

The main factors of economic growth in the European Union

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Abstract. *Economic growth has been analysed in depth by many studies, especially in recent years when all economic agents, including governments, have made every effort to promote the return of national economies on a growth trend. At the level of the European Union (EU) the economic growth policy is mainly based on job creation, efficient use of financial resources, investment stimulation and innovation and technology promotion. In this article we have tried to identify the main factors that influence the evolution of the real GDP and the GDP per capita in the EU member states through a data panel econometric analysis. The results showed that at the EU level the economic growth is significantly influenced by private consumption, employment rate and net trade. Investments also have a positive effect, but obviously they need to be further supported and stimulated through effective policies. At the same time, tourism has a favorable impact on the income per capita through occupancy and the number of accommodations within this economic branch.*

Keywords: economic growth, private consumption, employment, investments, tourism, data panel.

JEL Classification: F43, J21, E20.

1. Introduction and literature review

Over the centuries, different economists have tried to identify factors that influence the economic growth. Adam Smith identified as the main factors the increase of the number of people employed in the productive sphere and the productivity of the work. Keynes considered that the main determining factor was the actual demand, on which the level of production depended, and this, in turn, determined the degree of employment. The Solow-Swan model shows us how population growth, savings rate and technological progress influence the economic growth and the production level. The new theory of economic growth identifies factors that determine a long-term growth, namely knowledge, innovation and investment in human capital (Moldoveanu, 2011).

After the most recent economic crisis, at the level of the European Union there is a recovery of the economies of all the Member States. The macroeconomic data indicates that the discrepancies between the growth rates of the euro area states are at their lowest level in recent years. In general, higher rates of economic growth were registered in the Member States with a lower GDP per capita. The sustainable economic growth and the lower interest rates have also led to a decrease in budget deficits, which in most states have returned to their levels prior to the economic crisis. However, the EU countries are not without challenges such as unemployment, which still has high rates, especially among young people, household incomes, which in some countries are below pre-crisis levels, the lack of qualified staff and the weak diffusion of technologies. There are also long-term challenges, such as population aging, labor market re-technology, climate changes and the unsustainable exploitation of natural resources.

Romero-Ávila and Strauch (2008) estimated a panel model for 15 European countries, in which they concluded that the population expenditures, government consumption and direct taxes have negative effects on economic growth, while public investments have a positive effect. The study provides solid evidence that the disproportionate taxation affects the medium-term growth through its impact on the private capital accumulation.

Afonso and Furceri (2010) analyzed the effects of government revenues and expenditures on economic growth in the OECD and the EU countries. The results of the study show that government revenues and expenditures, such as indirect taxes, social contributions, government consumption, government subsidies and investments have a negative and significant effect on economic growth in the EU.

Wu et al. (2010) examined the causal relationship between government expenditures and economic growth by conducting the Granger causality test, identifying a two-way relationship between the economic growth and the government size for 182 countries from 1950 to 2004, with the exception of low-income countries because of the inefficiency of governments and institutions. The empirical results strongly support both Wagner's law and the hypothesis that government spending is helpful for economic growth, regardless of how we measure the government size and the economic growth. When countries are disaggregated by income levels and corruption, the research results also confirm the two-way causality between the governmental activities and economic growth for middle and high income countries, except for low income countries. One possible explanation for such

a difference is that, compared to wealthier countries, low-income countries are often characterized by poorer institutional quality and more severe corruption. Thus, institutional quality and corruption are key factors for government performance, which in turn affects the effects on increasing government spending. The result of the study indicates that improving institutional quality could be crucial for developing countries to escape poverty.

Meyer and Shera (2017) conducted a study to identify the impact of labor migration on economic growth in Albania, Bulgaria, Macedonia, Republic of Moldova, Romania and Bosnia and Herzegovina by using annual data from 1999-2013 with the help of a panel model. The results of the model show a positive contribution to the GDP growth per capita from remittances, the number of school enrollments, final consumption of households, trade, gross fixed capital formation and a negative contribution from population evolution, real exchange rate and total debt.

Hamid and Saber (2018) examined the possible role of social, financial and technological factors in stimulating the economic growth in oil-based economies. They developed a panel regression model to analyze the data collected from the developing oil exporting countries (OPEC) from 2000-2016. The results show that the independent variables FDI, inflation, female labor force participation rate, monetary mass, fixed capital formation rate, R&D expenditures and employment have a positive effect on the real GDP growth, except for military expenditures that have a negative effect.

By using the vector error correction model (MCEV), Pradhan et al. (2019), investigated the possible causal directions between venture capital investments, ICT infrastructure and economic growth, based on the annual data from 25 European countries between 1989 and 2016. The results suggest that policymakers should carefully consider the interdependence of different policy measures related to the ICT infrastructure development, the development of a solid economic ecosystem in Europe and economic growth. The strategies that promote the GDP growth should aim at creating appropriate incentives for increasing domestic and foreign investment in European economies, especially in the ICT-based industries and promoting strong green ecosystems in Europe, which will not only create jobs, but they will also create new technology start-ups that will lead to the development of new generation competitive industries.

At the level of the European Union, the Europe 2020 Agenda is an “umbrella” strategy aimed at strengthening the EU's economic growth by 2020. Achieving the objectives of the Europe 2020 Strategy will improve the living standards of European citizens, the results of the education system and will develop the innovative capacities of the EU.

In the last decades, the role of services in the economic and social life worldwide has increased, especially for the developed countries, and this fact is interpreted as an important step in the evolution of society. Mainly constituted by the provision of services, tourism represents one of the essential components of the tertiary sector, the affiliation to this sector deriving from the way of realizing some of its defining features such as mobility, dynamism or ability to adapt to the needs of each tourist, as well as from the particularities of the tourist product, this being the result of the harmonious combination of several services with specific features and own mechanisms of use. The development of tourism involves a

multitude of components with stimulating and driving effects, both of the production of the tourism industry and of other branches of activity within the economy, which participate directly or indirectly in the process of economic growth.

From the European perspective, the tourism contributes to the achievement of the political objectives in the field of employment and economic growth. The European Regional Development Fund (ERDF) supports the competitiveness, sustainability and the quality of tourism at the regional and local level.

Lee and Chang (2008) considered that the tourism development stimulates economic growth by accumulating physical capital and human capital due to the need for an educated and qualified work force in the tourism sector. In other words, new jobs will be created through investments in tangible assets that will contribute to the creation of well-educated and qualified jobs.

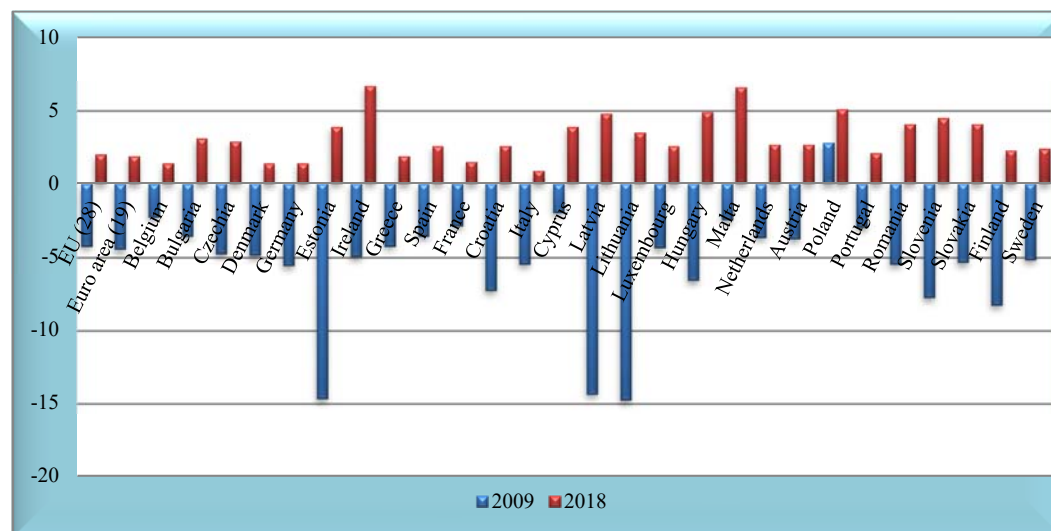
Dogru and Bulut (2018), identify a two-way causation between the growth of tourism revenues and economic growth, suggesting that between economic growth and tourism development there is an interdependence relationship, and tourism development stimulates the economic growth and vice versa.

The institutions of the European Union and the member countries have acknowledged the major importance of tourism on economic growth. In 2018, it contributed with 10.3% to the EU GDP, and about 27.3 million active people worked in this sector, meaning 11.7% of the total jobs. In 2017, the number of arrivals was 671 million people in Europe, accounting for 51% of all tourism worldwide, up by 8% compared to the previous year. The World Tourism Organization has conducted a prospective study that forecasts a slower growth of tourism in Europe by 2030, namely the number of arrivals of 744 million tourists, equivalent to 41.1% of the global total.

2. Descriptive analysis

In this paper we also carried out a statistical analysis of the main macroeconomic indicators with a role in the economic growth, including the target indicators of the Europe 2020 Strategy in order to see the economic evolution of each state of the European Union.

The economic growth in the euro area and in the EU was 1.9% in 2018, respectively 2.0% (Figure 1). This was lower than in 2017 (2.4% in both cases), when the economic expansion was supported by external factors, the net trade having a significant contribution.

Figure 1. Evolution of the real GDP in EU countries (percentage change from previous year)

Source: Eurostat.

The decline of the economic growth in the euro area was caused by both external and internal factors.

First, the slowdown in the growth rate of world trade. In 2018, the tempering of the economic growth in the EU was determined by a small contribution from the net exports compared to 2017, from 0.6% to 0.05%.

Secondly, a number of internal factors have influenced the economic activities during 2018, namely:

1. Temporary internal factors, such as strikes, extraordinary weather conditions, higher tax burdens for consumers and unusually high medical leave.
2. European car manufacturers, especially those in Germany, had problems with the introduction in September of the new “Worldwide Harmonized Light Vehicle Testing Procedures”, which caused production interruptions.
3. Transport problems caused by the water level of the rivers, for example on the Rhine.
4. Social unrest in France, political uncertainty in Italy and other countries with specific problems.

While the slowdown in growth in 2018 was mainly driven by the problems in Germany and Italy, the European Commission expects a narrowing of the gap between the developed and the least developed economies. The real GDP growth rates in Poland and Spain are projected to exceed the EU average in 2019 and 2020, while the Netherlands expects a slower growth in 2019. By contrast, the economies of Great Britain and France will see a growth below the EU average over the next two years.

For Romania, the real GDP growth is expected to exceed the EU average in both years, 3.3% in 2019 and 3.1% in 2020. In non-euro area states, the GDP growth in both years is expected to be slower than in 2018, except for Bulgaria and Denmark. In the euro area, it

is expected that in 2020 only Greece (2.2%) will see a growth compared to 2018, while Luxembourg will have a constant economic growth (2.6%).

In the EU countries the final demand contributed to the economic growth by 3.3% in 2018, and in 2019 it is estimated that it will decrease to 2.7% due to diminished investments (0.4%) and the negative contribution of the modification of the stocks. (-0.2%), while net exports are expected to become negative for the first time since 2016 (from + 0.6% in 2018 to -0.2% in 2019).

Private consumption has been the main determinant factor of the economic recovery since the beginning of 2013. Given that its share in the GDP is about 55%, private consumption has contributed to an increase of 0.9%, down from 1.1% in 2017. The decrease was fully balanced by a larger contribution from investments (0.7% compared to 0.6%), while the government contribution remained stable (0.2%). The main support for the private consumption came from the increased employment and income from work.

The breakdown of private consumption expenditure shows that the slowdown in economic growth in the euro area in 2018 was more pronounced for long-term goods (-1.7% from 2.7%) than for non-durable goods and services (-0.6% of 1.1%). Household expenditures for durable goods have decreased due to the decrease in the number of cars purchased.

Private consumption is closely linked to the evolution of income and wealth of households. In 2018, the available incomes of households were supported by wage increases and the increase in the number of jobs. By 2020, euro area wages are expected to remain the main contributor to the strong growth in available nominal incomes. The real growth in available household incomes should grow to 1.9% in 2019 (from 1.5% in 2018) and come back to 1.5% in 2020.

It is estimated that the average saving rate of households will increase slightly and will slow the growth of private consumption. Consequently, the annual growth rate of private consumption in 2019 should not change significantly compared to 2018, to 1.3% in the euro area and 1.6% in the EU, and then to 1.5% by 2020 in the euro area and 1.7% in the EU.

In 2018, public consumption remained almost unchanged in the euro area (1.1%, down by 0.1%) and in the EU (1.1%, up by 0.1%). As a result, its contribution to the GDP growth has changed only marginally. In 2019, the government consumption in most Member States is expected to grow stronger than in 2018 in the euro area (1.4%, up from 1.1%) and in the EU (1.6%, up from 1.1%). This mainly reflects an increase in intermediate consumer spending and an increase in public sector wages. A strong acceleration is expected in Germany and the Netherlands, remaining almost unchanged in France and slowing down in Spain. In Italy, the government consumption is projected to grow by 2020.

Investments in the euro area grew faster in 2018 than in the previous year, 3.3% in 2018, after 2.6% in 2017. Overall, investments accounted for 21.0% of the GDP in the euro area, respectively 20.6% in the EU.

Investments in the EU had a contribution to the economic growth of 0.7%, up by 0.1% compared to 2017.

Public investments had a small growth, whereas private investments registered a significant increase starting with 2013, reaching the highest level after the crisis period, 18.2% of GDP. Further, it is estimated that public investments in the euro area will increase by approximately 3.0% in both 2019 and 2020, raising their share in GDP to 2.8%.

It is expected that the European Fund for Strategic Investments (EFSI) will continue to support investments in the EU in 2019 and 2020. As of April 2019, operations approved under the Europe Investment Plan were expected to generate investments of 393 billion euros. Approximately 945,000 small and medium-sized enterprises will benefit from this funding. It is estimated that in 2019, the contribution of investments to the change in the GDP will decrease to 0.4% in the EU and will remain constant until 2020.

In 2018, the increase in exports of goods and services decreased in the euro area from 5.2% to 3.2% and in the EU from 5.4% to 3.0%. While Italy, France and the Netherlands registered a strong growth in the second half of 2018, in Germany the exports fell, while in Spain they remained steady.

The dynamics of exports of goods and services was different. The exports of goods slowed down in the first two quarters of 2018, from 3.2% in the second half of 2017 to 1.1%, and the exports of services rebounded strongly in the second half of 2018 (from 0,7% to 3.1%).

In 2019, the increase in exports of goods and services in the euro area is expected to be slower, 2.3%, compared with 3.2% in 2018, and much slower than the 5.2% growth recorded in 2017, but it is expected to grow to some extent in 2020 to 3%. In the EU, exports will drop to 2.5% in 2019 (from 3% in 2018) and will increase to 3.1% in 2020.

Imports to the EU decreased in 2018 to 3.2% from 4.3% in 2017. In 2019, imports of goods and services from the euro area are forecast to fall to 2.8%, respectively 3.1% in the EU and they will grow again to 3.3% in 2020. As a result, it is estimated that the net exports will have a negative influence on the economic growth in 2019 with 0.2%, and in 2020 with 0%.

Regarding the indicators of the Europe 2020 Strategy, we observe that in 2018, 73.2% of the EU population aged between 20 and 64 was employed, up from 72.2% in 2017. This is the highest share registered since 2002. Therefore, the distance from the 75% employment objective is 1.8 percentage points. We note that only the Czech Republic, Germany, Estonia, Ireland, Croatia, Latvia, Lithuania, Malta, Poland, Portugal, Slovenia, Slovakia and Sweden achieved this target in 2018 (Figure 2).

Although the prospects of the youth labor market have improved in the EU, in 2017 the employment rate among young people between the ages of 20 and 29 was considerably lower than for those aged between 30 and 54.

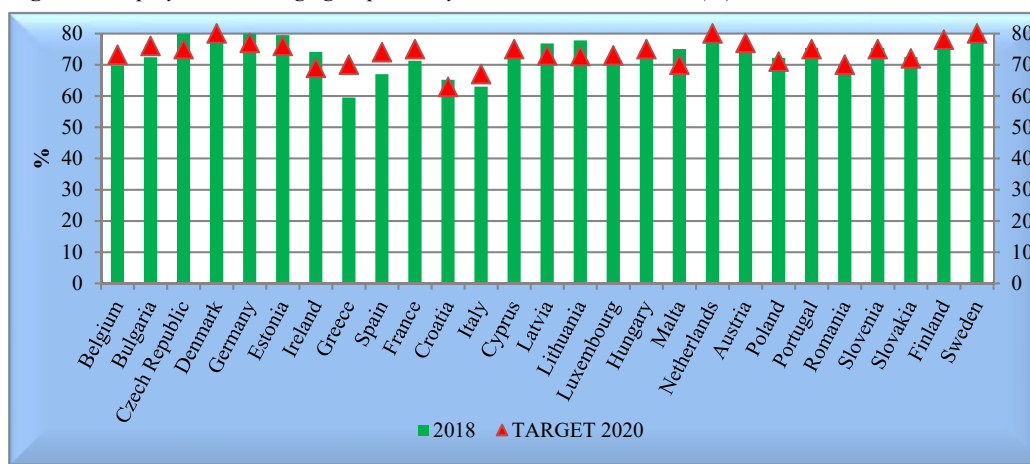
The employment rate among women in 2018 was 67.4%, lower than that of men – 79%. However, the gender employment gap narrowed by 11.5% for all age groups from 2002 to 2017.

In 2018, in Romania, the employment rate was 64.9%, and according to gender, women had an employment rate of 60.6% and men of 78.9%.

The EU primary or secondary school graduates were employed in a percentage of 54.9% in 2017, compared to 84.0% for those with higher education. The employment rate of non-EU citizens (aged between 20 and 64) was by 14.8 percentage points lower than in 2017.

The share of early school leavers and vocational training has declined steadily since 2002, for both men and women. In 2018, the indicator was 10.6%, compared to 14.7% in 2008. For men, the share in 2018 was 12.2% and for women 8.9%.

Figure 2. Employment rate, age group 20-64 years in the EU countries (%)

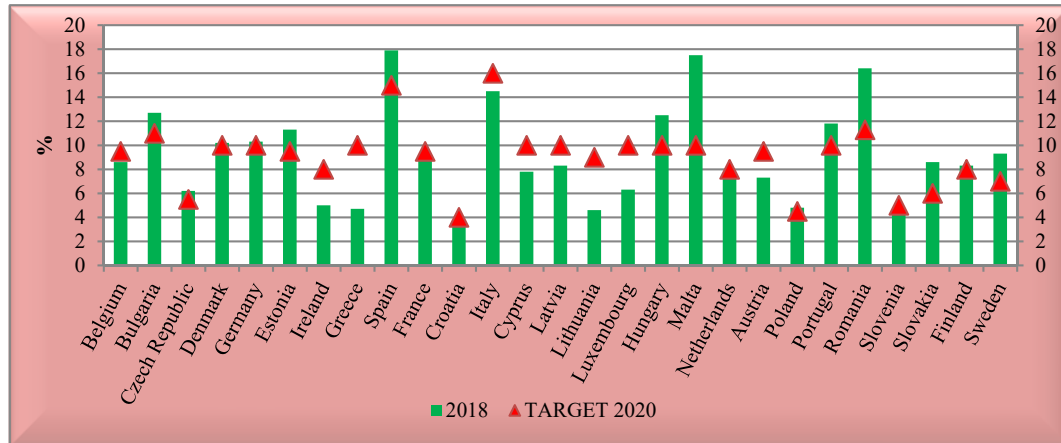


Source: Eurostat.

Compared to women, men are more likely to give up education and training earlier. Residents who were not born in the reporting country are more likely to leave formal education early compared to the locals. Those who drop out of school and training early are facing particularly serious problems on the labor market. In 2017, 55.7% of those who left school and vocational training early were either unemployed or inactive. This share increased by 10.1% compared to 2008.

The countries that have achieved this objective are Belgium, Ireland, Greece, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, the Netherlands, Austria and Slovenia.

Figure 3. The share of people who drop out of school early (% of the population aged 18-24 in the EU countries)



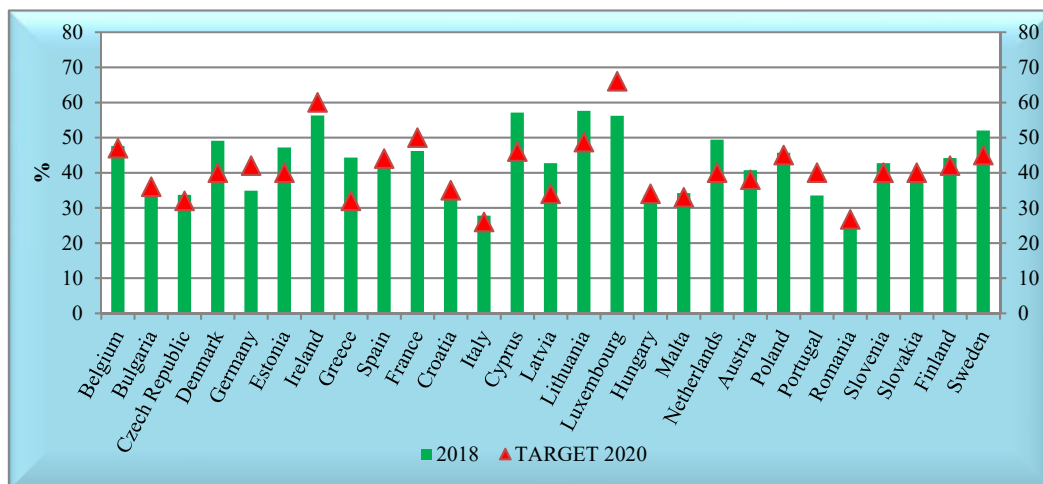
Source: Eurostat.

The share of early school leavers and vocational training in Romania was 16.4% in 2018, and the target is 11.3%. The share of men was 16.7% and 16.1% for women (Figure 3).

The share of people between the ages of 30 and 34 who graduated from tertiary education reached 40.7% in 2018. This means that the EU 2020 target of 40% was achieved two years in advance (Figure 4).

The increase in the number of tertiary education graduates was much faster for women, in 2018 it reached 45.8%, compared to 44.9% in 2017, and for men between the ages of 30 and 34, only 35,7% graduated a tertiary level of education (34.9% in 2017).

Figure 4. Percentage of population with higher education aged between 30 and 34 in the EU countries



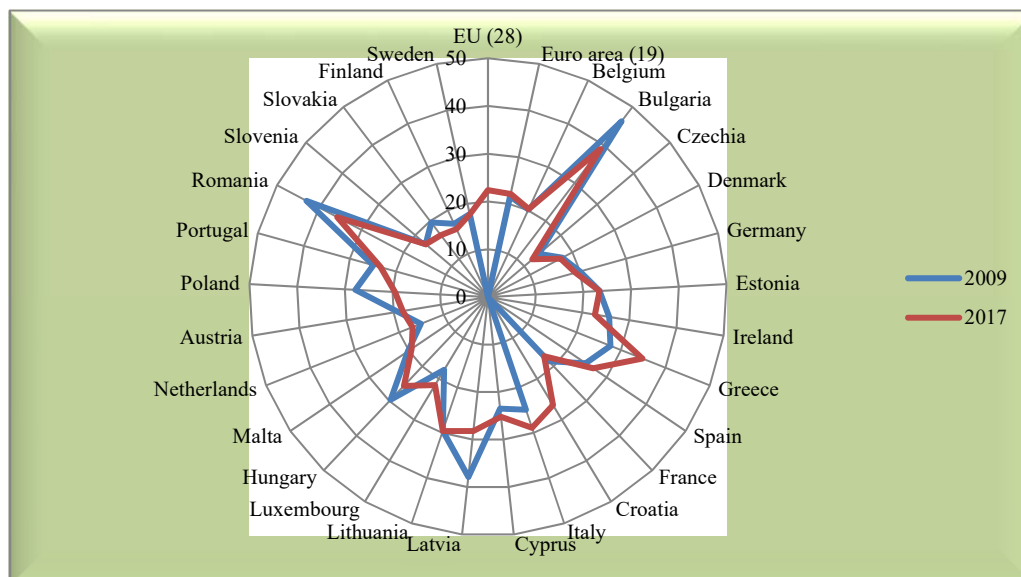
Source: Eurostat.

The countries that have achieved this objective are Belgium, the Czech Republic, Denmark, Estonia, Greece, Italy, Cyprus, Latvia, Lithuania, Malta, the Netherlands, Austria, Poland, Slovenia, Finland and Sweden.

In Romania, the level of tertiary education graduates was 24.6% in 2018, and by 2020 it has to reach 26.7%. For women it was 28.1% and for men 21.4%.

The Europe 2020 strategy aims to reduce by 20 million the number of people at risk of poverty or social exclusion by 2020, compared to the level of 2008. In 2017, 112.9 million people were exposed to the risk of poverty or social exclusion in the EU -28, with 5 million less than in 2016. The share of people at risk of poverty or social exclusion decreased below the levels registered in 2008 (116 million people). However, almost every fourth person (22.4% of the population) in the EU remained at risk of poverty in 2017. Therefore, further efforts are needed to strengthen the recent positive trend and to bridge this gap (Figure 5).

Figure 5. *The evolution of the share of people at risk of poverty or social exclusion in the EU countries*



Source: Eurostat.

The most widespread form of poverty or social exclusion in the EU is the monetary poverty. In 2017, approximately 85.2 million people, representing 16.9% of the total EU population, were exposed to the risk of poverty after social transfers, down from 2016 (17.3%). The second most common dimension of poverty or social exclusion was the very low level of work intensity, affecting 35.3 million people (39.1 million people in 2016), representing 9.5% of the EU population (10.5% in 2016). The third form of poverty or social exclusion – a serious material shortage – affected 33.1 million people in 2017, compared to 37.8 million in 2016. This represented 6.6% of the total population, compared to 7.5% in 2016.

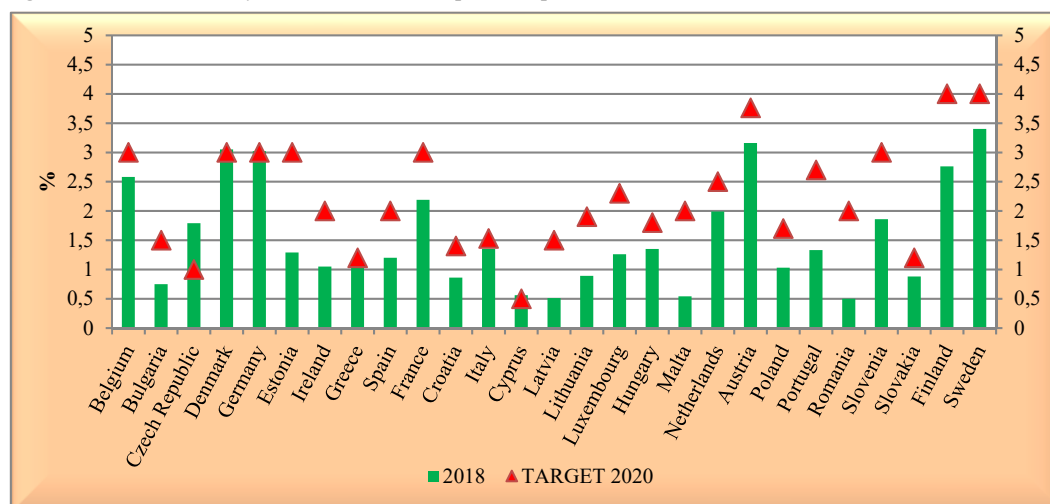
The most vulnerable groups are young people, the unemployed and inactive people, parents with one or more children, single-person households, low-educated citizens and foreigners

born outside the EU and living in rural areas. Of all the groups listed, the poverty risk rate is highest among unemployed and parents with one or more children.

In 2017, the share of people at risk of poverty or social exclusion in Romania was 35.7%, down from 43% in 2009.

The share of expenditures for research and development in the EU was 2.06% of the GDP in 2017, compared to 2.04% in 2016. The gross domestic research and development expenditures as a percentage of the GDP rose slightly between 2008 and 2012 as a result of the GDP growth and the effort to stimulate public spending for research and development, but then stagnated at about 2% of the GDP. This means that until 2017, the EU remained with almost one percentage point below its target for 2020, which requires the increase of public spending on research and development to 3% of the GDP (Figure 6).

Figure 6. The evolution of research and development expenditures in EU countries



Source: Eurostat.

The countries that have achieved this objective are the Czech Republic, Denmark, Germany and Cyprus. Romania has allocated the least amount of money for this sector at the EU level (0.5%).

3. Methodology and econometric analysis

In order to analyze the impact of the various variables on the economic growth, we considered it appropriate to estimate two econometric models, the dependent variables being the real GDP and the GDP per capita. Although initially the number of factors taken into account was higher, as a result of the estimates we obtained that the real GDP (economic growth) is significantly influenced by the level of private consumption (C), private investment (I), government expenditure (G), export (EX), import (IMP) and employment level (EMPL). The GDP per capita is influenced by the private consumption (C), private investment (I), export (EX), import (IMP), employment rate in tourism

(EMPL_TOURISM), the share of arrivals in tourist accommodation units (ARRIVALS_TOURISM) and the participation in tourism for personal purposes (PERSONAL_TOURISM).

For the econometric analysis we decided to estimate a data panel type model, based on the 27 EU countries and a period of 23 years (1996-2018). All processing and estimates were performed in Eviews 10, and the data were collected from EUROSTAT AND AMECO. In the case of the models we considered the individual effects as random because by applying the Hausman P-value test it has a probability of 0.5094%, which forced the rejection of the alternative hypothesis and the acceptance of the null hypothesis.

After this decision, we checked the hypotheses about the model residue. Thus, we ran tests for autocorrelation and homoscedasticity (Drukker, 2003; Baum, 2001), obtaining that the errors are heteroscedastic and auto-correlated. For these reasons, it was necessary to obtain consistent estimators by applying a robust estimate. We tested the stationarity of the variables using the Phillips-Perron test.

$$\text{GDP_real} = 0.0242 + 0.6801 * C + 0.1311 * I - 0.5308 * G + 0.2150 * EX - 0.1140 * IMP + 0.5656 * EMPL$$

$$(0.55)*** \quad (0.03)* \quad (0.02)* \quad (0.17)* \quad (0.03)** \quad (0.03)* \quad (0.24)**$$

where the parentheses contain the robust standard errors, and *, **, *** represent 1%, 5% and 10% significance level (Annex 1).

The variable that has the greatest influence on the dynamics of the real GDP is private consumption (associated coefficient 0.6801), an influence according to the literature as a sign and as an intensity. The positive impact of consumption is not seen as beneficial for a sustainable economic growth, especially in the medium and long term. The level of private consumption may have positive changes in revenue growth, but also negative changes in price increases (inflation) and, as the main driver of the economy, it may affect the economic growth. Another factor that has an important influence on economic growth is the employment rate (0.5656). The increase of the employment rate determines both an increase of the production, as well as a reduction of the poverty and the social exclusion. Exports also have a positive influence on the evolution of the GDP (associated coefficient 0.2150). Investments also prove to be a driver of economic growth and, consequently, of job creation. In the model, investments have a positive influence, but the coefficient is lower (0.1311) compared to the other factors.

The variables that have a negative influence on economic growth are government expenditures (-0.5308) and imports (-0.1140). The negative influence of government expenditures is explained by the crowding-out effect in the sense that an increase in spending will lead to an increase in the money supply for financing the deficit and, implicitly, an increase in the interest rate and a reduction in investments. The impact of trade on economic growth shows that at the EU level there is a greater influence from exports than from imports, so we can say that the net influence is positive. Basically we can say that there is an improved allocation of resources (depending on the comparative advantages), a better use of production capacities, a stimulation of technological improvements and an increased level of the jobs created (see Annex 1).

$$\begin{aligned}
 \text{GDP_capita} = & 1.2211 + 0.7806 * C + 0.7239 * I + 0.6093 * EX - 0.4229 * IMP + 0.2943 * \text{EMPL_TOURISM} + \\
 & (0.21)^* \quad (0.05)^* \quad (0.07)^* \quad (0.04)^* \quad (0.04)^{**} \quad (0.07)^* \\
 & + 0.0406 * \text{ARRIVALS_TOURISM} - 0.0008 * \text{PERSONAL_TOURISM} \\
 & (0.02)^{**} \quad (0.00)^{**}
 \end{aligned}$$

where the parentheses contain the robust standard errors, and *, **, *** represent 1%, 5% and 10% significance level (Annex 2).

Considering that, lately, tourism is seen as an important factor of the economic recovery, by producing income and creating jobs, we have decided to estimate the impact of some variables in the tourism industry on the GDP per capita. We have kept some of the exogenous variables used in the previous model, but we have also introduced the employment rate in the tourism industry, the share of arrivals in the tourist accommodation units and the participation in tourism for personal purposes. From the estimation we observe that the influence as a sign and intensity of the macroeconomic variables in the previous model is preserved. We also note that the employment rate in tourism has a positive influence on the GDP per capita (associated coefficient 0.2943) indicating that the activity in tourism contributes to the increase of income and to the well-being among individuals. The arrivals of tourists in the tourist accommodation units also have a positive impact on the GDP per capita (0.0406), in terms of the revenues brought to both tourism companies and employees, as well as the public budget. Personal tourism has a negative influence on the GDP per capita, but the associated coefficient is quite low (-0.0008). The negative influence can be explained by the fact that at the EU level, some citizens prefer to spend their holidays outside the national and European borders without contributing to the GDP per capita at the European level (see Annex 2).

4. Conclusions

In recent decades, worldwide disparities in economic growth trends appear to be the result of a combination of “traditional” factors – linked in particular to the efficiency of labor market mechanisms – and elements of the “new economy” that reflect the size of the ICT manufacturing industries, but also the pace of the adoption of this technology by the other industries of the economy. At the same time, we have to also take into account the political and institutional framework that contributes to shaping the business conditions for the existing companies and the new entrepreneurial activities, which can determine the differences in the countries’ ability to bring innovations in the developing industries and to adopt the latest technologies.

At the EU level it is estimated that, in all Member States, the economic growth will continue after the post-crisis period based on a strong domestic demand, an increase in the employment rate and a reduction in financing costs. The expected growth, however, is not without potential international risks, such as a new escalation of trade conflicts and deficiencies on the emerging markets. On the other hand, there are internal risks related to Brexit, political uncertainties and the possibility of returning to the vicious circle of bank debt and sovereign debt.

In order to maintain the rising trend of the GDP, it is necessary to increase the wage incomes of the population correlated with an increase of productivity, thus reducing the risk of poverty and increasing social inclusion. Reducing the risk of poverty results in an increased consumption and job supply. Increasing the employment rate will increase the GDP per capita and it will improve the quality of life. Thus, the rate of early school dropout will decrease and the number of people with higher education will increase which will positively influence work productivity. Rising expenditures on R&D will determine the identification for optimal solutions for increasing productivity. For companies, this aspect will lower the social cost, reducing the intervention costs to reduce the gas emissions and the individual one, by lowering the purchase price of energy. They will have more money for investments, they will create new jobs, and the employment rate will increase having positive effects on the economic growth.

In the last years the rate of creation of new jobs in the tourism sector has exceeded the general average at the EU level and thus the tourism industry is considered to have an important role in achieving the objectives of economic growth.

The results of the first model estimated indicated a positive contribution on the GDP growth rate of private consumption, employment rate, export and investment and a negative contribution of government expenditure and imports.

In the second model we used the GDP per capita as an endogenous variable and we noticed that in addition to the positive influence of private consumption, investments and exports, there was also added the influence of tourism employment and arrivals in tourist accommodation units. The imports and the participation in tourism for personal purposes had a negative impact.

In the next period it is estimated that the level of trade and economic growth worldwide will decrease, and in this context the economic growth in the EU will be based entirely on the domestic activity. Currently, the employment rate in the EU is quite high, and it is expected that this growth trend will be kept, but at a slower pace, and this together with the wage growth, low inflation, favorable financing conditions and the support fiscal measures from some Member States should lead to domestic demand.

On the other hand, private consumption and investments in the EU will be especially resilient, especially if the confidence among firms and consumers would be less sensitive to the uncertainty and difficulties on the internal market and if accompanied by stronger fiscal-budget policy measures, especially in the states that have a margin of budgetary maneuver and reforms to stimulate the economic growth.

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Annexes

Annex 1

Dependent Variable: PIB
 Method: Panel EGLS (Cross-section random effects)
 Date: 05/03/19 Time: 11:22
 Sample: 1996 2018
 Periods included: 22
 Cross-sections included: 26
 Total panel (unbalanced) observations: 344
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.024249	0.552372	0.043901	0.9650
CONSUM	0.680103	0.032707	20.79386	0.0000
INVESTITI	0.131111	0.022358	5.864076	0.0000
G	-0.530862	0.175135	-3.031163	0.0026
EXPORT	0.215029	0.030487	7.053136	0.0000
IMPORT	-0.114073	0.032126	-3.550786	0.0004
RATA_DE_OCUPARE	0.565609	0.245909	2.300069	0.0221

Effects Specification		S.D.	Rho
Cross-section random		0.037131	0.0648
Idiosyncratic random		0.141090	0.9352

Weighted Statistics			
R-squared	0.743713	Mean dependent var	0.553942
Adjusted R-squared	0.739150	S.D. dependent var	0.277519
S.E. of regression	0.140957	Sum squared resid	6.695800
F-statistic	162.9887	Durbin-Watson stat	1.737233
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.777141	Mean dependent var	0.773244
Sum squared resid	7.108513	Durbin-Watson stat	1.636371

Annex 2

Dependent Variable: PIB_LOC
 Method: Panel EGLS (Cross-section random effects)
 Date: 05/22/19 Time: 23:21
 Sample: 2010 2017
 Periods included: 8
 Cross-sections included: 26
 Total panel (unbalanced) observations: 182
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.221159	0.217715	-5.608973	0.0000
CONSUM	0.780697	0.054210	14.40139	0.0000
I	0.723940	0.075633	9.571723	0.0000
EX	0.609365	0.044002	13.84843	0.0000
IMP	-0.422968	0.045464	-9.303464	0.0000
OCUPARE_TURISM	0.294350	0.071758	4.101963	0.0001
SOSIRI_UNITATI_CAZARE	0.040615	0.020890	1.944260	0.0535
PARTICIPARE_TURISM_SCOP_PERS	-0.000816	0.000364	-2.239732	0.0264

Effects Specification		S.D.	Rho
Cross-section random		0.343636	0.0463
Idiosyncratic random		1.559126	0.9537

Weighted Statistics			
R-squared	0.848196	Mean dependent var	2.792078
Adjusted R-squared	0.842089	S.D. dependent var	4.097618
S.E. of regression	1.617756	Sum squared resid	455.3817
F-statistic	138.8876	Durbin-Watson stat	1.958945
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.853115	Mean dependent var	3.206354
Sum squared resid	482.2840	Durbin-Watson stat	1.849673