Global cost figures associated with the Sustainable Development Goals (SDGs) mask significant limitations, including the fact that Governments cannot act upon them to design their national SDG financing strategies. Without providing cost estimates for national sustainable development priorities, countries can neither assess their future expenditure requirements nor establish their budgets purposefully or the additional resources that need to be mobilized to expand fiscal space and achieve the SDGs. In the absence of a granular understanding of such costs, any assessment of SDG financing gaps and long-term investment requirements remains at best a descriptive exercise.

Estimating the cost of achieving the SDGs at the national level is a data-driven and technically rigorous exercise that can provide insights into the efficient use of available fiscal space and the scale of resources needed to implement national priorities. It is a key consideration for budgeting and a basis for articulating medium-term revenue and expenditure frameworks that support the transition to SDG-centric budgeting. Costing exercises can guide spending decisions, influence the design of resource mobilization strategies and validate the instruments and modes of financing most suitable for distinct goals and targets.

At its second session, the Committee on Financing for Development in the States Members of the Economic and Social Commission for Western Asia (ESCWA) reviewed and endorsed the Arab SDG costing framework. It requested the ESCWA secretariat to keep under review the methods, approaches and methodologies advanced in different forums to improve the qualitative aspects of measuring SDG costs at the granular level. The present document responds to this request by highlighting the new developments in this domain, and showcasing the broad features of costing methodologies employed to render granular country-specific SDG assessments in the Arab region.

The Committee is invited to take note of the updated framework and comment on ways to advance the process of estimating the cost of SDG transition pathways based on this framework.
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Introduction

1. The present document provides a synthesis of the rational approaches, methods, processes and tools employed to estimate the costs of achieving Arab national sustainable development strategies, sectoral development plans and macro-economic frameworks. It is the culmination of extensive national consultations, regional workshops, inter-governmental processes, and collaborative efforts pursued within global workstreams, including the inter-agency discussions advancing SDG transition pathways. The document should be read in conjunction with the global guidance on Integrated National Financing Frameworks (INFFs),1 advanced by the United Nations Inter-Agency Task Force on Financing for Development, which enumerates the dynamic tools developed by the Economic and Social Commission for Western Asia (ESCWA) to estimate the costs of pursuing national SDG priorities while accounting for country-specific contexts identified by Arab constituents. The results of the framework are outlined in a technical document entitled the “Price of Arab Sustainable Development Ambitions”.2

I. The state of Arab SDG costing

2. Despite burgeoning interest in mobilizing all possible sources of sustainable financing, including domestic public, international private, traditional and innovative sources, the financing gap for the Sustainable Development Goals (SDGs) in the Arab region has widened, primarily in countries already furthest behind in relation to achieving the 2030 Agenda for Sustainable Development.

3. The drive for sustainability has magnified inequalities in the access to finance. Numerous financing risks and vulnerabilities manifest themselves asymmetrically across Arab economies. The COVID-19 pandemic, the war in Ukraine, and the food, fuel, fiscal and climate shortcomings only add to the price tag of achieving the SDGs and exacerbate the five protruding financing rifts, namely financing insolvency, funding shortfalls, fiscal space constraints, debt-financing overhangs, and financing inequalities.

4. Prior to the COVID-19 outbreak, global SDG financing needs were estimated at between $5-$7 trillion per year (of which $3.3-$4.5 trillion represented the annual investment gap in developing economies).3 In just two years, $2.9 trillion have been added to the global SDG financing gap. Similarly, in the Arab region, the SDG financing gap in high and middle-income countries was estimated by ESCWA at over $6 trillion between 2020-2030. By year-end 2022, and owing to the COVID-19 pandemic and the war in Ukraine, the Arab SDG financing gap increased by 6 per cent or an estimated $350 billion4 (1.6 times the loss in the region’s output - based on the ESCWA Financing Simulator).

5. Eight years following the adoption of the SDGs, Arab Governments have yet to produce data-driven, evidence-based financial plans to match nationally defined SDG targets. While much progress has been made in mainstreaming the global SDG framework into national sustainable development strategies, estimations of the cost of these strategies and their financial implications remain largely elusive. Estimating the cost of the SDGs and assigning a price tag to national sustainable development ambitions remains an arduous task. This data-driven and technically rigorous exercise can nonetheless provide insights into the use of available SDG fiscal space and the scale of additional resources required to implement national priorities. Costing exercises can also guide spending decisions, influence the design of resource mobilization strategies and validate the instruments and modes of financing most suitable to achieve distinct goals and targets. SDG costing at the national level is a key consideration for budgeting, prioritizing policy interventions and enhancing public

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1 Integrated National Financing Frameworks, INFF technical guidance documents.
2 ESCWA, Price of Arab Sustainable Development Ambitions (forthcoming).
4 This estimate covers the following Arab countries: Algeria, Bahrain, Egypt, Jordan, Kuwait, Morocco, Oman, Qatar, Saudi Arabia, Tunisia and United Arab Emirates.
financial management, all of which form the basis for the articulation of medium-term revenue and expenditure frameworks that support budget credibility and effective public financial management.

II. Scope, methods and rationale

6. Several empirical, statistical, stochastic and machine learning techniques have been employed to provide cost estimates for national priorities and quantifiable thresholds identified in national sustainable development visions, strategies and sectoral development plans. The choice of technique remains contingent upon the mapping of SDG priorities and follows a review of costing studies that have been advanced in economic literature. For example, several studies render SDG cost estimates based on Incremental Capital-Output Ratios (ICORs) that link a certain level of investment to the achievement of measurable variables. Others rely on Input-Output Elasticities (I-OE) that furnish the cost estimates derived from intertemporal budget spending, whereas some rely on calculating the cost of pursuing similar actions taken by comparable economies or geographical areas. Certain studies employ frontier analysis, while others rely on unit-cost analysis, and are based on descriptive or integrated econometric models. The range of published national estimates therefore remains asymmetric, reflecting differences in scope, methodologies, targets, baselines and non-additivity and other assumptions.

7. According to the United Nations, there is no consensus on which methodology works best to estimate the cost of achieving the SDGs at the national and regional levels. This is partly because of the lack of consistent datasets, the trade-offs between ease of use and rigour of the different empirical models employed, and the questions surrounding the assumptions employed and the interpretation of results in national contexts. According to the World Economic Situation and Prospects report, relying on a single measure or methodology to assess all types of financing gaps associated with different SDGs renders distorted results. The Inter-Agency Task Force on Financing for Development adds that there cannot be a substitute for much-needed country-level costing that employs different methods that take into consideration the targets or national priorities being measured.

8. The methods that are considered easier to implement cannot capture some desirable technical aspects of integrated models. In contrast, integrated models are relatively difficult to interpret and calculate by national stakeholders. SDG costing is further perplexed by the fact that there is no single method that uniquely establishes a comprehensive measure of the costs associated with achieving national sustainable development priorities; rather, there are several, and no single methodology can amalgamate financial and non-financial means of implementation. These methods rarely distinguish between current costs needed to maintain a predetermined SDG performance, and investments (capital, asset or development spending) needed to trigger an SDG push or sustain progress towards achieving national 2030 priorities (box 1).

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**Box 1. The global consensus on SDG costing**

Below are excerpts from different sources about SDG costing:

“Cross-country SDG costing exercises can be misleading and can downplay the role of policy and institutions.” – World Bank, 2020

“Estimating global financing aggregates [or comparisons] is about as useful as relying on world rainfall when trying to grow a plant in the Sahel.” – Brookings, 2019

“Aggregate SDG costing figures mask significant disparities and need granular assessment at the national levels.” – High Level Political Forum on Sustainable Development (HLPF), 2019

“Relying on a single measure or methodology to assess financing gaps renders distorted results.” – United Nations Department of Economic and Social Affairs (UNDESA), 2019; World Economic Situation and Prospects (WESP), 2017

“We cannot in any way substitute for much-needed country-level costing and financing.” – United Nations Task Force on Costing and Financing

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9. To this end, the Arab SDG costing framework outlined in the present document builds on and takes cue from the above conclusions, along with the findings of the United Nations Task Force on the 2030 Agenda; the Working Group on SDG Costing and Financing; the Inter-Agency Task Force on Financing for Development; and the costing guidelines published by the United Nations regional economic commissions, the International Monetary Fund and other regional inter-governmental organizations, including the League of Arab States and the International Renewable Energy Agency, to name a few.

10. The SDG costing rationale advanced in the Arab SDG costing framework relies on an extensive screening of the costing methodologies that have been applied in the Arab region and beyond. The framework follows an intuitive multi-disciplinary approach that draws on a range of disciplines, intervention-based tools and empirical models applied in a dynamic manner across time and space to reach an assessment of the financing needs associated with achieving nationally defined SDG targets and thresholds. The framework is based on an elaborate costing sequence (figure 1) that draws on methodologies endorsed by national authorities. The estimates are then stenciled or supplemented by the methods employed by United Nations specialized agencies, institutional stakeholders, and SDG custodians with respect to achieving a particular priority target.

![Figure 1. SDG costing sequence](image)

Source: Projections based on United Nations Economic Forecasting Model (UNEFM); Elasticities or SDG trend dashboard.

11. The SDG costing framework tests several methods endorsed by the World Health Organization (WHO), such as the Lancet, which are employed to estimate the cost of achieving health-related targets, including universal health coverage. The Food and Agriculture Organization (FAO), the International Fund for Agricultural Development (IFAD) and the World Food Programme (WFP) methodologies are employed to estimate the cost of achieving zero hunger. World Bank methods are employed to calculate the cost of reducing poverty, and the United Nations Conference on Trade and Development (UNCTAD), the World Trade Organization (WTO) and the International Trade Centre (ITC) methods are used to calculate cost estimates for untapped trade potentials and the target of doubling non-traditional exports. The United Nations Educational, Scientific and Cultural Organization (UNESCO) methods are employed for targets related to education, and the United Nations Population Fund (UNPF), the World Economic Forum (WEF) and ESCWA methods are employed to calculate the cost of achieving gender-related targets, among others.

12. In terms of sequencing, when national estimates are not rendered and country-specific SDG custodian methodologies do not exist, the framework provides cost estimates for nationally defined SDG priority targets based on data and projections furnished by regional inter-governmental organizations and national and international think tanks that have pursued similar work to assess the cost or financing needs related to
particular priority targets. These targets are identified by Arab countries through their voluntary national reviews and other official documents, including published sustainable development visions and sectoral development plans. A unique data set for each Arab country is then built to extrapolate two scenarios into the future (a business-as-usual scenario that projects current investment patterns into the future and an SDG push-optimizing scenario that would ultimately lead to meeting the targets being assessed up until 2030). Projections of the business-as-usual scenarios are based on the World Economic Forecasting Model\(^7\) elasticities or are drawn from the SDG trend dashboard.\(^8\) The size of the gap between the two simulations is used to quantify the cost/financing requirements associated with national priorities.

**Figure 2. Interactive SDG costing simulators**

![Interactive SDG costing simulators](image)

*Source: Financing for development gateway, SDG costing approach.*

13. While the framework follows a defined sequence to render 2030 projections to estimate the additional cost of achieving national sustainable development priorities (over and above intertemporal spending patterns), it remains agnostic. Terms such as “spending”, “expenditures” (current and capital), “investment needs” and “financing” are often used interchangeably, even though each has a distinct technical meaning. Cost estimates are intended to divert attention from crucial questions of resource efficiency or quality of design in governance, policy and programmes.

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\(^7\) UNDESA, World Economic Situation and Prospects, 2021.

\(^8\) Sachs, J., and others, SDG Index and Dashboards Report, 2018.
14. The SDG framework concedes that some SDGs lack numerical targets, leaving room for subjective judgment to be determined as “nationally appropriate”. The same applies to national sustainable development strategies, sectoral plans and macro-economic frameworks. For this purpose, the costing framework estimates the thresholds established by national authorities for up to three targets per SDG for which enough observations are available (Tier-III) to allow for credible 2030 projections and simulations (figure 3).

**Figure 3. Arab SDG data availability**

![Arab SDG data availability](image)

*Source: Arab SDG Gateway.*

15. On this premise, the principal component analysis (PCA) findings provide a determination of the relative weight of each indicator in driving change in overall SDG performance. By employing the eigenvalue criterion\(^9\) to determine how many components should be retained for interpretation within each Goal, any element with an eigenvalue greater than 1 is retained for the purpose of applying the PCA onto the SDGs. The eigenvectors are then used to present the principal components of the covariance matrix. The output of PCA identifies the principal components for each SDG, which represent the combination of optimally weighted observed variables. The same procedure is replicated uniformly for each SDG to assess the most significant indicators that are influencing or impacting each quantitatively defined SDG (figure 4).

**Figure 4. Synthetic principal component analysis output**

![Synthetic principal component analysis output](image)

*Source: ESCWA.*

*Note: Assessment of data availability by target as per the United Nations Statistics Division global database, including indicators with 2 data points or more presented by target in both percentages and level of data availability using traffic light designations where “Sufficient” data is represented in green; “Insufficient” in yellow; and “No Data” in red for all data types within Arab countries.*

\(^9\) Eigenvalue indicates the magnitude of variance in the data that each principal component captures. The higher the eigenvalue, the more of the data’s variability is represented by its corresponding principal component, making it a crucial factor in dimensionality reduction and data analysis strategies.
16. Equally, this multi-disciplinary approach to providing cost estimates for national SDGs and targets is not followed out of convenience, but rather dictated by the priority targets identified by Governments in their national sustainable development economic modernization vision, sectoral plans, and strategies (box 2). Based on the aforementioned, the data employed for the costing exercise is drawn from datasets furnished by the United Nations Statistics Division and is supplemented by data from national authorities and institutional stakeholders and complemented by relevant country-specific data provided by the SDG custodians through their studies, tools or dashboards. The datasets used for costing remain factual and do not include attempts at interpolation or extrapolate observations.

**Box 2. Screened national sustainable development strategies: the case of Jordan**

- Jordan’s Economic Modernization Vision
- Jordan 2025: A National Vision and Strategy
- Jordan Economic Growth Plan (Economic Policy Council)
- Jordan Country Strategy (Ministerial Council)
- National Strategy for Health Sector in Jordan (High Health Council)
- Education Strategic Plan (Ministry of Education)
- National Strategy for Human Resource Development
- Jordan Intended Nationally Determined Contribution
- Jordan’s Way to Sustainable Development (Ministry of Planning and International Cooperation)
- Comprehensive National Plan for Human Rights
- National Climate Change Policy of the Hashemite Kingdom of Jordan (Ministry of Environment)
- National Strategy and Action Plan for Sustainable Consumption and Production in Jordan
- National Employment Strategy (Ministry of Labour)
- National Social Protection Strategy (Ministry of Social Development)
- National Water Strategy (Ministry of Water and Irrigation)
- Jordan’s Voluntary National Review
- Public Financial Management Strategy (Ministry of Finance)
- Public Financial Management Reform in the Hashemite Kingdom of Jordan (Ministry of Finance)
- Medium-Term Debt Management Strategy (Ministry of Finance)
- Indicative Issuance Plan of Domestic Debt Instruments (Ministry of Finance)
- Public Expenditure Review and Rationalization (Ministry of Finance)
- Government’s Economic Priorities Programme (Ministry of Planning and International Cooperation)
- Stakeholder Engagement Plan (Ministry of Planning and International Cooperation)
- Private Sector Employment and Skills (Ministry of Planning and International Cooperation)

**III. Costing approaches**

17. Several macroeconomic time series estimations are required to estimate the cost of achieving national SDGs. The time series are drawn from the most reliable national sources and United Nations custodian agencies. Projections rely on the methods adopted by the United Nations Department of Economic and Social Affairs,\(^\text{10}\) accounting for changes in forecasted output and other macroeconomic variables, including inflation, population growth and unemployment. Multiple simultaneous equations are then employed to capture elasticities among several variables that influence the cost of targets following the methods of the SDG index and dashboard. The gap between the business-as-usual and SDG optimizing scenarios is then quantified to render an estimate of the associated cost of pursuing national priorities. In the case of Egypt, for example, 113 national targets/indicators have been assessed in the SDG costing exercise (figure 5).

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Figure 5. Approved list of national SDG costing priority targets

<table>
<thead>
<tr>
<th>Costed SDG Targets/Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2. By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.</td>
</tr>
<tr>
<td>1.2.1. Proportion of population living below the national poverty line.</td>
</tr>
<tr>
<td>2.a. Increase investment in agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity.</td>
</tr>
<tr>
<td>2.a.2. Total flows to the agriculture sector.</td>
</tr>
<tr>
<td>3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.</td>
</tr>
<tr>
<td>3.8.1. Coverage of essential health services.</td>
</tr>
<tr>
<td>4.1. By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.</td>
</tr>
<tr>
<td>4.1.1. Lower secondary completion rate.</td>
</tr>
<tr>
<td>4.1.1(b): School enrollment, primary.</td>
</tr>
<tr>
<td>4.1.2. school enrollment, secondary education.</td>
</tr>
<tr>
<td>4.3. By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.</td>
</tr>
<tr>
<td>4.3.1(a): School enrollment, tertiary.</td>
</tr>
<tr>
<td>5.2: Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation.</td>
</tr>
<tr>
<td>6.1. By 2030, achieve universal and equitable access to safe and affordable drinking water for all.</td>
</tr>
<tr>
<td>6.1.1. Proportion of population using safely managed drinking water services. 6.1.1(a): People using at least basic drinking water services.</td>
</tr>
<tr>
<td>6.2. By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.</td>
</tr>
<tr>
<td>6.2.1. People using at least basic sanitation services.</td>
</tr>
<tr>
<td>6.2.1(a): Proportion of population using safely managed sanitation services.</td>
</tr>
<tr>
<td>7.2: By 2030, increase substantially the share of renewable energy in the global energy mix.</td>
</tr>
<tr>
<td>7.2.1. Renewable energy share in the total final energy consumption.</td>
</tr>
<tr>
<td>7.a: By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.</td>
</tr>
<tr>
<td>7.a.1: International financial flows to developing countries in support of renewable energy production.</td>
</tr>
<tr>
<td>8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.</td>
</tr>
<tr>
<td>8.5.2: Unemployment rate.</td>
</tr>
<tr>
<td>9.2: Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries.</td>
</tr>
<tr>
<td>9.2.1: Manufacturing value added as a proportion of GDP.</td>
</tr>
<tr>
<td>9.5: Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries.</td>
</tr>
<tr>
<td>9.5.1: Research and development expenditure as a proportion of GDP.</td>
</tr>
<tr>
<td>10.b: Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes. 10.b.1: Foreign Direct Investment inflows, net inflows.</td>
</tr>
<tr>
<td>10.b.1: Foreign Direct Investment inflows, net inflows.</td>
</tr>
<tr>
<td>13.2: Integrate climate change measures into national policies, strategies and planning.</td>
</tr>
<tr>
<td>13.2.2: Total greenhouse gas emissions per year.</td>
</tr>
<tr>
<td>15.4: By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.</td>
</tr>
<tr>
<td>16.3: Promote the rule of law at the national and international levels and ensure equal access to justice for all.</td>
</tr>
<tr>
<td>17.17: Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships. Amount in United States dollars committed to public-private partnerships for infrastructure.</td>
</tr>
<tr>
<td>17.17: Amount in United States dollars committed to public-private partnerships for infrastructure.</td>
</tr>
</tbody>
</table>

Source: ESCWA.

18. It should be noted, however, that the official list of indicators in the global indicator framework can serve as a baseline to calculate cost estimates for SDG targets, particularly when there aren’t any national targets or corresponding indicators. In contrast, many Governments have opted for alternate national thresholds/indicators than those provided by the global framework. In this regard, many acknowledge that the use of different case-sensitive indicators may be more appropriate to capture national contexts and can better inform the costing exercise as they are predisposed to capture the assigned priorities.
19. In some cases, the costing exercise may not necessarily render or involve a money-metric figure. Instead, a change in public policies, incentives or the use of new technologies, for example, can generate cost savings that were initially unaccounted for in the SDG costing exercise. Maximizing financing decisions may also accrue financial savings that alter the cost implications associated with pursuing national priorities.

20. These dynamics – at both ends of the cost and revenue cycles – as well as the uncertainties surrounding the macroeconomic situation (inflation, capital controls, etc.) place SDG cost estimates in a state of flux and change. SDG costing should not be administered as a one-off endeavour, but should maintain sufficient flexibility to capture new contexts and to factor emerging cost realities. For this purpose, and at the request of member States, ESCWA has developed a dynamic national SDG costing calculator to support policymakers in rendering SDG cost estimations in a dynamic manner whilst changing any underlying assumptions involved.

21. As national sustainable development priorities are being financed, several multiplier effects and positive externalities can trigger ripple effects across other national priorities. The synergies arising from the implementation of different SDGs need to be factored in the costing exercise. Accounting for SDG synergies may, in fact, render lower cost estimates than otherwise considered. The 2020 High-Level Political Forum therefore stressed the need for integrated approaches to SDG costing that factor in and leverage interlinkages and minimize trade-offs across all SDG targets at the national level. In tandem, an understanding of how various investments and modes of financing interact to harness financing synergies and limit the trade-offs can potentially reduce the overall SDG financing gap. The lack of fiscal space in many developing countries to sustain SDG implementation provides an added impetus as to why interlinkages must be part of both the costing and financing equations.

22. For this purpose, the SDG costing exercise is supplemented by an analysis of the SDG interlinkages by running 135 separate econometric panel models for each SDG indicator using a novel approach that identifies interlinkages (synergies and trade-offs) between SDG indicators to capture their impact and the cost savings that may accrue from harnessing them. The present document should therefore be read in conjunction with the empirical assessments and framework employed to render cost efficiencies arising from harnessing SDG interlinkages and the sequencing of financing decisions.

Figure 6. Snapshot - Dynamic National SDG Costing Simulator

**Source:** ESCWA.

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ESCWA, SDG interlinkages as an input-output system, 2021.
Annex I

SDG costing methods and methodologies

There is no single correct methodology to estimate the costs of achieving the SDGs. Several methodologies have been employed for this purpose, including back-of-the-envelope methods that estimate incremental capital-output ratios (ICORs) which link a certain level of investment to the achievement of target variables; input-output elasticities that furnish cost estimates based on trend analysis; and a frontier analysis that derives the costs of pursuing SDG targets based on similar actions taken by comparable income economies or geographical areas (the Organization for Economic Cooperation and Development (OECD) distance approach). Other methods involve a sector-wide analysis based on econometric models. Some adopt a unit-cost approach that disaggregates the cost of the SDGs by country or income categories to provide ballpark SDG costing estimates. The latter has been used to provide an account of the cost of delivering public goods, such as closing poverty gaps, eliminating hunger and putting an end to out-of-pocket health and education expenditures.

Typically, the methodologies that rely on cross-sectional costing render asymmetric cost estimates that vary in scope, baselines, targets and other assumptions. None of these methodologies are comparable when employed to calculate the cost of pursuing national sustainable development priorities. In some instances, countries seek to establish upper and lower-bound SDG cost estimates and qualify their possible landing zones to avert shortcomings of the methodologies that are heavily geared towards an econometric analysis. These methods, however, remain useful to the extent that their assumptions are validated at the national level, and account for important costing determinants, including behavioural economic dynamics at play in the pursuit of different national targets, particularly in relation to calculating cost estimates for SDG 5 (gender equality), SDG 9 (changing consumptions patterns), SDG 13 (the cost of climate action) and SDG 16 (quantifying the so-called windfall gains from corruption and illicit finance).

According to the United Nations, there is no consensus on which methodology works best, partly because there are trade-offs between the ease and rigour of different methodologies. Intuitively, the methods that are considered easier to implement (such as intervention-based needs assessments and unit costs) cannot capture some desirable technical aspects of integrated models, whereas the methods that can potentially capture spillover effects are relatively difficult to calculate and interpret. Some studies are goal-based (they work backwards from quantified, time-bound goals), while others extrapolate current trends into the future without regard to whether this will be sufficient to achieve quantified and time-bound goals. Some consider economy-wide effects or the impact of climate change, while others do not.
Annex II

SDG financing simulator

The SDG financing simulator developed by ESCWA is an interactive tool that employs a set of econometric models to assess financing needs and gaps in Arab economies. The simulator provides an overview of a country’s financing for development (FfD) idiosyncrasies by linking the SDG costing estimations for national sustainable development priorities with measures of the aggregate mix of financing (which typically extend beyond the notions of funding or calculating fiscal space and budgetary outlays and expenditures). On this basis, the simulator further assesses SDG-related financing gaps and renders a determination of the sources of financing (public, private, domestic and international and debt leveraging capacities) and identifies the potential sources of additional financing that can be tapped to implement national sustainable development strategies.

Different channels of financing available to a country are then tested to provide a benchmark/baseline mapping of the FfD landscape while quantifying the untapped potential sources of financing as identified through the Addis Ababa Action Agenda. A clear understanding of this baseline is critical to calculate needs estimates. Accordingly, an aggregate measure of the resources to finance a baseline of national SDG targets is developed to determine their buoyancy and responsiveness to output growth and other macroeconomic variables. The aggregate measure of resources builds on and expands the concept established by the OECD measure of Total Official Support for Sustainable Development (TOSSD) beyond the scope of public official support. It factors the prime financing channels that can be tapped by a country, while analysing the magnitude of these flows (in terms of intensity and direction) under different growth scenarios and policy configurations.

The aim of compounding and aggregating financing flows and measures of the official support for sustainable development is to provide an integral framework that can both identify and quantify the total amount of resources available to a country to finance the SDGs or any national adaptation thereof. This measure not only helps policymakers identify key areas of interest in their financing strategies, but also allows them to forecast future progress with regards to financing the 2030 Agenda for Sustainable Development. This process provides an important normative foundation to anchor SDG financing strategies. The aggregate measure of available resources serves as the basis for measuring the total financing available for the SDGs at the national level. It is employed to assess countries’ progress path within their INFFs and their financing strategies.

The SDG financing simulator (figure) is a normative interactive tool to support policymakers in the following:

- Establishing the growth rate required to generate sufficient levels of financing, as measured through the aggregate measure of SDG support, to finance country-specific SDG financing gaps, whether these are rendered on the basis of the ESCWA costing framework or other user input SDG cost estimates.
- Estimating the incidence of different policy decisions on the SDG-related financing gap by allowing for the redistribution of financial resources to address different national priorities, whether they are in pursuit of socially conscious or economically biased financing approaches.
- Determining the magnitude of the prime channels of financing that can be mobilized to finance national sustainable development priorities for any projected levels of growth through 2030, including an embedded feature that can capture medium-term debt reduction strategies.
- Establishing a dynamic relationship to assess the impact of actual growth levels on SDG-related financing (the same functionality can be employed to capture the implications of shocks to the gross domestic product (GDP) and their financing propensities to inform the SDG budgeting process).
- Simulating and projecting the behaviour of the prime financing channels in available countries at the national level up to the year 2030; and comparing actual versus simulated financing potentials.
- Estimating the opportunity lost in financing associated with forgone revenues that correspond to a given level of projected output or user input GDP growth forecasts.
• Estimating the rate of growth that needs to be achieved or targeted to bridge user pre-defined SDG cost estimates.

• Simulating the efficiency gains that can be achieved by improving public investment efficiency on particular SDG-related sectors, notably in infrastructure, health and education on the basis of a partial free disposal hull methodology.

• Serving as a useful component in devising national SDG financing strategies within the ambit of developing INFFs.

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