



Human capital in Poland

Nr

6



Warsaw, december 2023



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Sfinansowano ze środków Narodowego Instytutu Wolności – Centrum Rozwoju Społeczeństwa Obywatelskiego w ramach Rządowego Programu Fundusz Inicjatyw Obywatelskich NOWE FIO na lata 2021-2030

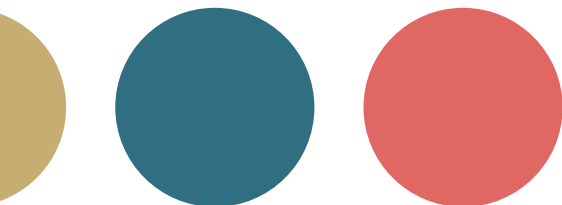


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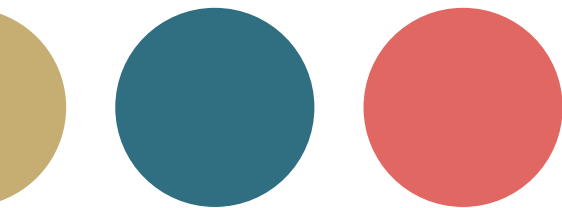


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Introduction



Introduction

Adam Smith addressed the issue of skills and their impact on earnings in *An Inquiry into the Nature and Causes of the Wealth of Nations*, published in 1776. Smith also pointed out the difference between educated and uneducated workers - to be considered educated, an individual must undergo a process of training. According to Smith, simple tasks that can be performed by anyone will pay relatively less.

At the same time, Smith pointed to the relationship between economic growth and human capital. Subsequent analysis has confirmed these links. Economic analyses and studies have shown that the education of a society, as well as its stock of knowledge, skills and health, affect the quality of life, the rate of economic development and the effective functioning of democracy.

According to Lucas, an important factor in economic growth is the accumulation of capital, and differences in human capital lead to differences in living standards between nations¹. For the economy, human capital is of fundamental importance for several reasons:

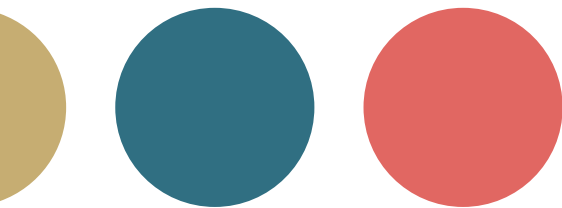
- 1. Productivity:** Appropriate skills and knowledge can result in increased work productivity, enabling the economy to utilize resources more efficiently and generate larger profits.
- 2. Innovation and Development:** Human capital is crucial for fostering innovation.
- 3. Economic Competitiveness:** Human capital possessing a wide range of skills is more competitive on the international stage.
- 4. Improved Living Conditions:** Education and the development of human capital lead to better employment opportunities, higher wages, and improved living conditions for individuals, thereby influencing the overall development of society.

Both theoretical and empirical research, which began in the 1990s with the popularisation of the endogenous theory of economic growth, shows that human capital is one of the most important factors in the economic growth of modern countries. Theoretical studies show that human capital, through its effect on the rate of technological progress, is a major determinant of economic growth in the long run. Numerous empirical studies confirm the impact of qualifications and skills on the rate of economic growth².

1 Lucas, R.E. (1988). On the mechanics of economic development. *Journal of Monetary Economics*, 22, 3-42.

2 Ł. Jabłoński, Kapitał ludzki a tempo wzrostu polskiej gospodarki, „Nierówności Społeczne a Wzrost Gospodarczy” 2005, nr 6, s. 242.

Human Capital



Human capital

According to the literature, the concept of human capital was coined by Petty, but its heyday came in the 1960s with Mincer, Schultz and Becker³.

Mincer defined human capital as the sum of knowledge acquired at school and on the job. Schultz rephrased human capital as “knowledge, skills and other attributes that influence specific human capabilities to do productive work”⁴. He also believed that human capital can be enriched through investment, but noted that “it is difficult to distinguish between consumption and investment expenditure”⁵.

Human capital has many definitions in the literature, but the most prominent include qualifications, social skills, and the attitudes and behaviour of the individual worker towards the organisation in which he or she is employed as determinants of human capital formation. Knowledge and skills are the result of education and training. Social competences, on the other hand, are the result of an individual’s personality (character).

In the literature, alongside the definition of human capital, one often encounters the concept of investment in human capital. Mincer saw investment in human capital as the process of learning in school and gaining experience.

According to Becker, investments in human capital are activities that affect future real income by embedding resources in people⁶. He also stated that it should include education, on-the-job training, medical care and the acquisition of information about the economic system⁷.

Investing in human capital refers to the allocation of resources and actions aimed at developing and enhancing the skills, knowledge and abilities of employees. This investment in human resource development is achieved through various means, such as:

- 1.** Education: Ensuring access to education, including primary, secondary, tertiary and vocational education and training - this can include both formal education programmes and on-the-job training.
- 2.** Vocational training: Providing opportunities for continuous skills improvement through training, courses, workshops and development programmes.

3 U. Gołaszewska-Kaczan, Wiedza jako element budujący kapitał ludzki, „Optimum. Studia ekonomiczne” 2014, nr 4(70), s. 90-100.

4 Schultz, T.W. (1961). Investment in Human Capital. *The American Economic Review*, 51, 1-17.

5 Ibidem.

6 Becker, G.S. (1963). Investment in human capital: a theoretical analysis. *The Journal of Political Economy*, LXX(5/2), 9-49.

7 Ibidem

3. Employee health and well-being: Providing access to healthcare programmes, ensuring work-life balance, and creating a work environment conducive to employee well-being.
4. Soft skills development: Facilitating the learning of communication, teamwork, leadership and problem-solving skills that are critical in today's work environment.

Today, investment in human capital is a key element of business strategy and public policy. It improves employee efficiency, fosters innovation, increases business competitiveness and supports overall socio-economic development. All of these opportunities for investing in human capital have one overriding objective - improvement.

In recent years, mental health has emerged as a critical aspect of human capital.

Improving the mental health of human capital can have a significant impact on many individual, social and economic areas.

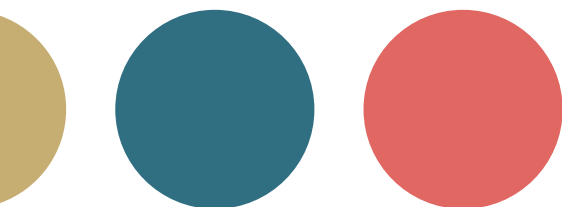
Firstly, workplace efficiency - people with good mental health tend to be more productive and focused, which translates into productivity at work. Significant improvements in well-being can reduce absenteeism and increase work engagement and efficiency.

Secondly, interpersonal relationships - improving mental well-being promotes healthier interpersonal relationships, both personal and professional, improving communication, empathy and positive relationships.

Thirdly, innovation and creativity - people with good mental health tend to be more creative and open to new ideas. Improved mental health can lead to increased innovation in various areas of life.

Fourthly, and most importantly for the state and the economy as a whole, improving the mental health of employees will lead to reduced costs associated with sickness absence and increased productivity and job satisfaction, which can have a positive impact on the stability of the economy.

HDI Indicators in Poland and Europe



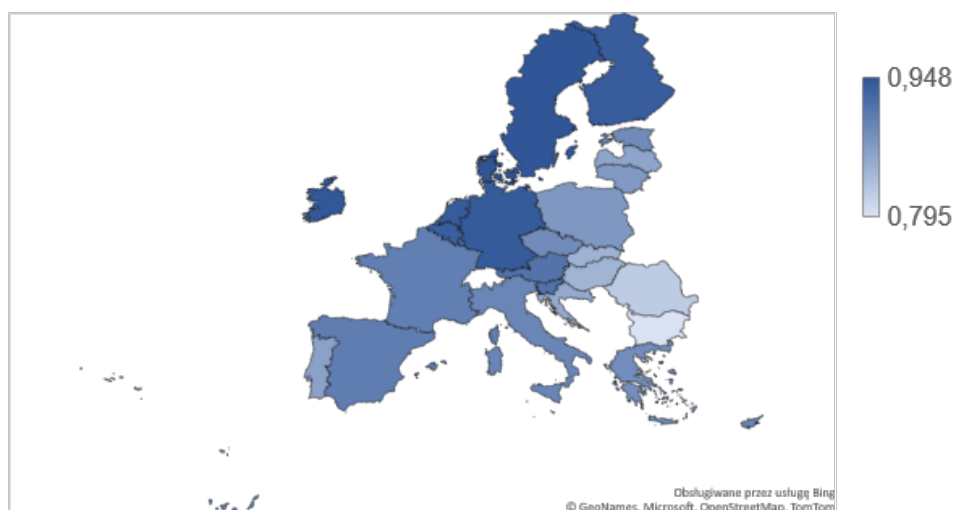
HDI Indicators in Poland and Europe

The Human Development Index is a synthetic measure created by the United Nations Development Programme (UNDP) to assess a country's level of social and economic development. The HDI uses several indicators to assess the standard of living, education and well-being of a country's citizens⁸. The Human Development Index consists of three main components that measure different aspects of human development in a country⁹:

1. life expectancy – This is a measure of the average life expectancy of people in a country at birth. It reflects health and living conditions.
2. knowledge and skills – This is an indicator that includes two aspects:
 - Average years of education
 - Expected number of years of education
3. Gross national income per capita – This is a measure of a country's average gross national income per capita.

The HDI is a composite of these three components and is used to compare living standards between countries. It helps to analyse human development, taking into account both economic and social aspects. Figure 1 shows the HDI value for the countries of the European Union.

Figure 1: HDI index of the European Union countries in 2021.



Source: Own elaboration based on <https://worldpopulationreview.com/country-rankings/hdi-by-country> data.

8 Parysek J.J. (2001), Podstawy gospodarki lokalnej, Wydawnictwo Naukowe UAM, Poznań.

9 Laskowska I, Dańska-Borsiak B., Analiza przestrzennego zróżnicowania rozwoju społecznego w Polsce na poziomie NUTS 3 z wykorzystaniem lokalnego indeksu HDI. Folia Oeconomica, Acta Iniveritatis Lodziensis, 1(333), 2018.

The map shows the countries of the European Union together with the size of the index. As can be seen from the map, Denmark has the highest HDI in Europe (0.95), followed by Sweden, Ireland, Germany, the Netherlands and Finland with an index of 0.94. Poland ranks 19th in the European Union in terms of this index, while at the same time, according to the HDI index, Poland is very highly developed. Compared to all countries in the world, Poland ranks 35th. The countries with the highest values of the index, exceeding 0.95, are:

- Switzerland - 0.962
- Norway - 0.961
- Iceland - 0.959
- Hong Kong - 0.952
- Australia - 0.951

Countries with the lowest rate:

- Mali – 0.428;
- Burundi – 0.426;
- Central African Republic – 0.404;
- Niger – 0.4;
- Chad - 0.394;
- South Sudan - 0.385.

It should be noted that the HDI is not calculated for all countries in the world. Examples of countries for which this indicator is not calculated are North Korea, Taiwan and Somalia.



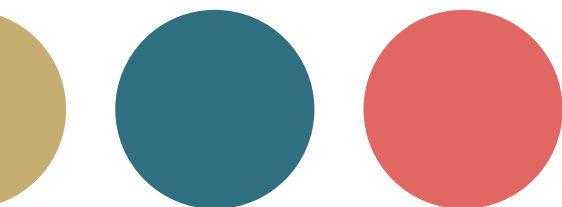
Table 1 shows the magnitudes of the index in 2000 and 2021, with the percentage increase in the index relative to the base year (2000).

Table 1. HDI and its evolution in the countries of the European Union in 2000 and 2021.

| ordinal number | Country | 2000 | 2021 | % index increase | ordinal number | Country | 2000 | 2021 | % index increase |
|----------------|-------------|------|------|------------------|----------------|----------------|-------|-------|------------------|
| 1 | Denmark | 0,89 | 0,95 | 7% | 15 | Italy | 0,841 | 0,895 | 6% |
| 2 | Sweden | 0,9 | 0,95 | 5% | 16 | Estonia | 0,787 | 0,89 | 13% |
| 3 | Ireland | 0,85 | 0,95 | 12% | 17 | Czech Republic | 0,808 | 0,889 | 10% |
| 4 | Germany | 0,89 | 0,94 | 6% | 18 | Greece | 0,81 | 0,887 | 10% |
| 5 | Netherlands | 0,89 | 0,94 | 5% | 19 | Poland | 0,793 | 0,876 | 10% |
| 6 | Finland | 0,89 | 0,94 | 5% | 20 | Lithuania | 0,766 | 0,875 | 14% |
| 7 | Belgium | 0,89 | 0,94 | 6% | 21 | Portugal | 0,791 | 0,866 | 9% |
| 8 | Luxembourg | 0,86 | 0,93 | 8% | 22 | Latvia | 0,756 | 0,863 | 14% |
| 9 | Malta | 0,78 | 0,92 | 18% | 23 | Croatia | 0,759 | 0,858 | 13% |
| 10 | Slovenia | 0,82 | 0,92 | 12% | 24 | Slovakia | 0,763 | 0,848 | 11% |
| 11 | Austria | 0,87 | 0,92 | 5% | 25 | Hungary | 0,773 | 0,846 | 9% |
| 12 | Spain | 0,83 | 0,91 | 10% | 26 | Romania | 0,715 | 0,821 | 15% |
| 13 | France | 0,84 | 0,9 | 7% | 27 | Bulgaria | 0,725 | 0,795 | 10% |
| 14 | Cyprus | 0,8 | 0,9 | 12% | | | | | |

Source: Own elaboration based on <https://worldpopulationreview.com/country-rankings/hdi-by-country> data.

Human capital indicators in equivalent regions of Poland



Human capital indicators in equivalent regions of Poland

Adequate local development is a key factor in the socio-economic progress of a country or region. Its main characteristic is the use of an area's internal, endogenous strengths. Although exogenous factors such as foreign investment or financial support in the form of state or EU funds play an important role in the development process, the activation of internal sources of development is fundamental. Without this, there is a risk of disproportionate development of areas. Local development is therefore a complex process that requires work and innovation. It is usually preceded by a long preparation of resources and people.

However, it should be emphasised that one of the most important factors in the development of regions, and therefore of the country as a whole, is human capital. It is people, their knowledge, skills and creative potential that form the basis of sustainable social and economic progress.

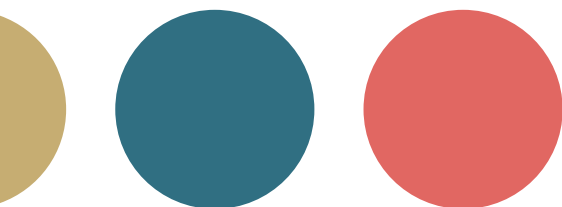
Human capital includes not only educational attainment but also interpersonal skills, innovativeness and a willingness to learn. Educating and developing the skills of a region's inhabitants is a key factor in society's ability to adapt to change, create new jobs and build an innovative economy.

Well-developed human capital leads to higher productivity, which in turn promotes economic growth. Highly skilled people are more flexible in adapting to new market conditions, which in turn contributes to the competitiveness of a region.

To develop human capital effectively, it is necessary to invest in education at different levels, provide attractive training opportunities and support entrepreneurship and innovation. It is also important to create the right living and working conditions that foster talent development and motivate social and economic engagement.

In this way, human capital becomes not only a key factor for local success, but also the foundation on which the sustainable development of the whole country is built. Encouraging the development of the skills and competencies of individuals leads to the development of society, the economy and the regions, creating a sustainable basis for achieving sustainable progress.

Human capital in the voivodships in Poland

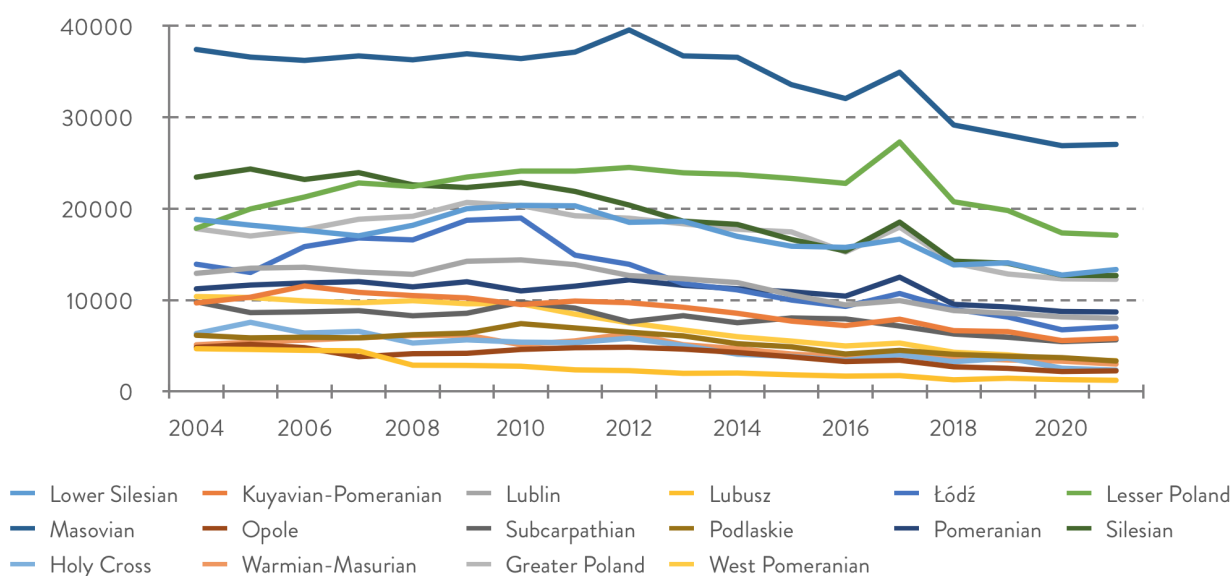


Human capital in the voivodships in Poland

After primary and secondary education, many young people in Poland choose to continue their education at university level. This is an important stage in their lives, often shaping not only their professional careers but also their personal development.

Studies are not only a source of deepening knowledge in a specific field, but also a platform for developing interpersonal skills, creativity and independence. They give students the opportunity to explore specialised fields, gain practical experience through work placements or research projects, which is important for their future careers. The number of Master's graduates by province from 2004 to 2021 is shown in Figure X.

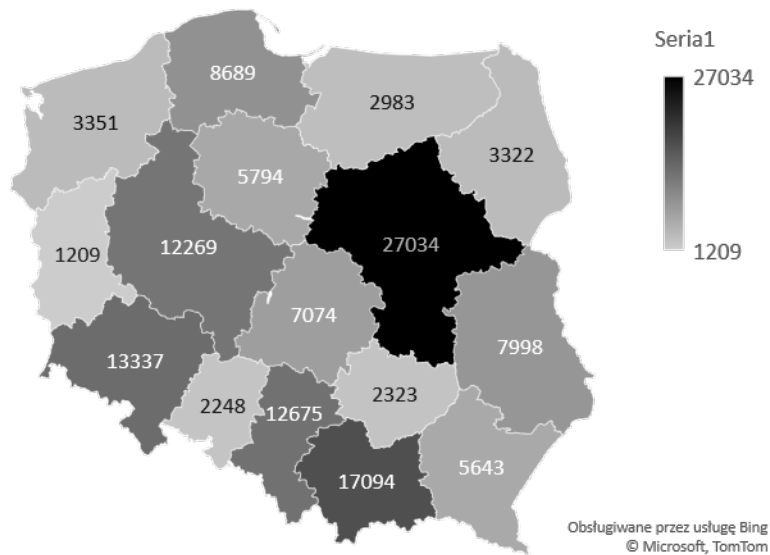
Figure x: Number of graduates of master's degree programmes by voivodeship in 2004-2021



Source: Own elaboration based GUS.

The observed change in the number of Master's graduates in Poland, which will decrease from 210 332 in 2004 to 133 043 in 2021, may be the result of a number of factors, some of which are related to students' individual attitudes and choices regarding their further education and career paths.

Figure x: Number of graduates of master's degree programmes by voivodeship in 2021.



Source: Own elaboration based GUS.

An important factor influencing this change is the evolution of students' attitudes towards education and the labour market. In recent years, there has been a growing interest in alternative career paths such as vocational schools, specialised courses or apprenticeships. Some students choose these options instead of the traditional route of a Master's degree, convinced that the acquisition of specific professional skills is as important, if not more important, than a Master's degree.

In addition, the reluctance to pursue further education and the preference to enter the labour market may be due to the current labour market situation. Some students may feel pressured to enter the labour market more quickly due to the current demand for certain professional skills.

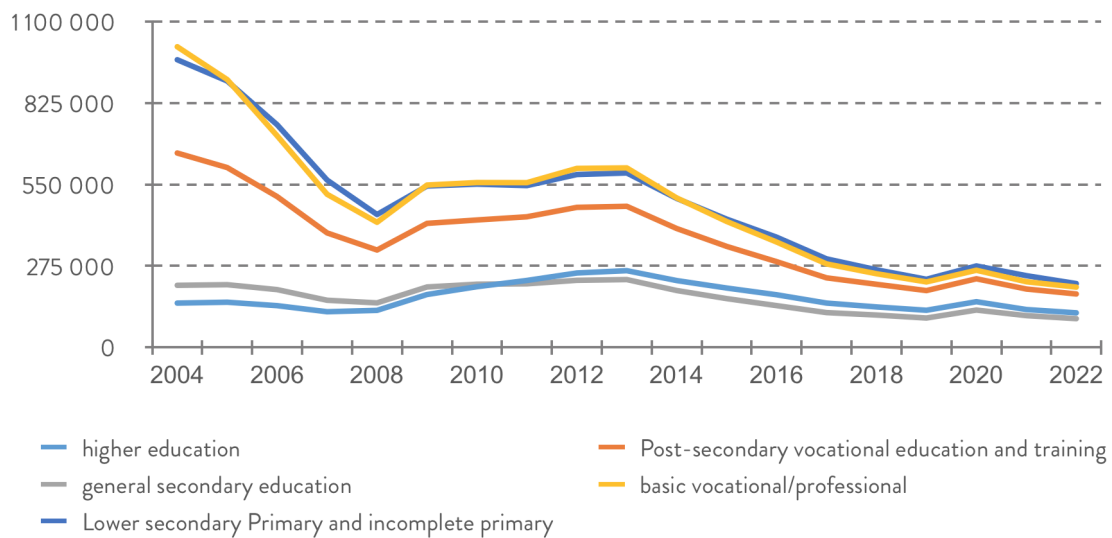
It is also worth noting that some bachelor's or engineering graduates who already have some work experience may not see the need to continue their education at master's level. In today's working environment, it is increasingly common to gain work experience while studying, and some people prefer to develop their careers at degree level rather than continuing their education.

The top ten most popular majors in Poland in 2023 include:

- Computer Science
- Psychology
- Management
- Medicine
- Law
- Economics
- Finance and accounting
- Physiotherapy,
- English Philology,
- Nursing.

In addition to the students' choice of ambitious fields of study, it is also important to consider the situation of young people in the labour market. Educational choices can have a significant impact on their professional future, and it is therefore necessary to take into account employment prospects and labour market needs when making study choices. Analysing this context allows for a better match between educational provision and real job requirements and helps young people to make informed choices about their careers. Figure x shows unemployment by education from 2004 to 2022.

Figure x: Unemployment by education from 2004 to 2022.



Source: Own elaboration based GUS.

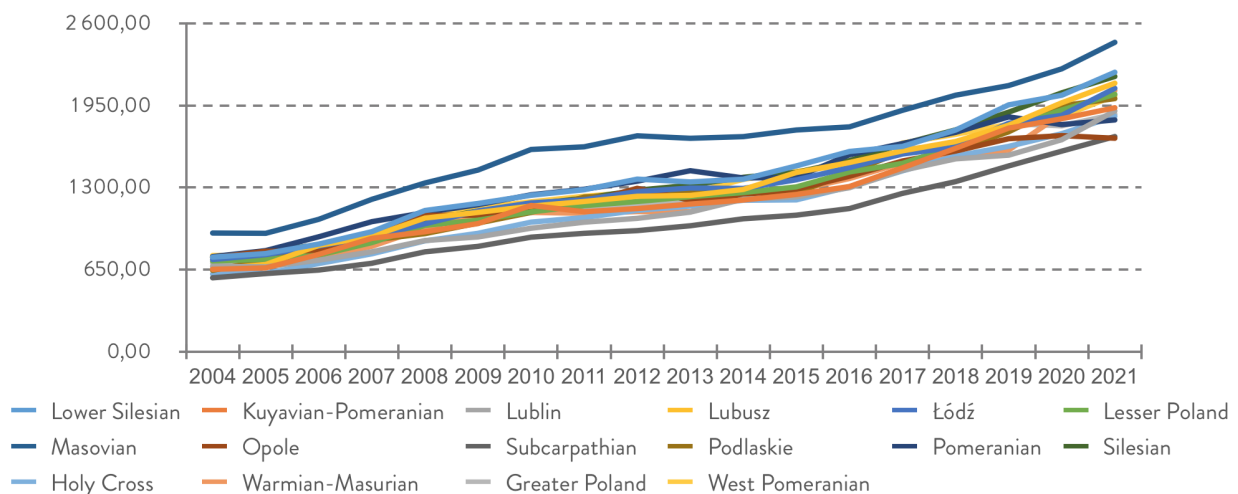
Figure X shows a significant decrease in the overall level of unemployment in Poland compared to 2004, with the number of unemployed falling from 2,999,601 to 812,301 in recent years. This positive trend is the result not only of an increasingly educated population, but also of the country's improving economic situation.

There is, however, one trend to note in this graph. Unemployment is highest among those with the lowest level of education, and the higher the level of education, the lower the number of unemployed. This phenomenon may be due to the increasing demand for highly skilled workers in the labour market, making higher education an important asset for finding a job.

The decline in the overall unemployment rate may also be the result of educational measures, labour market policies and initiatives that support the development of vocational skills. As society becomes more educated, people acquire skills that are more attractive to employers.

Another key indicator in human capital analysis is average disposable income. This indicator reflects the amount of money available to an individual after deducting taxes and necessary expenses. Average disposable income is an important measure of the well-being of a society, influencing quality of life, consumption opportunities, investment in education and personal development. An increase in average disposable income contributes to the well-being of society by allowing individuals greater freedom in their financial decisions. Individuals with higher average incomes tend to have more opportunities to invest in skills development, education, health or cultural participation. The figure shows the average monthly disposable income per person for the period 2004-2021.

Figure x: Average monthly disposable income per person for the period 2004-2021.



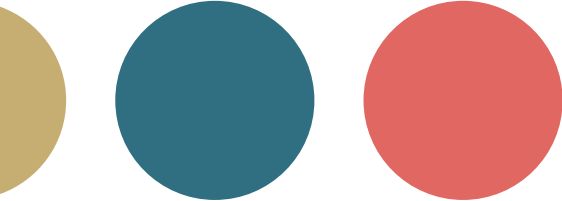
Source: Own elaboration based GUS.

As the graph clearly shows, disposable income increased significantly in all Polish provinces between 2004 and 2021. The national average, which was PLN 735.40 in 2004, rose to an impressive PLN 2061.93 in these years.

This positive trend reflects the country's economic development and the improvement in the financial situation of the population at regional level. The increase in disposable income indicates growing opportunities for consumption, improved living conditions and greater possibilities for investment in education, health or other areas of personal development.

It is worth noting that this dynamic growth in disposable income reflects positive changes in the structure of the economy and the impact of effective political and socio-economic policies.

Summary



Summary

Human capital in Poland is undergoing a period of dynamic development, which can be clearly seen in the context of several key trends. Despite the noticeable trend of decreasing number of graduates at master level, the young generation continues to engage in the process of studying and developing their own competences with great enthusiasm. This demonstrates a continued strong interest in education as a tool for personal development.

In addition, the country's favourable economic situation plays an important role in shaping the environment for human capital development. The increase in the disposable income of individuals is the result of stable economic growth, which translates into greater financial opportunities for citizens. At the same time, there has been a decline in the unemployment rate, which indicates that an increasing number of people have access to the labour market.

These positive developments are an indicator of the continuation of development processes in the area of human capital. The flexibility of society to adapt to changes in the educational and occupational environment is a key element in the well-being of society. As individuals acquire new skills and competences, they become more competitive in the labour market, which influences the economic development of the country as a whole. Continued investment in human capital is therefore not only beneficial to individuals, but also provides a sound basis for the successful functioning of the economy as a whole.