

THE WEALTH OF NATIONS INDEX





HOW TO MEASURE WEALTH?

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A miracle has been ceaselessly happening over the last 200 years. This miracle is capitalism. Having lived in poverty for millennia and without hope for a better future, people suddenly began to improve their living conditions. Economic growth that until then would not exceed 0.5% GDP annually accelerated by leaps and bounds. Nowadays, global GDP per capita is more than ten times higher than it was when capitalism was born. Even the father of economics, Adam Smith, who witnessed its birth, would be surprised at how well we have done thus far. He mistakenly predicted that economy would ultimately reach a level state when prosperity would stop growing. Yet, nations keep getting wealthier – not all at the same pace though. And it is not at all clear which measure of wealth is best.

Some economists claim: “*The Gross Domestic Product that sums up the value of goods and services produced in a given country in a given year*”. Others – and increasingly often so – say on the other hand: “*GDP is an imperfect measure that tells us little about the real wealth of an ordinary citizen*”. The wealth of a German differs from

that of a Pole in more ways than just how much money there is in their wallets. What does matter is not only what houses we live in or what kind of car we drive, but also whether it is clean air that we breathe, whether we feel safe or whether we can count on good education.

Therefore, we decided to create our own measure: **Wskaźnik Bogactwa Narodów**, i.e., the Wealth of Nations Index (WNI). As the Polish economist Karol Zdybel explains, “*It tries to measure the stream of economic benefits per one citizen of each European Union member state over the course of a year*”. Our index takes into account the level of both private and public expenditure in the economy. We assume that private expenditure, dependent on sovereignly decided by citizens, is optimal. The government would fail to spend that money in a better way. On the other hand, we evaluate public expenditure in terms of its quality, not nominal value, assuming that ‘more’ does not necessarily translate into ‘better’. We shaped our index in such a way as to free it from any and all accusations of “bias” on the private sector. We granted a sort of a head start to government spending, described in detail in the chapter on methodology.

Poland, when measured by the Wealth of Nations Index, does not score well, particularly in the field of public spending. Which in turn depend on the level of wealth of a given society. Henceforth, there is a lot to be done and that is why we intend to publish the subsequent editions of WNI every year.

THE WEALTH OF NATIONS INDEX AND THE GLOBAL POSITION OF POLAND

Karol Zdybel,
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Measuring the wealth of societies is considered the Holy Grail of economics. The idea to reflect the level of wealth with a single value sounds extremely encouraging. Ideally, this figure should allow for both international and historic comparisons. We would like to know just how much better (or worse) our lives are compared to those of our parents' generation or those of our neighbours. For this purpose, it would be most convenient to only confront two numbers.

Unfortunately, our reality turns out to be rather disappointing in this respect. Suffice to say no one has come up with an appropriate method of measurement so far. After all, we could be deluding ourselves that some economic genius would eventually come up with a proper index. We know, however, that it will not happen, ever. The issue lies within the task itself, which we set before the measurement method of our dreams

– it is impossible, and brighter economists are aware of that. All in all, economics does not study material goods, but the process of satisfying human preferences, and these are subjective, intense, and impossible to aggregate.

And yet, in spite of these obvious reservations, people continue to design methods of comparing the wealth of societies. We at the Warsaw Enterprise Institute also took it upon ourselves. We are aware that the Wealth of Nations Index or WNI (Wskaźnik Bogactwa Narodów – WBN) that we developed is conventional, full of simplifications, analytical compromises, and plain artificialities. However, this applies to other similar measures too. The awareness of the imperfections of some indices (e.g., the still most commonly used: GDP *per capita*) leads to attempts to create new ones, which themselves turn out to be highly imperfect as well. Therefore, we are not claiming that the WNI is better than existing formulas. It is simply different – it shows the economic reality in a way that has not yet been undertaken.

THE IDEA

The concept behind the index is simple: every year, citizens of Europe benefit from a stream



of goods and services. They decide to purchase a part of them personally. The rest of those goods and services are provided by the government, regardless of their will. WNI is simply the sum of these two components: private and public. This is how the general classification of the WNI was created. We treat the private component with full trust in citizens and add one Polish zloty to another zloty. In this respect, there is no room for paternalism: we consider expenditure that citizens make on their own to be the best basket of goods and services from their point of view. In other words, we assume that an outside observer could not have spent the money better than the interested parties did themselves.

The public component, on the other hand, is evaluated on the basis of the quality of government spending. Whenever the government acquires goods on behalf of and for its citizens, it acts as an agent in someone else's cause. A good agent will make a good purchase, a bad agent – a bad one. The concept that was present from the very beginning when preparing the WNI was to apply already existing criteria of effectiveness to public expenditure. In the absence of an independent decision of the consumer, who would decide on the allocation of resources in the economy with his or her own wallet, the evaluation of the government's decisions must be undertaken by an external body. Therefore, we take into account public expenditures in the WNI not by adding up their values, but according to the qualitative criterion. In other words, the higher the deterrent potential of a country's armed forces, the greater the value of military spending. The better universities place in international rankings, the more expenditure on higher education is worth. The better the reputation of healthcare in a country, the higher the value of government activity in this regard – and so on.

The approach chosen by the Warsaw Enterprise Institute could, however, be subject to the accusation of bias. Private citizens' consumption and investment choices are treated with complete confidence, while government spending is scrutinised with great suspicion and filtered using a variety of external criteria – how can you even do that? Then it might be quite right to say that the WNI is prejudiced against the government.

To counterbalance this bias and give the state and private citizens a level playing field, the WNI places more weight on public services than the nominal amount of spending. For the purposes of this index, we take it at face value that governments are operating in areas where private initiative would produce noticeably worse results. For this reason, in the design of the WNI, the state's consumption and investment expenditure are not treated as equivalent to the corresponding private expenditure. They receive an initial bonus. When the state is operating efficiently, one zloty spent by the government will be worth more than one zloty spent by Mr Smith. Still, the low quality of government spending may nullify this advantage. The question that therefore remains open is: who makes use of this advantage and who is squandering it?

INDICATOR OF PUBLIC EXPENDITURE QUALITY

To answer the above-stated question, we constructed an intermediate measure: the public expenditure quality index. Again, the idea was simple. Public expenditure can be divided into several basic categories. Their best-known classification is called the *Classification of the Functions of Government* (COFOG) and was developed by the OECD. It is true that some of them (e.g., expenditure on general administration) do not directly meet the needs of citizens, which is why they were not included in the indicator we came up with. Nevertheless, most public spending falls into intuitively understandable categories such as national defence, education, infrastructure, and environmental protection. Regardless of the work done by the OECD, these categories are often the subject of international comparisons, professional studies or opinion polls. The Numbeo website on the other hand aggregates, for example, opinions on most countries in the world in terms of environmental pollution, traffic intensity, healthcare, and a multitude of others.

The idea behind the WNI was to collect as many evaluations, indices, and studies as possible relating to individual COFOG categories, and then aggregate them. This made it possible to obtain an

overall indicator of the quality of public spending, ranging from 0 to 100 points. It is divided into seven subcategories assessed on the same scale: I National defence, II Internal security, III Infrastructure and public transport, IV Environment, V Healthcare, VI Education, and VII Universities. Thus, the approach to public expenditure used in the process of creating the WNI consisted in taking into account the effects of expenditure in European countries, and not – as is the case with GDP – adding them up.

PRIVATE ECONOMY IS DOING WELL

What immediately grabs the eye is the relatively high position of Poland in terms of the private component. The private part of the Polish economy *per capita* (PPS 17.6 thousand) is second only to three countries in the CEE region: the Czech Republic (21.9), Lithuania (20.8) and Estonia (19.6). At the same time, it is slightly larger than, for example, its Slovak (16.8) or Hungarian (16.9) equivalent. Furthermore, Poland is clearly ahead of Latvia (16.3), Greece (third from the end – only 16.1 thousand PPS) and Croatia (15.4). It may come as a surprise that Romania with the result of 17.1 thousand PPS ranks just behind Poland and should the trends from the last few years continue, Romanians will soon be able to spend more from their own wallets than Poles.

On the other hand, the disparity between Western Europe and the countries of Central and Eastern Europe is still considerable. Private economy *per*

capita in countries such as Germany, Austria, the Netherlands or Denmark is still 50-70% larger than east of the river Oder (the natural German-Polish border). Another issue entirely is that this gap has significantly narrowed since 2015, although it seems that bridging it is a matter of distant future (though – as the case of Romania shows – not unattainable)

THE ENVIRONMENT AND UNIVERSITIES ARE KEEPING POLAND DOWN

In terms of the public component of WNI, Poland ranks worse. Poland obtained a result of 58.6, which means that the quality of public spending is only second to (and very clearly so) Romania (48.9) and Bulgaria (50.9), while Hungary obtained an almost identical result (58.9). On the other hand, the disparity between other countries in the region – such as the Czech Republic, Slovakia, Lithuania, and Croatia – is quite significant. The lowest result among the four countries mentioned is that of Lithuania (66.3), and it is still several percent higher than the result of Poland. Interestingly, this is even though in recent years Poland has considerably improved in such subcategories as internal security, infrastructure or even healthcare, and one should bear in mind that the last two have been regarded as typical Polish weaknesses for a very long time. However, due to disastrous results in terms of environmental protection and – particularly! – in higher education, Poland is effectively being pulled to the bottom of the ranking in terms of the quality



of public spending. Suffice it to say that the best universities in Poland are recognised in international rankings as equal to the best universities in Hungary, Latvia or Cyprus – countries smaller than Poland by an order of magnitude, if not two orders. At the same time, academic institutions in Spain, Italy and (especially) the Netherlands easily beat their fellow universities from the country on the Vistula river.

(76.5) scored at the level of the Czech Republic, Slovenia, Estonia and Portugal, mainly due to low internal security scores and only moderately good results in higher education. The total score of Belgium is similar (75.9), pulled down by national defence, internal security, and environment. Italy's results look even worse. With a total score of 66 points and very unequal results in individual subcategories, Italy is places between Lithuania and Ireland.

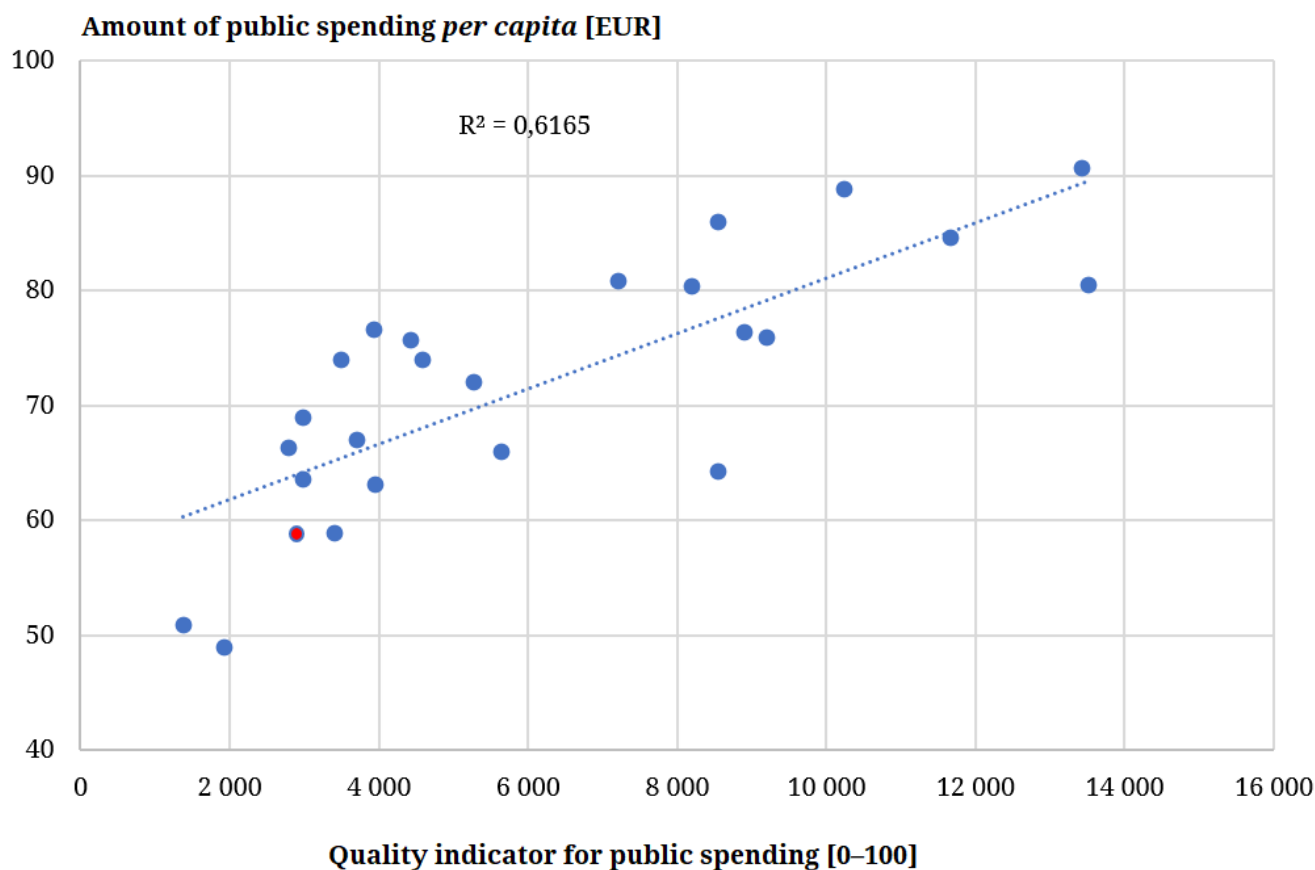
THE PUBLIC SECTOR IN DENMARK AND FINLAND SCORED HIGHEST

The proud first place in terms of the quality of public spending went to Denmark (90.7). Finland was second, followed by Austria and the Netherlands. Characteristically, the Danish results in all seven categories exceeded the threshold of 90 points – this is the only such case in our index. For comparison purposes, Poland exceeded this threshold only in the education category. Interestingly though, some countries famous for their active involvement of the state in providing services to citizens achieved rather average results. France

The WNI scores also show that the absolute amount of public expenditure *per capita* is a good predictor of their quality. The chart below illustrates this fact. Countries that spend a lot on public services are generally able to obtain services of a distinctly higher quality. At the same time, the chart suggests that within the group of countries with low and moderate public spending per capita (up to EUR 6,000 per person), the spread of their quality around the trend line is significant. Some countries do well above what is expected for their spending level. Others are doing worse than the prediction suggests – this group includes Poland, the position of which is marked in red.

GRAPH I

AMOUNT OF PUBLIC SPENDING PER CAPITA [EUR] AND THE INDEX OF PUBLIC EXPENDITURE QUALITY [0–100]



OVERALL RESULT: AUSTRIA AHEAD OF DENMARK, THE NETHERLANDS AND GERMANY

Addinng up the private and public components gives a full indication of the Wealth of Nations Index. Austria is ahead of Denmark, the Netherlands and Germany in this classification (the WNI does not include Luxembourg, Cyprus or Malta; Ireland is also excluded from the classification described here, more on this below). All of these countries are characterised by a sizeable private economy and high-quality public services. The gap between the four countries in the lead and those that follow is rather significant. Austria scored 100 points (this year's result will also be a reference point for future editions of the WNI), Germany in the 5th place – 94.3 points, and Belgium in the 6th – only 89.1 points.

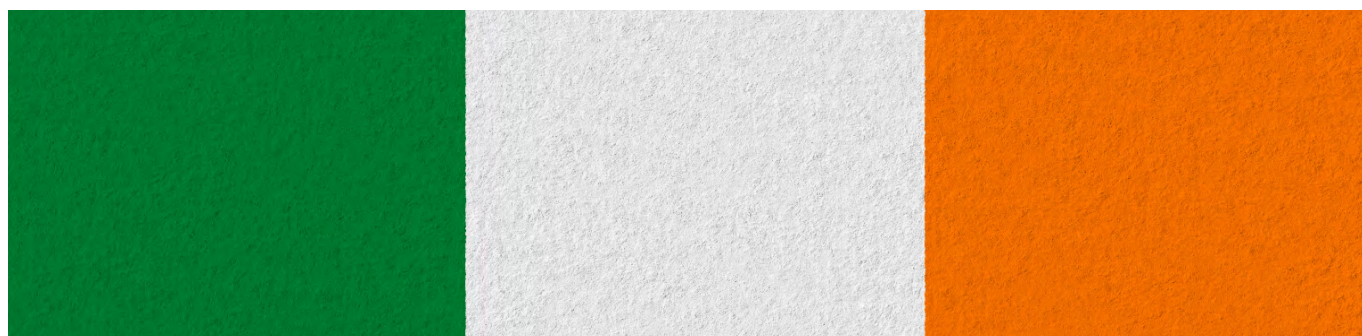
As already mentioned above, in terms of the size of the private economy, Poland ranks higher in Europe than in terms of quality of public spending. The latter, although low, was not able to determine Poland's result (60.2). In the general WNI classification, it ranks 18th, ahead of such countries as Romania (56.2), Latvia (58.3), Croatia (57.5), Greece (57.6) and Hungary (58.5), while losing to Slovakia (60.4) by a fraction of a point. However, the gap in relation to Austria is considerable: Poland's total score in the WNI is three fifths of the Austrian one. Compared to other countries in the region, it does look quite good, although it is significantly lower than in the case of Estonia (70.1), Lithuania (70.3), and – very clearly –the Czech Republic (75.6).

A word or two are due in this place to discuss Ireland. Ireland scored 146.6 points and definitely won in the classification; however, the

specificity of the Irish national income means that I am not mentioning it in this study. Ireland's GDP *per capita* benefits from the depreciation of intellectual and non-intellectual assets transferred in large numbers to this country, as well as from other accounting and legal efforts that companies use to optimise taxation. This situation is so commonplace in this island nation and puffs up conventional GDP so much that the Irish central bank even invented and calculates a special so-called Modified Gross National Income (GNI*) to adjust for it at least partially. Unfortunately, up-to-date GNI* statistics are not available. Still, the exclusion of Ireland from this article does not mean that it was not calculated and presented in the WNI. The index's website provides complete data on Ireland, which ranks first in the ranking available online. All the same, the score of this country was appropriately annotated.

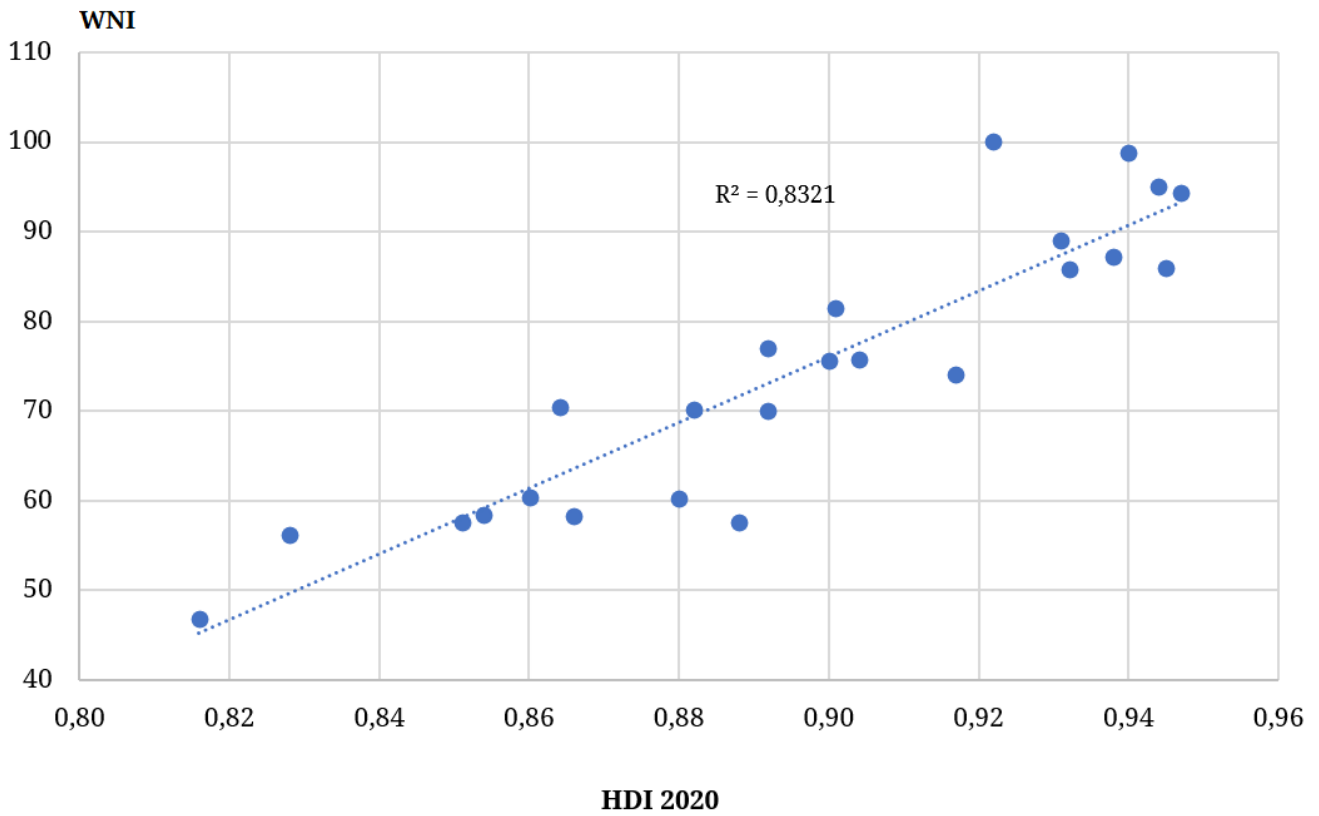
COMPARES TO OTHER INDICES

It also turns out that the WNI strongly correlates with other measures alternative to the GDP. It should come as no surprise that countries with high/low WNI scores also score high/low in terms of HDI – the *Human Development Index*. This measure takes into account GDP *per capita* expressed in purchasing power parity, as well as life expectancy and the duration of education. This structure is designed as to allow HDI to reflect the quality of life in the world in a fuller way than ordinary GDP. As the WNI includes a large part of GDP *per capita* calculated according to the purchasing power parity (i.e., the part constituting private spending of citizens), and at the same time this amount is the basic component of HDI, the relationship between the two is not surprising.



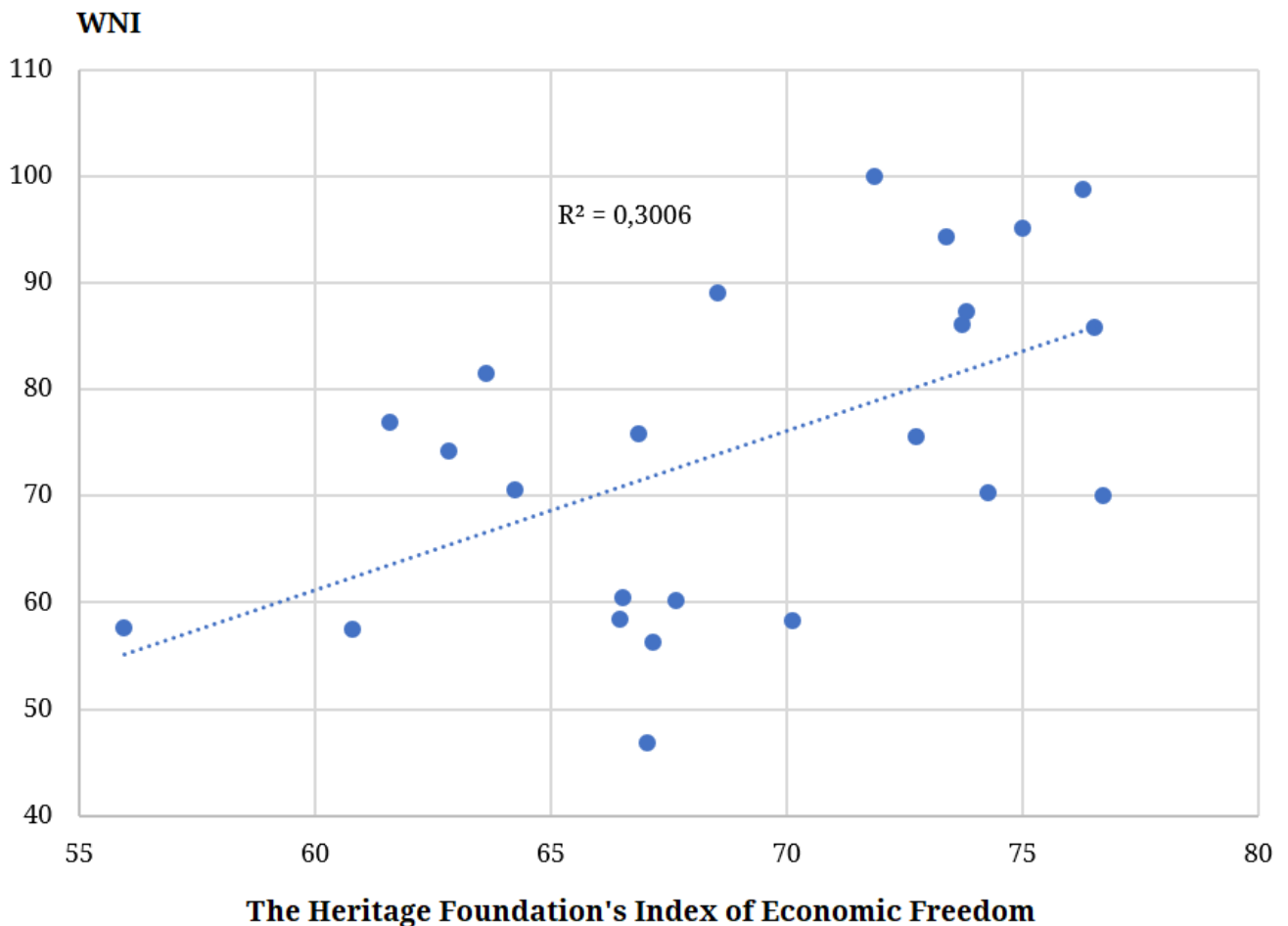
GRAPH 2

HDI 2020 AND THE WEALTH OF NATIONS INDEX (2020; WITH THE EXCLUSION OF IRELAND)



GRAPG 3

THE HERITAGE FOUNDATION'S INDEX OF ECONOMIC FREEDOM (2015–2020 AVERAGE) VS THE WEALTH OF NATIONS INDEX (2020; WITH THE EXCLUSION OF IRELAND)





It is also interesting that the WNI shows a slight yet noticeable relationship with the historical values of the Index of Economic Freedom developed by the Heritage Foundation from the US. As today's prosperity is the result of conditions that have been conducive to it taking place over an extended period in the past, the Index of Economic Freedom was averaged for the years 2015 – 2020 (non-aggregated data for these years is provided by the Heritage Foundation on its website). And subsequently, it was compared to this year's edition of the WNI.

On the one hand, it can be argued that there is a certain relationship between economic freedom (or at least its version as measured by the Heritage Foundation) and the WNI, but on the other hand, the scattering of the results around the trend line indicates that the former is only one of many determinants of the WNI.

HOW MUCH WILL THE PANDEMIC CHANGE?

Finally, what is noteworthy is the fact that the index prepared by the Warsaw Enterprise Institute intentionally presents the situation of countries before the outbreak of the coronavirus epidemic. The data for the epidemic period used to prepare it are to a large extent not available yet. More importantly, the pandemic is still ongoing, and its effects can only be fairly assessed sometime after it ends. May the next year's edition of the WNI be created under normal circumstances. It will then reflect the shock that the past several months have been for European countries and will allow for interesting comparisons with the results of the current edition.

THE WEALTH OF NATIONS INDEX

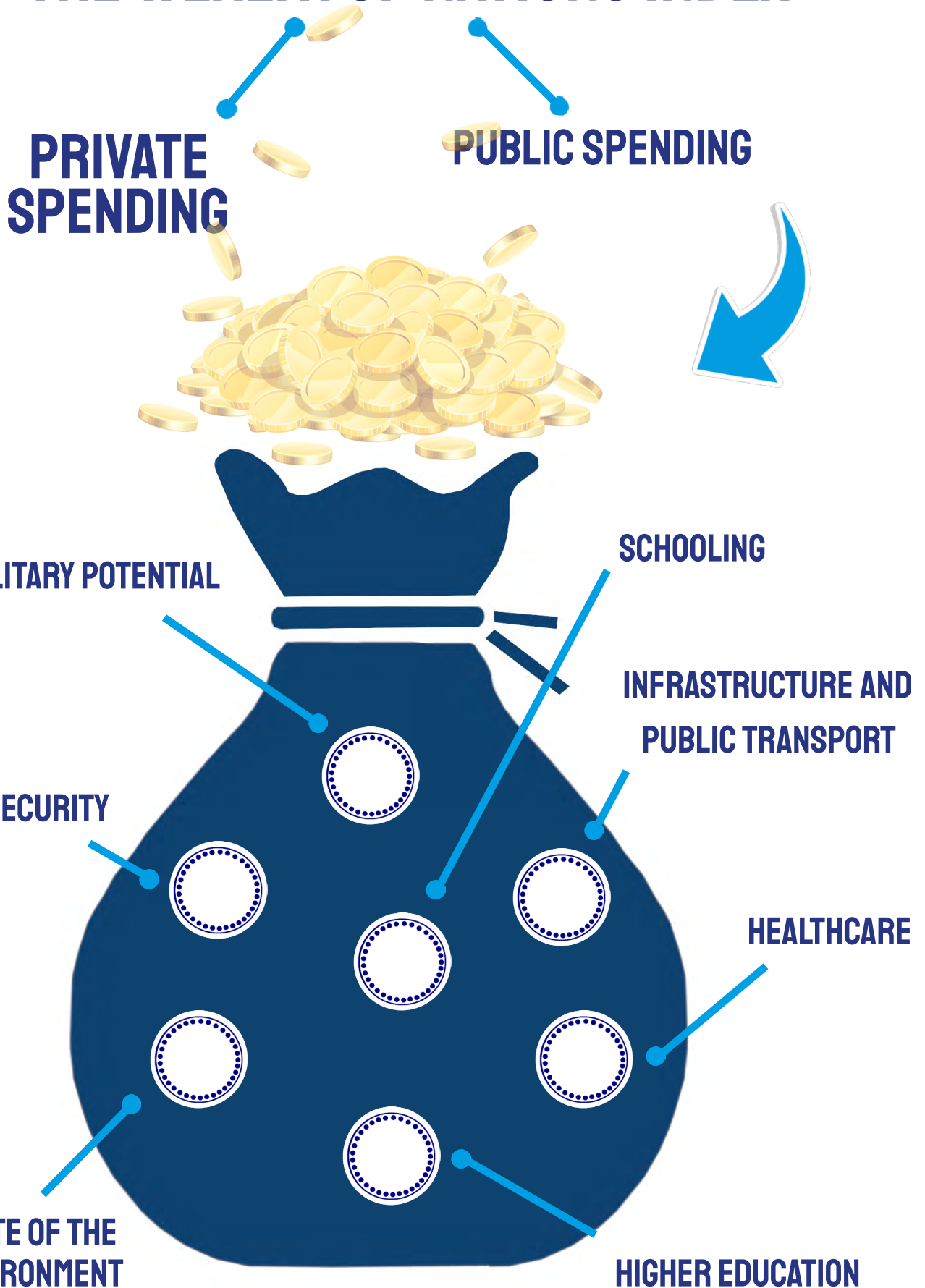


TABLE I

THE WEALTH OF NATIONS INDEX (FOR EU COUNTRY AND UK)*

RANK	COUNTRY	TOTAL SCORE	ADVANCEMENT/DECREASE FROM 2015
1	IRELAND	146,6	0
2	AUSTRIA	100	0
3	DENMARK	98,8	↑ 2
4	NETHERLANDS	95,1	0
5	GERMANY	94,3	↓ 2
6	BELGIUM	89,1	↑ 1
7	FINLAND	87,3	↑ 2
8	SWEDEN	86,1	↓ 2
9	UNITED KINGDOM	85,8	↓ 1
10	FRANCE	81,5	0
11	ITALY	76,9	0
12	SPAIN	75,9	0
13	CZECH REPUBLIC	75,6	0
14	SLOVENIA	74,2	0
15	PORTUGAL	70,5	↑ 1
16	LITHUANIA	70,3	↑ 2
17	ESTONIA	70,1	↓ 2
18	SLOVAK REPUBLIC	60,4	↓ 1
19	POLAND	60,2	↑ 3
20	HUNGARY	58,5	↑ 1
21	LATVIA	58,3	↓ 1
22	GREECE	57,6	↓ 3
23	CROATIA	57,5	0
24	ROMANIA	56,2	0
25	BULGARIA	46,9	0

* CYPRUS, LUXEMBOURG, MALTA ARE NOT INCLUDED.

TABLE 2**GDP PER CAPITA (PPS), PRIVATE ECONOMY**

RANK	COUNTRY	PRIVATE SPENDING PER CAPITA (PPS)	ADVANCEMENT/DECREASE FROM 2015
1	IRELAND	51 652	0
2	AUSTRIA	30 574	0
3	DENMARK	29 565	↑2
4	GERMANY	28 913	↓1
5	NETHERLANDS	28 768	↓1
6	BELGIUM	27 305	0
7	SWEDEN	25 604	0
8	UNITED KINGDOM	25 461	0
9	FINLAND	25 158	0
10	FRANCE	24 229	0
11	ITALY	23 542	0
12	SPAIN	22 436	0
13	CZECH REPUBLIC	21 935	0
14	SLOVENIA	21 551	0
15	LITHUANIA	20 826	↑1
16	PORTUGAL	20 081	↓1
17	ESTONIA	19 601	↑1
18	POLAND	17 638	↑2
19	ROMANIA	17 121	↑4
20	HUNGARY	16 940	↑1
21	SLOVAK REPUBLIC	16 797	↓4
22	LATVIA	16 340	0
23	GREECE	16 105	↓4
24	CROATIA	15 428	0
25	BULGARIA	13 167	0

TABLE 3**PUBLIC SPENDING SCORES**

RANK	COUNTRY	PUBLIC SPENDING	ADVANCEMENT/DECREASE FROM 2015
1	DENMARK	90,7	0
2	FINLAND	88,7	0
3	AUSTRIA	85,9	0
4	NETHERLANDS	84,6	↑ 1
5	UNITED KINGDOM	80,9	↑ 2
6	SWEDEN	80,5	↓ 3
7	GERMANY	80,4	↓ 1
8	ESTONIA	76,6	0
9	FRANCE	76,5	↑ 1
10	BELGIUM	75,9	↓ 1
11	CZECH REPUBLIC	75,7	↑ 2
12	PORTUGAL	74	0
12	SLOVENIA	74	↓ 1
14	SPAIN	72,1	↑ 5
15	CROATIA	69	↓ 1
16	SLOVAK REPUBLIC	67	↓ 1
17	LITHUANIA	66,3	↑ 1
18	ITALY	66	↑ 2
19	IRELAND	64,2	↓ 2
20	LATVIA	63,5	↓ 4
21	GREECE	63,1	↑ 1
22	HUNGARY	58,9	↓ 1
23	POLAND	58,8	↑ 1
24	BULGARIA	50,9	↓ 1
25	ROMANIA	48,9	0

TABLE 4**PUBLIC SPENDING SCORES – MILITARY POTENTIAL SUBCATEGORY**

RANK	COUNTRY	MILITARY POTENTIAL	ADVANCEMENT/DECREASE FROM 2015
1	FRANCE	93,6	↑6
2	CZECH REPUBLIC	93,1	↑3
3	UNITED KINGDOM	91,9	0
4	SWEDEN	90,9	↓2
5	DENMARK	90,1	↓4
6	GREECE	87,7	↑17
7	ITALY	87,2	↑13
8	GERMANY	87,1	0
8	SLOVAK REPUBLIC	87,1	↑4
10	FINLAND	85,5	↓5
11	BULGARIA	85,3	↑10
12	SLOVENIA	84,4	↑1
13	CROATIA	84,3	↓4
14	AUSTRIA	81,9	↓10
15	LITHUANIA	78,7	↑1
16	HUNGARY	77,4	↑3
17	NETHERLANDS	76,9	↓2
18	ESTONIA	76,6	↓8
19	POLAND	75,7	↓5
20	LATVIA	74	↓9
21	SPAIN	72,8	↑4
22	ROMANIA	70,6	↑2
23	PORTUGAL	70,5	↓5
24	ROMANIA	64,9	↓7
25	IRELAND	40,7	↓3

TABLE 5**PUBLIC SPENDING SCORES – INTERNAL SECURITY SUBCATEGORY**

RANK	COUNTRY	INTERNAL SECURITY	ADVANCEMENT/DECREASE FROM 2015
1	AUSTRIA	99,2	0
2	SLOVENIA	97,1	↑ 4
3	DENMARK	96,4	↓ 1
4	FINLAND	94,5	↓ 1
5	CZECH REPUBLIC	93,4	↑ 2
6	ESTONIA	91,8	↑ 3
7	PORTUGAL	90,7	↑ 4
8	CROATIA	90,1	↓ 3
9	NETHERLANDS	89	↑ 5
10	ROMANIA	88,2	0
11	SLOVAK REPUBLIC	87,8	↓ 3
12	POLAND	85,5	↑ 4
13	GERMANY	83,8	↓ 9
14	GERMANY	83,4	↑ 1
15	SPAIN	82,7	↓ 3
16	LITHUANIA	78,9	↑ 2
16	LATVIA	78,9	↑ 4
18	IRELAND	78,4	↑ 5
19	BULGARIA	78,2	0
20	BELGIUM	77,5	↓ 4
21	GREECE	73,5	↑ 4
22	UNITED KINGDOM	72,5	↓ 1
23	SWEDEN	71,9	↓ 10
24	ITALY	71,4	↓ 2
25	FRANCE	67,8	↓ 1

TABLE 6**PUBLIC SPENDING SCORES – INFRASTRUCTURE AND PUBLIC TRANSPORT SUBCATEGORY**

RANK	COUNTRY	INFRASTRUCTURE AND PUBLIC TRANSPORT	ADVANCEMENT/DECREASE FROM 2015
1	NETHERLANDS	99	0
2	GERMANY	97	0
3	FRANCE	94	↑ 1
3	UNITED KINGDOM	94	0
5	AUSTRIA	93,9	↑ 3
6	SPAIN	93	↓ 1
7	BELGIUM	92,4	↓ 1
8	DENMARK	91,3	↑ 1
8	SWEDEN	91,3	↓ 1
10	FINLAND	89	0
11	ITALY	88,6	0
12	CZECH REPUBLIC	85,4	↑ 5
13	PORTUGAL	84,2	↓ 1
14	HUNGARY	82,6	↑ 5
15	POLAND	82,1	↑ 8
16	IRELAND	81,1	↓ 3
17	SLOVENIA	80,2	↓ 3
18	GREECE	79,5	↓ 2
18	SLOVAK REPUBLIC	79,5	↑ 4
20	CROATIA	78,7	0
21	LITHUANIA	77,8	↓ 3
22	ESTONIA	77,7	↓ 7
23	LATVIA	77,2	↓ 2
24	ROMANIA	72,8	↑ 1
25	BULGARIA	71,5	↓ 1

TABLE 7**PUBLIC SPENDING SCORES – STATE OF THE ENVIRONMENT SUBCATEGORY**

RANK	COUNTRY	STATE OF THE ENVIRONMENT	ADVANCEMENT/DECREASE FROM 2015
1	FINLAND	100	0
2	DENMARK	90,8	↑ 5
3	AUSTRIA	88,6	↑ 6
4	IRELAND	88,2	↑ 1
5	NETHERLANDS	87,9	↑ 5
6	GERMANY	86,8	↑ 2
7	SWEDEN	85,9	↓ 5
8	UNITED KINGDOM	82,9	↓ 2
9	PORTUGAL	81,5	↓ 5
10	ESTONIA	81,3	↓ 7
10	FRANCE	81,3	↑ 4
12	SPAIN	80	↑ 3
13	SLOVENIA	76	↓ 2
14	BELGIUM	74,7	↑ 7
15	ITALY	72,7	↑ 9
16	GREECE	70,8	↑ 2
17	LITHUANIA	69,6	↓ 1
18	CROATIA	68,3	↓ 6
19	CZECH REPUBLIC	68,1	↓ 6
20	SLOVAK REPUBLIC	65,2	↓ 3
21	LATVIA	64,6	↓ 1
22	POLAND	57,2	0
23	HUNGARY	57	↓ 4
24	ROMANIA	50,5	↑ 1
25	BULGARIA	46,8	↓ 2

TABLE 8**PUBLIC SPENDING SCORES – HEALTHCARE SUBCATEGORY**

RANK	COUNTRY	HEALTHCARE	ADVANCEMENT/DECREASE FROM 2015
1	DENMARK	99,3	0
2	FRANCE	98,3	↑ 2
3	AUSTRIA	97,9	↑ 3
4	BELGIUM	97,4	↓ 2
5	SPAIN	97,2	↑ 6
5	NETHERLANDS	97,2	↓ 2
7	FINLAND	97	0
8	GERMANY	96,8	↓ 4
9	SWEDEN	95,7	↓ 1
10	UNITED KINGDOM	95	↓ 1
11	PORTUGAL	94,3	↑ 2
12	CZECH REPUBLIC	93,7	0
13	ITALY	91,9	↑ 2
14	ESTONIA	91,2	↓ 4
15	LATVIA	87,6	↑ 4
16	CROATIA	86,5	↑ 2
17	SLOVAK REPUBLIC	85,1	↓ 3
18	POLAND	84,8	↑ 6
19	SLOVENIA	83,4	↓ 3
20	GREECE	83,3	0
21	IRELAND	83,2	↑ 1
22	LATVIA	81	↓ 5
23	ROMANIA	75,8	↑ 2
24	HUNGARY	75,3	↓ 1
25	BULGARIA	71,7	↓ 4

TABLE 9**PUBLIC SPENDING SCORES – SCHOOLING SUBCATEGORY**

RANK	COUNTRY	SCHOOLING	ADVANCEMENT/DECREASE FROM 2015
1	FINLAND	97,5	0
2	DENMARK	96,5	↑ 1
3	SWEDEN	94,8	↑ 7
4	BELGIUM	94,7	↑ 3
5	ESTONIA	94,4	↓ 3
6	POLAND	92,6	↑ 6
7	SLOVENIA	92,5	↓ 3
8	NETHERLANDS	92,2	↓ 2
9	UNITED KINGDOM	91,5	0
10	GERMANY	91,1	↑ 1
11	CZECH REPUBLIC	91	↑ 6
12	LATVIA	90,9	↑ 4
13	AUSTRIA	90,7	↑ 1
14	PORTUGAL	90,4	↓ 7
15	FRANCE	90,1	↓ 2
16	IRELAND	89	↓ 12
17	SLOVAK REPUBLIC	88,5	↑ 6
18	CROATIA	87,4	0
19	SPAIN	87,3	↓ 4
20	ITALY	86,3	↓ 1
21	LATVIA	86,1	↓ 1
21	HUNGARY	86,1	0
23	GREECE	85,8	↓ 1
24	BULGARIA	76,9	0
25	ROMANIA	74,9	0

TABLE 10**PUBLIC SPENDING SCORES – HIGHER EDUCATION SUBCATEGORY**

RANK	COUNTRY	HIGHER EDUCATION	ADVANCEMENT/DECREASE FROM 2015
1	UNITED KINGDOM	100	0
2	DENMARK	96,6	0
3	SWEDEN	94	↑ 1
4	ESTONIA	93,9	↓ 1
5	FINLAND	92,6	↑ 4
6	IRELAND	91,8	↑ 2
7	NETHERLANDS	91,5	↑ 3
8	BELGIUM	91	↓ 3
9	SLOVENIA	86,7	↓ 3
10	AUSTRIA	85,8	↑ 2
11	LATVIA	85,6	↓ 5
12	LITHUANIA	83	↓ 1
13	CROATIA	77,3	0
14	FRANCE	75,9	↑ 3
15	PORTUGAL	74,4	↑ 1
16	GERMANY	72,9	↑ 3
17	SLOVAK REPUBLIC	70	↓ 3
18	CZECH REPUBLIC	69,7	0
18	GREECE	69,7	↑ 3
20	HUNGARY	66,9	0
21	BULGARIA	62,5	↓ 6
22	SPAIN	58,4	↑ 1
23	ITALY	53,1	↑ 1
24	ROMANIA	35,1	↓ 2
25	POLAND	31,2	0

THE WEALTH OF NATIONS INDEX

WNI measures the annual stream of economic benefits per citizen of each EU member state and the United Kingdom. The best-known international benchmark of well-being, the Gross Domestic Product (GDP) *per capita*, works on a similar principle. The difference between these two measurements is the approach to public spending. GDP treats expenditure on final goods equally, regardless of their source. When calculating GDP, one Polish zloty spent by a private person is equivalent to a zloty spent by the public sector. Therefore, it does not matter whether the allocation of resources is decided on by the government or private citizens.

The approach used in the creation of the WNI is quite different. Private expenditure is calculated in the same way as when calculating GDP. Government spending, on the other hand, is evaluated on the basis of its results, not monetary value. The assessment of a proverbial dollar spent by the government depends on the quality of the public services it had been allocated to.

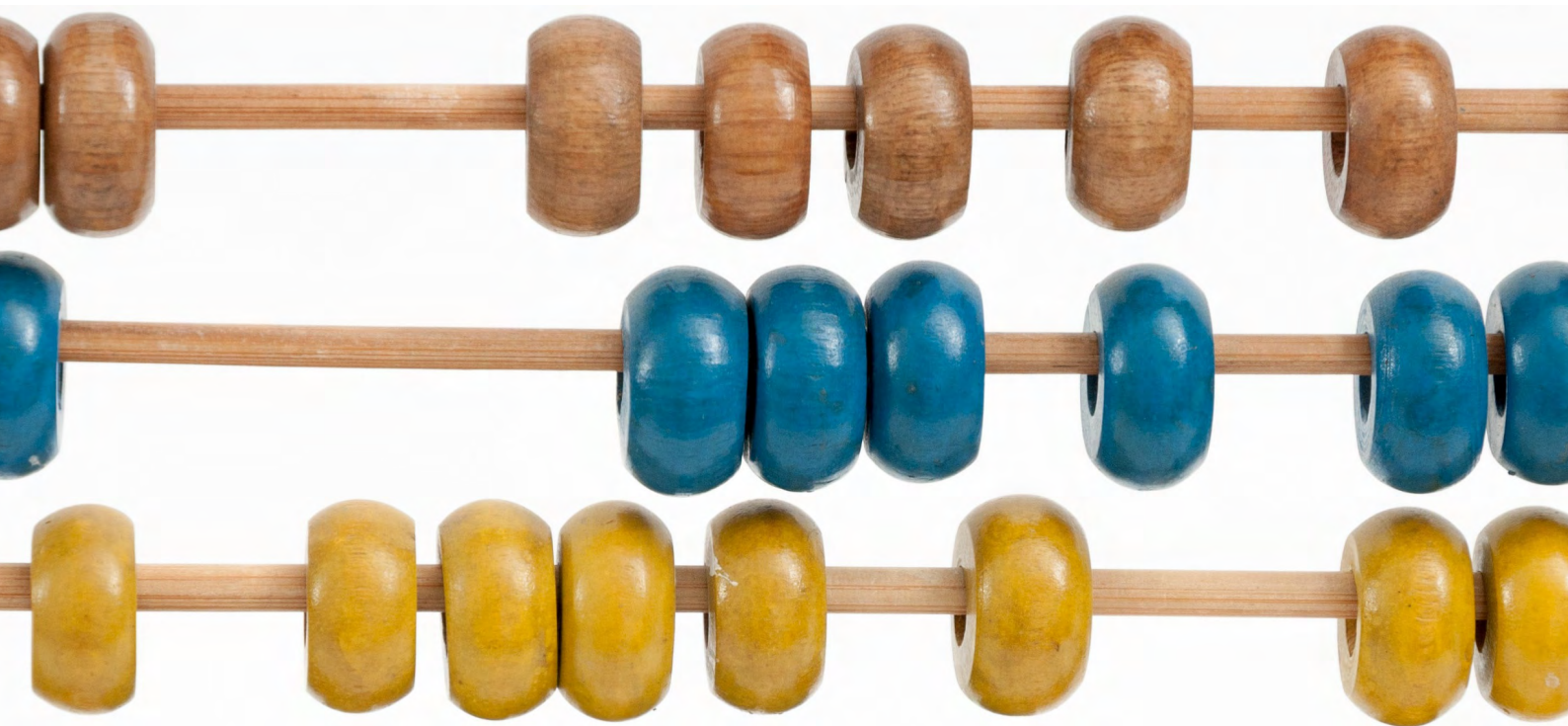
It equals the total GDP minus public expenditure with the exclusion of transfers, i.e., public expenditure that transfers purchasing power from one group of citizens to another). In other words, it is GDP decreased by government consumption spending and government investment. According to the so-called principle of revealed preferences, while shaping the WNI, it was assumed that the expenditure of private entities is optimal. Optimal as in every Polish zloty spent by citizens satisfies their needs to the highest possible degree. For this reason, private expenditure is included in the WNI proportionally to their *per capita* amount. They are then adjusted for disparity in purchasing power between individual countries. This procedure realigns the amount of said expenditure, taking into account the differences in the level of prices between countries. In “expensive” countries, i.e., with high living costs, less goods and services can be purchased for 1 PLN of private spending than in “cheap” countries. In short, the level of private spending *per capita* after purchasing power adjustment is a measure of the real economic benefits that come from decisions on fund allocation in the economy made by citizens.

PRIVATE EXPENDITURE

Private expenditure should be understood as that part of the economy in which these are the citizens who decide about the allocation of resources.

PUBLIC EXPENDITURE

Public expenditure should be understood as expenses made by the government in a sense similar to that of national accounts. They inclu-



de government consumption expenditure (final goods and services rendered to citizens) and government investment. The WNI measures the benefits of public spending by applying a specific indicator to the quality of public spending. It evaluates the quality of public services in seven areas that correspond loosely to OECD's key categories described in the *Classifications of the Functions of Government* (COFOG). The performance of each country in all of these areas was assessed by aggregating existing indices or quality measures for each function. A complete list of the seven areas with the measures used to assess them is provided below.

NO.	AREA	ASSESS THEM IS PROVIDED
I	NATIONAL DEFENCE	GLOBAL FIREPOWER INDEX
		GLOBAL PEACE INDEX
II	INTERNAL SECURITY	GLOBAL PEACE INDEX
		NUMBEO'S CRIME INDEX
III	INFRASTRUCTURE AND PUBLIC TRANSPORT	GLOBAL COMPETITIVENESS INDEX, SUBCATEGORY INFRASTRUCTURE
		LOGISTICS PERFORMANCE INDEX, SUBCATEGORY INFRASTRUCTURE
IV	ENVIRONMENT	ENVIRONMENTAL PERFORMANCE INDEX, SUBCATEGORY ENVIRONMENTAL HEALTH
		NUMBEO'S POLLUTION INDEX
V	HEALTHCARE	STC HEALTH INDEX
		NUMBEO'S HEALTHCARE INDEX
VI	PRIMARY AND SECONDARY EDUCATION	PISA (AVERAGE SCORE IN 3 EVALUATED CATEGORIES)
		GLOBAL INNOVATION INDEX, SUBCATEGORY EDUCATION
VII	HIGHER EDUCATION	QS WORLD UNIVERSITY RANKINGS
		ACADEMIC RANKING OF WORLD UNIVERSITIES
		TIMES HIGHER EDUCATION WORLD UNIVERSITY RANKINGS

The individual results from all areas were aggregated, obtaining a public expenditure quality

index for EU countries, ranging from 0 to 100. As some measures are not calculated for the smallest EU countries, the WNI does not include Cyprus, Luxembourg or Malta.

INDEX VALUE

The WNI value is the sum of the public expenditure component and the private expenditure component. The former is directly proportional to *per capita* private expenditure adjusted for purchasing power. The latter is proportional to the product of average public expenditure in the European Union and the quality indicator of public expenditure described above. This second component is additionally multiplied by a factor called the *public spending bonus*. In order to obtain a more appropriate assessment of the importance of public spending, and to avoid the pro-liberal bias of the WNI, the contribution of public expenditure to the indicator is multiplied by the factor (1 + bonus). It increases the potential value of public expenditure in relation to the value of private expenditure. This means that 1 zloty spent by the government in an optimal manner (in which the public spending quality indicator is at its maximum value) is included in the WNI as (1 + bonus) zlotys (e.g., in case of the bonus value suggested by WEI, i.e., 50%, it will be 1 zloty 50 grosz). This solution corresponds to the optimistic assumption that governments spend money in those segments of the economy where a market regime would perform worse than resources allocated by the state. Most importantly, regardless of the interpretation, the described move gives an advantage to the public sector, even though it may squandered by providing citizens with low-quality public services.

To summarise, the Wealth of Nations Index is thus calculated as:

Private expenditure *per capita*, adjusted for purchasing power + Average public expenditure in the EU *per capita*
✖ Public expenditure quality indicator
✖ (1 + bonus)



Sfinansowano przez Narodowy Instytut
Wolności - Centrum Rozwoju
Społeczeństwa Obywatelskiego
ze środków Programu Rozwoju
Organizacji Obywatelskich
na lata 2018 – 2030



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**FONTS USED:
STAATLICHES, ARCHIWO NARROW,
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