# World development challenges
## beyond income

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Economic and Social Commission for Western Asia

# World development challenges beyond income

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The paper is also informed by discussions related to the United Nations system-wide contribution on progress beyond gross domestic product, specifically Secretary-General Policy Brief 4 (United Nations, 2023) and the background paper "Valuing what counts", prepared by the High-Level Committee on Programmes (HLCP, 2022).

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# Key messages

- *Measuring progress beyond income from a human development perspective reveals that the world faces two overarching development challenges: the shortfall of good governance, particularly the ongoing threats to democracy, and the inadequate responses to the looming climate change crisis.*

- *Inequalities are more cross-cutting, affecting all domains of human and social development.*

- *Global results show that adopting a beyond income framework significantly narrows the performance gap between developing regions.*

- *Sub-Saharan African countries witness the largest improvements in ranks when a beyond income approach is adopted, while oil-rich countries with low governance performance experience the largest deteriorations.*

# List of background papers

Rethinking human development: concepts and measurements

Development Challenges Index: statistical measurement and validity

Healthy Life Expectancy Index reveals a regional paradox

Quality of education: measurement and implications for Arab States

Institutions and human development: a panel Granger causality analysis

What drives quality-adjusted human development achievements?

Environmental sustainability and human development: perspectives from the Arab region

Towards an Arab governance index

Domestic conflict: a proposed index and its implications for Arab States

Development inequalities from a broader perspective: a proposed index

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# Introduction

After World War II, gross domestic product (GDP) was adopted as a predominant indicator for measuring a country's economic progress, but it has also been inappropriately used as a proxy indicator for gauging progress towards overall societal development. Extensive literature on human development, notably since the first Human Development Report in 1990, underlines that income alone does not accurately capture progress made in achieving an inclusive, fair and sustainable global community. As such, relying solely on GDP is not only insufficient but can also be misleading.

For countries and populations to enjoy the right to development, equally and without compromising the needs of future generations, as universally agreed in the 2030 Agenda for Sustainable Development, it is crucial to broaden one's view and identify metrics that can better capture progress, in line with the ambitions of the Sustainable Development Goals (SDGs).

There have been several calls to "build back better" since the COVID-19 pandemic, but this requires looking into what development means for different people, societies and cultures. The continued evolution of societies' aspirations towards development needs new and more comprehensive metrics that span social, health, economic and environmental dimensions. GDP is not just a metric; it is an integral component of a system that has evolved over several decades. However, the development aspirations and needs of countries and people have evolved beyond it.

Measuring development achievements beyond income entails not being preoccupied with environmentally unsustainable capital accumulation or consumption patterns. It is about reaching everyone and going beyond averages. The main objective of this paper is to build a narrative for going beyond income on the core values of the United Nations, primarily the human development and rights approaches. The paper proposes an expanded human development measurement framework spanning country governance, environmental sustainability, and crosscutting developmental inequalities. While previous efforts have focused on enhancing the quality of income measures (i.e. vertical improvements), this paper takes a horizontal approach of going beyond income by emphasizing governance and environmental sustainability challenges. The conceptual deliberations culminate in the advancement of two summary indices, the Beyond Income Challenges Index (BICI) and the Beyond Income Inequalities Index (BIII), which provide novel insights into countries' across-the-board developmental progress and country rankings, and lead to incisive yet well-rounded policy prescriptions.

The rest of the paper is structured as follows: Chapter 1 discusses the main conceptual premises underlying our proposed framework, in addition to its objective and scope. Chapter 2 briefly introduces the full dashboard of indicators which comprise the Development Challenges Index (DCI) and the Development Inequalities Index (DII). Chapter 3 describes how the Beyond Income Challenges Index

(BICI) and Beyond Income Inequalities Index (BIII) are constructed from this dashboard. Chapter 4 details these proposed indices and shows how they change the regional and global development challenges narrative. Chapter 5 concludes with a few summary remarks and recommendations. Technical details on data sources, the methodology for deriving the dashboard and the indices and for assessing their robustness, as well as detailed country level results are presented in annexes 1 and 2.

# 1. Framework overview

## A. Conceptual underpinnings

Sustainable human development is best achieved by enhancing an individual's capabilities across five instrumental freedoms underlined by Amartya Sen,[1] including (1) political freedoms associated with broad democratic entitlements; (2) economic facilities that allow individuals to use resources for consumption, production or exchange; (3) social opportunities provided by society for education and health care; (4) transparency guarantees that ensure disclosed and lucid agreements; and (5) protective security measures, including the provision of social safety nets to prevent vulnerable groups from extreme deprivation or harm.[2]

As argued by Sen, these instrumental freedoms enhance an individual's overall capability to live with more liberty. They also serve to complement each other. In this respect, achievements in governance are seen as facilitators of human capabilities due to the synergies between instrumental freedoms (political freedoms, transparency guarantees, and protective security measures). In the Arab context, improved governance leads to better systems of justice and reduced spatial and gender inequalities, and thus produces lower levels of political instability and more inclusive economic growth models. This results in improved social development outcomes, which strengthens collective societal capabilities and motivates continuous enhancements in good governance systems and beyond.[3]

The adoption of the SDGs presents another compelling argument for an expanded human development measurement framework. Sen argues that a more comprehensive notion of sustainability should focus on preserving human freedoms, rather than solely on our capacity to satisfy our perceived needs. It is also very likely that good governance and strong institutions strongly influence human development achievements.[4]

Thus, the end objective of development is not to create wealth per se, but to extend a variety of choices to every person. The human development paradigm transformed the development narrative from pursuing material opulence to improving human welfare, from focusing merely on income maximization to broadening capabilities, and from prioritizing economic growth to expanding freedoms.

The following five issues are pertinent in this regard.

First, when individuals gain additional capabilities and have increased opportunities to utilize them, it broadens their range of choices. However, if there is a disparity between these

1 Sen, 1999.
2 ESCWA, 2021b.
3 ESCWA, 2015.
4 ESCWA, 2021a.

capabilities and the available opportunities, it can lead to human frustration and loss of potential opportunities.

Second, within the framework of human development, economic growth is viewed as a means to an end, albeit a significant one. Although income plays an important role in people's lives, income growth by itself is not an ultimate goal.

Third, human development is about extending freedom to people to pursue the choices that they value. These freedoms are rooted in two essential dimensions: well-being freedom, which is reflected in capabilities, and agency freedom, symbolized by voice and autonomy.[5] Both forms of freedom are vital to guarantee inclusive human development.

Fourth, human development is two-sided, considered as both a process and an outcome. Even though the focus is directed towards outcomes of enhanced choices, human development is viewed as a process through which people expand their choices. Within the human development framework, both hold equal significance.

Fifth, in the context of human development, it is essential that people exert influence over the processes that shape their lives by actively participating in decision-making processes, and engaging in the implementation and monitoring of the resulting decisions.

Consequently, human development refers to development of the people, for the people, and by the people.

Human rights are the bedrock of human development, entitling every person to the opportunity of realizing their full potential. The human rights approach offers some useful perspectives for the analysis of human development, reflected in the idea that people have a duty to facilitate and enhance human development. The Human Development Report emphasizes that possessing a specific right implies expecting other people or institutions to assist or cooperate in guaranteeing access to certain freedoms.[6] This concept introduces ideas of accountability, culpability and responsibility.

Redirecting the gear towards accountability expands the horizon beyond basic human development aspirations. This broader view can be a powerful tool in seeking solutions and enriching the analysis of human development. It directs attention to the strategies and responsibilities of various stakeholders in upholding human rights and promoting associated facets of human development. It also prompts an examination of the obligations held by various actors when rights remain unmet. This is essential to realize the objective of human development for everyone.

## B. Objective and scope

Efforts to reconsider the measures of economic prosperity are particularly pertinent in today's context. In recent years, the world has faced numerous concurrent challenges, including a significant pandemic, environmental crises encompassing climate change, biodiversity loss, and pollution, escalating conflicts, stark wealth and income disparities, evolving patterns in

5 Sen, 1985.

6 United Nations Development Programme (UNDP), 2000.

globalization, financial volatility, rapid technological advancements, and widening gaps in digital access and data use. These circumstances have prompted a widespread reassessment of conventional approaches to assessing the welfare of people and the planet. In 2021, and in alignment with SDG target 17.19, the United Nations Secretary-General assigned the responsibility of exploring alternative measures to complement GDP to the United Nations System Chief Executives Board (CEB).

The CEB assigned its High-level Committee on Programmes (HLCP) the task of creating a United Nations system-wide initiative on progress beyond GDP, in collaboration with the United Nations Development Programme (UNDP), the Department of Economic and Social Affairs (DESA), and UN Trade and Development (UNCTAD), to be completed by the start of the third quarter of 2022. The initiative included analyses and recommendations regarding data, policy coherence, and capacity development to support member States in implementing the 2030 Agenda, particularly focusing on SDG target 17.19.[7] In August 2022, the core group of the HLCP produced a paper on progress beyond GDP,[8] which served as the foundation for a policy brief by the United Nations Secretary-General in May 2023.[9]

The search for development metrics beyond income predates this global exercise and can be traced back, within the United Nations system, to the early 1990s, with the introduction of the Human Development Index (HDI).

Other examples include the Brundtland report[10] and, more recently, the Report on the Measurement of Economic Performance and Social Progress,[11] commissioned by former President of the French Republic Nicolas Sarkozy in 2008.

Building on the earlier conceptual framework, the human development and capability approach reflected in the HDI is a suitable starting point for rethinking the metrics. However, one of the critical deficits of the HDI is that it does not venture "far enough" beyond income. Its main drawback in this regard is a notably high correlation with income per capita, which renders achievements on the HDI as synonymous with the level of income per capita. This is expected given that income embodies one third of the weight of the HDI and the remaining two thirds include health and education achievements, which are also highly correlated with income.

Against this backdrop, in 2019, the Economic and Social Commission for Western Asia (ESCWA) embarked on a grand research project to concoct a system of metrics that reflect a broader spectrum of human development achievements by including dimensions that are equally important to those entailed in the HDI but that are less influenced by income. As the following chapter will show, development challenges and inequalities can be presented through a dashboard of relevant indicators. The dashboard approach offers a comprehensive set of indicators based on the guiding principles laid out in the previous section.

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7 DESA, 2021.

8 HLCP, 2022.

9 United Nations, 2023.

10 Keeble, B. R., The Brundtland report: Our common future, 1988.

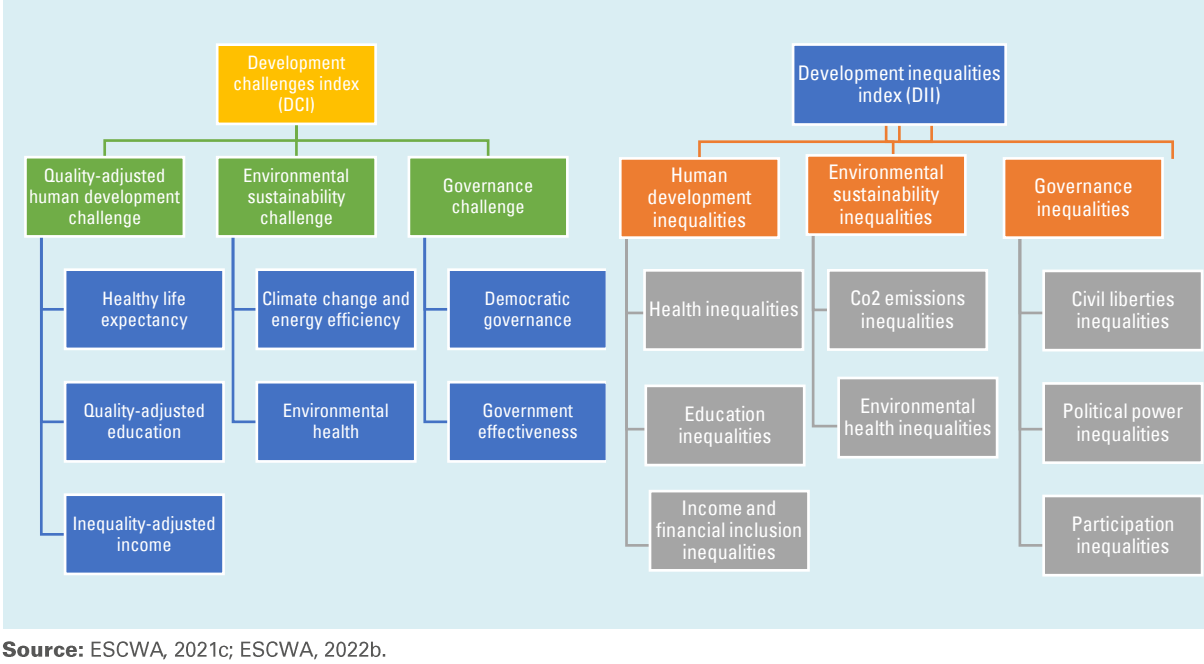
11 Stiglitz, J. E., Sen, A., and Fitoussi, J. P., Report by the commission on the measurement of economic performance and social progress, 2009.

Individual indicators can be highlighted based on each country's needs.

The dashboard builds on two recently promulgated ESCWA indices – the Development Challenges Index (DCI) and the Development Inequalities Index (DII) – embodying the above guiding principles.[12] The DCI measures shortfalls in three crucial domains of development achievements: quality-adjusted human development; environmental sustainability; and good governance. The DII focuses on within-country inequalities in these three challenges, both vertical and horizontal, and both in opportunities and in outcomes (figure 1).

Three important factors motivated ESCWA's search for this broader development measurement framework: first, the higher sensitivity of many Arab countries to the choice of well-being indicators and measurement approaches, especially the qualitative aspects of human development achievements; second, an awareness that many Arab and developing countries are especially vulnerable to environmental shocks and climate change, especially least developed countries and conflict-affected countries; third, the realization that although governance and institutional deficits lie at the heart of development prospects, they remain unaccounted for in global human development metrics and that including them would be essential to account for Arab development challenges. In short, the motivation was to find a measurement framework that was anchored in global indicators but was more relevant at the regional and national levels.

**Figure 1.** Development challenges and development inequalities frameworks




**Source:** ESCWA, 2021c; ESCWA, 2022b.

12 ESCWA, 2021c; ESCWA, 2022b.

Both the DCI and the DII represent attempts to expand on the HDI. They capitalize on the many strengths of the HDI rather than proposing entirely new measurement frameworks. The indices and their constituent indicators are standardized following a procedure similar to the one adopted for the construction of the HDI, and they share its conceptual-relevance and robustness properties. The idea of the new indicators and indices is that they shed light on shortcomings in development experience from the desired benchmarks, and on country contexts and policies where development goals are least attained.

Building on these approaches, the objective of the present paper is to propose a framework for measuring progress beyond GDP that is conceptually anchored to and builds on the work of ESCWA in relation to rethinking human development metrics. This is accomplished by, first, compiling a comprehensive dashboard of indices drawn from earlier technical analyses based on their relevance to the human development conceptual framework, and then proposing two composite indices with a concise and efficient number of indicators - equal weights have been assigned to pillars/sub-pillars. GDP itself and other indicators that are highly correlated with GDP are excluded.

# 2. Proposed dashboard of indicators

To measure the development performance of countries while focusing on the key targets affecting development, the DCI and DII assess shortcomings and inequalities in three crucial and interconnected domains: quality-adjusted human development, environmental sustainability, and good governance. The following chapter elaborates on the composition and selection criteria of each of these indices and their pillars, which jointly make up the full dashboard of proposed "beyond income" indicators. The indicators below are defined and constructed based on a series of ESCWA publications (ESCWA, 2021b; ESCWA, 2021c; ESCWA, 2021d; ESCWA, 2021e; ESCWA, 2022a).

## A. Development challenges

### 1. Quality-adjusted human development

The quality-adjusted human development challenge component of the DCI reflects quality-adjusted measures of the original HDI. By factoring in quality, the index captures challenges in healthy life expectancy at birth, quality-adjusted education, and inequality-adjusted income. Healthy life expectancy evaluates both the longevity and the quality of health throughout one's life.[13]

The DCI closely follows the standard HDI core education index by using a quality-adjusted education sub-index based on educational outputs, namely countries' relative performance on international student achievement tests in (1) reading and language proficiency, (2) mathematics and numeracy proficiency, and (3) scientific knowledge and understanding. One key advantage of these test scores is their standardization, which allows learning comparisons across countries using consistent measurements. In line with the methodology outlined by the World Bank in 2018, the educational achievements index was adjusted to consider education quality, using harmonized test scores as a proxy.[14]

Quality adjustments are not applicable for the income component, unlike the health and education aspects. Nonetheless, it is widely recognized that societies with greater income disparities tend to have less equitable social outcomes and are susceptible to polarization and conflict. Thus, the DCI incorporates income quality adjustments by utilizing the Atkinson inequality index. This measure of inequality-adjusted income is justified given its foundation in the established and regularly updated Inequality-Adjusted Human Development Index (IHDI), making it a robust metric.[15]

In light of the above, the beyond income challenges dashboard includes indicators for challenges in healthy life expectancy,

13 ESCWA, 2021d.
14 ESCWA, 2021e.
15 UNDP, 2020b.

quality-adjusted education, and inequality-adjusted income.

## 2. Environmental sustainability

The environmental sustainability pillar, informed by the planetary pressures-adjusted HDI (PHDI),[16] consists of indicators for climate change and energy efficiency (carbon dioxide emissions per capita challenge; material footprint per capita challenge), which address the challenges of shifting away from fossil fuels for energy generation and of closing material cycles. Reducing greenhouse gas emissions from energy consumption is strongly linked to climate change mitigation.[17] However, one cannot deny the pivotal role of energy in economic activity, so the main objective is not to simply eliminate these emissions at any cost, but rather to foster an equilibrium between economic growth and environmental sustainability. Material footprint, as defined by Wideman and others (2015), refers to the distribution of extracted raw materials compared to their demand, encompassing biomass, fossil fuels, metal ores, and non-metal ores.

The second dimension emphasizes environmental health, captured by freedom from environmental hazards which, according to the global Environmental Performance Index (EPI), pose serious threats to human health. Freedom from environmental hazards is measured by weighing the impact of air quality and the use of water and sanitation on health, including adverse birth outcomes as a result of long-term exposure to air pollution.[18] Even low levels of lead exposure in both children and adults can negatively impact metabolism and intelligence; higher levels can result in severe consequences such as convulsions, coma, renal failure, and even death.[19] Similarly, inadequate access to clean drinking water, along with poor hygiene and sanitation practices, can contribute to various infectious diseases such as diarrhea, cholera, gastritis, and meningitis.[20] Finally, improper disposal of solid waste contributes to pollution of air and water and soil contamination, and exposes citizens to pathogens and hazardous substances.[21]

In summary, the beyond income challenges dashboard encompasses shortfalls and inequalities in achievements under environmental sustainability, energy efficiency, material footprint and environmental health.

## 3. Governance

The governance challenge component of the DCI includes two dimensions: democratic governance and government effectiveness. Democratic governance includes three sub-dimensions: rule of law, accountability and participation. The first sub-dimension ensures that there is equality under the law, transparency of the law and equal accessibility to the judicial system, all of which align with SDG 16. A judiciary system that is equally accessible and independent is more likely to restrain corruption and promote transparency and accountability. The rule of law sub-dimension includes two indicators: transparent

16 UNDP, 2020a.

17 Dahl, 2012; ESCWA and others, 2017.

18 Health Effects Institute, 2020.

19 United States Agency for Toxic Substances and Disease Registry, 1999.

20 Resnik and Portier, 2015.

21 Wendling and others, 2020.

laws with predictable enforcement, and access to justice. The first indicator evaluates clarity, public visibility, coherence, consistency, stability, and predictable enforcement of laws. This assessment relies on the strength and transparency of legal frameworks, which should not be biased towards specific individuals or groups.[22] The access to justice indicator considers whether the legal system is equally accessible to all citizens, irrespective of their financial status, influence, or geographic location.[23] Accessibility is often gauged by examining the availability of legal aid and public defender services (de jure), as well as analysing the practical hours of access (de facto). De facto accessibility also includes evaluating the time taken for case hearings and adjudications, along with the direct and indirect litigation costs. These indicators highlight judicial systems that lack efficiency and advanced case management systems, which are crucial for ensuring fair assignment of cases to judges and other officials.[24]

Institutional accountability is the second sub-dimension of democratic governance. It measures the extent to which public officials are held accountable and sanctioned for power abuse and misconduct. The indicators filtered under this sub-dimension include executive oversight, judicial accountability, and rigorous and impartial administration. Executive oversight evaluates the likelihood of a non-legislative body, such as a comptroller general, general prosecutor, or ombudsman, questioning or investigating the executive branch and issuing an unfavourable decision in their report if executive officials engage in unconstitutional, illegal, or unethical conduct. This measure gauges the extent to which the executive adheres to legal standards and its power relative to other institutions. Judicial accountability examines whether judges found guilty of serious misconduct face removal from their positions or disciplinary action. Rigorous and impartial administration assesses the diligence and impartiality of public officials in fulfilling their duties, including their adherence to the law, uniform treatment of cases, and whether the public administration exhibits arbitrary actions, biases, nepotism, cronyism, or other discriminatory practices.

The third sub-dimension of democratic governance considers participation by citizens and civil society groups. It acknowledges that people are not passive recipients of development benefits but also play a role in influencing and shaping their own lives. Participation plays a crucial role in giving people autonomy and a voice, while also fostering a democratic environment. Meanwhile, consultation with civil society organizations (CSOs)[25] includes two indicators: CSO consultation and CSO participatory environment. The first measure evaluates whether policymakers regularly engage with CSOs on policy matters and recognize them as significant stakeholders who should have a say in various issues. The second measure examines the nature of civil society groups, categorizing them as either state-sponsored and obligatory, voluntary but with limited participation, or diverse with active participation levels.[26]

22 Solum, 1994.

23 Prillaman, 2000; Staats and others, 2005.

24 United States Agency for International Development (USAID), 2009.

25 Graham and others, 2003; Roy, 2008; Warren, 1999.

26 Coppedge and others, 2018.

The second dimension of governance assesses government effectiveness, focusing on both institutional and infrastructural capabilities to ensure efficient delivery of public services and the quality of these services. It also evaluates effectiveness in terms of policy development and implementation quality, as well as the Government's commitment to these policies and its independence from political influences.[27]

Hence, the beyond income challenges dashboard covers governance-related shortfalls in democratic governance and government effectiveness, which encompass rule of law and access to justice, transparent laws with predictable enforcement, institutional accountability (including executive oversight, judicial accountability, and rigorous and impartial administration), participation, and CSO consultation and participatory environment.

## B. Development inequalities

Several approaches have previously been advanced to quantify socioeconomic inequalities.[28] ESCWA (2022b) built on this body of approaches to propose the DII across the same three pillars of the DCI: inequalities in basic human development, inequalities in environmental sustainability and inequalities in governance, which in turn encompass eighteen indicators. The framework for the DII is presented in figure 1, and the following subsections elaborate thereon.

### 1. Inequalities in human development

This first pillar covers inequalities in health, education, and income and financial inclusion. On average, most countries have witnessed significant improvements in health outcomes, yet vertical health inequalities and horizontal gender inequalities in health persist.[29] Even in access to education, years of schooling and the attainment of education and quality learning, where global progress has been made in terms of gender equality, many countries continue to exhibit large social gaps. Ensuring equality in learning opportunities is the first step towards progress in each area.[30]

Vertical gaps in education across socioeconomic groups prevail, and gender gaps in education are usually at the expense of girls. In fact, a total of 750 million adults, two-thirds of whom are women, lack fundamental literacy skills.[31] Only two-third of countries have achieved gender parity in primary education enrolment; the ratio was one in two countries at the lower secondary enrolment level, and one in four at the upper secondary enrolment level. Despite this global inadequacy in providing educational opportunities for girls, a quarter of countries still exhibit disparities favouring boys in upper secondary enrolment, a situation that has persisted since 2000.[32]

Income and wealth inequalities between socioeconomic classes and between genders remain substantial in many developed and

27 Kaufmann and Kraay, 2023.

28 Thomas and others, 2001; Durand, 2015; Organisation for Economic Co-operation and Development (OECD), 2018; ESCWA and ERF, 2019; Alberti and others, 2021; World Health Organization (WHO), 2022a.

29 Castelló-Climent and Doménech, 2008; Pongou, 2013.

30 Antoninis and others, 2016.

31 UNESCO, 2021.

32 UNESCO, 2019.

middle-income countries.[33] Even though some countries have seen improvements since the turn of the century, and millions have been lifted out of extreme poverty, vertical income inequality is growing, as income remains increasingly concentrated at the top.[34] Gender inequalities in gross national income (GNI) are also quite stark. The GNI per capita for women is $10,000 lower than that of men, with men averaging $24,458 and women averaging $14,441.[35] Informally employed women earn on average only 47 per cent as much as informally employed men.[36] In the formal sector, women earn only 79 per cent as much as men. Comparing world regions, this income gender gap is the largest in Arab and South Asian countries. Horizontal gender gaps combined with vertical inequality and minimum-income provisions lead to particularly large gaps between the highest-skilled men and elementary-skilled women.

As for vertical inequality in wealth, trends in global inequality over the past decades reveal that multimillionaires have seized a disproportionate share of the growth in global private wealth,[37] and such inequality between social classes has political ramifications.[38] Gender inequality in wealth is also evident through differences in access to financial services, such as access to bank account ownership.[39]

## 2. Inequalities in environmental sustainability

Regarding environmental inequalities, vertical inequalities in carbon dioxide (CO2) emissions and horizontal gender inequalities in environmental health are considered. In fact, most global carbon inequality (63 per cent) used to be due to differences between countries.[40] Over the past 30 years, however, inequalities in within-country emissions came to account for almost two-thirds of inequality in global emissions.[41]

As for environmental health inequalities, gender inequalities in mortality from air pollution and gender inequalities in mortality from inadequate water, sanitation and hygiene (WASH) are considered. Air pollution impacts an individual's health, capabilities and achievements. Globally, both ambient air pollution (AAP) and household air pollution (HAP) have been described as major environmental risk factors posing significant hazards to human well-being. According to WHO (2022b), 99 per cent of the global population inhale polluted air. Air pollution accounts for 7 million premature deaths worldwide, with men experiencing a higher mortality rate.[42] By contrast, household air pollution affects women, who are typically the primary caregivers, more adversely, as they spend more time in the house and are responsible for meal preparations. This

33 DESA, 2020.
34 World Inequality Lab, 2021.
35 ESCWA calculations based on UNDP, 2020a.
36 International Labour Organization (ILO), 2021.
37 ESCWA, 2020, 2022b; World Inequality Lab, 2021.
38 UNDP, 2019.
39 Demirgüç-Kunt and others, 2022.
40 Chancel and others, 2022.
41 UNDP, 2021.
42 Dhimal and others, 2021.

pollution presents major acute and chronic health risks, causing around 4 million global deaths annually, with the mortality rate of women being around 50 per cent higher than that of men.[43]

Gender inequalities also exist in access to WASH. Despite continuing investments and improvements, inadequate WASH remains a major global risk factor for disease contraction, incapacitation and premature death. Lack of access to adequate WASH affects women and girls disproportionally due to biological and cultural factors. Women face a higher risk of contracting diseases and illnesses associated with poor menstrual hygiene when clean water and toilets are unavailable.[44] Absence of safe drinking water and sanitation during child delivery also endangers the health of mothers and newborns.[45]

### 3. Inequalities in governance

Regarding inequalities in governance, we focus on three dimensions: inequalities in civil liberties, inequalities in power distribution, and inequalities in participation.

Civil liberties include, but are not limited to, access to justice, private property rights, freedom of movement, and freedom from forced labour. Inequality in civil liberties across social groups and social classes persists in countries worldwide, with poverty known to be associated with the erosion of civil and political rights and liberties. Many social groups, as delineated by language, ethnicity, religion, race, region or caste, also face restrictions in their civil liberties as compared to other more privileged groups.

Societies also suffer from inequalities in power distribution. In fact, there is a high correlation between political inclusion across social groups and levels of income.[46] Since the 1970s, exclusion driven by socio-economic status has been surging.[47] For instance, looking into the Varieties of Democracy data on power distribution by social group and by socioeconomic position reveals that, in all countries, wealthy and high-income people have a strong hold on political power, while people of average and poorer income have substantially less influence. Political exclusion by gender reduces the degree of liberal and electoral democratic rights and freedoms.[48]

Finally, inequalities also exist in political participation, including socio-economic inequality in representation in national governments. Groups that are socio-economically disadvantaged are more likely to be under-represented in national governments. For instance, in western democracies, relatively poorer citizens are underrepresented by parties and by ruling governments.[49] Similarly, women not only suffer from restricted liberties and limited political power in some countries, but are also often denied access to public services, jobs and business opportunities.

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43 WHO, 2018.

44 Mahon and Fernandes, 2010.

45 Ali and others, 2006; Darmstadt and others, 2009; World Bank, 2012.

46 Lührmann and others, 2017.

47 Lührmann and others, 2018.

48 Ibid.

49 Giger and others, 2012.

# 3. Development indices beyond income

Based on the favourable properties of the Development Challenges Index (DCI) and the Development Inequalities Index (DII) in terms of gauging shortcomings in countries' development experiences, we draw on their frameworks and indicator dashboards to build two new aggregate composite indices, the Beyond Income Challenges Index (BICI) and the Beyond Income Inequalities Index (BIII).

## A. Index structure

In constructing indices that summarize indicators of a country's achievements, simplicity is key. Following the design of the DCI and DII, the set of indicators are chosen based on their theoretical relevance, consistency with the well-validated DCI, and empirical accuracy and coverage. Statistical properties, such as complementarity with traditional measures including income, are also an important factor for validating indicators. Dimensions that are less correlated with one another or with income (in absolute value) are generally more suitable for inclusion.

Pairwise correlations of income with each of the indicators (annex 1) show that, with respect to development challenges, the indicators associated with climate change, energy efficiency, and democratic governance exhibit the lowest correlation with income. We thus opt to preserve the two relevant dimensions of the DCI – climate change and energy efficiency, and governance – to be part of the BICI. Specifically, the BICI includes indicators for challenges in the areas of climate change, energy efficiency, rule of law and access to justice, institutional accountability, and participation.

The BICI thus satisfies two criteria for a reliable index to measure development progress beyond income. First, it reflects dimensions and indicators that are deemed to be of value from a capability-human development-centred approach. Second, and more importantly for the purpose of our exercise, it focuses on the dimensions and indicators that complement, rather than correlate with, income.

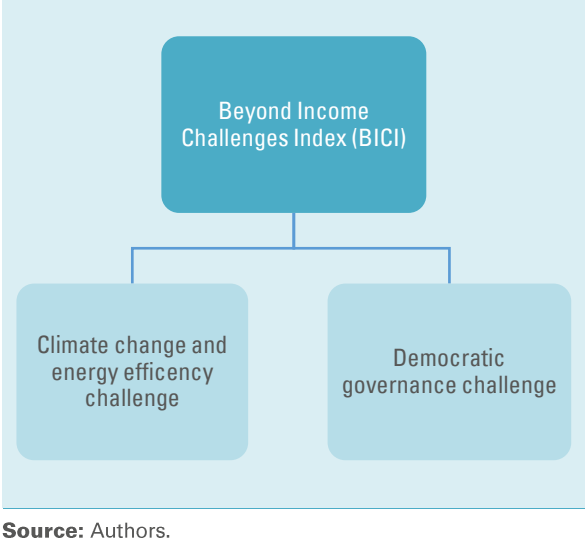
As for development inequalities, indicators related to income and financial inclusion inequalities, vertical inequalities in CO2 emissions, and governance inequalities exhibit the least correlation with income. We thus retain these dimensions in advancing the BIII. Specifically, the BIII includes indicators for inequalities in income and wealth, in CO2 emissions, and in civil liberties, power distribution and participation, as summary indicators for the various highly correlated social inequalities.

In summary, the BIII captures key vertical and horizontal inequalities at various stages of individuals' lives, and contains elements of both inequalities in outcomes and opportunities. The index can be thought of as cross-cutting, summarizing in a concise and efficient manner the experiences of diverse socioeconomic groups at different points in their lives, beyond the experiences approximated by income. The BIII pinpoints the non-income domains of

particular importance for countries in various development phases.

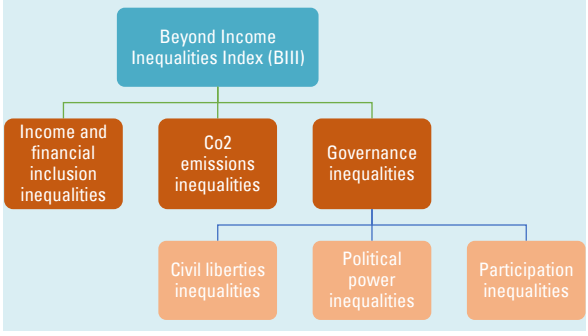
The frameworks for both new indices are presented in figure 2 and figure 3. All indicators used for the analysis are rescaled to range from 0 to 1, for the ease of computing and interpreting the BICI and BIII scores. Each pillar of the indices, and each indicator under the pillars, is assigned the same weight (i.e., 1 in case of a single indicator, 1/2 in case of two pillars or indicators, and 1/3 in case of three pillars or indicators). Scores on the BICI, BIII and their components are then categorized as very low (scores up to 0.200), low (0.201–0.300), medium (0.301–0.450), high (0.451–0.550) and very high (0.551+) challenges/inequalities. The closer the BICI and BIII scores are to 1, the higher the level of development challenges/inequalities. These score categories, which are the same as those applied to the DCI and DII, are illustrated in figure 4.

**Figure 2.** BICI framework



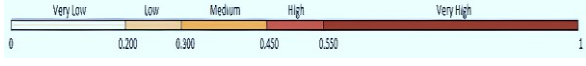

**Source:** Authors.

**Figure 3.** BIII framework




**Source:** Authors.

**Figure 4.** Index score categories



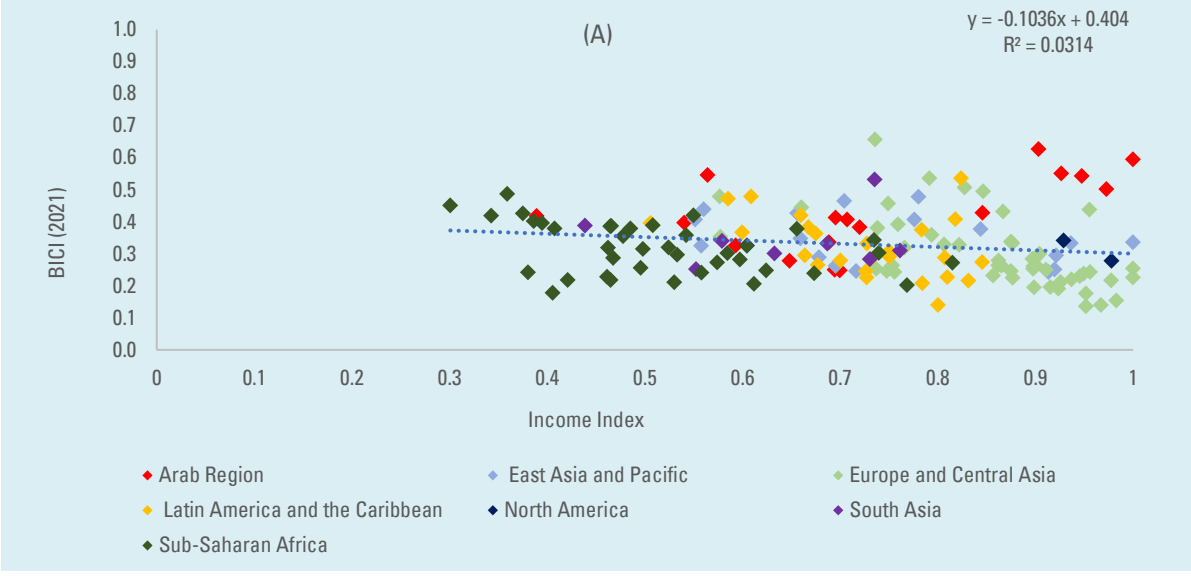

**Source:** ESCWA, 2022a.

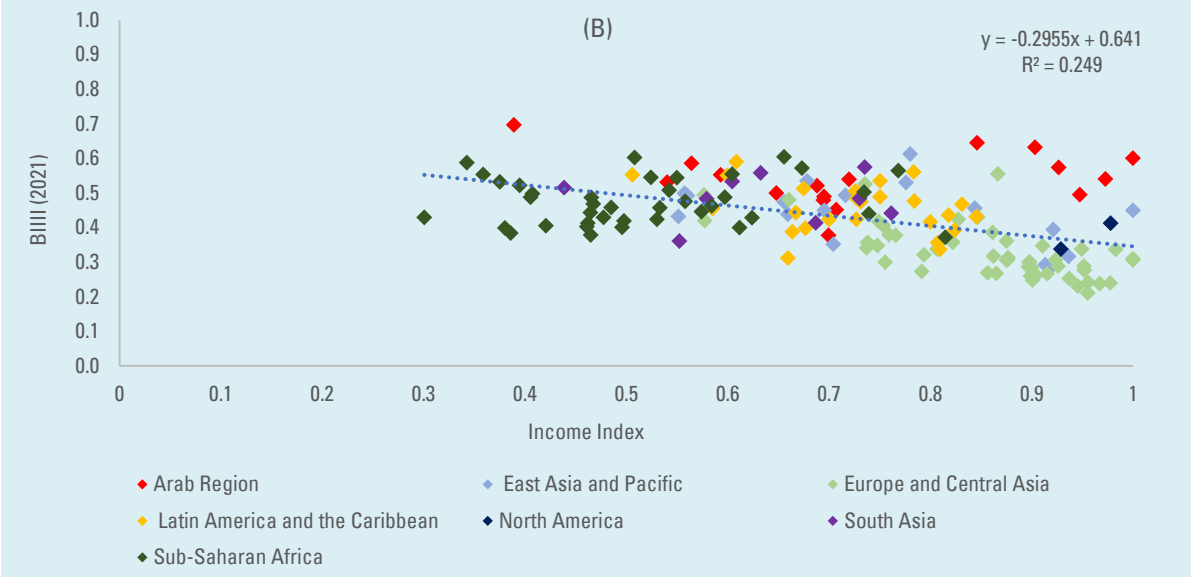
Taken together, the BICI and BIII provide meaningful and well-rounded measures of the shortfalls in countries' progress beyond income. Emphasizing these key shortfalls is critical to the success of the global dialogue on measuring progress beyond GDP. The corresponding all-encompassing datasets for 158 countries worldwide are readily accessible, facilitating well-informed global and intertemporal comparisons.

## B. Validation regarding the development–income nexus

Several tests confirm the favourable conceptual-relevance and statistical-robustness properties of the BICI and the BIII. One of the tests addressed the relationship between the proposed beyond income indices and income itself. Figure 5 illustrates the negligible association and low R-square between the BICI (figure 5A)/BIII (figure 5B) and the HDI income index. The relationship appears to be slightly negative, indicating that challenges and inequalities may be slightly lower among richer countries.

**Figure 5.** Association of HDI income index with BICI (A) and BIII (B), 2021




**Source:** Authors' calculations.

This result may be perplexing at first, but it can be explained as such: a negative income-governance challenge correlation has a higher net impact than a positive income-climate change challenge correlation. Richer countries have more robust democratic systems, but their performance on climate change and energy efficiency is comparatively poorer.

Notable country-level results show that countries and regions around the world appear to be scattered around the regression line

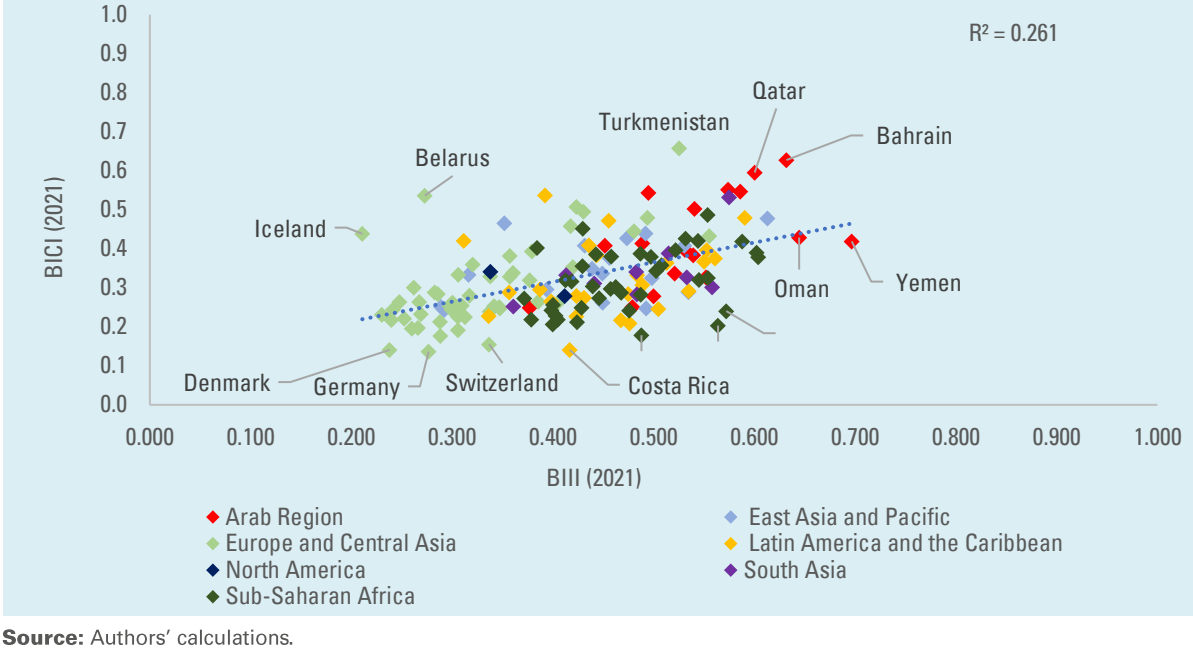
without any systematic placement. Notable exceptions include Arab countries in the upper right side of both graphs, indicating significantly worse performance on the beyond income indices relative to their income per capita levels. On the other hand, some countries from Sub-Saharan Africa and Northern Europe perform better on the beyond income indices compared to their income levels. The weak relationship between the beyond income indices and income confirms their suitability to complement the traditional money-metric measure of progress, and contributes meaningfully to the beyond GDP debate.

In summary, our proposed measurement framework yields significantly weaker associations between proposed development indices and income per capita, thus departing significantly from the conventional results based on the HDI, for example. As such, by focusing on dimensions and indicators that matter and are not as influenced by income, we expect country performance and rankings to be strongly affected in comparison to the conventional metrics such as HDI and income per capita.

Another test checked for redundancy between the BICI and BIII. The test results showed that the two indices were individually informative and held complementary information on countries' progress beyond GDP. They did not show a strong association between the two indices (figure 6), validating the pairwise income–BICI and income–BIII comparisons illustrated in figures 5A and 5B.

A third test was concerned with the sensitivity of the results to the chosen structure of the indices. ESCWA (2021c, 2022b) has previously reported on the robustness of the DCI and DII with respect to their composition and the set of weights on individual pillars and indicators. Similar tests also validated the BICI and BIII with respect to the choice of pillar and indicator weights (annex 1).

**Figure 6.** BIII and BICI, 2021



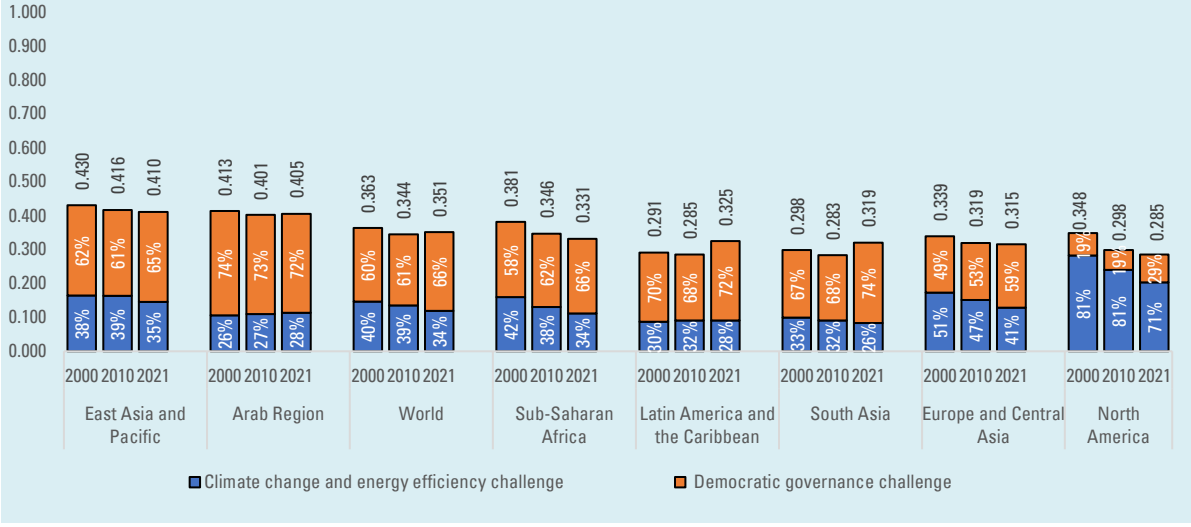

**Source:** Authors' calculations.

# 4. Global convergence in beyond income development challenges

## A. Beyond Income Challenges Index

Figure 7 shows the BICI regional scores and the contribution of both of its pillars at three points in time: 2000, 2010 and 2021. Contrary to the case of the DCI, the results do not show large score gaps between regions. In fact, regions are clustered in the medium challenge category, with North America being the only exception in the low challenge category with a score of 0.285. Nonetheless, it is interesting to note that in 2000, North America's BICI score was higher than the current 2021 score for Sub-Saharan Africa. The Arab region and East Asia and the Pacific are the only two regions with scores higher than the global average of 0.351 in 2021. As for changes over time, most regions have seen an improvement from the year 2000 to 2021, with the exception of Latin America and South Asia, which witnessed considerable deteriorations in their scores. Zooming in on the relative contributions of the two BICI pillars, the results reveal that all regions, with the exception of North America and to a lesser extent Europe and Central Asia, have a significantly higher contribution from the democratic governance pillar than the climate change and energy efficiency pillar. In South Asia, the democratic governance pillar has the highest contribution, making up around three quarters of the BICI. It is also easy to conclude that while the level of challenges has been declining in most regions, the share of governance in the BICI has generally increased in most regions.

**Figure 7.** BICI regional scores and contributions of the two BICI pillars, years 2000, 2010 and 2021

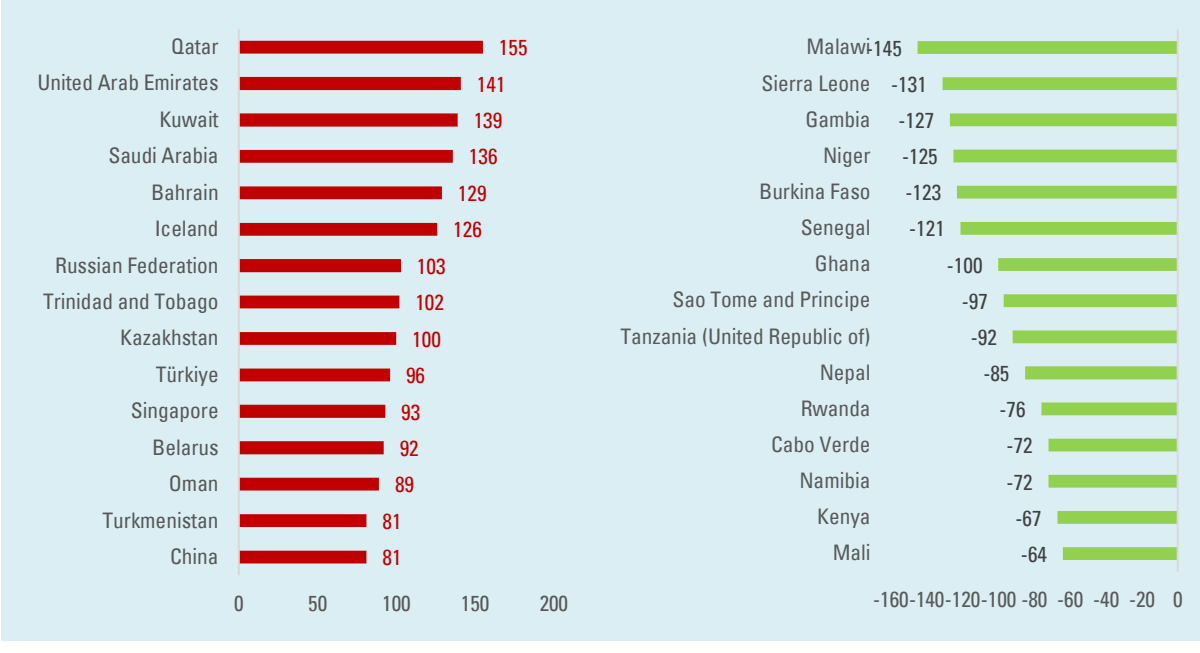



**Source:** Authors' calculations.

A significant change in narrative is also clear when switching from the DCI to the BICI, with many countries advancing or falling by more than 60 ranks. The list of largest rank deteriorations includes oil-rich Arab countries, namely Qatar, Saudi Arabia and the United Arab Emirates, along with China, Iceland, Russia and Singapore. These are countries with lower democratic governance scores and/or high carbon emissions and poor energy efficiency. On the other hand, countries with the largest improvements in ranks are in the majority low and lower-middle income Sub-Saharan African countries. Despite having significant deficiency in quality of human development and environmental health, these countries show better scores on democratic governance (relative to their income per capita peers), and especially on sustainability indicators. Given that the quality of human development and environmental health dimensions are omitted from the BICI, due to their high association with income, those countries have seen significant improvement in their ranks.

The narrative is similar when observing country performance on income compared to that on the BICI (figure 8). In fact, most countries with the largest improvements and deteriorations in ranks when moving from the DCI to the BICI perform similarly when moving from income to the BICI. This is because the dimensions removed from the DCI in the construction of the BICI have a high correlation with income, leading to a similar rank change of countries in both comparisons.

**Figure 8.** Largest rank deteriorations (red) and improvements (green) globally when switching from income to BICI, 2021




**Source**: Authors' calculations.

**Note**: BICI ranks were flipped for comparability with income.

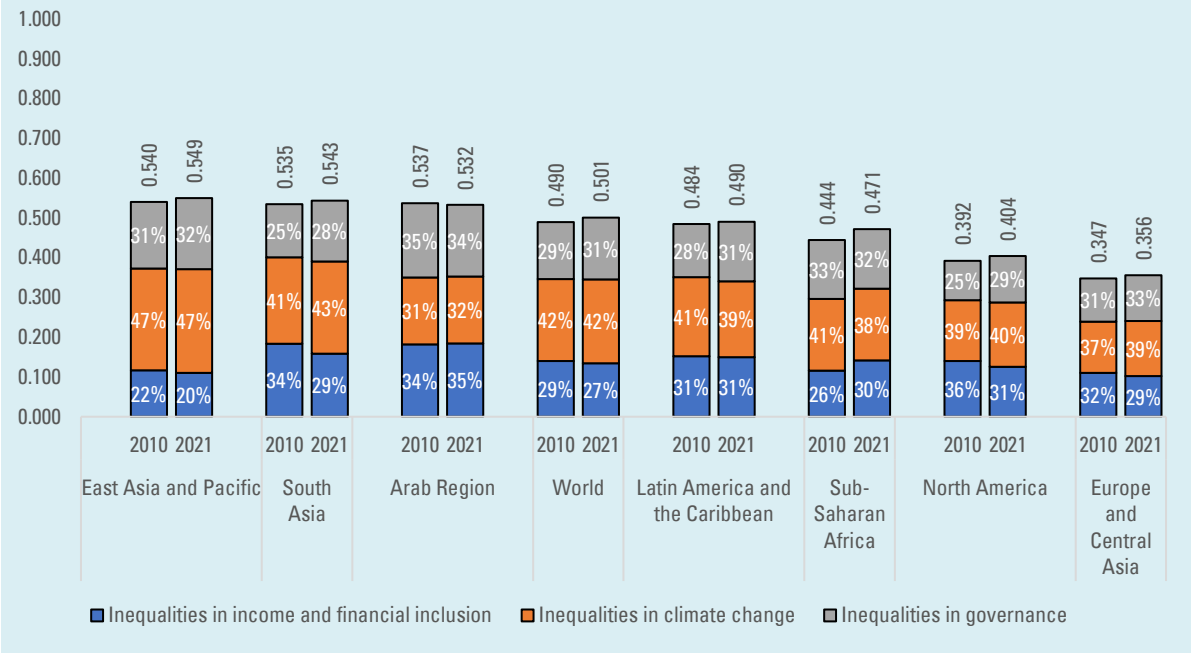
## B. Beyond Income Inequalities Index

Moving to the BIII, the results in figure 9 show that regions perform differently on this index than on the DII. BIII assigns higher scores to almost all regions. In fact, most regions fall within the high inequality category on the BIII, with only North America and Europe and Central Asia receiving medium inequality scores. As for the score dynamics, all regions, with the exception of the Arab region, have witnessed some rises in their inequality scores from 2010 to 2021. This rise is the most noticeable for Sub-Saharan Africa, which transitioned from the medium inequality category to the high inequality category over the decade.

Zooming in on the contributions of the three constituent BII pillars, in all regions except the Arab region, the highest share on the BIII stems from inequalities in the climate change index, accounting for more than 40 per cent of the scores in many cases. In the Arab region, the three pillars hold equal shares, indicating the equal need to bridge all gaps in this region.

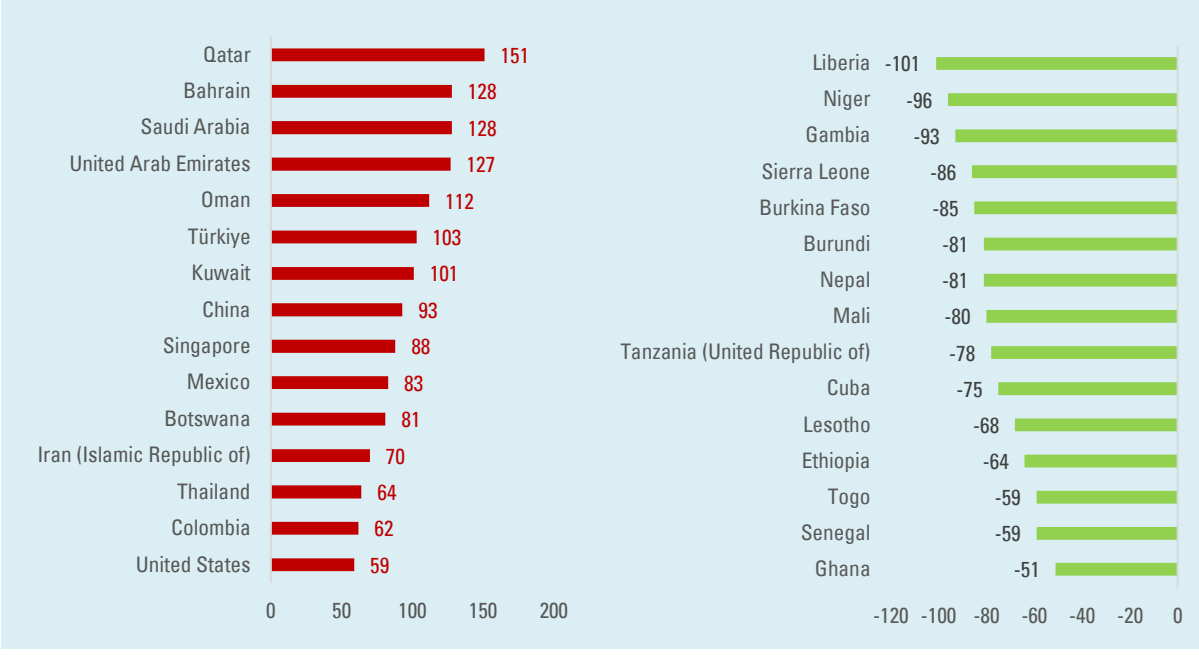
When transitioning from the DII to the BIII, the narrative changes significantly for many countries. Countries with the most substantial deterioration are those in the Arab region and Latin America and the Caribbean. These countries typically have high inequalities in governance, income and financial inclusion, and CO2 emissions. As for the largest improvements in rank, all countries are in Sub-Saharan Africa, except for Myanmar. These countries exhibit low performance in health, education and environmental health inequalities – that is, indicators included in the DII but omitted from the BIII due to their strong correlation with income.

**Figure 9.** BIII regional scores and weights of the three BIII pillars, 2010 and 2021




**Source:** Authors' calculations.

**Figure 10.** Largest rank deteriorations (red) and improvements (green) when switching from income to BIII, 2021




**Source:** Authors' calculations.

**Note:** BIII ranks were flipped for comparability with income.

As for the largest rank deteriorations when moving from income to the BIII, the six Gulf Cooperation Council (GCC) Arab countries perform similarly to large and resource-rich economies, including China, the United States and Iran (figure 10). As for the largest rank improvements, most countries are from Sub-Saharan Africa, with the exception of Cuba and Nepal.

# 5. Conclusion

The present paper delivers a narrative on why sustainable and inclusive progress beyond income is needed amidst critical challenges to our habitat and world order, through the adoption of suitable indicators that reflect what we value from a human development perspective. The conceptual frameworks and empirical results of the BICI and BIII indices, as well as their constituent dashboards of indicators, convey hitherto untold stories of countries' recent and projected developmental experiences.

The paper aims to inform the search for metrics beyond GDP. In contrast to prior approaches, we have focused on two critical issues in development: governance and climate change. Our analysis found that the vast bulk of the world faces two overarching challenges: the shortfall of good governance – particularly the ongoing threats to democracy – and inadequate responses to the looming climate change crisis. It also noted that inequality was a cross-cutting concern that affected all domains of human and social development.

These conclusions were reached using an evidence-based methodology. Importantly, these stories challenge the views described by income alone, or the previously advanced indices derived from income. While the indicators do not cover all aspects of development that may matter in various country contexts, the analysis shows that we already have data and statistics that can inform policies about many dimensions of sustainable development by factoring in, inter alia, distributional aspects, sustainability and intergenerational perspectives, vulnerability and risks, and the nature of governance.

Our first insight is that it is crucial to identify strong headline indicators that can complement GDP. They are important enablers of value-based policies that promote longer-term progress for people and the planet, stability and human rights. The complementary indicators presented in this analysis bring to light even reverse developments that have worsened the conditions for people and the planet. These developments have been masked by excessive focus on GDP or income rather than on other developmental outcomes.

While this paper discusses potential composite beyond income indices, it also identifies a set of indicators suitable for consideration in future work on a dashboard of headline indicators to complement GDP. Those indicators will need to be backed by strong statistical frameworks and capacities to provide granular information on the most vulnerable, rural areas and poorer populations, ensuring nobody is left behind. Frameworks, like the System of National Accounts and the System of Environmental Economic Accounts, will be crucial building blocks for internationally comparable granular data and statistics, including for the compilation of strong indicators to complement GDP. Such metrics will need to be universal and country-owned so that they could be compiled in each country.

We hope that the approach, the selection of indicators and the results shown in the paper will inform the system-wide efforts across the United Nations, its Member States and stakeholders to develop a framework and metrics beyond GDP that will enable a paradigm shift in the process used to assess Member States' progress towards a more sustainable, just and inclusive future. It is also worth noting that the proposed framework is in line with the six foundational pillars of a beyond GDP framework, which were proposed by the HLCP paper (UN, 2022): (1) well-being – living conditions, agency, and opportunities; (2) respect to life, the planet, and its ecosystems; (3) responsible and ethical economy; (4) stronger governance and institutions; (5) from vulnerability to resilience and; 6) greater solidarity to address inequality.

Clearly, the proposed BICI and BIII do not resolve all the challenges in measuring the pace of development in all its forms, but the drive towards perfection should not be the enemy of good. We hope that this analysis informs the global discourse on measuring development beyond income and is helpful for assessing human development in all developing regions, including the Arab region. Moreover, the proposed beyond income indices are just the beginning, and could lead to further refinements of a broadened measure of human development beyond income. In this respect, it would be useful to advance research on some of the analytical issues raised in the context of rethinking human development, such as reconciling individual versus collective choice. These lines of research are critical to extend the frontiers of knowledge on human development.

# Annex 1. Statistical measures and robustness checks for the BICI and BIII

## A. Pairwise correlations

The metrics below represent the components of the two indices proposed by ESCWA to measure development challenges and development inequalities, the DCI and DII. All indicators are rescaled using the min-max formula and range from 0 to 1.

Pairwise correlation between income and each of the dashboard's indicators, sorted from smallest to largest in absolute value

| Indicator | Correlation |
|---|---|
| Gender inequality in GNI per capita index | -0.140 |
| Gender inequality in education index | -0.184 |
| CSO participatory environment challenge index | -0.191 |
| Lack of representation of disadvantaged social groups index | -0.197* |
| Energy efficiency challenge index | -0.222* |
| Social group equality in respect for civil liberties index | -0.255 |
| Vertical inequality in CO2 emissions index | -0.255* |
| Vertical inequality in wealth index | -0.256* |
| Power distributed by social group index | -0.302* |
| Participation challenge index | -0.335* |
| Power distributed by socioeconomic position index | -0.337* |
| Inequalities in income index | -0.343* |
| Vertical inequality in income index | -0.344* |
| Inequalities in power distribution index | -0.350* |
| Executive oversight challenge index | -0.376* |
| CSO consultation challenge index | -0.401* |
| Inequalities in civil liberties index | -0.415* |
| Inequalities in participation index | -0.430* |

| Indicator | Correlation |
|---|---|
| Gender inequality in wealth index | -0.433* |
| Inequalities in governance index | -0.444* |
| Inequalities in wealth index | -0.453* |
| Inequalities in income and financial inclusion index | -0.458* |
| Gender inequality in mortalities attributed to ambient and household air pollution index | -0.467* |
| Exclusion by gender index | -0.473* |
| Gender inequality in mortalities attributed to lack of WASH index | -0.482* |
| **Climate change and energy efficiency challenge index** | **0.485*** |
| Inequalities in environmental sustainability index | -0.520* |
| Social class equality in respect for civil liberties index | -0.522* |
| Inequalities in education index | -0.523* |
| Access to justice challenge index | -0.526* |
| **Democratic governance challenge index** | **-0.541*** |
| Gender inequalities in environmental health index | -0.542* |
| Transparent laws with predictable enforcement challenge index | -0.547* |
| Rule of law and access to justice challenge index | -0.559* |
| Environmental sustainability challenge index | -0.583* |
| Judicial accountability challenge index | -0.593* |
| Institutional accountability challenge index | -0.600* |
| Vertical inequality in education index | -0.615* |
| Carbon dioxide emissions challenge index | 0.638* |
| Rigorous and impartial public administration challenge index | -0.646* |
| Gender inequality in health index | -0.657* |
| Development inequalities index | -0.659* |
| **Inequalities in human development index** | **-0.662*** |
| Inequalities in health index | -0.675* |
| Vertical inequality in health index | -0.680* |
| Healthy life expectancy challenge index | -0.705 |
| Governance challenge index | -0.758* |

| Indicator | Correlation |
|---|---|
| Quality-discounted education challenge index | -0.809* |
| Material footprint challenge index | 0.820* |
| Development challenges index | -0.824* |
| Climate change challenge index | 0.826* |
| Government effectiveness challenge index | -0.832* |
| Quality-adjusted human development challenge index | -0.838* |
| Inequality-adjusted income challenge index | -0.843* |
| Environmental health challenge index | -0.849* |

**Source:** Authors' calculations.

**Note:** Correlation coefficients with Bonferroni-adjusted significance levels, *=5%.

## B. Statistical robustness of results to the choice of weights

The results of the BICI and BIII presented in the main text may be affected by several sources of uncertainty: (a) the choice of dimensions and indicators; (b) the weights assigned to individual dimensions and indicators; and (c) the general structure of the framework. Because (a) and (c) were previously validated in the construction of the DCI and DII using redundancy tests, including Pearson's correlation and Cramer's V statistics, here we focus on the specific role of indicator and pillar weights, which differ from those under the DCI and DII – particularly given the absence of income among indicators.

To validate the structure of the BICI and BIII indices and test the robustness of their results, we estimate a set of alternative frameworks and compare the respective results. In particular, we assess the sensitivity of world regions' or countries' scores and rankings under alternative framework-weighting schemes. Distance-based metrics, such as the Euclidean distance (ED), provide pairwise distances between the score (or rank) of each country (or region) under the baseline scenario relative to other scenarios. The lower the distance between the ranks of two scenarios, the higher the similarity between the two sets.

We have computed 92 alternative scenarios for the BICI and 105 alternative scenarios for the BIII using different weights of the included indicators (i.e., weights from 0 to 98 per cent on any indicator). After computing the ED for the scores (rankings) of countries (regions) under a scenario relative to a comparison scenario, the distances are summed across all comparison scenarios. The scenario with the lowest sum of ED vis-à-vis all other scenarios is deemed the most robust, as it features a set of weights leading to the least-deviating set of results compared to all other scenarios. These tests show that the baseline scenarios of the BICI and BIII have the lowest ED among the alternative frameworks.

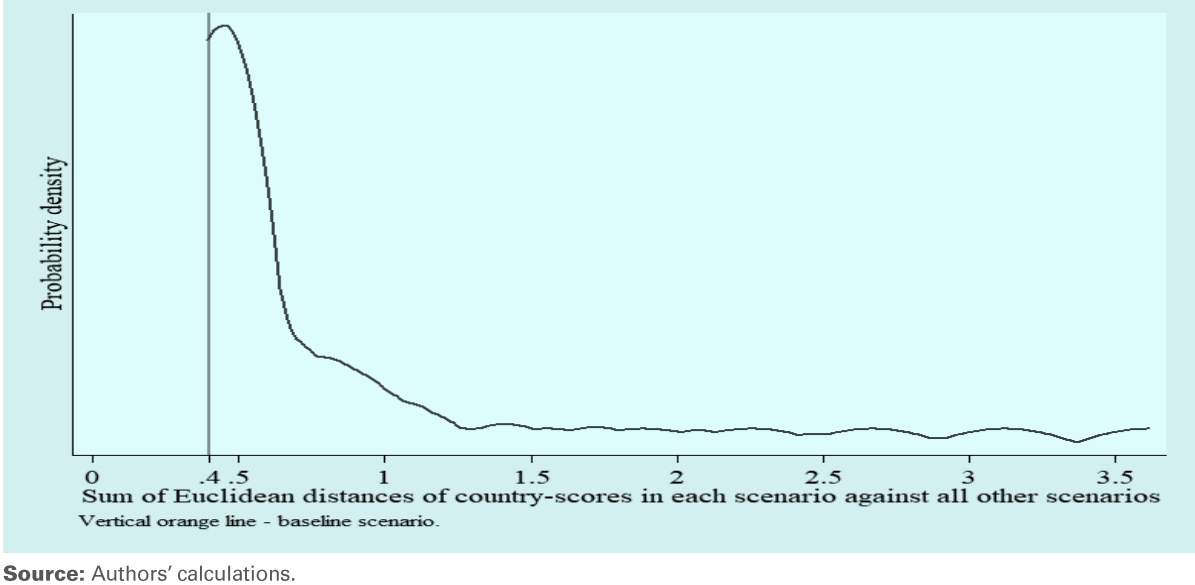
## 1. BICI

The baseline BICI scenario compares best among 92 alternative scenarios in terms of the consistency of country scores, and sixth best in terms of country rankings. In the baseline scenario of the BICI, the sum of Euclidean distances of country scores relative to the country scores across all other scenarios is 36.52 (or a divergence of 0.397 in the scores of all countries against another scenario, on average, across the 91 other scenarios), while the worst-performing scenario has the sum of Euclidean distances of 332.27 (a divergence of 3.61 in all countries' scores, on average, across all other scenarios). Figure A1 illustrates that the 0.397 statistic is the lowest compared to the sums of ED from other scenarios.

The sum of Euclidean distances of country rankings in the baseline scenario relative to the country rankings across all other scenarios is 3,913,066 (a divergence of 42,533 in the rankings of all countries, on average, across all other scenarios), which is close to the sum of Euclidean distances for the best performing scenario (3,888,642 across all scenarios, or 42,268 per alternative scenario), while the worst-performing scenario has the Euclidean distance of 38,213,872 (415,368 per alternative scenario). The difference between the ED of the baseline scenario and that of the best-performing scenario is thus very small, with only 11 countries interchanging their rankings by at most 3 places compared to the best-performing scenario.

The baseline scenario also compares best in terms of world region scores and rankings. In the baseline scenario, the sum of Euclidean distances of region scores relative to the region scores across all other scenarios is 1.27 (or 0.014 per alternative scenario), while the worst-performing scenario has the Euclidean distance of 12.26 (0.133 per alternative scenario). Similarly, the sum of Euclidean distances of region rankings relative to the region rankings across all other scenarios is 8,696 (or 93.51 per alternative scenario), while the worst-performing scenario has the Euclidean distance of 501,952 (5,397 per alternative scenario).

Figure A1. Comparison of alternative weighting schemes of the BICI: sum of Euclidean distances of country scores



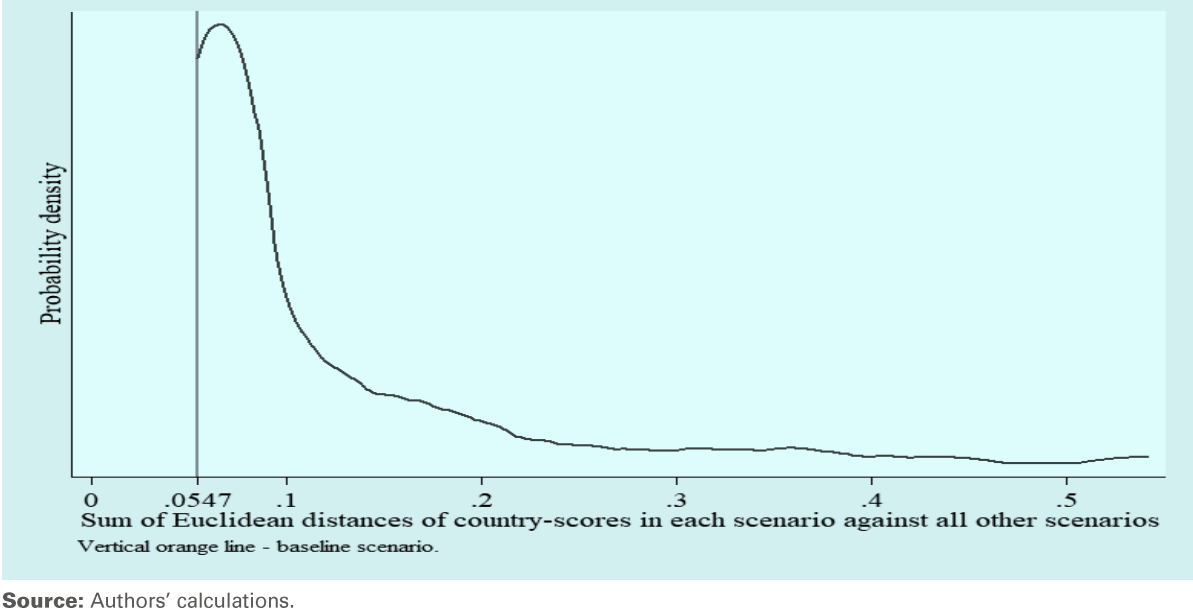

**Source:** Authors' calculations.

## 2. BIII

The baseline BIII scenario compares best relative to the other 104 scenarios in terms of the consistency of country scores and rankings, as well as world region rankings. In the baseline scenario, the sum of Euclidean distances of country scores relative to the country scores across all other scenarios is 5.74 (or a divergence of 0.055 in the scores of all countries against the scores in another scenario, on average, across the 104 other scenarios), while the worst-performing scenario has the Euclidean distance of 56.87 (a divergence of 0.55 in all countries' scores, on average, across all other scenarios). Figure A2 illustrates that the 0.055 statistic is the lowest compared to the statistics achieved by other scenarios. The sum of Euclidean distances of country rankings in the baseline scenario relative to the country rankings across all other scenarios is 6,923.47 (a divergence of 66.57 in the rankings of all countries compared to another scenario, on average, across all other scenarios), while the worst-performing scenario has the Euclidean distance of 69,405.56 (667.36 per alternative scenario). The comparison of world region scores and rankings yields similar conclusions. In the baseline scenario, the sum of Euclidean distances of region scores relative to the region scores across all other scenarios is 0.205 (or 0.002 per alternative scenario), while the worst-performing scenario has the Euclidean distance of 2.812 (0.027 per alternative scenario). The sum of Euclidean distances of region rankings relative to the region rankings across all other scenarios is 8,616 (81.28 per alternative scenario), while the worst-performing scenario has the Euclidean distance of 5,745,220 (54,200 per alternative scenario).

In summary, regardless of whether country scores or rankings, or world region scores or rankings are of interest, the results of both BICI and BIII have strong statistical robustness properties with regard to the set of pillar and indicator weights.

Figure A2. Comparison of alternative weighting schemes of the BIII: sum of Euclidean distances of country scores




**Source:** Authors' calculations.

# Annex 2. BICI, BIII and their dimensions

Countries are presented in alphabetical order, and indicators are presented by pillar for each of the development challenges and the development inequalities.

Beyond Income Challenges Index and Beyond Income Inequalities Index scores and ranks, 2021

| Country | Climate change and energy efficiency challenge index | Democratic governance challenge index | BICI | Ranks BICI | Inequalities in income and financial inclusion index | Vertical inequality in CO2 emissions index | Inequalities in governance index | BIII | Ranks BIII |
|---|---|---|---|---|---|---|---|---|---|
| Afghanistan | 0.077 | 0.701 | 0.389 | 43 | 0.471 | 0.404 | 0.670 | 0.515 | 36 |
| Albania | 0.141 | 0.354 | 0.247 | 124 | 0.231 | 0.448 | 0.363 | 0.347 | 119 |
| Algeria | 0.236 | 0.580 | 0.408 | 35 | 0.627 | 0.390 | 0.339 | 0.452 | 69 |
| Angola | 0.100 | 0.551 | 0.326 | 75 | 0.428 | 0.639 | 0.594 | 0.554 | 18 |
| Argentina | 0.197 | 0.381 | 0.289 | 92 | 0.385 | 0.392 | 0.292 | 0.357 | 117 |
| Armenia | 0.146 | 0.361 | 0.253 | 116 | 0.359 | 0.393 | 0.273 | 0.342 | 121 |
| Australia | 0.473 | 0.195 | 0.334 | 67 | 0.252 | 0.425 | 0.273 | 0.316 | 129 |
| Austria | 0.250 | 0.228 | 0.239 | 133 | 0.282 | 0.477 | 0.254 | 0.337 | 124 |
| Azerbaijan | 0.214 | 0.702 | 0.458 | 19 | 0.248 | 0.403 | 0.602 | 0.418 | 91 |
| Bahrain | 0.560 | 0.695 | 0.627 | 2 | 0.637 | 0.540 | 0.718 | 0.632 | 3 |
| Bangladesh | 0.084 | 0.569 | 0.327 | 74 | 0.493 | 0.485 | 0.622 | 0.533 | 29 |
| Barbados | 0.185 | 0.268 | 0.227 | 138 | 0.393 | 0.569 | 0.308 | 0.423 | 88 |
| Belarus | 0.258 | 0.815 | 0.536 | 8 | 0.192 | 0.295 | 0.332 | 0.273 | 147 |
| Belgium | 0.323 | 0.139 | 0.231 | 135 | 0.135 | 0.362 | 0.194 | 0.230 | 158 |
| Benin | 0.185 | 0.411 | 0.298 | 87 | 0.490 | 0.555 | 0.326 | 0.457 | 66 |
| Bhutan | 0.391 | 0.274 | 0.333 | 70 | 0.422 | 0.534 | 0.284 | 0.413 | 93 |
| Bolivia (Plurinational State of) | 0.175 | 0.417 | 0.296 | 88 | 0.412 | 0.452 | 0.297 | 0.387 | 105 |

| Country | Climate change and energy efficiency challenge index | Democratic governance challenge index | BICI | Ranks BICI | Inequalities in income and financial inclusion index | Vertical inequality in CO2 emissions index | Inequalities in governance index | BIII | Ranks BIII |
|---|---|---|---|---|---|---|---|---|---|
| Bosnia and Herzegovina | 0.304 | 0.482 | 0.393 | 41 | 0.415 | 0.301 | 0.421 | 0.379 | 108 |
| Botswana | 0.163 | 0.243 | 0.203 | 150 | 0.474 | 0.832 | 0.385 | 0.564 | 14 |
| Brazil | 0.214 | 0.402 | 0.308 | 82 | 0.496 | 0.528 | 0.442 | 0.489 | 49 |
| Bulgaria | 0.254 | 0.404 | 0.329 | 72 | 0.270 | 0.430 | 0.372 | 0.357 | 115 |
| Burkina Faso | 0.144 | 0.313 | 0.229 | 136 | 0.380 | 0.466 | 0.363 | 0.403 | 98 |
| Burundi | 0.230 | 0.673 | 0.451 | 20 | 0.242 | 0.577 | 0.470 | 0.430 | 82 |
| Cabo Verde | 0.119 | 0.378 | 0.249 | 122 | 0.425 | 0.588 | 0.273 | 0.428 | 84 |
| Cambodia | 0.168 | 0.711 | 0.439 | 22 | 0.267 | 0.564 | 0.646 | 0.492 | 47 |
| Cameroon | 0.136 | 0.581 | 0.358 | 57 | 0.409 | 0.623 | 0.492 | 0.508 | 38 |
| Canada | 0.490 | 0.191 | 0.341 | 63 | 0.267 | 0.435 | 0.313 | 0.338 | 122 |
| Central African Republic | 0.252 | 0.587 | 0.419 | 30 | 0.506 | 0.607 | 0.651 | 0.588 | 9 |
| Chad | 0.143 | 0.650 | 0.397 | 39 | 0.446 | 0.413 | 0.706 | 0.522 | 34 |
| Chile | 0.204 | 0.230 | 0.217 | 145 | 0.360 | 0.716 | 0.327 | 0.468 | 63 |
| China | 0.349 | 0.607 | 0.478 | 16 | 0.337 | 0.900 | 0.602 | 0.613 | 4 |
| Colombia | 0.126 | 0.458 | 0.292 | 90 | 0.469 | 0.554 | 0.582 | 0.535 | 27 |
| Congo | 0.204 | 0.576 | 0.390 | 42 | 0.404 | 0.812 | 0.591 | 0.602 | 6 |
| Congo (Democratic Republic of the) | 0.402 | 0.573 | 0.487 | 13 | 0.452 | 0.667 | 0.541 | 0.554 | 19 |
| Costa Rica | 0.135 | 0.147 | 0.141 | 157 | 0.459 | 0.537 | 0.255 | 0.417 | 92 |
| Côte d'Ivoire | 0.112 | 0.452 | 0.282 | 98 | 0.535 | 0.485 | 0.441 | 0.487 | 51 |
| Croatia | 0.200 | 0.360 | 0.280 | 99 | 0.248 | 0.348 | 0.356 | 0.317 | 128 |
| Cuba | 0.090 | 0.751 | 0.421 | 28 | 0.383 | 0.247 | 0.304 | 0.311 | 131 |
| Cyprus | 0.282 | 0.242 | 0.262 | 112 | 0.296 | 0.384 | 0.221 | 0.300 | 137 |
| Czechia | 0.290 | 0.288 | 0.289 | 93 | 0.289 | 0.359 | 0.201 | 0.283 | 145 |
| Denmark | 0.209 | 0.073 | 0.141 | 158 | 0.223 | 0.351 | 0.140 | 0.238 | 157 |

| Country | Climate change and energy efficiency challenge index | Democratic governance challenge index | BICI | Ranks BICI | Inequalities in income and financial inclusion index | Vertical inequality in CO2 emissions index | Inequalities in governance index | BIII | Ranks BIII |
|---|---|---|---|---|---|---|---|---|---|
| Dominican Republic | 0.124 | 0.295 | 0.209 | 148 | 0.397 | 0.506 | 0.525 | 0.476 | 58 |
| Ecuador | 0.143 | 0.417 | 0.280 | 100 | 0.474 | 0.420 | 0.376 | 0.423 | 87 |
| Egypt | 0.153 | 0.614 | 0.384 | 47 | 0.586 | 0.471 | 0.561 | 0.539 | 26 |
| El Salvador | 0.130 | 0.638 | 0.384 | 46 | 0.475 | 0.339 | 0.517 | 0.444 | 73 |
| Estonia | 0.365 | 0.144 | 0.254 | 115 | 0.221 | 0.413 | 0.259 | 0.298 | 139 |
| Eswatini (Kingdom of) | 0.183 | 0.574 | 0.378 | 51 | 0.437 | 0.759 | 0.616 | 0.604 | 5 |
| Ethiopia | 0.223 | 0.488 | 0.356 | 58 | 0.311 | 0.527 | 0.450 | 0.429 | 83 |
| Fiji | 0.106 | 0.419 | 0.263 | 111 | 0.416 | 0.489 | 0.444 | 0.450 | 70 |
| Finland | 0.374 | 0.068 | 0.221 | 141 | 0.219 | 0.364 | 0.174 | 0.252 | 153 |
| France | 0.208 | 0.219 | 0.213 | 146 | 0.241 | 0.360 | 0.264 | 0.288 | 143 |
| Gabon | 0.232 | 0.377 | 0.304 | 83 | 0.401 | 0.494 | 0.423 | 0.440 | 76 |
| Gambia | 0.102 | 0.335 | 0.219 | 143 | 0.380 | 0.393 | 0.362 | 0.379 | 109 |
| Georgia | 0.178 | 0.351 | 0.264 | 108 | 0.340 | 0.526 | 0.351 | 0.406 | 96 |
| Germany | 0.236 | 0.037 | 0.137 | 159 | 0.279 | 0.407 | 0.143 | 0.277 | 146 |
| Ghana | 0.103 | 0.311 | 0.207 | 149 | 0.379 | 0.541 | 0.280 | 0.400 | 100 |
| Greece | 0.196 | 0.269 | 0.232 | 134 | 0.251 | 0.320 | 0.236 | 0.269 | 148 |
| Guatemala | 0.163 | 0.565 | 0.364 | 55 | 0.468 | 0.453 | 0.618 | 0.513 | 37 |
| Guinea | 0.184 | 0.576 | 0.380 | 49 | 0.356 | 0.471 | 0.546 | 0.458 | 65 |
| Guyana | 0.393 | 0.426 | 0.409 | 33 | 0.411 | 0.521 | 0.375 | 0.436 | 78 |
| Haiti | 0.181 | 0.612 | 0.397 | 40 | 0.454 | 0.546 | 0.658 | 0.553 | 20 |
| Honduras | 0.159 | 0.576 | 0.367 | 54 | 0.529 | 0.567 | 0.554 | 0.550 | 22 |
| Hungary | 0.214 | 0.463 | 0.339 | 64 | 0.253 | 0.443 | 0.386 | 0.361 | 114 |
| Iceland | 0.694 | 0.182 | 0.438 | 23 | 0.078 | 0.298 | 0.256 | 0.211 | 159 |
| India | 0.163 | 0.441 | 0.302 | 85 | 0.468 | 0.785 | 0.422 | 0.558 | 16 |
| Indonesia | 0.140 | 0.354 | 0.247 | 123 | 0.352 | 0.659 | 0.467 | 0.493 | 46 |

| Country | Climate change and energy efficiency challenge index | Democratic governance challenge index | BICI | Ranks BICI | Inequalities in income and financial inclusion index | Vertical inequality in CO2 emissions index | Inequalities in governance index | BIII | Ranks BIII |
|---|---|---|---|---|---|---|---|---|---|
| Iran (Islamic Republic of) | 0.469 | 0.595 | 0.532 | 9 | 0.539 | 0.633 | 0.553 | 0.575 | 11 |
| Iraq | 0.264 | 0.565 | 0.414 | 32 | 0.459 | 0.453 | 0.554 | 0.489 | 48 |
| Ireland | 0.309 | 0.144 | 0.226 | 139 | 0.253 | 0.445 | 0.220 | 0.306 | 136 |
| Italy | 0.169 | 0.225 | 0.197 | 151 | 0.276 | 0.355 | 0.168 | 0.266 | 150 |
| Jamaica | 0.195 | 0.336 | 0.265 | 106 | 0.386 | 0.535 | 0.274 | 0.398 | 102 |
| Japan | 0.253 | 0.234 | 0.243 | 129 | 0.258 | 0.439 | 0.180 | 0.292 | 140 |
| Jordan | 0.164 | 0.339 | 0.251 | 119 | 0.589 | 0.456 | 0.392 | 0.479 | 57 |
| Kazakhstan | 0.481 | 0.535 | 0.508 | 10 | 0.266 | 0.517 | 0.488 | 0.424 | 86 |
| Kenya | 0.176 | 0.371 | 0.274 | 104 | 0.409 | 0.516 | 0.414 | 0.446 | 72 |
| Korea (Republic of) | 0.362 | 0.229 | 0.296 | 89 | 0.298 | 0.594 | 0.289 | 0.394 | 103 |
| Kuwait | 0.674 | 0.413 | 0.543 | 6 | 0.464 | 0.507 | 0.513 | 0.495 | 44 |
| Kyrgyzstan | 0.194 | 0.513 | 0.353 | 59 | 0.319 | 0.444 | 0.497 | 0.420 | 89 |
| Lao People's Democratic Republic | 0.212 | 0.642 | 0.427 | 26 | 0.322 | 0.601 | 0.498 | 0.474 | 61 |
| Latvia | 0.256 | 0.237 | 0.247 | 125 | 0.243 | 0.441 | 0.235 | 0.306 | 134 |
| Lebanon | 0.194 | 0.480 | 0.337 | 65 | 0.465 | 0.606 | 0.492 | 0.521 | 35 |
| Lesotho | 0.295 | 0.337 | 0.316 | 80 | 0.396 | 0.534 | 0.326 | 0.419 | 90 |
| Liberia | 0.434 | 0.372 | 0.403 | 37 | 0.404 | 0.367 | 0.382 | 0.384 | 107 |
| Lithuania | 0.306 | 0.263 | 0.284 | 96 | 0.274 | 0.369 | 0.214 | 0.286 | 144 |
| Luxembourg | 0.386 | 0.123 | 0.255 | 114 | 0.218 | 0.539 | 0.171 | 0.310 | 132 |
| Madagascar | 0.258 | 0.502 | 0.380 | 50 | 0.350 | 0.570 | 0.572 | 0.497 | 43 |
| Malawi | 0.099 | 0.258 | 0.179 | 154 | 0.434 | 0.551 | 0.479 | 0.488 | 50 |
| Malaysia | 0.288 | 0.466 | 0.377 | 52 | 0.356 | 0.537 | 0.476 | 0.456 | 67 |
| Maldives | 0.170 | 0.452 | 0.311 | 81 | 0.517 | 0.420 | 0.386 | 0.441 | 75 |
| Mali | 0.153 | 0.487 | 0.320 | 78 | 0.345 | 0.397 | 0.496 | 0.413 | 94 |
| Malta | 0.243 | 0.284 | 0.264 | 109 | 0.203 | 0.287 | 0.253 | 0.248 | 154 |

| Country | Climate change and energy efficiency challenge index | Democratic governance challenge index | BICI | Ranks BICI | Inequalities in income and financial inclusion index | Vertical inequality in CO2 emissions index | Inequalities in governance index | BIII | Ranks BIII |
|---|---|---|---|---|---|---|---|---|---|
| Mauritania | 0.132 | 0.522 | 0.327 | 73 | 0.434 | 0.478 | 0.744 | 0.552 | 21 |
| Mauritius | 0.178 | 0.368 | 0.273 | 105 | 0.301 | 0.511 | 0.303 | 0.372 | 112 |
| Mexico | 0.160 | 0.591 | 0.375 | 53 | 0.430 | 0.749 | 0.504 | 0.561 | 15 |
| Moldova (Republic of) | 0.167 | 0.321 | 0.244 | 127 | 0.221 | 0.370 | 0.308 | 0.300 | 138 |
| Mongolia | 0.499 | 0.433 | 0.466 | 18 | 0.269 | 0.452 | 0.334 | 0.352 | 118 |
| Montenegro | 0.245 | 0.414 | 0.330 | 71 | 0.242 | 0.421 | 0.351 | 0.338 | 123 |
| Morocco | 0.142 | 0.416 | 0.279 | 101 | 0.607 | 0.484 | 0.409 | 0.500 | 41 |
| Mozambique | 0.361 | 0.491 | 0.426 | 27 | 0.446 | 0.771 | 0.378 | 0.532 | 30 |
| Myanmar | 0.118 | 0.698 | 0.408 | 36 | 0.285 | 0.359 | 0.651 | 0.432 | 79 |
| Namibia | 0.166 | 0.315 | 0.240 | 132 | 0.498 | 0.777 | 0.442 | 0.572 | 13 |
| Nepal | 0.181 | 0.325 | 0.253 | 117 | 0.304 | 0.450 | 0.328 | 0.361 | 113 |
| Netherlands | 0.302 | 0.186 | 0.244 | 128 | 0.249 | 0.299 | 0.176 | 0.241 | 155 |
| New Zealand | 0.313 | 0.190 | 0.252 | 118 | 0.229 | 0.400 | 0.238 | 0.289 | 141 |
| Nicaragua | 0.165 | 0.793 | 0.479 | 15 | 0.477 | 0.615 | 0.680 | 0.590 | 8 |
| Niger | 0.163 | 0.322 | 0.243 | 130 | 0.339 | 0.528 | 0.329 | 0.399 | 101 |
| Nigeria | 0.207 | 0.398 | 0.302 | 84 | 0.522 | 0.387 | 0.479 | 0.463 | 64 |
| North Macedonia | 0.183 | 0.457 | 0.320 | 79 | 0.363 | 0.372 | 0.396 | 0.377 | 111 |
| Norway | 0.333 | 0.103 | 0.218 | 144 | 0.233 | 0.372 | 0.114 | 0.240 | 156 |
| Oman | 0.370 | 0.488 | 0.429 | 25 | 0.644 | 0.722 | 0.568 | 0.644 | 2 |
| Pakistan | 0.158 | 0.524 | 0.341 | 62 | 0.519 | 0.417 | 0.512 | 0.483 | 55 |
| Panama | 0.123 | 0.426 | 0.275 | 103 | 0.400 | 0.518 | 0.375 | 0.431 | 80 |
| Papua New Guinea | 0.182 | 0.469 | 0.325 | 76 | 0.419 | 0.514 | 0.561 | 0.498 | 42 |
| Paraguay | 0.187 | 0.479 | 0.333 | 69 | 0.369 | 0.506 | 0.577 | 0.484 | 53 |
| Peru | 0.127 | 0.364 | 0.245 | 126 | 0.406 | 0.729 | 0.379 | 0.505 | 39 |
| Philippines | 0.125 | 0.454 | 0.289 | 91 | 0.425 | 0.664 | 0.515 | 0.535 | 28 |
| Poland | 0.252 | 0.416 | 0.334 | 68 | 0.272 | 0.376 | 0.270 | 0.306 | 133 |

| Country | Climate change and energy efficiency challenge index | Democratic governance challenge index | BICI | Ranks BICI | Inequalities in income and financial inclusion index | Vertical inequality in CO2 emissions index | Inequalities in governance index | BIII | Ranks BIII |
|---|---|---|---|---|---|---|---|---|---|
| Portugal | 0.163 | 0.289 | 0.226 | 140 | 0.270 | 0.404 | 0.265 | 0.313 | 130 |
| Qatar | 0.588 | 0.603 | 0.595 | 3 | 0.367 | 0.627 | 0.806 | 0.600 | 7 |
| Romania | 0.171 | 0.358 | 0.264 | 107 | 0.302 | 0.491 | 0.363 | 0.386 | 106 |
| Russian Federation | 0.384 | 0.607 | 0.496 | 12 | 0.331 | 0.472 | 0.488 | 0.430 | 81 |
| Rwanda | 0.123 | 0.453 | 0.288 | 94 | 0.396 | 0.600 | 0.407 | 0.468 | 62 |
| Sao Tome and Principe | 0.129 | 0.354 | 0.242 | 131 | 0.412 | 0.630 | 0.386 | 0.476 | 59 |
| Saudi Arabia | 0.467 | 0.637 | 0.552 | 4 | 0.589 | 0.483 | 0.650 | 0.574 | 12 |
| Senegal | 0.129 | 0.295 | 0.212 | 147 | 0.436 | 0.535 | 0.301 | 0.424 | 85 |
| Serbia | 0.261 | 0.459 | 0.360 | 56 | 0.259 | 0.342 | 0.360 | 0.321 | 127 |
| Sierra Leone | 0.167 | 0.271 | 0.219 | 142 | 0.302 | 0.539 | 0.374 | 0.405 | 97 |
| Singapore | 0.361 | 0.313 | 0.337 | 66 | 0.342 | 0.696 | 0.309 | 0.449 | 71 |
| Slovakia | 0.254 | 0.273 | 0.264 | 110 | 0.165 | 0.320 | 0.318 | 0.268 | 149 |
| Slovenia | 0.267 | 0.335 | 0.301 | 86 | 0.174 | 0.377 | 0.236 | 0.262 | 151 |
| South Africa | 0.342 | 0.345 | 0.344 | 61 | 0.508 | 0.695 | 0.304 | 0.503 | 40 |
| Spain | 0.176 | 0.216 | 0.196 | 152 | 0.260 | 0.325 | 0.195 | 0.260 | 152 |
| Sri Lanka | 0.077 | 0.490 | 0.284 | 97 | 0.368 | 0.651 | 0.431 | 0.484 | 54 |
| Sudan | 0.185 | 0.611 | 0.398 | 38 | 0.500 | 0.557 | 0.536 | 0.531 | 31 |
| Suriname | 0.211 | 0.358 | 0.285 | 95 | 0.546 | 0.542 | 0.337 | 0.475 | 60 |
| Sweden | 0.259 | 0.095 | 0.177 | 155 | 0.265 | 0.386 | 0.215 | 0.288 | 142 |
| Switzerland | 0.214 | 0.096 | 0.155 | 156 | 0.307 | 0.502 | 0.202 | 0.337 | 125 |
| Syrian Arab Republic | 0.333 | 0.761 | 0.547 | 5 | 0.498 | 0.595 | 0.665 | 0.586 | 10 |
| Tajikistan | 0.174 | 0.786 | 0.480 | 14 | 0.283 | 0.474 | 0.725 | 0.494 | 45 |
| Tanzania (United Republic of) | 0.188 | 0.325 | 0.256 | 113 | 0.378 | 0.499 | 0.324 | 0.400 | 99 |
| Thailand | 0.216 | 0.600 | 0.408 | 34 | 0.302 | 0.780 | 0.509 | 0.530 | 32 |
| Togo | 0.254 | 0.519 | 0.386 | 45 | 0.395 | 0.496 | 0.438 | 0.443 | 74 |

| Country | Climate change and energy efficiency challenge index | Democratic governance challenge index | BICI | Ranks BICI | Inequalities in income and financial inclusion index | Vertical inequality in CO2 emissions index | Inequalities in governance index | BIII | Ranks BIII |
|---|---|---|---|---|---|---|---|---|---|
| Trinidad and Tobago | 0.773 | 0.301 | 0.537 | 7 | 0.409 | 0.449 | 0.319 | 0.392 | 104 |
| Tunisia | 0.170 | 0.329 | 0.249 | 121 | 0.496 | 0.406 | 0.229 | 0.377 | 110 |
| Türkiye | 0.193 | 0.672 | 0.433 | 24 | 0.541 | 0.559 | 0.566 | 0.555 | 17 |
| Turkmenistan | 0.557 | 0.758 | 0.658 | 1 | 0.390 | 0.490 | 0.696 | 0.525 | 33 |
| Uganda | 0.301 | 0.474 | 0.388 | 44 | 0.333 | 0.605 | 0.524 | 0.487 | 52 |
| Ukraine | 0.301 | 0.462 | 0.382 | 48 | 0.325 | 0.306 | 0.441 | 0.357 | 116 |
| United Arab Emirates | 0.498 | 0.508 | 0.503 | 11 | 0.372 | 0.641 | 0.609 | 0.541 | 25 |
| United Kingdom | 0.188 | 0.195 | 0.191 | 153 | 0.243 | 0.359 | 0.315 | 0.306 | 135 |
| United States | 0.396 | 0.161 | 0.278 | 102 | 0.389 | 0.490 | 0.356 | 0.412 | 95 |
| Uruguay | 0.168 | 0.287 | 0.228 | 137 | 0.319 | 0.392 | 0.298 | 0.336 | 126 |
| Uzbekistan | 0.304 | 0.587 | 0.445 | 21 | 0.427 | 0.459 | 0.555 | 0.481 | 56 |
| Venezuela (Bolivarian Republic of) | 0.243 | 0.703 | 0.473 | 17 | 0.412 | 0.589 | 0.366 | 0.456 | 68 |
| Viet Nam | 0.204 | 0.494 | 0.349 | 60 | 0.252 | 0.640 | 0.425 | 0.439 | 77 |
| Yemen | 0.075 | 0.763 | 0.419 | 31 | 0.586 | 0.705 | 0.799 | 0.697 | 1 |
| Zambia | 0.220 | 0.422 | 0.321 | 77 | 0.497 | 0.743 | 0.395 | 0.545 | 23 |
| Zimbabwe | 0.319 | 0.523 | 0.421 | 29 | 0.414 | 0.674 | 0.545 | 0.544 | 24 |

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The present paper proposes a framework for measuring progress beyond income that is conceptually anchored to and builds on the work led by ESCWA on rethinking human development metrics. This is accomplished by compiling a comprehensive dashboard of indices drawn from earlier technical analyses based on their relevance to the human development conceptual framework, and then proposing two composite indices - the Beyond Income Challenges Index (BICI) and the Beyond Income Inequalities Index (BIII) - with a parsimonious number of indicators. Income itself, and other indicators that are highly correlated with income, are excluded.

The proposed indices and the results shown in the paper seek to inform system-wide efforts across the United Nations, its Member States and stakeholders to develop a framework and metrics beyond gross domestic product that will enable a paradigm shift in the process used to assess progress towards a more sustainable, just and inclusive future.

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