

Impact of final consumption, domestic investment, exports, and imports on economic growth in Albania

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Abstract. *The aim of this paper is to explore the impact of final consumption, domestic investment, exports and imports on economic growth in the case of Albania during the period 1996-2021. By using cointegration analysis, VECM model and WALD test, empirical analysis indicated that there is no causality relationship between final consumption, exports, domestic investment, imports and economic growth in the long run and in the short run. These findings present the critical economic situation of Albania, which stands in need of an entry of urgent economic reforms and strong strategies to boost economic growth.*

Keywords: final consumption, domestic investment, exports, imports, economic growth, VECM, Albania.

JEL Classification: E21, E22, F11, F14, F43, G11, G31, H54, O16, O47, P33, P45, R53.

1. Introduction

The state of economic activity in Albania presents a complex set of challenges that impact the economic development of the country. One of the main challenges is the persistence of high unemployment rates, especially among young people. Unemployment hampers active participation in the labor market, reduces consumption and can contribute to social tensions. Reducing these unemployment rates requires efforts to create sustainable jobs and stimulate entrepreneurship. Another major challenge is the prevalence of the informal sector in the economy. The large share of the informal sector limits tax revenue collection, which affects public finances and the government's ability to invest in essential public services and infrastructure. Reducing this informal economy requires administrative reforms, better regulation and incentives for businesses to operate legally.

Albania also faces sectoral dependence, particularly with regard to the tourism and agriculture sector. This dependence exposes the country to fluctuations in global markets and can create economic vulnerability in the event of disruptions. Diversifying the economy by developing other sectors, such as manufacturing and information technology, is crucial to creating a stronger and more resilient economic base. Another notable challenge is the need to improve infrastructure. Although progress has been made in this area, additional investments are needed to modernize transport networks, telecommunications and energy sources. These improvements can enhance the country's connectivity and boost foreign investment by creating a business-friendly environment. In addition, issues related to corruption and governance are persistent challenges. An economic environment marked by corruption can discourage investment and create economic inequalities. Putting in place institutional reforms to strengthen transparency, the rule of law and fight against corruption is essential to create an environment conducive to business and economic growth. Finally, improving the education and skills of the workforce is an important challenge. To encourage innovation and attract investment in high value-added sectors, Albania needs to invest more in education and vocational training to provide workers with the skills needed for the modern economy. The challenges of the state of economic activity in Albania require a strategic and coherent approach to promote sustainable and inclusive economic growth. This involves structural reforms, investments in infrastructure, promoting education and creating an enabling business environment to attract investment and stimulate innovation. Examining the impact of final consumption, exports, imports and domestic investments on economic growth in the case of Albania is of crucial importance for understanding the drivers of its economic development and for designing effective economic policies. Each of these factors plays a specific role in Albania's economic dynamics and assessing them provides a clearer perspective on how the country can stimulate growth and improve economic stability.

Final consumption is an essential indicator of domestic demand and economic vitality. By analyzing the impact of final consumption on growth, one can assess the resilience of the Albanian economy to internal and external economic fluctuations. Sustained consumption can signal consumer confidence and ability to spend, while falling consumption can indicate underlying economic issues. Final consumption, which represents expenditure by households and non-profit institutions serving households, has been gradually increasing.

This growth can be attributed to an increase in consumer confidence and improved incomes, which boosted domestic demand and contributed positively to economic growth. Although it has increased in recent years, there are persistent inequalities in the distribution of income, which limit the ability of certain groups of the population to fully participate in consumption. High unemployment rates, especially among young people, can also hamper consumption growth and create pressures on social protection programs.

Exports play a key role in economic growth by generating foreign currency earnings and expanding markets for domestic products and services. Studying the impact of exports on Albanian growth is essential to identify the key sectors of the economy that contribute the most to export earnings. This can help develop strategies to strengthen the international competitiveness of Albanian industries and diversify exports to reduce dependence on certain markets. Albania has registered an upward trend in recent years, reflecting an improvement in the competitiveness of its products and services in international markets. The tourism, agriculture and manufacturing sectors contributed to this growth. However, the dependence on a few export markets and the need to diversify exports remain challenges for more robust and stable economic growth. Although their growth is positive, Albania remains vulnerable to fluctuations in international markets. Dependence on a few export markets can expose the country to economic risks in the event of global economic disruptions. To mitigate this vulnerability, it is crucial to further diversify export markets and improve the competitiveness of Albanian products and services on the world stage. Imports are also crucial, as they reflect the needs for goods and services that the country does not produce locally. Understanding how imports affect economic growth can help determine the balance between domestic production and imported goods. Balanced import management can stimulate growth by providing inputs needed for production while avoiding over-reliance on imported goods. Albania continues to experience an increase in the need for imported goods and services to support economic growth and meet growing consumer demands. While this may be indicative of a vibrant economy, it is important to manage imports wisely to avoid economic imbalances and over-reliance on foreign goods. The import situation also raises concerns. A rapid increase in imports can lead to trade imbalances and over-reliance on foreign goods. The need to further develop domestic production to reduce this dependence and promote economic self-sufficiency is an important challenge for Albania.

Domestic investment drives capital accumulation, innovation and infrastructure modernization. Analyzing their impact on Albanian economic growth helps assess the country's ability to develop sustainable industries, create jobs and attract foreign investment. The identification of priority sectors for investment can guide economic policies aimed at strengthening the country's productive capacities. Albania has made progress in modernizing its infrastructure and developing new industries, which has helped boost economic growth. However, there are still areas where additional investment is needed, such as energy, transport and technology. Attracting foreign investment and strengthening the business climate can play a crucial role in achieving these goals. In terms of domestic investment, although progress has been made in the development of

infrastructure and industries, obstacles persist. Corruption, lack of access to finance and red tape can hamper investment. To attract foreign and domestic investment, it is essential to strengthen the business environment, improve governance and promote economic and political stability.

Regarding economic growth, Albania has recorded positive growth over the past few years, although growth rates may vary from year to year. Domestic investments, structural reforms and a certain economic diversification have contributed to this growth. However, challenges such as unemployment, corruption and economic inequality remain, calling for careful management of economic policies and continued reforms to foster sustainable and inclusive growth. Albania's economic situation in terms of final consumption, exports, imports, domestic investments and economic growth is constantly changing. The country has made progress in various areas, but challenges remain. A balanced and strategic management of these factors is essential to maintain a stable and sustainable growth trajectory, while improving the economic well-being of the population. In sum, examining the impact of final consumption, exports, imports and domestic investment on Albania's economic growth allows for the formulation of more informed and targeted economic strategies. This helps government, policy makers and economic actors make informed decisions to foster sustained and sustainable economic growth, while mitigating potential risks and capitalizing on economic opportunities. For all these reasons, this paper will be organized as follows. In the second section, we will present a review of the literature which presents the works which have dealt with the impact of final consumption, domestic investments, exports and imports on economic growth. In the third section we will present our empirical methodology. In the fourth section, we will devote our empirical results. Finally, conclusions and recommendations will be presented in the fifth section.

2. Literature survey

The objective of this section is to present our review of the literature on the impact of final consumption, domestic investment, exports and imports on economic growth. In fact, we will exploit a set of recent works which relates to the links of the variables included in our work. We begin by reviewing recent work on the link between final consumption and economic growth.

2.1. Final consumption and economic growth

Final consumption plays a crucial role in the process of economic growth as a major component of an economy's aggregate demand. According to economic theory, an increase in final consumption can stimulate economic growth in several ways. First, an increase in final consumption, which represents the goods and services purchased by households and individuals for their personal use, leads to an increase in total demand in the economy. This encourages businesses to produce more to meet this increased demand, which can lead to expanded production, increased employment, and possibly faster economic growth. Additionally, an increase in final consumption can have a multiplier effect, where initial consumer spending creates additional revenue for businesses, which in turn increase spending and investment, creating a cycle of positive economic activity. Bakari and Tiba

(2022) found that final consumption expenditure has a positive impact on economic growth in the case of USA during the period 1970-2016. In their analysis, they applied cointegration analysis and VECM model. Amin (2011) investigates the connection between GDP and consumer end spending using data from the economy of Bangladesh. The researcher utilized the Augmented Dickey Fuller (ADF) and Phillips-Perron (PP) tests, along with the autoregressive distributed lag model (ARDL). The study's findings demonstrate a persistent causal connection and a direction of causality from final consumption spending to economic growth in the long term, whereas in the short term, there are bidirectional connections. Similarly, Kimaro and Keong (2017) conducted a study using a panel of 25 low-income Sub-Saharan African countries for the time span from 2002 to 2015. They applied the Pedroni Cointegration test and the Generalized Methods of Moments (GMM) test. The outcome of their research unveiled a positive correlation between government spending and economic growth. In the case of France, Azam et al (2023) found that final consumption expenditure has a positive impact on economic growth during the period 1990-2018 by using cointegration analysis and GMM model. Obinna (2020) examined the nexus between final consumption and economic growth in the case of Nigeria during the period 1981-2018. Empirical results indicate that there is a positive relationship between final consumption and economic growth. Wibowo (2020) confirmed that there is a positive relationship between final consumption expenditure and economic growth in the case of Indonesia during the period 2010-2019. In the case of Gambia, Ceesay et al (2022) found that there is no relationship between final consumption expenditure and economic growth during the period 1977-2017. To analyze the influence of final consumption expenditure of general government and final consumption expenditure of households and non-profit institutions on economic growth in the Republic of Croatia, Blaževski (2018) used quarterly data for the period of 2000 to 2017 and the unrestricted vector autoregressive (VAR) model. The results of the empirical analysis indicated that the final consumption expenditures of households and non-profit institutions had a positive influence on economic growth.

2.2. Domestic investment and economic growth

The conceptual link between domestic investments and economic growth is based on their fundamental role in boosting economic activity over the long term. National investments, whether from the public or private sector, include expenditures for the improvement of infrastructure, equipment, research and development, as well as other productive areas. These investments increase the productive capacity of an economy by increasing its efficiency and opening up new business opportunities. The multiplier effect of investments occurs when they generate positive spillovers throughout the economy from the first expenditures. Indeed, increased investment can stimulate aggregate demand, encourage innovation and optimize efficiency, which in turn can generate more sustainable economic growth. Domestic investments also help create jobs, strengthen international competitiveness and promote capital accumulation, all of which are crucial for sustainable economic growth. However, the quality of investments, their efficient allocation and supportive policies are equally important in maximizing the returns from economic growth induced by domestic investments. Othmani et al (2023) searched the cointegration relationship between domestic investment, patent and economic growth in the case of USA

over the period 1980-2020. By using cointegration analysis and VECM model, they found that there is no causality relationship between patent, domestic investment and economic growth in the long run and in the short run. Ben Yedder et al (2023a) searched the link between domestic investment and economic growth in the case of MENA countries during the period 1998-2022. They found that domestic investment affects positively economic growth by using panel data analysis. Ben Yedder et al (2023b) examined the impact of domestic investment on economic growth in the case of North Africa countries during the period 1990-2021. By using cointegration analysis and Panel CS-ARDL Model, they found that domestic investment has not any impact on economic growth in the long run. In the case of Tunisia, Bakari (2017a) found that domestic investment affects negatively economic growth in the long run during the period 1970-2015 by using cointegration analysis and error correction analysis. For the case of India, Fakraoui and Bakari (2019) found that there is no relationship between domestic investment and economic growth in the short run and in the long run during the period 1960-2017. In their analysis, they used cointegration analysis and VECM model. Bakari and El Weriemmi (2022) examined the nexus between domestic investment and economic growth in Arab countries over the period 1990-2020. By using cointegration analysis and VECM model, they found that there is no relationship between domestic investment and economic growth in the long run. Bakari (2019) studied the cointegration relationship between tax revenue, domestic investment and economic growth in the case of France during the period 1972-2016. By using cointegration analysis and VECM model, empirical results indicated that there is a negative relationship among domestic investment, tax revenue and economic growth in the long run.

2.3. Exports and economic growth

The theoretical link between exports and economic growth lies in the crucial role of exports as an engine of national prosperity. Exports represent goods and services sold abroad, which allows an economy to benefit from greater demand for its products. Export expansion can generate a series of positive effects on economic growth. First, by increasing foreign sales, local businesses have an incentive to increase production to meet this increased foreign demand, which can stimulate job growth and economic activity. Second, international trade promotes specialization, allowing countries to focus on the production of goods and services in which they have a comparative advantage, which increases economic efficiency and global competitiveness. In addition, revenue generated from exports can be reinvested in the local economy, contributing to capital accumulation and stimulating investment. However, for exports to effectively support growth, it is important to consider factors such as product quality, access to international markets, price competitiveness and foreign trade policies. Al-Yousif (1997) conducted a study that explored the connection between exports and economic growth, focusing on four Arab Gulf nations during the period from 1973 to 1993. The findings of this investigation revealed a notable and positive correlation between these two variables. Vohra (2001) examined the relationship between exports and growth in countries including India, Pakistan, the Philippines, Malaysia, and Thailand over the timeframe of 1973 to 1993. The outcomes of this empirical study indicated that as a nation attains a certain level of economic development, exports play a beneficial and significant role in promoting economic growth.

In a similar vein, Dritsakis (2006) analyzed the relationship between exports and economic growth in three major exporting economies – the European Union (EU), the United States (USA), and Japan. They employed the multivariate Johansen cointegration test and the error correction model (ECM) to assess causality. The results from the Johansen test confirmed a durable cointegration and a mutually causal connection between exports and economic growth for the EU and USA. However, no such causal or cointegrating relationship was established for Japan. Mishra (2011) revisited the dynamics of the export-economic growth relationship for India spanning from 1970 to 2009. Utilizing the Granger causality test, the study identified a causal link extending from GDP to exports in the long run. This suggests that increases in GDP positively influence export growth, with India demonstrating evidence of export-driven growth during the observed period. Hye (2012) investigated the interplay between exports and economic growth in the context of China from 1978 to 2009, utilizing the ARDL model and a modified Granger causality test. The findings supported the existence of a positive bidirectional long-term relationship between exports and economic growth. Trošt and Bojnec (2015) scrutinized the relationship between exports and economic growth in Slovenia, analyzing quarterly data covering the years 2001 to 2014. Results from the Granger causality test indicated a causal link from exports to economic growth. Sunde (2017) employed various analytical tools including cointegration analysis, the ARDL model, VECM model, and Granger causality tests to explore the relationship between exports and economic growth in South Africa over the period 1990-2014. The empirical results revealed a positive impact of exports on economic growth in both the short and long terms. Bakari and Mabrouki (2019) delved into the causality between exports and economic growth in Morocco. Using the VAR model and the Granger Causality Test, they concluded that exports did not exhibit a direct effect on economic growth. Conversely, they found that economic growth influenced exports. Bakari (2021) investigated the influence of exports on economic growth across 49 African countries spanning from 1960 to 2018. Employing a variety of empirical methods, all of the techniques employed demonstrated that exports contribute to economic growth. Ofeh and Muandzevara (2017) examined the impact of exports and imports on economic growth in Cameroon using Ordinary Least Squares and Cointegration analysis during the period 1980-2013. The empirical results indicated a positive effect of exports on economic growth, while imports had a negative impact. Keho (2017) utilized cointegration analysis, the ARDL model, and the Granger Causality Test to study the effect of trade on economic growth in Cote d'Ivoire over the period 1965-2014. The findings indicated a positive influence of trade on economic growth in both the long and short terms. Zhu et al. (2022) explored the relationship between exchange rates, exports, and economic growth in Asian countries from 1981 to 2016. Employing the Wald test under the Vector Error Correction Model (VECM) and the fixed effects model, the study established a significant impact of exports on economic growth. In a related vein, Subhan et al. (2021) empirically examined the interconnection between exports and economic growth in India. Using the VAR Model and ensuring the stationarity of variables through Augmented Dickey-Fuller and Phillip-Perron tests for the period 1961 to 2015, the results indicated a positive effect of exports on economic growth.

2.4. Imports and economic growth

The theoretical link between imports and economic growth lies in the dynamics of international trade and the complementarity of economies. Imports, which are the goods and services purchased abroad, play a crucial role in providing an economy with access to a variety of products and resources that it may not efficiently produce locally. This openness to imports can stimulate economic growth in several ways. First, by importing intermediate goods or raw materials needed for local production, companies can improve their efficiency and competitiveness, which promotes the growth of production and employment. Moreover, imports respond to domestic demand for specific goods and services, thus helping to diversify the supply available on the domestic market. Ultimately, this variety can enhance consumers' well-being and increase their purchasing power. However, it is important to manage imports in a balanced way to avoid excessive trade imbalance and preserve local industries. Promoting a well-adjusted trade policy and creating synergies between imports and domestic production sectors are key to maximizing the benefits of this relationship between imports and economic growth. Jan et al. (2019) conducted an examination of how exports and imports influence Pakistan's economic growth. They utilized time series data spanning from 1981 to 2016 to illustrate that exports have a favorable impact on long-term GDP growth. However, while imports displayed insignificance, they were found to be negatively associated with Pakistan's GDP. In a similar vein, Abdulla and Ali (2019) delved into the causal connection between exports, imports, and economic growth in Iraq. Their findings indicated a positive influence of both exports and imports on Iraq's long-term economic growth. Bakari (2019) examined the link between economic growth and import in the case of Morocco by using VAR model and Granger causality tests. Empirical analysis indicates that there is no relationship between imports and economic growth. In the case of Tunisia, Bakari et al (2018a) found that imports have adverse effects on economic growth in the long run by using cointegration analysis and VECM model {This result is confirmed by Bakari (2017b) and Bakari (2018)}. Aluko and Obalade (2020) took a closer look at the relationship between imports and economic growth across a sample of 26 African countries during the period 1990-2015, employing the framework of the neoclassical production function. By employing the Toda-Yamamoto Granger non-causality test, their empirical analysis revealed that in over half of the countries studied, there was an absence of a causal link between imports and economic growth. This provides substantial evidence that the direction of causality from imports to economic growth is lacking. Likewise, Aluko and Adeyeye (2020) investigated the causality between imports and economic growth in 41 African countries. Their conclusions suggest that, for the most part, the neutrality hypothesis holds true in both short- and long-run periods for the majority of countries. However, in a few instances, unidirectional causality was identified, running from imports to economic growth, and vice versa. Shah et al. (2020) undertook a comprehensive review of the interconnectedness among capital formation, economic growth, exports, and imports in Pakistan. This analysis was based on time series data from 1976 to 2015. The findings highlighted a long-term relationship between exports, imports, real GDP, and gross fixed capital formation. Interestingly, they observed that GDP did not directly stimulate exports and imports, but rather, exports and imports contributed to growth in the long run. Similarly, Reddy (2020) investigated the

dynamic between exports, imports, and economic growth in India over the period 1980-2019. The outcomes revealed a unidirectional causal relationship in the short run: economic growth to exports, exports to economic growth, exports to imports, and imports to economic growth. In the long run, the author confirmed the presence of a bidirectional causal relationship between economic growth and exports, as well as between exports and imports. Consequently, the study concluded that both exports and imports contribute to boosting economic growth in India. Similarly focused on India, Maitra (2020) explored the concept of import-led growth (ILG) in the post-reform period. Through a comprehensive analysis, the study yielded strong evidence supporting the ILG hypothesis, both in the short run and the long run. This underscores that imports significantly contribute to India's economic growth.

3. Empirical methodology

In this section, we will present our empirical methodology which tries to examine the impact of final consumption, domestic investments, exports and imports on economic growth in Albania. For this reason, we will divide this section into three paragraphs which attempt to present our basic model, our empirical approach and the structure of the database. We begin with the presentation of the structure of the database.

3.1. Data

To explore the correlation between final consumption, domestic investment, imports, exports, and economic growth in Albania, we will utilize a time series dataset covering the span from 1996 to 2022. This dataset will be sourced from the annual statistical reports provided by the World Bank. A concise representation of the variables is presented in Table 1.

Table 1. *Description of variables*

No	Variable	Explanation	Description	Source
1	Y	Economic Growth	GDP (constant 2015 US\$)	World Bank Indicators
2	FC	Final consumption	Final consumption expenditure (constant 2015 US\$)	World Bank Indicators
3	X	Exports	Exports of goods and services (constant 2015 US\$)	World Bank Indicators
4	DI	Domestic investment	Gross fixed capital formation (constant 2015 US\$)	World Bank Indicators
5	M	Imports	Imports of goods and services (constant 2015 US\$)	World Bank Indicators

Source: Built by the authors

According to this table, economic growth is explained by gross domestic product at constant price. In addition, domestic investment is expressed by gross fixed capital formation at constant price. The other variables are also taken at constant prices.

3.2. Methodology

To investigate the influence of Final consumption, exports, imports, and domestic investment on the economic growth of Albania, we will conduct an intricate empirical examination utilizing the Sims (1980) model. The Sims model offers various merits:

- It enables the exploration of co-integration among variables.
- It provides a more realistic approximation compared to alternative models, particularly when the model comprises five or fewer variables in the sample.

- It facilitates the assessment of causal links between short-term and long-term variables, assuming the presence of co-integration.
- It proves most effective when dealing with studies that involve the analysis of time series data.

Our empirical approach will commence by ascertaining the stationarity of variables through the utilization of the ADF stationary test. To progress to the subsequent stage of co-integration analysis, all variables must exhibit stationarity in their first differences. This will be followed by employing the Johansen Test to explore potential co-integration relationships among variables. In instances where co-integration is absent, we will resort to the VAR Model and the Granger Causality Test. Conversely, if co-integration relationships are detected, we will apply the VECM Model in conjunction with the Wald Test.

3.3. Model specification

Within this framework, we will initiate our analysis by adopting the neoclassical model to establish the causal relationships among exports, imports, final consumption, domestic investment, and economic growth. The structure of this model can be expressed as follows:

$$Y = F [DI, M, FC, X] \quad (1)$$

The function (1) can also be reproduced in a log-linear econometric format thus:

$$\text{Log}(Y)_t = \alpha_0 + \alpha_1 \text{Log}(DI)_t + \alpha_2 \text{Log}(M)_t + \alpha_3 \text{Log}(FC)_t + \alpha_4 \text{Log}(X)_t + \varepsilon_t \quad (2)$$

Where:

α_0 : is the constant term

α_1 : is the coefficient of domestic investment

α_2 : is the coefficient of imports

α_3 : is the coefficient of final consumption

α_4 : is the coefficient of exports

ε : is the random error term

t : is the time trend.

Following the comprehension of our dataset and the empirical approach we will employ, the subsequent section introduces an empirical investigation aimed at evaluating how final consumption, exports, imports, and domestic investment influence economic growth in Albania.

4. Empirical results

This segment constitutes an empirical investigation into the interconnection among economic growth, domestic investment, final consumption, imports, and exports within the context of Albania. To achieve a comprehensive understanding, we have structured this section into four distinct phases. Initially, we will ascertain the integration order of each individual variable. Subsequently, the second phase involves determining the most suitable number of lags for our estimation process. Moving on to the third phase, we will assess whether cointegration exists among the three variables. The final stage of this exploration encompasses the estimation of the Sims model.

4.1. Unit root tests

During this stage, our focus will be on investigating the stationarity of the variables incorporated in our model. To accomplish this objective, we will utilize the ADF and PP unit root tests. These tests serve the purpose of identifying the level of integration for each individual variable. Notably, the underlying economic aim of conducting stationarity analysis is to scrutinize how variables exhibit changes over the course of time.

Table 2. Unit Roots Tests

PP Test						
At Level						
		LOG(Y)	LOG(FC)	LOG(DI)	LOG(X)	LOG(M)
With Constant	t-Statistic	-1.2451	-0.2689	-2.0539	-4.3933**	-2.3668
With Constant & Trend	t-Statistic	-1.1092	-3.0298	-1.3472	-1.1925	-1.3645
At First Difference						
		d(LOG(Y))	d(LOG(FC))	d(LOG(DI))	d(LOG(X))	d(LOG(M))
With Constant	t-Statistic	-5.7381***	-5.9224***	-3.5594**	-4.1947***	-4.3090***
With Constant & Trend	t-Statistic	-8.8022***	-8.6392***	-4.2442**	-5.6291***	-5.5210***
ADF Test						
At Level						
		LOG(Y)	LOG(FC)	LOG(DI)	LOG(X)	LOG(M)
With Constant	t-Statistic	-1.1209	-0.0461	-2.0539	-4.0854***	-3.7220**
With Constant & Trend	t-Statistic	-1.1321	-2.7070	-1.3472	-2.0363	-1.4131
At First Difference						
		d(LOG(Y))	d(LOG(FC))	d(LOG(DI))	d(LOG(X))	d(LOG(M))
With Constant	t-Statistic	-6.2502***	-5.9224***	-3.3471**	-4.1466***	-4.2183***
With Constant & Trend	t-Statistic	-8.8022***	-5.9428***	-4.2749**	-5.3905***	-5.5091***
Notes: (*)Significant at the 10%; (**)Significant at the 5%; (***) Significant at the 1%. and (no) Not Significant						
*MacKinnon (1996) one-sided p-values.						

Source: Calculations done by authors based on the Eviews 12 software.

Table 2 presents the results of the stationarity of the two ADF and PP tests. We notice that all the variables {Log (Y), Log (DI), Log (FC), Log (X) and Log (M)} are stationary in first difference. In this case, the cointegration analysis and the Sims model will be retained.

4.2. Cointegration analysis

Following the outcomes presented in Table 2, which established the presence of a unit root for all variables, we proceeded to the subsequent phase by employing Johansen's cointegration methodology. This was done to probe the existence of a sustained connection among the variables in the long term. Subsequent to the implementation of the Johansen test and the estimation of the Sims Model, the determination of the optimal lag count best suited for our model became imperative. This selection process involves employing a specific statistical criterion, such as HQ, FPE, AIC, or SIC.

Table 3. Lag Order Selection Criteria

VAR Lag Order Selection Criteria						
Endogenous variables: DLOG(Y) DLOG(FC) DLOG(DI) DLOG(X) DLOG(M)						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	188.1502	NA	1.62e-13	-15.26251	-15.01709	-15.19740
1	239.1678	76.52641*	1.95e-14*	-17.43065*	-15.95808*	-17.03998*
* indicates lag order selected by the criterion						
LR: sequential modified LR test statistic (each test at 5% level)						
FPE: Final prediction error						
AIC: Akaike information criterion						
SC: Schwarz information criterion						
HQ: Hannan-Quinn information criterion						

Source: Calculations done by authors based on the Eviews 12 software.

The findings presented in Table 3 indicate that the optimal lag count is 1, as indicated by all criteria including AIC, SC, FPE, and HQ, which uniformly suggest that the appropriate number of lags is indeed 1. Cointegration analysis is of crucial economic importance because of its ability to reveal the long-lasting relationships between economic variables, transcending temporary fluctuations and short-term influences. In a context where economic dynamics are often guided by long-term trends rather than instantaneous variations, the Johansen test plays a central role.

Indeed, this test allows to determine if several variables present a stable and persistent connection, even if they display independent variations in the short term. This assessment is essential for several reasons. It provides an in-depth understanding of long-term balances between variables, which is of key importance for economic policies and future projections. Moreover, the identification of cointegrated relationships contributes to the construction of more solid and resilient economic models, since they are based on deeper foundations and avoid misinterpretations linked to temporary fluctuations. In addition, the cointegration analysis, in particular thanks to the Johansen test, makes it possible to discern the underlying causal links, thus providing valuable insight into the mechanisms that govern economic relations.

Table 4. *Cointegration analysis*

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0,05 Critical Value	Prob.**
None *	0.895806	134.1149	69.81889	0.0000
At most 1 *	0.760138	82.10043	47.85613	0.0000
At most 2 *	0.633613	49.26357	29.79707	0.0001
At most 3 *	0.557023	26.17008	15.49471	0.0009
At most 4 *	0.276455	7.442626	3.841466	0.0064
Trace test indicates 5 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0,05 Critical Value	Prob.**
None *	0.895806	52.01442	33.87687	0.0001
At most 1 *	0.760138	32.83686	27.58434	0.0096
At most 2 *	0.633613	23.09349	21.13162	0.0262
At most 3 *	0.557023	18.72746	14.26460	0.0092
At most 4 *	0.276455	7.442626	3.841466	0.0064
Max-eigenvalue test indicates 5 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Source: Calculations done by authors based on the Eviews 12 software.

In sum, cointegration analysis and the use of Johansen's test provide fundamental insights to better understand long-term economic interactions, thus enhancing the robustness of models, predictive capabilities and the relevance of economic conclusions. This approach proves advantageous as it allows us to determine the count of enduring co-integration relationships among our long-term variables.

The sequence of the Johansen test entails uncovering the quantity of cointegration associations. To accomplish this, the maximum likelihood method is applied, and the

outcomes are elucidated in Table 4. To ascertain the number of cointegration relationships, we need to assess the following hypotheses:

- If both the trace statistic and the Max-Eigen Statistic surpass the critical value, we reject the null hypothesis (H_0), indicating the presence of at least one cointegration relationship.
- If the trace statistic and the Max-Eigen Statistic fall below the critical threshold, we accept H_0 , signifying the absence of cointegration relationships.

The analysis identifies five cointegration relationships, signifying the viability of retaining the vector error-correction model. Indeed, the equilibrium equation of the long run is presented as follows:

$$\text{Log}(Y) = 0.03 - 1.02 \text{Log}(FC) - 0.96 \text{Log}(DI) - 0.56 \text{Log}(X) + 2.41 \text{Log}(M) \quad (3)$$

According to this equation, we note that there is (i) a negative relationship between domestic investment and economic growth (a 1% increase in domestic investment leads to a decrease of 0.96% of economic growth), (ii) a negative relationship between exports and economic growth (a 1% increase in exports leads to a decrease of 0.56% of economic growth), (iii) a positive relationship between imports and economic growth (a 1% increase in imports leads to an increase of 2.41% of economic growth), and (iv) a negative relationship between final consumption and economic growth (a 1% increase in final consumption leads to a decrease of 1.02% of economic growth). To validate the validity of the equilibrium equation in the long term, we will extract the equations from the vector error correction model and proceed to estimate them using the Gauss-Newton method. This will allow us to assess the significance of all variables in the context of long-term dynamics. Additionally, we will scrutinize the significance of variables in the short term through the application of a WALD test.

4.3. Estimation of VECM models

When estimating the vector error correction model, it becomes possible to examine the connection between the explanatory variables and both the dependent variable (Final consumption, exports, imports, domestic investment and economic growth) in the long run and the one in the short run. The estimation process involves five equations within the vector error correction models, each incorporating the equilibrium relationship derived from the cointegration vector error correction models:

- Equation that explains the impact of final consumption, domestic investment, exports and imports on economic growth in the long run:

Equation (4):
$$\begin{aligned} D(\text{DLOG}(Y)) = & C(1) * (\text{DLOG}(Y(-1)) + 1.02075256796 * \text{DLOG}(FC(-1)) \\ & + 0.960576072107 * \text{DLOG}(DI(-1)) + 0.564322969542 * \text{DLOG}(X(-1)) - \\ & 2.41487204996 * \text{DLOG}(M(-1)) - 0.0377244430465) + \\ & C(2) * D(\text{DLOG}(Y(-1))) + C(3) * D(\text{DLOG}(FC(-1))) + \\ & C(4) * D(\text{DLOG}(DI(-1))) + C(5) * D(\text{DLOG}(X(-1))) + \\ & C(6) * D(\text{DLOG}(M(-1))) + C(7) \end{aligned}$$

- Equation that explains the impact of economic growth, domestic investment, exports and imports on final consumption in the long run:

Equation (5):
$$D(DLOG(FC)) = C(8) * (DLOG(Y(-1)) + 1.02075256796 * DLOG(FC(-1)) + 0.960576072107 * DLOG(DI(-1)) + 0.564322969542 * DLOG(X(-1)) - 2.41487204996 * DLOG(M(-1)) - 0.0377244430465) + C(9) * D(DLOG(Y(-1))) + C(10) * D(DLOG(FC(-1))) + C(11) * D(DLOG(DI(-1))) + C(12) * D(DLOG(X(-1))) + C(13) * D(DLOG(M(-1))) + C(14)$$

- Equation that explains the impact of final consumption, economic growth, exports and imports on domestic investment in the long run:

Equation (6):
$$D(DLOG(DI)) = C(15) * (DLOG(Y(-1)) + 1.02075256796 * DLOG(FC(-1)) + 0.960576072107 * DLOG(DI(-1)) + 0.564322969542 * DLOG(X(-1)) - 2.41487204996 * DLOG(M(-1)) - 0.0377244430465) + C(16) * D(DLOG(Y(-1))) + C(17) * D(DLOG(FC(-1))) + C(18) * D(DLOG(DI(-1))) + C(19) * D(DLOG(X(-1))) + C(20) * D(DLOG(M(-1))) + C(21)$$

- Equation that explains the impact of final consumption, domestic investment, economic growth and imports on exports in the long run:

Equation (7):
$$D(DLOG(X)) = C(22) * (DLOG(Y(-1)) + 1.02075256796 * DLOG(FC(-1)) + 0.960576072107 * DLOG(DI(-1)) + 0.564322969542 * DLOG(X(-1)) - 2.41487204996 * DLOG(M(-1)) - 0.0377244430465) + C(23) * D(DLOG(Y(-1))) + C(24) * D(DLOG(FC(-1))) + C(25) * D(DLOG(DI(-1))) + C(26) * D(DLOG(X(-1))) + C(27) * D(DLOG(M(-1))) + C(28)$$

- Equation that explains the impact of final consumption, domestic investment, exports and economic growth on imports in the long run:

Equation (8):
$$D(DLOG(M)) = C(29) * (DLOG(Y(-1)) + 1.02075256796 * DLOG(FC(-1)) + 0.960576072107 * DLOG(DI(-1)) + 0.564322969542 * DLOG(X(-1)) - 2.41487204996 * DLOG(M(-1)) - 0.0377244430465) + C(30) * D(DLOG(Y(-1))) + C(31) * D(DLOG(FC(-1))) + C(32) * D(DLOG(DI(-1))) + C(33) * D(DLOG(X(-1))) + C(34) * D(DLOG(M(-1))) + C(35)$$

Table 5. Significance of VECM Models in the long run

Gauss-Newton method: Least Squares				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1):ECT	-0.039774	0.194901	-0.204073	0.8388
C(2)	-0.000887	0.550487	-0.001612	0.9987
C(3)	-0.160904	0.308288	-0.521928	0.6032
C(4)	0.140638	0.194238	0.724049	0.4711
C(5)	-0.049994	0.154137	-0.324350	0.7465
C(6)	-0.020019	0.292877	-0.068353	0.9457
C(7)	-0.000719	0.008072	-0.089121	0.9292
C(8): ECT	-0.119153	0.212701	-0.560187	0.5769

Gauss-Newton method: Least Squares				
	Coefficient	Std. Error	t-Statistic	Prob.
C(9)	-0.161631	0.600762	-0.269043	0.7886
C(10)	0.079174	0.336443	0.235327	0.8146
C(11)	0.204647	0.211977	0.965418	0.3372
C(12)	0.086881	0.168214	0.516494	0.6069
C(13)	-0.232596	0.319625	-0.727715	0.4689
C(14)	0.001737	0.008809	0.197140	0.8442
C(15): ECT	0.665137	0.493447	1.347940	0.1815
C(16)	1.732853	1.393710	1.243339	0.2174
C(17)	0.091801	0.780515	0.117616	0.9067
C(18)	-0.579142	0.491767	-1.177676	0.2424
C(19)	-0.277636	0.390239	-0.711452	0.4789
C(20)	0.731661	0.741500	0.986732	0.3267
C(21)	0.004141	0.020437	0.202626	0.8399
C(22): ECT	0.427949	0.978666	0.437278	0.6631
C(23)	3.128701	2.764183	1.131872	0.2611
C(24)	-2.611234	1.548016	-1.686826	0.0955
C(25)	0.446663	0.975335	0.457958	0.6482
C(26)	-0.722668	0.773972	-0.933713	0.3533
C(27)	0.181593	1.470637	0.123479	0.9020
C(28)	0.004284	0.040533	0.105688	0.9161
C(29): ECT	1.307101	0.531656	2.458548	0.0161
C(30)	1.247635	1.501629	0.830854	0.4085
C(31)	-0.284853	0.840952	-0.338727	0.7357
C(32)	-0.181716	0.529846	-0.342960	0.7325
C(33)	-0.514025	0.420456	-1.222541	0.2251
C(34)	0.705962	0.798916	0.883649	0.3795
C(35)	0.005013	0.022019	0.227662	0.8205

Source: Calculations done by authors based on the Eviews 12 software.

To confirm the presence of a sustained relationship among the variables encompassed within our model, adherence to the econometric principle necessitates that the coefficient of the error correction term should exhibit negativity and carry a probability lower than 5%. Table n°5 presents the results of the significance of the long-term equilibrium equations concerning the error-correction vector models. It is clear to us that not all ECTs are meaningful. In this case, we confirm the absence of causal relationships between final consumption, domestic investment, exports, imports and long-term economic growth. In an exact way that is linked to our problem, domestic investments, exports, imports and final consumption are not considered as a source of long-term economic growth. To ascertain the immediate association within the vector error correction model, the WALD test is employed. The econometric guideline indicates:

- If the probability is below 5%, it indicates a causal connection between the two variables.
- If the probability exceeds 5%, it implies the absence of a causal link between the two variables.

Table 6 presents the results of the WALD test which explains the relationships between the short-term variables. It is also clear to us that there is no causal relationship between all the variables in the short term. The finding that domestic investments have no significant effect on Albanian's economic growth in the long run in the short run can be attributed to several factors. First, investments could be misallocated or insufficiently targeted to growth sectors, thus limiting their ability to stimulate innovation and productivity. Additionally,

structural barriers such as infrastructure gaps, regulatory inefficiencies and labor market constraints could reduce the effectiveness of investments in terms of value addition. Investments could also be held back by political uncertainties, macroeconomic instability and governance issues that discourage investors from making long-term commitments. In addition, weak integration into global value chains and overreliance on certain sectors could make the economy vulnerable to external fluctuations. Yet, an in-depth analysis is needed to assess how these different factors interact and contribute to the lack of lasting impact of domestic investments on economic growth in Albania. In fact, several works such as Bakari et al (2018b), Bakari et al (2020), Bakari (2022), Ugochukwu and Chinyere (2013), Iwaisako and Futagami (2013), Nweke et al (2017), Topcu et al (2020), and Aslan and Altinoz (2021) have found that domestic investments have adverse effects on long-term economic growth.

The observation that exports do not seem to have a significant effect on economic growth in Albania may result from several interconnected factors. First, excessive concentration on a limited number of export products or markets could make the economy vulnerable to fluctuations in external demands. In addition, barriers to entry into international markets, such as high logistics costs or burdensome regulations, could limit the competitiveness of Albanian products on the world stage. Exports could also be affected by the quality of transport and communication infrastructure, as well as inefficiencies in the supply chain. In addition, quality, compliance with international standards and reputational issues could affect the competitiveness of Albanian exports. In sum, the lack of observed effect of exports on long-term growth in Albania could result from these multiple challenges, highlighting the need for policy measures to improve the diversification, quality and competitiveness of national exports. In fact and in this context, several studies have shown that exports have adverse effects on economic growth. Among these works, we can cite Bakari (2017d), Bakari and Saaidia (2018), Bakari (2017e), Faridi (2012), Kartikasari (2017), Gyimah-Brempong (1991), Okyere and Jilu (2020), Kılavuz and Topcu (2012).

Also, the finding that imports do not appear to have a significant impact on economic growth in Albania can be attributed to several interconnected factors. First, excessive reliance on imports to meet domestic demand could reduce the contribution of local production to the national economy. Moreover, if imports are mainly oriented towards consumer goods rather than investment goods or raw materials, this could limit their contribution to the expansion of productive capacity and innovation. In addition, persistent trade deficits could lead to macroeconomic imbalances, such as net outflows of foreign currency. Moreover, if imports are accompanied by limited technological transfers, this could hamper long-term economic growth. Finally, constraints related to the quality, diversification and competitiveness of imported products could also influence their impact on growth. Overall, the observed lack of effect of imports on economic growth in Albania may result from a complex mix of these factors, underscoring the importance of strategic economic policies to maximize the benefits of imports for long-term development. In fact, there are other works that have confirmed that imports have adverse effects on economic growth. Among these works, we can cite Taghavi et al (2012), Triyawan et al (2021), Okyere and Jilu (2020), Ramos (2001), Bakari et al (2021), Bakari (2017c).

Table 6. *Estimation of VECM Model in the short run*

VEC Granger Causality/Block Exogeneity Wald Tests			
Dependent variable: D(DLOG(Y))			
Excluded	Chi-sq	df	Prob.
D(DLOG(FC))	0.272409	1	0.6017
D(DLOG(DI))	0.524247	1	0.4690
D(DLOG(X))	0.105203	1	0.7457
D(DLOG(M))	0.004672	1	0.9455
All	2.854350	4	0.5825
Dependent variable: D(DLOG(FC))			
Excluded	Chi-sq	df	Prob.
D(DLOG(Y))	0.072384	1	0.7879
D(DLOG(DI))	0.932031	1	0.3343
D(DLOG(X))	0.266766	1	0.6055
D(DLOG(M))	0.529570	1	0.4668
All	1.886572	4	0.7566
Dependent variable: D(DLOG(DI))			
Excluded	Chi-sq	df	Prob.
D(DLOG(Y))	1.545891	1	0.2137
D(DLOG(FC))	0.013834	1	0.9064
D(DLOG(X))	0.506164	1	0.4768
D(DLOG(M))	0.973639	1	0.3238
All	4.972233	4	0.2902
Dependent variable: D(DLOG(X))			
Excluded	Chi-sq	df	Prob.
D(DLOG(Y))	1.281134	1	0.2577
D(DLOG(FC))	2.845384	1	0.0916
D(DLOG(DI))	0.209726	1	0.6470
D(DLOG(M))	0.015247	1	0.9017
All	7.492206	4	0.1121
Dependent variable: D(DLOG(M))			
Excluded	Chi-sq	df	Prob.
D(DLOG(Y))	0.690319	1	0.4061
D(DLOG(FC))	0.114736	1	0.7348
D(DLOG(DI))	0.117622	1	0.7316
D(DLOG(X))	1.494608	1	0.2215
All	2.357383	4	0.6703

Source: Calculations done by authors based on the Eviews 12 software.

Finally, the finding that final consumption expenditure does not have a significant effect on economic growth in Albania can be attributed to several interrelated reasons. First, if consumer spending is mainly oriented towards imported consumer goods, this could reduce its contribution to the creation of national added value and slow down the development of local productive sectors. Moreover, if households spend a large portion of their income on immediate consumption rather than saving or investing, this could limit the resources available to stimulate long-term economic expansion. In addition, significant income inequality could lead to an inefficient distribution of consumer spending, thereby reducing its impact on overall growth. Demographic factors, such as population structure and birth rates, could also influence the demand for consumer goods in the long run. Overall, the lack of observed effect of final consumption expenditure on economic growth in Albania could result from these multiple complex dynamics, underscoring the need for a comprehensive approach to boost the role of consumption in development. sustainable economy. In fact, there are other works that have confirmed that final consumption expenditure has adverse effects on economic growth. Among these works, we can cite Obinna (2020), Almasifard (2013), Hajamini and Falahi (2014), Agalega and Acheampong (2013).

5. Conclusions and recommendations

In this work, we examined the impact of final consumption, domestic investment, exports and imports on economic growth in the case of Albania during the period 1996 – 2021. In our analysis, we applied cointegration analysis, VECM model and WALD test. In the long run and in the short run, empirical analysis proved that there is no causality relationship between final consumption, exports, domestic investment, imports and economic growth. Domestic investments, exports, imports and final consumption expenditure are unlikely to have any effect on economic growth in Albania. In fact, these factors generally play a vital role in the economic development of any country. Domestic investment stimulates capital creation and innovation, thereby promoting long-term growth. Exports increase national revenue by selling products in foreign markets, while imports provide access to essential goods and technologies. Final consumption expenditure reflects domestic demand, helping to support economic activity. However, if these factors appeared not to influence growth in Albania in a hypothetical context, this could be attributed to specific factors such as structural problems, political instability, budgetary constraints or major economic distortions. In practice, all of these elements usually have a significant impact on a country's economic growth. To stimulate economic growth in Albania through exports, imports, investments and final consumption expenditure, several strategic measures could be taken:

- Encourage companies to diversify their products and seek new export markets. Set up incentives such as tax advantages or subsidies for companies that develop their activities abroad.
- Invest in modern and efficient transport infrastructure to reduce export and import costs. Well-equipped ports, improved land transport networks and more efficient logistics will help strengthen international competitiveness.
- Simplify customs procedures, reduce bureaucracy and speed up administrative processes related to international transactions. This will help facilitate trade and encourage foreign investment.
- Create an investment-friendly environment by providing tax incentives, improving the protection of intellectual property rights and reducing bureaucratic obstacles. Encourage investment in key sectors such as infrastructure, technology and industry.
- Invest in research and development to stimulate innovation and the creation of new technologies. This will allow companies to position themselves advantageously on the world market and create products with higher added value.
- Invest in education and vocational training to develop a skilled workforce adapted to the needs of the modern economy. This will promote competitiveness and encourage long-term investment.
- Encourage people to spend wisely and sustainably, by supporting initiatives such as fair trade and local products. This can help strengthen domestic demand and support small local businesses.
- Establish a stable and predictable political and regulatory climate to build domestic and foreign investor confidence. This will create an environment conducive to long-term investment.

By combining these measures, Albania could create a favorable economic ecosystem that exploits the potential of its exports, imports, investments and final consumption

expenditure to foster sustainable economic growth. To boost economic growth in Albania, several key strategies could be implemented. First, effective regulatory and administrative reform could simplify investment and business creation processes, thereby attracting more domestic and foreign investors. At the same time, substantial investments in transport infrastructure, energy and telecommunications could reduce logistics costs and boost business productivity. Encouraging the diversification of exports, in particular by promoting products with higher added value and by targeting new markets, would strengthen the country's international competitiveness. Furthermore, by promoting education and training adapted to the needs of the labor market, Albania could develop a competent and adaptable workforce. Prudent fiscal management and incentives for innovation and research could encourage the development of new industries and technologies. Finally, promoting a stable political climate and fighting corruption would boost investor confidence and foster an environment conducive to long-term economic growth.

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