ECONOMIC DEVELOPMENT OF ITALY IN THE XXI CENTURY

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Abstract. This article presents a comprehensive study of macroeconomic indicators that shape the trajectory of the Italian economy in the XXI century. In an effort to understand the complex interrelationships between key factors, the purpose of the study is to assess the aggregate impact of key indicators, including the poverty index, economic openness, foreign direct investment and persistent unemployment, on the Italian economic landscape. In particular, the research sheds light on the government’s proactive measures to tackle the complex issue of unemployment, underlining the urgency of addressing this critical problem. The paper also examines the dynamics of Italy’s balance of payments since its integration into the euro area, highlighting the country’s key role in global markets. Italy’s status as a major producer in sectors ranging from clothing and automobiles to renowned products such as wine and cheese underlines its importance as an attractive destination for international investment. This analysis aims to provide a detailed understanding of Italy’s integration into the global economy and the consequences for its economic performance. The methodology applied in this study uses rigorous correlation and regression analysis. To address potential multicollinearity issues, three distinct models are proposed. These models offer a robust framework for economic interpretation by highlighting the complex interrelationships between different indicators. The study emphasises the key role of such indicators as public spending, economic openness, poverty index, labour force dynamics and gross fixed capital formation in shaping Italy’s economic trajectory. The results of the analysis underline the importance of taking these indicators into account when developing future economic development plans for Italy. The key factors identified, including public expenditure, economic openness, the poverty index, labour force dynamics and gross fixed capital formation, have a significant impact on a country’s gross domestic product (GDP) and GDP per capita. In terms of practical implementation, the study suggests that policymakers and stakeholders should prioritise these indicators when designing robust and sustainable economic strategies. Such practical implications of the research findings are necessary to guide Italy’s economic development and ensure its continued leadership in a dynamic global market. The originality of this study lies in its holistic approach, which offers a comprehensive study of various macroeconomic factors. The proposed models significantly deepen the understanding of Italy’s economic dynamics, making a valuable contribution to the academic discourse on this topic.

Key words: economy, Italy, GDP, labour, poverty index, regression analysis.

JEL Classification: E02, P36, C20

1. Introduction

Italy is a developed country with a modern high-tech industry and a strong, diversified sector of small and medium-sized enterprises, most of which are family-owned. It is one of the largest economies in the EU and the world. Industry is concentrated in the north, with the most developed sectors being engineering, metallurgy, automotive, textiles and clothing, food and chemicals. At the same time, the country has its shortcomings, which significantly affect investment attractiveness and the investment climate within Italy. A peculiarity of the Italian economy is a significant share of the “shadow economy”, which is also atypical for Western European countries. According to the World Economic Forum’s Global Competitiveness Report 2017–2018, Italy is included in the...
Group 3 level of development, which focuses on innovation. The main indicators of this level of economic development are business development and innovation indicators. In 2016, Italy was among the 10 countries with the highest number of invented patents (Schwab, 2017).

This problem is the subject of research by a wide range of foreign and domestic scholars, namely Codagnone S. et al. Researchers such as Liotti G., Canale R., M. Musella studied the unemployment rate in the country as one of the main factors of economic development, on the one hand, and demonstrated the effects of the recession in the Italian economy, on the other hand. Millemachi E., Salvati L., Simone D. and Pianta M., and Pasimeni P. studied inflationary trends in Italy. The researchers note that Italy’s industry is heavily dependent on gas as an energy source, and in many energy-intensive sectors, producer prices have risen significantly in recent years. The gap between nominal wages and inflation has begun to widen. Inflationary pressures affect Italian households unevenly, with price increases affecting the poorest much more due to the large share of energy and food costs.

Despite the fact that many scholars have already studied various stages of economic and socio-economic development in Italy, not only the national but also the global economy is developing and transforming so rapidly that previous works should be supplemented with more relevant research. Italy, like other countries of the world, is facing new challenges and problems, and a thorough analysis of economic development in 1999–2022 makes it possible to predict the country’s further economic development. The research is a comprehensive study of the peculiarities of Italy’s economic development based on selected macroeconomic indicators.

2. Model

This paper demonstrates two models of regression analysis of the impact of the main macroeconomic indicators on the indicators of economic development, namely GDP (G) and GDP per capita (P) in Italy.

\[
\log G_t = a + \log \beta_1 C_t + \log \beta_2 F_t + \log \beta_3 I_t + \log \beta_4 X_t + \log \beta_5 D_t + \log \beta_6 E_t, \quad (1)
\]

\[
\log P_t = a + \log \beta_1 C_t + \log \beta_2 F_t + \log \beta_3 I_t + \log \beta_4 X_t + \log \beta_5 D_t + \log \beta_6 E_t, \quad (2)
\]

The following independent indicators were used as indicators of economic development: \( C_t \) is an indicator of gross fixed capital formation in Italy; \( F_t \) is the labour force indicator in terms of the economically active population aged 15-64; \( I_t \) is an indicator of macroeconomic instability (the poverty index, which is calculated as the sum of the unemployment rate and the inflation rate in the country); \( X_t \) is an indicator of the level of openness of the Italian economy (the number of exports and imports of goods and services in relation to GDP); \( D_t \) is the volume of foreign direct investment in countries; \( I_t \) is an indicator of public expenditure (about Italy’s GDP), \( \beta \) is a coefficient. The model uses logarithms due to the use of different units of measurement for the indicators presented above.

3. Results

The Italian economy proved to be more resilient in early 2022 than expected in the spring, thanks to a boom in construction activity. In the near term, output growth is supported by growth in the service sector following the lifting of almost all COVID-related restrictions and stable construction volumes. Real GDP growth in 2022 is projected at 2.9%, thanks to a significant carryover effect from 2021 and an upward revision to the estimate of GDP growth in the first quarter of 2022. Risks to the growth outlook are tilted to the downside, especially with respect to possible disruptions in natural gas supplies, given Italy’s heavy dependence on Russian supplies despite recent diversification efforts (Economic Forecast for Italy. Economy and Finance, 2023).

GDP growth is the change in the value of a country’s GDP at market prices. After the country joined the Eurozone, the competitiveness of national goods and services declined significantly due to low labour productivity compared to neighbouring countries such as France or Germany, and since the early 2000s, the indicator has been declining, reaching 0% in 2003. In 2008–2009, GDP growth was negative due to the global crisis, which affected not only the banking sector but also global trade. Two years later (in 2011), there was a downward trend and, as a result, negative values of the indicator in 2012, when Italy found itself in a debt crisis along with other peripheral countries. However, the sharpest decline in GDP (-9%) in
more than 20 years was observed in 2020 amid the peak of the COVID-19 virus spreading around the world. Italy was one of the countries hit hardest by the global pandemic.

GDP includes the market value of all goods and services produced in the country, so this indicator has a significant impact on the development of the country’s economy. That is why it is included in the model. Italy’s economy recovered quickly from the COVID-related drop in production and avoided economic scars. Employment and labour force participation have fully recovered, banks’ non-performing loans have continued to decline, and their capital positions have strengthened. Nevertheless, the economy is now facing serious new challenges. The war in Ukraine and COVID-related disruptions in global supply chains have driven up energy prices and overall inflation, and exacerbated shortages of key commodities, even as global demand slowed. Ensuring adequate energy supply is a priority. A severe drought in the northern part of the country will further increase pressure on food prices and exacerbate energy security concerns. Italian government bond yields rose and spreads widened amid prospects for monetary tightening and political uncertainty amid a deteriorating global outlook. Restoring the growth trend is essential for strengthening public finances to achieve social, climate and other goals, as well as to reduce high public debt levels. Growth is projected to slow sharply and remain subdued due to the war in Ukraine, tighter monetary policy, prolonged supply chain disruptions, and higher and more persistent inflation. Overall, the economy is projected to grow by 3% in 2022, largely due to a large carryover from last year, before slowing to around ¾% in 2023. Growth is forecast to accelerate in the coming years, when energy prices are moderate, supported by public investment spending under the National Recovery and Resilience Plan (NRRP) (IMF Executive Board concludes 2022 Article IV consultation with Italy).

Disruptions in gas supplies due to sanctions against Russia pose a significant economic risk to Europe at this stage. In the event of a prolonged complete shutdown of Russian gas, the most vulnerable countries in Central and Eastern Europe could face total gas shortages and a 6% loss in GDP. Italy will also face significant impacts due to its heavy reliance on gas for electricity generation, although it has a greater potential to secure alternative gas supplies (Gabriel Di Bella et al., 2022). Following the change in GDP, GDP per capita also changes. Italy is considered a country with a high level of income per capita. Figure 2 shows how per capita income grew rapidly from the moment it joined the Eurozone until the global crisis of 2008. However, by 2015, when a large influx of migrants began to flow into Europe, the level of income in Italy fell to the level of 2003. Currently, the dynamics of GDP per capita
is undulating, with a decline in 2019/20 and further growth in 2021.

GDP per capita is a direct measure of the population’s income, and changes in it can be used to show the development (or, conversely, regression) of a country’s economy, so this indicator is one of the two dependent variables in the regression analysis. Over the past 20 years, Europe’s population has experienced at least three major crises. The very phenomenon of crisis causes significant macroeconomic instability and a decline in the income level of the population of a country. To determine the extent to which the situation of the Italian population has deteriorated/improved over this period, the poverty index will be calculated and analysed below.

There is a significant correlation with the unemployment rate, as it has a much higher share compared to the inflation rate in Italy. As Italy is a member of the EU, the ECB controls the inflation rate in the country. The ECB Board reviews monetary policy decisions every six
weeks, determining what needs to be done to keep inflation at 2%. However, this is not always possible, as was the case in 2012–2014 due to the crisis that engulfed Greece, Spain, Portugal and Italy, as well as in December 2022, when inflation was 11.6%, due to rising energy prices as a result of sanctions against the Russian Federation and some countries cutting off Russian gas. Given that the heating season is approaching, the ECB is not encouraging with its near-term inflation forecasts (IMF Executive Board Concludes 2022 Article IV Consultation with Italy, 2022). The sharp rise in energy and food prices, combined with persistent supply shortages, is pushing up consumer prices. While price pressures from tight energy markets are not expected to ease until next year, a severe drought in northern Italy is likely to exacerbate the spike in food prices for consumers. Wage pressures are expected to increase over the forecast period. At the same time, the impact of higher consumer prices on labour costs is expected to be only partial and with a certain lag, given the duration of the current tariff agreements and low labour market activity. Nevertheless, core inflation is projected to increase significantly this year and remain close to consumer inflation in 2023 (Economic Forecast for Italy. Economy and Finance, 2023).

In order to control inflation, the Central Bank raises the key policy rate, making the targeted lending programme less attractive to banks. In 2012, the key policy rate was on a downward trend and was zero for a long time. So far in 2022, the key policy rate has been raised three times – in July, September, and October – and currently stands at 2%. The last time the rate was this high was in 2008–2009. The unemployment rate in Italy is considered to be one of the highest in the EU, which is a weakness of the Italian economy. After joining the Eurozone, Italy faced a decline in the competitiveness of goods and services due to low labour productivity in the country. The solution to the problem was to attract more workers, which solved several problems at once – reducing the burden on the economy in the form of unemployed people and increasing employee productivity through competition in the workplace. This resulted in the lowest level of 6.1% (2007) in more than 20 years, but it is worth noting that the unemployment rate remained high at 3-5%. Between 2008 and 2014, the unemployment rate more than doubled to 12.6%. The reasons for such a significant increase in the number of unemployed were the financial and debt crisis, as well as the influx of migrants from Africa, Romania, Albania and Latin America. However, the reforms adopted in 2014 to prevent further increases in unemployment are showing a downward trend (9.2%). The new crisis of 2020, caused by the global COVID-19 pandemic, layoffs and the closure of a large number of small and medium-sized enterprises, has again led to an increase in unemployment not only in Italy but also globally. Over the entire period of 1999–2021, public expenditures in Italy averaged 50% of GDP. In general, the government tries to support the population in times of crisis by increasing public spending. The largest share is spent on social insurance (about 20% of GDP) and general public services (about 10% of Italy’s GDP). In recent years, they have increased significantly due to the COVID-19 pandemic, reaching 56% of the country’s GDP by 2021.

Italy’s trade volumes have grown significantly since the country joined the Eurozone. The main trading partners of Italy are the countries of the Eurozone, in particular Germany and France. Other important export destinations are the United States and Switzerland. Germany and France are Italy’s main import partners. As the country’s manufacturing sector specialises in high-quality goods, Italy plays an important role in the global luxury goods market. The country’s main exports are mechanical machinery and equipment, as well as cars and luxury goods. Italy is home to some of the world’s most famous fashion brands and has a special niche in the global fashion and clothing market. Other important exports include electronic equipment and pharmaceuticals. Italy’s main import item is fuel. This is due to the lack of its own natural resources, which makes the country highly dependent on energy imports. Other imports include machinery, raw materials and food. Italy is a net importer of food, as the country’s landscape is not suitable for agricultural development. Since the financial crisis, imports of goods have grown on average more slowly than exports of goods.

The current account is presented in Figure 3 on the auxiliary abscissa axis, which allows to demonstrate its dynamics. Until 2012, the indicator was negative due to the government’s
overcoming of the debt crisis, and the subsequent growth is due to the exaggeration of exports of goods and services over imports and the gradual growth of primary income, which is also shown on the right axis. The growth of primary income is explained by an increase in income from residents’ investments and a decrease in non-residents’ income in the national economy since 2016. Secondary income has been fairly stable (right-hand axis), with a negative balance throughout the period, due to significantly higher personal remittances abroad and public funds not invested in the economy.

For most of the last decade, Italy has been an international debtor. After the financial crisis of 2008, Italy, like other peripheral countries, abruptly stopped private capital inflows as the level of public debt became unsustainable. As part of the eurozone, Italy cannot balance its current account by adjusting its exchange rate. As a result, the country entered a regulatory system called TARGET2, which replaced private capital flows with public capital flows and allowed troubled countries to run current account deficits and avoid balance of payments crises. This allowed Italy to gradually adjust its current account.

The financial account (right axis), like the current account, remained negative until 2012. Almost all indicators during this period were negative. That is, non-residents had assets of greater value than Italian investors abroad. Throughout the period, the balance of direct, portfolio and other investments was quite unstable due to the constant macroeconomic instability in the country over the past 20 years, so it is very difficult to track a certain trend in the dynamics of investments. Reserve assets have been positive for almost all of the last 20 years, but not by much. Errors and omissions show an undercount almost throughout the entire period until 2012, after which a surplus is observed in most years. Thus, by considering all the factors of economic development separately, it is possible to determine which of them have a greater or no impact on the growth of the Italian economy in the 21st century using regression analysis. But before starting the regression analysis, all indicators were checked for interdependence with each other using correlation analysis (Table 1).
The correlation matrix in Table 1 shows the relationship between the independent variables of the presented models. The highest correlation is observed between labour force and economic openness, as well as between the CPI and gross fixed capital formation in a country. A negative correlation is observed between the poverty index and gross fixed capital formation, the CPI and public spending, which is explained by the decrease in these indicators with a decline in the welfare of Italian citizens. The other negative correlation between FDI and government spending is explained by the fact that government spending decreases with increasing FDI inflows.

The results of the correlation analysis (Table 1) revealed a strong interdependence between some factors, so several models were built to ensure the reliability of the regression analysis (see Table 2), which demonstrates the impact of the main indicators of Italy’s economic development on its GDP and GDP per capita:

Model 1:
\[ \log G = a + \log \beta_1 X + \log \beta_2 D + \log \beta_3 E \]  
(3)
\[ \log P = a + \log \beta_1 C + \log \beta_2 F + \log \beta_3 E \]  
(4)

Model 2:
\[ \log G = a + \log \beta_1 C + \log \beta_2 F + \log \beta_3 E \]  
(5)
\[ \log P = a + \log \beta_1 C + \log \beta_2 F + \log \beta_3 E \]  
(6)

Table 1

<table>
<thead>
<tr>
<th>Correlation matrix of the main macroeconomic indicators of Italy</th>
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<tr>
<td>Gross fixed capital formation, billion USD</td>
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<td>---------------------------------------------</td>
</tr>
<tr>
<td>Gross fixed capital formation, billion USD</td>
</tr>
<tr>
<td>Labour force, million persons</td>
</tr>
<tr>
<td>Poverty index, %</td>
</tr>
<tr>
<td>Turnover, %</td>
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<tr>
<td>FDI, billion USD</td>
</tr>
<tr>
<td>Public expenditures, %</td>
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</tbody>
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Source: calculated by the authors based on World Bank and IMF data
First, it is worth noting that all three Models include the indicator of government spending. This indicator is statistically significant in two (Models 1 and 2) out of three. This is because public finances stimulate economic growth in the form of investments in physical capital (housing stock), infrastructure (road construction), human capital (education, science, healthcare), etc.

Model 1, which analyses the impact of trade as a share of GDP, CPI inflows and government spending as a share of GDP, shows a significant impact of Italian FDI on GDP and GDP per capita. Based on the analysis of the impact of public spending on the country’s income, this result is understandable. The inflow of FDI into a country is an indicator of the country’s stability and increases the quantity and quality of goods and services. The openness of the Italian economy does not affect the dependent variables in this Model.

When analysing model 2, which includes such independent factors as gross fixed capital formation, labour force and government expenditure as a proportion of Italian GDP, it can be stated that all independent factors are statistically significant. Gross fixed capital formation used to be called gross domestic investment, its essence has already been demonstrated, and it consists of expenditures on the increase in the economy’s fixed assets and net changes in the level of reserves. Thus, one part is government spending, and the other part is inventories of goods held by firms to cover temporary and/or unexpected fluctuations in production or sales, as well as “work in progress”. Their increase is counted as GDP growth, as it is one of its components. The labour force indicator differs significantly from the other indicators, for example, a 1% increase in the labour force increases GDP and GDP per capita by 2.315% and 1.746%, respectively. A larger labour force can produce more goods and services for consumption, which reduces the pressure on fiscal policy and increases the welfare of the country’s population. However, the dynamics of unemployment due to labour force growth should be closely monitored, as it may lead to the opposite of an increase in unemployment.

In Model 3, with regressors such as the macroeconomic instability index, trade as a proportion of the country’s GDP, and government spending as a proportion of Italy’s...
GDP, the previous thesis is reflected in the poverty index, which has a negative coefficient, i.e., a reverse relationship – an increase in the index causes a fall in GDP and GDP per capita in Italy. Another indicator of this model that has an impact on the dependent variable is the level of economic openness. The country’s integration into global trade is a direct factor influencing the cost of goods and services on the world market.

4. Conclusions

Thus, Italy is a developed country with a diversified economy and a strong presence of high-tech industries and small and medium-sized enterprises. Despite its strengths, Italy faces challenges that affect its investment attractiveness. The country’s GDP growth has been volatile in recent years, with a significant drop in 2020 due to the COVID-19 pandemic. Nevertheless, Italy’s GDP per capita remains relatively high and the country has demonstrated resilience in the face of economic challenges. The country faces significant unemployment problems, especially during various economic crises. Although reforms have helped to reduce this rate in recent years, the COVID-19 pandemic has caused it to rise sharply again. In addition, the country is struggling with inflation, which is a significant contributor to the poverty index. Despite these challenges, the Italian government continues to prioritise public spending, particularly on social security and general public services, to support the population. Italy’s membership in the Eurozone has had a significant impact on the country’s trade. The country’s manufacturing sector, which specialises in high-end goods, plays an important role in the global luxury market. Italy is heavily dependent on energy imports and is a net importer of food due to an unfavourable landscape for agricultural development. The current account balance has gradually improved since the 2008 financial crisis thanks to a regulatory framework called TARGET2. By contrast, the financial account remained negative until 2012, and its dynamics are difficult to track due to the macroeconomic instability in the country.

A summary of the correlation matrix provides valuable information about the relationships between the independent variables used in the models presented. There are significant correlations between some of the variables, which may affect the results. The negative correlation between FDI and government spending provides valuable information for policy makers, as they may need to consider how to maintain the level of government spending while encouraging foreign investment.

The regression analysis shows that public spending is a crucial factor in all three models of Italian economic growth. In Model 1, Italy’s foreign direct investment has a significant impact on the country’s GDP and GDP per capita. Model 2 shows that all independent factors, including gross fixed capital formation, labour force and government spending, are statistically significant in determining GDP and GDP per capita. Ultimately, Model 3 highlights the importance of macroeconomic stability and the degree of economic openness in influencing the country’s poverty index. These findings provide valuable insights for Italian policymakers to design policies that will promote economic growth and improve the welfare of the country’s population. Moving forward, Italy must continue to address its economic weaknesses while building on its strengths to ensure sustainable growth and development in the coming years.

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