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## ECONOMIC DEVELOPMENT OF POLAND AGAINST THE BACKGROUND OF OTHER EU MEMBER STATES

### ROZWÓJ EKONOMICZNY POLSKI NA TLE KRAJÓW UNII EUROPEJSKIEJ

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**Streszczenie.** Porównując rozwój gospodarczy poszczególnych krajów, można brać pod uwagę różne mierniki. Niektóre z nich, takie jak PKB, mają charakter ilościowy, inne natomiast (np. współczynnik Giniego czy indeks rozwoju społeczno-gospodarczego HDI) pokazują również zmiany jakościowe zachodzące w analizowanych krajach. W artykule porównano rozwój ekonomiczny Polski oraz pozostałych krajów Unii Europejskiej. Wykazano, że największe dysproporcje pomiędzy Polską a wysokorozwiniętymi krajami Unii Europejskiej występują w poziomie PKB *per capita*. Uwzględniając w porównaniach inne elementy, takie jak: długość życia, edukacja, nierówności dochodowe, można zauważyć, że te dysproporcje są nieco mniejsze. Analizy wskazują też bardzo wyraźnie, że zachodzi proces konwergencji pomiędzy krajami „starej” a krajami „nowej” Unii Europejskiej i że rozwój gospodarczy Polski przebiega szybciej niż najbardziej rozwiniętych krajów unijnych.

**Key words:** economic development, Poland and the EU countries.

**Słowa kluczowe:** rozwój gospodarczy, Polska i kraje UE.

## INTRODUCTION

The issues of economic development have been present in economics since it became a separate scientific discipline. For over two hundred years economists have pondered over the question why some countries thrive while others fail, what factors are decisive in economic development and what factors hamper it, which economic theories best explain economic development of particular groups of countries. Appropriate selection of measures and indicators capturing economic development in analysed countries is also an important issue.

The level of economic development across the European Union varies considerably. The development of Poland has been determined by various factors in the last twenty-five years among which the transformation of the centrally planned economy into a market one, the European Union accession, or the global financial and economic crises have been the most important ones. GDP, i.e. the value of all goods and services produced in a particular country, is the most frequently used economic development measure. In order to use this measure for international comparisons, it is necessary to transform it into relative value. However, the application of this single measure does not capture the level and dynamics of a country's economic development. Other quantitative and qualitative factors must also be taken into consideration.

The article aims to compare economic development of the European Union countries and determine the position Poland holds in the development ranking with the use of three measures: real changes in GDP per capita, changes in the Gini coefficient and in the HDI.

## ECONOMIC DEVELOPMENT THEORIES

Economic growth is a measurable economic category that is generally defined in terms of increase in the annual production of goods and services in a particular country. Economic development is a broader term than economic growth. The basic difference between the two aggregated economic categories consists in ascribing some qualitative changes to economic development.

The theories of economic development are included in the discipline of development economics, which came into being in the 1940s and became an independent discipline of economic sciences over the two following decades (Piasecki 2003). The scope of research of development economics goes beyond the limits of traditional economics, i.e. micro- and macroeconomics. The discipline's research objective is to explain not only the efficiency of production location and its optimisation in time, which allows to generate bigger production of goods and services, but also reorganisation of socioeconomic life that ensures faster financial changes in the whole society (Jabłoński 2008). The first concepts of development economics, which was normative from the very beginning, were based on the output of market economy. It was believed that every society aims to achieve the highest possible level of affluence and that is why investment is necessary. It depends on the possibility of making savings in order to create productive capital. This aim is supported by two different theories formulated in classical-neoclassical economics and Keynesian economics. The first one came up with the Solow Growth Model, the hypothesis of unconditional convergence and a theory of development by trade; the second, on the other hand, produced the Harrod-Domar model and the Big Push theory associated with it (Bartkowiak 2010). The Harrod-Domar model assumed that the increase in domestic income is directly proportional to the rate of saving and inversely proportional to capital intensity (Bąkiewicz and Żuławska 2010). The model was flawed, and ignored such factors as international trade and labour productivity, and assumed constant capital output ratio (Legiędź 2013). Some of these deficiencies were eliminated by the output growth decomposition in the Solow Model, i.e. an exogenous (neoclassical) model of growth, where the most important changes in comparison with the Harrod-Domar concept were the addition of labour as a factor of production, the rule of decreasing income and the effect of scale, and the introduction of a variable determining the change in production methods in time (Romer 2000). Both the Harrod-Domar model of growth and the Solow one were originally created to analyze economies of highly developed countries and only then applied to less developed countries.

In accordance with the Big Push theory, less developed countries or regions face a challenge of going beyond a certain development threshold that would enable them to launch and sustain growth and development processes. In order to do that, it is necessary to: 1) generate a strong growth impulse (big push) in the form of large amounts of investments, in particular, of the so-called autonomous type of investment, i.e. one that can take place irrespective of the

current demand and level of economic activity, 2) build the big push upon state funded ventures, 3) follow the rule of sustainable growth, i.e. maintain balance between infrastructure development and directly productive investment (Ratajczak 2000).

Table 1. Evolution of development economics

	Development objectives		Economic growth theory	Capital accumulation	State vs. market	State interventionism
First generation 1950–1975	real GDP per capita		Harrod-Domar model	capital assets	market failures	programming and planning
	Human Development Index		solow model (exogenous models)	human capital		
Second generation 1975–2000	poverty reduction	freedom	new growth theory (endogenous model)	intellectual capital	state failures (non-market)	night-watchman (minimal) state
	sustainable development			social capital	new market failures	complementary state and market
New generation (at present)					institutional failures	

Source: Meier (2005).

The importance of complementarity of various factors for the development is emphasised in the new models of economic development (Torado and Smith 2009). Whether development actually takes place depends on coordinated action of many agents. In an economic system with multiple equilibria, coordination failure occurs when members of the society could achieve a more desired equilibrium but fail to do so because they do not coordinate their decision making. This way the existence of an „underdevelopment trap” and a „middle-income trap” can be explained (Legiędź 2013). In case of the underdevelopment trap, we deal with a situation in which various factors make it very difficult for a given country or region to get out of poverty. A middle-income trap is a situation in which a country has achieved an average level of income but cannot develop further because of the inability to innovate. Table 1 illustrates the evolution of development theories in five most important areas. The second generation of development economists, strongly influenced by neoclassical economics, went a long way from an almost uncritical belief in market forces and mechanisms to an attitude of scepticism and disillusionment. The experience of the first and second generations of economists is the reason why the currently dominant views are so much less radical. Taking into consideration the role of the state and the market, instead of pointing out their failures, contemporary economists speak about the need of complementarity of these institutions and try to identify defective state and market institutions (Legiędź 2013).

## ECONOMIC DEVELOPMENT FACTORS

Experiences of the last decades, especially the results of economic globalisation, indicate that economic growth is a necessary, although insufficient, condition for economic development. Without appropriate redistribution of income and wealth it is not possible to eliminate social inequality. According to developmental economists, there is ample proof that social inequality is not conducive to economic development. Development must be perceived in broad terms of improving welfare, civilizational standards and human rights observance (Jabłoński 2008).

It is most often assumed that the basic determinants of a country's economic development are factors of production, including land, raw materials, labour, technology and scientific and technical thought. In present day global economy, this last determinant is crucial for long-term economic development. Technological and production know-how determines the economy's innovativeness, and thus its technological advancement and dynamics, and resulting competitiveness on the international arena (Pangsy-Kania 2012).

Acceleration of the processes of global economy growth and changes in its structure were the reason for looking for underlying determinants of development that go beyond the traditional models. According to this new approach, intellectual capital, social capital, space, infrastructure and institutions should be considered as factors affecting economic development. New concepts led to the emergence of new schools within the field of economics such as social economics, behavioural economics, evolutionary economics, new political economy, new economic geography or new institutional economics.

Intellectual capital is created by investment in human, social and structural capital. Intellectual capital resources, however, create the foundations of economic growth in the world dominated by technical progress and innovation.

Social capital is a term introduced by Coleman and Putman and defined as a new type of investment in positive social relations such as the creation of relationships between people, building trust in public authorities and each other, enhanced participation in non-governmental organisations or public life. Social capital constitutes a measure of modernity, which is conducive to social, economic and political development of countries, especially at the stage of their transformation and transition to market economy.

Transport, water, energy and environmental infrastructure is believed to be the basic determinant of a country's competitiveness; on the other hand, space – as a factor in development – functions in von Thünen's location theory. According to the new economic geography, there are a number of space-related factors in economic development such as geographical location of a country, climate, ecological conditions or periphery measured by distance from the centres of social and economic life.

The quality of institutions is a very important factor in a country's development. It is of key importance mainly for industrialising and less developed countries that are just building institutions of modern economy. Acceleration of development in these countries and their inclusion in the global economy depend on their institutions. Economic institutions, both formal (state, self-government) and informal (e.g. intellectual property rights) are also important for highly developed countries because they influence the organisation of economic life, companies' ability to invest and introduce innovation and, as a result, economic growth and development dynamics.

## **ECONOMIC DEVELOPMENT MEASURES**

Undoubtedly, GDP is the most popular indicator used to measure a economic well-being. It is often assumed that the higher the GDP value, the higher the level of development of the country. However, iff we divide GDP by the total population of given countrywe will not obtain reliable assessment of economic welfare. The distribution of income between participants is

also important and GDP does not provide this information. The growth in GDP does not indicate improvement of living standards because the increase may be allocated e.g. to armament and not to the growth of consumption. The indicator ignores informal economy, destruction to the natural environment and inhabitants' leisure time.

The indicator that is used by UNDP is Human Development Index (HDI). The introduction of the indicator drew attention to the significance of non-economic data for the assessment of sustainable development of particular countries, which were treated as secondary to macroeconomic indicators, especially GDP. HDI allows for a more complete assessment of the level of development than GDP per capita. Four measures are directly used in the calculation of a synthetic HDI:

- life expectancy,
- mean years of schooling of adults aged 25 and above,
- expected years of schooling for children at the primary school entrance age,
- GDP per capita at purchasing power parity (PPP) calculated in USD.

The Gini coefficient is another commonly used measure of income. The indicator may be also used to measure the distribution of wealth. The Gini coefficient is expressed in decimals or a hundredfold value of the index. That is why two measures may be found, e.g. 0.349 or 34.9 for Poland. The measure illustrates the distribution of income in the community. The ratio of zero expresses perfect equality, a society in which everyone has the same income. The ratio of one expresses maximal inequality, a society in which one person has all the income, and all others have none. Comparing the Gini coefficient over the period of last decades, we can also objectively assess the development of particular countries. Collation of the changing Gini coefficient with economic growth indexes gives a more complete picture of the analysed countries' economic development.

## **CHANGES IN THE LEVEL OF ECONOMIC DEVELOPMENT OF POLAND AGAINST THE BACKGROUND OF OTHER EU COUNTRIES**

GDP per capita is the most commonly used indicator of economic development. The ranking of the EU28 countries with respect to GDP at purchasing power parity (PPP) per capita in 2004 and 2014 is presented in Fig. 1. In 2016, the average GDP at purchasing power parity per capita in the enlarged European Union (EU28) was EUR 27.300. In the present euro zone (EU19) it was EUR 29.000. In the Central and Eastern European countries in 2014, the GDP PPP per capita was between EUR 12.700 in Bulgaria and ca. EUR 22.500 in Slovenia. Poland's position in the ranking is not too good in comparison to other countries. The value of GDP PPP per capita was EUR 18.600 in 2014, which placed Poland near the bottom of the enlarged EU, followed only by Hungary, Latvia, Croatia, Romania and Bulgaria. However, if we compare the 2004 and 2014 data, we can ascertain that in the period after the European Union accession, considerable progress was made in narrowing the income gap between Poland and more developed western European countries. The value of GDP PPP per capita increased by almost 70% in Poland over the last ten years, while the same indicator rose only by 17% in the EU15 countries.

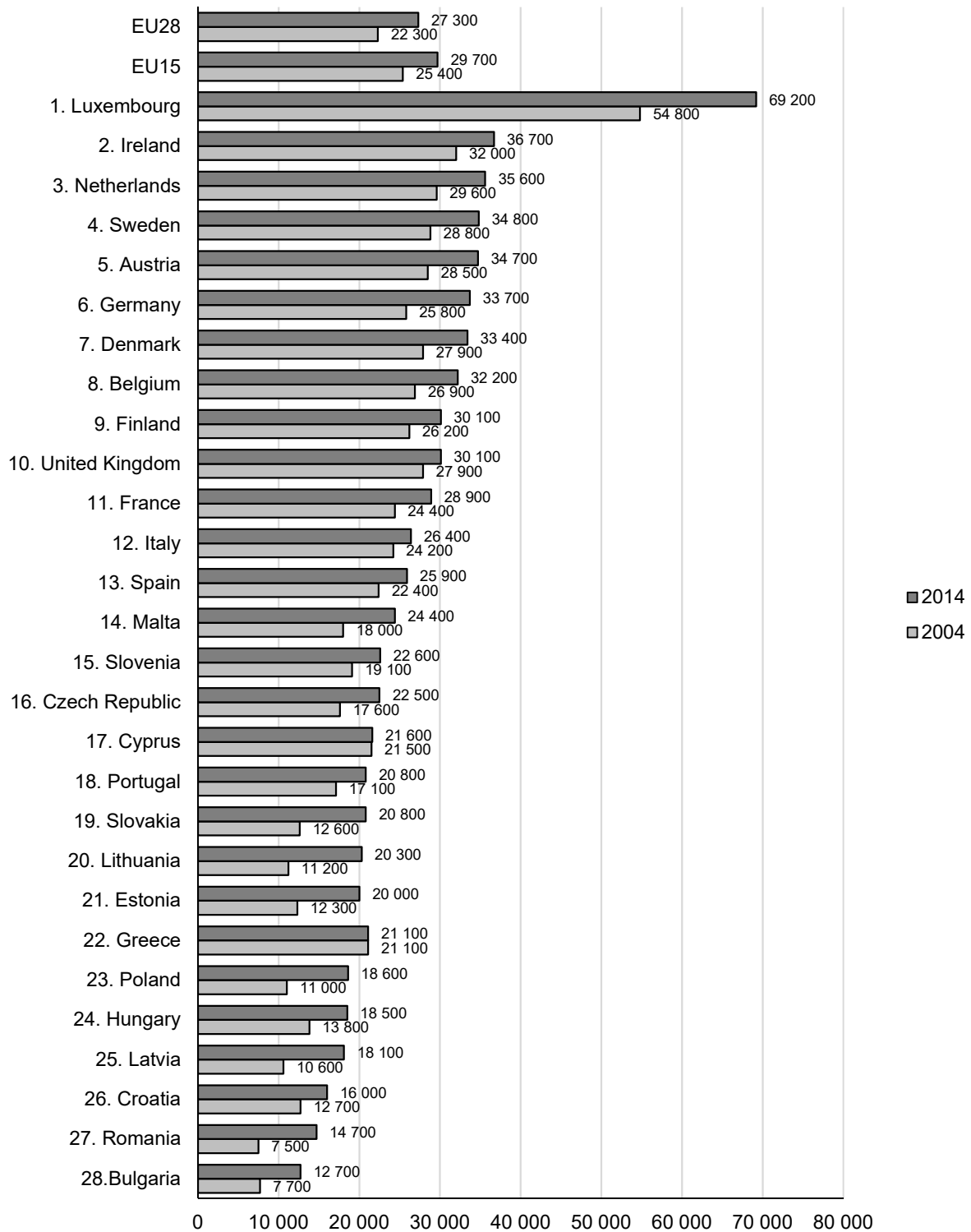


Fig. 1. Ranking of the EU28 countries by GDP at purchasing power parity (PPP) per capita [EUR]  
Source: Matkowski et al. (2015).

Obviously, GDP per capita is only an approximate and tentative indicator of the standard of living in a given country. The standard of living also depends, to a large extent, on the distribution of income. The Gini coefficient is a conventional measure of income distribution

inequality, and expresses the general level of household income concentration. According to a German economist, A. Hirschman, too big differences between the income of the richest and the poorest undermine social bonds and lead to the fall of public trust. People of lower income, even if they are more talented than the more affluent citizens do not have, e.g., appropriate access to education, which hampers their professional advancement. They are also less likely to start their own businesses and thus have fewer opportunities to raise their income. This leads to a growing social dissatisfaction and pressure to increase public spending. People excluded from the mainstream, especially the youth, are more eager to join various radical movements.

The biggest income inequalities occurred in the least affluent EU countries (Bulgaria and Romania), the Baltic countries (Latvia, Lithuania and Estonia) and in the Southern European countries (Spain, Portugal, Italy and Cyprus) – Fig. 2.

The situation of Poland seems really thought-provoking in this context. The EU-SILC 2013 research report suggests that in the 2006–2013 period income inequalities in Poland decreased. The Gini coefficient shows a fall from 33.3 in 2006 to 30.7 in 2013. The value of the Gini coefficient for the European Union was 30.5 in 2013 and in comparison with 2006 it rose by 0.2 (Fig. 3). It confirms a minimal increase in income disparities. Despite these changes, income disparities in Poland are slightly higher than the EU average.

The Human Development Index (HDI) published by the UNDP is a synthetic indicator of social development and the standard of living.

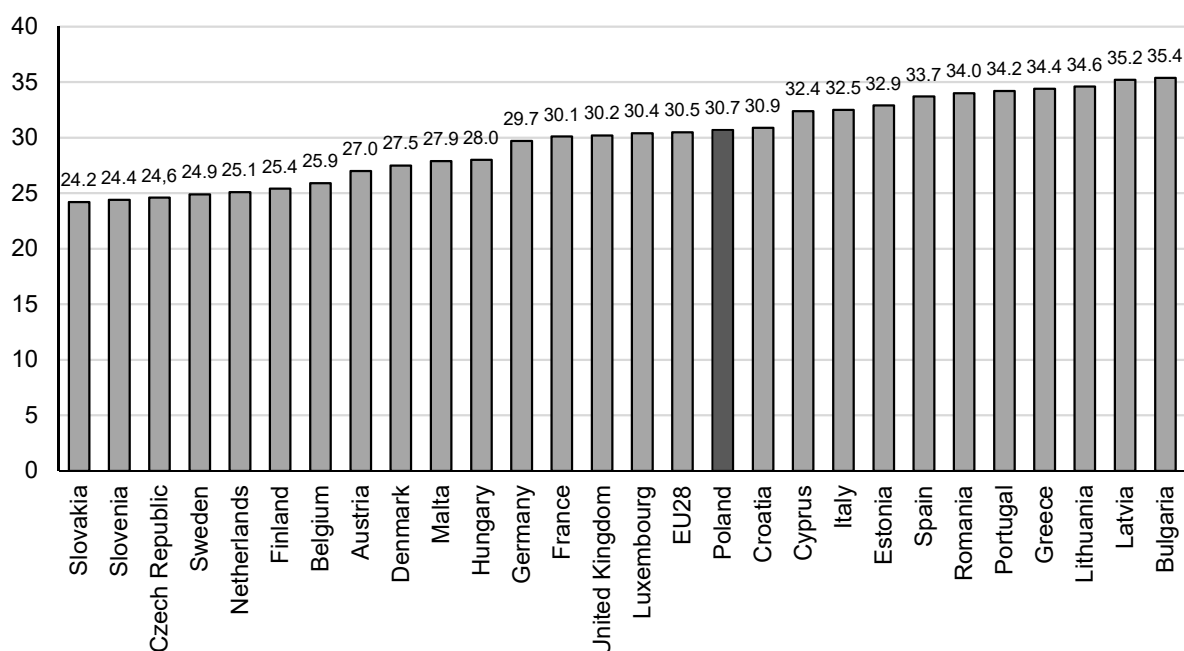


Fig. 2. Gini coefficient in the EU countries in 2013

Source: Eurostat based on the EU-SILC research findings (<http://stat.gov.pl/obszary-tematyczne/warunki-zycia/dochody-wydatki-i-warunki-zycia-ludnosci/>).

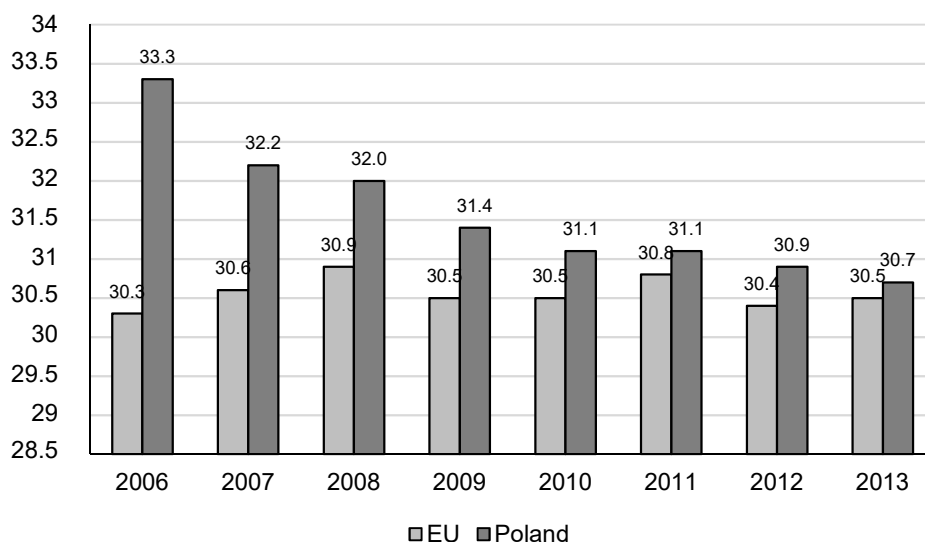


Fig. 3. Gini coefficient in Poland and the EU in 2006–2013

Source: Eurostat based on the EU-SILC research findings (<http://stat.gov.pl/obszary-tematyczne/warunki-zycia/dochody-wydatki-i-warunki-zycia-ludnosci/>).

According to the UNDP report (UNDP 2015) based on the 2014 data, the highest ranking EU countries were Denmark, the Netherlands, Ireland and Germany, and among the Central and Eastern European countries: Slovenia, the Czech Republic, Estonia and Slovakia. The value of the indicator for Poland was close to the Central and Eastern European countries' average (0.843) but Poland held the 20th position in the European Union (Fig. 4). The HDI value for Poland systematically rises, which confirms constant socio-economic development. In the world ranking, Poland moved from 41st to 36th position (Fig. 5). Although it is not a very good result, it put Poland in the very high human development category of countries.

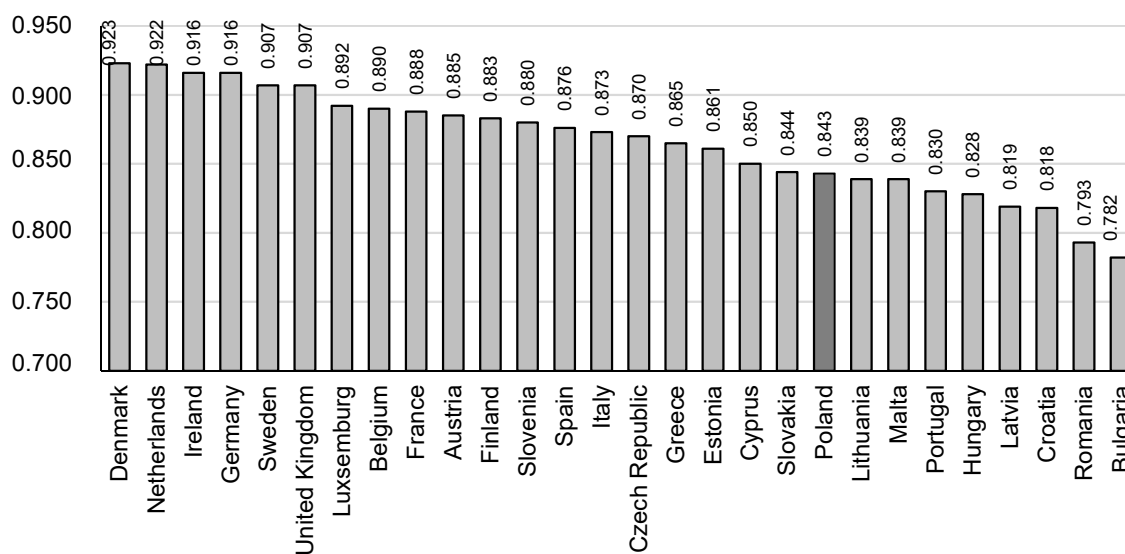


Fig. 4. Human Development Index (HDI) of the EU countries in 2014

Source: Human Development Report (2015).



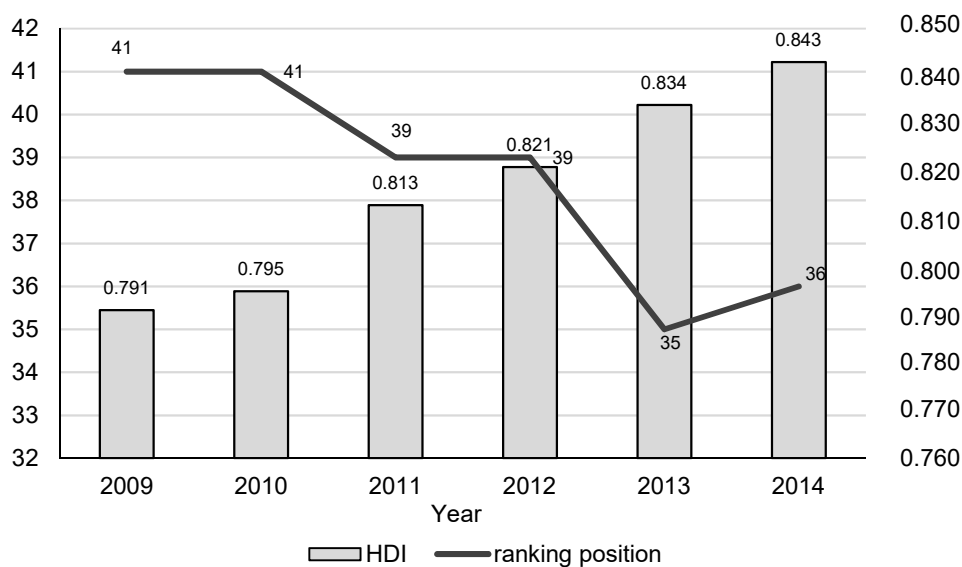


Fig. 5. Human Development Index (HDI) of Poland and its ranking position in the period 2009–2014  
Source: Human Development Report (2015).

## CONCLUSIONS

The analysis of Poland's economic development against the background of other European Union countries justifies a statement that unfortunately, economically it still lags behind top EU countries. Poland holds the weakest position in the ranking based on the comparison of quantitative data such as e.g. GDP per capita. Its position ranks higher when qualitative data are taken into account since they show not only economic growth, but also economic or socio-economic development. The gap between the EU member states and Poland is smaller when the HDI or the Gini coefficient are used for the sake of comparison. Upon an analysis of recent years, one can conclude that the values of indicators considered increase at a faster pace in Poland than in the highly developed EU countries, which shows that major socio-economic disparities are being bridged. However, the process of convergence is definitely occurring too slowly. Some economists believe that Poland got caught in the dreaded middle-income trap resulting from the fact that it has reached a middle income level and is not boosting its productivity through technological advancement. Poland lacks sufficient investment in research and qualification raising mechanisms, and in result remains at a low technological level. Globalisation processes have made Poland become a provider of cheap labour for transnational corporations. If this situation does not change, it will be extremely difficult for Poland to achieve sustainable economic development enjoyed by the population of Europe's most developed countries.

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**Summary.** In order to compare economic development across countries various measures can be used. Some, such as GDP, are quantitative, others, such as the Gini coefficient or the human development index HDI, also capture qualitative changes in the analysed countries. The article compares economic development of Poland and other European Union countries and demonstrates that the biggest discrepancies relate to GDP per capita. As it comes to other measures, such as life expectancy, education and income inequality, disparities definitely diminish. The analysis conducted indicates clearly that a process of convergence between the countries of the old and new European Union is taking place, and that Poland's economy is developing faster than that of the most developed EU countries.