



MINISTRY
OF DEVELOPMENT FUNDS
AND REGIONAL POLICY

The Impact of the Cohesion Policy on the Social and Economic Development of Poland and of its Regions in the years 2004-2020

Ladies and gentlemen,

European Funds have been supporting the development of our economy for over 17 years. The experience of Poland, one of the leaders in the implementation of the Cohesion Policy, exemplifies the importance of access to European Community financing for maintaining sustainable economic growth. The support received allowed the implementation of numerous investment projects instrumental in raising competitiveness of the economy and in improving the social and territorial cohesion of the country. It also contributed to Poland's inclusion in the European transport network, as well as to development of Internet infrastructure and to the improvement of energy security. European Funds supported not only infrastructure, but also numerous activities in the field of education, professional development, or broadly understood entrepreneurship. They brought about an improved quality of life and better business environment. Almost half a million jobs were created thanks to the EU funding, while investments expenditures increased by almost 25%. Up to the end of 2020 almost PLN 518 billion of the EU funds have been channeled to finance investment activity.

The brochure prepared by our Ministry illustrates not only the scale of funds transferred to Poland within the framework of the Cohesion Policy, but also their impact on the development of Poland and of its regions over the course of the last several years.

The implementation of the Cohesion Policy contributes to bridging of the gap between Poland and the average level of the development in the EU-27 countries. Since its accession to the EU Poland has recorded one of the highest GDP growth rates in the entire Union. As a result, the distance towards the EU-27 average income level (in terms of GDP per capita) has narrowed by 24.2 p.p., of which almost 16% resulted from the implementation of the Cohesion Policy. The Cohesion Policy resources mitigate the processes of regional differentiation observed in Poland. EU financing constitutes - together with the state budget, and the budgets of local governments, of non-governmental organizations and of companies - a significant impulse for the socio-economic development of Poland.

Please feel encouraged to familiarize yourself with the results of research conducted at the Ministry of Funds and Regional Policy, which are presented in this brochure.

Wishing you an enjoyable read!

Grzegorz Puda

Minister of Development Funds and Regional Policy

Introduction

The Ministry of Development Funds and Regional Policy (MDFRP) has been conducting, for many years, systematic research into the impact of the Cohesion Policy on the socio-economic development of Poland and of its regions. Within the framework of this research, the Cohesion Policy's financial resources invested in Poland since the country's accession to the European Union are subject to evaluation.

The impact of the EU funds is cyclically evaluated based on the selected indicators measuring the degree of achievement of the objectives of the main strategic documents, i.e. The National Development Plan 2004-2006, The National Cohesion Strategy 2007-2013 and The Partnership Agreement 2014-2020¹.

The assessment of the Cohesion Policy's impact on the Polish economy in the years 2004-2020 as well as forecasts up to 2029 are based on research conducted by IMAPP Consulting, and the Institute for Structural Research with the application of the EUImpactMOD model (which represents the class of Dynamic Stochastic General Equilibrium - DSGE models). In addition, selected indicators were estimated with an econometric module.

The impact of the EU funds on the basic macroeconomic indicators is ascertained by a comparison of two scenarios – one which reflects the use of the EU funds and the other one which implies a lack of the analyzed funds. The scenario which corresponds to the situation with the analyzed funds operating in the country constitutes the starting point for the analysis. It represents actual changes taking place in the economy. The second scenario, a hypothetical one, assumes that the economy doesn't have access to the funds described in the analyzed strategic documents.

The difference between the two above-mentioned scenarios constitutes the impact of the EU funds.

Conclusions of the Evaluation

Hitherto, **the impact of the Cohesion Policy on Poland's socio-economic development has been unequivocally positive.** European funds have exerted significant influence on economic growth, investment activity, and the labour market in Poland, as well as on the economy's internal and external equilibrium. EU financing has supported domestic investments and the development potentials of the Polish economy.

The results of research indicate that the EU funds have accelerated both GDP growth and a real economic convergence towards the level of advanced EU countries. The EU funds have also caused a noticeable increase in employment and a drop in unemployment. The beneficial impact of the European Cohesion Policy manifests itself in the creation of new jobs, improvement of the skills of employees and in their better adaptation to changing labour market conditions.

The implementation of the Cohesion Policy has contributed not only to the narrowing of the gap between Poland's level of socio-economic development and the development level of advanced EU countries, but also to mitigating the processes of internal diversification. The distance in the level of economic development between all Polish regions and the EU average level has been gradually decreasing since the EU accession.

¹ The data presented herein is derived from the most recent research project conducted in December of 2021

- The distance between Poland and the EU-27, in **GDP per capita (in the PPS)** terms has narrowed in the period 2004-2020 by 24.2 p.p., with 15.7% of the observed convergence resulting from the implementation of the Cohesion Policy. In 2020 Poland's GDP per capita amounted to 75.7% of the EU average;
- About 8.4% of the average annual **GDP growth** recorded in Poland in the period 2004-2020 resulted from the implementation of projects co-financed from the EU funds;
- **Gross fixed capital formation** expenditures in 2020 were higher by almost 24%, and the investment rate was higher by 2.5 p.p. than in the scenario without EU financial assistance;
- European funds were responsible for 1.8 p.p. of a narrowing of the gap between **labour productivity** in Poland and its average level in the EU-27;
- The Cohesion Policy added about 0.2 p.p. to the **share of R&D expenditures in the GDP**;
- About 1/8 (around 2.1 p.p.) of the increase in the **employment rate** recorded in the period 2004-2020 resulted from the implementation of investments co-financed from the EU funds;

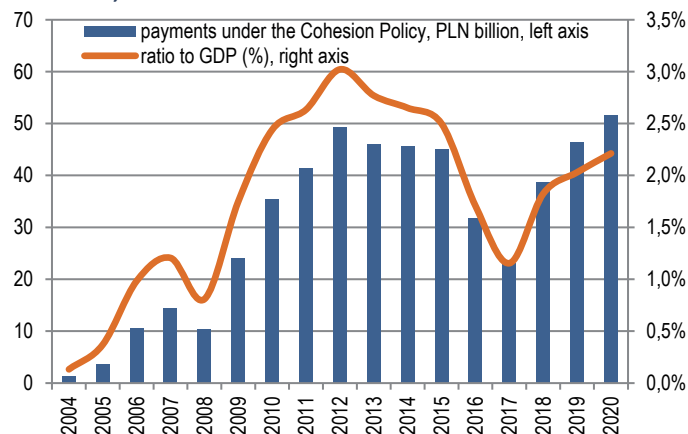
The **number of jobs created** thanks to investments co-financed from the EU budget is estimated at 400-500 thousand;

- The **unemployment rate** was lower by 0.9 p.p. in 2020 thanks to the EU funds, while on average in the period 2004-2020 it was lower by 1.6 p.p.;
- Income inequality, as measured by the **Gini coefficient**, decreased by 2.5 p.p. on account of the Cohesion Policy
- The ratio of the **result of the sector of government and self-government institutions** to GDP and the ratio of the sector's debt to GDP improved – by respectively 0.8 p.p. and 10.4 p.p. in 2020 thanks to the implementation of the Cohesion Policy;
- The Cohesion Policy's implementation led to a worsening of the **ratio of current account balance to GDP** (on average by 1.3 p.p. annually in the period 2004-2020).

Cohesion Policy Resources Allocated in Poland in the Years 2004-2020

Up to the end of 2020, structural funds and Cohesion Fund resources used in Poland amounted to approximately PLN 517.7 billion². The average annual value of payments under the Cohesion Policy amounted in the analyzed period (2004-2020) to 1.8% of GDP.

Figure 1. Support under the Cohesion Policy (the EU funds) in Poland, 2004-2020



Source: own elaboration based on the MDFRP database

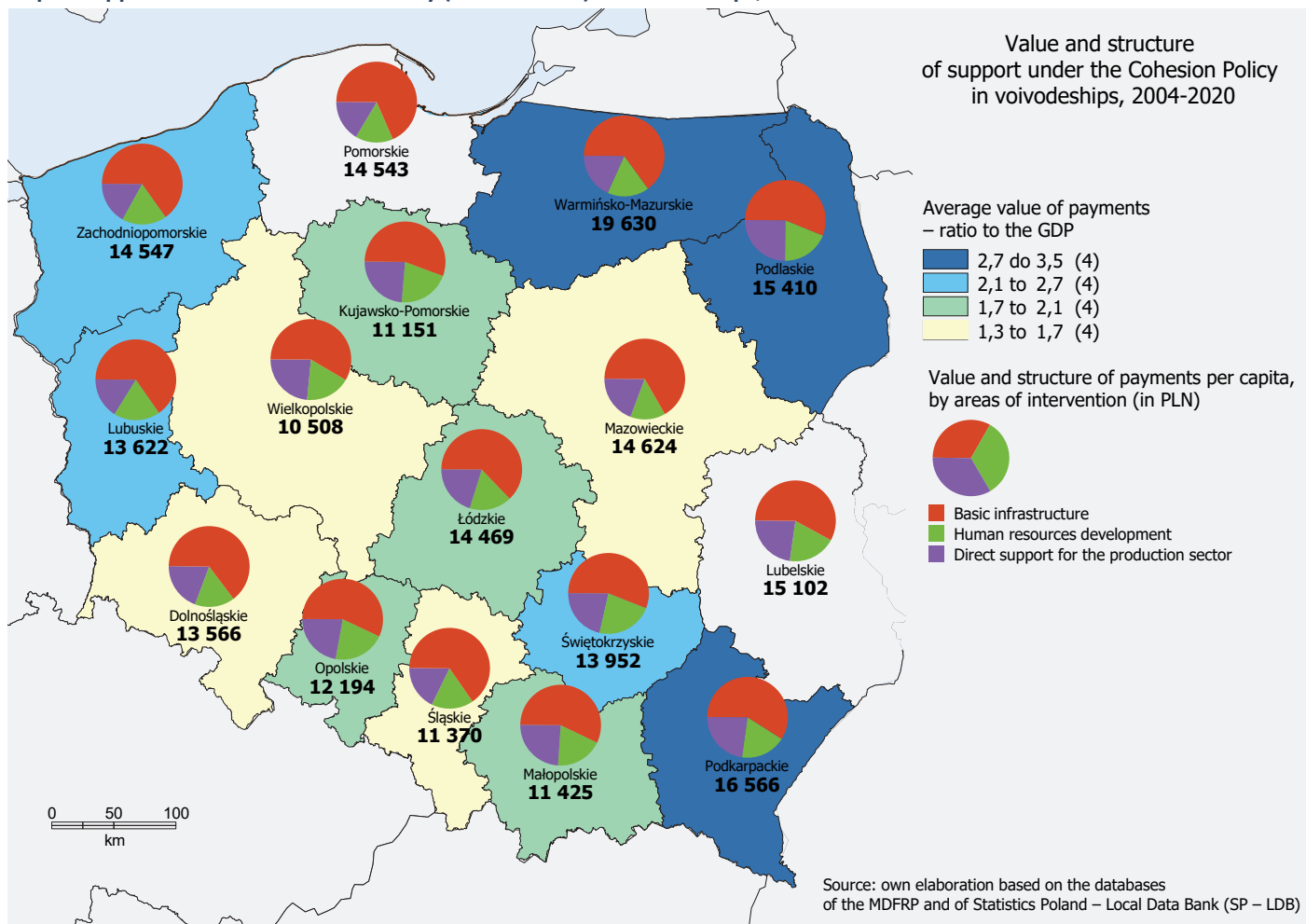
As far as regional distribution of the EU funds is concerned, in the years 2004-2020 the highest nominal payments were allocated to the following voivodeships: Mazowieckie (PLN 79.3 billion), Śląskie (nearly PLN 51.1 billion), Dolnośląskie (PLN 39.2 billion) and Małopolskie (PLN 39 billion). The lowest nominal level of payments was recorded in Opolskie (PLN 11.9 billion) and Lubuskie (PLN 13.7 billion) voivodeships.

In per capita terms the highest Cohesion Policy payments were allocated in the period 2004-2020 to the Warmińsko-Mazurskie (PLN 19.6 thousand) and Podkarpackie (PLN 16.6 thousand) voivodeships, while the lowest ones to Wielkopolskie (PLN 10.5 thousand), and Kujawsko-Pomorskie (PLN 11.2 thousand) voivodeships.

In terms of the ratio of these payments to the regional GDP in 2020 Lubelskie (4.7%) and Podlaskie (4.2%) voivodeships were the leaders. Taking into account the average figures for the period 2004-2020 the analyzed ratio was the highest in Warmińsko-Mazurskie (3.5%) and Podkarpackie (3.1%) voivodeships.

² The value of payment claims – EU co-financing.

Map 1. Support under the Cohesion Policy (the EU funds) in voivodeships, 2004-2020



In the analyzed period, the largest EU support was channeled towards the development of basic infrastructure (transport infrastructure, energy, environmental protection, and social infrastructure). In the majority of voivodeships, expenditures on the above-mentioned category amounted to approximately 60% of total EU funds disbursed. The remainder was earmarked for the direct support of the production sector and - to a slightly lower extent - for the development of human capital.

The structure of support was similar in all analyzed regions. Expenditures on basic infrastructure dominated in all voivodeships, with their share ranging from below 55.7% in Kujawsko-Pomorskie to 66.6% in Mazowieckie. The share of expenditures on human resources development ranged from about 13.9% in Mazowieckie to 22.4% in Świętokrzyskie, while the share of expenditures on direct support for the enterprise sector amounted from 16.4% in Lubuskie to 24.9% in Podlaskie voivodeships.

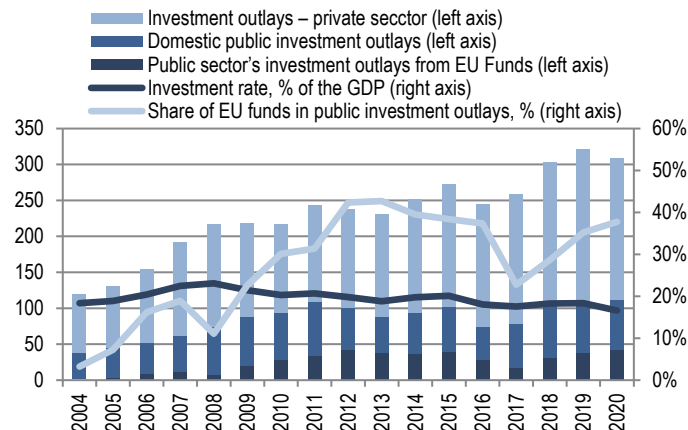
The investments co-financed by the EU funds constitute a **significant part of public investments in Poland.**

Two different measures can be applied to assess the share of the EU funds in public investments in Poland, namely the share of those funds in either gross fixed capital formation expenditure of the government and local self-government sector, or in the public sector's investment outlays. However, only the latter measure allows for interregional comparisons.

In 2020, gross fixed capital formation expenditure of the government and local government sector amounted to PLN 104.4 billion, of which almost 40.5% (i.e. about 1.7 p.p. more than in 2019) were investments co-financed from the EU funds³. At the same time public investment expenditures amounted to PLN 112 billion, with the comparatively lower share (over 37.8%) of undertakings financed from the EU funds.

The average share of investments financed from the EU funds in total public investments had been steadily growing for some time since Poland's accession to the EU and in 2013 amounted to 42.7%. Subsequently it started to decline – to as low as 22.7% in 2017. In 2020 the share of the EU funds in financing of public investments increased again - to 37.8%. Such a significant increase observed in 2020 was influenced by the dynamic growth of payment claims to the European Commission for projects co-financed from the EU funds and by the recorded lower dynamics of both public and private investments.

Figure 2. Public investments financed from the EU funds and from domestic funds, 2004-2020



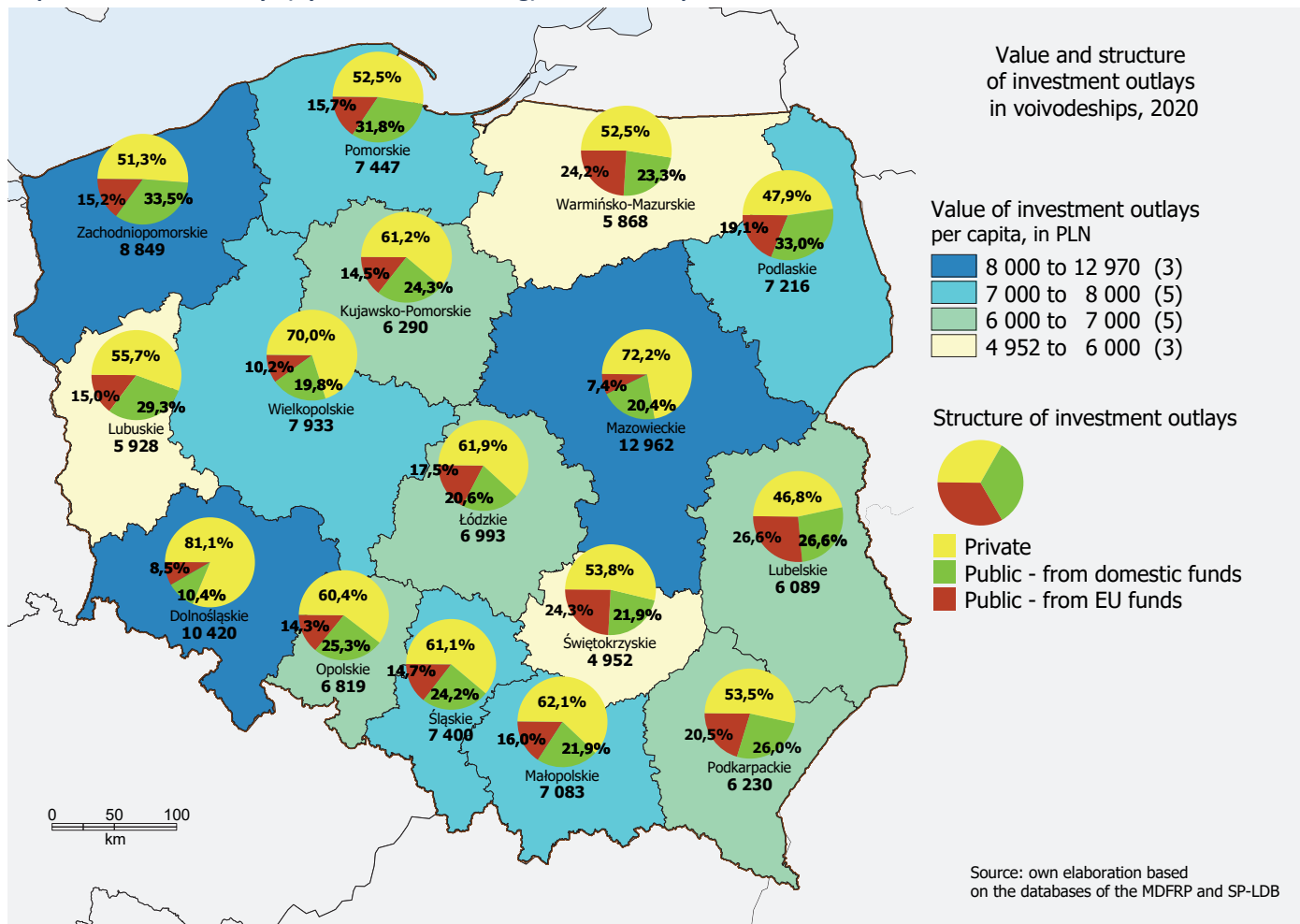
Source: own elaboration based on Statistics Poland Local Data Bank and studies of the MDFRP

Throughout the entire analyzed period the ratio of domestic public investments to public investments financed from the EU resources exhibited significant regional differentiation. In 2020 public investments financed from domestic resources dominated in almost all voivodeships, with Lubelskie, Warmińsko-Mazurskie and Świętokrzyskie being exceptions – with majority of the total public investments in these voivodeships being financed from the EU funds.

³ Starting from this edition of the report the value of public investments financed from the EU funds is calculated as a sum of the EU funds earmarked for a) expenditures in the area of development of basic infrastructure and b) direct support for the production sector (excluding

expenditures on human capital development). Therefore the most recent figures are not fully comparable with the respective data presented in the previous editions.

Map 2. Investment outlays (by sources of financing) in voivodeships, in 2020

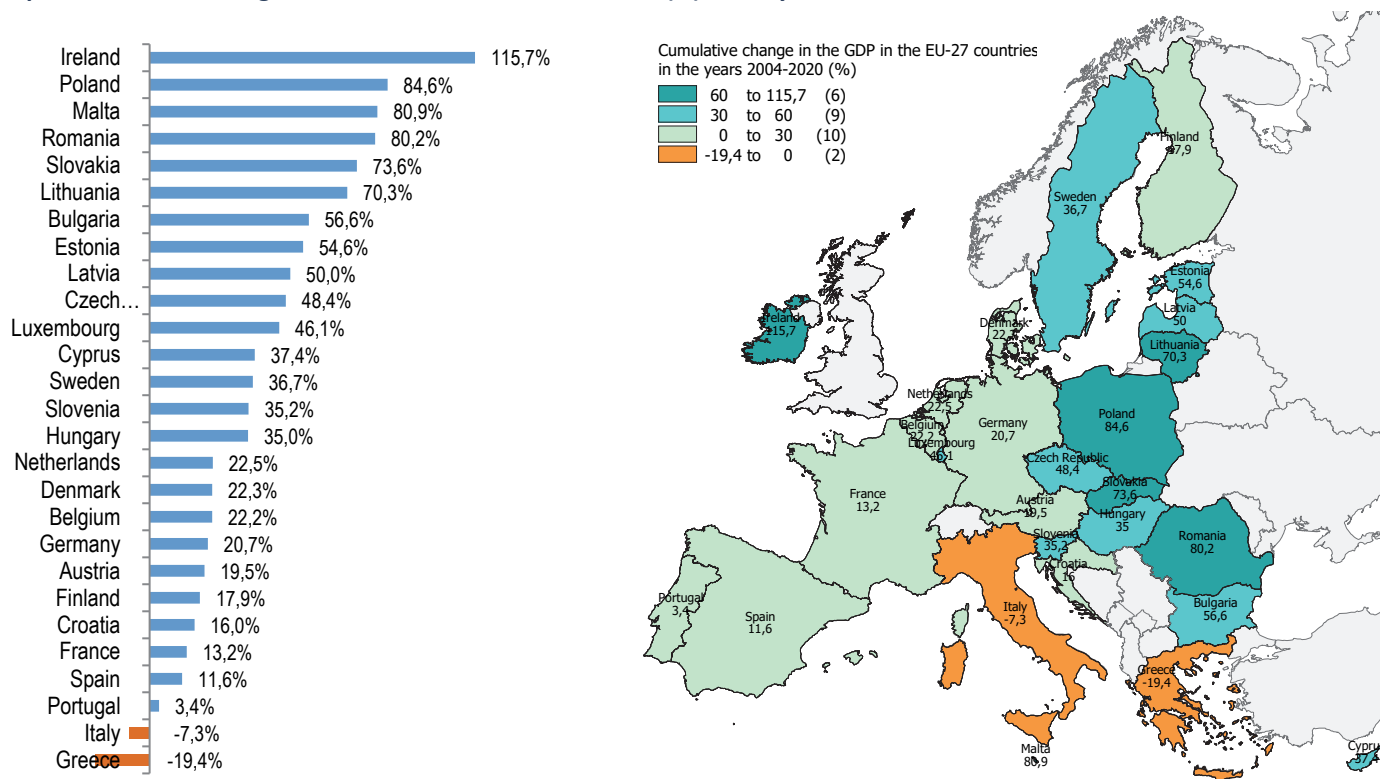


Economic Growth and Structural Changes in the Economy

In the period 2004-2020 Poland recorded second largest, following Ireland, cumulative GDP growth among the EU Member States. Since the EU accession the Polish economy has expanded, in real terms, by 84.6%, while the

respective average for the EU-27 amounted to 18.2% (map 3).

Map 3. Cumulative change in the GDP in the EU-27 countries (%) in the years 2004-2020



Source: Own elaboration based on the Eurostat database

The relatively high rate of economic growth recorded in Poland in the period 2004-2020 (annual average growth of

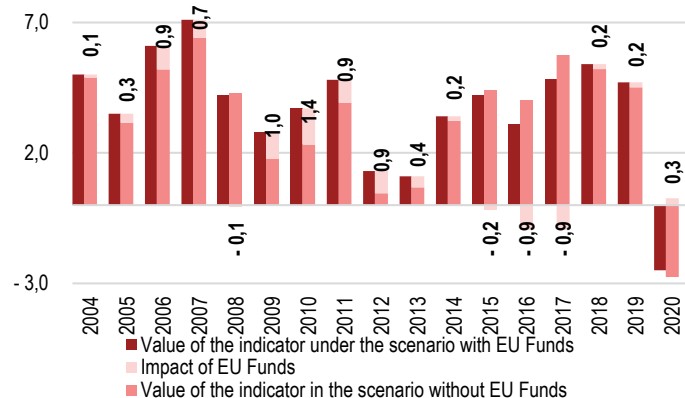
3.7%, compared with 1.0% in the EU-27) stemmed, to a significant extent, from the use of the EU funds. During the

Global Financial Crisis, the EU funds served as a shock absorber mitigating the effects of external shocks and helping with the implementation of the national policy of public finance stabilization. The EU funds played a similar role in 2020, and continue to do so at present, limiting the negative impact of the coronavirus pandemic on the Polish economy.

Throughout the entire analyzed period Cohesion Policy has exerted favourable impact on the economic development.

Approximately 8.4% of the average annual economic growth can be ascribed to the implementation of projects co-financed from the EU funds. The analyzed funds led - via stimulating investment demand -to an increase in both disposable income and consumer demand, hence boosting GDP growth. The inflow of the EU funds constituted a significant contribution to the growth in real GDP (Figure 3).

Figure 3. Impact (p.p.) of the Cohesion Policy on the GDP growth rate in Poland in the period 2004-2020



Source: own elaboration based on Statistics Poland data and studies of the MDFRP

The discernible positive impact of the EU funds on the level of economic activity in the country depends on the operations of two fundamental transmission channels of the funds' influence on the economy - namely the demand channel and the supply-side channel. The impact of funds through the **demand-side channel** depends on the scale of their inflow in individual years. The funds flowing into the country boost the economy's aggregate demand in a given year, primarily by stimulating investments (both public and private ones) as well as via direct support for enterprises' investments. Simultaneously, the expanded investment activity of the state and

of the enterprise sector generates additional demand for labour. Higher employment and gradual growth in wages translate, in turn, into an increase in households' disposable income, hence stimulating consumer demand.

The continuous inflow of EU financing is required for the demand-side channel to operate; when such an inflow ceases (e.g. with the finalization of a given financial perspective), this effect disappears. The situation observed in the period 2015-2017 illustrates such a case. (Figure 3). Particularly, in the years 2016-2017, a decrease in the impact of the EU funds on the GDP level is visible, due to the termination of the use of funds from the financial perspective 2007-2013 and the still small at that time scale of implementation of the projects from the 2014-2020 perspective. As a result, in these years there is a significant weakening of the demand impulse (in particular from the perspective of stimulating investments in the economy). In the years 2018-2020, the positive impact of the EU funds on the Polish economy resurfaced thanks to the increased use of funds under the 2014-2020 financial perspective.

In addition to expanding aggregate demand, the use of the European funds has positively affected the GDP volume through the **supply-side channel**. The funds' inflow contributed to the expansion of the economy's productive capacity by facilitating (thanks to investment grants and investment loans) the accumulation of capital in private sector's enterprises, expanding the stock of public capital (via the development of basic infrastructure), and improving the quality of human capital. This led to in turn to a gradual growth in labour productivity, hence contributing to the expansion of the national economy's productive capacity. As opposed to the demand-side effects, supply-side mechanisms take a longer time to start operating and also require systematic inflow of the European Funds. At the same time, the supply-side effects are relatively more long-lasting than the demand-side ones.

Investments financed from European Funds constitute an **important factor behind changes in the economy's sectoral structure**, as evidenced by an expansion of the share of sector II (industry and construction) in the gross value added, with the simultaneous contraction of the share of sector I (agriculture).

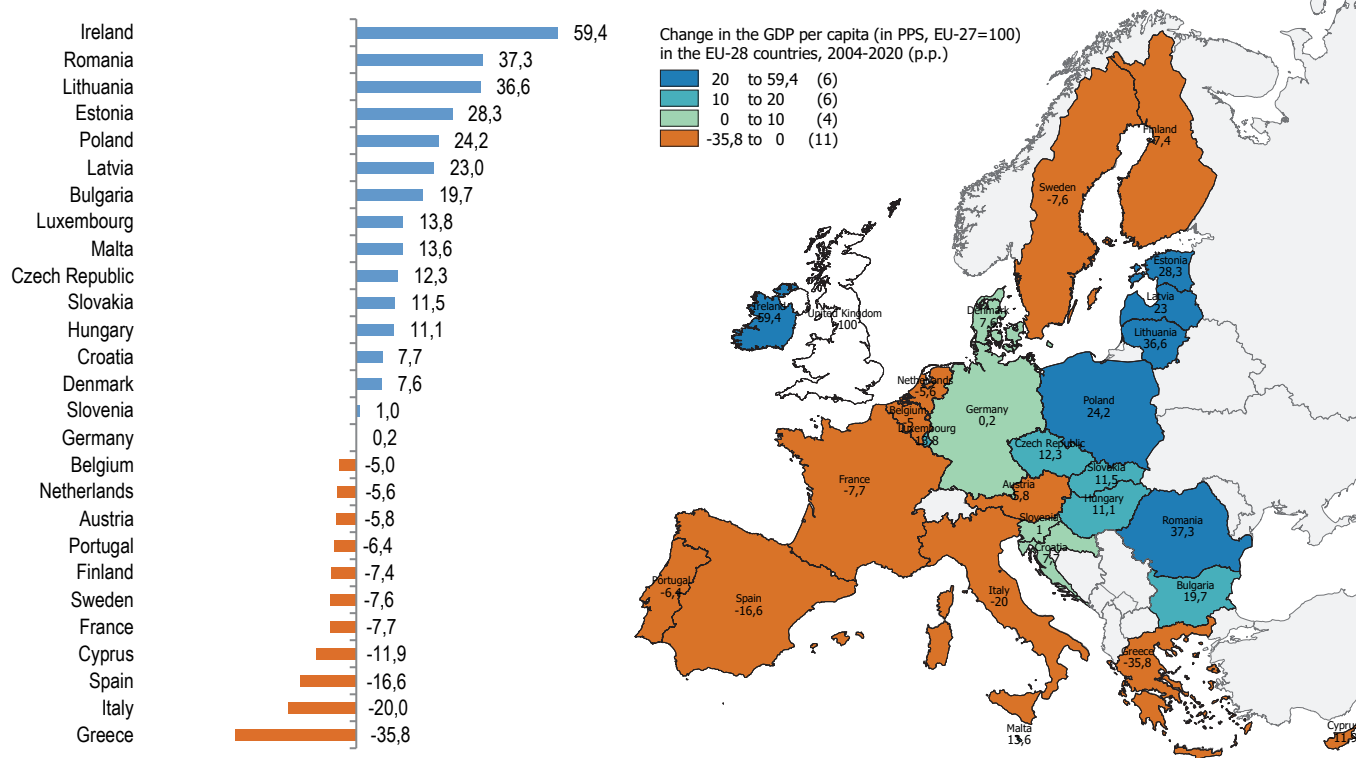
The favourable impact of the EU funds on the domestic economy manifests itself also in a non-financial dimension. It materializes chiefly via an improved efficiency of processes related to the preparation and implementation of investment projects, which in the long term also positively affect quality – reflected i.a. in terms of the rate of return on investments financed from national funds. This effect is evident in both public and private sector.

The financing received by Poland under Cohesion Policy boosts the process of the country's real economic convergence towards the EU, thereby supporting the attainment

of one of the policy's main objectives. Poland's catching up to the average level of economic development in the European Union results from a more dynamic economic growth (stimulated by the expansion of physical and human capital and by technological progress, which in turn affects labour productivity growth).

In the period 2014-2020 the **distance between Poland and the EU-27 average in the GDP per capita (in the PPS) terms narrowed by 24.2 p.p., with 15.7% of the progress recorded being attributed to the Cohesion Policy (Map 4) .**

Map 4. Changes (p.p.) in GDP per capita (in PPS, EU-27=100) in EU-27 countries, 2004-2020

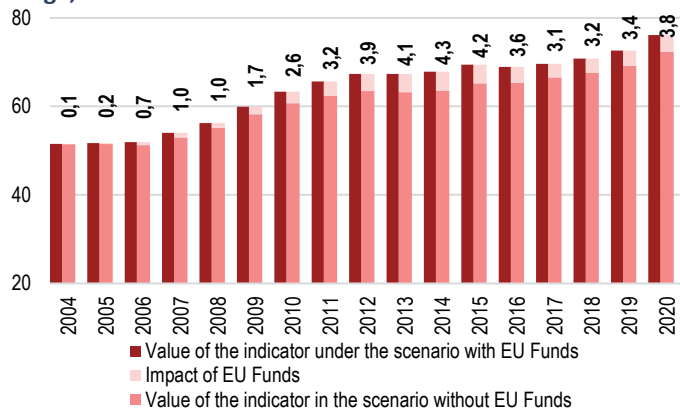


Source: Own elaboration based on the Eurostat database

The ratio of Poland's GDP per capita (at PPS) to the EU-27 average improved from 51.5% in 2004 to 75.7% in 2020. The EU funds boosted the said ratio by 3.8 p.p., which signifies that if these resources hadn't been disbursed it

would have amounted to 71.9 p.p. in 2020. The graph 4 below illustrates, in a detailed manner, the funds impact on the analyzed category.

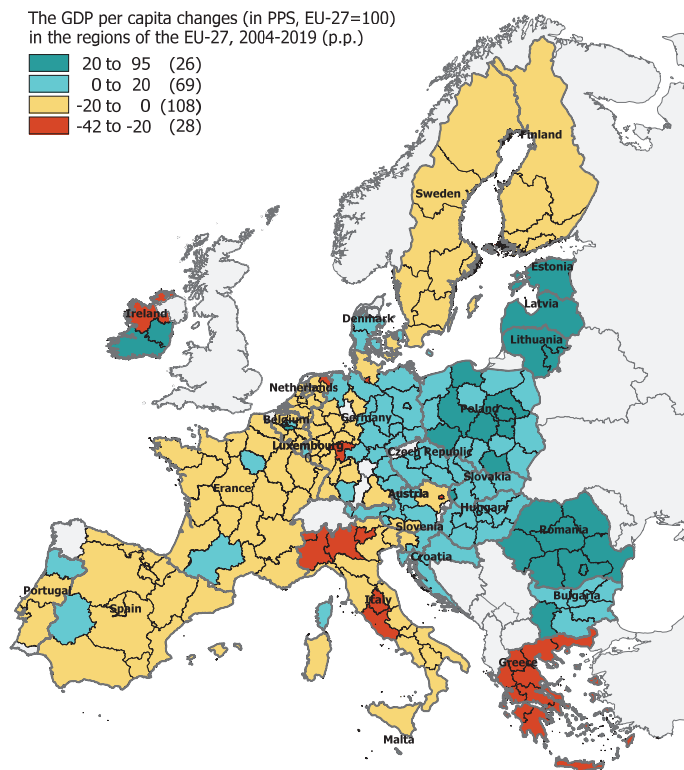
Figure 4. Impact (p.p.) of the Cohesion Policy on the value of GDP per capita (in PPS) in Poland in relation to the EU-27 average, 2004-2020



Source: own elaboration based on Statistics Poland data and studies of the MDFRP

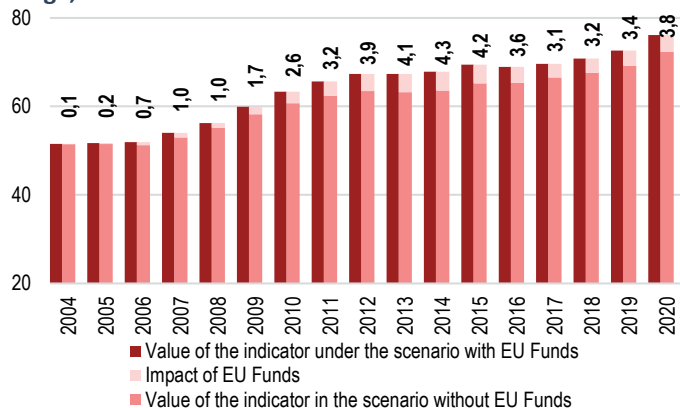
The implementation of the Cohesion Policy contributes not only to reducing the distance between Poland and the average level of socio-economic development of the EU-27 countries, but also to mitigating the processes of internal differentiation. The distance in the level of economic development separating Polish regions from the EU-27 average level has been gradually decreasing (Map 5), with the EU funds helping all Polish regions to move closer to the average level of development of the EU-27. However the convergence processes observed across the country are uneven from the territorial perspective.

Map 5. Changes (p.p.) in the GDP per capita (in PPS, EU-27=100) in the EU regions, 2004-2019 (p.p.)



Źródło: Opracowanie własne na podstawie Eurostat.

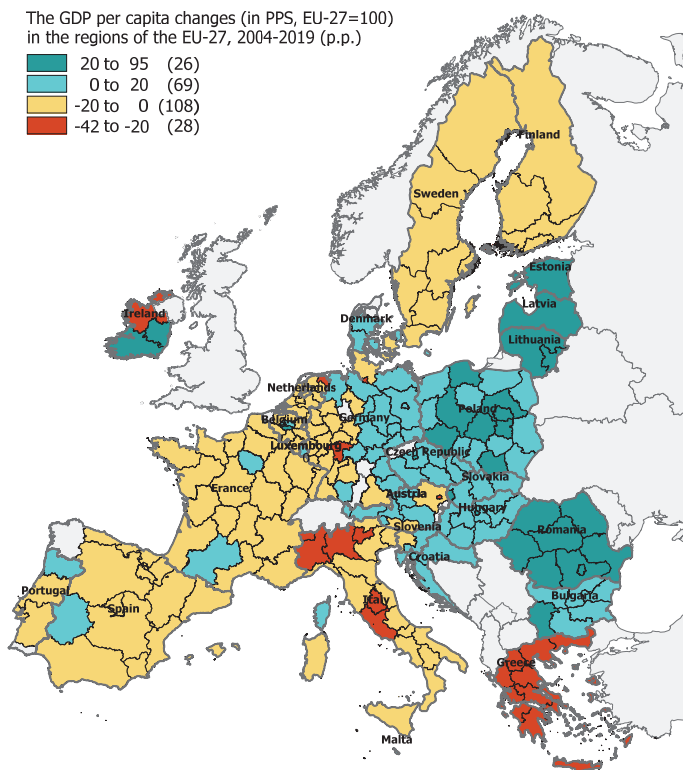
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Source: own elaboration based on Statistics Poland data and studies of the MDFRP

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Map 5. Changes (p.p.) in the GDP per capita (in PPS, EU-27=100) in the EU regions, 2004-2019 (p.p.)



Source: Own elaboration based on the Eurostat database

In 2019, GDP per capita (in PPS) in every Polish NUTS 2 regions amounted to at least about 50% of the EU-27 average figure. In the regions of Eastern Poland which were characterized by the lowest value of this indicator in the country, it ranged from about 50% (in Lubelskie and Warmińsko-Mazurskie) to respectively 51% in Podkarpackie and 52% in Podlaskie and Świętokrzyskie. Even though those regions posted relatively low rate of convergence towards the EU-27 (Figure 5) in their case the favourable impact of the Cohesion Policy on the observed convergence was the most pronounced. Consequently, between 31% and 34% of the convergence recorded in Podlaskie, Podkarpackie, Świętokrzyskie and Lubelskie is attributed to the implementation of the analyzed policy, while in case of Warmińsko-Mazurskie its impact on convergence is estimated at over 45%.

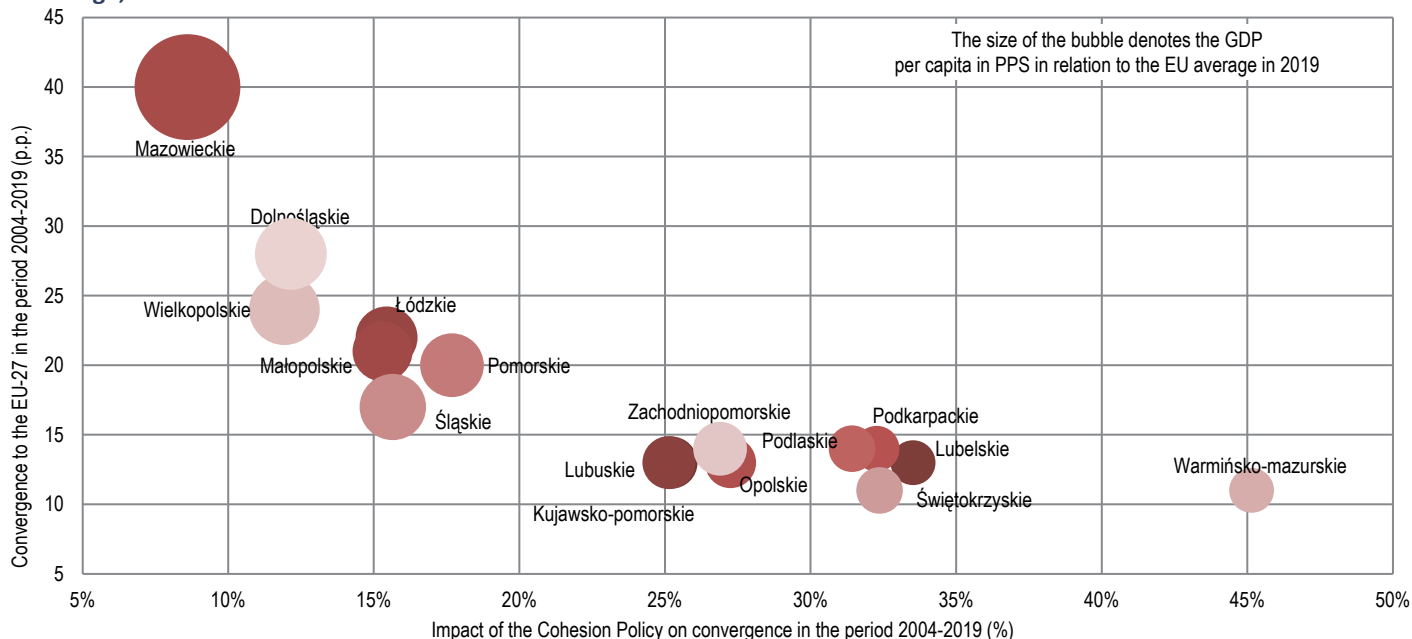
The fastest convergence towards the EU-27 average GDP per capita figure was recorded in case of the richest voivodeships - Mazowieckie (about 40 p.p.), Dolnośląskie (about 30 p.p.), Wielkopolskie (about 24 p.p.) and Łódzkie (about 24 p.p.).

However, in those quickly converging regions only about 8%-12% of the convergence's progress stemmed from the implementation of the Cohesion Policy.

The pace of the convergence depends mainly on the rate of regions' economic growth. At the voivodeships level the growth dynamics is diversified (Figure 6). In the period 2004-2020, the annual average growth rate in the range of 3.8%-4.5%% was recorded in the richest voivodeships: Mazowieckie (4.5%), Pomorskie (4.1%), as well as in Wielkopolskie and Małopolskie (3.8% in both regions). In these regions, the Cohesion Policy accelerated average annual GDP growth by about 0.2 – 0.3. p.p.

However, in less-developed regions (which were characterized by relatively low growth dynamics), a larger scale of the Cohesion Policy's influence on the pace of economic growth has been recorded – with about 0.5-0.6 p.p. of annual average GDP growth resulting from the investments co-financed from the EU funds.

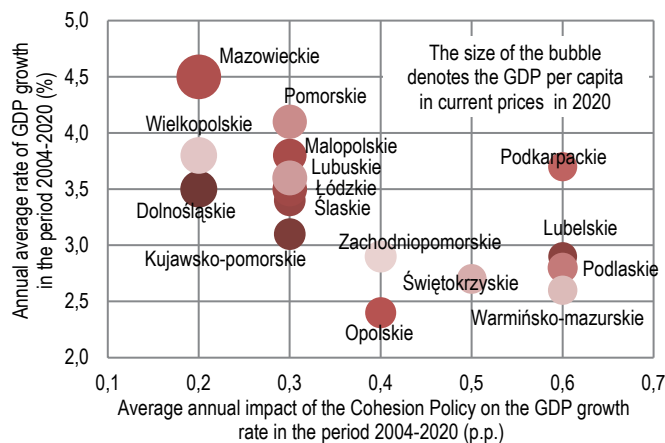
Figure 5. Impact of the Cohesion Policy on the value of the GDP per capita (in PPS) in Polish Voivodeships in relation to the EU-27 average, 2004-2019



Source: own elaboration based on Statistics Poland data and studies of the MDFRP

The Cohesion Policy resources partially mitigate the deepening of interregional disparities. Such an impact arises mainly thanks to the discussed funds' stronger influence on poorer voivodeships than on more developed ones, and from the highest per capita allocations going to the less developed regions. Although, the scale of the impact of the Cohesion Policy on development depends, to a large extent, on the size of allocation, other factors, such as regions' internal potentials and the degree of matching of the funds' "thematic" structure to the regional needs, also play an important role.

Figure 6. Impact (p.p.) of the Cohesion Policy on the real GDP growth in voivodeships, in the years 2004-2020



Source: own elaboration based on Statistics Poland data and studies of the MDFRP

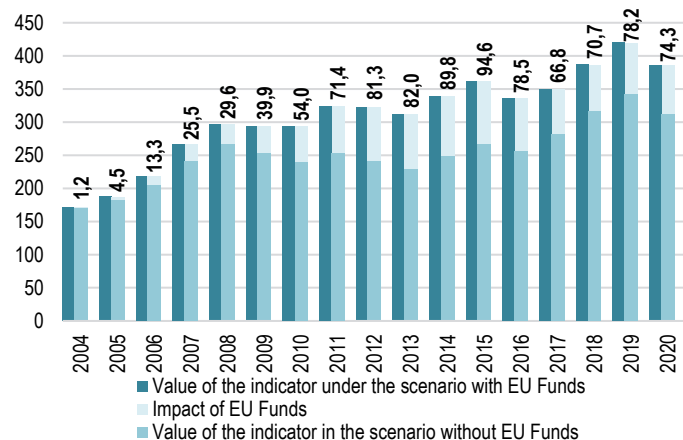
The Cohesion Policy reduces the growth in the indicator of regional differentiation in GDP per capita terms also at NUT3 level. In 2019, the respective indicator amounted to 35.9 at the NTS3 level and was lower – by 1.0 p.p., than under the scenario without the EU funds.

Investment Activity and R&D Expenditures

One of the factors, which determine the economy's development potential is the relation between funds allocated for consumption and those allocated for accumulation - with the gross fixed capital formation expenditure (GFCF) being the most important component of the latter.

The Gross Fixed Capital Formation expenditure (in current prices) amounted in 2020 to PLN 386.3 billion, being over two times higher than in the year of the EU accession. The implementation of the Cohesion Policy in Poland has boosted the scale of investment activity in the economy. The mechanism of the EU funds impact on investment growth involved stimulation of public investments, under which large infrastructure projects were pursued. Significant financing was also earmarked for grants and investment loans for companies. These financial resources improved the profitability of investments being undertaken and reduced the financing gap in the economy, hence expanding the scale of the private sector's investment activity. **The most pronounced impact of the EU funds on investment processes was observed in the years 2012-2016, when thanks to EU co-financed expenditures the GFCF had been higher – in nominal terms - by over 30%** than it would have been without the Cohesion Policy's implementation. In 2020 alone, the impact of the Cohesion Policy on the GFCF was estimated at approximately 24% (PLN 74.3 billion). Figure 7 presents the detailed data.

Figure 7. Impact of the Cohesion Policy on the Gross Fixed Capital Formation expenditures (current prices) in Poland, 2004-2020



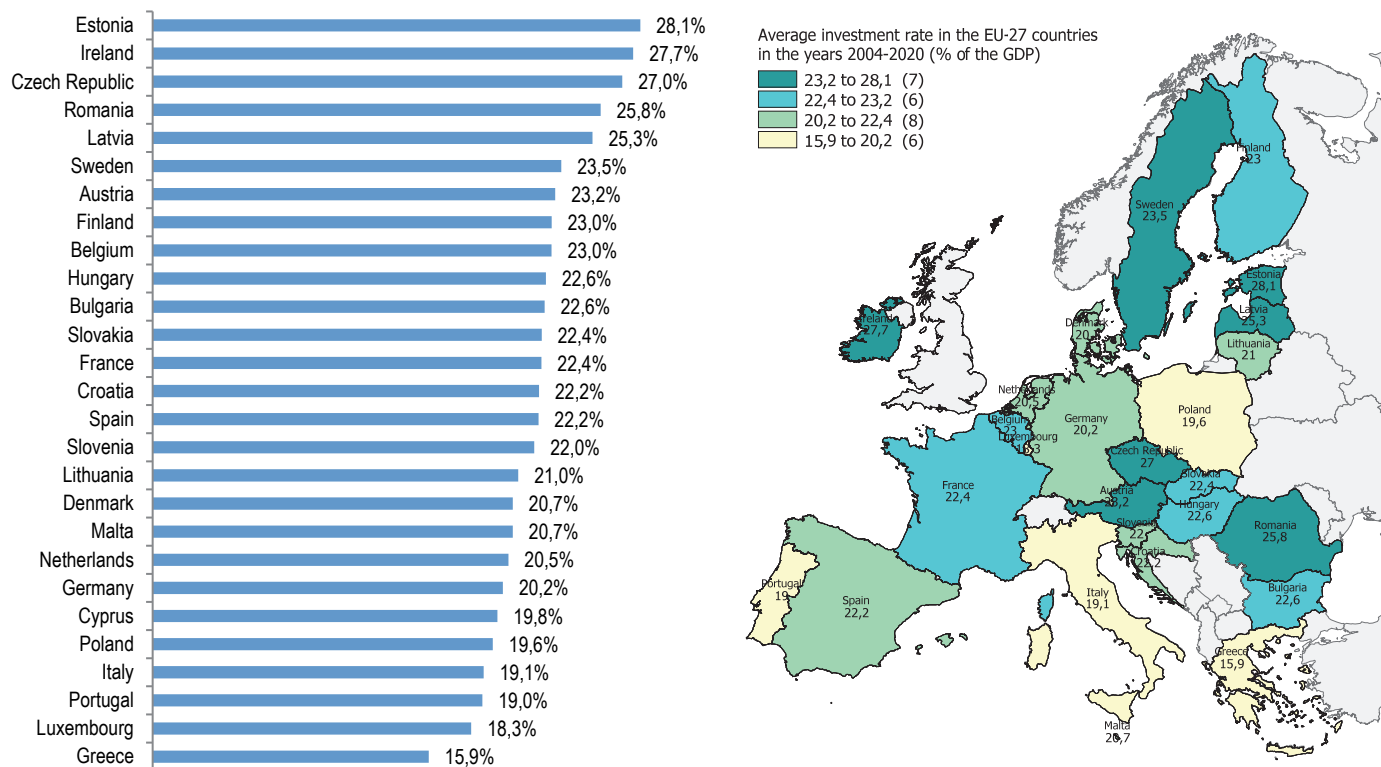
Source: own elaboration based on Statistics Poland data and studies of the MDFRP

The impact of the EU funds on the magnitude of investment activity in the economy has been only partially related to the implementation of projects co-financed from the European Funds. A large part of the additional investment outlays was generated in enterprises not being direct beneficiaries of the Cohesion Policy. Such enterprises increased expenditures on fixed assets to expand their own productive capacities in response to the growing aggregate demand in the national economy. From the supply-side perspective, a positive impact on investment activity of all entrepreneurs was observed thanks to public sector investments which raised productivity of private sector units via the expansion of the economy's stock of public capital.

The average annual investment rate (the ratio of GFCF expenditure to the GDP) recorded in Poland in the period 2004-2020 (19.6%) was lower than the EU average figure (21.7%). It was also the lowest one in the Central and Eastern Europe. The highest annual average investment

rates in the EU were recorded, in the analyzed period, in Estonia (28.1%), Ireland (27.7%) and Czechia (27%), while the lowest one in Greece (15.9%). The respective values are shown on Map 6

Map 6. Average investment rate (% of GDP) in the EU-27 countries 2004-2020

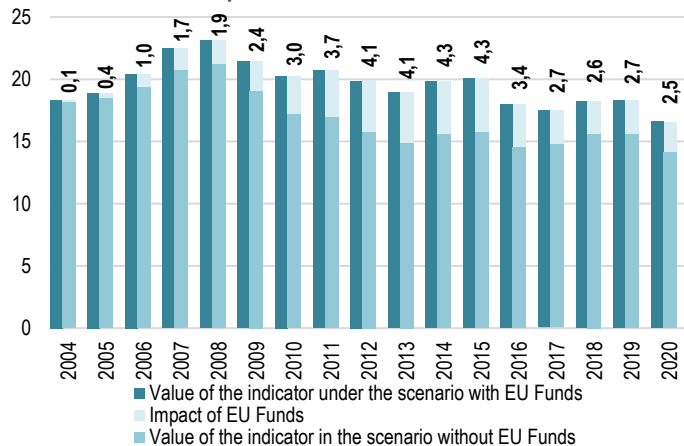


Source: Own elaboration based on the Eurostat database.

In 2020 Poland's investment rate declined to 16.6% of GDP (from 18.3% in 2019) and was by 5.3 p.p. lower than the respective EU average. The highest investment rates were recorded in Poland in the years 2007-2009 (between 23.1% in 2008 and 21.4% in 2009), thanks mostly to the private sector's investment activity, but also on account of raising share of public investments.

Throughout the entire analyzed period (2004-2020) **the impact of the Cohesion Policy on the investment rate was favourable**. Thanks to the use of the EU financing, in the years 2012-2015 the respective indicator was higher by an average of 4.2 p.p. than it would have been without EU financial assistance. However, in the years 2017-2020, the Cohesion Policy's favourable impact weakened slightly – to about 2.5- 2.7 p.p per year (Figure 8).

Figure 8. Impact (p.p.) of the Cohesion Policy on the investment rate in Poland, 2004-2020



Source: own elaboration based on Statistics Poland data and studies of the MDFRP

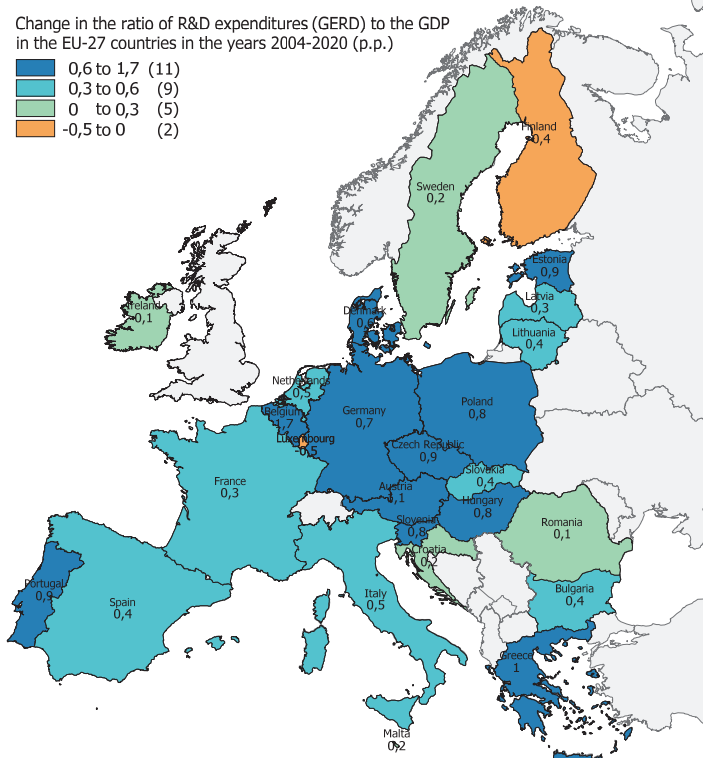
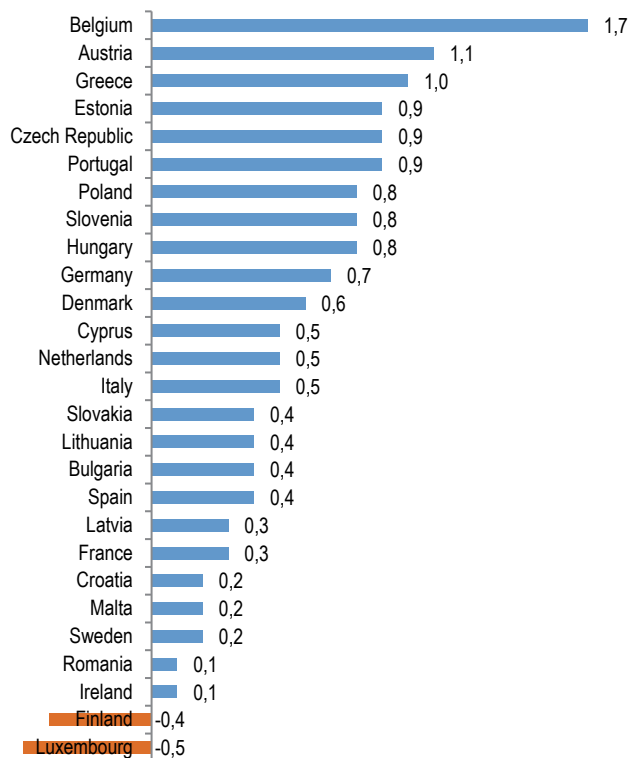
The inflow of the EU funds **exerted a beneficial impact on labour productivity as well**. This impact resulted mainly from the employees' enhanced access to the means of production, their improved skills and competences (human capital development) and from the expansion of the stock of public capital (in the form of public infrastructure) in the national economy.

In the years 2004-2020 labour productivity growth in Poland was faster than in the EU-27. Measured in terms of GDP per working person (taking into account differences in purchasing power) labour productivity expanded from 61.6% of the EU average in 2004 to 81.6% of the very average in 2020. The use of the EU funds alone has narrowed the gap between labour productivity in Poland and the EU-27 average figure by about 1.8 p.p.

The impact of the EU funds on labour productivity is smaller than that on GDP. This difference derives from the simultaneous beneficial impact of the Cohesion Policy on the number of employees, which is a factor that influences also the volume of the Gross Domestic Product.

The ratio of R&D expenditures to the GDP amounted in 2020 to 1.4% (compared with the EU average of 2.3%). Therefore, the respective objective of the Strategy for Responsible Development (set for 2020 at 1.7% the GDP) hasn't been achieved, even though the level of analyzed indicator was two times higher than in 2010 – when it amounted to mere 0.7% of the GDP (vs 2% on average in the EU).

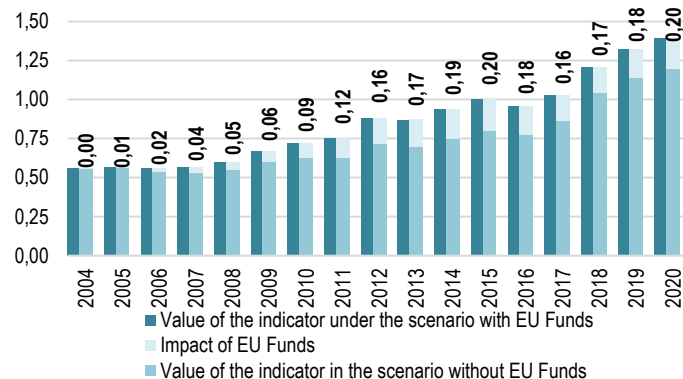
Map 7. Change (p.p.) in R&D expenditures (GERD) in relation to GDP in the EU-27 countries, 2004-2020



Source: Own elaboration based on the Eurostat database

The comparison with the situation in 2004 - when the share of R&D expenditure in GDP in Poland was only 0.55% and was over 3 times lower than the EU average of 1.8% - yields more favourable results,. The unfavourable, from the economic perspective, low level of research and development investments in the enterprise sector (which was associated with the low share of this sector in Poland's R&D expenditure) in the country is gradually changing. The EU funds **contributed to the expansion of the share of R&D expenditures in the GDP**. In the last few years the funds' impact amounted to about 0.2 p.p. per year (Figure 9)

Figure 9. Impact (p.p.) of the Cohesion Policy on the ratio of R&D expenditure to the GDP in Poland, 2004-2020



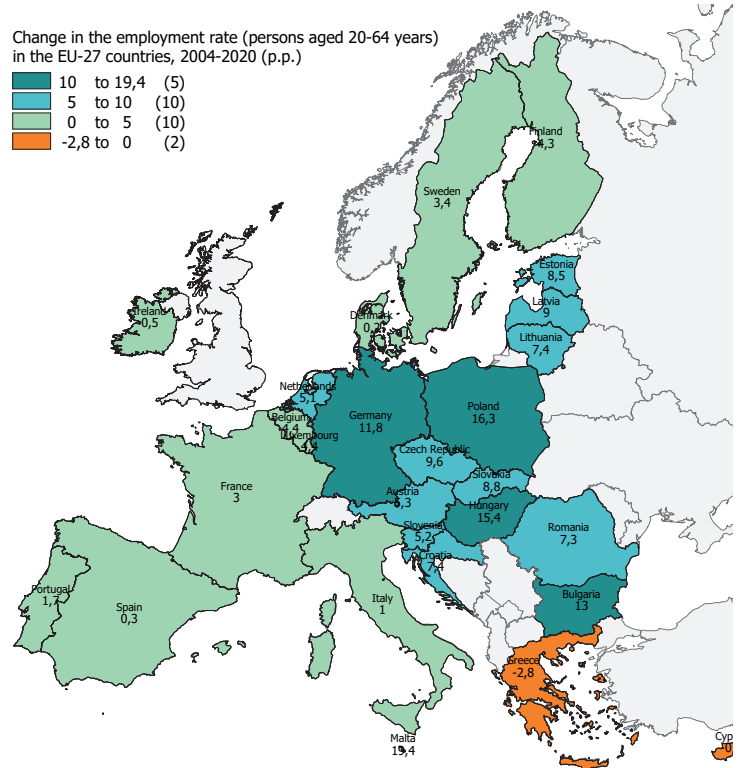
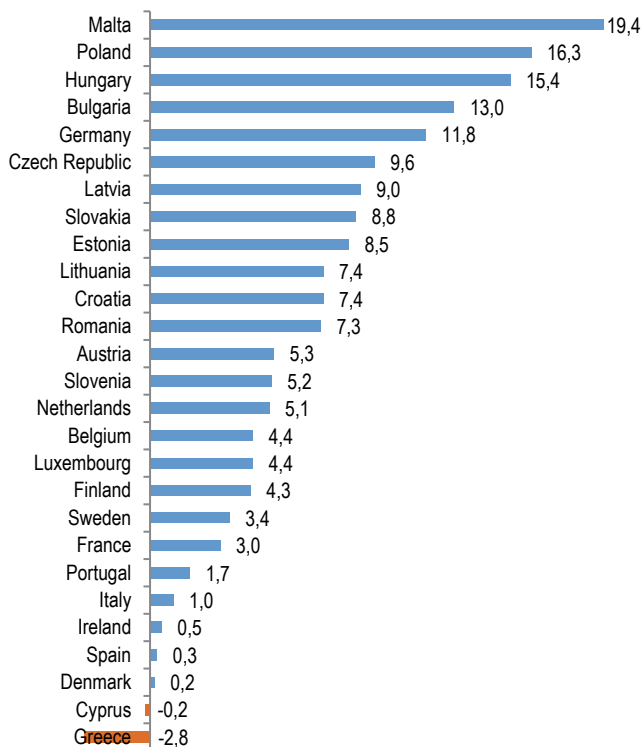
Source: own elaboration based on Statistics Poland data and studies of the MDFRP

Labour Market

Upon EU accession Poland posted the lowest employment rate in the European Union. However, by 2020 it had recorded the second largest growth (following Malta) of this indicator – by 16.3 p.p. (map 8). The fact that the growth of the analyzed indicator was recorded also in the “pandemic” year of 2020, is attributed i.a.

to the beneficial impact of the EU funds on the labour market.

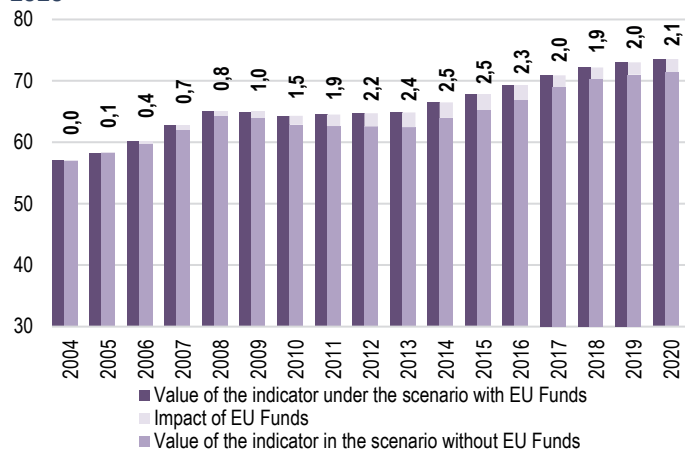
Map 8. Change (p.p.) in the employment rate (person aged 20-64 years) in the EU-27 countries, 2004-2020



Source: Own elaboration based on the Eurostat database

Nearly 13% of the increase in the employment rate attained in the period 2004-2020 resulted from the implementation of investments co-financed from the EU funds (Figure 10). In 2020, the employment rate (of people aged 20-64) reached 73.6%, and was by 1.2 p.p. higher than the EU-27 average. Had it not been for the EU funds, this indicator would have been lower in case of Poland by 2.1 p.p. (at 71.4%).

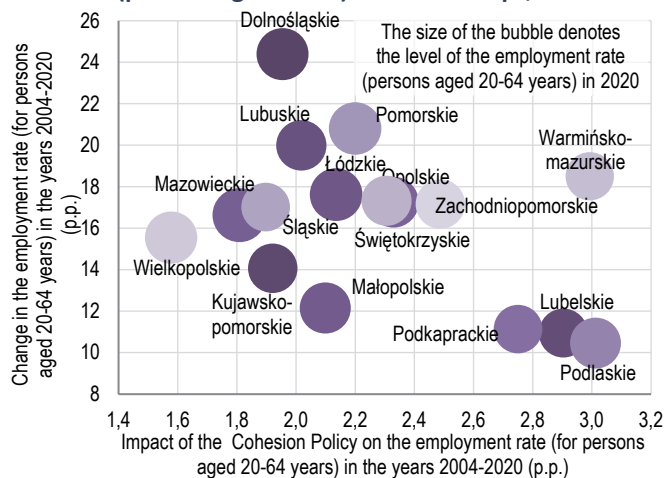
Figure 10. Impact (p.p.) of the Cohesion Policy on the employment rate (people aged 20-64 years) in Poland, 2004-2020



Source: own elaboration based on Statistics Poland data and studies of the MDFRP

The employment rate exhibits visible regional variations. In 2020, its lowest level was recorded in the Warmińsko-Mazurskie voivodeship (69.6%), and highest one in Mazowieckie (77.8%). During the period of Poland's EU membership the fastest progress vis-a-vis the EU-average was recorded in Dolnośląskie (which cut the distance to the said average by 24.4 p.p.), Pomorskie (20.8 p.p.) and Lubuskie (20.0 p.p.) voivodeships. On the other hand, Podlaskie (10.5 p.p.) and Lubelskie (10.9 p.p.) voivodeships fared the worst in term of catching up in this respect.

Figure 11 . Impact (p.p.) of the Cohesion Policy on employment rate (persons aged 20-64) in voivodeships, 2004-2020

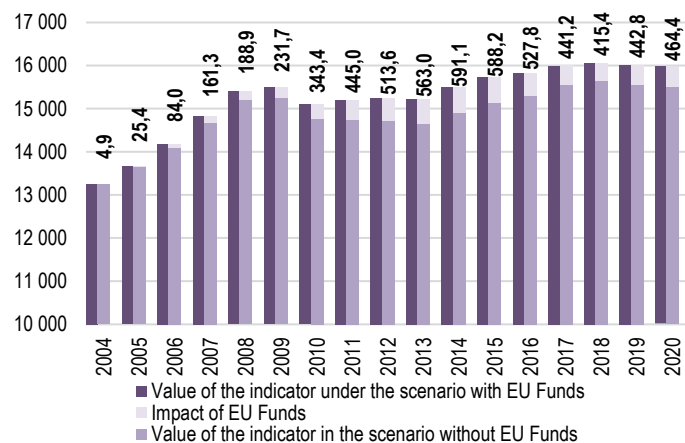


Source: own elaboration based on Statistics Poland data and studies of the MDFRP

The use of the EU funds **exerted a positive impact on the employment rate in all voivodeships**. Their influence was the strongest in the Warmińsko-Mazurskie and Podlaskie (3.0 p.p. each), Lubelskie (2.9 p.p.) and Podkarpackie (2.8 p.p.) voivodeships. The weakest footprint of the Cohesion Policy on the analyzed indicator was recorded in Wielkopolskie (1.6 p.p.) and Mazowieckie (1.8 p.p.) voivodeships.

The favourable impact of the European Cohesion Policy is visible in the creation of new jobs, improvement of the qualifications of employees and their better adaptation to changing labour market conditions. In 2020 the number of working persons aged 20-64 amounted to slightly over 16 million. In the period 2004-2020, Poland's growth rate in the number of employees was one of the highest in the EU. In that period the number of working people increased in Poland by 2.7 million. **The number of jobs created as a result of investments co-financed from the EU budget is estimated at 464 thousand in 2020** (Figure 12).

Figure 12. Impact (in thousand persons) of the Cohesion Policy on the number of working persons (aged 20-64) in Poland, 2004-2020



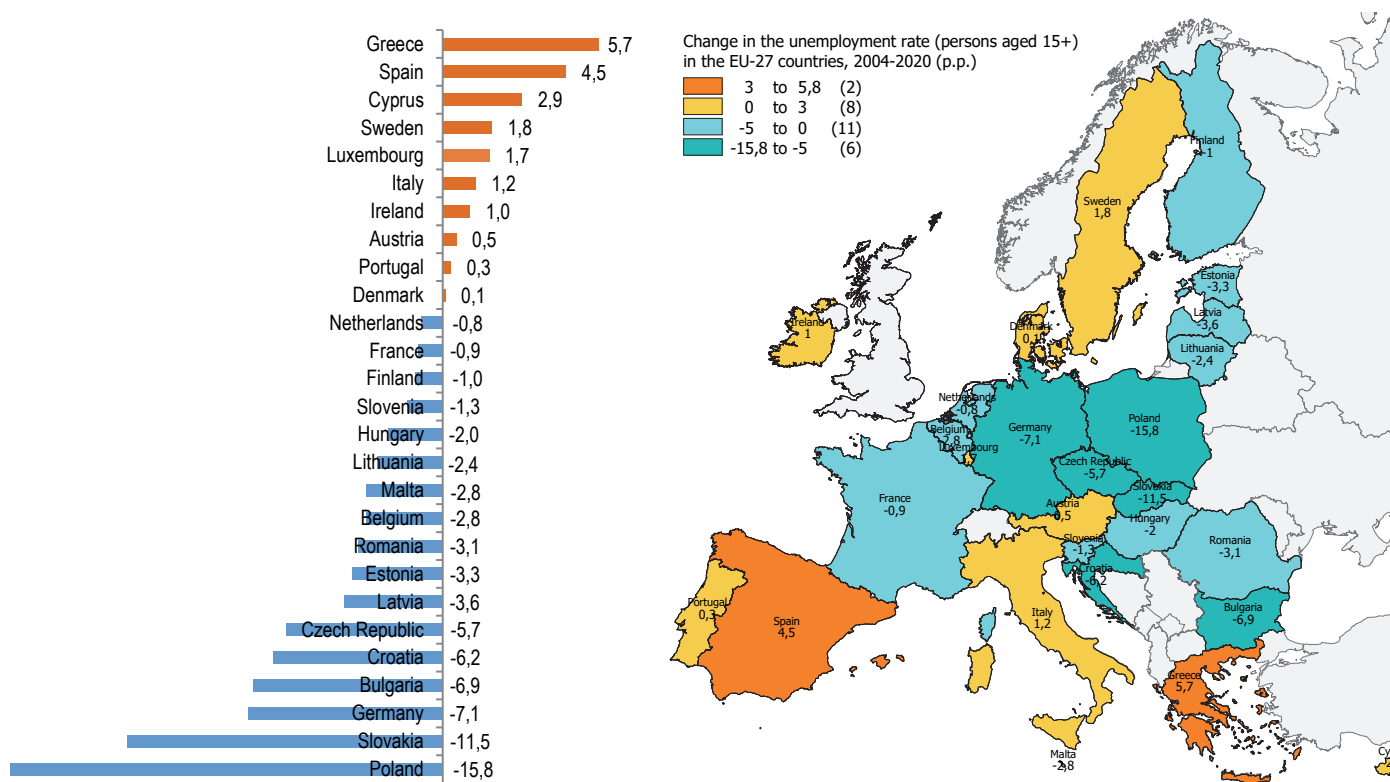
Source: own elaboration based on Statistics Poland data and studies of the MDFRP

In addition to its impact on the overall level of employment the Cohesion Policy's implementation results in changes in the sectoral structure of employment. The impact of the EU funds on the labour market takes place to a greater extent through the demand channel, boosting the importance of industry, of the construction sectors, and of the services sector, while simultaneously reducing the share of agriculture in the structure of employment.

Favourable impact of the EU funds on the labour market manifests itself also in the **unemployment rate's reduction**. Upon entering the EU Poland posted the highest unemployment rate in the European Union (19.0%)⁴. The subsequent years witnessed fast decrease in the analyzed indicator – down to 3.2% in 2020, when it was over two times lower than the EU-27 average figure of 7.1% with the implementation of Cohesion Policy deducting 0.9 p.p. from the value of the indicator in Poland (Map 9). On average in the period 2004-2020 the policy's implementation translated into an annual average reduction of the unemployment rate by 1.6 p.p.

⁴ Unemployment rate, people aged 15+, LFS figures

Map 9. Change (p.p.) in the unemployment rate (persons aged 15+) in the EU-27 countries, 2004-2020

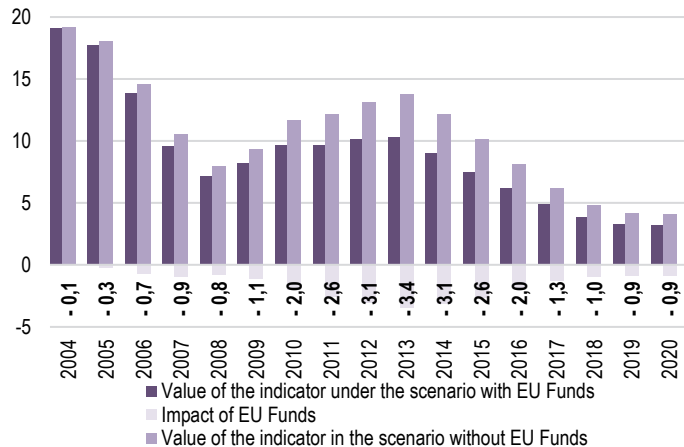


Source: Own elaboration based on the Eurostat database.

The particularly strong favorable impact on the unemployment rate was evident in the years 2012- 2014, when substantial inflows of the EU funds generated additional demand in the economy, hence mitigating the effects of the economic slowdown associated with the second wave of the Global Financial Crisis. As a result, the unemployment rate had increased only to a maximum of 10.3% (in 2013), while under the scenario without the EU funds it would have reached the level of 13.7%.

In absolute terms, this translated into a **drop in the number of unemployed by over half a million people** (in the years 2012-2014) compared to the counterfactual scenario. In subsequent years, the impact of the EU funds on the unemployment rate became less pronounced due to a smaller scale of inflow of analyzed resources and thanks to a significant reduction in the unemployment rate in the economy on the account of both a favourable economic situation and a systematic reduction in the country's working-age population.

Figure 13. Impact (p.p.) of the Cohesion Policy on the unemployment rate (persons aged 15+) in Poland, 2004-2020



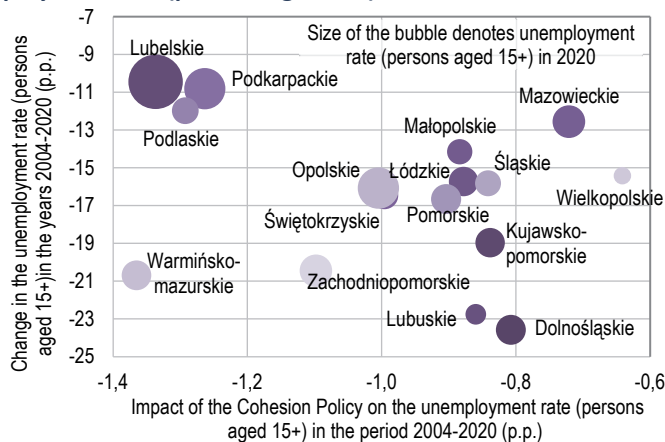
Source: own elaboration based on Statistics Poland data and studies of the MDFRP

At the regional level, in 2020 the highest unemployment rate was recorded in Lubelskie (5.7%) followed by Podkarpackie and Świętokrzyskie (4.3% in each) voivodeships. The EU funds have contributed to the reduction of the unemployment rate in all Polish voivodeships (Figure 14). In 2020 their strongest impact was recorded in the Warmińsko-Mazurskie voivodeship (where the Cohesion Policy reduced unemployment rate by 1.4 p.p.) and in Podkarpackie, Podlaskie and Lubelskie (impact of 1.3 p.p. in each). The weakest impact of the Cohesion Policy on the unemployment rate's reduction was recorded in the Wielkopolskie (0.6 p.p.) and Śląskie voivodeships (0.7 p.p.).

On average in the period 2004-2020 the most profound impact in terms of reduction in the unemployment rate was recorded in Warmińsko-Mazurskie (2.3 p.p.),

Zachodniopomorskie (2.0 p.p.) as well as Pomorskie and Podkarpackie (1.9 p.p. in each) voivodeships.

Figure 14. Impact (p.p.) of the Cohesion Policy on the unemployment rate (persons aged 15+) in 2020



Source: own elaboration based on Statistics Poland data and studies of the MDFRP

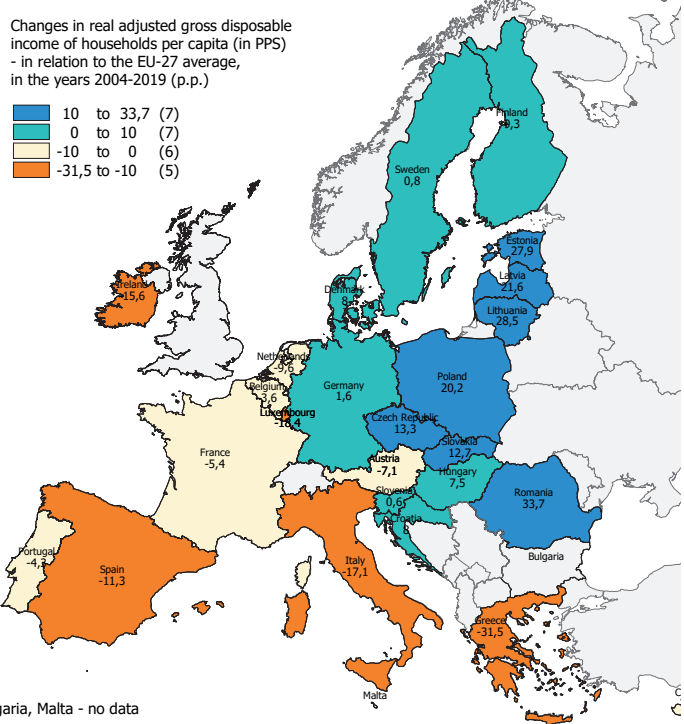
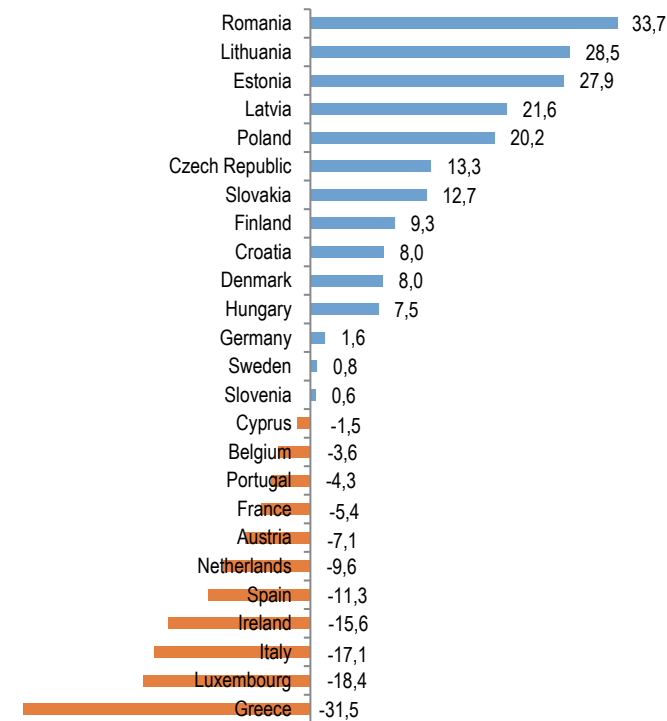
Labour market developments determine the level and dynamics of the social progress in a given territory. Growth in demand for labour reduces a number of negative consequences of long-term unemployment or inactivity (such as: poverty, social pathologies, apathy, feeling of resignation and helplessness), which in turn contributes to improving public sentiments in a given region and enhances its investment attractiveness. Harnessing more of a given area's human resources potential translates into a bigger volume of goods and services produced there, and thus into an increase in the territory's real wealth.

The Quality of Life

Poland belongs to the **group of the EU countries with the lowest gross per capita income** (real adjusted gross disposable income per capita, in PPS). In 2019 it amounted to 73.3% of the EU-27 average⁵. The other countries of Central Europe are in a similar situation.

However, since Poland's EU accession this indicator has increased – in both absolute and relative terms. Since 2004 its relation to the EU-27 average has grown by 20.2 p.p. Map 10 presents the comparison with other EU countries.

Map 10. Changes (p.p.) in the households real adjusted gross disposable per capita income (in PPS) in relation to the EU-27 average, in the years 2004-2019

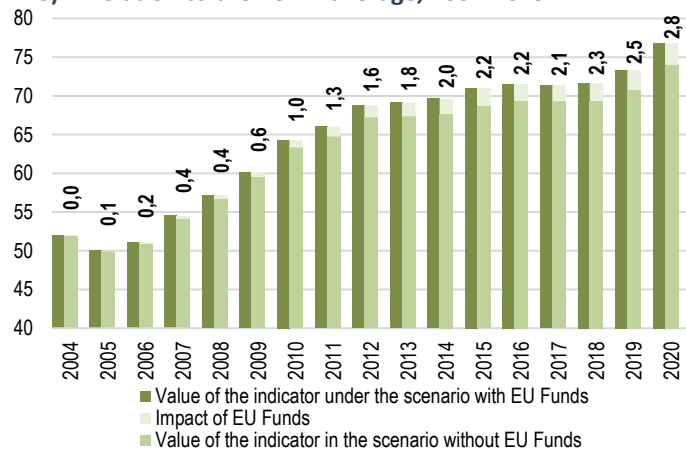


Source: Own elaboration based on the Eurostat database.

⁵ In 2020 the respective value for Poland increased to 76% of the UE-27 average.

Thanks to the EU funds, convergence in terms of gross income has progressed faster. In 2020 the relation of real adjusted gross disposable income per capita in Poland to the EU average figure was higher by 2.8 p.p. than under the scenario without the EU funds.

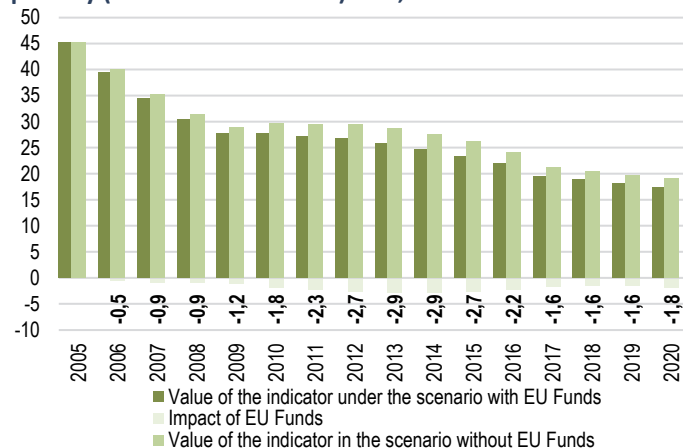
Figure 15. Impact (p.p.) of the Cohesion Policy on households' real adjusted gross disposable per capita income (in PPS) in relation to the EU-27 average, 2004-2019



Source: own elaboration based on Statistics Poland data and studies of the MDFRP

The percentage of the population below the relative poverty threshold declined in Poland from 45.3% in 2005 to 17.3% in 2020. The impact of EU the Funds on this reduction amounted to 1.8 p.p. Therefore, without the Cohesion Policy the respective indicator would have reached in 2020 the level of 19.1% (figure 16).

Figure 16. Impact (p.p.) of the Cohesion Policy on at-risk-of poverty (after social transfers) rate, 2005-2020



Source: own elaboration based on Statistics Poland data and studies of the MDFRP

The Cohesion Policy contributed to the reduction of income inequalities as measured with the Gini coefficient (which is correlated with the at-risk-of-relative-poverty rate). In the years 2007-2020, the value of the Gini coefficient dropped in Poland from 32.2 to 27.2. The strongest impact of the EU funds on the reduction of the Gini coefficient was evident in the years 2011-2015 (when the EU funds reduced the analyzed indicator by 2.7-2.8 p.p.). In 2020 the Cohesion Policy was responsible for lowering the Gini coefficient by 2.5 p.p. compared to the counterfactual scenario.

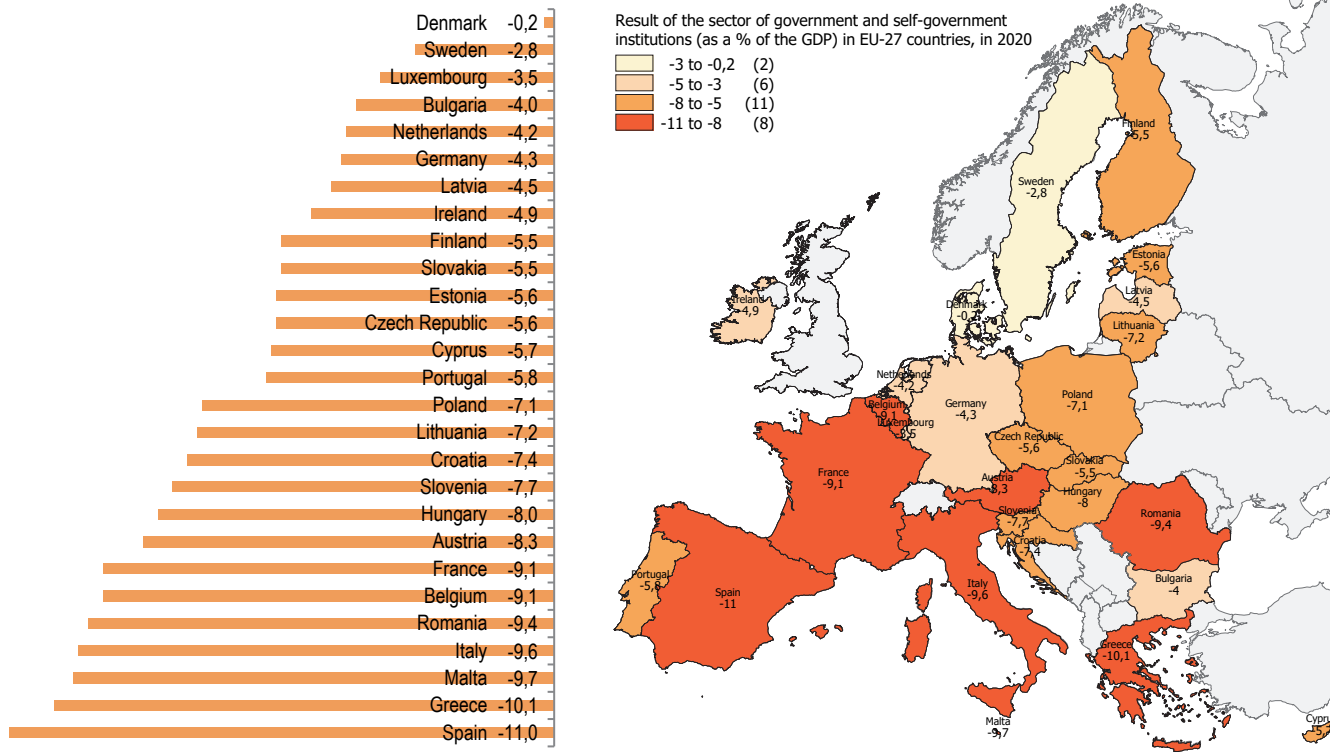
The EU funds impact the analyzed area through two indirect effects: GDP growth (which causes inequalities to grow) and unemployment reduction (which reduces inequalities), with the latter factor playing the more important role. Decline in unemployment not only reduces the number of people deprived of income, but also results in growing wages of those employees who were formerly threatened by unemployment.

The Public Finance

The deficit of the government and self-government institutions narrowed from 7.3% - 7.4 of the GDP in the years 2009-2010 to 0.7% of GDP in the years 2019-2020. In 2020, in the conditions of the crisis induced by the COVID-19 pandemic expanded to 7.1% (the Cohesion Policy reduced it by 0.8 p.p. compared to the scenario without the

EU funds). The deficit was higher than the average figure in the EU-27 (6.9%) and lower than in the Eurozone (7.2%). The detailed figures for the individual Member States are shown on map 11.

Map 11. Result of the of the sector of government and self-government institutions (% of the GDP) in EU-27 n 2020

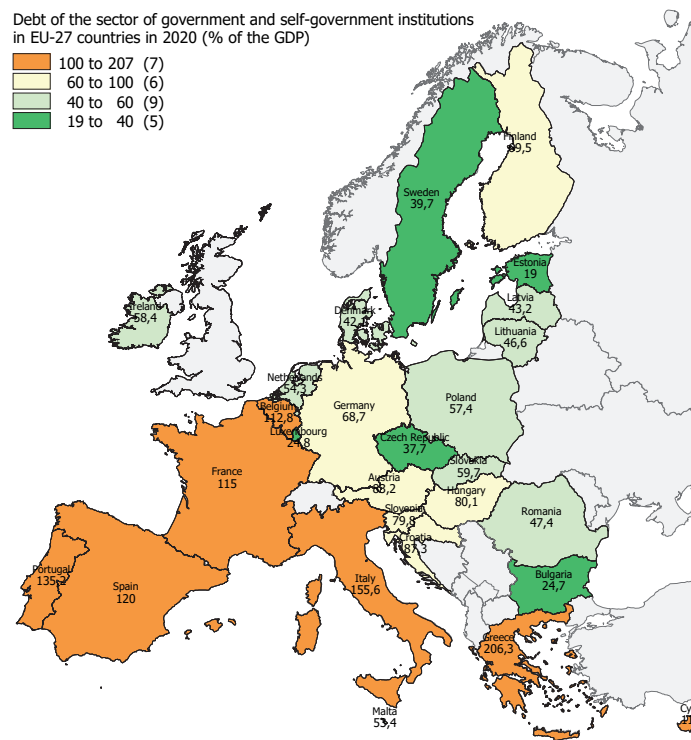
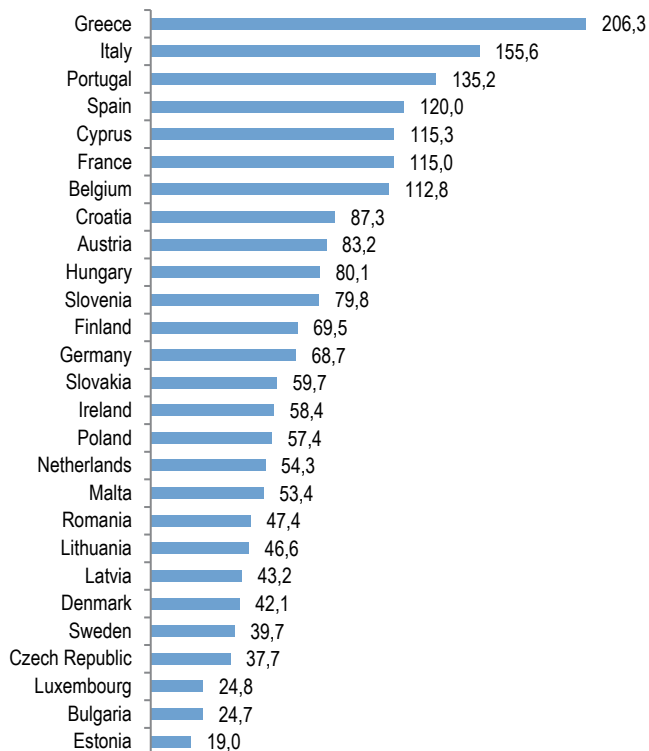


Source: Own elaboration based on the Eurostat database.

In 2019 public debt amounted in Poland to 45.6% of the GDP, being significantly lower than the EU average of 77.2%. However, because of the large deficit of the sector of government and self-government institutions – resulting from weakening of economic activity due to both the pandemic-induced crisis and the authorities response aimed at stimulating this activity via fiscal policy – the

sector's debt increased to 57.4% (compared with 90.1% average figures for the EU-27). Hadn't it been for the favourable impact of the Cohesion Policy the ratio of the debt to the GDP would have been higher by 10.4 p.p. (amounting to 67.8%, significantly - exceeding the "cautionary threshold"). The details are presented on Map 12.

Map 12. Debt of the sector of government and government institutions (% of the GDP) in EU-27 countries, in 2020



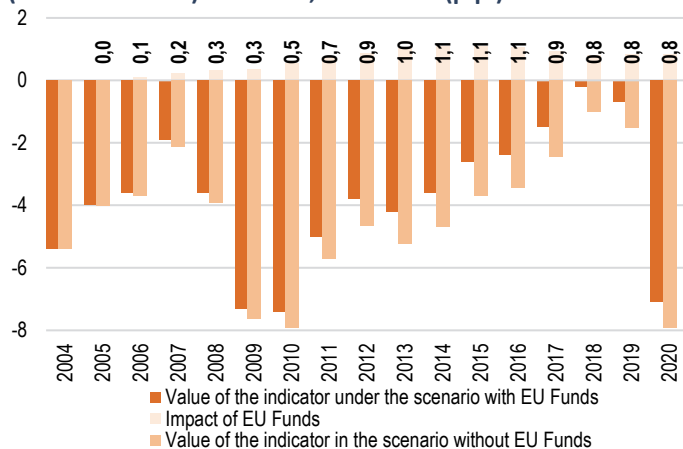
Source: Own elaboration based on the Eurostat database.

The impact of the European Funds on the sector of government and self-government institutions can be ambiguous. On the one hand, the need to co-finance investments implemented by the sector's entities generates additional expenditure. On the other hand, however, the positive impact of funds on productivity leads to companies' higher profits and boosts household incomes, thereby translating

into increased revenues of government and local government institutions.

Additional revenues accruing thanks to the implementation of the Cohesion Policy outweigh such additional expenditure. Therefore, **the inflow of the European Funds to Poland leads to an improvement in the government and local government finances.** Since 2012 this impact has been stable, oscillating around 1 p.p. (Figure 17).

Figure 17. Impact (p.p.) of the Cohesion Policy on the result of the sector of government and self-government institutions (as % of the GDP) in Poland, 2004-2020 (p.p.)

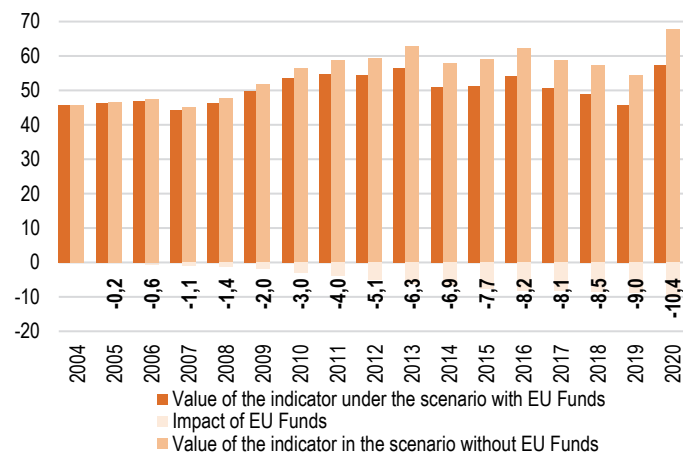


Source: own elaboration based on Statistics Poland data and studies of the MDFRP

Lower deficit of the sector of government and self-government institutions translates into an **improvement in the public debt-to-GDP ratio** (Figure 18). Moreover, the strengthening of the zloty caused by the inflow of the EU funds works in the same direction, causing the foreign-currency denominated debt to be lower in zloty terms. The

impact of Cohesion Policy on the reduction of the public debt to GDP ratio amounted to 10.4 p.p. in 2020.

Figure 18. Impact (p.p.) of the Cohesion Policy on the debt of the sector of government and self-government institution (% of the GDP) in Poland, 2004-2020



Source: own elaboration based on Statistics Poland data and studies of the MDFRP

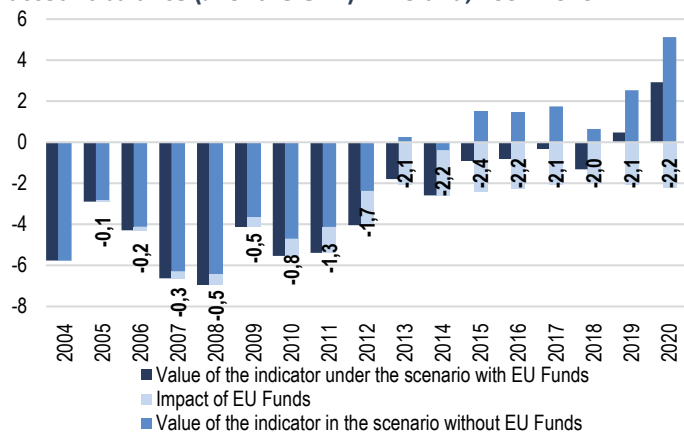
International Economic Exchange

In 2020, the total value of trade in goods (in BOP terms) between Poland and the rest of the world amounted to EUR 469.3 billion (of which exports accounted for EUR 239.9 billion and imports for EUR 229.4 billion). In the period 2004-2020 the value of foreign trade turnover increased more than by a factor of 3.5.

In 2020 the current account balance recorded a surplus equivalent to 2.9% of GDP (compared with a surplus of 0.5% deficit in 2019).

The EU funds exert a multidirectional impact on the balance of international trade. The Cohesion Policy contributed to **noticeable widening of the current account deficit in relation to the GDP** – on average by 1.3 p.p. annually in the years 2004-2020 (Figure 19).

Figure 19. Impact (p.p.) of the Cohesion Policy on the current account balance (% of the GDP) in Poland, 2004-2020.



Source: own elaboration based on Statistics Poland data and studies of the MDFRP

The inflow of the EU funds boosts both consumer and investment demand and consequently stimulates imports, while on the exports side, the effects stemming from the economy's improved competitiveness may be offset by the consequences of the zloty's appreciation. Another effect can be attributed to the positive impact of the European Funds on the level of per capita income. The higher such income, the higher the earnings and hence consumption. Since a part of consumer goods is imported, the increase in the level of household affluence leads also to higher imports.

Impact of the Partnership Agreement 2021-2027 on selected socio-economic indicators in the years 2021-2029

The Study covers also forecasted impact of the Cohesion Policy on selected economic and social indicators in the period 2021-2029⁶.

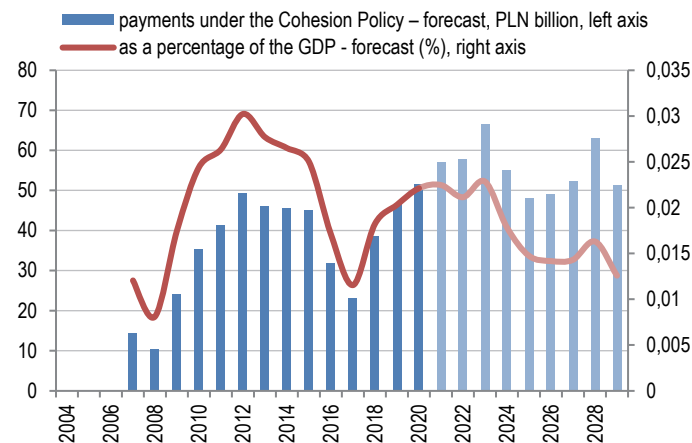
The forecast of the EU funds expenditures in the years 2021-2029 assumes the effective use - by the end of 2023 - of funds available under the allocations for the 2014-2020 programming period, and in the years 2022-2029 of all funds⁷ of the Cohesion Policy from the financial perspective 2021-2027. This forecast takes into account the cumulative impact of both perspectives in the years when they operate in parallel.

Similarly, the weakening impact of the Partnership Agreement 2021-2027 in the last years of its implementation will probably be compensated/increased by the impact of the next financial perspective (post-2027), which this forecast does not take into account, and which will probably constitute an important development factor in Poland, as was observed in case of all its predecessors.

Finally, it should be underlined that the forecast presented below does not take into account the resources to be received by Poland within the framework of the National Recovery Plan, one which will certainly significantly boost the impact of all EU funds on the socio-economic situation of the country.

To sum up, the forecast presented below should be regarded as reflecting only the projected minimum possible impact of the EU funds on the socio-economic situation in Poland.

Figure 20. Actual and projected inflow of the EU funds in the years 2004-2029 (PLN billion)



Source: own elaboration based on the MDFRP data

It is predicted that the years 2021-2023 will witness an accumulation of the inflow of the Cohesion Policy funds on a previously unknown scale. This will stem from an overlap of two perspectives 2014-2020 (to be disbursed until 2023), and the new perspective 2021-2027. In the record-breaking year 2023, the funds' inflows may reach - according to the forecast of the Ministry of Development Funds and Regional Policy - almost PLN 67 billion, which will constitute over 2.3% of Poland's GDP. Again, it should be remembered that the forecast presented herein does not take into account the funds to be disbursed under the National Recovery Plan, hence the actual value of available funds may be higher. In the years 2024-2027, the inflow

⁶ Since the research was conducted in the end of 2021 it doesn't take into account the potential impact of the war in Ukraine.

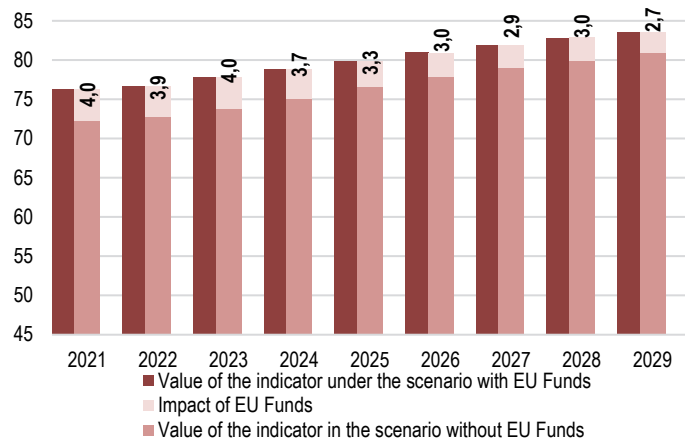
⁷ The resources discussed herein encompass Cohesion Policy, ReactEU and JTF.

of the Cohesion Policy funds will stabilize at the level of approx. PLN 50 billion annually (about 1.5% of the GDP). Towards the end of the analyzed period additional funds from the post-2027 financial perspective should become available, compensating for the then expiring 2021-2027 perspective.

In the case of the basic measure of convergence, namely the ratio of Polish GDP per capita (in PPS) to the EU-27 average, following a short stagnation in the period 2021-2022, a significant improvement will be visible in the years 2023-2029. The forecast assumes that 80% of the EU average will be reached around 2025/2026, while in 2029 Poland will attain 84% of the said average. Without the EU funds such a progress would not be possible in such a short time.

In the coming years, the influence of the Cohesion Policy on the analyzed indicator will be quite strong, amounting to about 3.7 p.p., 4.0 p.p.

Figure 21. Projected impact (p.p.) of the Cohesion Policy on the level of the GDP per capita (in PPS) in Poland in relation to the EU-27 average in the years 2021-2029



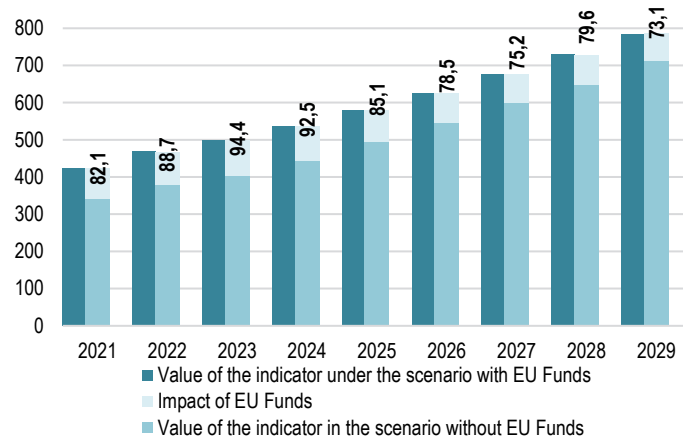
Source: own elaboration based on the MDFRP data

The projected level of gross fixed capital formation expenditures stipulates an almost twofold increase in these outlays (in current prices) in the years 2021-2029. European Funds will be responsible for a significant part of this increase, and it should be also reemphasized that the forecast does not take into account the impact of the National

Recovery Plan, which should offer a strong investment impulse on its own.

Details of the projected impact of the Cohesion Policy on gross fixed capital formation expenditures are depicted in Figure 22.

Figure 22. Projected impact of the Cohesion Policy on the gross fixed capital formation expenditures (in current prices) in Poland, in the years 2021-2029 (PLN billion).



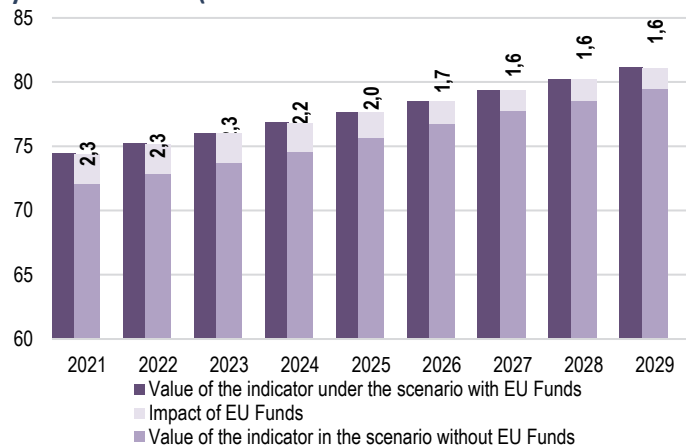
Source: own elaboration based on the MDFRP data

recorded in 2020 turned out to be less profound than initially assumed, which was largely thanks to the implementation of the Cohesion Policy.

European funds have clearly mitigated the impact of the pandemic on the labour market in the years 2020-2021 and will help to rebuild the Polish labour market in the coming years. According to the presented forecast, around 2024 the unemployment rate (people aged 15+) should stabilize at the level of approx. 2%. The employment rate should gradually increase throughout the decade, from the forecasted 74.4% in 2021 to over 81% in 2029. Particularly in the first years of the forecast horizon, a clear impact of the EU funds is visible, although at the end of the decade it is also significant.

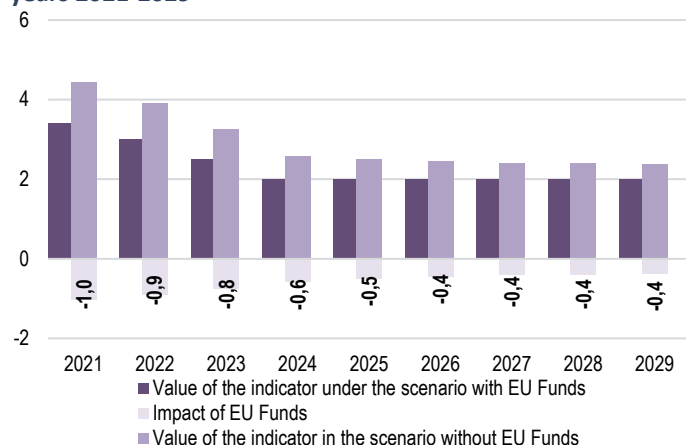
Charts 23 (employment rate) and 24 (unemployment rate) show the relationships described in detail.

Figure 23. Projected impact (p.p.) of the Cohesion Policy on the employment rate (persons aged 20-64) in Poland in the years 2021-2029 (



Source: own elaboration based on the MDFRP data

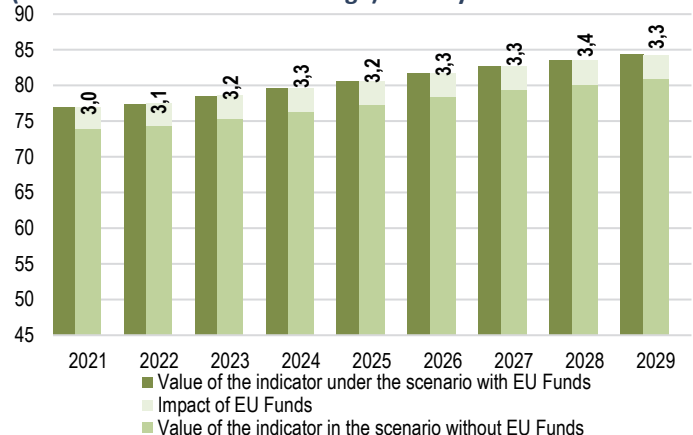
Figure 24. Projected impact (p.p.) of the Cohesion Policy on the unemployment rate (persons aged 15+) in Poland in the years 2021-2029



Source: own elaboration based on the MDFRP data

Convergence of household income progresses faster thanks to the EU funds and this trend will continue in the coming years, as illustrated by the chart 25.

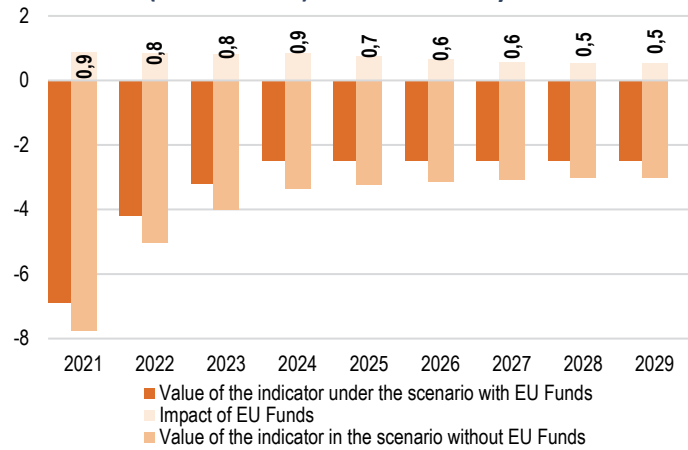
Figure 25. Projected impact (p.p.) of the Cohesion Policy on household real adjusted gross disposable income per capita (in relation to the EU-27 average) in the years 2021-2029



Source: own elaboration based on the MDFRP data

Cohesion Policy funds will allow to significantly reduce the budget deficit. Since the government and self-government institutions have the option of co-financing some projects from the EU funds, they can limit their expenditures from own revenues. According to the presented forecast, this effect will persist in the coming years (as shown in Figure 26).

Figure 26. Projected impact (p.p.) of the Cohesion Policy on the result of the sector of government and self-government institutions (% of the GDP) in Poland in the years 2021-2029



Source: own elaboration based on the MDFRP data

**Impact of the EU funds on the Social and Economic
Development of Voivodeships
in the years 2004-2020**

THE DOLNOŚLĄSKIE VOIVODESHIP

Cohesion Policy financing in the Dolnośląskie voivodeship in the years 2004-2020

The cumulative value of funds disbursed from structural funds and the Cohesion Fund in the Dolnośląskie voivodeship up to the end of 2020 amounted to PLN 39,225.0 million. In per capita terms and in relation to the region's GDP these resources amounted in the years 2004-2020, to respectively PLN 13,566 and 1.6%. Expressed in per capita terms these funds were slightly higher than the respective national average (PLN 13,487), while in terms of ratio to the GDP they were lower than the respective average (1.8%).

Investments financed from the EU funds constitute a significant part of public investments in the Dolnośląskie voivodeship. In 2020 they were responsible for 45.1% of total public investment expenditures in this region (with the respective national average amounting to 37.8%).

Impact of the Cohesion Policy in the Dolnośląskie voivodeship in the years 2004-2020

In 2019 the GDP per capita (in PPS) amounted in the Dolnośląskie Voivodeship to 79.5% of the EU-27 average. In the period 2004-2019, the distance between the voivodeship and the EU average narrowed by 27.4 p.p., of which 12.2% (3.3 p.p.) resulted from the implementation of the Cohesion Policy. Therefore the EU funds have been conducive to a gradual bridging of the gap in economic development between the voivodeship and the EU-27 average level.

The pace of the convergence process depends mainly on the rate of the region's economic growth. In the period 2004-2020⁸ Dolnośląskie posted growth at a relatively robust annual average rate of 3.5% (in constant prices), with the EU co-financed

investments being responsible for about 6% (0.2 p.p.) of the recorded growth.

Outlays on infrastructure and on the direct support for enterprises, both financed from the EU funds significantly boost investment activity. It is estimated that in 2020 the voivodeship's investment rate (ratio of gross fixed capital formation expenditures to the regional GDP) was higher by 1.8 p.p. than under the counterfactual scenario (one which assumes the absence of the EU financing).

In the year of Poland's EU accession (2004) the Dolnośląskie Voivodeship had posted an employment rate (people aged 20-64) of 50.7%, while by 2020 the value of this indicator climbed to 75.1%, with 8% (2.0 p.p.) of the improvement recorded in the analyzed period being attributed to the impact of the EU funds.

The favourable effects of the European Cohesion Policy encompass also the creation of new jobs, an improvement in employee qualifications and the better adaptation of workers to changing labour market conditions. As of 2020 the number of jobs created in the Dolnośląskie voivodeship thanks to the implementation of investments co-financed from the EU budget was estimated at over 31.6 thousand.

The beneficial impact of the EU funds is also visible when it comes to reducing the unemployment rate. In the accession year (2004) the unemployment rate (people aged 15 and over) had amounted in the voivodeship to as much as 26.7%, while by 2020 it fell to a mere 3.1%. The EU funds have contributed, to a certain extent, to this reduction. It is estimated that they were responsible for 0.8 p.p. of the fall in the unemployment rate in the region in 2020 and for its annual average decline by 1.7 p.p. in the period 2004-2020.

⁸ For the years 2004-2019 the actual historical data of the Statistics Poland - Local Data Bank (LDB) were referred to, while forecasts generated by the EUImpactMOD model were derived for the year 2020.

The KUJAWSKO-POMORSKIE VOIVODESHIP

Cohesion Policy financing in the Kujawsko-Pomorskie Voivodeship in the years 2004-2020

The cumulative value of funds disbursed from structural funds and the Cohesion Fund in the Kujawsko-Pomorskie voivodeship up to the end of 2020 amounted to PLN 22,922.1 million. In per capita terms and in relation to the region's GDP these resources amounted in the years 2004-2020, to respectively PLN 11,151 and 1,8% of the GDP. Expressed in per-capita terms these funds were lower than the respective national average, while in terms of ratio to the GDP they were equal to the respective average.

Investments financed from the EU funds constitute a noticeable part of public investments in the Kujawsko-Pomorskie voivodeship - in 2020 their share in the region's total public investment outlays amounted to 37.4% (with the respective national average amounting to 37.8%).

Impact of the Cohesion Policy in the Kujawsko-Pomorskie Dolnośląskie voivodeship in the years 2004-2020

In 2019 the GDP per capita (in PPS) amounted in the Kujawsko-Pomorskie Voivodeship to 57.8% of the EU-27 average. In the period 2004-2019, the distance between the voivodeship and the above-mentioned EU average narrowed by 12.6 p.p., of which slightly over 25% (3.2 p.p.) resulted from the implementation of the Cohesion Policy. Therefore, the EU funds have been conducive to a gradual bridging of the gap in economic development between the voivodeship and the EU-27 average level.

The pace of the convergence process depends mainly on the rate of the region's economic growth. In the period 2004-2020⁹ Kujawsko-Pomorskie was growing at an annual average rate of 3.1% (in constant prices), with the EU co-financed investments being responsible for approx. 10% (0.3 p.p.) of this growth.

Outlays on infrastructure and on the direct support for enterprises, both financed from the EU funds significantly boost investment activity. It is estimated that in 2020 the voivodeship's investment rate (ratio of gross fixed capital formation expenditures to the regional GDP) was higher by 2.8 p.p. than under the counterfactual scenario (one which assumes the absence of the EU financing).

In the year of Poland's EU accession (2004) the Kujawsko-Pomorskie Voivodeship posted an employment rate (people aged 20-64) of 57.2%, while by 2020 the value of this indicator climbed to 71.3%, with 13.7% (1.9 p.p.) of the improvement recorded in the analyzed period attributable to the impact of the EU funds.

The favourable effects of the European Cohesion Policy encompass also the creation of new jobs, an improvement in employee qualifications and the better adaptation of workers to changing labour market conditions. As of 2020 the number of jobs created in the Kujawsko-Pomorskie voivodeship thanks to the implementation of investments co-financed from the EU budget was estimated at about 23 thousand.

The beneficial impact of the EU funds is also visible when it comes to reducing the unemployment rate. In the accession year (2004) the unemployment rate (people aged 15 and over) had amounted in the voivodeship to 22%, while by 2020 it fell to a mere 3.1%. The EU funds have contributed, to a certain extent, to this reduction - it is estimated that they were responsible for 0.8 p.p. of the fall in the unemployment rate in the region in 2020 and for its annual average decline by 1.4 p.p. in the period 2004-2020.

⁹For the years 2004-2019 the actual historical data of the Statistics Poland - Local Data Bank (LDB) were referred to, while forecasts generated by the EUImpactMOD model were derived for the year 2020.

THE LUBELSKIE VOIVODESHIP

Cohesion Policy financing in the Lubelskie voivodeship in the years 2004-2020

The cumulative value of funds disbursed from structural funds and the Cohesion Fund in the Lubelskie voivodeship up to the end of 2020 amounted to PLN 31,643.6 million. In per capita terms and in relation to the region's GDP these resources amounted in the years 2004-2020, to respectively PLN 15,102 and 2,7% of the GDP. In both cases these values were higher than the respective national averages of respectively PLN 13,487 and 1.8%.

Investments financed from the EU funds constitute a significant part of public investments in the Lubelskie voivodeship - in 2020 their share in the region's total public investment outlays amounted to as much as 50.1% (with the respective national average amounting to 37.8%).

Impact of the Cohesion Policy in the Lubelskie voivodeship in the years 2004-2020

In 2019 the GDP per capita (in PPS) amounted in the Lubelskie Voivodeship to about 49.6% of the EU-27 average. In the period 2004-2019, the distance between the voivodeship and the above-mentioned EU average narrowed by 13.1 p.p., of which almost 33.5% (4.4 p.p.) resulted from the implementation of the Cohesion Policy. Therefore, the EU funds are among factors conducive to a noticeable bridging of the gap in economic development between the voivodeship and the EU-27 average level. However, it should be also underlined that in the period 2012-2018 the convergence process had practically stalled - at the level of GDP per capita amounting to 47-48% of the EU average.

The pace of the convergence process depends mainly on the rate of the region's economic growth. In the period 2004-2019¹⁰ Lubelskie was growing at an annual average rate of 2.9% (in

constant prices), with the EU co-financed investments being responsible for approx. 21% (0.6 p.p.) of this growth.

Outlays on infrastructure investment and on the direct support for enterprises, both financed from the EU funds, significantly boost investment activity. This impact is particularly evident in case of Lubelskie voivodeship, with estimates pointing out to the voivodeship's investment rate (ratio of gross fixed capital formation expenditures to the regional GDP) being higher by 5.7 p.p. in 2020 than under the counterfactual scenario (one which assumes the absence of the EU financing).

In the year of Poland's EU accession (2004) the Lubelskie Voivodeship posted an employment rate (people aged 20-64) of 59.5%, while by 2020 the value of this indicator climbed to 70.5%. About 27% (2.9 p.p.) of the improvement recorded in the analyzed period is attributable to the impact of the EU funds.

The favourable effects of the European Cohesion Policy encompass also the creation of new jobs, an improvement in employee qualifications and the better adaptation of workers to changing labour market conditions. As of 2020 the number of jobs created in the Lubelskie voivodeship thanks to the implementation of investments co-financed from the EU budget was estimated at about 34.5 thousand.

The beneficial impact of the EU funds is also visible when it comes to reducing the unemployment rate. In the accession year (2004) the unemployment rate (people aged 15 and over) had amounted in the voivodeship to 16.1%, while by 2020 it fell to 5.7%. The EU funds have contributed, to a large extent, to this reduction - it is estimated that in 2020 they were responsible for 1.3 p.p. of the fall in the unemployment rate in the region, and for its annual average decline by 1.4 p.p. in the period 2004-2020.

¹⁰For the years 2004-2019 the actual historical data of the Statistics Poland - Local Data Bank (LDB) were referred to, while forecasts generated by the EUImpactMOD model were derived for the year 2020.

THE LUBUSKIE VOIVODESHIP

Cohesion Policy financing in the Lubuskie voivodeship in the years 2004-2020

The cumulative value of funds disbursed from structural funds and the Cohesion Fund in the Lubuskie voivodeship up to the end of 2020 amounted to PLN 13,719.6 million. In per capita terms and in relation to the region's GDP these resources amounted in the years 2004-2020, to respectively PLN 13,622 and 2.2% of the GDP. In both cases these values were higher than the respective national averages of respectively PLN 13 487 and 1.8%.

Investments financed from the EU funds constitute a significant, but not a dominant one, part of public investments in the Lubuskie voivodeship - in 2020 their share in the region's total public investment outlays amounted to 33.9% (with the respective national average equal to 37.8%).

Impact of the Cohesion Policy in the Lubuskie voivodeship in the years 2004-2020

In 2019 the GDP per capita (in PPS) amounted in the Lubuskie voivodeship to 59% of the EU-27 average. In the period 2004-2019, the distance between the voivodeship and the above-mentioned EU average narrowed by 13.4 p.p., of which about 25% (3.4 p.p.) resulted from the implementation of the Cohesion Policy. Therefore, the EU funds are among factors conducive to a noticeable bridging of the gap in economic development between the voivodeship and the EU-27 average level.

The pace of the convergence process depends mainly on the rate of the region's economic growth. In the period 2004-2020¹¹ Lubuskie was growing at an annual average rate of 3.4% (in constant prices), with the EU co-financed investments being responsible for approx. 9% (0.3 p.p.) of this growth.

Outlays on infrastructure investment and on the direct support for enterprises, both financed from the EU funds, significantly boost investment activity. It is estimated that in 2020 investment rate (ratio of gross fixed capital formation expenditures to the regional GDP) in the Lubuskie voivodeship was higher by 2.8 p.p. than under the counterfactual scenario (one which assumes the absence of the EU financing).

In the year of Poland's EU accession (2004) the Lubuskie Voivodeship posted an employment rate (people aged 20-64) of 52.5%, while by 2020 the value of this indicator climbed to 72.5%, with about 10% (2 p.p.) of the improvement recorded in the analyzed period attributable to the impact of the EU funds.

The favourable effects of the European Cohesion Policy encompass also the creation of new jobs, improvement in employee qualifications and the better adaptation of workers to changing labour market conditions. As of 2020 the number of jobs created in the Lubuskie voivodeship thanks to the implementation of investments co-financed from the EU budget was estimated at about 11.5 thousand.

The beneficial impact of the EU funds is also visible when it comes to reducing the unemployment rate. In the accession year (2004) the unemployment rate (people aged 15 and over) had amounted in the voivodeship to as much as 24.9%, while by 2020 it fell to a mere 2.1%. The EU funds have contributed, to a certain extent, to this reduction - it is estimated that they were responsible for 0.9 p.p. of the fall in the unemployment rate in the region in 2020 and for its annual average decline by 1.5 p.p. in the period 2004-2020.

¹¹ For the years 2004-2019 the actual historical data of the Statistics Poland - Local Data Bank (LDB) were referred to, while forecasts generated by the EUImpactMOD model were derived for the year 2020.

THE ŁÓDZKIE VOIVODESHIP

Cohesion Policy financing in the Łódzkie voivodeship in the years 2004-2020

The cumulative value of funds disbursed from structural funds and the Cohesion Fund in the Łódzkie voivodeship up to the end of 2020 amounted to PLN 35,274.6 million. In per capita terms and in relation to the region's GDP these resources amounted in the years 2004-2020, to respectively PLN 14,469 and 2.0% of the GDP. In both cases these values were higher than the respective national averages (respectively PLN 13,487 and 1.8%).

Investments financed from the EU funds constitute a noticeable part of public investments in the Łódzkie voivodeship - in 2020 their share in the region's total public investment outlays amounted to 45.9% (with the respective national average equal to 37.8%).

Impact of the Cohesion Policy in the Łódzkie voivodeship in the years 2004-2020

In 2019 the GDP per capita (in PPS) amounted in the Łódzkie Voivodeship to about 68.5% of the EU-27 average. In the period 2004-2019, the distance between the voivodeship and the above-mentioned EU average narrowed by 21 p.p., of which about 15.5% (3.2 p.p.) resulted from the implementation of the Cohesion Policy. Therefore, the EU funds are among factors conducive to a noticeable bridging of the gap in economic development between the voivodeship and the EU-27 average level.

The pace of the convergence process depends mainly on the rate of the region's economic growth. In the period 2004-2020¹² Łódzkie was growing at an annual average rate of 3.5% (in constant prices), with the EU co-financed investments being responsible for about 9% (0.3 p.p.) of this growth.

Outlays on infrastructure investment and on the direct support for enterprises, both financed from the EU funds, significantly boost investment activity. It is estimated that in 2020 investment rate (ratio of gross fixed capital formation expenditures to the regional GDP) in the Łódzkie voivodeship was higher by 2.6 p.p. than under the counterfactual scenario (one which assumes the absence of the EU financing).

In the year of Poland's EU accession (2004) the Łódzkie Voivodeship posted an employment rate (people aged 20-64) of 58.3%, while by 2020 the value of that indicator climbed to as much as 75.9%, with over 12% (2.1 p.p.) of the improvement recorded in the analyzed period attributable to the impact of the EU funds.

The favourable effects of the European Cohesion Policy encompass also the creation of new jobs, an improvement in employee qualifications and the better adaptation of workers to changing labour market conditions. As of 2020 the number of jobs created in the Łódzkie voivodeship thanks to the implementation of investments co-financed from the EU budget was estimated at over 30 thousand.

The beneficial impact of the EU funds is also visible when it comes to reducing the unemployment rate. In the accession year (2004) the unemployment rate (people aged 15 and over) had amounted in the voivodeship to 18.8%, while by 2020 it dropped to a mere 3.1%. The EU funds have contributed, to a certain extent, to this reduction - it is estimated that they were responsible for 0.9 p.p. of the fall in the unemployment rate in the region in 2020 and for its annual average decline by 1.5 p.p. in the period 2004-2020.

¹² For the years 2004-2019 the actual historical data of the Statistics Poland - Local Data Bank (LDB) were referred to, while forecasts generated by the EUImpactMOD model were derived for the year 2020.

THE MAŁOPOLSKIE VOIVODESHIP

Cohesion Policy financing in the Małopolskie voivodeship in the years 2004-2020

The cumulative value of funds disbursed from structural funds and the Cohesion Fund in the Małopolskie voivodeship up to the end of 2020 amounted to PLN 38,963.4 million. In per capita terms and in relation to the region's GDP these resources amounted in the years 2004-2020, to respectively PLN 11,425 and 1.7% of the GDP. In both cases these values were lower than the respective national averages (PLN 13,487 and 1.8%).

In case of the Małopolskie voivodeship the share of Investments financed from the EU funds in total public investment outlays is higher than on average in Poland - in 2020 the said share amounted to 42.1% (with the respective national average equal to 37.8%).

Impact of the Cohesion Policy in the Małopolskie voivodeship in the years 2004-2020

In 2019 the GDP per capita (in PPS) amounted in the Małopolskie Voivodeship to 66.3% of the EU-27 average. In the period 2004-2019, the distance between the voivodeship and the above-mentioned EU average narrowed by 20.8 p.p., of which 15.3% (3.2 p.p.) resulted from the implementation of the Cohesion Policy. Therefore, the EU funds are among factors conducive to a systematic bridging of the gap in economic development between the voivodeship and the EU-27 average level.

The pace of the convergence process depends mainly on the rate of the region's economic growth. In the period 2004-2019¹³ Małopolskie was growing at an annual average rate of 3.8% (in constant prices), with the EU co-financed investments being responsible about 8% (0.3 p.p.) of this growth.

Outlays on infrastructure investment and on the direct support for enterprises, both financed from the EU funds, significantly boost investment activity. It is estimated that in 2020 investment rate (ratio of gross fixed capital formation expenditures to the regional GDP) in the Małopolskie voivodeship was higher by 2.8 p.p. than under the counterfactual scenario (one which assumes the absence of the EU financing).

In the year of Poland's EU accession (2004) the Małopolskie voivodeship posted an employment rate (people aged 20-64) of 61.5%, while by 2020 the value of this indicator climbed to 73.6%, with about 17% (2.1 p.p.) of the improvement recorded in the analyzed period attributable to the impact of the EU funds.

The favourable effects of the European Cohesion Policy encompass also the creation of new jobs, an improvement in employee qualifications and the better adaptation of workers to changing labour market conditions. As of 2020 the number of jobs created in the Małopolskie voivodeship thanks to the implementation of investments co-financed from the EU budget was estimated at over 40 thousand.

The beneficial impact of the EU funds is also visible when it comes to reducing the unemployment rate. In the accession year (2004) the unemployment rate (people aged 15 and over) had amounted in the voivodeship to 16.8%, while by 2020 it dropped to as low as 2.7%. The EU funds have contributed, to a certain extent, to this reduction - it is estimated that they were responsible for 0.9 p.p. of the fall in the unemployment rate in the region in 2020 and for its annual average decline by 1.3 p.p. in the period 2004-2020.

¹³ For the years 2004-2019 the actual historical data of the Statistics Poland - Local Data Bank (LDB) were referred to, while forecasts generated by the EUImpactMOD model were derived for the year 2020.

THE MAZOWIECKIE VOIVODESHIP

Cohesion Policy financing in the Mazowieckie voivodeship in the years 2004-2020

The cumulative value of funds disbursed from structural funds and the Cohesion Fund in the Mazowieckie voivodeship up to the end of 2020 amounted to PLN 79,335 million. In per capita terms and in relation to the region's GDP these resources amounted in the years 2004-2020, to respectively PLN 14,624 and 1.3% of the GDP. In the case of per capita disbursements the regional figure was higher than the national average (PLN 13 487), while in case relation to the GDP it was lower than the respective national average (1.8%).

In case of the Mazowieckie voivodeship the share of investments financed from the EU funds in total public investment outlays is lower than on average in Poland - in 2020 it reached 26.7% (with the respective national average equal to 37.8%).

Impact of the Cohesion Policy in the Mazowieckie voivodeship in the years 2004-2020

In 2019 the GDP per capita (in PPS) amounted in the Mazowieckie voivodeship to 117.3% of the EU-27 average. In the period 2004-2019, the relation of the voivodeship GDP per capita and the respective EU average increased by 39.5 p.p., of which about 8.6% (3.4 p.p.) resulted from the implementation of the Cohesion Policy.

The pace of the convergence process depends mainly on the rate of the region's economic growth. In the period 2004-2020¹⁴ Mazowieckie was growing at an annual average rate of 4.5% (in constant prices), with the EU co-financed investments being responsible about 4.5% (0.2 p.p.) of this growth.

Outlays on infrastructure investment and on the direct support for enterprises, both financed from the EU funds significantly boost investment activity. It is estimated that in 2020 investment rate (ratio of gross fixed capital formation expenditures to the regional GDP) in the Mazowieckie voivodeship was higher by 1.3 p.p. than under the counterfactual scenario (one which assumes the absence of the EU financing).

In the year of Poland's EU accession (2004) the Mazowieckie voivodeship posted an employment rate (people aged 20-64) of 61.2%, while by 2020 the value of this indicator climbed to 77.8%, with about 11% (1.8 p.p.) of the improvement recorded in the analyzed period attributable to the impact of the EU funds.

The favourable effects of the European Cohesion Policy encompass also the creation of new jobs, an improvement in employee qualifications and the better adaptation of workers to changing labour market conditions. As of 2020 the number of jobs created in the Mazowieckie voivodeship thanks to the implementation of investments co-financed from the EU budget was estimated at almost 57 thousand.

The beneficial impact of the EU funds is also visible when it comes to reducing the unemployment rate. In the accession year (2004) the unemployment rate (people aged 15 and over) had amounted in the voivodeship to 16.0%, while by 2020 it declined to mere 3.4%. The EU funds have contributed, to a noticeable extent, to this reduction - it is estimated that they were responsible for 0.7 p.p. of the fall in the unemployment rate in the region in 2020 and for its annual average decline by 1.6 p.p. in the period 2004-2020.

¹⁴ For the years 2004-2019 the actual historical data of the Statistics Poland - Local Data Bank (LDB) were referred to, while forecasts generated by the EUImpactMOD model were derived for the year 2020.

THE OPOLSKIE VOIVODESHIP

Cohesion Policy financing in the Opolskie voivodeship in the years 2004-2020

The cumulative value of funds disbursed from structural funds and the Cohesion Fund in the Opolskie voivodeship up to the end of 2020 amounted to PLN 11,911.2 million. In per capita terms and in relation to the region's GDP these resources amounted in the years 2004-2020, to respectively PLN 12,194 and 1.9% of the GDP. In the case of per capita disbursements the regional figure was lower than the national average (PLN 13 487), while in case relation to the GDP it is higher than the respective national average (1.8%).

Investments financed from the EU funds constitute a significant part of public investments in the Opolskie voivodeship - in 2020 their share in the region's total public investment outlays amounted to 36.1% being only slightly lower than the respective national average (37.8%).

Impact of the Cohesion Policy in the Opolskie voivodeship in the years 2004-2020

In 2019 the GDP per capita (in PPS) amounted in the Opolskie voivodeship to 57.5% of the EU-27 average. In the period 2004-2019, the distance between the voivodeship GDP per capita and the respective EU average narrowed by 13.5 p.p., of which over 27% (3.7 p.p.) resulted from the implementation of the Cohesion Policy. Therefore, the EU funds are among factors conducive to a gradual bridging of the gap in economic development between the voivodeship and the EU-27 average level.

The pace of the convergence process depends mainly on the rate of the region's economic growth. In the period 2004-2020¹⁵ Opolskie was growing at an annual average rate of 2.4% (in constant prices), with the EU co-financed investments being responsible about 16.5% (0.4 p.p.) of this growth.

The outlays on infrastructure investment and on the direct support for enterprises, both financed from the EU funds, significantly boost investment activity. It is estimated that in 2020 investment rate (ratio of gross fixed capital formation expenditures to the regional GDP) was higher by 3.1 p.p. than under the counterfactual scenario (one which assumes the absence of the EU financing).

In the year of Poland's EU accession (2004) the Opolskie voivodeship posted an employment rate (people aged 20-64) of 55.8%, while by 2020 the value of this indicator climbed to 73.1%, with about 13.5% (2.3 p.p.) of the improvement recorded in the analyzed period attributable to the impact of the EU funds.

The favourable effects of the European Cohesion Policy encompass also the creation of new jobs, an improvement in employee qualifications and the better adaptation of workers to changing labour market conditions. As of 2020 the number of jobs created in the Opolskie voivodeship thanks to the implementation of investments co-financed from the EU budget was estimated at over 12 thousand.

The beneficial impact of the EU funds is also visible when it comes to reducing the unemployment rate. In the accession year (2004) the unemployment rate (people aged 15 and over) had amounted in the voivodeship to as much as 19.3%, while by 2020 it declined to only 2.9%. The EU funds have contributed, to a noticeable extent, to this reduction - it is estimated that they were responsible for about 1.0 p.p. of the decline in the unemployment rate in the region in 2020 and for its annual average decline by 1.5 p.p. in the period 2004-2020.

¹⁵For the years 2004-2019 the actual historical data of the Statistics Poland - Local Data Bank (LDB) were referred to, while forecasts generated by the EUImpactMOD model were derived for the year 2020.

THE PODKARPACKIE VOIVODESHIP

Cohesion Policy financing in the Podkarpackie voivodeship in the years 2004-2020

The cumulative value of funds disbursed from structural funds and the Cohesion Fund in the Podkarpackie voivodeship up to the end of 2020 amounted to PLN 35,140,9 million. In per capita terms and in relation to the region's GDP these resources amounted in the years 2004-2020, to respectively PLN 16,566 and 3.1% of the regional GDP. In both cases these values were noticeably higher than the respective national averages (PLN 13,487 and 1.8%).

Investments financed from the EU funds constitute a significant part of public investments in the Podkarpackie voivodeship. In 2020 their share in the region's total public investment outlays amounted to as much as 44% (with the respective national average equal to 37.8%).

Impact of the Cohesion Policy in the Podkarpackie voivodeship in the years 2004-2020

In 2019 the GDP per capita (in PPS) amounted in the Podkarpackie voivodeship to 51.3% of the EU-27 average. In the period 2004-2019, the distance between the voivodeship GDP per capita and the respective EU average narrowed by 13.9 p.p., of which 32.3% (4.5 p.p.) resulted from the implementation of the Cohesion Policy. Therefore, the EU funds are among factors conducive to a gradual bridging of the gap in economic development between the voivodeship and the EU-27 average level.

The pace of the convergence process depends mainly on the rate of the region's economic growth. In the period 2004-2020¹⁶ Podkarpackie was growing at an annual average rate of 3.7% (in constant prices), with the EU co-financed investments being responsible about 16.5% (0.6 p.p.) of this growth.

Outlays on infrastructure investment and on the direct support for enterprises, both financed from the EU funds, significantly boost investment activity. It is estimated that in 2020 investment rate (ratio of gross fixed capital formation expenditures to the regional GDP) in the Podkarpackie voivodeship was higher by 4.3 p.p. than under the counterfactual scenario (one which assumes the absence of the EU financing).

In the year of Poland's EU accession (2004) the Podkarpackie voivodeship posted an employment rate (people aged 20-64) of 58.9%, while by 2020 the value of this indicator climbed to 70.0%. About 25% (2.8 p.p.) of the improvement recorded in the analyzed period is attributed to the impact of the EU funds.

The favourable effects of the European Cohesion Policy encompass also the creation of new jobs, an improvement in employee qualifications and the better adaptation of workers to changing labour market conditions. As of 2020 the number of jobs created in the Podkarpackie voivodeship thanks to the implementation of investments co-financed from the EU budget was estimated at over 32 thousand.

The beneficial impact of the EU funds is also visible when it comes to reducing the unemployment rate. In the accession year (2004) the unemployment rate (people aged 15 and over) had amounted in the voivodeship to 15.1%, while by 2020 it declined to 4.3%. The EU funds have contributed, to a noticeable extent, to this reduction - it is estimated that they were responsible for about 1.3 p.p. of the fall in the unemployment rate in the region in 2020 and for its annual average decline by 1.9 p.p. in the period 2004-2020

¹⁶For the years 2004-2019 the actual historical data of the Statistics Poland - Local Data Bank (LDB) were referred to, while forecasts generated by the EUImpactMOD model were derived for the year 2020..

THE PODLASKIE VOIVODESHIP

Cohesion Policy financing in the Podlaskie voivodeship in the years 2004-2020

The cumulative value of funds disbursed from structural funds and the Cohesion Fund in the Podlaskie voivodeship up to the end of 2020 amounted to PLN 18,080,2 million. In per capita terms and in relation to the region's GDP these resources amounted in the years 2004-2020, to respectively PLN 15,410 and 2.7% of the regional GDP. In both cases these values significantly exceeded the respective national averages (PLN 13,487 and 1.8%).

Investments financed from the EU funds constitute a significant part of public investments in the Podlaskie voivodeship, though in 2020 the situation differed from the one recorded in the preceding years. In 2020 their share in the region's total public investment outlays amounted to 36.7% (with the respective national average equal to 37.8%).

Impact of the Cohesion Policy in the Podlaskie voivodeship in the years 2004-2020

In 2019 the GDP per capita (in PPS) amounted in the Podlaskie voivodeship to 52.5% of the EU-27 average. In the period 2004-2019, the distance between the voivodeship GDP per capita and the respective EU average narrowed by 14.4 p.p., of which over 31% (4.5 p.p.) resulted from the implementation of the Cohesion Policy. Therefore, the EU funds are among factors conducive, throughout the bigger part of the analyzed period, to a gradual bridging of the gap in economic development between the voivodeship and the EU-27 average level.

The pace of the convergence process depends mainly on the rate of the region's economic growth. In the period 2004-2020¹⁷ Podlaskie was growing at an annual average rate of 2.8% (in constant prices), with the EU co-financed investments being responsible for about 22% (0.6 p.p.) of this growth.

Outlays on infrastructure investment and on the direct support for enterprises, both financed from the EU funds, significantly boost investment activity. It is estimated that in 2020 investment rate (ratio of gross fixed capital formation expenditures to the regional GDP) in the Podlaskie voivodeship was higher by 4.5 p.p. than under the counterfactual scenario (one which assumes the absence of the EU financing).

In the year of Poland's EU accession (2004) the Podlaskie voivodeship posted an employment rate (people aged 20-64) of 62.9%, while by 2020 the value of this indicator climbed to 73.4%, with about 29% (3.0 p.p.) of the improvement recorded in the analyzed period attributable to the impact of the EU funds.

The favourable effects of the European Cohesion Policy encompass also the creation of new jobs, an improvement in employee qualifications and the better adaptation of workers to changing labour market conditions. As of 2020 the number of jobs created in the Podlaskie voivodeship thanks to the implementation of investments co-financed from the EU budget was estimated at 19.3 thousand.

The beneficial impact of the EU funds is also visible when it comes to reducing the unemployment rate. In the accession year (2004) the unemployment rate (people aged 15 and over) had amounted in the voivodeship to 14.8%, while by 2020 it declined to 2.8%. The EU funds have contributed, to a certain extent, to this reduction - it is estimated that they were responsible for about 1.3 p.p. of the fall in the unemployment rate in the region in 2020 and for its annual average decline by 1.7 p.p. in the period 2004-2020

¹⁷For the years 2004-2019 the actual historical data of the Statistics Poland - Local Data Bank (LDB) were referred to, while forecasts generated by the EUImpactMOD model were derived for the year 2020.

THE POMORSKIE VOIVODESHIP

Cohesion Policy financing in the Pomorskie voivodeship in the years 2004-2020

The cumulative value of funds disbursed from structural funds and the Cohesion Fund in the Pomorskie voivodeship up to the end of 2020 amounted to PLN 34,127.9 million. In per capita terms and in relation to the region's GDP these resources amounted in the years 2004-2020, to respectively PLN 14,543 and 2.1% of the regional GDP. In both cases these values exceeded the respective national averages (PLN 13,487 and 1.8%).

The share of investments financed from the EU funds Pomorskie voivodeship in the total investment public outlays in the region is lower than on average in Poland. In 2020 the said share amounted in the region to 33.1% (with the respective national average equal to 37.8%).

Cohesion Policy financing in the Pomorskie voivodeship in the years 2004-2020

In 2019 the GDP per capita (in PPS) amounted in the Pomorskie voivodeship to 70.5% of the EU-27 average. In the period 2004-2019, the distance between the voivodeship GDP per capita and the respective EU average narrowed by 20 p.p., of which approx. 17.7% (3.5 p.p.) resulted from the implementation of the Cohesion Policy. Therefore, the EU funds are among factors conducive to a gradual bridging of the gap in economic development between the voivodeship and the EU-27 average level.

The pace of the convergence process depends mainly on the rate of the region's economic growth. In the period 2004-2020¹⁸ Pomorskie was growing at an annual average rate of 4.1% (in constant prices), with the EU co-financed investments being responsible about 7.5% (0.3 p.p.) of this growth.

Tempo procesu konwergencji zależy głównie od tempa wzrostu

Outlays on infrastructure investment and on the direct support for enterprises, both financed from the EU funds, significantly boost investment activity. It is estimated that in 2020 investment rate (ratio of gross fixed capital formation expenditures to the regional GDP) in the Pomorskie voivodeship was higher by 2.5 p.p. than under the counterfactual scenario (one which assumes the absence of the EU financing).

In the year of Poland's EU accession (2004) the Pomorskie voivodeship posted an employment rate (people aged 20-64) of 54.9%, while by 2020 the value of this indicator climbed to 75.7%, with about 10.5% (2.2 p.p.) of the increase recorded in the analyzed period attributable to the impact of the EU funds.

The favourable effects of the European Cohesion Policy encompass also the creation of new jobs, an improvement in employee qualifications and the better adaptation of workers to changing labour market conditions. As of 2020 the number of jobs created in the Pomorskie voivodeship thanks to the implementation of investments co-financed from the EU budget was estimated at almost 29 thousand.

The beneficial impact of the EU funds is also visible when it comes to reducing the unemployment rate. In the accession year (2004) the unemployment rate (people aged 15 and over) had amounted in the voivodeship to as much as 19.8%, while by 2020 it declined to mere 3.1%. The EU funds have contributed to this reduction - it is estimated that they were responsible for about 0.9 p.p. of the fall in the unemployment rate in the region in 2020 and for its annual average decline by 1.9 p.p. in the period 2004-2020

¹⁸For the years 2004-2019 the actual historical data of the Statistics Poland - Local Data Bank (LDB) were referred to, while forecasts generated by the EUImpactMOD model were derived for the year 2020.

THE ŚLĄSKIE VOIVODESHIP

Cohesion Policy financing in the Śląskie voivodeship in the years 2004-2020

The cumulative value of funds disbursed from structural funds and the Cohesion Fund in the Śląskie voivodeship up to the end of 2020 amounted to PLN 51,076.3 million. In per capita terms and in relation to the region's GDP these resources amounted in the years 2004-2020, to respectively PLN 11,370 and 1.4% of the regional GDP. In both cases these values were lower than the respective national averages (PLN 13,487 and 1.8%).

The share of investments financed from the EU funds Śląskie voivodeship in the total public investment outlays amounted in 2020 to 37.8% and was equal to the respective national average.

Impact of the Cohesion Policy in the Śląskie voivodeship in the years 2004-2020

In 2019 the GDP per capita (in PPS) amounted in the Śląskie voivodeship to 74.5% of the EU-27 average. In the period 2004-2019, the distance between the voivodeship GDP per capita and the respective EU average narrowed by 17.1 p.p., of which slightly less than 16% (2.7 p.p.) resulted from the implementation of the Cohesion Policy. Therefore, the EU funds are among factors conducive to a gradual bridging of the gap in economic development between the Śląskie voivodeship and the EU-27 average level.

The pace of the convergence process depends mainly on the rate of the region's economic growth. In the period 2004-2020¹⁹ Śląskie was growing at an annual average rate of 3.6% (in constant prices), with the EU co-financed investments being responsible about 8.5% (0.3 p.p.) of this growth.

Outlays on infrastructure investment and on the direct support for enterprises, both financed from the EU funds, significantly boost investment activity. It is estimated that in 2020 investment rate (ratio of gross fixed capital formation expenditures to the regional GDP) in the Pomorskie voivodeship was higher by 2.2 p.p. than under the counterfactual scenario (one which assumes the absence of the EU financing).

In the year of Poland's EU accession (2004) the Śląskie voivodeship posted an employment rate (people aged 20-64) of 53.2%, while by 2020 the value of this indicator climbed to 70.2%, with about 11% (1.9 p.p.) of the increase recorded in the analyzed period attributable to the impact of the EU funds.

The favourable effects of the European Cohesion Policy encompass also the creation of new jobs, an improvement in employee qualifications and the better adaptation of workers to changing labour market conditions. As of 2020 the number of jobs created in the Pomorskie voivodeship thanks to the implementation of investments co-financed from the EU budget was estimated at almost 49 thousand.

The beneficial impact of the EU funds is also visible when it comes to reducing the unemployment rate. In the accession year (2004) the unemployment rate (people aged 15 and over) had amounted in the voivodeship to as much as 18.5%, while by 2020 it declined to mere 2.7%. The EU funds have contributed, to a certain extent, to this reduction - it is estimated that they were responsible for about 0.8 p.p. of the decline in unemployment rate in the region in 2020 and for its annual average decline by 1.4 p.p. in the period 2004-2020

¹⁹For the years 2004-2019 the actual historical data of the Statistics Poland - Local Data Bank (LDB) were referred to, while forecasts generated by the EUImpactMOD model were derived for the year 2020.

THE ŚWIĘTOKRZYSKIE VOIVODESHIP

Cohesion Policy financing in the Świętokrzyskie voivodeship in the years 2004-2020

The cumulative value of funds disbursed from structural funds and the Cohesion Fund in the Świętokrzyskie voivodeship up to the end of 2020 amounted to PLN 17,086.4 million. In per capita terms and in relation to the region's GDP these resources amounted in the years 2004-2020, to respectively PLN 13,952 and 2.4% of the regional GDP. The GDP per capita value was higher than the respective national average (PLN 13,487), while the ratio to the GDP was significantly higher than the average for Poland (1.8%).

The share of investments financed from the EU funds in Świętokrzyskie voivodeship in the total public investment outlays in the region is significant. In 2020 it amounted in the region to as much as 52.6% (with the respective national average equal to 37.8%).

Impact of the Cohesion Policy in the Świętokrzyskie voivodeship in the years 2004-2020

In 2019 the GDP per capita (in PPS) amounted in the Świętokrzyskie voivodeship to almost 51.9% of the EU-27 average. In the period 2004-2019, the distance between the voivodeship GDP per capita and the respective EU average narrowed by 10.9 p.p., of which over 34% (3.5 p.p.) resulted from the implementation of the Cohesion Policy. Therefore, the EU funds are among factors conducive to a gradual bridging of the gap in economic development between the voivodeship and the EU-27 average level.

The pace of the convergence process depends mainly on the rate of the region's economic growth. In the period 2004-2020²⁰ Świętokrzyskie was growing at an annual average rate of 2.7% (in constant prices), with the EU co-financed investments being responsible for about 19% (0.5 p.p.) of this growth.

Outlays on infrastructure investment and on the direct support for enterprises, both financed from the EU funds, have contributed to a significant revival of investment activity. It is estimated that in 2020 investment rate (ratio of gross fixed capital formation expenditures to the regional GDP) in the region was higher by 4.1 p.p. than under the counterfactual scenario (one which assumes the absence of the EU financing).

In the year of Poland's EU accession (2004) the Świętokrzyskie voivodeship posted an employment rate (people aged 20-64) of 54.9%, while by 2020 the value of this indicator climbed to 72.2%, with about 13.3% (2.3 p.p.) of the increase recorded in the analyzed period attributable to the impact of the EU funds.

The favourable effects of the European Cohesion Policy encompass also creation of new jobs, an improvement in employee qualifications and the better adaptation of workers to changing labour market conditions. As of 2020 the number of jobs created in the voivodeship thanks to the implementation of investments co-financed from the EU budget was estimated at about 16 thousand.

The beneficial impact of the EU funds is also visible when it comes to reducing the unemployment rate. In the accession year (2004) the unemployment rate (people aged 15 and over) had amounted in the voivodeship to as much as 20.4%, while by 2020 it declined to 4.3%. The EU funds have contributed, to a large extent, to this reduction - it is estimated that they were responsible for 1.0 p.p. of the fall in the unemployment rate in the region in 2020 and for its annual average decline by 1.4 p.p. in the period 2004-2020

²⁰For the years 2004-2019 the actual historical data of the Statistics Poland - Local Data Bank (LDB) were referred to, while forecasts generated by the EUImpactMOD model were derived for the year 2020.

THE WARMIŃSKO-MAZURSKIE VOIVODESHIP

Cohesion Policy financing in the Warmińsko-Mazurskie voivodeship in the years 2004-2020

The cumulative value of funds disbursed from structural funds and the Cohesion Fund in the Warmińsko-Mazurskie voivodeship up to the end of 2020 amounted to PLN 27,805.2 million. In per capita terms and in relation to the region's GDP these resources amounted in the years 2004-2020, to respectively PLN 19,630 and 3.5% of the regional GDP. In both cases these values were therefore significantly higher than the respective national averages (PLN 13,487 and 1.8%).

The share of investments financed from the EU funds in the total public investment outlays in the in Warmińsko-Mazurskie voivodeship is significant. In 2020 it amounted in the region to as much as 50.9% (with the respective national average equal to 37.8%).

Impact of the Cohesion Policy in the Warmińsko-Mazurskie voivodeship in the years 2004-2020

In 2019 the GDP per capita (in PPS) amounted in the Warmińsko-Mazurskie voivodeship to 49.8% of the EU-27 average. In the period 2004-2019, the distance between the voivodeship GDP per capita and the respective EU average narrowed by 10.8 p.p., of which over slightly 45% (4.9 p.p.) resulted from the implementation of the Cohesion Policy.

The pace of the convergence process depends mainly on the rate of the region's economic growth. In the period 2004-2020²¹ Warmińsko-Mazurskie was growing at an annual average rate of 2.6% (in constant prices), with the EU co-financed investments being responsible for about 23% (0.6 p.p.) of this growth.

Outlays on infrastructure investment and on the direct support for enterprises, both financed from the EU funds, significantly boost investment activity. It is estimated that in 2020 investment rate (ratio of gross fixed capital formation expenditures to the regional GDP) in the region was higher by 4.9 p.p. than under the counterfactual scenario (one which assumes the absence of the EU financing).

In the year of Poland's EU accession (2004) the Warmińsko-Mazurskie voivodeship posted an employment rate (people aged 20-64) of 51.1%, while by 2020 the value of this indicator climbed to 69.6%, with about 16% (3.0 p.p.) of the increase recorded in the analyzed period attributable to the impact of the EU funds.

The favourable effects of the European Cohesion Policy encompass also the creation of new jobs, an improvement in employee qualifications and the better adaptation of workers to changing labour market conditions. As of 2020 the number of jobs created in the voivodeship thanks to the implementation of investments co-financed from the EU budget was estimated at about 23.8 thousand.

The beneficial impact of the EU funds is also visible when it comes to reducing the unemployment rate. In the accession year (2004) the unemployment rate (people aged 15 and over) had amounted in the voivodeship to as much as 23.8%, while by 2020 it declined to 3.1%. The EU funds have contributed, to a large extent, to this reduction - it is estimated that they were responsible for 1.4 p.p. of the reduction in the unemployment rate in the region in 2020 and for its annual average decline by 2.3 p.p. in the period 2004-2020

²¹For the years 2004-2019 the actual historical data of the Statistics Poland - Local Data Bank (LDB) were referred to, while forecasts generated by the EUImpactMOD model were derived for the year 2020.

THE WIELKOPOLSKIE VOIVODESHIP

Cohesion Policy financing in the Wielkopolskie voivodeship in the years 2004-2020

The cumulative value of funds disbursed from structural funds and the Cohesion Fund in the Wielkopolskie voivodeship up to the end of 2020 amounted to PLN 36,741.9 million. In per capita terms and in relation to the region's GDP these resources amounted in the years 2004-2020, to respectively PLN 10,508 and 1.3% of the regional GDP. Therefore, in both cases these values were significantly lower than the respective national averages (PLN 13,487 and 1.8%).

The share of investments financed from the EU funds in the Wielkopolskie voivodeship in the total public investment outlays in the region is slightly lower than in Poland on average. In 2020 it amounted in the region to 34% (with the respective national average equal to 37.8%).

Impact of the Cohesion Policy in the Wielkopolskie voivodeship in the years 2004-2020

In 2019 the GDP per capita (in PPS) amounted in the Wielkopolskie voivodeship 78.6% of the EU-27 average. In the period 2004-2019, the distance between the voivodeship GDP per capita and the respective EU average narrowed by 23.6 p.p., of which about 11.9% (2.8 p.p.) resulted from the implementation of the Cohesion Policy. Therefore, the EU funds have been among factors conducive to a gradual bridging of the gap in economic development between the voivodeship and the EU-27 average level.

The pace of the convergence process depends mainly on the rate of the region's economic growth. In the period 2004-2020²² Wielkopolskie was growing at an annual average rate of 3.8% (in constant prices), with the EU co-financed investments being responsible for about 5% (0.2 p.p.) of this growth.

Outlays on infrastructure investment and on the direct support for enterprises, both financed from the EU funds, significantly boost investment activity. It is estimated that in 2020 investment rate (ratio of gross fixed capital formation expenditures to the regional GDP) in the region was higher by 1.8 p.p. than under the counterfactual scenario (one which assumes the absence of the EU financing).

In the year of Poland's EU accession (2004) the Wielkopolskie voivodeship posted an employment rate (people aged 20-64) of 59.9%, while by 2020 the value of this indicator climbed to 75.4%, with about 10.1% (1.6 p.p.) of the increase recorded in the analyzed period attributable to the impact of the EU funds.

The favourable effects of the European Cohesion Policy encompass also the creation of new jobs, an improvement in employee qualifications and the better adaptation of workers to changing labour market conditions. As of 2020 the number of jobs created in the voivodeship thanks to the implementation of investments co-financed from the EU budget was estimated at about 32 thousand.

The beneficial impact of the EU funds is also visible when it comes to reducing the unemployment rate. In the accession year (2004) the unemployment rate (people aged 15 and over) had amounted in the voivodeship to 17.2%, while by 2020 it decreased to mere 1.8%. The EU funds have contributed, to a certain extent, to this reduction - it is estimated that they were responsible for 0.6 p.p. of the reduction in the unemployment rate in the region in 2020 and for its annual average decline by 1.3 p.p. in the period 2004-2020

²²For the years 2004-2019 the actual historical data of the Statistics Poland - Local Data Bank (LDB) were referred to, while forecasts generated by the EUImpactMOD model were derived for the year 2020.

THE ZACHODNIOPOMORSKIE VOIVODESHIP

Cohesion Policy financing in the Zachodniopomorskie voivodeship in the years 2004-2020

The cumulative value of funds disbursed from structural funds and the Cohesion Fund in the Zachodniopomorskie voivodeship up to the end of 2020 amounted to PLN 24,555.4 million. In per capita terms and in relation to the region's GDP these resources amounted in the years 2004-2020, to respectively PLN 14,547 and 2.3% of the regional GDP. In both cases these values were therefore higher than the respective national averages (PLN 13,487 and 1.8%).

The share of investments financed from the EU funds in Zachodniopomorskie voivodeship in the total public investment outlays in the region is lower than in Poland on average. In 2020 it amounted in the region to 31.2% (with the respective national average equal to 37.8%).

Impact of the Cohesion Policy in the Zachodniopomorskie voivodeship in the years 2004-2020

In 2019 the GDP per capita (in PPS) amounted in the Zachodniopomorskie voivodeship 60.2% of the EU-27 average. In the period 2004-2019, the distance between the voivodeship GDP per capita and the respective EU average narrowed by 13.7 p.p., of which almost 27% (3.7 p.p.) resulted from the implementation of the Cohesion Policy. Therefore, the EU funds have been among factors conducive to a gradual bridging of the gap in economic development between the voivodeship and the EU-27 average level.

The pace of the convergence process depends mainly on the rate of the region's economic growth. In the period 2004-2020²³ Zachodniopomorskie was growing at an annual average rate of 2.9% (in constant prices), with the EU co-financed investments being responsible for about 14% (0.4 p.p.) of this growth.

Outlays on infrastructure investment and on the direct support for enterprises, both financed from the EU funds, significantly boost investment activity. It is estimated that in 2020 investment rate (ratio of gross fixed capital formation expenditures to the regional GDP) in the region was higher by 3.5 p.p. than under the counterfactual scenario (one which assumes the absence of the EU financing).

In the year of Poland's EU accession (2004) the Zachodniopomorskie voivodeship posted an employment rate (people aged 20-64) of 54.2%, while by 2020 the value of this indicator climbed to 71.3%, with about 14.5% (2.5 p.p.) of the increase recorded in the analyzed period attributable to the impact of the EU funds.

The favourable effects of the European Cohesion Policy encompass also the creation of new jobs, an improvement in employee qualifications and the better adaptation of workers to changing labour market conditions. As of 2020 the number of jobs created in the voivodeship thanks to the implementation of investments co-financed from the EU budget was estimated at about 23.5 thousand.

The beneficial impact of the EU funds is also visible when it comes to reducing the unemployment rate. In the accession year (2004) the unemployment rate (people aged 15 and over) had amounted in the voivodeship to 23.8%, while by 2020 it decreased to 3.4%. The EU funds have contributed, to a certain extent, to this reduction - it is estimated that they were responsible for about 1.1 p.p. of the reduction in the unemployment rate in 2020 and for its annual average decline by 2.0 p.p. in the period 2004-2020.

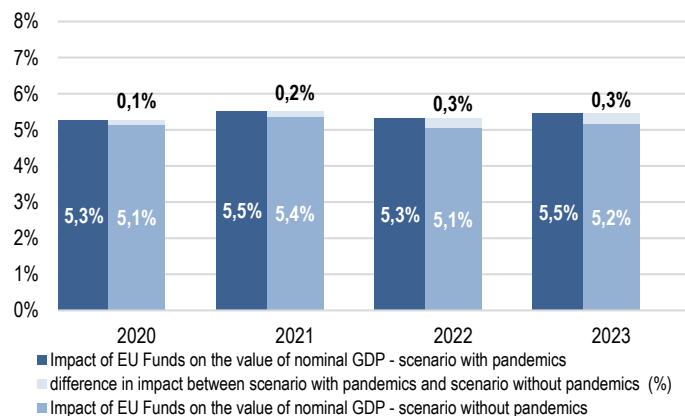
²³ For the years 2004-2019 the actual historical data of the Statistics Poland - Local Data Bank (LDB) were referred to, while forecasts generated by the EUImpactMOD model were derived for the year 2020.

Impact of the Cohesion Policy on Mitigating the Crisis Caused by the COVID-19 Pandemic in the years 2020-2023

This chapter is devoted to illustrating the differences in the impact of the Cohesion Policy on macroeconomic indicators in two scenarios, i.e. 1) baseline - with the Covid-19 pandemic, and 2) hypothetical - without the pandemic.

The Cohesion Policy funds enhancing the Polish economy constitute an important source of capital, both in the form of capital transfers and current transfers. They support development processes not only through direct, nominal impact on basic macroeconomic indicators, but also through qualitative impact on the country's institutional system. This, in turn, is crucial for the process of establishing an environment conducive to business operations and to improving the lives of citizens.

Figure 27. Impact of the Cohesion Policy on Poland's nominal GDP in the years 2020-2023 in scenario with pandemic and in scenario without pandemic.



Source: own elaboration based on the MDFRP data

Moreover, the EU funds transferred to Poland play an important role in stabilizing economic processes, especially in times of economic downturn. This applies to both the

cyclical decline in the level of economic activity and the slowdown resulting from unpredictable random external shocks. The latter scenario materialized in 2020, in the form of the outbreak of the global Covid-19 pandemic, which, by reducing the mobility of the population, weakened economic activity throughout the world.

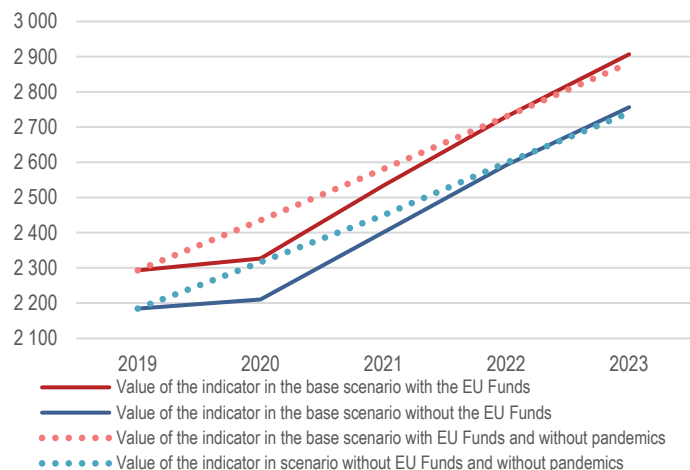
The Cohesion Policy was a factor which mitigated the negative effects of the pandemic. Taking into account the respective scenarios with and without the pandemic (Figure 27), the relative impact of the EU funds on the level of nominal GDP in Poland in 2020-2023 is clearly higher in the former scenario. The scale of this impact is assessed in the range from 0.1% of GDP in 2020 to 0.3% of GDP in 2022 and 2023. This means that the contribution of the Cohesion Policy to the level of economic activity in Poland is higher in the scenario with a slowdown than in a scenario without shocks.

The role of the economic stabilizer, performed by the EU funds, derives from of the very mechanism of allocating the funds in question, which is independent from both the economic situation and market sentiments, which in turn determine the direction of capital transfers in the form of portfolio investments and foreign direct investments. Thus, in the course of the economic downturn and immediately afterwards, the EU funds act as a financial security cushion of a kind. On the other hand, the same funds may also generate certain risks in the period of high economic growth through additional - above potential - stimulation of activity.

In nominal terms (Figure 28), the value of Poland's GDP in the baseline scenario (with an epidemic) is, thanks to the Cohesion Policy, already in 2022 practically equal to the

forecasted GDP value for the scenario (with funds) without an epidemic. In the case of the baseline scenario without the impact of the EU funds, in 2022 it is not yet possible to achieve the value of GDP estimated for a similar scenario without a pandemic. This is confirmed by the fact that funds from the Cohesion Policy make it possible to achieve a relatively faster pace of post-crisis recovery.

Figure 28. Impact of the Cohesion Policy on Poland's nominal GDP in the years 2019-2023 in scenario with pandemic and in scenario without pandemic.



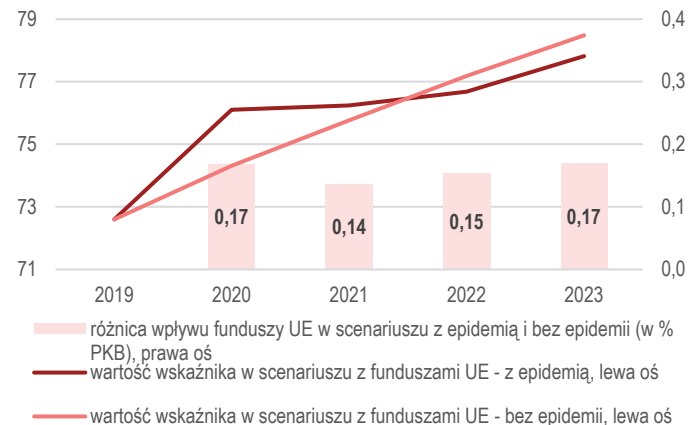
Source: own elaboration based on the MDFRP data

What is also important, the value of Poland's GDP in the baseline scenario already in 2023 exceeds the forecast value of GDP in the non-pandemic scenario. This situation could be a consequence of activation, in the crisis period, of mechanisms for resources reallocation to more productive and cost-competitive sectors, which in the long run would be reflected in the improvement of conditions for generating value added in the economy. However, when analyzing in a more detailed manner the simulations of real GDP changes under both scenarios, a conclusion can be drawn that among the main reasons for the described state of affairs are price processes and stronger inflationary pressure in the pandemic scenario.

The positive impact of the Cohesion Policy on economic growth during the economic slowdown is also directly reflected in the GDP per capita indicator. It is a natural

consequence of the previously described higher increase in the nominal value of GDP.

Figure 29. Impact (p.p.) of the Cohesion Policy on the value of GDP per capita (in PPS) in Poland in relation to the EU-27 average, 2019-2023 in scenario with pandemic and in scenario without pandemic.



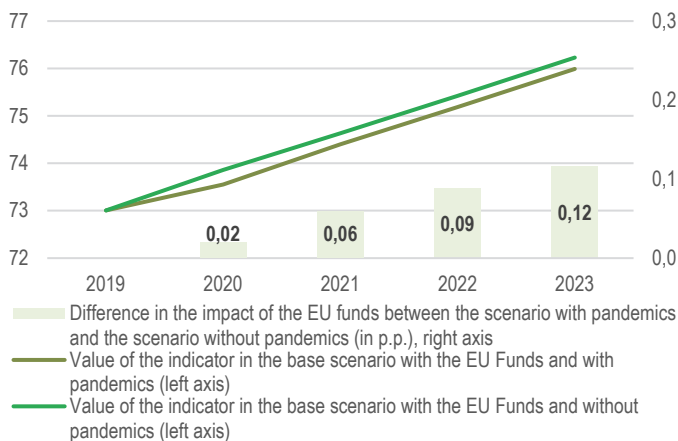
Source: own elaboration based on the MDFRP data

Simulations (Figure 29) indicate that thanks to the Cohesion Policy, the value of Poland's GDP per capita (PPS) in relation to the EU average in the baseline scenario (with the pandemic), grows more (in relative terms) vs the path without funds than under the no-pandemic scenario. The impact of funds on the level of the analyzed indicator ranges from 0.14% of GDP to 0.17% of GDP.

It should also be emphasized that the value of the ratio of Poland's GDP per capita to the EU average is higher in the scenario with a pandemic in the years 2020-2021 than in the scenario without a pandemic. This stems from the relatively smoother transition of the Polish economy through the crisis year of 2020 compared to the EU average, as well as a very strong rebound in 2021.

Mitigating the negative effects of the economic slowdown, reflected in the relatively higher - thanks to the EU funds, the nominal value of GDP in the crisis year 2020 and in the post-crisis period 2021-2023, stems from a relatively greater contribution of the Cohesion Policy in the baseline scenario compared to the scenario without a pandemic on many levels. One of them was the labour market.

Figure 30. Impact of the Cohesion Policy on employment rate (persons aged 20-64) in the years 2019-2023 in Poland in scenario with pandemic and in scenario without pandemic.

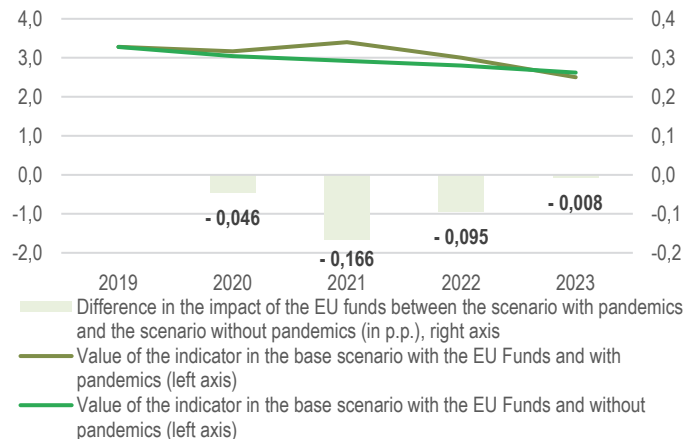


Source: own elaboration based on the MDFRP data

The impact of the Cohesion Policy on the employment rate (in the 20-64 age group) in Poland under the baseline scenario was in the period 2020-2023 was higher by 0.02-0.12 p.p. than under the non-pandemic scenario (Figure 30). This signifies that despite the pandemic-related decline in the overall level of the employment rate 20-64, the scale of the said decline is lower than in the scenario without the Cohesion Policy.

Similar effects can be observed in simulations of the impact of the Cohesion Policy on the labour market as evidenced by the unemployment rate of people aged over 15. In the pandemic scenario the EU funds reduce the unemployment rate to a greater extent than under the non-pandemic scenario. The scale of the impact is estimated in the range from -0.008 p.p. to -0.166 p.p (Chart 31).

Figure 31. Impact of the Cohesion Policy on unemployment rate (persons aged 15+) in the years 2019-2023 in Poland in scenario with pandemic and in scenario without pandemic



Source: own elaboration based on the MDFRP data

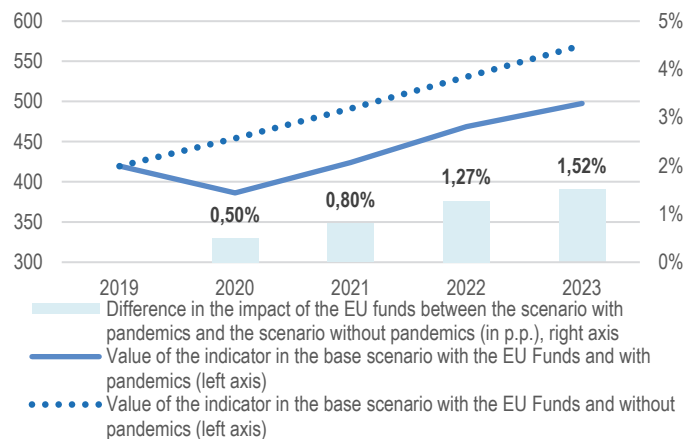
The positive impact of the Cohesion Policy on the labour market and on employment results, on the one hand, from the need to provide labour resources for the implementation of new investment projects and for servicing already financed ones. On the other hand, it may be a natural consequence of the long-term impact of these funds on the Polish economy in the form of an increase in its efficiency and competitiveness, with the resultant growth in demand for labour. Thus, it may be tempting to conclude that access to capital in the form of the EU funds constitutes, to some extent, a source of alleviating -via the labour market channel - the negative direct effects of the economic slowdown on the level of household incomes.

The Cohesion Policy exerts a particularly significant impact on the national economy via its determination of the level of investment activity. This happens thanks to both the financial flows themselves (which statistically increase the value of gross fixed capital formation expenditures) and to qualitative changes, influencing - via the system of monitoring investment processes financed from the Cohesion Policy funds - the efficiency of expenditures.

Comparison of the baseline scenario with the non-pandemic scenario, shows clearly to what extent the Covid-19

pandemic has reduced – by lowering the propensity to take risks – investment outlays. While in the case of the nominal value of GDP it is possible to make up for all losses from 2020 by 2022 (Chart 28), investment expenditures will not constitute - according to the results of the model used for the analysis - a source of this reconstruction.

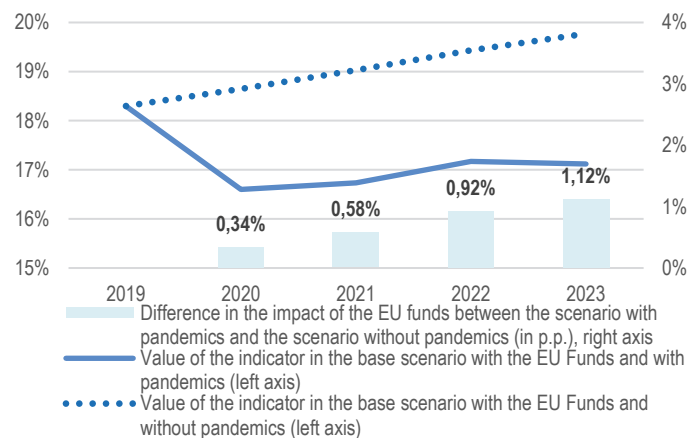
Figure 32. Impact of the Cohesion Policy on the Gross Fixed Capital Formation expenditures (current prices) in Poland, in 2019-2023 in scenario with pandemic and in scenario without pandemic



Source: own elaboration based on the MDFRP data

Though in the baseline scenario the value of investments in the period 2020-2023 is lower than in case of the non-pandemic path the Cohesion Policy resources slightly mitigate this decline. Compared to the scenario without a pandemic, the EU funds increase the nominal value of investments in Poland by 0.5-1.52%.

Figure 33. Impact (p.p.) of the Cohesion Policy on the investment rate in Poland in the years 2019-2023 in scenario with pandemic and in scenario without pandemic



Source: own elaboration based on the MDFRP data

The lower nominal value of gross fixed capital formation expenditures which persists in the forecast horizon, coupled with a fairly quick recovery of losses in nominal GDP, leads to a deterioration of the investment rate (nominal value of gross fixed capital formation in relation to the nominal GDP) in the years 2020-2023. In the period 2020-2023 the difference between the investment rate under the baseline scenario on one hand and under the non-pandemic scenario on the other, ranges from 2.0 to 2.7 p.p. (Chart 33).

The Cohesion Policy is a factor that mitigates the decline in investment rate. Compared to the non-pandemic scenario, the impact of the EU funds on the level of the investment rate was higher by 0.34-1.12 p.p. in the baseline scenario.

The Cohesion Policy exerts a relatively stronger, favourable impact on economic activity in the periods of crisis, experienced in by the Polish economy during both the global financial crisis of 2008/9 and the crisis caused by the coronavirus pandemic. This is mainly thanks to the above-mentioned lack of dependence between the supply of the EU funds and the current business cycle. Hence, these funds constitute, to some extent, a safety cushion which assures the economy's access to external capital

Sources:

- *The evaluation of the impact of the Cohesion Policy on the development of selected macroeconomic indicators on the national and regional level with the use of the EUImpactMod model*, IMAPP Consulting and the Institute for Structural Research, June 2020.
- Statistics Poland, National Bank of Poland, Eurostat.

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