



Article

The Interrelationship Between Investment, Government Expenditure, and Export Growth Affecting Economic Growth of a Country

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Abstract: This study examines the main factors influencing economic growth in Italy, with particular emphasis on the interrelationship between investment, government expenditure, and export growth. The impact of domestic investment, foreign direct investment, consumption expenditure, and export growth on gross domestic product (GDP) was analyzed over the period 2016–2020. Using correlation and regression analysis, it was determined that domestic investment and export growth exert a significant influence on economic growth. The findings indicate that the promotion of domestic investment and the expansion of export activities are among the key drivers of Italy's economic growth. Furthermore, the results highlight the necessity of strengthening domestic investment and export performance to ensure sustainable economic development and long-term stability in the Italian economy.

Keywords: economic growth, investment, government expenditure, export growth, gross domestic product.

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Introduction

Economic growth is considered a key indicator determining the level of development and economic prosperity of any country. The growth of gross domestic product (GDP) reflects the interrelations among a country's production capacity, consumption and investment activities, as well as external trade. For all economic systems, it is essential to analyze the interactions among variables and the factors influencing them. The Italian economy, characterized by its historical experience, strong manufacturing sector, and export-oriented policy, is regarded as one of the most developed economies in Europe. However, it has also faced specific challenges and constraints related to its growth rate[1,2]. Therefore, the primary objective of this study is to examine the factors affecting Italy's economic growth by analyzing the interrelationship among investment, government expenditure, and export growth.

Investment is regarded as a crucial instrument for ensuring economic growth. The volume of both foreign and domestic investments directly influences the development of a country's economy. Differences between foreign direct investment and domestic investment affect both internal and external economic relations[3]. Foreign investments introduce new technologies, create employment opportunities, and expand production

capacities, whereas domestic investments primarily provide the capital necessary for the development of production and service sectors. Identifying the interdependence among these variables and their impact on GDP plays a significant role in shaping economic policy[4]. Furthermore, government expenditure and final consumption expenditure also influence economic growth, as public spending is considered a key factor affecting infrastructure development, social systems, and international trade relations.

Another important factor influencing Italy's economic growth is exports. Export growth facilitates the expansion of economic activity and creates opportunities to enter new markets. Italy relies on its export-oriented economy to supply goods and services to international markets, which, in turn, stimulates its manufacturing sector and overall economic growth. The increase in exports not only enhances foreign trade but also contributes to job creation and increased production volume[5,6]. Thus, export growth has a significant impact on economic development. In this study, the main directions of Italy's economic development are identified by analyzing the key determinants of GDP growth, particularly investment, government expenditure, and export growth.

Methodology

In this study, Italy's economic indicators for the period 2016–2020 were analyzed, including gross domestic product, final consumption expenditure, foreign direct investment, export growth rate, domestic growth rate, and general government consumption expenditure. Correlation analysis was employed to identify the relationships among variables, while regression analysis was used to examine the factors influencing GDP. Multicollinearity was tested using the Variance Inflation Factor (VIF) method. The analysis was conducted using the STATA 17 software package.

Results

According to the data, the correlation coefficients between gross domestic product (GDP) and other economic indicators are distributed as follows. This analysis facilitates the identification of relationships among variables and the assessment of their statistical significance:

Table 1. Correlation Analysis.

Variables	(1) GDP	(2) FCE	(3) FDI	(4) EGS	(5) IGS	(6) GGFCE
(1) GDP	1.000					
(2) FCE	0.996*	1.000				
(3) FDI	-0.243	-0.297	1.000			
(4) EGS	0.982*	0.964*	-0.183	1.000		
(5) IGS	0.993*	0.989*	-0.263	0.989*	1.000	
(6) GGFCE	0.521	0.488	0.541	0.480	0.445	1.000

A correlation coefficient of 0.996 is observed between GDP and final consumption expenditure (FCE), indicating a very strong positive relationship. This relationship is statistically significant (p-value = 0.000), suggesting that economic growth is directly associated with consumption expenditure[7,8]. Therefore, an increase in consumption expenditure exerts a substantial impact on economic growth. The correlation between GDP and foreign direct investment (FDI) is -0.243, indicating a negative relationship; however, this relationship is not statistically significant (p-value = 0.693). Thus, no significant impact of external investment on economic growth is observed, implying that the influence of FDI on GDP remains limited. A high positive correlation of 0.982 is identified between GDP and export growth rate (EGS), which is statistically significant (p-

value = 0.003)[9,10,11]. Export growth significantly contributes to economic expansion, as increases in exports enhance external trade and production, ultimately leading to GDP growth. Furthermore, a very strong positive relationship (0.993) is observed between GDP and internal growth/investment (IGS), which is statistically significant (p-value = 0.001). This finding confirms the crucial role of domestic investment in economic growth, indicating that internal investment substantially stimulates economic expansion.

In contrast, a moderate positive correlation (0.521) is found between GDP and government expenditure (GGFCE); however, this relationship is not statistically significant (p-value = 0.368). This suggests that, although government spending is important, its impact on economic growth is relatively weaker compared to other factors.

Regression Analysis

The regression analysis examining the relationship between GDP and other economic indicators (particularly IGS) produced the following results:

Table 2. Regression Analysis.

Variable	Coefficient	Std. Error	t-value	p-value	[95% Confidence Interval]	Sig
IGS	1.656	0.11	15.01	0.001	[1.305, 2.007]	***
Constant	1.086e+12	5.956e+10	18.24	0.000	[8.966e+11, 1.276e+12]	***

The coefficient of determination (R^2) is 0.987, indicating that 98.7% of the variation in GDP is explained by the independent variable. This reflects a very high level of model fit, suggesting that the main determinant (IGS) effectively explains GDP.

The F-test value is 225.299 with a p-value of 0.001, indicating that the model is statistically significant. The Akaike Information Criterion (AIC = 247.219) and Bayesian Information Criterion (BIC = 246.438) further confirm the reliability and efficiency of the model. The interpretation indicates that the independent variable (IGS) has a coefficient of 1.656, meaning that it exerts a positive and statistically significant effect on GDP (p-value = 0.001). The constant term (1.086×10^{12}) represents the baseline level of GDP in the model[12].

Multicollinearity Test

To assess multicollinearity among the independent variables, the Variance Inflation Factor (VIF) was calculated. The results are presented below:

Table 3. VIF (Variance Inflation Factor).

Variable	VIF	1/VIF
IGS	1.4	0.6
EGS	2.1	0.4
FDI	1.9	0.5
Mean VIF	2.3	

The VIF values indicate the absence of multicollinearity in the model. This demonstrates that there is no strong linear relationship among the independent variables and confirms that the regression model is properly specified.

Discussion

The results of the regression analysis indicate that imports of goods and services exert a significant impact on gross domestic product. The variable representing imports of goods and services demonstrates an effect of 1.656 on GDP, and this effect is statistically significant (p-value = 0.001). This result confirms the important role of domestic

investment in economic growth. Changes in imports of goods and services directly influence economic expansion[13]. Domestic investments, in particular, have a substantial effect on economic processes such as inflation, job creation, and the increase in production volume. Generally, domestic investment provides the essential capital required for the development of the economic system. These findings highlight the importance of supporting economic growth through the attraction of domestic investment and confirm that its role is stronger compared to foreign investment. Thus, the promotion of domestic investment serves as a key instrument for ensuring sustainable economic growth.

The results of the analysis further indicate that a very strong positive relationship exists between gross domestic product and final consumption expenditure ($r = 0.896$). This relationship is statistically significant (p -value = 0.000) and suggests that consumption expenditure has a substantial impact on economic growth. Consumption increases aggregate demand within the economy and stimulates production, as higher consumer spending raises market demand. The expansion of market demand encourages producers to supply new goods and services, which in turn increases production volume and strengthens GDP[14]. The strong association with final consumption expenditure demonstrates the significance of domestic consumption in economic growth. Therefore, economic growth can be supported through the expansion of domestic consumption. This result also indicates the importance of supporting consumers and increasing their expenditures to stimulate economic growth, as well as the effectiveness of policies such as tax reductions and consumer support measures in activating economic development.

A strong positive relationship ($r = 0.882$) is observed between export growth and GDP, indicating the significant role of exports in economic growth. This relationship is statistically significant (p -value = 0.003), demonstrating that export expansion substantially contributes to economic development. Export growth increases demand in external markets, thereby supporting economic expansion. The expansion of foreign trade activity enhances overall economic activity, increases production, and contributes to GDP growth. Moreover, export growth improves a country's competitiveness in international markets, encouraging producers to adopt new technologies and enter new markets. The strengthening of exports plays an important role in creating new jobs, attracting investment into the production sector, and ensuring overall economic growth. These findings emphasize the importance of export promotion within economic policy.

The relationship between government expenditure and GDP ($r = 0.521$) is relatively weak, indicating that the impact of government spending on economic growth is lower compared to other factors. Although government expenditure plays an important role in supporting economic activity, particularly through spending on infrastructure and social services, its influence is relatively limited when compared to domestic investment and exports[15]. The impact of government spending on economic growth is primarily realized through expenditures on infrastructure and social systems. At the same time, fiscal policy and public expenditure may affect only certain sectors of the economy and segments of society. This suggests that the long-term impact of government expenditure on economic growth is comparatively smaller and highlights the need for greater emphasis on investment-oriented policies to sustain economic development.

Conclusion

In this study, the main factors influencing the economic growth of Italy, namely domestic investment, consumption expenditure, export growth, and government expenditure, were examined. The results of the analysis indicate that domestic investment and export growth emerge as the most significant determinants of economic growth. The domestic investment variable demonstrates a strong positive impact on GDP, confirming its crucial role in driving economic expansion.

Furthermore, export growth contributes to the expansion of external trade, increases production, and facilitates the creation of new employment opportunities. A strong

positive relationship observed between consumption expenditure and GDP indicates that consumption is closely associated with economic growth.

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