

POLAND IN RANKINGS – THE POSITION OF THE COUNTRY IN A COMPARATIVE EVALUATION ON THE BASIS OF SELECTED INTERNATIONAL INDICATORS

In 1989, Poland was one of the poorest countries in Europe at that time. The state – bankrupt could boast GDP *per capita* at the level of approx. 6 000 \$. Only Romania was in a worse position. Poland's GDP accounted only 38% of the average GDP of the European Community. The sources of the disastrous economic situation can be found not only in the People's Republic of Poland (PRL) period, but also in the Second Polish Republic (II RP). For example, at the end of the 1930s, only 7% of roads in Poland were paved for car traffic (90% in France). Since 1989, Poland has been steadily catching up with the European average. And so, in 1995 Poland's GDP *per capita* was 43% of the EU average, in 2000 – 48%, in 2010 – 62%, and in 2021 almost 80%. The GDP index – although the most popular – is more and more often criticized as it does not take into account the complex elements of the functioning of societies. Hence, it is recommended to refer to more precise measures, such as: Human Development Index, Actual Individual Consumption, Gini Index, OECD Life Better Index, Corruption Perceptions Index, Index of Economic Freedom, Ease of Doing Business Index, or other demographic, cyber-development, related to transport or state quality indicators. The article compares several dozen indexes, presenting the position of Poland, in order to reflect the real condition of the country, related with the most developed and competitive countries in the world. September 24, 2018, when Poland officially entered the FTSE Russell and Europe Stoxx 600 indices of developed markets, can be considered a symbolic date. Thus, it was included in the group of 25 most developed economies in the world. This fact (among others) gives rise to the postulate of admitting Poland to the group of G20 member states. Nevertheless, analyzing various indicators, it can be seen that in the rivalry among the nations with the highest civilization status in the hierarchy, details are decisive. Despite the many successes of recent decades, the road of building a strong, competitive and innovative state is still a long way off.

Keywords: economy, relevance competition, geoeconomics, indexes, markers, comparative studies, forecasts.

POLSKA W RANKINGACH – POZYCJA KRAJU W ZESTAWIENIU PORÓWNAWCZYM NA TLE WYBRANYCH WSKAŹNIKÓW MIĘDZYNARODOWYCH

Polska w 1989 roku była jednym z najbiedniejszych państw ówczesnej Europy. Państwo – bankrut okresu transformacji ustrojowej mogło poszczycić się PKB *per capita* na poziomie ok. 6 tys. \$. Jedynie Rumunia znajdowała się w gorszej sytuacji. PKB Polski stanowił zaledwie 38% średniego PKB ówczesnej Wspólnoty. Źródeł fatalnej sytuacji ekonomicznej należy szukać nie tylko w PRL-u ale także w II RP. Przykładowo pod koniec lat '30 jedynie 7 % dróg w Polsce miało nawierzchnię przystosowaną do ruchu samochodowego (we Francji 90 %). Począwszy od 1989 roku Polska stale goni średnią europejską. I tak w 1995 roku PKB Polski na mieszkańca wynosił 43% średniej unijnej, w 2000 roku 48%, w 2010 roku 62%, a w 2021 roku prawie 80%. Indeks PKB – choć najbardziej popularny – jest coraz częściej poddawany krytyce, jako nieuwzględniających złożonych elementów funkcjonowania społeczeństw. Stąd zaleca się odwoływanie do dokładniejszych mierników, chociażby jak: Wskaźnik Rozwoju Społecznego (*Human Development Index*), Rzeczywista Konsumpcja Prywatna (*Actual Individual Consumption*), wskaźnik Giniego, Indeks OECD Satysfakcja z Życia (*OECD Better Life Index*), Indeks Percepcji Korupcji (*Corruption Perceptions Index*), Wskaźnik Wolności Gospodarczej (*Index of Economic Freedom*), Wskaźnik Łatwości Prowadzenia Interesów (*Ease of Doing Business Index*), czy inne wskaźniki demograficzne, cyberrozwoju, dotyczące transportu czy jakości państwa. Artykuł zestawia porównawczo kilkadziesiąt indeksów, prezentując pozycję Polski w nich, w celu oddania realnej kondycji kraju, w szczególności na tle najbardziej rozwiniętych i konkurencyjnych państwa świata. Za symboliczną datę można uznać 24 września 2018 roku, kiedy to Polska oficjalnie weszła do indeksów rynków rozwiniętych FTSE Russell i Europe Stoxx 600. Tym samym znalazła się w gronie 25 najbardziej rozwiniętych gospodarek świata. Fakt ten (obok innych) rodzi postulat przyjęcia Polski do grona państw-członków G20. Niemniej – analizując różne wskaźniki – widać, że w rywalizacji pośród narodów cywilizacyjnie sytuowanych najwyżej w hierarchii decydują detale. Pomimo wielu sukcesów ostatnich dekad, droga do celu, jakim jest zbudowanie silnego, konkurencyjnego, innowacyjnego kraju – jest jeszcze daleka.

Słowa kluczowe: gospodarka, konkurencyjność, geoeconomia, indeksy, wskaźniki, komparatystyka, prognozy.

Introduction

The year 2022 is a good time to summarize Polish battles for a better life, a better country and respect from others¹. Certainly, few people remember that in 1989 Poland was one of the poorest countries in Europe at that time. The state – bankrupt in the period of the political transformation – could boast a GDP *per capita* of approx. 6 000 \$. Only Romania was in a worse position. Bulgaria at that time had a GDP *per capita* of \$ 7,330. In Hungary, Slovakia, Lithuania, Latvia and Estonia well over 8,000 \$. From the Czechs, with their GDP of 11,000 \$, there was a civilization gap. Needless to say, Poland's GDP was dramatic compared to the average of the European Communities, accounting for only 38% of the average GDP of the European Community. The average Pole lived at a level slightly exceeding 1/3 of the average European on the west of the Elbe. In relation to the Dutch or the Swedes, this disproportion was even greater. Compared to the citizen of Luxembourg, the average Pole was at the bottom of the poverty on the old continent.

It is worth mentioning that the sources of the disastrous economic situation should be sought not only in the architecture of the post-war Polish People's Republic (PRL), but above all in the condition of the state prior to World War II. The well-known American magazine „Life”, in an article dated August 29, 1938, published a fairly reliable photo report from Poland, from which emerges a slightly different country than the one that is internally mythologized and idealized as the Second Polish Republic (II RP). From the document entitled „Poland: Rich Men, Poor Men in the Land of Fields”, it can be learned that 40% of citizens could not read or write. The Polish economy was described in nomenclature as a „tragedy”, due to the fact that 70% of the society was a small-scale rural inhabitants. The poverty of the Polish countryside was illustrated by statistics showing that the average Polish family had to survive for around \$ 180 a year. All this in a country where great noble names noted down by the author of the report, such as: Potocki, Radziwiłł, Sapieha, Poniatowski, Zamoyski, Czartoryski, Krasiński, Sanguszko, and Chodkiewicz – „they sit in lofty pews in Catholic churches, return to their magnificent elegant houses cars that are half-wheeled in mud”².

The contemporary – still not fully resolved – problem with the transport infrastructure in Poland is nothing new. At the end of the 1930s, only 7% of the so-called national roads had a surface fully adapted to car traffic. In Denmark, this ratio reached 100%, in France 90%, in Germany 70%, and in the then Czechoslovakia 50%. In the mid-30s, only 58 thousand km of roads in Poland had the status of the so-called beaten road, and therefore paved in any way. Including only 2.5 thousand. km of roads deserved its name because they were covered with granite blocks, concrete slabs or asphalt. In 1930, „Gazeta Polska” pointed out that „today no one

¹ More on indicators reflecting the position of countries and the prevailing trends, see: *Indicator overview: comparative performance of countries and major trends*, OECD Indicators, OECD Publishing, Paris 2019.

² *Poland: Rich Men, Poor Men in the Land of Field (Bogaci i biedni w Krainie Pól)*, „Life” 29 sierpnia 1938 roku.

in the West is able to explain to people that there may be a country that has no roads, a country that advertises its belonging to the group of civilized nations”³.

Meanwhile, according to Eurostat data, in 2011 GDP *per capita* in Poland was 65% of the EU average, and in 2021 almost 80%. Taking into account individual consumption *per capita*, Poland ranked even higher in the wealth hierarchy in the EU. The level of individual consumption *per capita* was 80% of the EU average, which, after several years of EU membership, placed Poland higher than countries such as Bulgaria, Romania, Latvia, Lithuania, Hungary and Estonia. The Czech Republic, Slovakia and Greece had a similar result. Several years of rapid economic growth, in a situation of crisis and economic stagnation in other countries, have meant that Poland – since 1989 – has been steadily catching up with the European average faster than originally assumed. At that time, problems affected Poland to a small extent. During the financial crisis of 2007, Poland was the only EU country whose GDP did not decline. In the developed world, only Israel and Australia have managed to do so. Then the euro area debt crisis hit the EU. The south of Europe plunged into a crisis in which it remains to this day. Finally, the pandemic crisis and the war in Ukraine, paradoxically – compared to other countries in the region – strengthen Poland economically.

Gross Domestic Product

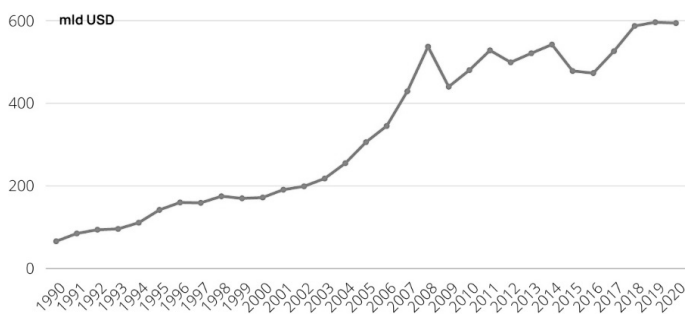
Still the most frequently used, though not the most reliable, indicator to reflect the degree of economic development of a given country is based on the Gross Domestic Product⁴ (or the Gross National Product or the Net⁵). And so, in 1995 Poland's GDP *per capita* was 43% of the EU average, in 2000 it was 48%, and in 2010 it was 62%. From 1988 to 2008, Poland's GDP grew by over 70%. In 2009, Poland was the 6th economy in the EU (nominal) and the 21st economy in the world. Later on, the world crisis came, through which Poland experienced a relatively dry foot, and already in 2011 recovered its losses. In 2014, Polish GDP broke another record – USD 542.5 billion, to set another record in 2018 – USD 587.4 billion.

³ *Polskie drogi przed wojną*, <https://zapasowe.net.pl/viewtopic.php?t=1418>, [access:05.07.2022].

⁴ In economics, we can distinguish as many as three ways to obtain the desired value, which is considered to be GDP. (1) The expenditure method assumes that GDP is made up of buyers of all goods that have been produced in a given country during the last audited year (GDP = consumption + investments + government expenditure (excluding transfers) + inventory change). (2) The production method uses the assumption that GDP should be calculated in a more detailed way: among the entities that generate income in a given year, the so-called owners of factors of production, dividing them into employees, employers and the state (GDP = labor income + income from capital + state income + depreciation). (3) The income method assumes that when adding up the total value of goods, the value of goods and services that were used to produce them should be subtracted (GDP = country's output - intermediate consumption = sum of added value from all branches of the economy in a given country). See: PKB, <https://businessinsider.com.pl/pkb>, [access: 05.07.2022].

⁵ In addition to GDP, there is also the concept of GNP (Gross National Product). The latter indicator takes into account the income generated by all citizens of a given country, and therefore not only in, but also abroad. In this way, economic immigrants in Western Europe, as well as people who retain Polish citizenship and live permanently in, for example, Great Britain or Norway, have a significant impact on the amount of Polish GNP. See: PKB a PNB, czyli Produkt Krajowy Brutto a Produkt Narodowy Brutto, <https://www.infor.pl/prawo/encyklopedia-prawa/p/290763,PKB-a-PNB-czyli-Produkt-Krajowy-Brutto-a-Produkt-Narodowy-Brutto.html>, [access: 05.07.2022].

Figure 1. Development of Poland’s GDP in 1990-2020



Source: World Bank data

Figure 2. Poland’s nominal GDP in a comparative view (in USD)

	Country/Territory	UN Region	IMF		United Nations		World Bank	
			Estimate	Year	Estimate	Year	Estimate	Year
	World	-	93,863,851	2021	87,461,674	2020	84,705,567	2020
1	United States	Americas	25,346,805	2022	20,893,746	2020	20,936,600	2020
2	China	Asia	19,911,593	2022	14,722,801	2020	14,722,731	2020
3	Japan	Asia	4,912,147	2022	5,057,759	2020	4,975,415	2020
4	Germany	Europe	4,256,540	2022	3,846,414	2020	3,806,060	2020
5	India	Asia	3,534,743	2022	2,664,749	2020	2,622,984	2020
6	United Kingdom	Europe	3,376,003	2022	2,764,198	2020	2,707,744	2020
7	France	Europe	2,936,702	2022	2,630,318	2020	2,603,004	2020
8	Canada	Americas	2,221,218	2022	1,644,037	2020	1,643,408	2020
9	Italy	Europe	2,058,330	2022	1,888,709	2020	1,886,445	2020
10	Brazil	Americas	1,833,274	2022	1,444,733	2020	1,444,733	2020
11	Russia	Europe	1,829,050	2022	1,483,498	2020	1,483,498	2020
12	South Korea	Asia	1,804,680	2022	1,637,896	2020	1,630,525	2020
13	Australia	Oceania	1,748,334	2022	1,423,473	2020	1,330,901	2020
14	Iran	Asia	1,739,012	2022	939,316	2020	203,471	2020
15	Spain	Europe	1,435,560	2022	1,281,485	2020	1,281,199	2020
16	Mexico	Americas	1,322,740	2022	1,073,439	2020	1,076,163	2020
17	Indonesia	Asia	1,289,295	2022	1,058,424	2020	1,058,424	2020
18	Saudi Arabia	Asia	1,040,166	2022	700,118	2020	700,118	2020
19	Netherlands	Europe	1,013,595	2022	913,865	2020	912,242	2020
20	Switzerland	Europe	841,969	2022	752,248	2020	747,969	2020
21	Taiwan	Asia	841,209	2022	669,324	2020	668,500	2020
22	Poland	Europe	699,559	2022	596,618	2020	594,165	2020
23	Turkey	Asia	692,380	2022	720,098	2020	720,101	2020
24	Sweden	Europe	621,241	2022	541,064	2020	537,610	2020
25	Belgium	Europe	609,887	2022	521,861	2020	515,333	2020
26	Argentina	Americas	564,277	2022	383,067	2020	383,067	2020
27	Norway	Europe	541,938	2022	362,522	2020	362,009	2020
28	Thailand	Asia	522,012	2022	501,795	2020	501,795	2020
29	Israel	Asia	520,703	2022	407,101	2020	401,954	2020
30	Ireland	Europe	516,146	2022	425,889	2020	418,622	2020

Source: International Monetary Fund, IMF, UN, WB data

Thus, in nominal terms, the Polish economy corresponds to the size of the Swedish economy, Belgium or Taiwan. However, it should be borne in mind that all these three countries have incomparably fewer inhabitants (by „whom” they generate this income). Hence, it is recommended to use even more accurate gauges. The standard of living in a given country is better reflected by the GDP *per capita* indicator, i.e. the national income *per capita*. From the amount of GDP for a given year given in billions of dollars, the average value is calculated by dividing it by the number of inhabitants of a given country. Due to the relatively high (by European standards) level of the population of Poland, and consequently a large denominator in relation to the still average numerator, the country’s position measured according to this index is not impressive (despite the sustained growth in recent years)⁶.

⁶ According to the data of the International Monetary Fund, Poland’s GDP *per capita* in 2021 was USD 16.74 thousand. See: International Monetary Fund, IMF data.

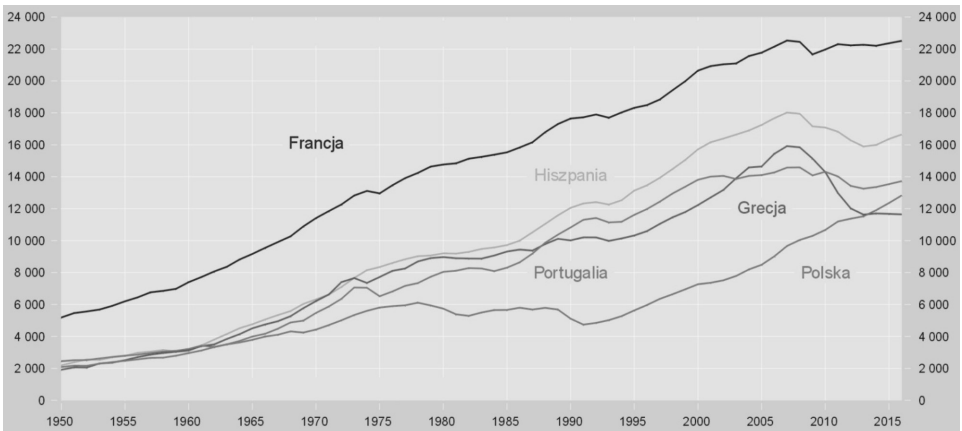
Figure 3. Poland's GDP per capita in a comparative view (in USD)

Country/Territory	UN Region	IMF		United Nations		World Bank	
		Estimate	Year	Estimate	Year	Estimate	Year
1 Liechtenstein	Europe	—	—	180,227	2020	175,814	2019
2 Monaco	Europe	—	—	173,696	2020	160,513	2019
3 Luxembourg	Europe	135,046	2022	117,182	2020	115,874	2020
4 Bermuda*	Americas	—	—	123,945	2020	107,080	2020
5 Ireland	Europe	101,509	2022	88,251	2020	85,268	2020
6 Norway	Europe	99,481	2022	86,871	2020	67,390	2020
7 Cayman Islands*	Americas	—	—	95,191	2020	85,083	2020
8 Switzerland	Europe	96,390	2022	88,919	2020	87,097	2020
9 Qatar	Asia	84,514	2022	50,815	2020	50,124	2020
10 Brunei	Asia	79,818	2022	27,437	2020	27,443	2020
11 Singapore	Asia	79,576	2022	56,114	2020	59,768	2020
12 United States	Americas	76,027	2022	63,123	2020	63,414	2020
13 Iceland	Europe	74,417	2022	63,644	2020	59,270	2020
14 Denmark	Europe	68,094	2022	61,477	2020	61,083	2020
15 Australia	Oceania	67,464	2022	55,823	2020	51,693	2020
16 Sweden	Europe	57,678	2022	53,575	2020	52,274	2020
17 Netherlands	Europe	57,836	2022	53,334	2020	52,397	2020
18 Canada	Americas	57,408	2022	43,560	2020	43,258	2020
19 Greenland*	Americas	—	—	55,139	2020	53,041	2019
20 Israel	Asia	54,688	2022	47,034	2020	44,169	2020
21 Finland	Europe	53,745	2022	48,685	2020	48,773	2020
22 Austria	Europe	53,371	2022	48,106	2020	48,667	2020
23 Belgium	Europe	52,485	2022	45,028	2020	45,159	2020
24 Germany	Europe	51,104	2022	45,909	2020	46,208	2020
25 Macau*	Asia	50,578	2022	37,474	2020	39,403	2020
26 United Arab Emirates	Asia	50,349	2022	36,285	2020	36,285	2020
27 San Marino	Europe	49,601	2022	45,832	2020	47,731	2019
28 Hong Kong*	Asia	49,850	2022	46,611	2020	46,324	2020
29 New Zealand	Oceania	49,847	2022	43,972	2020	41,442	2020
30 United Kingdom	Europe	49,761	2022	40,718	2020	41,125	2020
31 British Virgin Islands*	Americas	—	—	49,357	2020	—	—
32 France	Europe	44,747	2022	38,559	2020	39,030	2020
33 Andorra	Europe	41,630	2022	37,072	2020	40,697	2019
34 Japan	Asia	39,243	2022	39,990	2020	40,193	2020
35 Kuwait	Asia	38,755	2022	24,809	2020	24,812	2020
36 Puerto Rico*	Americas	37,823	2022	38,052	2020	32,291	2020
37 Taiwan	Asia	36,051	2022	28,383	2020	—	—
38 South Korea	Asia	34,994	2022	31,947	2020	31,832	2020
39 Italy	Europe	34,777	2022	31,238	2020	31,714	2020
40 Guam*	Oceania	—	—	—	—	34,624	2020
41 New Caledonia*	Oceania	—	—	34,006	2020	34,789	2019
42 Malta	Europe	33,094	2022	33,771	2020	27,885	2020
43 Bahamas	Americas	32,077	2022	25,194	2020	25,194	2020
44 Cyprus	Europe	30,663	2022	28,133	2020	26,624	2020
45 Slovenia	Europe	30,159	2022	25,777	2020	25,517	2020
46 Spain	Europe	30,157	2022	27,409	2020	27,063	2020
47 Bahrain	Asia	29,103	2022	19,925	2020	20,410	2020
48 Aruba*	Americas	28,883	2022	23,386	2020	30,263	2018
49 Saudi Arabia	Asia	28,799	2022	20,110	2020	20,110	2020
50 Estonia	Europe	27,971	2022	23,106	2020	23,027	2020
51 Czech Republic	Europe	27,809	2022	22,911	2020	22,932	2020
52 Lithuania	Europe	26,016	2022	20,772	2020	20,234	2020
53 Portugal	Europe	24,465	2022	22,413	2020	22,176	2020
54 Turks and Caicos Islands	Americas	—	—	23,881	2020	23,880	2020
55 Oman	Asia	23,416	2022	12,409	2020	12,660	2020
56 Slovakia	Europe	21,665	2022	19,284	2020	19,287	2020
57 Latvia	Europe	21,311	2022	17,871	2020	17,726	2020
58 Greece	Europe	20,940	2022	18,117	2020	17,823	2020
59 French Polynesia*	Oceania	—	—	20,707	2020	14,324	2000
60 Northern Mariana Islands*	Oceania	—	—	—	—	20,650	2019
61 Hungary	Europe	20,336	2022	16,129	2020	15,991	2020
62 Iran	Asia	20,261	2022	11,183	2020	2,423	2020
63 Sint Maarten*	Americas	—	—	20,000	2020	29,160	2018
64 Saint Kitts and Nevis	Americas	19,117	2022	17,434	2020	18,438	2020
65 Barbados	Americas	19,110	2022	15,449	2020	15,374	2020
66 Poland	Europe	18,506	2022	15,764	2020	15,721	2020

Source: International Monetary Fund, IMF, UN, WB data

As can be seen in the *per capita* statement, the Polish Gross Domestic Product – although in nominal terms it is comparable to Swedish or Belgian and much higher than all Central and Eastern European countries – after dividing it into each inhabitant, it drops dramatically in the hierarchy, placing Poland in the positions of the end of the top 50 countries in the world. Apart from the hecatomb of World War II (Poland was the country most affected by the devastation), the collapse of the years 1975-1990, resulted in the break-away with the peloton of most civilized countries in the economic race. It is all more painful as it was the period of the fastest development of Western European countries, and some of them recorded growth during this time, allowing them to quickly become a wealthy country (*vide* Spain and a period of „desarollo”). This was just impossible to make up in such a short time.

Figure 4. Growth of GDP *per capita* in Poland in 1950-2015 in a comparative view



Source: The Conference Board Total Economy Database, May 2016, <http://www.conference-board.org/data/economy/database/>, [access: 07.07.2022]

It should be emphasized that the most reliable index is, however, that one taking into account the so-called purchase power, i.e. the value of financial assets allowing the purchase of a representative basket of products. The level of the country's wealth / economic development calculated in this way allows to reflect the real structure of potential, taking into account the structure of internal factors, characteristic for a given country. Calculating the purchasing power parity, Poland performs much better than without taking them into account (although still pale compared to the richest countries).

In 2018, regional GDP *per capita* expressed in purchasing power standard (PPS) ranged from 30% the European Union average in Mayotte, an overseas region of France (the Comoros archipelago in the Indian Ocean northwest of Madagascar), up to 263% in Luxembourg. In Poland, only Warsaw capital region advanced to the top 20 richest in the EU with GDP *per capita* above the average. „Warsaw capital region is ranked highest among all Polish regions. In the ranking of GDP *per capita* taking into account the purchasing power parity, Warsaw and its neighboring municipalities ranked 16th. GDP *per capita* of the capital and its vicinity was at the level of 47 000 PPS, 56% higher than the average. The comparison for Polish regions looks much worse if GDP *per capita* as expressed in euro. Even the richest Warsaw region, does not reach the EU average, with a GDP in euro of 94%. Warsaw and its vicinity are only ranked 112th. (...) The lowest level of GDP per capita in Poland, measured in PPS, was recorded in the Lubelskie Voivodeship. The Lublin region was ranked 231st in the ranking taking into account purchasing power and 232nd in the case of GDP expressed in euro. The other Polish regions do not fare much better. The Warmińsko-Mazurskie, Podkarpackie, Podlaskie and Świętokrzyskie voivodships, counting in the PPS, are ranked 229, 224, 223 and 220 respectively”⁸.

Figure 7. The richest regions of the EU in 2018 (GDP in millions EUR, per capita and PPP)

Luksemburg	60 053	1	98 600	1	79 300
Southern	126 936	2	78 700	2	67 900
Eastern & Midland	175 305	3	73 400	3	63 400
Brussels Region	83 987	4	69 400	4	61 300
Hovedstaden	122 244	5	66 800	11	50 000
Hamburg	119 046	6	64 800	5	59 600
Stockholm	145 659	7	62 600	12	49 500
Île de France	733 875	8	59 700	8	53 700
Noord-Holland	166 941	9	58 700	10	51 200
Oberbayern	273 696	10	58 600	7	53 900
Utrecht	71 522	11	55 000	13	47 900
Helsinki-Uusimaa	91 241	12	54 800	23	43 500
Salzburg	29 044	13	52 400	18	46 500

Source: Eurostat data

The GDP index – although the most popular – is more and more often criticized as an indicator calculated annually for every economy in the world as an element of the so-called dry

⁸ Polska na mapie unijnego bogactwa. Tylko Warszawa ma PKB per capita powyżej średniej UE, <https://forsal.pl/artykuly/1457867,najbolsze-i-najbiedniejsze-regiony-ue-pkb-per-capita-polska-warszawa-eurostat.html>, [access: 07.07.2022].

data that does not take into account the increasingly complex elements of the economy and society. An international discussion is ongoing, focusing mainly to the extent to which GDP should be treated as a reference point not so much about the condition of the economy as about the actual state of affluence of the society. These issues often do not complement each other, on the contrary – they are very divergent⁹.

Hence, GDP should not be overestimated as an indicator of the overall economic situation. However, if one wants to know the facts in a more nuanced and detailed way, it is also worth referring to other measures, such as:

- Human Development Index (HDI), which allows to measure the actual socio-economic development in a given country, because apart from GDP, this indicator also takes into account life expectancy and the number of years of education,
- Actual Individual Consumption (AIC), which represents real household consumption compared to the average using purchasing power parity¹⁰,
- The Gini index, which allows for the assessment of the dark side of countries which, on paper, often boast of an exemplary economic development, meanwhile experience significant social inequalities, where, however, economic growth is not distributed evenly, sometimes completely bypassing some groups e.g. in the USA (the Gini index is calculated by taking into account the income per household, showing the inequalities between them).

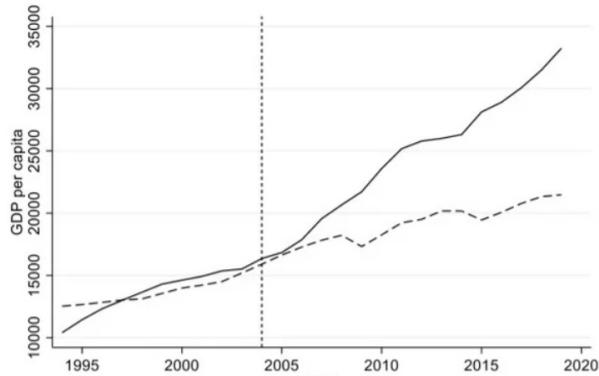
Poland in European Union

According to a study by the Center for Social and Economic Research, Polish GDP in the EU is over 50. greater than it would have been if the country had never joined the EU. „Since May 1, 2004, when Poland joined the European Union, Poland has received nearly EUR 138 billion. At the same time, it paid contributions in excess of EUR 6.1 billion. So the net financial benefits of Poland in connection with belonging to the European Union reach almost EUR 132 billion after seventeen years of membership”¹¹. If Poland had not joined the EU, its GDP *per capita* would not have been above 33,000 \$ PPP, but around 21-22,000 \$, which is one-third less, and in the period after 2004, GDP would grow only by less than 20% and not by over 90%.

⁹ GDP is criticized for not including, *inter alia*, internship, voluntary work, shadow economy, social work, ignoring the issue of unregistered costs (related to e.g. commuting), as well as ignoring social inequalities and environmental costs. G. Siemionczyk, *PKB to wskaźnik niewiarygodny, ale lepszych alternatyw, brakuje* <https://www.parkiet.com/gospodarka/art20630771-pkb-to-wskaznik-niewiarygodny-ale-lepszych-alternatyw-brakuje>, [access: 07.07.2022].

¹⁰ Most often, the AIC index coincides with GDP *per capita*. Countries with high AICs also have high GDP *per capita*. Nevertheless, sometimes the deviations are significant. And so, when looking at the AIC data and GDP *per capita* in the EU, it can be noticed that consumption is not entirely in line with GDP *per capita*. Often both indicators differ by +/- 2 points. The situation is different when one wants to get more detailed data and make an indicator that reflects the reality as closely as possible. Then, AIC is a much better measure, although it also has its drawbacks, as it does not take into account, *inter alia*, savings. See: *Polska goni średnią unijną. Rosnie konsumpcja i PKB per capita*, <https://obserwatorgospodarczy.pl/2019/06/19/polska-goni-srednia-unijna-rosnie-konsumpcja-i-pkb-per-capita/>, [access: 11.07.2022].

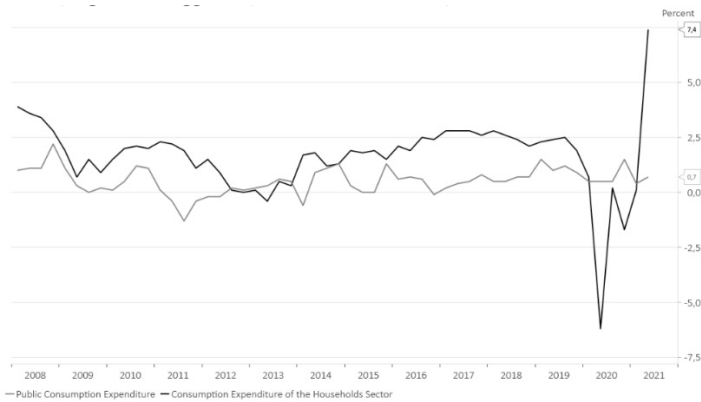
¹¹ R. Hirsch, *Bez Unii Europejskiej byłibyśmy biedniejsi o jedną trzecią – są na to dowody*, <https://businessinsider.com.pl/bez-unii-europejskiej-bylibysmy-biedniejsi-o-jedna-trzecia-sa-na-to-dowody/6m21sz0>, [access: 11.07.2022].

Figure 8. Polish GDP *per capita* in the EU vs Polish GDP outside the EU

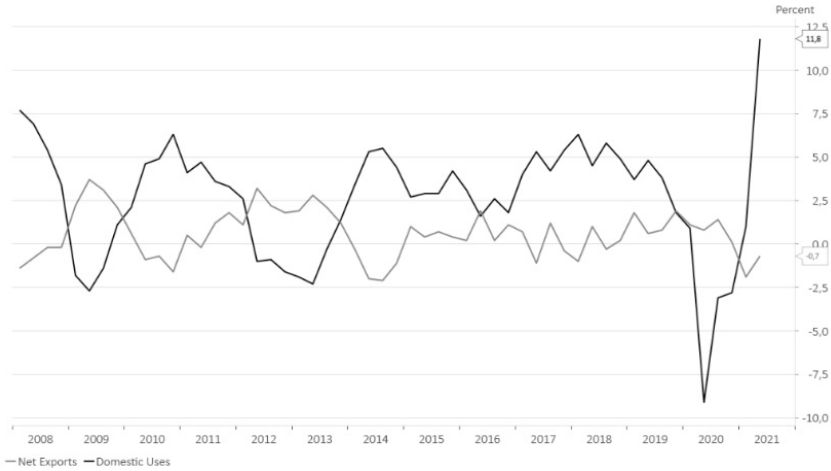
Source: J. Hagemeyer, J.J. Michałek, P. Svatko, *New Evidence on Economic Gains from EU Accession, Ścieżka wzrostu rzeczywistego polskiego PKB i hipotetycznego PKB w scenariuszu pozostania poza Unią Europejską*, CASE 2021, <http://www.case-research.eu/en/showcase-no-118-101828>, [access: 12.07.2022]

Economic development - a list of successes

Internal demand, consumption is the greatest stimulus of the country's economic growth. Poland is the largest market in Central and Eastern Europe. The influence of domestic demand on the rate of economic growth in recent years has been on average between 2 and 4 percentage points. This is due to the positive impact of total consumption, including consumption in the household sector and public consumption. On the other hand, the impact of investment demand on GDP growth ranged from 1 to 2 points, and consisted, *inter alia*, of the increase in inventories, gross accumulation and the positive impact of net exports on economic growth.

Figure 9. Figure 9. Share of household consumption expenditure and public expenditure in Poland's GDP

Source: W. Białek, *Popyt krajowy i wydatki konsumpcyjne gospodarstw domowych napędzały wzrost PKB*, Poland, Expenditure Approach, Contribution to Growth, Gross Domestic Product, Constant Prices, <https://pl.investing.com/analysis/popyt-krajowy-i-wydatki-konsumpcyjne-gospodarstw-domowych-napedzaly-wzrost-plk-w-i-200245755>, [access: 12.07.2022]

Figure 10. Share of domestic demand and net exports in Poland's GDP

Source: W. Białek, *Popyt krajowy i wydatki konsumpcyjne gospodarstw domowych napędzały wzrost PKB*, Poland, Expenditure Approach, Contribution to Growth, Gross Domestic Product, Constant Prices, <https://pl.investing.com/analysis/popyt-krajowy-i-wydatki-konsumpcyjne-gospodarstw-domowych-napedzaly-wzrost-pkb-w-i-200245755>, [access: 12.07.2022]

Poland has managed to consolidate the records of a positive balance in foreign trade. For example, in 2010, 78.8% of Polish exports went to the EU market, while imports amounted to 59.1%.

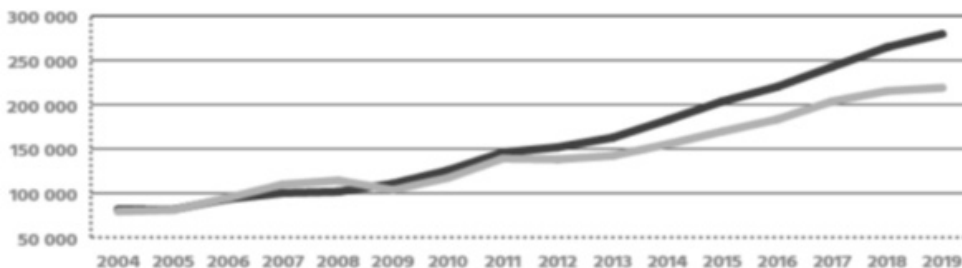
Figure 11. Bilans handlu zagranicznego Polski w latach 2000–2020

Source: M. Samcik, *Bilans handlowy Polski*, <https://subiektywnieofinansach.pl/polska-unia-europejska-polexit-bilans-fundusze-europejskie/bilans-handlowy-polski/>, [access: 12.07.2022]

Poland is definitely the best in trade with the richest countries. Only in the period of January-February 2021, exports to developed countries amounted to PLN 160.6 billion, and imports - PLN 110.8 billion, which means a surplus of almost PLN 50 billion. The trade surplus

with other EU countries is PLN 43.6 billion, and by narrowing it down to the euro area – PLN 31.1 billion in plus¹².

Figure 12. Poland's trade balance in relations with the Germany (import/export in millions PLN)



Source: J. Bereźnicki, *Jak to leciało? Polska będzie rynkiem zbytu dla bogatych krajów UE? To spójrzcie na te dane*, <https://spidersweb.pl/bizblog/bilans-handlowy-polski-i-ii-2021/>, [access: 12.07.2022]

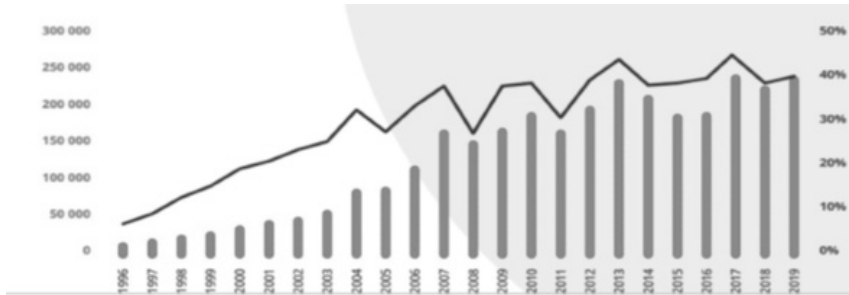
Poland has been an attractive for the companies investment country for many years. It has a huge impact on economic changes during transformation period. Foreign investors have contributed capital, cooperative networks as well as their culture and work organization, and today there are important part of the Polish economy¹³. The report of the Association of International Chambers of Industry and Commerce in Poland states that nearly 25,000 enterprises from 107 countries operates on Polish market. The most important investors in Poland are companies from Germany, the United States, Great Britain and France.

The value of foreign direct investment corresponds to 40% of Polish GDP. In the years 2004-2009, direct investments in Poland amounted to over \$ 94 billion (in the corresponding period: Lithuania approx. \$ 8 billion, Slovakia about \$ 18 billion, the Czech Republic about \$ 42 billion, Romania about \$ 53 billion, Hungary approx. \$ 32 billion). In 2010, the inflow of foreign direct investment amounted to \$ 9.7 billion, which placed Poland in the first place in the region. „At the end of 2018, it was \$ 228.5 billion, and a year later it was US \$ 236.5 billion. The employment in companies with foreign capital operating in Poland amounted to a total of almost 2 million people at the end of 2018, i.e. 15% of the total workforce in the private sector. This means that every sixth job position has been created by a foreign investor. In 2010-2018, there was a 2.5-fold increase in the number of jobs in companies with foreign capital¹⁴.

¹² J. Bereźnicki, *Jak to leciało? Polska będzie rynkiem zbytu dla bogatych krajów UE? To spójrzcie na te dane*, <https://spidersweb.pl/bizblog/bilans-handlowy-polski-i-ii-2021/>, [access: 12.07.2022].

¹³ See: A. Rogala-Lewicki, *Zarządzanie przemysłem kultury ponowoczesnej. Nowy paradygmat geopolityki kultury*, „Mysł Ekonomiczna i Polityczna” 2018, No 1.

¹⁴ *Zagraniczne inwestycje bezpośrednie w Polsce [RAPORT]*, <https://polskiprzemysl.com.pl/raporty/zagraniczne-inwestycje-w-polsce/>, [access: 11.07.2022].

Figure 13. Foreign investments in Poland 1996–2019 (in millions USD and as % of GDP)

Source: UNCTAD data

Poland was 14th in the world and 3rd in the EU, behind Germany and Sweden in terms of the value of the inflow of foreign direct investment (FDI) in 2021. „The inflow of investments was record high and amounted to USD 24.8 billion. The inflow of FDI to Poland increased by 82% in 2021, and compared to 2019, i.e. before the pandemic, by 86%”¹⁵. In the years 2019–2021, foreign investors in Poland contributed to the creation of 339,000 jobs.

The Polish capital market is the most dynamically developing market in this part of the world. According to the data of the World Federation of Exchanges, the capitalization of companies listed on the Warsaw Stock Exchange amounted to 194 billion. \$ – which was the best result in the region in 2011. In turn, as of June 28, 2022, shares of 420 companies (including 45 foreign ones) were listed on the WSE. Their total capitalization amounted to over PLN 1.12 trillion, of which 561.6 billion was attributable to domestic companies and 563.1 billion to foreign companies¹⁶. Similarly, in terms of IPOs, the Warsaw Stock Exchange remains the leader, i.e., in the period from July to September 2011, a total of 61 companies debuted.

Warsaw is considered to be one of the fastest growing cities in Europe. In the Global Financial Centers Index ranking in March 2011, in the category of regional financial center, Warsaw beat such cities as Moscow, Budapest, Athens, for years remaining in the top 60 largest financial centers in the world¹⁷. In turn, in the ranking of the most popular cities for business published by CB Richard Ellis, Warsaw came fifth in Europe and twelfth in the world¹⁸.

Poles are enterprising and only Koreans work more – according to Organization for Economic Co-operation and Development¹⁹. Poles work an average of 40.7 hours a week. Working

¹⁵ *Rekordowy napływ bezpośrednich inwestycji zagranicznych do Polski. Wzrost o 82 proc.*, <https://forsal.pl/gospodarka/inwestycje/artykuly/8412713,rekordowy-naplyw-bezposrednich-inwestycji-zagranicznych-do-polski-wzrost-o-82-proc.html>, [access: 11.07.2022].

¹⁶ *Raport zintegrowany grupy kapitałowej GPW*, 2021, https://www.gpw.pl/pub/GPW/files/raporty_roczne/GPW_Raport_21.pdf, [access: 11.07.2022].

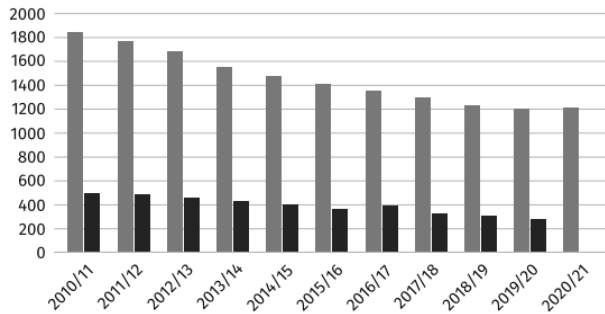
¹⁷ *GFCI 31 Rank*, <https://www.longfinance.net/programmes/financial-centre-futures/global-financial-centres-index/gfci-31-explore-data/gfci-31-rank/>, [access: 12.07.2022].

¹⁸ *Ranking lokalizacji biznesowych na świecie CBRE: Warszawa na 12. Miejscu*, <https://forsal.pl/artykuly/537089,ranking-lokalizacji-biznesowych-na-swiecie-cbre-warszawa-na-12-miejscu-mapa.html>, [access: 12.07.2022].

¹⁹ *Narodowy wskaźnik stresu bije rekordy: tuż za nami Koreańczycy*, <https://www.rynekzdrowia.pl/Po-godzinach/Narodowy-wskaznik-stresu-bije-rekordy-tuz-za-nami-Koreanczy-Po-godzinach,108716,10.html>, [access: 12.07.2022].

time does not meet the efficiency. Poland came second to last, with a GDP divided by work duration of just \$ 8.78. Only Mexico is worse. Moreover, according to the Extended DISC corporation, the National Stress Indicator (NSI) is very high in Poland. In 2009, it reached the level of 2.22, while in Great Britain it was 1.47, in Germany – 1.53, and in the USA – 1.51²⁰.

Figure 14. Students and absolvents of Polish Universities and Higher Schools (with foreigners)



Source: Szkolnictwo wyższe w roku akademickim 2020/2021 15.06.2021 r. (wyniki wstępne), Główny Urząd Statystyczny, https://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultaktualnosci/5488/8/7/1/szkolnictwo_wyzsze_w_roku_akademickim_2020-2021.pdf, [access: 12.07.2022]

Poland can boast of a new generation of ambitious, talented young people who know languages and travel around the world. It is actually the first generation of Poles in many years, which in terms of quality is in no way inferior to its richer peers. Moreover, they are more competitive than them as they grew up in a country where there was still more competition due to fewer resources. In the last two decades, the number of students in Poland has increased from 403,000. in the academic year 1990/1991 up to 1.930,000 in the academic year 2007/2008. As of December 31, 2020, 1,215,300 studied at universities in Poland²¹.

In 2009, according to the OECD report, in Poland the largest percentage of people in the world obtained a master's degree. The total percentage of people with higher education in Poland is 20%. Over 63% of university graduates can boast a master's degree. This is a great success for a country that has, in twenty years, managed to make up for the great difference that separates it from developed countries. Interestingly, contrary to popular opinion, only 25% of graduates in Poland are Humanities and Arts, which is exactly the same as the average in 30 OECD countries. In 1992, there were 124 universities in Poland, including 18 non-public. In 2011, these proportions were respectively: 470 to 338. Quantity, however, still does not meet the quality. The conclusions of the OECD report are in contrast to the Shanghai ranking. Ten

²⁰ K. Sztandera, *Polacy najbardziej zestresowanymi pracownikami na świecie. 5 rad jak pozytywnie i zdrowo zarządzać stresem*, <https://in-npoland.pl/117029.polacy-najbardziej-zestresowanymi-pracownikami-na-swiecie-5-rad-jak-pozytywnie-i-zdrowo-zaradzac-stresem>, [access: 12.07.2022].

²¹ *Szkolnictwo wyższe w roku akademickim 2020/2021 15.06.2021 r. (wyniki wstępne)*, Główny Urząd Statystyczny, https://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultaktualnosci/5488/8/7/1/szkolnictwo_wyzsze_w_roku_akademickim_2020-2021.pdf, [access: 12.07.2022].

Polish universities were included in the ranking list among 1,000 universities. Among Polish universities, the highest positions have been held for years by the University of Warsaw and the Jagiellonian University. Both universities ranked in the fifth hundred (401-500 places)²². Exact places are given only for the first 100 universities²³. In turn, in the Impact factor (IF) classification, conducted by the Institute of Scientific Information, reflecting the prestige and impact of scientific journals (the so-called citation index), in 2005 included 158 Polish titles on almost 14 thousand in the classification²⁴.

Rankings – a clash with reality (selected indicators)

Despite the visible achievements, Poland still ranks in the so-called middle positions, not only being able to break into the world leaders, but in some cases being embarrassing for a European country. A list of selected rankings reflects the current condition of the state civilization development in Poland²⁵.

1. Holistic perspective: (a) Human Development Index, HDI, (b) OECD Better Life Index

The Human Development Index is a synthetic indicator that describes the effects of the socio-economic development of countries (hence it is sometimes referred to the socio-economic development index). The index was developed in 1990 by the Pakistani economist Mahbub ul Haq. Since 1993, it has been used in its annual reports by the United Nations Development Agenda (UNDP). The HDI index assesses countries on three levels: „long and healthy life”, „knowledge” and „decent standard of living”. Since 2010, the following indicators have been introduced: (1) life expectancy, (2) average number of years of education received by residents aged 25 and older, (3) expected number of years of education for children starting the education process, (4) national income *per capita* in USD, calculated according to the purchasing parity of the currency (PPP). Poland's HDI in 2020 was 0.880²⁶.

²² Interpelacja nr 10596 do ministra nauki i szkolnictwa wyższego w sprawie światowego rankingu uczelni wyższych, <http://orka2.sejm.gov.pl/INT7.nsf/main/6BAD48A8>, [access: 12.07.2022].

²³ The Academic Ranking of World Universities (ARWU) uses six objective metrics to rank world universities, including the number of Nobel Prize and Fields Medals alumni, staff, number of highly cited researchers selected by Clarivate Analytics, number of articles published in Nature and Science journals, number of indexed articles in Science Citation Index - Extended and Social Science Citation Index and per capita university scores. Over 2,000 universities are assessed by ARWU every year, and the best 1,000 are published. See: *Polskie uczelnie w światowym rankingu*, <https://uczelnie.info.pl/polskie-uczelnie-w-swiatowym-rankingu/>, [access: 12.07.2022].

²⁴ *Ocena jakości czasopism naukowych*, <https://www.biblos.pk.edu.pl/nauka/ocena-dorobku-publicacyjnego/ocena-jakosci-czasopism-naukowych>, [access: 13.07.2022].

²⁵ The current indexes are listed on the website: *Trading Economics*, <https://pl.tradingeconomics.com/country-list/ease-of-doing-business>, [access: 13.07.2022].

²⁶ *Wskaźniki rozwoju społeczno-gospodarczego*, <https://zpe.gov.pl/a/wskazniki-rozwoju-spoleczno-gospodarczego/DVMT029uK>, [access: 13.07.2022].

Poland's position – 35 (data for 2020)

Poland performs well in a limited number of well-being dimensions relative to other countries in the Better Life Index. Poland outperforms the average in education and social connections. It underperforms average in income, health, environmental quality and life satisfaction. These assessments are based on available selected data. In Poland, the average household net-adjusted disposable income per capita is USD 23 675 a year, less than the OECD average of USD 30 490 a year. In terms of employment, about 69% of people aged 15 to 64 in Poland have a paid job, above the OECD employment average of 66%. In Poland, 93% of adults aged 25-64 have completed upper secondary education, higher than the OECD average of 79. In terms of the quality of the education system, the average student scored 513 in reading literacy, maths and science in the OECD's Programme for International Student Assessment (PISA). This score is higher than the OECD average of 488. On average in Poland, girls outperformed boys by 11 points, well above the average OECD gap of 5 points. In Poland, 82% of people say they are satisfied with the quality of their environment, lower than the OECD average of 84%. Concerning the public sphere, there is a strong sense of community and moderate levels of civic participation in Poland, where 94% of people believe that they know someone they could rely on in time of need, more than the OECD average of 91%. Voter turnout, a measure of citizens' participation in the political process, was 68% during recent elections, slightly lower than the OECD average of 69%²⁷. When asked to rate their general satisfaction with life on a scale from 0 to 10, Poles gave it a 6.1 grade on average, lower than the OECD average of 6.7²⁸.

1. Housing
 - a. Rooms per person – rank 35 / 41
 - b. Dwellings with basic facilities – rank 26 / 41
 - c. Housing expenditure – rank 29 / 41
2. Income
 - a. Household net adjusted disposable income – rank 29 / 41
 - b. Household net wealth – rank 24 / 41
3. Jobs
 - a. Employment rate – rank 23 / 41
 - b. Long-term unemployment rate – rank 6 / 41
 - c. Personal earnings – rank 25 / 41
 - d. Job security – rank 26 / 41
4. Community

²⁷ See: A. Rogala-Lewicki, *Citizens' involvement in public sphere – information as a ius publicum factor of the state of democracy*, „European Journal of Geopolitics” 2017, No. 5.

²⁸ *OECD Better Life Index. Poland*, <https://www.oecdbetterlifeindex.org/countries/poland/>, [access: 13.07.2022].

- a. Quality of support network – rank 14 / 41
- 5. Education
 - a. Educational attainment – rank 5 / 41
 - b. Student skills – rank 6 / 41
 - c. Years in education – rank 18 / 41
- 6. Environment
 - a. Air pollution – rank 37 / 41
 - b. Water quality – rank 23 / 41
- 7. Civic engagement
 - a. Voter turnout – rank 20 / 41
 - b. Stakeholder engagement for developing regulations – rank 9 / 41
- 8. Health
 - a. Life expectancy – rank 32 / 41
 - b. Self-reported health – rank 32 / 41
- 9. Life satisfaction – rank 30 / 41
- 10. Safety
 - a. Feeling safe walking alone at night – rank 28 / 41
 - b. Homicide rate – rank 7 / 41
- 11. Work-life balance
 - a. Employees working very long hours – rank 18 / 41
 - b. Time devoted to leisure and personal care 26 / 41

Poland's position – 27 out of 41 (data for 2020)

2. Corruption Perceptions Index – CPI

Prepared annually by Transparency International since 1995, the Corruption Perception Index is the leading indicator of corruption in the public sphere. In 2012, TI changed its research methodology. Unlike in previous years, the company went from 0 to 100 (0-10), with 0 being the most corrupt country and 100 being the most corrupt. This change makes it possible to closely monitor the trends and compare the results of previous years. In the 2012 CPI ranking, 75% of countries scored below 50 points, what according to International Transparency, bring the need to look closer into public institutions. In the ranking for 2021, Poland is placed 42 with 56 points. The average result for the Western Europe and European Union group, to which Poland belongs, is 66 points²⁹.

²⁹ Indeks Percepcji Korupcji 2021, <https://www.antykorupcja.gov.pl/ak/aktualnosci/14154,Indeks-Percepcji-Korupcji-2021.html>, [access: 13.07.2022].

Poland's position – 42 (data for 2021)

3. Index of Economic Freedom – IEF

This indicator reflects the restrictive regulations and the scope of coercion usage by the state apparatus in the economic sphere in various countries of the world, and is published by The Wall Street Journal and the Heritage Foundation. The index assesses countries according to solutions and policies implemented in order to increase economic freedom. Each country is measured on 50 independent variables divided into 10 categories affecting economic freedom: (a) trade policy, (b) tax burden, (c) government intervention in the economy, (d) monetary policy, (e) capital movements, and foreign investment, (f) banking and finance, (g) wages and prices, (h) property rights, (i) legal regulations, (j) black market activity. The economic freedom index in Poland amounted to 69.7 points, which placed the country in the fourth ten in the group of „moderately free” countries³⁰.

Poland's position – 41 (data for 2021)

4. Ease of Doing Business Index – EDBI

Index was developed by the World Bank. A higher position in the ranking indicates better, usually simpler, rules governing business-related matters and stronger protection of property by law – which has a very strong effect on economic growth³¹. Index is based on research of laws and regulations conducted and verified by over 5,000 representatives of state authorities, lawyers, consultants, accountants and other professionals who deal with legal regulations relating to business on a daily basis³². A country's ranking is based on the average of 10 categories:

- establishing a company – procedures, time and required minimum initial contribution,
- obtaining building permits – procedures, time and cost of inspection and obtaining a permit,
- electricity ratio – time and cost of obtaining an electrical connection for a newly built enterprise,
- property registration – procedures, time and cost of registering property,

³⁰ P. Szubański, *Indeks wolności gospodarczej 2021. Polska awansowała*, <https://www.rp.pl/dane-gospodarcze/art8654381-indeks-wolnosci-gospodarczej-2021-polska-awansowala>, [access: 13.07.2022].

³¹ Index is also subject to criticism. It is indicated that the study explicitly recognizes the liberal Anglo-Saxon solutions as model ones, as a result of which countries with the Anglo-Saxon legal model occupies the leading positions, while countries with the German legal model (Germany, Austria, Switzerland) rank only in the second and third ten, as overregulated. See: J.I. Haidar, *Impact of Business Regulatory Reforms on Economic Growth*, "Journal of the Japanese and International Economies, Elsevier", 2012, vol. 26(3), p. 285–307.

³² For example, in Australia, the country in the first place in the category of „setting up a company”, only 2 procedures are required to set up a company, the process itself takes an average of 2 days. The official cost is 0.8% of GDP *per capita*. There are no initial contribution requirements. In Guinea-Bissau, the second worst country in the first category, 17 procedures are required to start a business, it takes an average of 233 days. The official cost is 255.5% of GDP *per capita* and the minimum required contribution is 1006.6% of GDP *per capita*. See: W. Orłowski, *Konkurencyjność gospodarcza krajów. Propozycja alternatywnego pomiaru w kontekście dyskusji o konkurencyjności polskiej gospodarki*, „Studia BAS”, 2018, vol. 3 (55), p. 23.

- receiving a loan – the degree of loan regulation and the amount of information on the loan,
- protection of investors – the scope of transparency and the scope of liability of the management board against shareholders,
- paying taxes - the number of taxes paid, hours spent annually on preparing tax returns and a portion of gross income which is the tax paid,
- foreign trade – the number of documents, signatures and time required for the entrepreneur to import or export,
- concluding contracts – procedures, time and cost of concluding and enforcing debt agreements,
- liquidation of the enterprise – time and cost related to the termination of operations and the recovery rate³³.

Poland's position – 40 (data for 2019)

5. Global Business Complexity Index – GBCI

The Global Business Complexity Index provides an authoritative overview of the complexity of establishing and operating businesses around the world. Index analyses the key trends affecting three business areas - accounting and tax, global entity management and HR and payroll. From TMF Group reports one could discover:

- which jurisdictions rank as the most complex – or simple – based on their business environments,
- where and how businesses are being pushed toward responsible governance and increased transparency,
- how digitalisation has advanced to remove traditional processes³⁴.

Poland was ranked 2nd in Europe and 10th in the world among the countries with the most complex regulations regulating business. In Europe, the easiest way to do business is in Denmark, Ireland, the Netherlands, Luxembourg and Malta, the hardest - in France, Poland, Greece, Italy and Belgium. Brazil, France, Mexico, Colombia and Turkey are at the forefront of the least friendly countries in the world in this respect³⁵.

³³ *Indeks łatwości prowadzenia działalności gospodarczej*, https://pl.fr.wiki.wiki/wiki/Indice_de_la_facilit%C3%A9_de_faire_des_affaires, [access: 13.07.2022].

³⁴ *The Global Business Complexity Index 2022*, <https://www.tmf-group.com/en/news-insights/publications/2022/global-business-complexity-index/>, [access: 14.07.2022].

³⁵ *Polska drugim krajem w Europie, w którym najtrudniej prowadzić biznes*, <https://www.money.pl/gospodarka/polska-drugim-krajem-w-europie-w-ktorym-najtrudniej-prowadzic-biznes-6659069869988384a.html>, [access: 14.07.2022].

Poland's position – 10 worst in the world (data for 2021)

6. Mortality rate, infant

It is one of the indicators for assessing the health condition of the population and *de facto* development of a given country (especially the health care sector). The indicator reflects the number of infant deaths (children aged 0-1 years) in a given time period per 1000 live births. There are early infant mortality (up to 27 days of age) and late mortality (between 28 days and 11 months). Early (neonatal) mortality accounts for 70% of total infant mortality. In general, the highest value of the index is recorded in poor countries (e.g. over 100 in Afghanistan, over 90 in Somalia, over 80 in the Central African Republic, Guinea Bissau, Chad and Niger), and the lowest in highly developed countries (e.g. Japan, Singapore – below 2)³⁶. Children born in the richest countries are up to 50 times more likely to survive the first month of life than children in the poorest regions of the world. In Poland, in the 1950s, infant mortality in Poland was 108 per 1000 births. This ratio in 2012 was 5.6 and in 2021 it was 3.57 deaths per 1000 live births, with the Western European average being around 2.5³⁷. However, the greatest progress was achieved thanks to the implementation of the Perinatal Care Improvement Program in the 1990s. Currently, Poland is in the middle of the ranks among the rich countries³⁸.

Poland's position – 26 (data for 2021)

7. Life expectancy

The statistical value corresponds to the average number of years of life left for an individual in a given age and group. In the particular case, at age 0 (i.e. for a newborn), life expectancy is equal to the average life expectancy in a given population³⁹. In Poland, the average life expectancy in 2015 was 78.58 years, including 81.71 for women and 75.31 for men⁴⁰. In 2017, men lived an average of 74 years, while women 81.8 years. Compared to 1990, it is longer by 7.8 and 6.6 years, respectively. In Poland, as in other countries, there is an excess of male mortality⁴¹. During the pandemic, the length shrank to around 77 years in 2020. This length is similar to the average from a decade ago and one and a half years shorter than in 2019⁴².

³⁶ *Mortality rate, infant (per 1,000 live births)*, World Bank, https://data.worldbank.org/indicator/SP.DYN.IMRT.IN?order=wbapi_data_value_2011+wbapi_data_value+wbapi_data_value-last&sort=asc, [access: 14.07.2022].

³⁷ *Zgony niemowląt*, <https://stat.gov.pl/obszary-temaryczne/ludnosc/ludnosc/zgony-niemowlat,35,1.html>, [access: 14.07.2022].

³⁸ J. Wykowski, *W kilka dekad umieralność niemowląt w Polsce spadła 30-krotnie*, <https://infowire.pl/generic/release/685945/w-kilka-dekad-umieralnosc-niemowlat-w-polsce-spadla-30-krotnie>, [access: 14.07.2022].

³⁹ See: R. Caspari, *Jak wydłużało się życie*, „Świat Nauki” 2011, No. 9 (241), p. 26-31.

⁴⁰ *Trwanie życia w 2017 r. (Life expectancy tables of Poland 2017)*, GUS, Warszawa 2018, file:///C:/Users/adwok/Downloads/life_expectancy_2017.pdf, [access: 14.07.2022].

⁴¹ See: H. Kaplan, K. Hill, J. Lancaster, A.M. Hurtado, *A Theory of Human Life History Evolution: Diet, Intelligence and Longevity*, „Evolutionary Anthropology” 2000, vol. 9, p. 156-185.

⁴² B. Rogala, *Przez pandemię średnia długość życia w Polsce spadła do 77 lat*, <https://300gospodarka.pl/news/przez-pandemie-srednia-dlugosc-zycia-w-polsce-spadla-do-77-lat>, [access: 14.07.2022].

Poland's position – 36 (data for 2015)

8. Demography: (a) Total Fertility Rate, (b) Mortality Rate

The demographic crisis in Poland is intensifying⁴³. Its scale can be seen in the data published by the Central Statistical Office. They show that on March 31, 2021, the population of Poland was 38 036 100 people⁴⁴. This means that it was by 475 700 (1.2%) lower than at the 2011 census. In turn, at the end of June 2022, approx. 38 000 000 people. The fall of the border of 38 million Poles living in the country is almost certain. For every 10,000 an average of 21 people decreases annually (in 2021 – 27)⁴⁵. Two factors mainly affect the demographic level in the country - the fertility rate and the mortality rate

According to the definition used by the Central Statistical Office of Poland (GUS), the fertility rate means the number of children that, on average, a woman would give birth during the entire reproductive period (15-49 years), assuming that in particular phases of this period she would give birth with the intensity observed in the analyzed year. The fertility rate is one of the most widely used for two reasons. First, it is not affected by differences or changes in the age-to-sex ratio, and second, it is an easily understandable measure of hypothetical full fertility. It is assumed that if the fertility rate fluctuates in the range of 2.10-2.15, we can talk about the so-called simple replacement of generations. This means that, each woman of reproductive age should give birth to slightly more than two children on average. Such a state is desirable in order to be able to ensure an optimal size of the workforce in the future, and thus not to overburden the pension system⁴⁶. According to the Central Statistical Office in the report „Poland in numbers 2021”, in 2020 over 355 000 births were registered. live. In other words, in Poland in 2020, out of 1,000 women of childbearing age, 1,378 children were born. After two years of growth (in 2016 and 2017), the number of births decreased by almost 20 000 compared to the previous year. This means that the fertility rate in Poland in 2020 was 1.378. This is the lowest result since 2016, when the fertility rate was 1.357.

On the other hand, the lowest fertility rate in Poland in the 21st century (1,222) was recorded in 2003⁴⁷. In 2011 7 146 000 children lived in Poland. children, which is over 36.0% less than in 1989. In 2035, children will constitute only 15.6% of the Polish population. Since 1989, the fertility rate below 2.1 no longer guarantees the replacement of generations in Poland⁴⁸.

⁴³ See: *Krajowe Centrum Rozwoju Demograficznego*, <https://ncrd.pl/>, [access: 14.07.2022].

⁴⁴ *Rocznik Demograficzny 2021*, GUS, <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2021,3,15.html>, [access: 14.07.2022].

⁴⁵ M. Mazurek, *GUS podał nowe dane o urodzeniach. Ekspert: W lipcu przestaliśmy być 38-milionowym krajem*, <https://next.gazeta.pl/next/7,151003,28721795.gus-podał-nowe-dane-o-urodzeniach-ekspert-w-lipcu-przestalismy.html>, [access: 14.07.2022].

⁴⁶ *Współczynnik dzietności w Polsce. Najnowsze dane GUS*, https://demagog.org.pl/analizy_i_raporty/wspolczynnik-dzietnosci-w-polsce-najnowsze-dane-gus/, [access: 14.07.2022].

⁴⁷ *Polska w liczbach 2021*, GUS, <https://stat.gov.pl/obszary-tematyczne/inne-opracowania/inne-opracowania-zbiorcze/polska-w-liczbach-2021,14,14.html>, [access: 14.07.2022].

⁴⁸ *Podstawowe informacje o rozwoju demograficznym Polski do 2013 roku*, GUS, https://web.archive.org/web/20140505134710/http://old.stat.gov.pl/gus/5840_11157_PLK_HTML.htm, [access: 14.07.2022].

The situation is worse in 8 out of 31 EEA countries: Portugal, Finland, Greece, Luxembourg, Cyprus, Italy, Spain and Malta (with the worst result: 1.14)⁴⁹. A certain regularity is noticeable – the worst results are achieved by the countries of southern Europe⁵⁰. It is worth noting that in several agglomerations the fertility rate is high, considering Polish conditions. The highest fertility rate in 2020 was recorded in the following regions⁵¹:

- Gdańsk – 1.75
- Poznań – 1.68
- Warsaw East – 1.67
- leszczyński – 1.61
- Warsaw West – 1.59
- nowosądecki – 1.59
- Warsaw – 1.58
- chojnicki – 1.56

Fertility rate – 1,4 (replacement of generations 2,1) (data for 2021)

The mortality rate, in turn, reflects the ratio of the number of deaths in a given period (usually a year) to the number of people as of the middle of the period or to the average number of people for that period – expressed in ‰ (per 1000 population)⁵². In 2020, over 477 000 people died in Poland (almost 68 000 more than the year before). This means that the death rate per 100,000 population reached the highest value since 1951 and amounted to 12.4⁵³. A worse result was recorded only in countries such as: Ukraine, Russia, Serbia, Hungary, Romania, Bulgaria, Lithuania, Latvia, Croatia. The lowest number of deaths was recorded from 1960 to 1966 – less than 240,000. Since the 1970s, there has been an increase in the number of deaths per year, with little variation between years. Since 1976, the number of deaths has exceeded 300,000 annually, while in 1991 over 400,000 people have died. In the years 1992–2016, the number of deaths remained at the level of 359 500 (in 2002) and 394 000 (in 2015). Since 2017, it has been recorded over 400 thousand deaths annually⁵⁴.

⁴⁹ See: H.P. Kohler, F.C. Billari, J.A. Ortega, *Low Fertility in Europe: Causes, Implications and Policy Options*, University of Pennsylvania - School of Arts & Sciences 2006; J.R., Goldstein, T. Sobotka, A. Jasilioniene, *The End of 'Lowest-Low' Fertility?*, Max Planck Institute for Demographic Research 2019.

⁵⁰ J. Rosa, *Polska wśród państw o najniższej dzietności w Europie. Wszyscy w regionie radzą sobie lepiej*, <https://300gospodarka.pl/news/eurostat-dzieci-rodzina-polska-europa>, [access: 14.07.2022].

⁵¹ *Duże miasta przodują pod względem dzietności w Polsce. Jakie to będzie miało skutki?*, <https://forsa.pl/gospodarka/demografia/artykuly/8347449,wspolczynnik-dzietnosci-polska-duze-miasta-demografia.html>, [access: 14.07.2022].

⁵² J.Z. Holzer, *Demografia*, Warszawa 1999.

⁵³ *Sytuacja demograficzna Polski do 2020 r. Zgony i umieralność*, GUS, <https://stat.gov.pl/obszary-tematyczne/ludnosc/ludnosc/sytuacja-demograficzna-polski-do-2020-roku-zgony-i-umieralnosc,40,1.html>, [access: 14.07.2022].

⁵⁴ In 2020, 2,218 people died as a result of road accidents, and as many as 4,553 people died as a result of suicides. The main causes of deaths were cardiovascular disease and cancer. COVID-19 was responsible for 9% in 2020 of all deaths. The reasons for as much as 12% deaths have not been accurately identified. M. Książkowski, *GUS: współczynnik zgonów w 2020 r. był najwyższy od blisko 50 lat*, <https://pulsmedycyny.pl/gus-wspolczynnik-zgonow-w-2020-r-byl-najwyzszy-od-blisko-50-lat-1137871>, [access: 14.07.2022].

Mortality Rate – 12,4 – 10 worst in the world (data for 2020)

9. Percentage of foreigners

Almost 460,000 foreigners had valid residence permits in Poland on January 1, 2021. Among them the largest groups were citizens of: Ukraine – 244 200, Belarus – 28 800, Germany - 20 500, Russia – 12 700, Vietnam – 10 900, India – 9 900, Italy – 8 500, Georgia – 7 900, China – 7 100 and Great Britain – 6 600⁵⁵. In 2021, in Poland a record was set in the number of work permits issued to foreigners. According to the data of the Ministry of Family and Social Policy, in 2021 a record number - a total of almost 3 million - of various work permits were issued, including simplified statements allowing the employment of workers from the East, mainly from Ukraine and Belarus⁵⁶. Since the end of 2020, the number of foreigners legally living and working in Poland has increased by 12.9%. At the end of June 2021, 818,772 foreigners were registered in ZUS⁵⁷. In turn, according to GUS data, exactly 2,106,101 foreigners lived in Poland as at December 31, 2019⁵⁸. At the same time, according to Eurostat data for 2020, this figures does not change the picture in which Poland and Romania are the two European Union countries with the smallest percentage of citizens of other countries living in their territory⁵⁹. The EU Member State with the highest percentage of citizens from other countries was Luxembourg – with 47% of the total population of this country. A high percentage of foreigners (10% or more) was also recorded in Malta and Cyprus, Austria, Estonia, Latvia, Ireland, Germany, Belgium and Spain. On the other hand, in Poland and Romania, foreigners constituted less than 1% of the population⁶⁰. In 2011, this result was even worse – in total, foreigners constituted only 0.1% of the Polish population⁶¹. This means that for years Poland has been the worst country for immigrants among EU countries.

⁵⁵ *Cudzoziemcy w Polsce po 2020 r.*, GUS, <https://www.gov.pl/web/udsc/cudzoziemcy-w-polsce-po-2020-r>, [access: 15.07.2022].

⁵⁶ A. Błaszczak, *Rekordowa liczba imigrantów zarobkowych w Polsce. Niezaspokojony popyt*, <https://www.rp.pl/rynek-pracy/art19323661-rekordowa-liczba-imigrantow-zarobkowych-w-polsce-niezaspokojony-popyt>, [access: 15.07.2022].

⁵⁷ K. Kropiwek, *Rosnie liczba cudzoziemców, którzy legalnie mieszkają i pracują w Polsce*, <https://www.bankier.pl/wiadomosc/Rosnie-liczba-cudzoziemcow-ktorzy-legalnie-mieszkaja-i-pracuja-w-Polsce-8188701.html>, [access: 15.07.2022].

⁵⁸ When determining the number of foreigners living in Poland, the Central Statistical Office used 9 registers: PESEL, UdSC, ZUS, KEP, MR-PIPS, MNISW, MEN, KRUS and NFZ. M. Lis, *GUS podał szacowaną liczbę cudzoziemców w Polsce. Przekroczyła dwa miliony*, <https://businessinsider.com.pl/twoje-pieniadze/praca/liczba-cudzoziemcow-w-polsce-to-ponad-dwa-miliony-gus-podal-dane/ydbgxy9>, [access: 15.07.2022].

⁵⁹ *Eurostat: Polska to najgorszy kraj dla imigrantów w UE*, <https://forsal.pl/artykuly/632046,eurostat-polska-to-najgorszy-kraj-dla-imigrantow-w-ue.html>, [access: 15.07.2022].

⁶⁰ In 2020, 23 million third-country nationals lived in the EU. This is 5.1% of the entire population of the Union. In addition, 13.5 million citizens of one EU country lived in the territory of another EU country - which in total gives 36.5 million foreigners. In 2011, 33.3 million foreigners lived in the EU of 27 countries, which constituted 6.6% of the total EU population. See: *Eurostat: na terytorium Polski mieszka najmniej obywateli innych państw*, <https://forsal.pl/gospodarka/demografia/artykuly/8129294,eurostat-w-polsce-mieszka-najmniej-obywateli-innych-panstw.html>, [access: 15.07.2022].

⁶¹ M. Walasik-Salek, *Cudzoziemcy w Polsce i UE według raportu Eurostatu*, <https://publicystyka.ngo.pl/cudzoziemcy-w-polsce-i-ue-wedlug-raportu-eurostatu>, [access: 15.07.2022].

Poland's position – 27 – last with Romania (data for 2020)

10. Emigracja

Temporary emigration covers people staying abroad for more than 3 months. Among them there are people who stay abroad even for many years, but have not deregistered from permanent residence in Poland. Emigration is difficult to capture statistically, because people leaving often do not report this fact to the authorities. Another obstacle is the situation of continuous migrations, in which people, after leaving one country, change their country of residence, leaving, for example, from Great Britain to Norway. The most popular destinations for Polish emigration are Germany, Great Britain, Netherlands and Ireland. According to the data of the Central Statistical Office, 2 239 000 Poles stayed abroad in 2021⁶². The upward trend in emigration continued until 2017. For example, in 2012, the number of Poles staying abroad increased by 100,000, to approx. 1.6 million. This meant then that the number of permanent residents of the country shrank to 37.1 million (to the level of the population at the end of 1984). Since 2018, Poland has recorded a negative balance of emigration, which means that more Poles return than emigrate. Moreover, an increase in immigration is recorded⁶³. In 2020, by 176 000 (year to year) decreased the number of Poles temporarily staying abroad in the EU (this is over 300,000 less than in the peak year 2017). The number of Poles living in the Netherlands increased the most (by 10,000) and in Norway (by 9,000 to 97,000). In turn, the population of Polish emigrants in the UK shrank by 164,000, i.e. nearly a quarter⁶⁴. Returns from Great Britain are almost entirely responsible for the retreat from emigration. Although the wave of emigration is already declining, according to UN data (worldwide), almost 4.5 million Poles still live outside the country (10.5%) of all (every tenth Pole is an emigrant), which is the 12th largest emigration in the world, right behind Indonesia and Afghanistan⁶⁵.

Poland's position – 12 highest result in the world (data for 2020)

11. Transport: (a) Fatality rate, roads, (b) Punctuality of trains index, (c) quality of roads

The overall ranking of the death toll rates in European countries has not changed significantly over the years. The Scandinavian routes are considered to be the safest. For example,

⁶² *Informacja o rozmiarach i kierunkach czasowej emigracji z Polski w latach 2004-2020*, GUS, <https://stat.gov.pl/obszary-tematyczne/ludnosc/migracje-zagraniczne-ludnosc/informacja-o-rozmiarach-i-kierunkach-czasowej-emigracji-z-polski-w-latach-2004-2020,2,14.html>, [access: 15.07.2022].

⁶³ See: A. Rogala-Lewicki, *Immigracja do Polski współcześnie – przekrój statystyczny, kryteria inkluzyjności, dyskryminacja*, „Mysł Ekonomiczna i Polityczna” 2017, No. 4. See also: A. Rogala-Lewicki, *Kształtowanie „dobrej” imigracji do Polski współcześnie. Zarys prawnospołeczny wyzwań*, „Mysł Ekonomiczna i Polityczna” 2018, No. 4.

⁶⁴ M. Kalwasiński, *Polacy wracają z emigracji*, <https://www.bankier.pl/wiadomosc/Polacy-wracaja-z-emigracji-8211632.html>, [access: 15.07.2022].

⁶⁵ A greater percentage of the nation than Poles lives in exile refers to the Portuguese, Irish, Romanians, Bulgarians, Belarusians, Croats, Armenians, Serbs, Georgians, North Macedonians, Lithuanians, Latvians, Cypriots and Estonians. J. Frączyk, *Prawie 11 proc. Polaków żyje na emigracji. W Europie mało kto nas przebija w tej kategorii*, <https://businessinsider.com.pl/finanse/makroekonomia/na-emigracji-zyje-10-proc-polakow-w-europie-malo-kto-nas-przebija-w-tej-kategorii/17kzxw4>, [access: 15.07.2022].

in Norway (16 deaths per million inhabitants), and in Sweden (18). In contrast, the highest mortality rates were recorded in Romania (93 deaths per million inhabitants), Bulgaria (81), Latvia (78), Croatia (72), and Poland (59). The EU average in 2021 was 44 deaths per million inhabitants⁶⁶. In the case of Poland, it is an improvement anyway. For example, in 2008, according to European Transport Safety Council data, Poland took the second, infamous place, just after Lithuania, in the European Union in terms of the number of road fatalities. 5,437 people died on the roads then – 143 per million inhabitants. In Lithuania – 148. These are official figures⁶⁷. In 2009, the situation improved slightly: 873 fewer people killed, 6191 fewer injured and 4,974 fewer accidents. It is worth mentioning that in the same 2009, police detained 173,324 drunk drivers. However, this does not change the general situation. Still, Poland occupies the highest places in these black statistics.

Poland's position – 22 (data for 2021)

In 2021, the average punctuality of trains in Poland was 90.1%. This means that nearly every 10 train did not reach the end station on time. In 2020, 94.6% of trains arrived at the end station on time. In 2021, the average delay at the end station for trains delayed by 6 minutes was over 21 minutes. On the other hand, the average delay on the route, at all commercial stop stations, was 18 minutes. The worst results were recorded by PKP Intercity (66.12%)⁶⁸. The situation has improved dramatically over the last decade. Only at the beginning of 2012, as many as 50,000 traveled not in line with the timetables. Such catastrophic statistics result mainly from the renovation and construction works on the tracks. Polish Railway Lines responsible for work on the tracks forced 12 000 *ad hoc* changes in schedules⁶⁹. Apart from works and random accidents, it should be noted that in Polish conditions, railways show an unhealthy tendency not to follow strict timetables. Most passengers admit that almost every train is more or less late. According to official sources, the average delays on railways in Europe in 2008/2009 were, for example, as follows: (a) France - 36 minutes, (b) Germany - 8 minutes, (c) Spain - 15 minutes, (d) Great Britain - 16 minutes, (e) Norway - 1 minute⁷⁰. In Poland in 2009, the average delay was as much as 46 minutes. In 2020, the average delay was 21 minutes. The requirements for

⁶⁶ UE: liczba ofiar śmiertelnych w 2021 r. znacznie poniżej poziomu sprzed pandemii, <https://www.rynekinfrastruktury.pl/wiadomosci/drogi/ue-liczba-ofiar-smiertelnych-w-2021-r-znacznie-ponizej-poziomu-sprzed-pandemii-80814.html>, [access: 15.07.2022].

⁶⁷ Moto AŻ – Barometr bezpieczeństwa, <http://akdp.org.pl/brd/>, [access: 15.07.2022].

⁶⁸ Punktualność pociągów. Funkcjonowanie transportu pasażerskiego w 2021 r., Urząd Transportu Kolejowego, file:///C:/Users/adwok/Downloads/Punktualnos_pasazerska_w_2021_r_.pdf, [access: 15.07.2022].

⁶⁹ P. Piękosz, *Koleje w rozkładzie. Rozkłady jazdy także*, <https://gospodarka.dziennik.pl/news/artykuly/408900,koleje-w-rozkladzie-rozkłady-jazdy-takze.html>, [access: 15.07.2022].

⁷⁰ When it comes to the comfort of traveling by rail, Switzerland is considered to be the top country. 36 years ago, a cyclical timetable was introduced there, which stipulates that trains leave the station at the same time. This makes it easier for travelers to remember departure and arrival times. Swiss train delays do not exceed 3 minutes and 89% connections are punctual. In the Netherlands, passengers are compensated for a train delay of 15 minutes. For an hourly delay, the equivalent of the train ticket price is reimbursed. 91 percent reach their destination on time. B. Cöllén, *Niemiecka kolej na bakier z punktualnością i nie tylko*, <https://www.dw.com/pl/niemiecka-kolej-na-bakier-z-punktualnosc%C5%9Bci%C4%85-i-nie-tylko/a-43120569>, [access: 15.07.2022].

railways in Asia are even more stringent. In Japan, the delay tolerance on the ‚Shinkansen’ high-speed line is five seconds⁷¹. In the EU, a distinction is made between the punctuality rate of regional and long-distance trains. In Poland, for 2018, the indicator for the former was 92.48% (11th position), and for the latter 82% (11th position)⁷².

Poland’s position – 11 in EU (data for 2018)

The World Competitiveness Yearbook for 2022, prepared by the International Institute for Management Development (IMD), one of the most famous business schools in the world, touched upon, *inter alia*, quality of road infrastructure in the world. Since 2018, Poland’s position in the ranking has been lower and lower. In the ranking of road infrastructure quality in 2022, Poland was ranked 43 among 63 countries. Since 2018, when the country was classified in 34th position, the position has been systematically decreasing in subsequent years: 2019 (36), 2020 (35) and 2021 (42). In 2022, the report authors rated Switzerland, Denmark and Sweden the best in terms of road quality, and Venezuela, Mongolia and Botswana the worst. 30 European countries were included in the ranking. Among them, Poland took 26th place. The quality of roads was lower in Croatia, Romania, Turkey and Bulgaria⁷³. Also Polish road agency (GDDKiA) informs about the need to improve the condition of national roads in its latest report. Its inspections showed that 37.3% of roads require renovation⁷⁴.

Poland’s position – 43 (26 in Europe) (data for 2020)

12. Digitalization: (a) Internet users, (b) Speedtest Global Index, (c) E-Government Survey, (d) Terrestrial Trunked Radio

Twenty years ago, Poles had only less than 3 million fixed telephone lines (of which nearly 2.2 million belonged to private individuals). In 2011, there were over 50 million active mobile phones. Nobody dreamed about the Internet in 1989. In 2011, almost 17 million Poles used the electronic network⁷⁵. Official data for year 2020 indicates that in Poland there are 34,697,848 network users (14 million Facebook accounts), which constitutes 90.6% of the population⁷⁶.

⁷¹ *Punktualność pociągów w 2020 r.*, UTK, <https://urk.gov.pl/pl/aktualnosci/16753,Punktualnosc-pociagow-w-2020-r.html>, [access: 15.07.2022].

⁷² *Train punctuality across the EU, UK and Norway*, https://www.reddit.com/r/europe/comments/lpogb7/train_punctuality_across_the_eu_uk_and_norway/, [access: 15.07.2022].

⁷³ M. Michalak, *Jakość dróg w Polsce. Jak wypadamy na tle innych państw?*, <https://motofakty.pl/jakosc-drog-w-polsce-jak-wypadamy-na-tle-innych-panstw/ar/c4-16527797>, [access: 17.07.2022].

⁷⁴ *Raport o stanie technicznym nawierzchni sieci dróg krajowych na koniec 2020 roku*, GDDKiA, https://www.archiwum.gddkia.gov.pl/frontend/web/userfiles/articles/r/raporty_18751/2020/Raport%20stan%20na%20koniec%202020.pdf, [access: 17.07.2022].

⁷⁵ M. Jeżewski, *Jak wygląda dostęp do Internetu w Polsce? GUS ujawnia nowe dane*, https://ithardware.pl/aktualnosci/jak_wyglada_dostep_do_internetu_w_polsce_gus_ujawnia_nowe_dane-18755.html, [access: 16.07.2022].

⁷⁶ *World Internet Users and Population Stats*, <https://www.internetworldstats.com/stats.htm>, [access: 16.07.2022].

At the same time, it should be emphasized that the world is also digitally divided into the rich North and the poor South. Still every third person has never used the Internet⁷⁷. On the basis of CBOS research, one can see an increase in activity and its subjective and objective differentiation in access to and use of the Internet. The inactivity online is least relevant to the younger generation. Based on the data from 2020, it was found that 68% of respondents used the Internet at least once a week (in 2002 it was only 17% of the respondents, and in 2019, 69%). Internet use is widespread among respondents aged up to 34 (98% aged up to 24, 95% aged 25 to 34) and very widespread among respondents aged 35 to 44 (88%). In the age range from 45 to 54, Internet users represents almost two thirds of the respondents (56% of the respondents aged 55–64, 33% aged 65–74 and only 11% aged over 74 among the elderly). A higher rate of Internet usage concerns men (69%) than women (63%), with higher education (95%) or lower secondary (93%) than primary (22%) or basic vocational (54%). A relatively low percentage of people using the Internet was recorded in the group of unskilled workers and farmers

The share of Internet users was the lowest in rural areas (60%), and the highest among the inhabitants of cities with population of 500,000 and more (85%). The average number of hours spent online *per week* was 12.87 (21.30 hours for respondents aged 18-24)⁷⁸. According to CBOS research from 2019, 83% of people active on the Internet (57% of all respondents) made purchases via web, 73% of Internet users (50% of all respondents) used banking services. In the last month before the survey, in the group of people active on the Internet: 26% (18% of all respondents) used live broadcast, 25% (17% of all adults surveyed) posted photos on the Internet or videos, 29% (20% of respondents) read blogs, and 20% (14% of respondents) vloggers, 74% (50% of respondents) contacted friends via messenger, 5% (4% of respondents) ran a blog or website, 23% (16% of respondents) made an acquaintance online, and 16% (11% of all respondents) met a person. 66% of Internet users (46% of all respondents) had a registered account on some social networking site (among internet users aged 18-24 it was 96%, aged 25-34 88%, and aged 65 and over 37%)⁷⁹.

Poland's position – 28 (data for 2020)

The level of digital development of a given country is even better reflected by the indicator of broadband Internet access. In 2020, 89.6% of households in Poland had access to broadband Internet. This is 6.3% more than in 2019 and 13.9% more than in 2016. Taking into account households with the Internet, 99.1% of them have access to broadband Internet. 67.7% of households have access to fixed-line broadband Internet (+4.4 percentage points year to year), and

⁷⁷ M. Gajewski, *Co trzeci człowiek na świecie nigdy nie korzystał w Internecie*, <https://spidersweb.pl/2021/12/liczba-internautow-na-swiecie.html>, [access: 16.07.2022].

⁷⁸ *Korzystanie z Internetu*, CBOS, komunikat z badań nr 85 z 2020 r.

⁷⁹ *Korzystanie z Internetu*, CBOS, komunikat z badań nr 95 z 2019 r.

66.7% to broadband mobile Internet (+12.4 percentage points year to year)⁸⁰. The Speedtest Global Index uses data from hundreds of millions of people in over 190 countries to measure both fixed and mobile broadband connections. Singapore ranks first with a download speed of 262.2 Mbps – more than double the global average, Poland – 27 (147.45 Mb/s)⁸¹:

1. Singapore (262.2 Mb/s)
2. Hong Kong (254.4 Mb/s)
3. Monaco (242.9 Mb/s)
4. Switzerland (222.0 Mb/s)
5. Thailand (221.0 Mb/s)
6. Romania (217.9 Mb/s)
7. South Korea (216.7 Mb/s)
8. Denmark (216.13 Mb/s)
9. Chile (209.8 Mb/s)
10. France (201.6 Mb/s)

Poland's position – 27 (data for 2021)

In Europe, progress in making public administration services available electronically, until 2013 was measured by the proportion of 20 basic gov services that were available online; the service was considered available when it was possible to be fully accomplished via Internet (in 2007, only five out of the basket of 20 surveyed services were available in Poland – only Bulgaria had a worse result in Europe). At that time, in the three best EU countries in this field (Austria, Malta, Slovenia), 19 out of 20 surveyed gov services could already be settled online, which gave an average of 95% of all general gov services. In 2010, half of the participating countries were already at least 90% and six countries were already at 100%. After modifying the measurement methodology, the indicators relating to 20 public services in the ministerial structure were replaced with indicators relating to the set of public services that are needed in selected life situations. Poland launched from a disastrous starting point in terms of the public sector's readiness to use IT techniques and technologies (in 2004, Poland was only ranked 93rd among 104 surveyed countries). In the period from 2007 to 2013, the distance in terms of online accessibility of public services between Poland and European leaders decreased from 70 percentage points to 19 points (in 2013, the online availability index of public services useful in seven life situations in Poland was 76% – 4 points above the EU average)⁸². According to the information from the Ministry of Digitization, the number of citizens that uses e-administration in public

⁸⁰ M. Szutiak, *Prawie 90% gospodarstw domowych w Polsce ma dostęp do szerokopasmowego Internetu*, <https://www.telepolis.pl/wiadomosci/prawo-finanse-statystyki/gus-xszerokopasmowy-internet-90-procent-gospodarstw-d-mowych-w-polsce>, [access: 16.07.2022].

⁸¹ *Gdzie jest najszybszy (i najwolniejszy) Internet na świecie?*, <https://mobirank.pl/2021/09/30/gdzie-jest-najszybszy-i-najwolniejszy-internet-na-swiecie/>, [access: 16.07.2022].

⁸² *Korzystanie z Internetu*, CBOS, komunikat z badań nr 85 z 2020 r.

services is growing (in 2019, more than 4.7 million citizens had “Authorized Profile” – PZ, of which over 2.1 million established it in 2019). Significant acceleration was noted in times of the pandemic: in May 2020, almost 360,000 new PZ were established (five times more year to year)⁸³. According to the information of the Ministry of Finance, by April 30, 2020, over 18.3 million declarations were submitted electronically as part of the PIT settlement for the previous year⁸⁴. The United Nations publishes an annual report on the computerization (digitalization) of state management processes: E-Government Survey⁸⁵. In the last year of 2021, Poland took the 47th place, while in 2010 – 45th, and in 2008 – 33rd. The first place in the UN ranking was taken by South Korea, the second by the Netherlands and the third by Great Britain. Higher than Poland were, among others, Slovenia, Russia, Lithuania, Croatia, Hungary, the Czech Republic and even Kazakhstan. Poland is deteriorating its position in the field of e-administration despite enormous investments in this area due to EU funds. Poland fared best in terms of human capital assessment. The worst was e-participation, i.e. how the administration interacts with citizens, conducts e-social consultations or e-voting⁸⁶.

Poland's position – 47 (data for 2021)

TETRA [Terrestrial Trunked Radio (formerly TransEuropean Trunked Radio)] – created by the European Telecommunications Standards Institute (ETSI), an open standard for digital radiotelephony dispatcher (trunked) communication, designed especially for public safety and rescue services (law enforcement). TETRA system is being introduced in countries where there is no standardized communication infrastructure⁸⁷. According to the Police Headquarters, the TETRA system was indicated in the Recommendation of Police Co-Operation of June 2003 to the Convention Implementing the Schengen Agreement of June 14, 1985 as appropriate for usage by security, public order and rescue services in the Schengen area⁸⁸. For almost 20 years, the TETRA system has been implemented in Poland only (as a pilot) in four large cities: Warsaw,

⁸³ *Cztery miliony profili zaufanych od początku tego roku*, <https://www.gov.pl/web/cyfrizacja/cztery-miliony-profilu-zaufanych-od-poczatku-tego-roku>, [access: 16.07.2022].

⁸⁴ *Twój e-PIT czeka na Ciebie w e-Urzędzie Skarbowym*, <https://www.podatki.gov.pl/pit/wyjasnienia-pit/od-jutra-twoje-pit-czeka-na-ciebie-w-e-urzedzie-skarbowym/>, [access: 16.07.2022].

⁸⁵ *UN E-Government Survey 2020*, <https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2020>, [access: 16.07.2022].

⁸⁶ On the impact of the information revolution on societies and politics see: A. Rogala-Lewicki, *Informacja jako autonomiczny czynnik wpływu w przestrzeni publicznej – studium władztwa informacyjnego*, Częstochowa 2016. Zob. także: M. Castells, *Galaktyka Internetu. Refleksje nad Internetem, biznesem i społeczeństwem*, Poznań 2003; M. Castells, *Spoleczeństwo sieci*, Warszawa 2007; M. Castells, *Władza komunikacji*, Warszawa 2013; T. Goban-Klas, P. Sienkiewicz, *Spoleczeństwo informacyjne. Szanse, wyzwania i zagrożenia*, Kraków 1999; L. Porębski, *Elektroniczne oblicze polityki. Demokracja, państwo, instytucje polityczne w okresie rewolucji informacyjnej*, Kraków 2001; A. Rothert, *Cybernetyczny porządek polityczny*, Warszawa 2005; G. Rydlewski, *Rządzenie w świecie megazmian*, Warszawa 2009; G. Rydlewski, *Rządzenie w epoce władzy informacji, cyfryzacji i sztucznej inteligencji*, Warszawa 2020.

⁸⁷ *Co to jest TETRA*, <https://tetraforum.pl/co-to-jest-tetra/>, [access: 16.07.2022].

⁸⁸ As stated by the Supreme Audit Office (NIK) in the justification to its report on the control of the emergency notification system (CPRs) and crisis management - a significant obstacle to the implementation of appropriate security standards is a variety of radio communication infrastructure or the lack of it. The best, so far known, solution in the field of standardizing the communication infrastructure is the implementation of the TETRA system. *Raport w sprawie kontroli dotyczącej systemu powiadamiania ratunkowego (tzw. CPR-ów) i zarządzania kryzysowego*, NIK 2011.

Kraków, Łódź and Szczecin. In 2019, the contract for „ETSI TETRA communication in 13 cities and urban agglomerations” was canceled, this time by the National Appeals Chamber (KIO)⁸⁹. The introduction of the TETRA system in the Police is still under question mark.

The TETRA system is implemented (partially or fully) in all EU countries except Poland

13. Renewable Energy Country Attractiveness Index – RECAI

Index, prepared since 2003 by the consulting company EY, covers 40 of the world’s largest markets. From the end of 2021, EY also publishes the second ranking – the attractiveness of the market of long-term contracts for the purchase and sale of renewable electricity under PPAs⁹⁰. Poland is systematically improving its position. In 2013, Poland took 26th place. It was then pointed out that the weak position was due to, *inter alia*, high regulatory risk and planned changes in the field of solar energy support in the draft act on renewable energy sources. In the 59th edition of the RECAI ranking for 2021, Poland moved up three places (year to year) and was listed in the top twenty countries⁹¹.

Poland’s position – 20 (data for 2021)

14. State quality: (a) Application of European Union law, (b) Civic participation – World Bank, (c) Press Freedom Index, (d) Democracy Index

The statistics of the implementation of EU law takes into account, first of all, a special limit of one percent of unimplemented directives to national legislation, or implemented with faults. The report of the European Commission on the implementation of EU law in the Member States for 2021 indicates that 36 proceedings were pending against Poland⁹². On the other hand, in the 2016 report, in the case of late transposition, Cyprus and Belgium had the highest number of open cases, and the lowest number of cases referred to Italy, Slovakia and Denmark. Germany and Spain, in turn, had the highest number of pending cases due to incorrect transposition or incorrect application of EU law, while Estonia had the lowest total number of open cases⁹³. There was, however, a period when Poland was one of the least

⁸⁹ J. Sabak, *TETRA dla Policji. Modernizacja, ale czy nowoczesność?*, <https://infosecurity24.pl/sluzby-mundurowe/policja/tetra-dla-policji-modernizacja-ale-czy-nowoczesnosc>, [access: 16.07.2022].

⁹⁰ The Polish Power Purchase Agreements (PPA) market is at an early stage of development, nevertheless, the progress is significant and the market itself is becoming more and more attractive. In 2021, the RES capacity contracted under PPA in Poland was ranked 5th in Europe, behind Spain, Sweden, Germany and Finland. *Polska coraz bardziej atrakcyjna dla inwestorów sektora zielonej energii*, <https://infowire.pl/generic/release/755757/polska-coraz-bardziej-atrakcyjna-dla-inwestorow-sektora-zielonej-energii>, [access: 16.07.2022].

⁹¹ M. Wierzychowska, *Polska coraz atrakcyjniejsza dla inwestorów sektora zielonej energii*, https://www.ey.com/pl_pl/news/2022/07/polska-coraz-atrakcyjniejsza-dla-inwestorow-sektora-zielonej-energii, [access: 16.07.2022].

⁹² *Monitoring the Application of European Union Law 2021 Annual Report*, https://ec.europa.eu/info/sites/default/files/general_overview_en.pdf, [access: 16.07.2022].

⁹³ *Member States compliance with EU law: not yet good enough*, https://ec.europa.eu/commission/presscorner/detail/en/IP_17_1846, [access: 16.07.2022].

successfully implementing EU law in the Union. The 2011 report indicated that only Italy was worse. The best indicators for enforcing EU law referred to: Latvia, Estonia, Luxembourg and Lithuania. In Poland it was then 2.1%, in Italy 2.4%. This has consequences in the number of cases before the Court of Justice of the European Union⁹⁴.

Poland's position – 19 in EU (data for 2021)

Civic engagement is, next to social reliance and trust, one of the key elements in the concepts of social capital. Commitment includes activities based on mutual trust, aimed at the interests of various groups⁹⁵. In the Civic Participation index, prepared by the World Bank, Poland in 2021 was just above the world median with a score of 0.61, with a median of 0.60, and since 2015 it has recorded a sustained decline from 0.72⁹⁶. Moreover, in relation to countries with similar GDP, it records a lower level of social engagement⁹⁷.

Poland's position – 50 – note 0,61 – median 0,60, benchmark 0,75 (data for 2021)

The Press Freedom Index is compiled on the basis of an online questionnaire targeting journalists, lawyers, sociologists and other media experts from the countries and regions selected by the FSF. Classification covers 180 countries. The survey is available in 20 languages and includes 87 questions that cover media pluralism and independence, the environment in which information providers operate, the degree of self-censorship, the impact of the legislative framework on media activities, and the quality and transparency of a country's information support infrastructure. Based on the survey results, the „ScoA” is calculated⁹⁸. In the history of the ranking, Poland took the highest (18th) place in 2015 and the lowest (66th) in 2022, which is a decrease of 48 places⁹⁹.

Poland's position – 66 (data for 2022)

Index compiled by the Economist Intelligence Unit in 2006 (a unit within the “The Economist”) describes the condition of democracy in 167 countries around the world. The Democracy Index is based on 60 indicators grouped into five different categories: electoral process and

⁹⁴ J.K. Sokolowski, D. Stolicki, *Przyczyny opóźnień w transpozycji dyrektyw europejskich do polskiego porządku prawnego w świetle analizy ilościowej krajowego procesu legislacyjnego*, „Przegląd Politologiczny” 2016, vol. 2.

⁹⁵ F. Fukuyama, *Zaufanie. Kapitał społeczny a droga do dobrobytu*, Warszawa–Wrocław 1997, s. 20.

⁹⁶ *Civic participation*, The World Justice Project – Rule of law, World Bank, https://govdata360.worldbank.org/indicators/h7de3ed-a8?country=POL&indicator=27891&viz=line_chart&years=2015,2021, [access: 16.07.2022].

⁹⁷ M. Johns, V. Saltane, *Citizen Engagement in Rulemaking: Evidence on Regulatory Practices in 185 Countries*, Policy Research Working Paper, World Bank Group.

⁹⁸ *The World Press Freedom Index*, <https://rsf.org/en/index?year=2022>, [access: 16.07.2022].

⁹⁹ *Polska spadła na 66. miejsce w rankingu wolności mediów. Najgorszy wynik w historii*, <https://www.wirtualnemedia.pl/artukul/wolnosc-mediow-ranking-2022-polska-jakie-miejsce-ostro-w-dol-dlaczego-najgorszy-wynik-w-historii>, [access: 16.07.2022].

pluralism, civil liberties, government functioning, political participation, and political culture. On the basis of the final results, countries are divided into „full democracies” (8-10), „flawed democracies” (7.9-6), „hybrid regimes” (5.9-4), and for „authoritarian systems” (below 4). Poland, with a score of 6.85, is considered as a flawed democracy¹⁰⁰.

Poland's position – 50 (data for 2020)

15. Henley Passport Index

The Henley Passport Index is a ranking of passports from 199 countries and indicates the passports of countries whose citizens enjoy the greatest freedom to travel. Passports rank according to the number of places their holders can reach without prior visa. Japan has topped the rankings for the fifth consecutive year. The citizens of Luxembourg, Italy, Finland, Spain, Germany, South Korea, Singapore, Sweden, Netherlands, Denmark, Austrian, Great Britain, Portugal, Ireland, France, Norway, New Zealand, Belgium, USA, Malta, Greece, Czech Republic, Canada Australia and Hungary have a passports with greater impact than Poland¹⁰¹.

Poland's position – 25 (data for 2021)

Conclusions

In view of the above-presented data, deliberately covering various socio-economic spheres, the state sector cannot pass easily. Despite many successes noted by Poland after 1989, the path to build a strong, competitive, innovative, aesthetic country is still a long way off. All the more, the it should be implemented broadly understood reforms and actions aimed at accelerating this process. In the modern, constantly accelerating world, borrowing cycling terminology, not only keeping up with the peloton but also not participating in the so-called escapes – means regression and marginalization.

Overall, there is still a lot of work to be done, but a lot has certainly been achieved. In part, Polish success can be compared to the civilization leap of Spain in the second half of the 20th century. It is worth recalling that until the 1950s, despite completely different models of economic development, Poland and Spain were still at a comparable civilization level. In 1989, the Spaniards towered over the Poles five times. The current trend is turning in favor of Poland. The closing of another large EU budget (perhaps the last one that is so beneficial) should be considered a symbolic end of the period of departing from the model and opinion

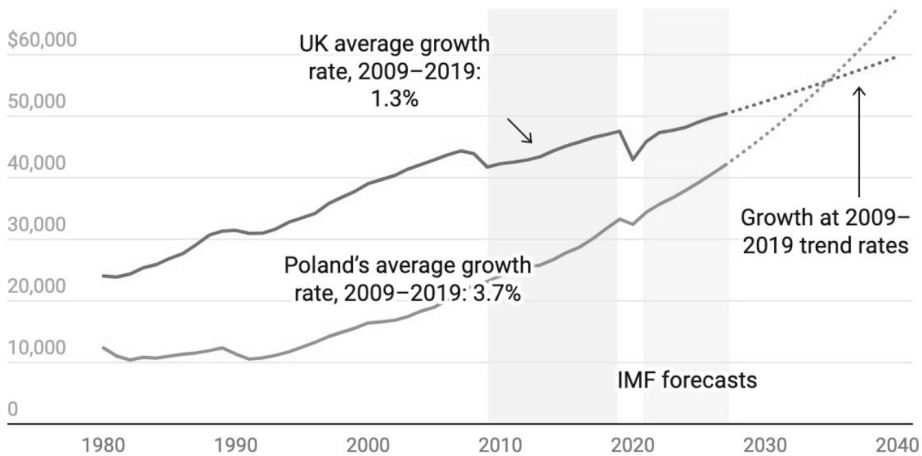
¹⁰⁰ *Democracy Index: less than half the world lives in a democracy*, <https://www.ciu.com/n/campaigns/democracy-index-2020/>, [access: 17.07.2022].

¹⁰¹ *Oto najmniejszy paszport na świecie. Polska w czołówce*, <https://businessinsider.com.pl/lifestyle/ranking-panstw-z-najlepszymi-paszportami-na-pierwszym-miejszu-japonia/hqt47b1>, [access: 17.07.2022].

of a backward, post-communist state and entering the period of strengthening the standards and reputation of a mature state. September 24, 2018, when Poland officially entered the FTSE Russell and Europe Stoxx 600 indices of developed markets, can be considered a symbolic date. Thus, Poland was included in the group of 25 most developed economies in the world¹⁰². The fact of certain achievements of the last decades (mainly economic) has its specific implications.

First, it is worth asking when Poland will realistically be able to catch up with the so-called West. Many economists note that Poland can catch up with the Western countries. For example, based on the trend from 2009–2019, it is possible to catch up with Great Britain in just 15 years. However, it is worth remembering that such forecasts are burdened with many unknowns and the objective itself is very optimistic. The richer country is, the slower its economic growth. The GDP growth of Great Britain (much more richer) by 0.1% in nominal terms is incomparable to the same growth in Poland. Nevertheless, the continuing tendency is that Poland is catching up with the West, which means it may catch up someday – under condition that will maintain sustained, high growth.

Figure 15. Figure 15. GDP of Poland and the United Kingdom Britain by 2040 according to average growth in 2009–2019



Source: International Monetary Fund WEO Forecasts, April 2022

Secondly – which may be even more meaningful from a geopolitical point of view – the Polish political class should lobby with all its strength in the international environment for Poland's admission to the group of G20 countries – the group of 19 richest countries in the

¹⁰² Ł. Madej, *Polska wśród najbardziej rozwiniętych krajów świata*, <https://inzynieria.com/budownictwo/wiadomosci/53687,polska-wsrod-najbardziej-rozwinietych-krajow-swiatea>, [access: 17.07.2022].

world and the EU¹⁰³. There are at least a few arguments for this¹⁰⁴. Firstly, it results from the size of the Polish economy. Poland is the world's 20th economy (GDP according to purchasing power parity). Moreover, there are members of the G20 economically weaker than the Polish economy, such as Argentina or South Africa. Secondly, Poland is the largest country in a certain region (Central and Eastern Europe) that is not represented at all in the G20. Thirdly, it is a country with a specific historical card, which has its political significance. It should be mentioned that Polish representatives participated in the G20 summits several times¹⁰⁵. Finally, one of the members is Russia, which, as some analysts claim, has excluded from the group of civilized societies, *ergo* should be excluded from the group of G20 members¹⁰⁶.

A moment of reflection on the achievements must not, however, obscure the fact that Poland, as a country located in Central Europe, should not only be able to „make up for lost years” but finally set European and world standards. Real achievement is not to do something on the minimum level that is required of all highly developed nations, but to become the top student and leader among them. It is a historic moment for Poland to enter a new sphere of challenges. The tasks facing the country is not to have a free market, but to make the economy innovative, self-creative and competitive, so that it could enter a new phase of progress, defeating the so-called middle development syndrome. In the competition among the most developed nations in the hierarchy, details and refinement are decisive, and in this respect – as the presented rankings indicate – Poland is only at the beginning of its path.

¹⁰³ The first summit was convened in 1999 in Berlin. The initiative to create the group came about after the Russian financial crisis in 1998 and the Asian crisis in 1997. One of the main initiators was the famous Larry Summers, secretary of the treasury in the administration of Bill Clinton. The creation of the group was intended to coordinate the world economy and prevent further crises – especially in the so-called developing countries. The group was created as an extension of the G7, or actually G8 (G7 + Russia), with other countries in the world playing an important role in the global economy. P. Wójcik, *Co to jest G20 i dlaczego Polska chce być w tej grupie? Wyjaśniamy*, <https://krytykapolityczna.pl/gospodarka/co-to-jest-g20/>, [access: 17.07.2022].

¹⁰⁴ In 2010, during a meeting with the diplomatic corps, the president Kaczyński expressed the opinion that Poland deserves a place among the G20 countries. In 2012, Tim Fergusson of Forbes wrote that Poland should replace Argentina in the G20. In this article, he proves that the Polish economy is on its way to a leading role in Europe, and as a result Poland has a much greater legitimacy for membership than Argentina, which is experiencing another crisis. Similar opinions were also expressed by the American magazine „Foreign Policy”, „The Wall Street Journal”, and also by Mamta Murthi of the World Bank. In 2014, during the 24th Economic Forum in Krynica, the consulting agency Ernst & Young presented the results of research on the optimal composition of the G20. After examining several thousand international trade, investment and institutional ties, following various selection criteria, optimal members with Poland were selected as one of them. See: D. Bosco, *Who would replace Argentina on the G20?*, <https://foreignpolicy.com/2012/04/19/who-would-replace-argentina-on-the-g20/>, [access: 17.07.2022]; T. Ferguson, *G20: Boot Argentina, Include Poland*, <https://www.forbes.com/sites/timferguson/2012/04/09/g20-boot-argentina-include-poland/?sh=549ac742da55>, [access: 17.07.2022].

¹⁰⁵ On March 16, 2017, the Deputy Prime Minister, Minister of Finance and Economy Mateusz Morawiecki received an invitation to the G20 summit in Baden-Baden from host Wolfgang Schäuble, the head of the German Ministry of Finance. See: *Morawiecki among the G20 finance ministers*, <https://www.rp.pl/gospodarka/art10575241-morawiecki-wsrod-ministrow-finansow-g20#p-1>, [access: 17.07.2022]. On April 6-7, 2017, a meeting of the G20 digital ministers took place in Düsseldorf. Poland was among the few invited non-G20 countries to the event. See: *Polska po raz pierwszy uczestnikiem spotkania ministrów ds. cyfrowych grupy G20*, <https://www.gov.pl/web/cyfrizacja/polska-po-raz-pierwszy-uczestnikiem-spotkania-ministrow-ds.-cyfrowych-grupy-g20>, [access: 17.07.2022].

¹⁰⁶ Excluding Russia from the G20 would require the consent of all other states, including, *inter alia*, China, India or Saudi Arabia, whose critical attitude towards Russian military operations in Ukraine is questioned. A. Krzysztozek, *Polska w G20 zamiast Rosji? „Perspektywa co najmniej mglista”*, <https://www.euractiv.pl/section/gospodarka/news/polska-g20-rozja-ukraina/>, [access: 17.07.2022].

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