

Developing a Satellite Productive Capacities Index for Small Island Developing States

Background paper - July 2025

Disclaimer: This is a draft, working document for use during the Brainstorming session on the development of a SIDS satellite Productive Capacities Index (PCI). The data presented in the paper are preliminary and **provided solely for analytical purposes**. They do not represent the final PCI validated figures and are subject to revision before official publication.

The United Nations Conference on Trade and Development (UNCTAD) developed a multidimensional Productive Capacities Index (PCI). The PCI was designed to assess a country's ability to produce goods and services as well as offer insights into limitations and opportunities for transformational growth. As such, it serves as a diagnostic tool to identify intervention areas for policymakers to enhance productive capacity, kick-start structural economic transformation and achieve inclusive growth and sustainable development. It measures productive capacity across eight core categories: human capital; natural capital; energy; transport; information and communications technology; institutions; private sector; and structural change.

As part of the United Nations Development Account (UNDA) project ["Stronger and Greener Productive Capacities for Just Transitions in Caribbean Small Island Developing States \(SIDS\)."](#) UNCTAD, in collaboration with partners, is developing a satellite PCI tailored specifically to Small Island Developing States (SIDS). In statistical terms, a satellite index is built alongside a main index to capture country-specific dimensions or group-specific characteristics that the main index may not fully reflect. This initiative is rooted in the recognition that measures of productive capacity that apply to the cases of other countries do not fully capture the unique challenges and vulnerabilities of SIDS.

A satellite PCI for SIDS, more rooted in their own realities and data constraints, is therefore crucial to provide a more accurate and targeted assessment of their capacity to sustainably produce goods and services in areas of SIDS-specific comparative advantages. This includes tailoring the index to incorporate key SIDS-specific vulnerabilities such as climate resilience, the significance of the blue economy, and their unique structural and financial constraints. But it may also mean recalibrating or reweighting the existing components so that they do not tell a skewed story about what is going on (or not going on) in SIDS. A SIDS-specific satellite PCI can offer policymakers more relevant insights for targeted interventions, facilitate effective advocacy on the global stage by highlighting their particular needs, and ultimately guide them towards more resilient and sustainable development paths that are not adequately reflected in generalised indices.

The SIDS satellite PCI will complement the existing global PCI by offering unique insights into SIDS-specific circumstances, helping to better understand and support SIDS' productive development pathways. It aims to better inform national policies and strategies by improving how measurement tools align with economic and environmental contexts of these vulnerable economies. The project particularly emphasizes how environmental, gender-related, and financial vulnerabilities constrain the development and strengthening of productive capacities, particularly in the context of **advancing Just Transition**-aligned pathways. In the long-term, both the global PCI and the SIDS satellite PCI will be available for SIDS.

This initiative directly supports the **Antigua and Barbuda Agenda for SIDS (ABAS)**, which highlights the importance of developing productive capacities in paragraphs 7, 21, 23, and 25 as well as the need for capacity building to strengthen data governance and management in SIDS (paras 19 and G) (United Nations, 2024). It is also aligned with **UNCTAD's Strategy for**

SIDS, particularly Pillar 6.1, which focuses on identifying and addressing gaps in productive capacities (UNCTAD, 2024a).

1. Methodological Approach

The development of a SIDS satellite PCI is an iterative process, informed by the literature, data availability, expert consultation, and feedback from SIDS stakeholders. It applies existing statistical methodologies used in the global PCI, providing insights into SIDS-specific challenges and opportunities. As summarised within the figure overleaf, the key steps are:

1. **Conceptual framework and literature review:** This includes a review of the evolution of the concept of productive capacity, leading to a discussion of the critiques and encompassing the specific criticisms which relate to SIDS. Next, a review of the PCI and the input indicators will be done, with emphasis on its alignment to the SIDS reality. A unique set of indicators specific to SIDS will be proposed and discussed and will serve as the initial basis for the SIDS PCI.
2. **Data Availability Assessment:** A comprehensive assessment of data availability for each proposed indicator across a representative sample of SIDS will be conducted. This will involve examining databases from international organisations (e.g., World Bank, UN agencies, IMF), regional SIDS organisations, and national statistical offices.
3. **Indicator Feasibility and Relevance:** Each indicator will be evaluated based on its feasibility (data availability, reliability, frequency of collection), relevance to the specific productive capacity challenges and opportunities of SIDS, and its ability to capture the nuances outlined in the conceptual framework (e.g., environmental, gender-related, financial vulnerabilities, and Just Transition elements). In this phase, prioritisation of actionable indicators for SIDS will be made.
4. **Selection and Potential Proxies:** A final set of core indicators will be selected based on the assessment. Where direct data is consistently limited, potential proxy indicators will be identified and evaluated for their suitability and limitations. These will be clearly documented.
5. **Iterative Refinement and Stakeholder Engagement:** This is not a final step but rather an iterative facet of the development process to continuously improve the SIDS PCI through ongoing expert feedback and input.

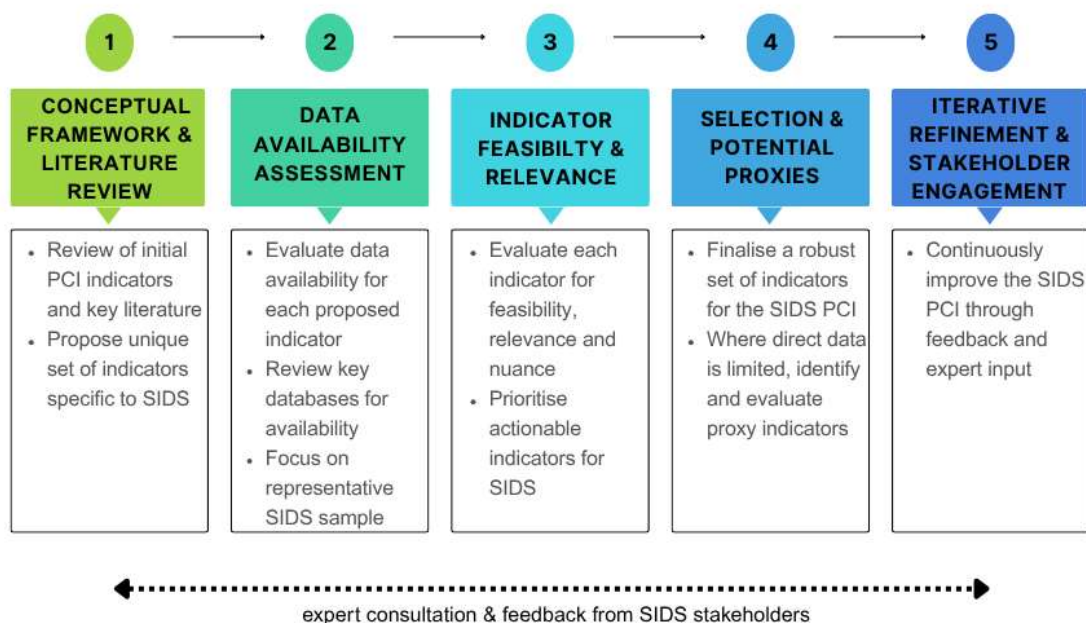


Figure 1.1: Key steps of the methodological approach to build a SIDS satellite PCI

The development of a PCI for SIDS is inherently an iterative process because it involves multiple layers of complexity and uncertainty and requires a flexible and adaptive approach to surmount the unique challenges faced by SIDS. By using an iterative process, the methodology for building the PCI can evolve in response to new insights (such as emerging challenges or shifts in global and regional contexts), stakeholder feedback (which aids a better reflection of the realities and priorities of SIDS), and new and/or proxy data (noting the challenges of reliably consistent and comparable data contexts in SIDS). **This background document offers the first iteration of this process, and participants/readers are welcome to comment and offer ideas for the following iteration.**

The team has been reviewing the literature and building the conceptual framework to justify why a SIDS satellite PCI is needed, ahead of offering some context on the PCI for SIDS and initial indicators. This will set the scene for a revised architecture where some indicators are reweighted or recalibrated, and others are added to better capture what is happening.

2. Conceptual Framework and Literature Review

Traditional measures of productive capacity do not fully capture the unique vulnerabilities experienced by SIDS, their specific comparative advantages and binding constraints which significantly shape their ability to generate sustained and consistent productivity increases.

- These island nations face a distinct set of interconnected challenges stemming from their small geographic and demographic sizes, remoteness and insularity and resource limitations, rendering them highly susceptible to exogenous shocks and exposure to climate hazards which can be disproportionately destructive.
- This is compounded by overdependence on one or two key economic sectors, typically services like tourism, meaning that external disruptions, such as the Covid-19 pandemic or a devastating hurricane can carry huge knock-on effects in terms of indebtedness and social provision with much longer recovery times.

- Due to their small size, composite indices like the PCI often obscure key development dynamics in SIDS. Aggregate scores can mask skewed results in specific categories, especially when those categories fail to reflect the true drivers of productivity in small economies. This issue is compounded by the distorting effects of per capita scaling, which is common in macroeconomic indices. Such scaling assumes a linear relationship between the numerator and denominator, but SIDS often face fixed costs of development—particularly in infrastructure and basic services—that do not scale down with population. As a result, conventional per capita measures may overrate performance or underrate need, misrepresenting the structural investment required for productive transformation in SIDS.
- This reflects, more broadly, the fact that conventional productive capacities productivity frameworks which are fundamentally rooted in hard infrastructure development and industrialisation do not easily fit to SIDS where the relative sunk costs of the former are enormous and the latter is, for the most part, very difficult to enact on any meaningful scale.
- Because they are so heavily exposed to disproportionately destructive exogenous shocks — which can decimate entire industries or territories in hours — SIDS also remain acutely vulnerable to sudden and overwhelming shifts in their physical integrity, fiscal position or social cohesion, winding back productivity gains instantly.
- Not only the challenges facing them are unique both in scope and diversity, but also are their comparative advantages and economic specialization. For instance, SIDS are less likely to become competitive in labour-intensive manufacturing or full-scale industrialization due to their human and natural capital resources base.

A SIDS satellite PCI is therefore crucial to provide a more nuanced assessment of their capacity to produce goods and services sustainably. By tailoring the index to incorporate key SIDS-specific vulnerabilities such as climate resilience, the significance of the blue economy, and their unique structural and financial constraints, a satellite PCI can complement the global PCI by offering policymakers more relevant insights for targeted interventions, facilitate effective advocacy on the global stage by highlighting their particular needs, and ultimately guide SIDS towards more resilient and sustainable development pathways.

Productive capacity historically

Productive capacity refers to the ability of an economy—or an industry, institution, or individual—can sustainably produce a range of goods and services using its available human, financial, technological, and natural resources. UNCTAD frames this as the interplay of ‘productive resources, entrepreneurial capabilities and production linkages which together determine the capacity of a country to produce goods and services’ (UNCTAD 2006: 2020). Measuring and analysing productive capacity can reveal an economy’s potential for expansion and where interventions are needed to improve performance.

Historical debates divided classical liberals and mercantilists: where thinkers like Smith and Ricardo saw productivity gains emerging naturally from labour specialization, comparative advantage and market expansion. List and Hamilton emphasized active state-led industrial policy and market distortion to shift these parameters and facilitate catch-up. Economists such as Fisher and Schumpeter were enriching this discussion by highlighting the importance of production linkages, innovation, and structural transformation in shaping productive capacities. This intellectual tension carried on into the 20th century, shaping views on development and the role of the state.

Keynesian and modernization theorists, responding to the Great Depression and decolonization, argued that productive capacity in developing countries required investment in infrastructure, technology, and human capital. However, critics such as Latin American structuralists pointed to global systemic constraints inhibiting development. The deployment of strategic industrial policy by the Asian Tigers in the late 20th century, rather than liberal market prescriptions, demonstrated that state intervention could still enable catch-up growth. Yet in the 1980s, structural adjustment policies often constrained, rather than augmented, productive capacity elsewhere in the Global South.

Productive capacity under globalization

By the 1990s and 2000s, the emergence of a 'post-Washington Consensus' (Stiglitz 1998a; 1998b) emphasized that markets alone were insufficient and needed to be complemented by institutions supporting good governance. This reflected a recognition that growth must be inclusive and sustainable, accounting for environmental and social dimensions, alongside a broader sentiment that productivity growth itself – and therefore the development it underpinned – was illusory if it rested on severe depletion of human or natural capital (Stiglitz et al. 2009). Institutions like UNCTAD increasingly framed productivity in terms of broader systems and production linkages, with political (governance), social (equity), and environmental (sustainability) constraints seen as central to, not separate from, building productive economic capacity. Indeed, this is precisely why UNCTAD today talks about 'the *combination* of productive resources, entrepreneurial capabilities, and production linkages' that influence a country's ability to produce goods and services (UNCTAD 2023, emphasis added).

Yet globalization also complicated the idea of a unified national economy, replacing nationally bounded firms with multinational corporations (MNCs) embedded in global value chains (GVCs) and production networks (GPNs). Over 80% of trade now occurs within these networks, meaning that economic value is created through complex, fragmented, transnational production processes (UNCTAD 2013) and economic development becomes a question of inserting parts of a domestic economy differentially into them at as high a value-added level as possible. The 2008 global financial crisis exposed structural flaws in this model, with gains often accruing to core economies and elites. China's rapid industrial rise further challenged Western liberal orthodoxy, demonstrating that state-led development could still deliver significant productivity gains (Lin 2014). However, the Chinese model is unique in scale: it has proven difficult to replicate elsewhere and prompted protectionist reactions from Western powers. Both of these effects potentially constrain the potential of smaller economies to find growth niches in an increasingly unstable international order.

Productive capacity in an era of 'polycrisis'

By the mid-2020s, the world entered a state of 'polycrisis' (Tooze 2021). This was marked by the return of great power rivalries, a partial retreat from economic globalization, and accelerating climate change, all of which weigh on SIDS especially heavily (Bishop et al 2025). Yet the extent of 'deglobalization' may be overstated (Bishop and Payne 2021). While events like the Covid-19 pandemic, the Russia-Ukraine war, and US trade policies have led to greater securitization of global production networks (GPNs), reshoring efforts remain limited. Modern production is highly fragmented, reliant on globally distributed inputs—from expertise to rare earth metals or semiconductors—that cannot feasibly be sourced from one nation or region alone. Most complex products contain dozens of such inputs, many of which are intangible, like data or intellectual property, rendering them difficult to subordinate to public control. This complexity is amplified by the dominance of powerful digital platforms that dominate much of the virtual space where production increasingly occurs. While this digital realm theoretically offers low barriers to entry for poorer regions, these platforms' oligopolistic control limits broader participation. Against this backdrop, debates about productive capacity continue to

reflect longstanding tensions between liberal and mercantilist approaches to development. For most developing countries, the core challenge remains structural: overcoming deficits in infrastructure, capital, skills, and access to key inputs in an increasingly hierarchical, closed, regionalized or securitized global economy.

Productive capacity: a SIDS-focused critique

General critiques of the concept of productive capacity tend to coalesce around four main issues:

- **Conceptualization**, with critics seeing the concept itself as definitionally all-inclusive and either excessively descriptive (in terms of stating general inputs that can lead to productivity gains, without analysis of how they interact to achieve this) or excessively complex (in terms of the sheer range of potential variables or components that need to be included to understand the process).
- **Measurement**, in terms of the difficulty of determining which dimensions to prioritize, the fact that some are not amenable to quantification, trade-offs between breadth and depth or simplification and explanation, and data availability. This potential exacerbates a broader problem of comparability.¹
- **Partiality**, in terms of the choices made to exclude or include particular components, the dominance of 'big' over 'small' data (Kelman and Shah 2024), the non-inclusion of subjective and qualitative indicators such as perceptions, feelings, histories or experiences, and the tension between economic output and growth as the core focus of productivity versus a wider range of objectives around equity and sustainability.
- **Applicability**, in terms of how notions of productive capacity may not capture the experience of particular groups of countries, especially when significant productivity gains are difficult to realize because technological innovation or human capital upgrading are expensive, difficult to access or implement and occur over excessively long timeframes.

All of these challenges play out in the case of SIDS specifically, where technological progress and insertion into global production networks or regional and global value chains face daunting structural barriers emanating from their size-related structural constraints and acute vulnerability. Indeed, they resonate with particular intensity and nuance when applied to SIDS: a *concept* that implies industrialization and diversification requires some rethinking when applied to economies over-reliant on one or two core service sectors within limited human and finance capital. In such circumstances, *measuring* capacity is difficult in a context where there exist huge data gaps because it is either too difficult or expensive to collect. The *partial* exclusion of types of data (small, qualitative) or the tendency to privilege output-focused conceptions over sustainability-focused ones, is a particular problem in SIDS where these components matter more than elsewhere. Therefore, to be *applicable* in these unique circumstances, we need to take seriously the consequences of the fact that productive capacity increases can be ephemeral, precisely because of the sudden and disproportionately damaging effect of exogenous shocks.

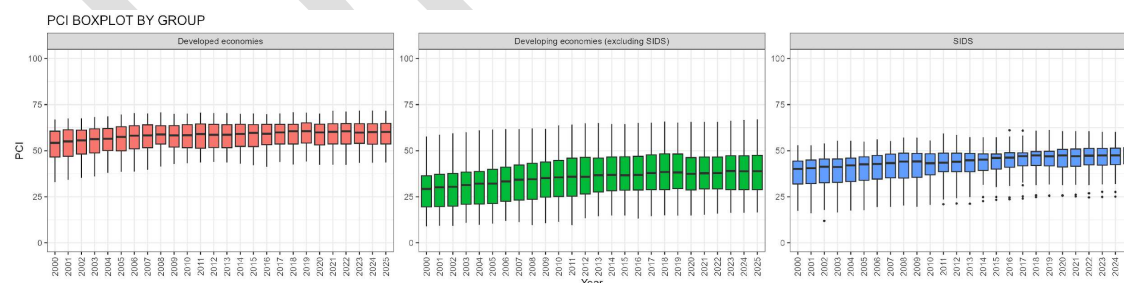
¹ Despite the critiques regarding the limitations of measuring productive capacities, there is broad consensus that metrics such as the PCI, while not without imperfections, like all composite indices, offer valuable guidance for shaping development policy and monitoring its outcomes. The PCI is a dynamic, evolving tool that supports a shift away from ad hoc or path-dependent decision-making toward more data-driven and evidence-based approaches to development planning (Deleleegn, 2023).

SIDS also face deeply entrenched structural challenges that limit their productive capacity, which can be poorly captured by traditional economic indices. Their small domestic markets restrict economies of scale, investment appeal and capital absorption—as well as imposing sizable sunk costs on infrastructure development. Such geographic remoteness inflates transport costs, reinforces dependence on a few key trade partners and shipping routes, and undermines global competitiveness or ability to access GVCs. Economic concentration—often in tourism, fisheries, or agriculture—leaves them highly vulnerable to shocks like climate disasters or global downturns, as seen during the COVID-19 pandemic. These vulnerabilities echo dual economy and plantation economy models, where external dependence stifles internal diversification. Compounding this, SIDS often lack robust human and institutional capacity, with brain drain and administrative constraints hampering innovation and governance. Climate change further erodes resilience, threatening critical infrastructure and ecosystems vital to productivity. Data limitations, due to size and dispersion, distort global metrics and mask the nuanced realities of SIDS economies.

A tailored satellite PCI must therefore prioritize resilience, sustainability, gender equity, and inclusion, while capturing progress in niche sectors like the blue economy or digital services. A SIDS-specific approach must reflect their unique development trajectory, focusing less on scale and more on adaptive, equitable, and sustainable capacity-building amid escalating environmental and economic risks.

3. Data Availability and Assessment

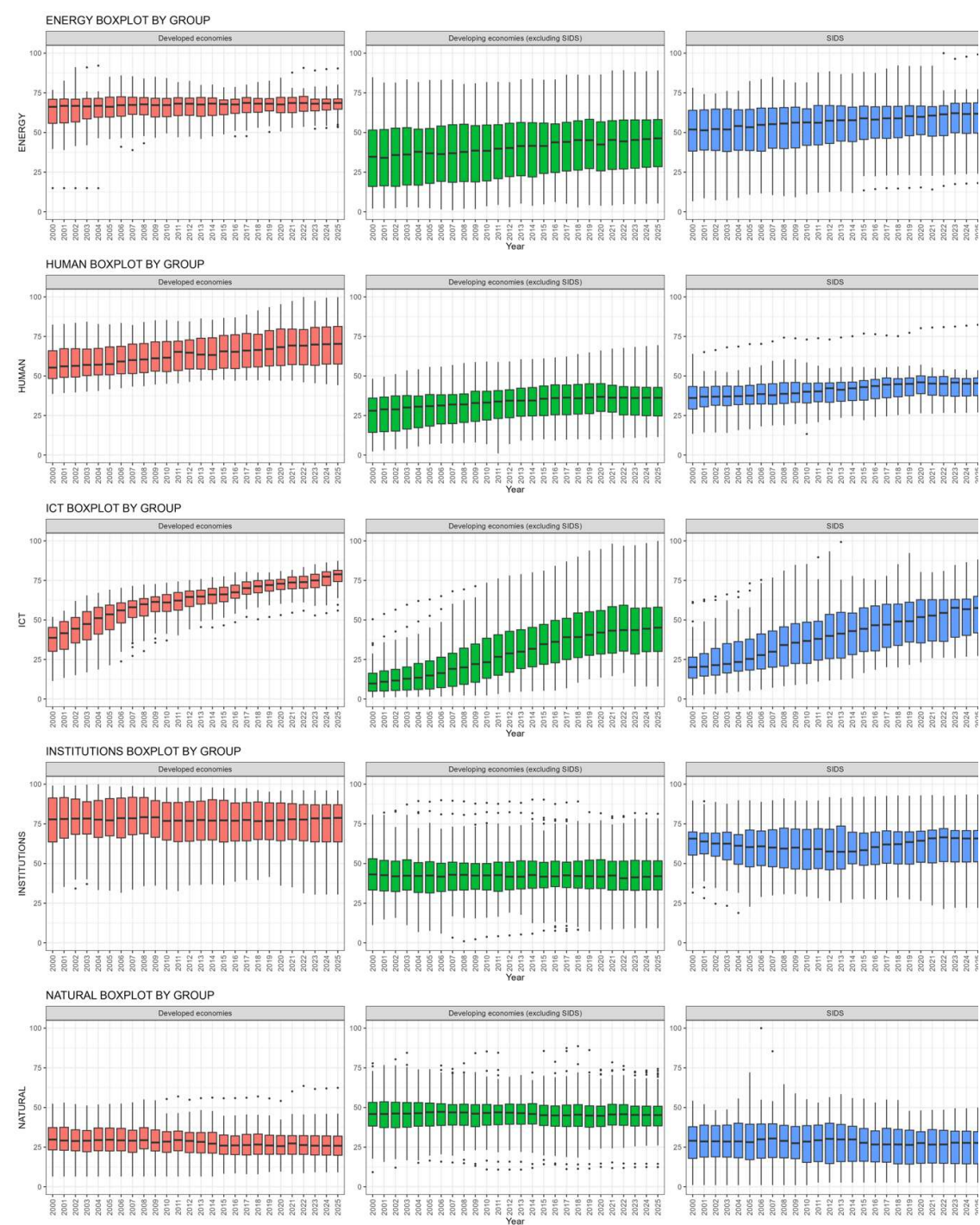
As shown in Figure 3.1 and its accompanying table below, SIDS have experienced slow but steady growth in their PCI from 2000 to 2025.² However, their indices are on average at par with other developing economies, and unsurprisingly, lower than those of developed economies. Moreover, the compound annual growth rate (CAGR) for SIDS over this period is lower than the growth rate for non-SIDS developing countries. Although the growth rate for developed economies is lower than the other groups, developed economies maintain a much higher PCI throughout the period. It is worth noting that the SIDS group displays a wider range of outliers, with Singapore at the upper end of the distribution, and LDCs such as Haiti and Guinea-Bissau at the lower end.



Group	Start PCI (2000)	End PCI (2025)	CAGR (%/yr)	Mean PCI	Std Dev	Min PCI	Max PCI
SIDS	38.2	46.2	0.77%	42.9	2.7	11.9	61.3
Non-SIDS Developing	29.2	38.9	1.15%	35.7	3.4	9.0	67.1
Developed	52.7	59.1	0.47%	57.5	2.0	32.9	71.8

² The data presented here are preliminary and provided solely for analytical purposes. They do not represent the final validated figures and are subject to revision before official publication.

Figure 3.1: PCI trends across country groups, 2000-2025²



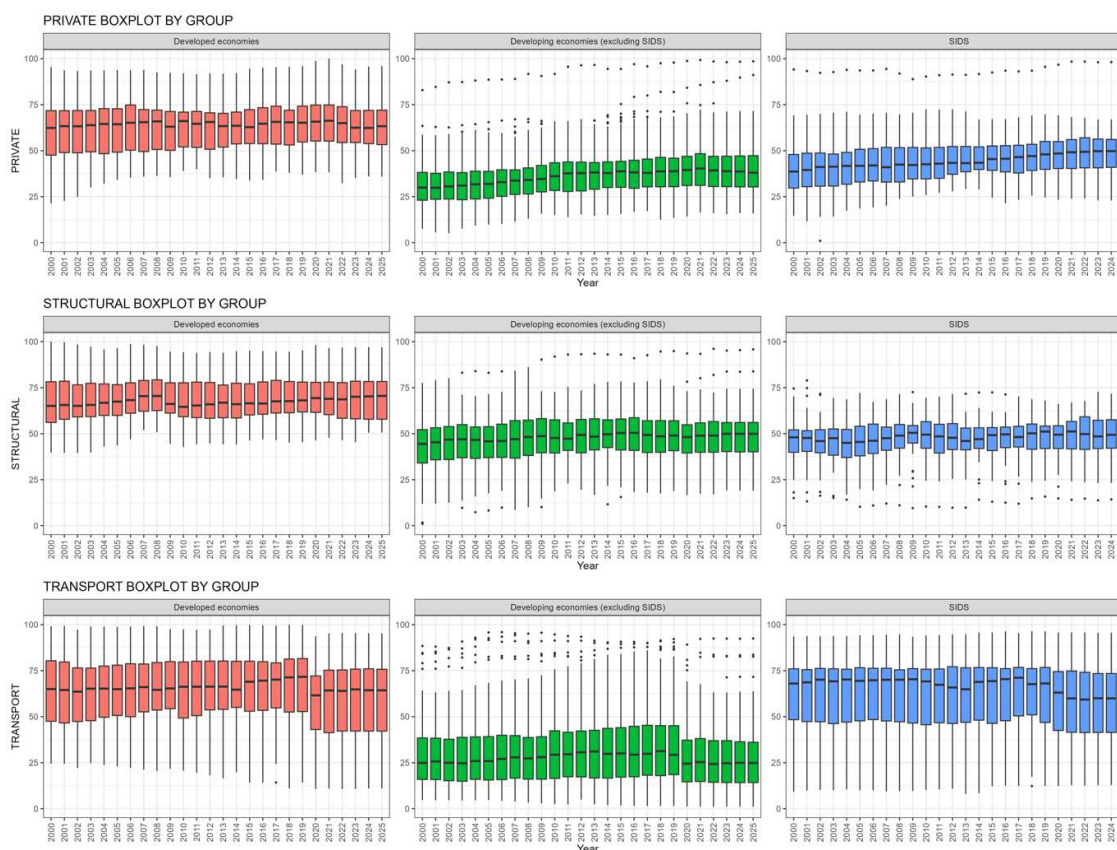


Figure 3.2: PCI category trends across country groups, 2000-2025²

Figure 3.2 presents trends of PCI scores by category in SIDS.² These should be contextualised in the context of data missingness, as data gaps for some SIDS and within particular PCI categories limit levels of analysis and depth.

A summary of average data missingness for SIDS countries in each of the PCI indicators within the 8 categories for 2022 (selected as a recent year with more complete and revised data) can be reviewed in Figure 4.1, echoing the challenges referenced in the ABAS regarding SIDS statistical capacity. To ensure data completeness and reliability, the input indicators used in the PCI are imputed using cutting-edge machine learning techniques.³ In addition to developing the SIDS satellite PCI, UNCTAD is actively working to improve the quality and availability of data used in the global PCI through a dedicated workstream, as real, observed data is always preferable to imputed values.⁴

Data coverage varies significantly by category and has a direct bearing on how PCI scores should be interpreted for SIDS:

³ One such method is MissForest, a robust, non-parametric imputation algorithm based on random forests, which effectively handles mixed data types and complex patterns of missingness without relying on strong assumptions about data distribution (UNCTAD, 2024b). The publication includes out-of-sample robustness tests on the efficiency of the imputation strategy.

⁴ This includes bilateral meetings with the four pilot SIDS to address data gaps and explore the use of higher-quality national or regional sources. To support this, UNCTAD developed country-specific dashboards to track missing data, identify better indicators at the national or regional levels, and guide improvements.

- **Transport, Energy, and Human Capital** show the highest levels of missing data, with over 50% of data points missing for many SIDS during the 2000–2025 period. In the **Transport** category, for instance, 70.5% of data points are missing for SIDS, compared to 40.0% in other developing economies and 21.2% in developed ones. Gaps often result from the absence of reporting structures—such as rail data sourced from company-level submissions that may not exist in SIDS without rail systems. Furthermore, the global PCI does not include maritime transport indicators. While this omission has little impact on most countries due to high intercorrelation across transport metrics⁵, it remains relevant for SIDS given their reliance on seaborne transport.
In the **Energy** category, 53.2% of SIDS data points between 2000 and 2024 are imputed, compared to just 18.4% in the reference group. Since imputation relies on broader economic characteristics, this may lead to overestimation of actual energy capacities, especially where infrastructure limitations are not well captured. In **Human Capital**, high missingness also affects comparability, and observed results are influenced by strong outliers such as Singapore, which significantly outperforms not only other SIDS but most countries worldwide. This underscores the importance of contextualization when interpreting group averages.
- **ICT and Private Sector** categories exhibit moderate levels of missingness (typically between 10–40%), although this varies by indicator and by country. In the **Private Sector** category, too, Singapore stands out as a high-performing outlier, again reinforcing the internal diversity within the SIDS group.
- **Institutions, Natural Capital, and Structural Change** appear to be the most complete categories, with less than 5% missing data in many cases, though this depends on the specific indicator and country. However, in the case of **Natural Capital**, even relatively complete data (missingness around 10%) may not align well with the SIDS context. Existing indicators tend to focus on land-based resources—such as forest area, agricultural land, and material extraction—which are inherently limited in small island settings. This may overlook key features like marine ecosystems and climate-related vulnerabilities that shape the natural asset base of SIDS.

4. Indicator Feasibility and Reference

Noting the levels of data missingness across the specific indicators within the 8 categories of the PCI, Figure 4.1 also flags areas of focus which are pertinent to SIDS. For instance, within the natural capital category, while there is available data for some of the indicators, and high levels of data missingness in other indicators (e.g., Share of all extraction flows in GDP and Total natural resources rent as share of GDP), there are also potential areas of added focus which should be reviewed. Of relevance to SIDS would be insights into marine health and ecosystem vulnerability, as well as climate impacts. If these areas of focus were to be considered for this category, either as added or replacement areas of interest, potential data could be considered for feasibility from sources which collate, for example, states of marine health (e.g., coral, mangroves, fish stock), forest cover, and/or resource dependence.

⁵ See analysis in the last PCI background report for the STAG.

Categories	Current Global PCI Indicators	Missingness in existing indicators (2022)	Proposed elements important for SIDS	Potential Indicators to be discussed
auxilliary				
	GDP (current US\$)	2.6%		
	GDP per capita (current US\$)	2.6%		
	GDP, at constant 2015 prices - US Dollars	2.6%		
	Total population	0.0%		
energy				
	GDP per kg of oil consumption	74.4%	<ul style="list-style-type: none"> - Renewable transition - independence - just distribution 	<ul style="list-style-type: none"> - Renewable share - energy intensity, access & reliability - energy security - just transition in energy
	Renewable energy consumption (% of total final energy consumption)	23.1%		
	Share of people with access to electricity	0.0%		
	Total energy consumption	74.4%		
	Total primary energy supply per capita	74.4%		
	Transmission and distribution losses as share of primary supply	74.4%		
human				
	Expected years of schooling	12.8%	<ul style="list-style-type: none"> - Gender integration - brain drain - resilience skills. 	<ul style="list-style-type: none"> - Educational attainment - health outcomes - future skills - brain drain - gender equity
	Fertility rate	0.0%		
	Health adjusted life expectancy (years)	100.0%		
	Health expenditure as share of GDP	12.8%		
	R&D expenditure as share of GDP	92.3%		
	Researchers in R&D per million people	89.7%		
ict				
	Number of fixed broadband subscriptions per 100 people	0.0%	<ul style="list-style-type: none"> - Universal, affordable, resilient connectivity - digital skills 	<ul style="list-style-type: none"> - Internet access, affordability - mobile/digital penetration - digital skills/literacy - cybersecurity capacity - digital economy adoption
	Number of fixed lines per 100 people	2.6%		
	Number of Internet users as share of population	20.5%		
	Number of mobile telephone subscriptions per 100 people	46.2%		
	Secure Internet servers per million people	0.0%		
institutions				
	Control of corruption	2.6%	<ul style="list-style-type: none"> - Climate governance - disaster risk management - resilient decision-making 	<ul style="list-style-type: none"> - Governance effectiveness - disaster risk governance - climate governance - justice access - social dialogue
	Government effectiveness	2.6%		
	Political stability and absence of violence	2.6%		
	Regulatory quality	2.6%		
	Rule of law	2.6%		
	Voice and accountability	5.1%		
natural				
	Agricultural land as share of land area	2.6%	<ul style="list-style-type: none"> - Marine health - ecosystem vulnerability - climate impacts 	<ul style="list-style-type: none"> - Marine health (coral, mangroves, fish stock) - land degradation - freshwater - forest cover - resource dependence
	Forest areas as share of land area	0.0%		
	Land Area	0.0%		
	Share of all extraction flows in GDP	100.0%		
	Total extractions (Biomass, fossil fuels, metal ores, non-metallic minerals)	0.0%		
	Total natural resources rent as share of GDP	100.0%		

Categories	Current Global PCI Indicators	Missingness in existing indicators (2022)	Proposed elements important for SIDS	Potential indicators to be discussed
private				
	Domestic credit to private sector as share of GDP	30.8%	- SME development	- Business environment
	Lending interest rate (%)	30.8%	- climate finance access	- finance access (climate)
	Logistics performance index: Overall (1=low to 5=high)	61.5%	- green/blue innovation	- export diversification
	Patent applications	53.8%		- SME development
	Trademark applications	33.3%		- green/blue sector growth
structural				
	Economic complexity index	0.0%	- High-value services	- Economic diversification
	Export concentration index	0.0%	- digital economy	- value chain participation
	Gross fixed capital formation (% of GDP)	2.6%	- sustainable resource management	- blue/green economy share
	Industry value added, constant 2015 US \$	12.8%	- decent work	- digital economy contribution
	Agriculture, forestry and fisheries value added, constant 2015 US \$	12.8%	- reduced environmental impact	- employment shifts
	Services value added, constant 2015 US \$	12.8%		
transport				
	Air passengers	100.0%	- External connectivity	- Maritime connectivity
	Air transport, freight (million ton-km)	100.0%	- climate resilience	- air connectivity
	Air transport, registered carrier departures worldwide	100.0%	- resilient infrastructure	- climate-resilient infrastructure
	Km of roads/100km ² land	79.5%		- trade logistics cost
	Total km of rail lines	100.0%		- internal connectivity

Figure 4.1: Missingness in existing PCI input indicators (year 2022) and proposed elements currently missing for SIDS

*** Note that the colour coding of the missingness data is based on a relative comparison to other country levels of data missingness along a scale of red-orange-yellow-green, with darker red to orange blocks indicating higher levels of data missingness, yellow blocks indicating moderate data missingness, and green to darker green blocks indicating lower levels of data missingness. The missing rates reflect data availability for 2022 only, not for the full PCI reference period (2000–2023)*

In addition to a review of current PCI focus and indicators which would be relevant for SIDS, two additional key areas of concern and discussion include:

- **Climate Resilience and Adaptation:** SIDS are highly climate vulnerable, and resilience enhances productive capacity.
 - Possible focus areas: Climate loss & damage, adaptation finance (received/utilized), early warning systems, resilient building codes, ecosystem-based adaptation (EbA), climate information.
- **Financial Vulnerability and Access to Resilient Finance:** Financial constraints limit SIDS' productive capacity, and just transitions require investment.
 - Possible focus areas: Debt sustainability, concessional/climate finance access, FDI in productive sectors, remittances, domestic financial depth, external shock vulnerability.

The context of these enabling conditions is yet to be expanded and discussed in greater detail, but it is shared here for discussions.

5. Selection and Potential Proxies

Given that the process of selecting potential proxies is ongoing at present, we welcome a discussion on these potential areas with a focus on additionality to or replacement of existing narrative and the accompanying indicators. Based on this discussion, the team will revise data for relevance and feasibility, noting levels of appropriateness and also data missingness as well as suggesting proxies where available.

Reflective questions for stakeholders to consider:

1. Are the proposed SIDS-specific themes (e.g., climate resilience, blue economy, structural/financial constraints) appropriate and comprehensive? What are the critical SIDS' experiences or strengths missing?
2. Beyond global datasets, are there national or regional data sources, including satellite or GIS-based sources, that could be leveraged for the SIDS PCI?
3. Where standard indicators are difficult, what alternative or proxy indicators would be available, especially for areas like transport, energy, or human capital?
4. How can indicators sensitive to gender, youth, and other vulnerable groups in SIDS be obtained or ensured?
5. Are the discussions on "enabling conditions" (climate resilience, financial vulnerability) adequate? What other cross-cutting themes are critical for SIDS productive capacity?

6. Iterative Refinement and Stakeholder Engagement

So far, we prepared an initial draft of this paper and a presentation, receiving feedback which is appended below. Following on from the questions in the previous section and the brief outline of that feedback, we have also prepared some broader reflective questions for consideration about your general sense of the process of developing a "Satellite SIDS-specific PCI". These will help to inform the stakeholder conversation at the meeting in late July.

Feedback from the Statistical and Technical Advisory Group of the PCI

The Statistical and Technical Advisory Group (STAG) is the PCI's governance and peer review body, ensuring its methodological and statistical integrity, relevance and robustness. Composed of experts in statistics and index development, including academics, the STAG meets at least annually to support UNCTAD's work. It guides updates to the PCI, the integration of new data, dimensions, and concepts, and helps align the methodology with international standards and methods.

UNCTAD delivered a presentation on a preliminary version of the conceptual framework for the SIDS Satellite PCI during [the third meeting of the STAG, held at Banco de Portugal in Lisbon, Portugal on 23 June 2025](#).

STAG members expressed strong support for developing a satellite PCI tailored to the structural characteristics of SIDS, while raising key conceptual and operational considerations. It was emphasized that the satellite index should remain anchored in the existing PCI methodology but allow for necessary adaptations to reflect SIDS-specific realities. Clear labeling as a "satellite PCI" was advised to maintain coherence and avoid confusion.

The need to include indicators on inequality and maintain methodological consistency across regions and applications was highlighted. Support was expressed for leveraging local data sources, proxy indicators and satellite or GIS-based data to address data limitations, while preserving the PCI's core focus on productive capacities.

Concerns were raised about the potential for duplication and precedent-setting for other country groups, but these were balanced by recognition of the distinct challenges SIDS face. Participants also noted the importance of maintaining conceptual clarity and neutrality in the framework, particularly in light of the diversity within the SIDS group. Overall, the group encouraged clarity, consistency, and further refinement of the approach.

Reflective questions for stakeholders to consider:

1. The SIDS Satellite PCI aims to complement the existing PCI while reflecting unique SIDS realities. Where do you see the balance point between maintaining coherence with the main PCI and making "necessary adaptations" to fully capture SIDS' distinctive productivity challenges? How far should these adaptations stretch?
2. Given the unique challenges and disproportionalities of SIDS, how important is recalibrating and reweighting different indicators to accurately reflect SIDS' productive capacities?
3. To what extent do you feel your country's productive capacity challenges are unique to it versus representative of broader SIDS experiences?
4. Once developed, where do you envision the SIDS Satellite PCI being most useful for you? What specific insights would you like it to generate to influence resource mobilization and targeting? Do you already have a sense of the potential productivity gains that could be unlocked through insights from such an index?
5. Is there anything else you'd like to add regarding redefining PCI categories for SIDS or innovative data opportunities that could support this initiative?

Working references list

Bishop M, L., Bouhia R., Carter S, G., Corbett, J., Lindsay, C., Scobie, M. and E. Wilkinson (2025) *Sustaining Development in Small Islands: Climate Change, Geopolitical Security, and the Permissive Liberal Order*. Cambridge: Cambridge University Press.

Bishop, M. L. and A. Payne (2021) 'The Political Economies of Different Globalizations: Theorizing Reglobalization'. *Globalizations*, 18(1): 1–21.

Deleegn, M. (2023). *Africa's Economic Partnership with China: An Holistic Analysis*, Routledge, London and New York, 2023.

Kelman, I. and K. Shah (2024) *Institutional capacity, useability of data, and evidence-based decision-making for sustainable development in Small Island Developing States*. Working Paper: SIDS Future Forum, May. London: ODI Global.
https://media.odi.org/documents/Shah_Institutional_capacity_useability_of_data_and_evidence-based_decision-making_for.pdf

Lin, J. Y. (2014) *The Quest for Prosperity: How Developing Economies Can Take Off*. Princeton, NJ: Princeton University Press.

Stiglitz, J. E. (1998a). 'More Instruments and Broader Goals: Moving Towards the Post-Washington Consensus'. Helsinki, The 1998 WIDER Annual Lecture, 7th January 1998.
<http://www.worldbank.org/html/extdr/extme/js-010798/wider.htm>

Stiglitz, J. E. (1998b). *Towards a New Paradigm for Development: Strategies, Policies and Processes*. Geneva: The 1998 Prebisch Lecture at UNCTAD, 19th October 1998.
<http://www.worldbank.org/html/extdr/extme/jssp1011998.htm>

Stiglitz, J. E., A. Sen and J.-P. Fitoussi (2009) *Report by the Commission on the Measurement of Economic Performance and Social Progress*. Paris: CMEPSP.
http://www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf

Tooze, A. (2021) *Shutdown: How Covid Shook the World's Economy*. London: Penguin

United Nations (2024) *Outcome Document: The Antigua and Barbuda Agenda for SIDS (ABAS) – a Renewed Declaration for Resilient Prosperity*. Outcome document of the Fourth International Conference on Small Island Developing States. New York: United Nations. Available at: https://sdgs.un.org/sites/default/files/2024-04/SIDS4%20-%20Co-Chairs%20FINAL_0.pdf

UNCTAD (2006) *The Least Developed Countries Report 2006: Developing Productive Capacities*. New York and Geneva: United Nations.

UNCTAD (2013) *World investment report 2013: Global value chains: Investment and trade for development*. Geneva: United Nations.

UNCTAD (2020) *UNCTAD Productive Capacities Index: Methodological Approach and Results*. Geneva: United Nations.

UNCTAD (2023) *Productive capacities index for evidence-based policymaking*. Geneva: UN Trade and Development Board, 70th Session, June. Available at https://unctad.org/system/files/official-document/tdb70_d3_en.pdf

UNCTAD (2024a) *UNCTAD strategy to support small island developing States*. Geneva: United Nations. Available at <https://unctad.org/publication/unctad-strategy-support-small-island-developing-states>

UNCTAD (2024b) *Productive Capacities Index: 2nd Generation. Enhanced Statistical and Methodological Approach with Results*. Geneva: United Nations. Available at <https://unctad.org/publication/productive-capacities-index-2nd-generation>

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