
Public Debt, Fiscal Stability and Sustainable Competitiveness in the European Union

Submitted 18/04/26, 1st revision 08/05/26, 2nd revision 20/05/26, accepted 29/06/26

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Abstract:

Purpose: This study examines how public debt influences socio-economic development and economic competitiveness across the 27 European Union (EU) Member States over the period 2010–2025. Public debt has become a central challenge for fiscal sustainability, shaping countries' long-term growth potential, resilience, and the capacity to maintain high living standards.

Design/Methodology/Approach: Using Eurostat data, the analysis evaluates the relationship between public debt, GDP per capita, unemployment, and the Human Development Index (HDI), which serves as a synthetic measure of socio-economic progress. The study applies

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comparative analysis and regression modelling to assess how differences in public debt levels correspond with disparities in economic performance and competitiveness.

Findings: *The results show a significant increase in public debt across all EU countries between 2010 and 2025, with the highest levels observed in France, Italy, Spain, Germany, and Belgium. The findings indicate that public debt has a negative impact on GDP growth (coefficient -0.3), while economic growth itself contributes to rising debt levels (coefficient 0.4). The strength of these relationships varies considerably across Member States, with the strongest effects observed in Spain and Ireland.*

Practical implications: *The study concludes that excessive public debt poses risks to fiscal stability and long-term competitiveness, while moderate debt levels may support socio-economic development.*

Originality/value: *These results highlight the need for sustainable fiscal governance to ensure balanced growth and resilience in the European Union*

Keywords: *Public debt, fiscal sustainability, economic competitiveness, socio-economic development, Human Development Index (HDI), GDP per capita, European Union, fiscal policy.*

JEL Codes: *D2, F3, F4, K2, M2.*

Paper type: *Research article.*

1. Introduction

Economic competitiveness is an essential factor enabling a country's dynamic development, which has a significant impact on improving the well-being of society. Low competitiveness is a detrimental phenomenon that leads to automatic exclusion from the market, the need to submit to more advanced economies, and a loss of autonomy. A national economy can be considered competitive in the international environment when, under conditions of free trade and the free movement of factors of production, it is able to develop relatively quickly over the long term.

Competitiveness depends on a country's level of socio-economic development, which influences its productivity and, consequently, the growth of wealth and prosperity. The budget deficit and public debt are further indicators characterizing the financial situation of individual member states. A budget deficit is typically defined as the difference between a country's total expenditures—including interest on public debt—and its revenues.

Public debt is one of the main challenges in economic policy, constituting a significant area of public finance and influencing the socio-economic development of nations. A measure of socio-economic development is the Human Development Index (HDI), which serves as a composite measure of the socio-economic development of

individual countries. This measure is used to compile annual rankings that classify countries according to their overall level of social and economic development. By comparing the values of this index across countries, one can determine the gap by separating the poorest countries from the richest (developing from developed) in terms of social development.

Given the above context, a key research issue remains the assessment of the socio-economic development of European Union (EU) member states as measured by the Human Development Index (HDI) and indicators of public debt, Gross Domestic Product (GDP), and unemployment. A comparative analysis of changes in the levels of these indicators enabled an assessment of the competitiveness of European Union (EU) member states.

2. Literature Review

Competitiveness is defined as a complex and multifaceted process. Competitiveness is a state that every country strives to achieve; at the same time, no country can claim to have reached the maximum level of competitiveness or that further efforts in this area are no longer necessary. Competitiveness, as a phenomenon shaped by many factors, is difficult to define using a single indicator or even a few indicators (Abraham and Kumar, 2008; The 2030 Agenda for Sustainable Development, 2021; Aguinis and Gottfredson, 2013).

The literature offers several different definitions regarding methods for measuring an economy's competitive position and capacity (Aiginger and Vogel, 2015; Andriopoulou and Karakitsios, 2018). In practice, no uniform methodology has been established to best represent competitiveness and identify the factors that determine it. Most often, international competitiveness is defined as a long-term process and describes a market economy's ability to adapt to changing conditions.

The literature presents both convergent and divergent views on the competitiveness of national economies (Andriopoulou and Tsakoglou, Armengaud *et al.*, 2017). In explaining this concept, the definitions provided by both foreign and domestic economists, as well as global economic organizations and institutions, are significant (Delgado *et al.*, 2012; Spicker, 1998; Porter *et al.*, 2008).

According to M.E. Porter, competitiveness is identified with the activities of enterprises, but macroeconomic factors are also specified, which allow the analysis of competitiveness to be applied to the evaluation of countries (Porter *et al.*, 2008).

A. Boltho points out that "the degree of an economy's international competitiveness is determined by the level of the real exchange rate and appropriate domestic policies that ensure the balance of the country's internal and external accounts" (Smeeding *et al.*, 1999; Smith 1999).

Sigurdson defines economic competitiveness as “the ability to produce goods and services that enable increased international competition and, at the same time, an increase in the level of real gross domestic product” (Smeeding *et al.*, 1999). In turn, C. Oughton and G. Whittam note that the competitiveness of an economy is “the ability to sustain productivity growth in the long term and thereby raise the standard of living while increasing the employment rate and maintaining it at the highest possible level” (Delgado *et al.*, 2012; Spicker, 1998; Porter *et al.*, 2008).

The concept of an economy’s international competitiveness is understood as the formation of institutional and macroeconomic conditions, as well as the efficiency of market mechanisms, which constitute the economic foundations for the dynamic development of the country and enterprises in a changing environment. Competitiveness is also defined as competitive capacity in macro terms, that is, on the scale of the entire economy, considering changes in the global economy and global exports. Economic competitiveness is the ability of various economic entities operating within a given country to make the greatest possible use of the social division of labor and to achieve greater benefits than those attained by competitors (Archibugi and Iammarino, Stiglitz *et al.*, 2009).

Increasing the economy’s competitiveness aims to raise the gross domestic product (GDP) available for distribution within the country, and thereby, to a greater extent, improve the living conditions and meet the diverse needs of the country’s residents. The concept of economic competitiveness and the factors shaping it is presented by global organizations and financial institutions. According to representatives of the World Economic Forum (WEF), competitiveness is viewed as a set of interrelated institutions, policies, and factors that determine a country’s level of development.

The basic definition of competitiveness was established by the European Commission in 2020, which defined competitiveness as a country’s ability to achieve stable GDP per capita growth and to ensure the highest possible standard of living for its citizens with the lowest possible level of unemployment (Europe 2020; Talberth *et al.*, 2006; Thumann 2012).

The OECD provides a different definition of competitiveness, noting that the international competitiveness of an economy is linked to the ability to produce goods and services that are accepted on the global market under free trade conditions, while maintaining and increasing real incomes over the long term. The OECD definition describes a country’s ability to generate and sustain high incomes, fully utilize factors of production through productivity growth, create jobs and increase employment, and maintain a high degree of openness to international competition (Spencer and Brandner, 2008; Lall 2021; Krugman, 1994).

In The World Competitiveness Report, competitiveness is defined as a country’s ability to generate greater wealth than its competitors in the global market. Competitiveness is the result of transforming a country’s existing resources (natural

resources) or developed resources (infrastructure, human capital) into economic outcomes that are compared by competitors in international markets. According to the definition of the International Institute for Management Development in Lausanne, competitiveness is a field of economics that assesses a country's ability to create and maintain an environment that stimulates the creation of greater corporate value and the growth of citizens' well-being (Mudayen *et al.*, 2025, Mulliqi *et al.*, 2018; Schumpeter, 1942).

Competitiveness is also defined in static terms (an assessment of competitiveness over a given period) and in dynamic terms (involving an analysis of factors determining long-term competitiveness). A country's competitive capacity is assessed by considering key economic indicators that reflect its competitive position, while also focusing on the economy's development potential. Economic competitiveness is also defined as a process of economic development and growth, as it is linked to the management of a country's resources.

A variety of indicators are used to assess a country's competitive position. These include, among others: GDP per capita, share in global trade, exports per capita, economic productivity per employee, labor productivity per hour worked, hourly wages in the manufacturing sector, entrepreneurship and innovation, the number of patents granted, and R&D spending. It should be noted that in addition to simple quantitative measures used to assess international competitive position, measures derived using appropriate methods are also employed.

These include revealed comparative advantage indices, intra-industry trade intensity indices, export competitiveness indices, and indices based on the constant market share method (Acs *et al.*, 2018; Sompolska-Rzechuła, 2021; Qazi and Al-Mhdawi, 2024). These measures allow for the assessment of a country's performance and enable comparisons with other countries worldwide or between regions.

However, a static analysis of a country's international competitiveness is not fully comprehensive, as it focuses exclusively on outcomes without considering the causes or identifying the sources of the competitive advantage achieved by individual countries. The Human Development Index (HDI) is a composite measure of the socio-economic development of individual countries. HDI is an indicator defined as a measure of social development, or more precisely, human development.

As a composite measure, this index is based on the average of three indicators covering the basic spheres of life, namely health (assessed by life expectancy), education (illiteracy rate, literacy and reading comprehension skills, and school enrollment rate), and per capita income (GDP per capita). HDI enables more accurate international comparisons of countries' social development.

The HDI is a measure used to compile annual rankings that classify countries according to their overall level of social and economic development (Thorbecke,

2013; Gökmen-Demirci *et al.*, 2026). By comparing the values of this index across countries, one can determine the gap by separating the poorest countries from the richest (developing from developed) in terms of social development. The criteria used to classify countries as highly, moderately, or poorly developed, taking the HDI into account, are as follows:

- 0 - 0.500 – underdeveloped (backward) country,
- 0.501 - 0.800 – moderately developed country,
- 0.801 - 1.00 – highly developed country.

Public debt has many definitions; according to the OECD, it is defined as the financial liabilities of all entities in the general government sector. It is defined as the public sector's liabilities arising from: securities issued to represent claims, loans and borrowings, deposits accepted, or mature obligations arising from separate laws and final court rulings or final administrative decisions (Tomaskovic-Devey, 1991; Zhang and Liu, 2024). The causes of public debt may include:

- a budget deficit persisting for many years,
- high public spending, especially during periods of war and severe economic crises,
- unforeseeable, random events, such as natural disasters,
- a public policy that deliberately maintains a budget deficit and public debt as tools of state interventionism,
- the achievement of political goals by the ruling authority, which does not decide to raise taxes or reduce public spending,
- an aging population, resulting in increased social spending.

Public debt poses a significant threat to the sound economic development of individual countries. High public debt often leads to major financial and social problems. The emergence of a budget deficit implies that public debt is increasing. However, since GDP also increases, the ratio of public debt to GDP may change or remain constant.

Therefore, whether the ratio of public debt to GDP changes or remains unchanged depends on whether the rate of growth in national debt is higher or lower than the rate of GDP growth. A steadily rising ratio of national debt to GDP poses a threat to the country that public debt will enter a path of unsustainable growth, leading to the country's default.

Even if the public debt-to-GDP ratio does not rise sharply, a high debt-to-GDP ratio still has serious and adverse consequences for the country, such as the rising cost of debt servicing. It is therefore important to understand the causes of the rise in the public debt-to-GDP ratio and to determine the optimal level of this ratio in individual EU member states.

Some authors, such as Modigliani, Diamond, and Saint-Paul, point out that an increase in public debt always contributes to a decline in the rate of economic growth. In contrast, Patillo, Romer, and Weil concluded that a low level of public debt has a positive impact on economic growth, while high levels of debt negatively affect a country's economic growth rate. The relatively high levels of public debt in many EU member states have sparked numerous discussions regarding the impact of public debt on economic growth (Diamond, 1965; Modigliani, 1961; Saint-Paul, 1992; Pattillo *et al.*, 2004; Pattillo *et al.*, 2002).

3. Materials and Methods

The competitive position of EU member states and their evolution between 2010 and 2025 were subjected to a comparative analysis using a set of economic and social indicators reflecting the level of societal well-being (including GDP growth rate, GDP per capita, and unemployment).

To assess the financial health of individual EU member states' budgets, an analysis was conducted of public debt and its share of GDP, as well as its impact on socio-economic development. Based on an analysis of Eurostat data, the ratio of public debt to GDP was calculated for individual EU member states. The aim of the study was to identify the relationship between the diversity of socio-economic development among EU member states and the level of public sector debt.

The empirical data used in the study covered 27 EU member states. The numerical data was sourced from Eurostat. The Human Development Index (HDI) was used to assess competitiveness. To evaluate the competitiveness of EU member states in terms of social development, the coefficient of determination— R^2 — (Coefficient of Determination), which is a measure of how well the regression function fits the empirical data.

This coefficient indicates what proportion of the variance in the dependent variable Y (GDP per capita, public debt) is explained by the independent variable X (HDI). The value of the coefficient of determination lies in the range [0; 1]; the closer the value of this coefficient is to one, the better the fit of the regression function to the empirical data.

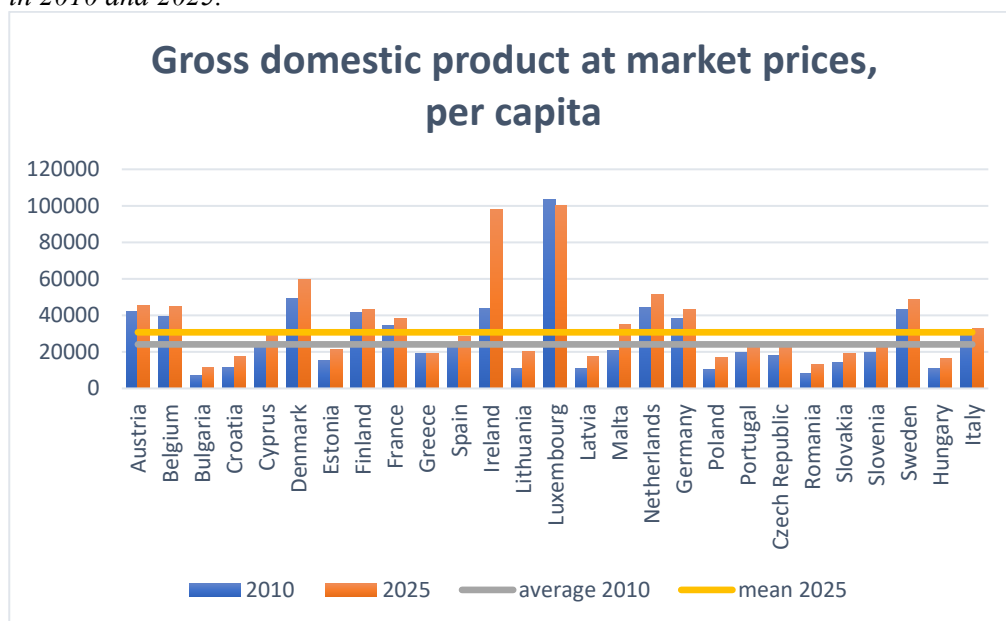
4. Results and Discussion

EU me The GDP per capita indicator used in this analysis is only an approximate and indicative measure of living standards. Its value depends on many different factors, not just economic ones. Several alternative measures of socio-economic development have been defined in the literature as alternatives to GDP per capita (Zhang and Liu, 2024).

Basic measures of income competitiveness relate to gross domestic product (GDP), most often GDP per capita calculated based on purchasing power parity, which is one of the most used macroeconomic indicators. This indicator has long served as a benchmark for distinguishing between developed and developing countries, revealing the polarization in the socio-economic development of individual nations. At the same time, GDP is the most used measure of the economic crisis's impact on the economies of individual countries in the context of both its current and past effects.

The European Union comprises 27 countries of very diverse sizes and economic potential. Per capita GDP has also increased significantly in the EU over the past few years. While the average per capita GDP across the 27 EU member states stood at 24,000 euros in early 2010, it reached 32,000 euros in 2020 and is projected to reach 39,000 euros in 2025. In 2020, Luxembourg, Denmark, Sweden, and Ireland had the highest GDP per capita, while Romania, Bulgaria, Lithuania, and Latvia had the lowest. Similarly, in 2025, the highest figures were recorded in the economies of Luxembourg, Ireland, Denmark, and Sweden (Figure 1).

Figure 1. Gross Domestic Product in EU member states per capita at market prices in 2010 and 2025.



Source: Author's own work based on

<https://ec.europa.eu/eurostat/databrowser/view/tec00114/default/table?lang=en; ref. 48>

The budget deficit and public debt are further indicators characterizing the financial situation of individual member states. The budget deficit is typically defined as the difference between a country's total expenditures—including interest on public debt—and its revenues. However, according to a more complex definition, the budget

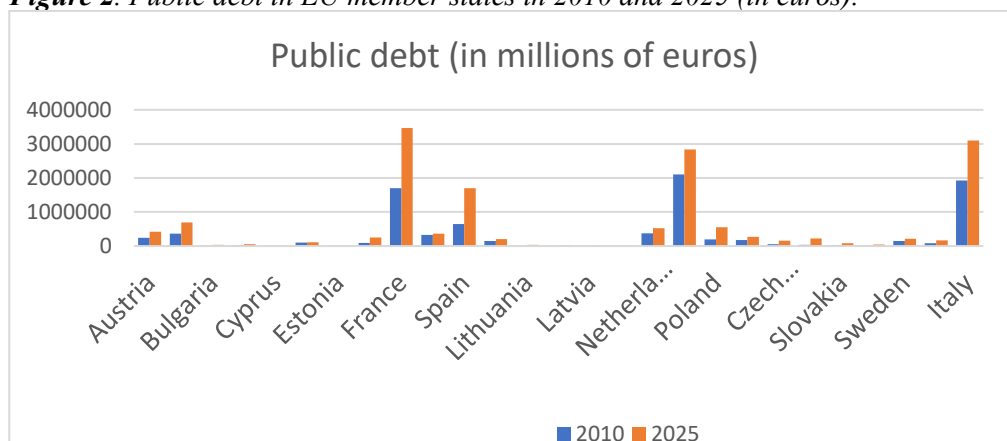
deficit is the difference between the amount of public debt at the end of a given year and the amount of public debt at the end of the previous year.

These two definitions are equivalent if public debt is defined as the value of issued bonds (Feldstein, 2004; UNDP. Human Development Report, 2020). The emergence of a budget deficit implies that public debt is increasing. But since GDP is also increasing, the ratio of public debt to GDP may change or remain constant. Thus, whether the ratio of public debt to GDP changes or remains unchanged depends on whether the rate of growth of national debt is higher or lower than the rate of GDP growth.

A steadily rising ratio of national debt to GDP poses a risk to the country that public debt will enter a path of unsustainable growth, leading to the country's default [38, 39]. Even if the public debt-to-GDP ratio does not rise sharply, a high debt-to-GDP ratio still has serious and adverse consequences for the country, related, for example, to the rising cost of debt servicing. It is therefore important to understand the causes of the rise in the public debt-to-GDP ratio and to determine the optimal level of this ratio for the country.

To this end, it is essential to distinguish between the standard budget deficit and the primary budget deficit. The primary budget deficit is equal to the standard budget deficit minus the cost of servicing public debt. The highest public debt-to-GDP ratios were recorded in France, Italy, Spain, Germany, and Belgium, while the lowest were in Malta, Lithuania, and Luxembourg. In 2025, compared to 2010, an increase in public debt was observed in all EU member states. The rise in public debt was primarily linked to an increase in budget expenditure not covered by the revenues of individual member states. The highest public debt ratios were recorded in France, Germany, and Italy (Figure 2).

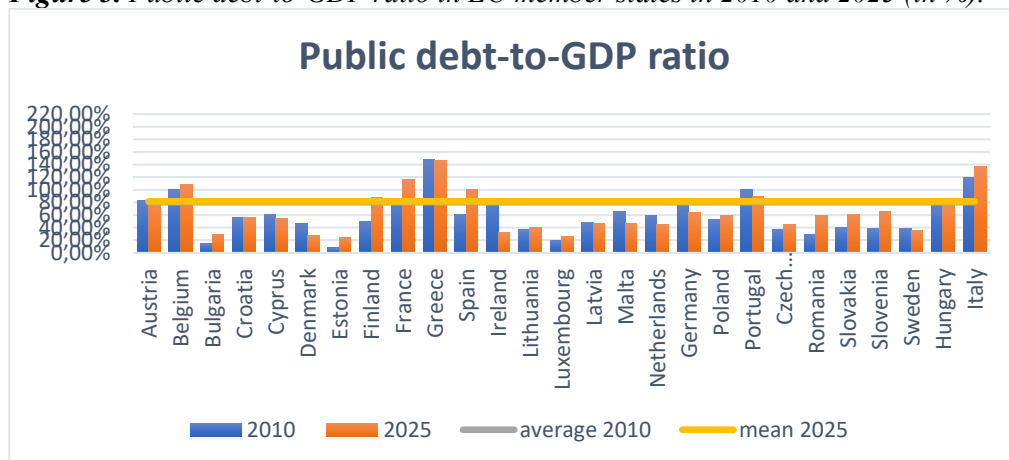
Figure 2. Public debt in EU member states in 2010 and 2025 (in euros).



Source: Author's own work based on <https://ec.europa.eu/eurostat/web/products-euro-indicators/w/2-21072025-ap>; ref. 49

An analysis of public debt-to-GDP ratios in the EU reveals that these ratios have increased significantly over the past ten years (Figure 3). The average public debt-to-GDP ratio in the 27 EU member states was 80% in 2020 and is projected to reach 82% in 2025. The highest public debt-to-GDP ratios in 2025 were recorded in countries such as Greece, Italy, and Belgium, while the lowest were in Estonia, Luxembourg, and Bulgaria.

Figure 3. Public debt-to-GDP ratio in EU member states in 2010 and 2025 (in %).



Source: Author's own analysis based on <https://ec.europa.eu/eurostat/web/products-euro-indicators/w/2-21072025-ap>; ref. 49.

From a theoretical standpoint, economically less developed countries should generally have a higher public debt-to-GDP ratio than more developed countries, due to financial constraints and economic needs (Wojtyła, 2010; World Bank. World Development Report 2000/2001, 2001). However, when analyzing data on the ratio of public debt to GDP in EU member states, one can observe higher ratios of public debt to GDP in relatively more economically developed EU member states. This situation may indicate a positive impact of public debt on the level of economic development in these countries or a positive impact of economic growth on the size of public debt.

However, the experience of many countries, both economically highly developed and developing, indicates that an excessively high public debt-to-GDP ratio can lead to an increase in investment risk in the country, an outflow of foreign capital, and, consequently, a depreciation of the national currency. Of course, this situation will negatively impact the country's economic growth rate. Based on the analysis of the relationship between public debt and economic growth in EU member states from 2020 to 2025, several key conclusions can be drawn.

First, it was found that one of the factors that most significantly determined the pace of GDP growth in the EU during the analyzed period was changes in public debt.

Specifically, the coefficient of the impact of public debt on economic growth was -0.3. On the other hand, one of the factors determining the level of public debt in the EU was changes in GDP. In this case, the coefficient of the impact of GDP on changes in public debt in the EU was 0.4. It was also calculated that changes in GDP explained changes in public debt to a much greater extent than the degree to which changes in public debt explained changes in GDP in the EU.

Second, it was found that the coefficients of the impact of public debt on economic growth and the impact of economic growth on public debt varied significantly across individual EU member states. The highest absolute values of the coefficients of the impact of public debt on changes in GDP were recorded in Spain and Ireland, while the lowest values were in Latvia.

In contrast, the highest absolute values of the coefficients of GDP elasticity with respect to changes in public debt were found in Finland, while the lowest were in Spain, Ireland, Slovenia, Sweden, Denmark, the Netherlands, and Cyprus. Third, it was found that the largest positive impact of public debt on GDP occurred in those EU member states where the ratio of public debt to GDP was around 65%.

However, no significant relationship was found between the level of public debt elasticity coefficients with respect to changes in GDP and the ratio of public debt to GDP in individual EU member states, although negative values of public debt elasticity coefficients with respect to changes in GDP were observed in those countries where the public debt-to-GDP ratio ranged from 20% to 45%.

The Human Development Index (HDI) is used to assess socio-economic development; it is the geometric mean of three indices representing: gross national income (GNI) per capita, life expectancy, and educational attainment, which in turn are intended to reflect the three main dimensions of social development: a healthy and long life, a solid education, and a decent standard of living.

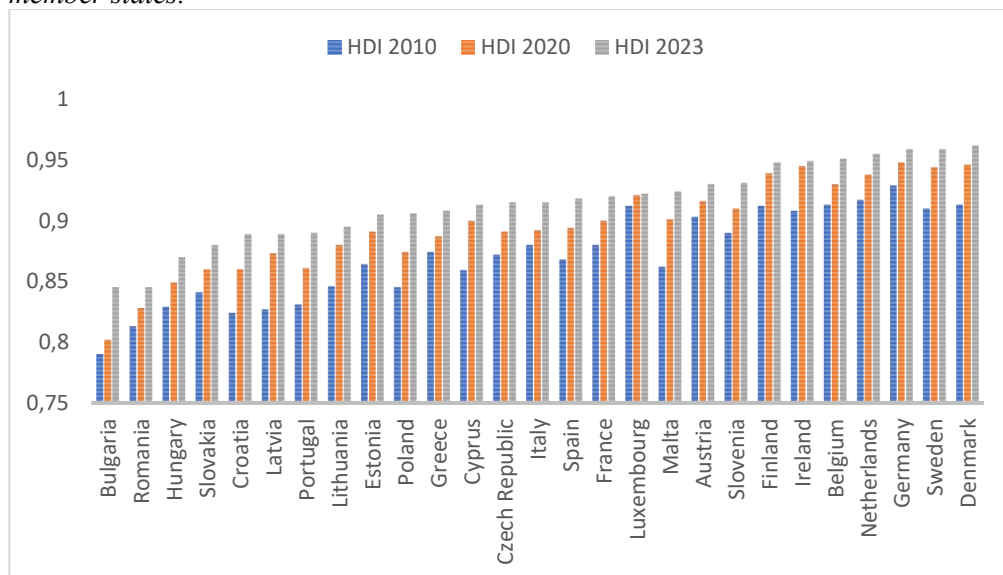
This index takes numerical values ranging from 0 to 1 (higher values indicate a higher level of development). According to the UNDP report (2021), which references data from 2020, the leaders in the global HDI ranking are: Norway, Switzerland, Ireland, Germany, Sweden, the Netherlands, Denmark, and Finland.

In 2020, among the countries of Central and Eastern Europe, Slovenia (23) holds the highest position in this ranking, followed by the Czech Republic (25), Estonia (29), Poland (32), Lithuania (33), Slovakia (36), Latvia (38), Hungary (43), Croatia (45), Bulgaria (52), and Romania (53). In terms of this indicator's value, Poland ranks slightly above the average for Central and Eastern Europe (Poland's indicator value is 0.871, compared to the average for 11 Central and Eastern European countries of 0.858), but ranks only 32nd in the world in this respect, among 189 classified countries.

Among EU countries, Poland ranks 20th in terms of this indicator, ahead of Lithuania, Slovakia, Latvia, Portugal, Hungary, Croatia, Bulgaria, and Romania. Poland's HDI value has been steadily increasing, reflecting ongoing socio-economic development (Ziorgiannis *et al.*, 2019; Statistics Poland. Indicators of the Europe 2020 Strategy, 2021). At the same time, its position in the global HDI ranking remains relatively low, though it is still higher than its corresponding global ranking based solely on the level of economic development measured by GDP per capita (43rd place in 2021 according to International Monetary Fund data).

In the 2023 HDI ranking, 10 EU member states were listed among the 20 countries with the highest human development index (HDI 2023). For 10 EU countries, the HDI was above 0.9, namely Germany – 0.947 (with a population of 83.8 million), Sweden – 0.943 (10.2 million), the Netherlands – 0.944 (17.2 million), and Denmark – 0.940 (5.8 million). In the remaining 17 countries, the HDI ranged from 0.816 to 0.891 (Figure 4).

Figure 4. Human Development Index (HDI) – 2010, 2020, and 2023 rankings for EU member states.

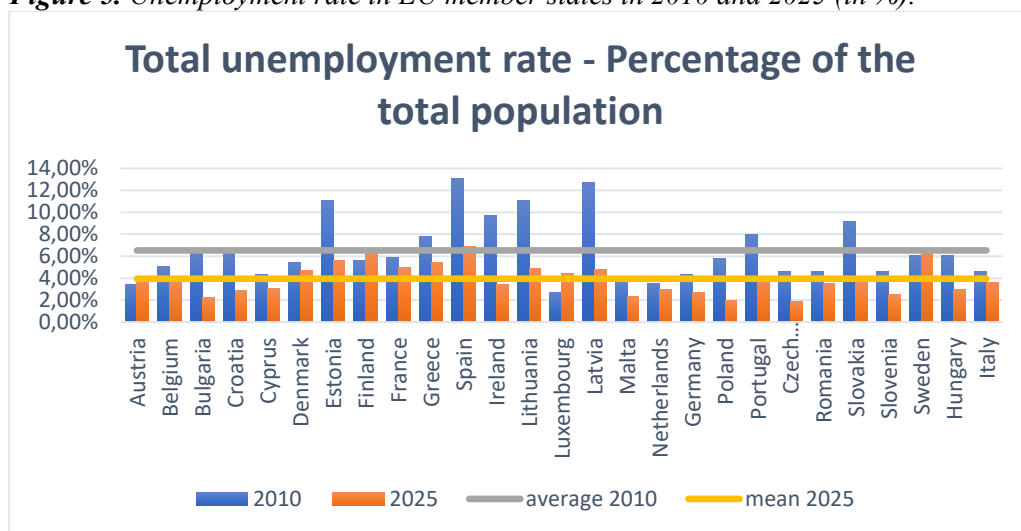


Source: <https://worldpopulationreview.com/country-rankings/hdi-by-country>; ref. 50

Socio-economic development is also measured using the unemployment rate (Zagóra-Jonszta, 2015; Zamora-Torres, 2014). According to Eurostat data, in December 2025 the unemployment rate across the EU stood at 4.0%, whereas in 2010 it was 7.5% (Figure 5). In 2010, the countries with the highest unemployment rates were Spain (16.2%) and Greece (17.9%). The highest rate of increase in this indicator was recorded in Cyprus.

The labor markets with the lowest unemployment rates were in Austria (4.9%), Germany (5.2%), and Luxembourg (5.8%). By 2025, unemployment had fallen the most in Latvia (from 12.6% in 2010 to 4.5% in 2025), in Spain (from 13.2% to 6.2%), in Greece (from 7.9% to 5.1%), and in Slovakia (from 9.1% to 3.8%). In Poland, 5.8% of the working-age population was unemployed in 2010, and 2.1% in 2025.

Figure 5. Unemployment rate in EU member states in 2010 and 2025 (in %).



Source: Eurostat;

<https://ec.europa.eu/eurostat/databrowser/view/tps00203/default/table?lang=en; ref. 51>

An analysis of the dynamics of changes in the HDI and GDP per capita for EU member states confirmed the existing trend that an increase in GDP per capita was accompanied by an increase in HDI, which indicates progress in digitalization and innovation in the economy (Çilingirtürk and Koçak, 2018; Çalikoglu and Luczak, 2024). For all EU member states, increased social development was linked to an increase in GDP per capita (Figure 6).

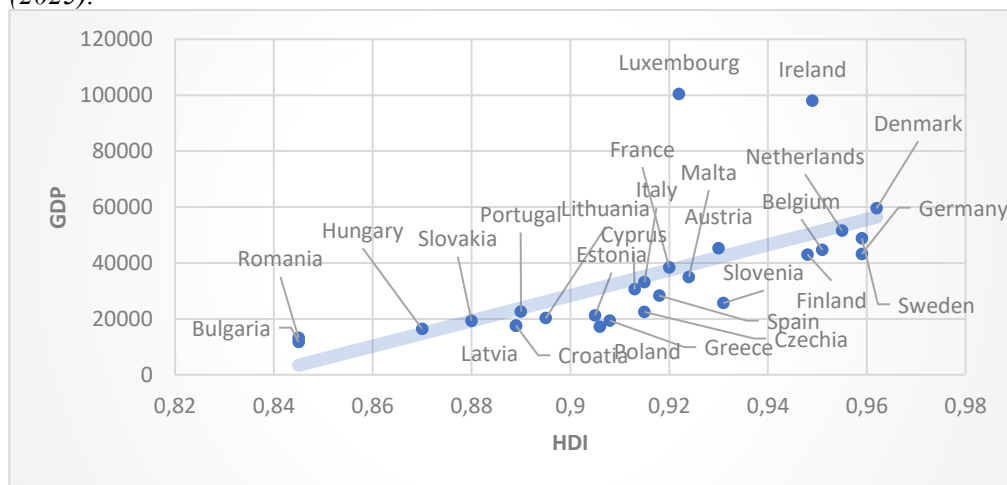
The calculated coefficient of determination (R^2) accounting for the relationship between GDP per capita and the HDI value for EU member states for 2025 showed that for five countries this indicator was 0.4499, and for 22 countries—0.7028. The value of the coefficient of determination (R^2) indicates that for most EU countries, the process of improving social conditions is evident as a significant factor in competitiveness.

A positive correlation coefficient can be observed between the HDI level and the size of public debt, which theoretically implies that countries with a higher level of social development tend to have higher debt. However, the very low coefficient of determination ($R^2 = 0.053$) indicates that this relationship is weak, and the HDI level

itself explains only a small portion of the variation in public debt across countries (Figure 7).

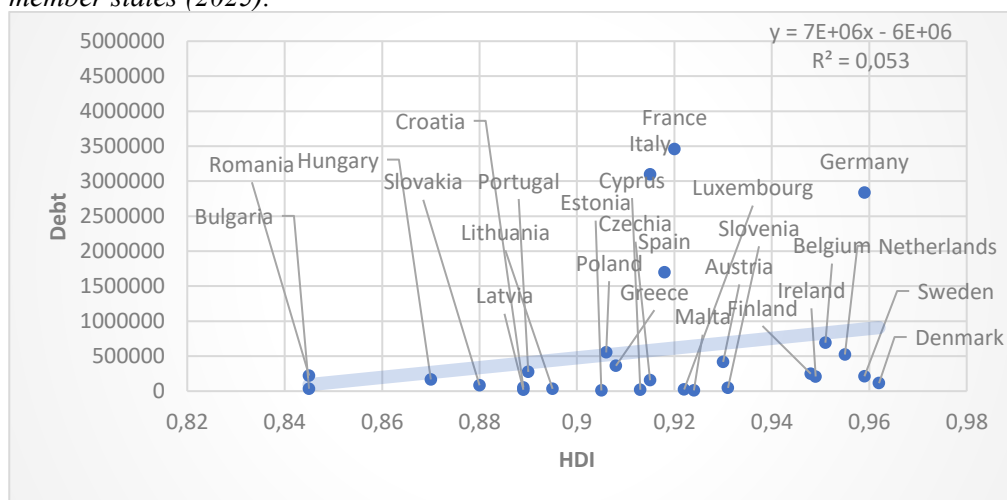
Data analysis, however, confirms a clear increase in nominal public debt in most countries between 2010 and 2025. In the case of the debt-to-GDP ratio, the picture is more varied—some countries recorded an increase (e.g., France, Spain, Italy), while others saw a decrease (e.g., Germany, Denmark, the Netherlands), which shows that the debt value alone is not sufficient to assess its burden on the economy.

Figure 6. Relationship between GDP and the HDI for individual EU member states (2025).



Source: <https://worldpopulationreview.com/country-rankings/hdi-by-country>, ref. 50

Figure 7. Relationship between public debt and the HDI index for individual EU member states (2025).



Source: <https://worldpopulationreview.com/country-rankings/hdi-by-country>; ref. 50.

A comparative analysis of EU member states for the period 2010–2025 confirms that the socio-economic development of countries is a multidimensional phenomenon, highly diverse and sensitive to macroeconomic changes.

The growth in GDP per capita observed in most countries indicates a gradual improvement in living standards; however, the pace of this process remains uneven—the highest values were recorded in highly developed countries, while Central and Eastern European countries continue to catch up in terms of development. At the same time, an analysis of public debt revealed its systematic increase in all EU countries, with the highest debt levels occurring in developed economies, which may indicate both their greater capacity to finance development and the rising costs of maintaining fiscal stability.

Regression analyses confirmed the bidirectional nature of the relationship between public debt and economic growth: changes in debt had a moderate impact on GDP growth, while GDP had a greater influence on the level of debt. At the same time, significant variation in the elasticity of these relationships across countries was demonstrated, underscoring the importance of individual structural and institutional conditions.

Analysis of the HDI confirmed that economic growth is accompanied by improvements in social conditions, and countries with higher GDP per capita achieve higher HDI values. At the same time, the weak relationship between the HDI and the level of public debt indicates that debt itself does not determine quality of life, and its impact depends on the effective use of public funds.

In addition, the significant decline in unemployment rates in most EU countries confirms an improvement in labor market conditions, which is a key factor in increasing social well-being. Overall, the research findings indicate that the competitiveness and socio-economic development of EU countries are shaped by a combination of economic, fiscal, and social factors, and their interplay requires the implementation of a balanced economic policy that simultaneously supports growth, the stability of public finances, and an improvement in the quality of life of residents.

5. Conclusions

The HDI (Human Development Index) is a key development indicator used by the United Nations Development Program (UNDP). This index was introduced to take non-economic factors into account when assessing the sustainable development of individual countries.

The HDI allows for a more accurate assessment of countries' levels of social development. To assess countries' competitiveness, the HDI is analyzed alongside other indicators recommended by the UNDP (GDP, public debt, unemployment), as well as those pertaining to specific areas (sectors) of economic, social, and

demographic development, and data reflecting environmental pollution, levels of personal safety, and other aspects of life in each country. The HDI is a measure used to compile annual rankings that classify countries according to their overall level of social and economic development. By comparing the values of this index across different countries, one can determine the gap between the poorest and richest countries (developing and developed) in terms of their level of civilizational development.

An analysis of the 2023 HDI ranking showed that the leaders in terms of HDI values are: Norway, Switzerland, Ireland, Germany, the Netherlands, Denmark, and Finland. The analysis of the HDI rankings showed that EU member states do not vary significantly in terms of this indicator. The group of EU countries with the highest HDI includes those with high economic development as measured by GDP per capita.

In 2010, 9 EU countries (classified as highly developed) achieved an index above 0.9, while for 18 countries it ranged from 0.805 to 0.898. In 2023, 14 EU countries improved their position in the HDI ranking (including Ireland, Sweden, Spain, the Czech Republic, Estonia, Cyprus, Poland, Latvia, and Bulgaria), while the ranking of 13 countries deteriorated (including Belgium, Austria, France, Denmark, Finland, Luxembourg, and Slovenia).

The top positions in the ranking were held by EU countries with high GDP per capita, namely Sweden, Germany, the Netherlands, Denmark, and Ireland. The bottom positions in the ranking were occupied by the economically weakest countries (Bulgaria, Croatia, Hungary). The impact of public debt on the socio-economic development of EU member states remains difficult to pinpoint.

In practice, public debt is shaped by a range of other macroeconomic and political factors. In recent years, significant factors have included increased spending related to the geopolitical situation (the war in Ukraine, tensions in the Middle East) and the consequences of earlier protective measures taken during the COVID-19 pandemic. At the same time, the HDI level remains relatively stable over time, which means that changes in debt do not result directly from changes in the level of social development.

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