	Low; no indication of concerning multicollinearity
Change in export share of GDP	1.21	Low; no indication of concerning multicollinearity
Time trend	1.10	Low; no indication of concerning multicollinearity

Source: Prepared by the researcher using Eviews13 output.

The sensitivity test yields a more conservative result: the coefficient of one-year-lagged export growth was not statistically significant ($\beta = 0.064$; $p = 0.247$), with an R^2 of 0.286 in this specification. This result limits interpretation, as it supports a stronger contemporaneous relationship rather than a stable lagged effect within this sample.

The contemporaneous result is consistent with the structure of the Algerian economy: a boom in exports, particularly hydrocarbons, improves the external account, fiscal capacity, and domestic demand within the same period. However, the absence of a significant lagged effect, together with the significance of the RESET test and the non-normality of residuals, makes it unsound to generalize the model's coefficient as a trade-policy multiplier. It is more plausible that the coefficient reflects a joint response of growth and exports to energy shocks, external demand, and domestic production.

● Expanding the export base beyond hydrocarbons is the most important path for transforming the cyclical correlation into a more sustainable productive effect; non-hydrocarbon exports reached USD 5.1 billion in 2023 but remained at only 2% of GDP.

● Trade policy should focus on reducing port and procedural costs, improving conformity and quality, and financing trade and market information, in order to support exportable firms rather than only the aggregate value of exports.

● Future research is recommended to include the oil price, hydrocarbon production, government spending, investment, and the exchange rate, and to use a design that limits simultaneity, such as VAR/SVAR or external instruments where available.

Conclusion

This study aimed to highlight the impact of exports on economic growth in Algeria during the period extending from 2000 to 2024, by employing an econometric approach that allows for examining the nature of the relationship between the two variables and distinguishing between their short-term and long-term effects. The study started from considering exports as one of the fundamental components of economic activity, being a source of foreign currency,

a channel for market expansion, and a means of supporting production and investment. However, this role remains linked to the extent of export diversification and to the national economy's ability to convert external earnings into sustainable domestic added value.

The theoretical framework showed that the relationship between exports and economic growth should not be understood as a mechanical relationship based solely on increasing the value of exports, since its effect may vary depending on their sectoral structure, their source, and the degree of their linkage to other productive sectors. In economies that rely heavily on the export of primary commodities, higher exports may improve growth indicators during periods of recovery in international demand and prices, but may at the same time increase the economy's fragility to external shocks, especially when not accompanied by a parallel expansion in exportable industrial, agricultural, and service sectors.

At the econometric level, the time-series analysis for the period under study allowed for an assessment of the dynamic relationship between exports and economic growth, and for verifying the existence of a stable association between them. The importance of this step lies in avoiding misleading conclusions arising from the general trend of the time series, and in distinguishing between a conjunctural relationship that may result from temporary changes in the international environment, and a structural relationship that reflects the contribution of exports to expanding the economy's productive capacity. Based on the results of the tests and estimations adopted in the study, the impact of exports should be interpreted in light of the nature of the econometric model used, the direction of the variable coefficients, their level of statistical significance, as well as the results of causality, stationarity, and model-validity tests.

The overall findings of the study lead to the conclusion that the contribution of exports to Algerian economic growth remains linked to the economy's ability to move from an export model dependent on a limited number of products to a more diversified model based on domestic production.

Energy exports can provide an important resource for financing the budget and investment, but they alone are not sufficient to guarantee stable and long-term growth. Achieving this goal requires supporting exports outside the hydrocarbon sector, improving the quality of national products, reducing production and transport costs, developing logistical infrastructure, and strengthening the integration of Algerian enterprises into regional and international value chains.

The study also confirms that export-development policy should not be isolated from other economic policies, but should be integrated within a comprehensive strategy for economic diversification and productivity improvement. This includes directing investment toward sectors with export potential, providing effective incentives for productive enterprises, facilitating export procedures, developing financing and insurance mechanisms, and improving the training, research, and development system. These measures would help transform exports from a mere source of external revenue into a genuine driver of growth, job creation, and technology transfer.

Accordingly, the study recommends adopting a gradual approach to export diversification, based on identifying the sectors in which Algeria has comparative advantages capable of being transformed into competitive advantages. It also recommends increasing support for small and medium-sized enterprises wishing to enter foreign markets, improving coordination among industrial, trade, and financial policies, alongside adopting periodic mechanisms for evaluating the impact of export-support programs on domestic production, added value, and employment. Regulatory stability should also be strengthened and administrative procedures simplified, since export capacity is not linked to natural resources alone but is also affected by the business environment and institutional efficiency.

In light of the foregoing, it can be said that the fundamental challenge facing the Algerian economy does not lie merely in quantitatively increasing the volume of exports, but in improving their economic content, expanding their contribution to productive sectors, and ensuring that their proceeds are directed toward investments that raise productive capacity over the long term. Achieving a sustainable impact of exports on economic growth therefore requires a shift from reliance on conjunctural earnings to building a diversified export base capable of withstanding fluctuations in external markets and supporting a more balanced and stable development path.

Finally, this study opens the way for future research that could address the impact of non-oil exports separately, compare the impact of hydrocarbon exports with that of other sectors' exports, or include additional variables such as foreign direct investment, the real exchange rate, trade openness, human capital, and total factor productivity. The analysis could also be extended using quarterly data or more advanced econometric models, allowing for a deeper understanding of the channels through which exports translate into economic growth in Algeria.

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