

Human Development Indices and Indicators: 2018 Statistical Update

Briefing note for countries on the 2018 Statistical Update

Bulgaria



Introduction

This briefing note is organized into ten sections. The first section presents information on the country coverage and methodology of the 2018 Statistical Update. The next five sections provide information about key indicators of human development including the Human Development Index (HDI), the Inequality-adjusted Human Development Index (IHDI), the Gender Development Index (GDI), the Gender Inequality Index (GII) and a section with five dashboards.

This Statistical Update does not contain the Multidimensional Poverty Index (MPI). This year, the MPI was computed using the methodology jointly revised by the Oxford Poverty and Human Development Initiative (OPHI) and the Human Development Report Office (HDRO) and it will be available in due course.

It is important to note that national and international data can differ because international agencies standardize national data to allow comparability across countries and in some cases may not have access to the most recent national data.

Country coverage and the methodology of the 2018 Statistical Update

The 2018 Statistical Update presents the 2017 HDI (values and ranks) for 189 countries and UN-recognized territories, along with the IHDI for 151 countries, the GDI for 164 countries, and the GI for 160 countries. It is misleading to compare values and rankings with those of previously published reports, because of revisions and updates of the underlying data and adjustments to goalposts. Readers are advised to assess progress in HDI values by referring to table 2 ('Human Development Index Trends') in the 2018 Statistical Update. Table 2 is based on consistent indicators, methodology and time-series data and, thus, shows real changes in values and ranks over time, reflecting the actual progress countries have made. Small changes in values should be interpreted with caution as they may not be statistically significant due to sampling variation. Generally speaking, changes at the level of the third decimal place in any of the composite indices are considered insignificant.

Unless otherwise specified in the source, tables use data available to HDRO as of 15 July 2018. All indices and indicators, along with technical notes on the calculation of composite indices, and additional source information are available online at <http://hdr.undp.org/en/data>

For further details on how each index is calculated please refer to [Technical Notes 1-5](#) and the associated background papers available on the Human Development Report website: <http://hdr.undp.org/en/data>

Human Development Index (HDI)

The HDI is a summary measure for assessing long-term progress in three basic dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living. A long and healthy life is measured by life expectancy. Knowledge level is measured by mean years of education among the adult population, which is the average number of years of education received in a life-time by people aged 25 years and older; and access to learning and knowledge by expected years of schooling for children of school-entry age, which is the total number of years of schooling a child of school-entry age can expect to receive if prevailing patterns of age-specific enrolment rates stay the same throughout the child's life. Standard of living is measured by Gross National Income (GNI) per capita expressed in constant 2011 international dollars converted using purchasing power parity (PPP) conversion rates. For more details see [Technical Note 1](#).

To ensure as much cross-country comparability as possible, the HDI is based primarily on international data from the United Nations Population Division (the life expectancy data), the United Nations Educational, Scientific and Cultural Organization Institute for Statistics (the mean years of schooling and expected years of schooling data) and the World Bank (the GNI per capita data). As stated in the introduction, the HDI values and ranks in this Statistical Update are not comparable to those in past reports because of a number of revisions to the component indicators. To allow for assessment of progress in HDIs, the 2018 Statistical Update includes recalculated HDIs from 1990 to 2017 using consistent series of data.

Bulgaria’s HDI value and rank

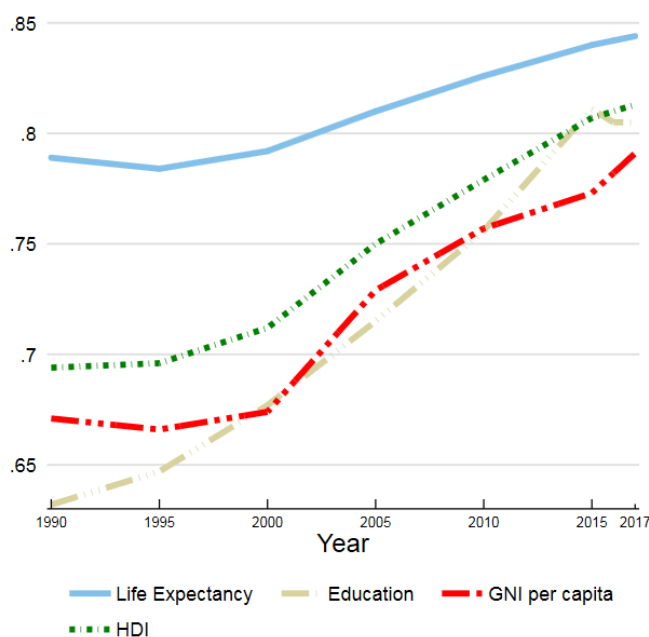
Bulgaria’s HDI value for 2017 is 0.813— which put the country in the very high human development category—positioning it at 51 out of 189 countries and territories. Between 1990 and 2017, Bulgaria’s HDI value increased from 0.694 to 0.813, an increase of 17.1 percent. Table A reviews Bulgaria’s progress in each of the HDI indicators. Between 1990 and 2017, Bulgaria’s life expectancy at birth increased by 3.6 years, mean years of schooling increased by 2.9 years and expected years of schooling increased by 2.7 years. Bulgaria’s GNI per capita increased by about 120.0 percent between 1990 and 2017.

Table A: Bulgaria’s HDI trends based on consistent time series data and new goalposts

	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (2011 PPP\$)	HDI value
1990	71.3	12.1	8.9	8,518	0.694
1995	70.9	12.1	9.3	8,210	0.696
2000	71.5	12.9	9.5	8,642	0.712
2005	72.7	13.5	10.2	12,461	0.750
2010	73.7	14.4	10.6	14,976	0.779
2015	74.6	15.1	11.8	16,663	0.807
2016	74.7	14.8	11.8	17,759	0.810
2017	74.9	14.8	11.8	18,740	0.813

Figure 1 below shows the contribution of each component index to Bulgaria’s HDI since 1990.

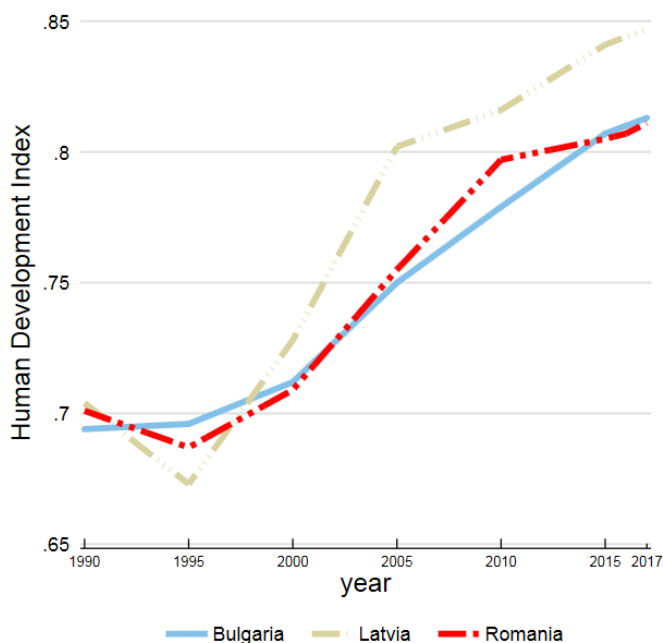
Figure 1: Trends in Bulgaria’s HDI component indices 1990-2017



Assessing progress relative to other countries

The human development progress, as measured by the HDI, can usefully be compared to other countries. For instance, during the period between 1990 and 2017 Bulgaria, Romania and Latvia experienced different degrees of progress toward increasing their HDIs (see figure 2).

Figure 2: HDI trends for Bulgaria, Romania and Latvia, 1990-2017



Bulgaria's 2017 HDI of 0.813 is below the average of 0.894 for countries in the very high human development group and below the average of 0.899 for countries in European Union. From European Union, countries which are close to Bulgaria in 2017 HDI rank and to some extent in population size are Croatia and Serbia, which have HDIs ranked 46 and 67 respectively (see table B).

Table B: Bulgaria's HDI and component indicators for 2017 relative to selected countries and groups

	HDI value	HDI rank	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (PPP US\$)
Bulgaria	0.813	51	74.9	14.8	11.8	18,740
Croatia	0.831	46	77.8	15.0	11.3	22,162
Serbia	0.787	67	75.3	14.6	11.1	13,019
European Union	0.899	—	81.1	16.9	11.9	36,973
Very high HDI	0.894	—	79.5	16.4	12.2	40,041

Inequality-adjusted HDI (IHDI)

The HDI is an average measure of basic human development achievements in a country. Like all averages, the HDI masks inequality in the distribution of human development across the population at the country level. The 2010 HDR introduced the IHDI, which takes into account inequality in all three dimensions of the HDI by 'discounting' each dimension's average value according to its level of inequality. The IHDI is basically the HDI discounted for inequalities. The 'loss' in human development due to inequality is given by the difference between the HDI and the IHDI, and can be expressed as a percentage. As the inequality in a country increases, the loss in human development also increases. We

also present the coefficient of human inequality as a direct measure of inequality which is an unweighted average of inequalities in three dimensions. The IHDI is calculated for 151 countries. For more details see [Technical Note 2](#).

Bulgaria's HDI for 2017 is 0.813. However, when the value is discounted for inequality, the HDI falls to 0.710, a loss of 12.7 percent due to inequality in the distribution of the HDI dimension indices. Croatia and Serbia show losses due to inequality of 9.0 percent and 15.2 percent respectively. The average loss due to inequality for very high HDI countries is 10.7 percent and for European Union it is 10.1 percent. The Human inequality coefficient for Bulgaria is equal to 12.3 percent.

Table C: Bulgaria's IHDI for 2017 relative to selected countries and groups

	IHDI value	Overall loss (%)	Human inequality coefficient (%)	Inequality in life expectancy at birth (%)	Inequality in education (%)	Inequality in income (%)
Bulgaria	0.710	12.7	12.3	6.7	6.5	23.6
Croatia	0.756	9.0	8.8	4.1	5.0	17.3
Serbia	0.667	15.2	14.6	7.1	8.1	28.7
European Union	0.808	10.1	9.9	3.6	7.1	18.9
Very high HDI	0.799	10.7	10.4	5.0	6.3	20.1

Gender Development Index (GDI)

In the 2014 HDR, HDRO introduced a new measure, the GDI, based on the sex-disaggregated Human Development Index, defined as a ratio of the female to the male HDI. The GDI measures gender inequalities in achievement in three basic dimensions of human development: health (measured by female and male life expectancy at birth), education (measured by female and male expected years of schooling for children and mean years for adults aged 25 years and older); and command over economic resources (measured by female and male estimated GNI per capita). For details on how the index is constructed refer to [Technical Note 3](#). Country groups are based on absolute deviation from gender parity in HDI. This means that the grouping takes into consideration inequality in favour of men or women equally.

The GDI is calculated for 164 countries. The 2017 female HDI value for Bulgaria is 0.808 in contrast with 0.816 for males, resulting in a GDI value of 0.990, placing it into Group 1. In comparison, GDI values for Croatia and Serbia are 0.991 and 0.976 respectively (see Table D).

Table D: Bulgaria's GDI for 2017 relative to selected countries and groups

	Life expectancy at birth		Expected years of schooling		Mean years of schooling		GNI per capita		HDI values		F-M ratio
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	GDI value
Bulgaria	78.4	71.5	15.0	14.6	11.9	11.8	14,777	22,930	0.808	0.816	0.990
Croatia	81.0	74.5	15.7	14.3	11.2	11.7	17,507	27,164	0.828	0.835	0.991
Serbia	78.2	72.5	15.1	14.2	10.7	11.6	10,672	15,474	0.777	0.796	0.976
European Union	83.7	78.5	17.2	16.5	11.7	12.2	29,098	45,177	0.887	0.908	0.977
Very high HDI	82.4	76.7	16.9	16.0	12.2	12.3	30,276	50,033	0.884	0.899	0.983

Gender Inequality Index (GII)

The 2010 HDR introduced the GII, which reflects gender-based inequalities in three dimensions – reproductive health, empowerment, and economic activity. Reproductive health is measured by maternal mortality and adolescent birth rates; empowerment is measured by the share of parliamentary seats held by women and attainment in secondary and higher education by each gender; and economic activity is measured by the labour market participation rate for women and men. The GII can be interpreted as the

loss in human development due to inequality between female and male achievements in the three GII dimensions. For more details on GII please see [Technical Note 4](#).

Bulgaria has a GII value of 0.217, ranking it 46 out of 160 countries in the 2017 index. In Bulgaria, 23.8 percent of parliamentary seats are held by women, and 93.7 percent of adult women have reached at least a secondary level of education compared to 96.1 percent of their male counterparts. For every 100,000 live births, 11 women die from pregnancy related causes; and the adolescent birth rate is 39.5 births per 1,000 women of ages 15-19. Female participation in the labour market is 47.8 percent compared to 59.6 for men.

In comparison, Croatia and Serbia are ranked at 29 and 40 respectively on this index.

Table E: Bulgaria's GII for 2017 relative to selected countries and groups

	GII value	GII Rank	Maternal mortality ratio	Adolescent birth rate	Female seats in parliament (%)	Population with at least some secondary education (%)		Labour force participation rate (%)	
						Female	Male	Female	Male
Bulgaria	0.217	46	11	39.5	23.8	93.7	96.1	47.8	59.6
Croatia	0.124	29	8	8.9	18.5	94.5	96.9	45.5	57.7
Serbia	0.181	40	17	18.9	34.4	84.6	93.0	45.9	61.7
European Union	0.111	—	8	10.1	29.4	83.9	87.7	51.1	63.9
Very high HDI	0.170	—	15	15.9	26.7	88.8	89.5	52.9	68.9

Maternal mortality ratio is expressed in number of deaths per 100,000 live births and adolescent birth rate is expressed in number of births per 1,000 women ages 15-19.

Dashboards 1-5

Countries are grouped partially by their performance in each indicator into three groups of approximately equal size (terciles), thus, there is the top third, the middle third and the bottom third. The intention is not to suggest the thresholds or target values for these indicators but to allow a crude assessment of country's performance relative to others. Three-colour coding visualizes a partial grouping of countries by indicator. It can be seen as a simple visualization tool as it helps the users to immediately picture the country's performance. A country that is in the top group performs better than at least two thirds of countries (i.e., it is among the top third performers); a country that is in the middle group performs better than at least one third but worse than at least one third (i.e., it is among the medium third performers); and a country that is in the bottom third performs worse than at least two thirds of countries (i.e., it is among the bottom third performers). Three-color coding visualizes a partial grouping of countries by indicator. More details about partial grouping in this table are given in [Technical note 6](#).

Dashboard 1: Quality of human development

This dashboard contains a selection of 13 indicators associated with the quality of health, education and standard of living. The indicators on quality of health are lost health expectancy, number of physicians, and number of hospital beds. The indicators on quality of education are pupil-teacher ratio in primary schools; primary school teachers trained to teach; proportion of schools with access to the internet; and the Programme for International Student Assessment (PISA) scores in mathematics, reading and science. The indicators on quality of standard of living are the proportion of employed people engaged in vulnerable employment, the proportion of rural population with access to electricity, the proportion of population using improved drinking water sources and proportion of population using improved sanitation facilities.

A country that is in the top third group on all indicators can be considered a country with the highest quality of human development. The dashboard shows that not all countries in the very high human development group have the highest quality of human development and that many countries in the low human development group are in the bottom third of all quality indicators in the table.

Table F provides the number of indicators in which Bulgaria performs: better than at least two thirds of countries (i.e., it is among the top third performers); better than at least one third but worse than at least one third (i.e., it is among the medium third performers); and worse than at least two thirds of countries (i.e., it is among the bottom third performers). Figures for Croatia and Serbia are also shown in the table for comparison.

Table F: Summary of Bulgaria's performance on the Quality of human development indicators relative to selected countries

	Quality of health (3 indicators)			Quality of education (6 indicators)			Quality of standard of living (4 indicators)			Overall (13 indicators)			Missing indicators
	Top third	Middle third	Bottom third	Top third	Middle third	Bottom third	Top third	Middle third	Bottom third	Top third	Middle third	Bottom third	
	Number of indicators												
Bulgaria	3	0	0	0	3	1	3	1	0	6	4	1	2
Croatia	2	1	0	2	3	0	4	0	0	8	4	0	1
Serbia	1	2	0	1	0	1	1	3	0	3	5	1	4

Dashboard 2: Life-course gender gap

This dashboard contains a selection of 12 key indicators that display gender gaps in choices and opportunities over the life course – childhood and youth, adulthood and older age. The indicators refer to education, labour market and work, political representation, time use and social protection. Three indicators are presented only for women and the rest are given in the form of female-to-male ratio. Countries are grouped partially by their performance in each indicator into three groups of approximately equal size (terciles). Sex ratio at birth is an exception - countries are grouped into two groups: the natural group (countries with a value of 1.04-1.07, inclusive) and the gender-biased group (countries with all other values). Deviations from the natural sex ratio at birth have implications for population replacement levels, suggest possible future social and economic problems and may indicate gender bias.

Table G provides the number of indicators in which Bulgaria performs: better than at least two thirds of countries (i.e., it is among the top third performers), better than at least one third but worse than at least one third (i.e., it is among the medium third performers), and worse than at least two thirds of countries (i.e., it is among the bottom third performers). Figures for Croatia and Serbia are also shown in the table for comparison.

Table G: Summary of Bulgaria's performance on the Life-course gender gap dashboard relative to selected countries

	Childhood and youth (5 indicators)			Adulthood (6 indicators)			Older age (1 indicator)			Overall (12 indicators)			Missing indicators
	Top third	Middle third	Bottom third	Top third	Middle third	Bottom third	Top third	Middle third	Bottom third	Top third	Middle third	Bottom third	
	Number of indicators												
Bulgaria	4	1	0	3	3	0	1	0	0	8	4	0	0
Croatia	3	1	1	3	1	0	0	0	1	6	2	2	2
Serbia	4	1	0	2	4	0	0	1	0	6	6	0	0

Dashboard 3: Women’s empowerment

This dashboard contains a selection of 13 woman-specific empowerment indicators that allows empowerment to be compared across three dimensions – reproductive health and family planning, violence against girls and women and socioeconomic empowerment. Three-color coding visualizes a partial grouping of countries by indicator. Most countries have at least one indicator in each tercile, which implies that women’s empowerment is unequal across indicators and countries.

Table H provides the number of indicators in which Bulgaria performs: better than at least two thirds of countries (i.e., it is among the top third performers), better than at least one third but worse than at least one third (i.e., it is among the medium third performers), and worse than at least two thirds of countries (i.e., it is among the bottom third performers). Figures for Croatia and Serbia are also shown in the table for comparison.

Table H: Summary of Bulgaria’s performance on the Women’s empowerment dashboard relative to selected countries

	Reproductive health and family planning (6 indicators)			Violence against girls and women (3 indicators)			Socioeconomic empowerment (4 indicators)			Overall (13 indicators)			Missing indicators
	Top third	Middle third	Bottom third	Top third	Middle third	Bottom third	Top third	Middle third	Bottom third	Top third	Middle third	Bottom third	
	Number of indicators												
Bulgaria	3	1	0	0	2	0	2	2	0	5	5	0	3
Croatia	3	0	0	2	0	0	3	0	1	8	0	1	4
Serbia	3	3	0	1	0	0	2	2	0	6	5	0	2

Dashboard 4: Environmental sustainability

This dashboard contains a selection of 9 indicators that cover environmental sustainability and environmental threats. The environmental sustainability indicators present levels of or changes in energy consumption, carbon-dioxide emissions, change in forest area and fresh water withdrawals. The environmental threats indicators are mortality rates attributed to household and ambient air pollution and to unsafe water, sanitation and hygiene services, and the International Union for Conservation of Nature Red List Index value, which measures change in aggregate extinction risk across groups of species. The percentage of total land area under forest is not coloured because it is meant to provide context for the indicator on change in forest area.

Table I provides the number of indicators in which Bulgaria performs: better than at least two thirds of countries (i.e., it is among the top third performers), better than at least one third but worse than at least one third (i.e., it is among the medium third performers), and worse than at least two thirds of countries (i.e., it is among the bottom third performers). Figures for Croatia and Serbia are also shown in the table for comparison.

Table I: Summary of Bulgaria's performance on the Environmental Sustainability dashboard relative to selected countries

	Environmental sustainability (6 indicators)			Environmental threats (3 indicators)			Overall (9 indicators)			Missing indicators
	Top third	Middle third	Bottom third	Top third	Middle third	Bottom third	Top third	Middle third	Bottom third	
	Number of indicators									
Bulgaria	1	2	3	2	1	0	3	3	3	0
Croatia	1	5	0	2	1	0	3	6	0	0
Serbia	2	2	2	1	2	0	3	4	2	0

Dashboard 5: Socioeconomic sustainability

This dashboard contains a selection of 10 indicators that cover economic and social sustainability. The economic sustainability indicators are adjusted net savings, total debt service, gross capital formation, skilled labour force, diversity of exports and expenditure on research and development. The social sustainability indicators are the ratio of the sum of education and health expenditure to military expenditure, changes in inequality of HDI distribution, and changes in gender and income inequality. Military expenditure is not coloured because it is meant to provide context for the indicator on education and health expenditure and it is not directly considered as an indicator of socioeconomic sustainability.

Table J provides the number of indicators in which Bulgaria performs: better than at least two thirds of countries (i.e., it is among the top third performers), better than at least one third but worse than at least one third (i.e., it is among the medium third performers), and worse than at least two thirds of countries (i.e., it is among the bottom third performers). Figures for Croatia and Serbia are also shown in the table for comparison.

Table J: Summary of Bulgaria's performance on the Socioeconomic sustainability dashboard relative to selected countries

	Economic sustainability (6 indicators)			Social sustainability (4 indicators)			Overall (10 indicators)			Missing indicators
	Top third	Middle third	Bottom third	Top third	Middle third	Bottom third	Top third	Middle third	Bottom third	
	Number of indicators									
Bulgaria	4	1	1	0	2	1	4	3	2	1
Croatia	2	3	0	2	1	0	4	4	0	2
Serbia	1	3	2	1	1	1	2	4	3	1