

Harmonic Development Index (H2DI)

A novel approach to measure environmental,
social, and economic development



7 November 2023



Economic policy dissemination

The main question:

*How can we measure the
sustainable development
of well-being?*

Research area: **Beyond GDP**

Research area: the research area on the measurement of well-being (beyond GDP) explores alternative ways of measuring economic development and national well-being, going beyond the traditional measure of gross domestic product (GDP). GDP has long been one of the most used tools to measure the economic performance of nations, but it is increasingly criticized for not giving a complete picture of a country's well-being or the quality of life of its citizens.

The new approach to measuring well-being has the following characteristics:

- The research area takes into account not only economic indicators but also indicators in other areas such as **health, access to education, environmental sustainability and social inequality**.
- The **sustainability aspect is increasingly emphasized**. In addition to environmental and social sustainability, financial sustainability is also examined.
- The research area has a strong focus on **social well-being**, which includes quality of life, happiness levels and other non-material factors.

Overall, the beyond GDP research area aims to provide a much more comprehensive and holistic picture of countries' well-being, to help policy makers make better political and economic decisions.

Literature review: Options for measuring well-being (beyond GDP) 1/2





Study	Key results
<p>Decancq, K., Schokkaert, E. Beyond GDP: Using Equivalent Incomes to Measure Well-Being in Europe. Soc Indic Res 126, 21–55 (2016).</p>	<p>It has become widely accepted that focusing solely on income growth can lead to narrow a measure of changes in welfare. People are also interested in other dimensions of life, such as their health, employment, social interactions and personal security. Moreover, focusing exclusively on income growth does not take into account the social distribution of income and wealth. Policymakers need to be aware of this to begin the transition to an era beyond GDP.</p>
<p>Marco Giesselmann & Richard Hilmer & Nico A. Siegel & Gert G. Wagner, 2013. "Measuring Well-Being: W3 Indicators to Complement GDP," DIW Economic Bulletin, DIW Berlin, German Institute for Economic Research, vol. 3(5), pages 10-19.</p>	<p>In Germany, many people - including politicians and academics - believe that gross domestic product (GDP) is an outdated indicator of a society's well-being. That is why, at the end of 2010, the German Bundestag, the federal parliament, set up an Enquete Commission to develop an alternative to GDP as a measure of growth, welfare and quality of life. This commission also proposed to add nine additional indicators to GDP, including a wide range of factors such as income distribution, biodiversity and life expectancy. The ten indicators cover the three dimensions of well-being - economic, ecological and social - and are therefore called W3 indicators.</p>
<p>If the GDP Is Up, Why Is America Down? By Clifford Cobb, Ted Halstead, and Jonathan Rowe (1995)*</p>	<p>The GPI is an attempt to incorporate household non-market services and environmental contributions and damages into a single monetary indicator of current economic welfare. As a monetary indicator, it is directly comparable to GDP and useful for policy simulations as it can measure impacts in monetary terms.</p>

* Online journal, first mention of GPI

Literature review: Options for measuring well-being (beyond GDP) 2/2

Study	Key results
<p>Jones, Charles I., and Peter J. Klenow. 2016. "Beyond GDP? Welfare across Countries and Time." <i>American Economic Review</i>, 106 (9): 2426-57.</p>	<p>Creating a measure that includes consumption, leisure, mortality and inequality. The calculation was first carried out for a narrow group of countries using detailed micro-data and then more widely using multi-country data sets.</p>
<p>Ida Kubiszewski, Robert Costanza, Carol Franco, Philip Lawn, John Talberth, Tim Jackson, Camille Aylmer: Beyond GDP: Measuring and achieving global genuine progress, <i>Ecological Economics</i>, Volume 93, 2013, Pages 57-68.</p>	<p>The GPI is not a perfect indicator of economic well-being, but it is a much better approximation than GDP. Development policies need to be transformed to take better account of real well-being, not just GDP growth.</p>
<p>Bleys, Brent. "Beyond GDP: Classifying Alternative Measures for Progress." <i>Social Indicators Research</i>, vol. 109, no. 3, 2012, pp. 355–76. JSTOR, http://www.jstor.org/stable/23325435. Accessed 2 Nov. 2023.</p>	<p>A new classification system is presented. They focus on three concepts of well-being: welfare, economic well-being and sustainability.</p>
<p>Luca Coscieme, Lars F. Mortensen, Sharolyn Anderson, James Ward, Ian Donohue, Paul C. Sutton: Going beyond Gross Domestic Product as an indicator to bring coherence to the Sustainable Development Goals, <i>Journal of Cleaner Production</i>, Volume 248, 2020, 119232</p>	<p>The risk of pursuing unconditional GDP growth is that the SDGs (sustainability indicators) will not be achieved overall. It has been shown that GDP in the European Union is not dependent on other indicators of economic performance, such as employment levels, and is inversely correlated with indicators of environmental sustainability and broader indicators of well-being.</p>
<p>Boarini, Romina, and Marco Mira d'Ercole: "Going beyond GDP: An OECD Perspective." <i>Fiscal Studies</i>, vol. 34, no. 3, 2013, pp. 289–314.</p>	<p>The document presents the OECD Better Life Index. The index is an interactive tool that allows for cross-country comparisons.</p>

Indices: The economic literature on measuring economic growth and development is extensive but often controversial due to the methodologies used and the number of variables involved

	 Human Development Index (HDI)	 Inclusive Development Index (IDI)	 Global Competitiveness Index (GCI)	 Better Life Index (BLI)
Short description of the indicator	Try to measure the development of a country with 3 indicators	Provide a deeper and more comprehensive picture of a country's economic development than traditional GDP-based indicators	It assesses the economic competitiveness of countries. The index aims to identify which countries are capable of economic growth over the next medium term (5-10 years).	The 11-factor Index aims to capture overall well-being.
Limitations	<ul style="list-style-type: none"> Simplification methodology Few variables Subjective definition and weighting 	<ul style="list-style-type: none"> Simplification methodology Application of equal weighting 	<ul style="list-style-type: none"> Ignoring social impacts, inequalities Economic focus indicators over-represented High number of subjective opinion indicators 	<ul style="list-style-type: none"> No fixed weighting and ranking Sustainability criteria are not built in
Number of variables included	4	12	64	24
– of which objective	4	12	29	16
– of which subjective	0	0	35	8
Number of countries covered	189	103	141	34

Makronom Institute: Our research shows that well-being can be measured along 6 domains



How can competitiveness be defined?

An economy is competitive if its population can enjoy high and raising standards of living and high rates of employment on a sustainable basis. More precisely, the level of economic activity should not cause an unsustainable external balance of the economy nor should it compromise the welfare of future generations (European Commission, 2000).



What are the key criteria for sustainable development and competitiveness?

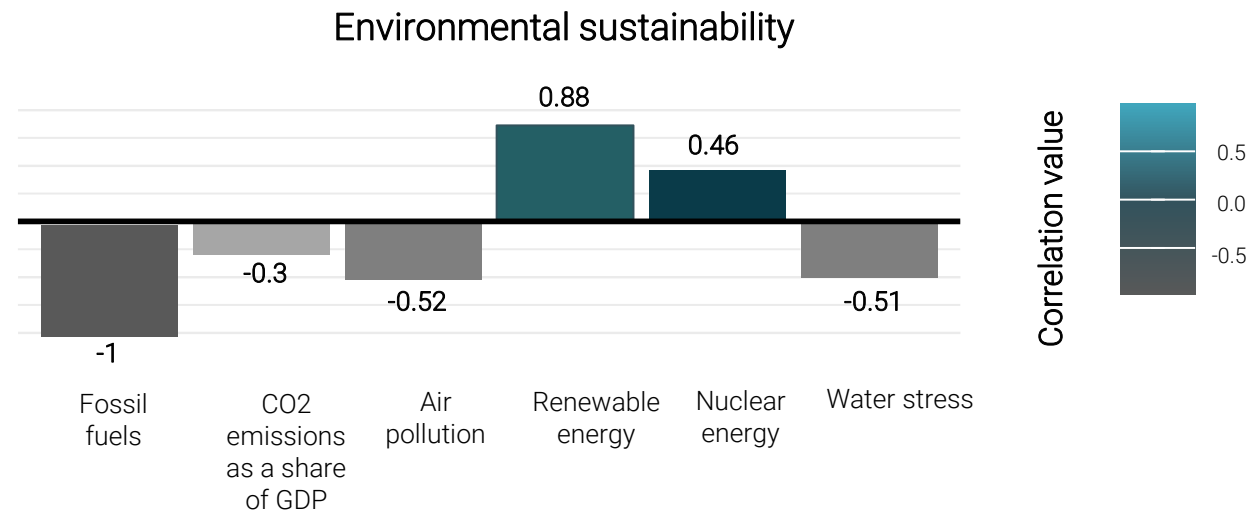
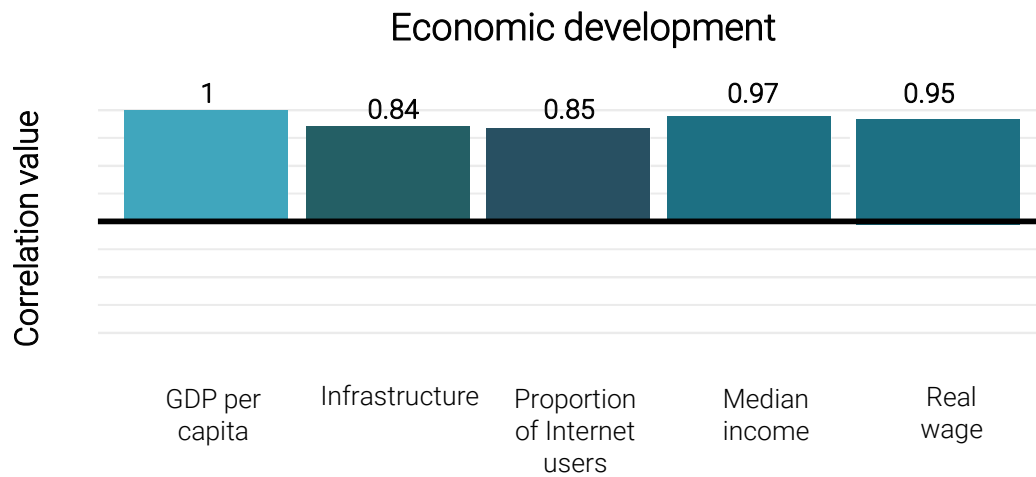
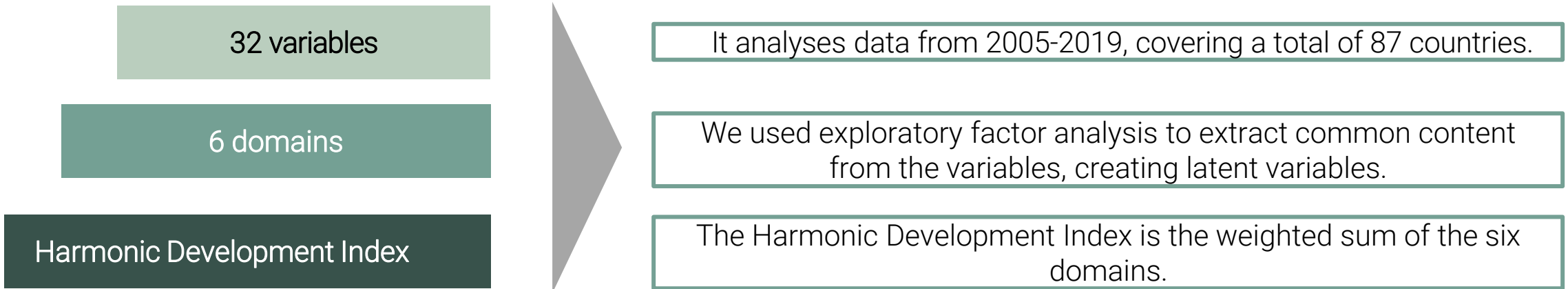
1. Economic development
2. Financial sustainability
3. Environmental sustainability
4. Work- and knowledge-based society
5. Social sustainability
6. Demographic sustainability

The Harmonic Development Index measures the capacity for sustainable development at the global (macro) level.

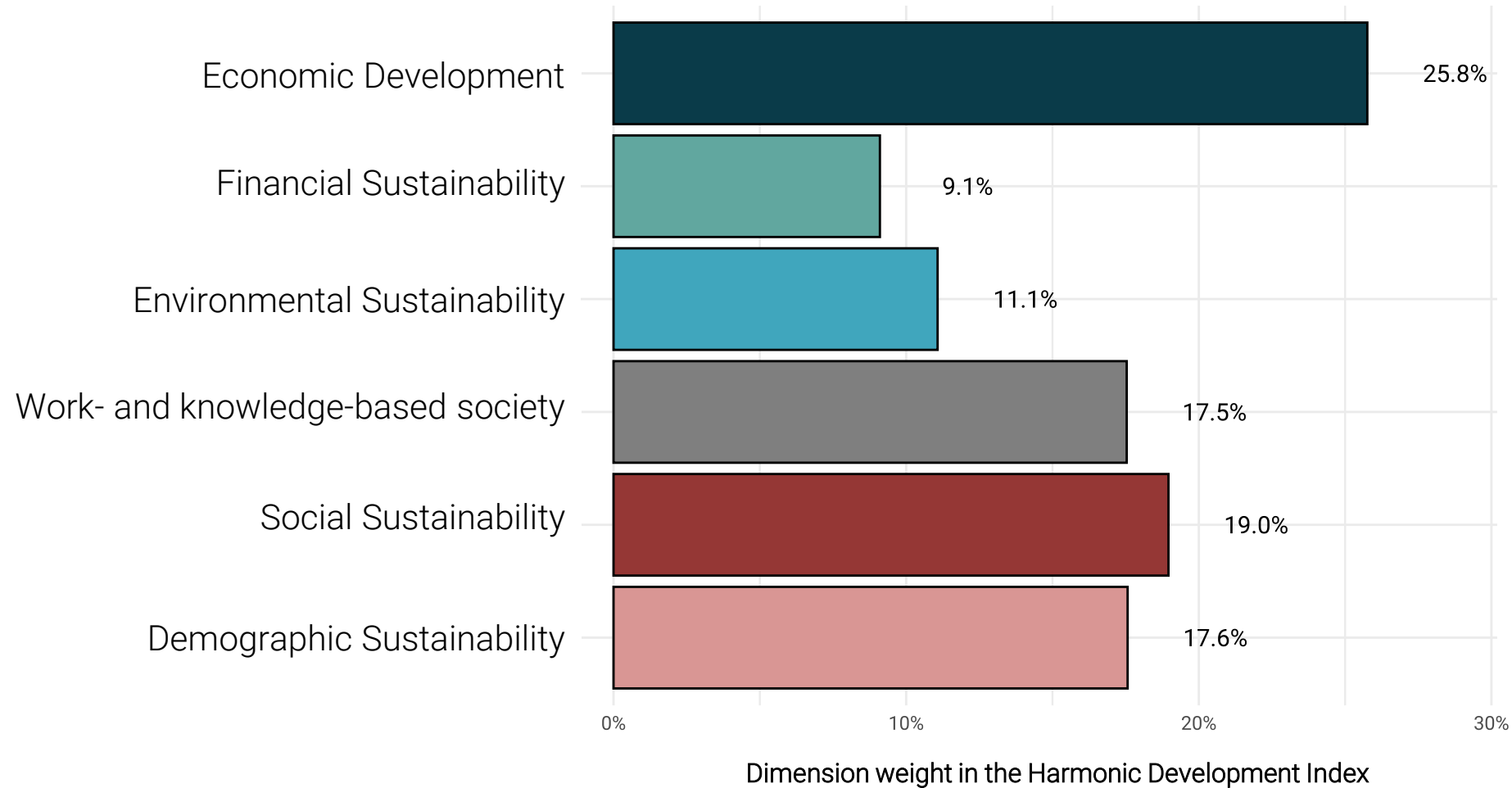
Objectivity and measurability were key: The H2DI is structured around six domains and 32 data-based variables

Harmonic Development Index						
Domains	Economic development	Financial sustainability	Environmental sustainability	Work- and knowledge-based society	Social sustainability	Demographic sustainability
Variables	GDP per capita	Adjusted net savings	Air pollution	Employment rate	Healthy life expectancy	Old-age dependency ratio
	Infrastructure	Current account balance	Fossil fuels	Labor productivity	Gini coefficient for income	Net domestic emigration
	Proportion of Internet users	Economic dependency ratio	Nuclear energy source	Taxes on labour	P90P10 indicator	Youth dependency ratio
	Median income	Amount of interest expenses (as a share of income)	Renewable energy source	Unemployment rate	Gini coefficient for wealth	Fertility rate adjusted for child poverty
	Real wage	Research and development as a share of GDP	CO2 emissions as a share of GDP	Proportion of those holding a secondary qualification	Absolute poverty rate	
		Changes in public debt	Water stress		Variability of gross income per capita of territories	

The selection of variables for the six domains of the H2DI was value-driven, while the weights of the domains were determined objectively using a data base (1/2)



The selection of variables for the six domains of the H2DI was value-driven, while the weights of the domains were determined objectively using a data base (2/2)



Further research directions and expansion possibilities

1. Expansion possibilities:

Including more countries: Currently, data of sufficient quality is available for 87 countries. The sole limitation of the extension is, therefore, the data coverage.

It is possible to include **additional variables** in the index, but only for data that are not opinion-based but objectively measurable. Data should be available from 2005 onwards.

2. Response capability to critical events

If time has progressed, the relationships related to sustainability can evolve, and consequently, an extended-time factor analysis can be rerun, with the weights adjusting accordingly.

Harmonic Development Index rank 2019 (1/5)

Rank	Country	Harmonic Development Index	Economic development	Financial sustainability	Environmental sustainability	Work- and knowledge-based society	Social sustainability	Demographic sustainability
1	Iceland	99	90	66	96	95	98	23
2	Norway	93	96	71	81	84	96	17
3	Sweden	89	90	77	83	76	92	17
4	Switzerland	87	97	77	59	91	88	9
5	Denmark	80	91	81	37	76	94	14
6	Finland	75	87	61	54	67	96	12
6	Ireland	75	94	62	19	79	87	25
6	New Zealand	75	82	63	43	84	83	23
9	Netherlands	73	89	78	9	78	95	13
10	Austria	72	88	69	41	72	90	8
11	Canada	70	87	53	41	76	85	12
11	France	70	85	56	59	57	87	19
11	Luxembourg	70	99	66	5	82	82	13
14	Germany	68	87	71	27	73	87	6
14	Israel	68	80	69	3	73	76	47
16	Australia	67	89	55	11	81	83	21
16	Belgium	67	87	60	26	60	94	16
16	Slovenia	67	76	64	42	58	100	9
19	United Kingdom	64	86	47	25	76	81	17
20	South Korea	63	80	75	16	70	91	3

Harmonic Development Index rank 2019 (2/5)

Rank	Country	Harmonic Development Index	Economic development	Financial sustainability	Environmental sustainability	Work- and knowledge-based society	Social sustainability	Demographic sustainability
21	Czechia	61	73	59	26	61	96	10
21	United States of America	61	92	45	20	78	66	21
23	Japan	59	82	54	15	72	89	0
23	Malta	59	78	58	13	66	93	6
25	Slovakia	58	69	51	36	55	94	10
26	Estonia	57	73	70	9	64	87	13
27	Spain	55	79	55	32	51	84	6
28	Cyprus	54	78	50	5	65	87	12
29	Portugal	51	71	49	30	56	85	3
29	Hungary	51	67	63	23	51	87	7
31	Peru	50	47	53	33	69	67	37
32	China	49	53	82	18	62	71	18
32	Uruguay	49	66	49	23	55	72	25
32	Paraguay	49	48	61	36	56	58	46
35	Italy	48	81	47	20	46	81	3
35	Poland	48	68	59	8	50	88	8
37	Lithuania	47	69	61	11	57	76	9
37	Croatia	47	65	58	26	39	88	6
39	Latvia	46	68	47	22	55	76	11
40	Azerbaijan	44	47	54	3	49	88	30

Harmonic Development Index rank 2019 (3/5)

Rank	Country	Harmonic Development Index	Economic development	Financial sustainability	Environmental sustainability	Work- and knowledge-based society	Social sustainability	Demographic sustainability
40	Thailand	44	50	68	7	57	81	15
42	Chile	43	64	45	28	50	65	22
42	Dominican Republic	43	52	54	13	51	63	42
42	Ecuador	43	47	47	37	50	59	43
42	Malaysia	43	62	40	7	59	65	33
46	Turkey	42	62	53	22	34	65	34
47	Argentina	41	61	34	19	47	65	35
47	Romania	41	61	45	28	44	75	11
47	Russia	41	59	58	15	52	68	16
47	Trinidad and Tobago	41	63	52	0	55	68	23
51	Costa Rica	40	60	49	24	48	59	25
52	Bolivia	39	39	39	25	49	62	51
53	Greece	38	68	33	15	36	86	5
53	Bulgaria	38	57	62	35	41	65	6
53	Mexico	38	56	41	10	49	58	38
53	Vietnam	38	35	49	18	55	75	30
57	Mongolia	37	41	26	22	37	74	50
58	Mauritius	36	54	44	16	45	72	15
59	Algeria	35	40	47	0	7	92	51
59	Indonesia	35	37	50	7	48	67	38
61	Brazil	34	54	36	56	43	44	23

Harmonic Development Index rank 2019 (4/5)

Rank	Country	Harmonic Development Index	Economic development	Financial sustainability	Environmental sustainability	Work- and knowledge-based society	Social sustainability	Demographic sustainability
62	Iraq	33	42	16	1	9	83	73
62	Philippines	33	36	56	13	36	59	50
62	Salvador	33	41	38	20	34	69	38
65	Georgia	32	42	46	18	35	74	22
65	North Macedonia	32	47	60	13	23	82	11
67	Angola	31	37	7	29	55	23	90
67	Jordan	31	41	31	8	1	82	60
69	Albania	30	42	28	23	31	84	16
69	Columbia	30	48	36	30	47	49	28
69	Kyrgyzstan	30	22	39	9	15	86	56
69	Serbia	30	49	39	22	30	77	9
73	Ukraine	29	38	35	30	20	91	10
73	Venezuela	29	41	36	31	30	57	38
75	Egypt	27	37	16	5	9	80	59
76	Ghana	26	27	30	5	40	51	69
76	Morocco	26	38	55	8	8	68	42
76	Myanmar	26	20	59	4	25	78	37
79	Armenia	25	41	21	9	18	88	23
79	Iran	25	46	51	3	12	65	33
79	Sri Lanka	25	40	22	17	24	70	33
79	Pakistan	25	22	31	16	10	71	65

Harmonic Development Index rank 2019 (5/5)

Rank	Country	Harmonic Development Index	Economic development	Financial sustainability	Environmental sustainability	Work- and knowledge-based society	Social sustainability	Demographic sustainability
83	Bangladesh	23	20	57	1	20	75	38
84	Uganda	21	9	38	4	31	42	90
85	Rwanda	19	9	41	6	53	39	61
86	India	17	28	42	11	9	62	39
87	South African Republic	5	50	26	5	16	13	39

About the Makronom Institute

The Makronom Institute was established in 2020 to lay down the foundations and become one of the main driving forces behind the expansion of Hungarian meritocratic, pragmatic and patriotic economic policies.

Our mission is also to provide support, background, and a public platform for like-minded researchers and research in economics. Nowadays, we have more detailed data on the current state and day-to-day operation of the economy than ever before. This allows us to understand what happened in the past, form an accurate picture of the national economy in the present, and encourages us to identify and understand both domestic and international development trends in our economy. We believe that by impartially analyzing the data—though not devoid of purpose or emotion—it will inevitably lead us to the truth within.

Our research focus areas include ways to measure sustainable growth, growth opportunities for business competitiveness and general business cycle analysis. We aim to support these objectives with our data and value-based analytical methods.



Thank you for your attention!

