

Part 1

A Global Plan to Finance the Sustainable Development Goals

The SDGs are not being achieved. Success is held back by severe financing constraints facing the developing countries: constraints that have been gravely aggravated by the COVID-19 pandemic and the war in Ukraine. The key to achieving the SDGs, besides preserving peace and lowering geopolitical tensions, is having a plan to finance them. This was emphasized by United Nations Secretary-General António Guterres in his briefing to the General Assembly on major priorities for 2022: “we must go into emergency mode to reform global finance” (UN, 2022a).

At last year’s G20 Summit in Rome (October 30–31, 2021), the leaders of the world’s largest economies recommitted to the SDGs:

“We reaffirm our commitment to a global response to accelerate progress on the implementation of the SDGs and to support a sustainable, inclusive and resilient recovery across the world.”

Financial constraints faced by developing countries have recently been highlighted by US Treasury Secretary Janet Yellen in a speech to the Atlantic Council in April 2022. Yellen’s important words are worth quoting at length:

“We’ve made great efforts to provide funding to support human development, the creation of needed infrastructure, and more recently the attainment of climate objectives. Multilateral development banks, bilateral official donors and creditors, and growing private-sector involvement deserve credit for important achievements. That said, the response to date is just not to the scale that’s needed. *Experts put the funding needs in the trillions, and we’ve so far been working in billions.* The irony of the situation is that while the world has been awash in savings – so much so that real interest rates have been falling for several decades –we have not been able to find the capital needed for investments in education, health care, and infrastructure. There’s little doubt that there are huge potential returns, both human and eventually financial, in equipping billions of people in developing countries with what they will need to succeed. Going forward, we need to evolve the development finance system, including the World Bank and the regional development banks, to our changing world, in particular to better mobilize private capital and fund global public goods. However, the multilateral development

banks alone will never meet the scale of financing needed, so we also need to revisit our strategies for making capital markets work for people in developing countries.” (Atlantic Council, 2022)

For these reasons, the G20 urgently needs to adopt a Global Plan to Finance the SDGs. The basis of the plan would be to significantly increase fiscal space in developing countries. The IMF, in particular, should work with developing countries to design SDG-based public investment strategies and the means to finance them.

Chronic underfinancing of sustainable development

According to the IMF’s World Economic Outlook, low-income countries (LICs) constitute 8.4% of the world’s population, but currently account for less than 1% of the world’s investment spending (2019). Lower-middle-income countries (LMICs) constitute 42.9% of the world’s population but account for only 15% of investment spending. High-income countries (HICs), by contrast, account for 15.8% of the world’s population yet account for about half of the world’s investment spending.

The LICs and LMICs make up the poorer half of the world (combined they equal 51% of the world’s population), but they account for only around 15% of the world’s investments. The UMICs and HICs comprise the richer 49% of the world’s population, with more than 80% of the world’s investments. The same discrepancy is found regarding fiscal outlays. The LICs and LMICs together account for around 10% of the world’s fiscal outlays, while the UMICs and HICs account for about 90%. Annual average fiscal spending per person in the LICs amounted to US\$133 in 2019 (USD, nominal), not enough to provide universal schooling, much less to meet all of the SDGs. The dire

shortfall in public outlays is why the SDG agenda and the clean-energy transformation are both far off track. There is overall a positive and statistically significant correlation between total government outlays per capita per year (in USD PPP) and the SDG Index Score (Figure 1.1). Based on this simple correlation analysis, the association between government outlays and SDG outcomes is particularly strong among countries that spend relatively little. Beyond a certain threshold (approximately US\$10,000 PPP per capita), the quality of spending and other factors seem to make a bigger difference (Table 1.2).

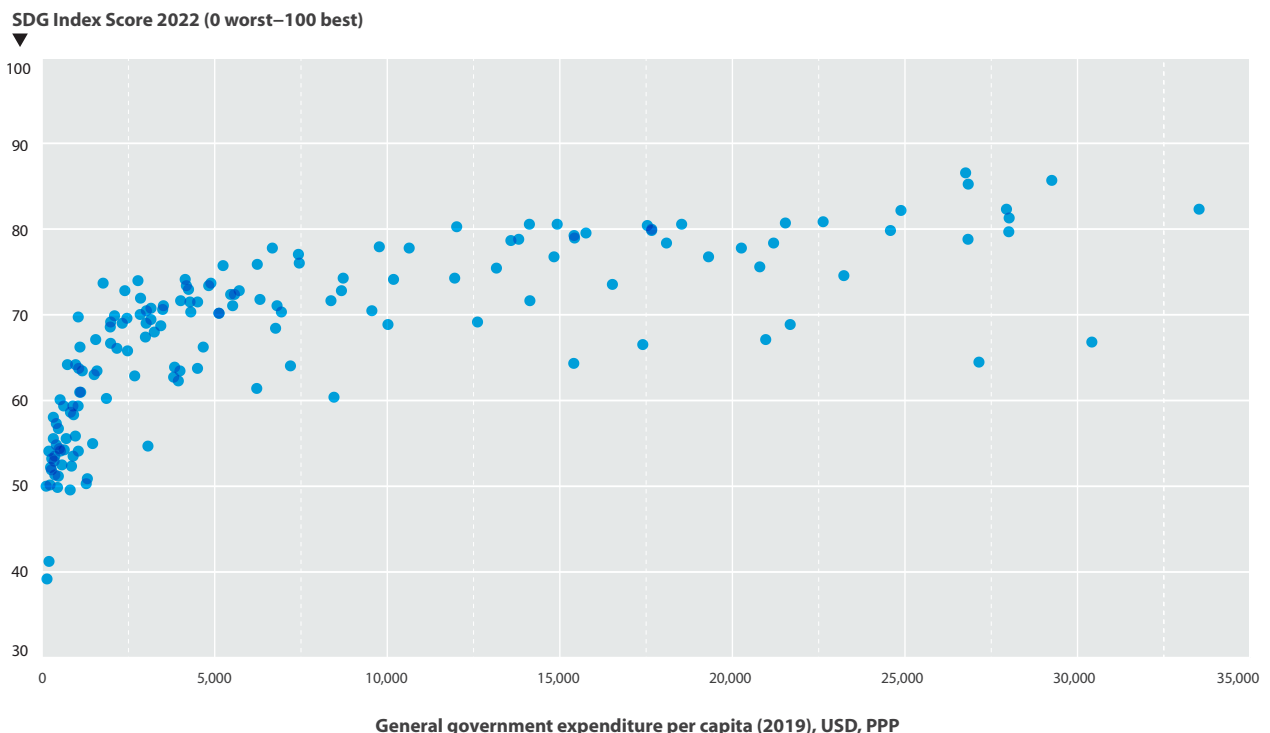
The need for greatly expanded SDG financing

The SDSN has identified six investment priorities: areas in which major societal “transformations” are needed to achieve the SDGs (Sachs et al., 2019):

1. **Education and social protection** to achieve universal secondary education (SDG 4) and poverty reduction (SDG 1)
2. **Health systems** to end the pandemic and to achieve Universal Health Coverage (SDG 3)
3. **Zero-carbon energy and circular economy to decarbonize** and slash pollution (SDG 7, SDG 12, SDG 13)
4. **Sustainable food**, land use, and protection of biodiversity and ecosystems (SDG 2, SDG 13, SDG 15)
5. **Sustainable urban infrastructure**, including housing, public transport, water, and sewerage (SDG 11)
6. **Universal digital services** (SDG 9) to support all other SDG investments, including online education, telemedicine, e-payments, e-financing, and e-government services.

Figure 1.1

Correlation between general government expenditure per capita (USD, PPP) and SDG Index Score



Note: See table at the end of this chapter for detailed regression results. Luxembourg is excluded from the chart (outlier).
Sources: Authors’ analysis. Based on “World Economic Outlook Database, October 2021” (IMF, 2021).

At the core of each transformation is a large-scale, long-term public investment program. The major practical challenge facing developing countries is to mobilize the incremental financing needed for these six priority areas.

The need for increased SDG financing to achieve these six transformations is by now well established. Several excellent studies, especially by the IMF, have identified the scale of financing that developing countries need to achieve the SDGs (Senhadji et al., 2021).¹ The bottom line is clear: there is a sizable SDG financing gap for low-income countries (LICs) and lower-middle-income countries (LMICs) amounting to several hundred billion dollars per year, perhaps around US\$500 billion per year. Adding in the needs of upper-middle-income countries (UMICs), the incremental financing needs come to more than US\$1 trillion per year.

While the incremental SDG financing needs are large relative to the economies of the developing countries, perhaps 10–20% of gross domestic product (GDP) for many LICs and LMICs, the gap is actually quite modest relative to size of the world economy. With gross world product (GWP) now at around US\$100 trillion, the global SDG financing gap is perhaps 1–2% of GWP. Global saving is currently around 27% of GWP, or roughly US\$27 trillion per year: incremental financing to the order of only 4–8% of global saving is needed to cover the incremental SDG financing needs for approximately 80% of the world's population.

To facilitate a significant increase of funding for the SDGs, developing countries should enter into a new “SDG Investment Compact” with the Bretton Woods institutions, akin to the poverty reduction strategy frameworks under the previous MDG agenda. This would offer a framework for significant increases of SDG financing in line with long-term debt sustainability. The new SDG Investment Compact could be launched in conjunction with the IMF's new Resilience and Sustainability Trust (RST).

1. Studies to date have estimated SDG costs for social protection (SDG 1); sustainable agriculture and the end of hunger (SDG 2); universal health coverage (SDG 3); universal education from pre-K to upper secondary (SDG 4); universal access to safe water and sanitation (SDG 6); universal access to sustainable energy for all (SDG 7); universal access to digital technologies (SDG 9); sustainable housing and urban infrastructure (SDG 11); comprehensive decarbonization and climate adaptation/resilience (SDG 13); sustainable marine and coastal ecozones (SDG 14); sustainable land use and reforestation (SDG 15); and access of the poor to justice (SDG 16).

Six practical pathways for increased SDG financing

The incremental public financing required can be mobilized in six major ways: (1) increased domestic tax revenues; (2) increased sovereign (government) borrowing from international development finance institutions (DFIs); (3) increased sovereign borrowing from international private capital markets; (4) increased official development assistance (ODA); (5) increased funding by private foundations and philanthropies; and (6) debt restructuring for heavily indebted borrowers, mainly to lengthen maturities and reduce interest rates.

Increased domestic tax revenues. The SDGs require large-scale public investments: in education, health care, infrastructure (green energy, digital access, water and sanitation, transport), and environmental conservation. On top of that, government has ongoing obligations for social protection, public administration, and other public services. The levels of investment needed per year are far greater than current revenues collected by developing countries. A typical LIC collects 15–20% of its GDP in revenues, but SDG public investment needs can reach 40% of GDP or higher, and public administration adds another 5–10% of GDP to budget needs. In short, most countries should increase their public revenues to support needed levels of public spending. As a rule of thumb, LICs should aim for at least 25% of GDP in government revenues; LMICs for at least 30%; UMICs for at least 35%; and HICs for at least 40%.

Increased borrowing from multilateral development banks. Beyond the increase in domestic revenues, the LICs and LMICs need to borrow to finance SDG-related investments. The best source of increased finance will be the multilateral development banks (MDBs), which were created precisely to supply long-term low-interest financing to developing countries. The MDBs have the potential to borrow large sums from the international capital markets on favorable terms and then to use that borrowing to expand lending to developing countries on favorable terms (long maturities at low interest rates). The MDBs can leverage their paid-in capital base severalfold, so that an incremental US\$50 billion of paid-in capital each year can support US\$250 billion or more in increased annual lending. The G20 should work urgently with the MDBs on a strategy to multiply their SDG financing.

Sovereign borrowing on international capital

markets. The LICs and LIMCs should also increase their direct sovereign borrowing from international capital markets, especially by floating sustainability-themed bonds (including sovereign SDG bonds). Yet the amounts and terms of international bond-market borrowing are inadequate. The basic reason is this: Not a single LIC, and only three LMICs – India, Indonesia and the Philippines – currently have an investment-grade rating from the international rating agencies, as shown in Table 1.1. The consequence is that the terms of sovereign bond-market borrowing facing most developing countries are very onerous: short maturities at very high interest rates (often 500–1000 basis points above the highest-rated borrowers). The G20 and IMF should undertake a series of reforms to unlock private capital flows at much larger amounts and on far more favorable terms. This would include a more accurate credit-rating system that recognizes the high long-term growth potential of the developing countries, and measures to increase the liquidity of the global sovereign bond market. We discuss this issue further in the next section.

Increased ODA. The donor countries in the OECD Development Assistance Committee (DAC) are supposed to give 0.7 percent of GNI in ODA, but in 2021 they gave only 0.33 percent (US\$179 billion ODA/US\$54.2 trillion GNI) (OECD, 2021). By reaching the 0.7 target, ODA would rise by US\$200 billion per year. To increase ODA towards 0.7 percent of GNI, it is important to identify additional sources of funding for ODA. Two potential new sources are apparent. The first would be a levy on HICs and UMICs (upper-middle-income countries) on annual carbon dioxide (CO₂) emissions. A levy of US\$5/tCO₂ on HICs and US\$2.5/tCO₂ on UMICs would yield annual revenues of around US\$100 billion. The second would be a globally coordinated wealth tax on ultra-high-net worth individuals. The world’s 3,000 or so billionaires have a combined net worth of around US\$15 trillion. Hence, a 2% wealth tax, assuming no leakage, would generate around US\$300 billion per year.

Increased philanthropic giving. In 2021, Jeff Bezos donated US\$10 billion into a new Bezos Earth Fund to help finance investments in climate change and biodiversity conservation. Mr. Bezos’s net worth is around 1% of

total billionaire net worth (roughly US\$140 billion out of US\$14 trillion). Following this model, the potential for a massive increase in philanthropic giving for the SDGs is vast, and could be mobilized in part by a giving campaign initiated by the G20 governments and the United Nations.

Debt restructuring for heavily indebted countries.

Many developing countries are in a precarious situation regarding debt servicing, because they owe not only the interest on the debt, but large amortizations of principal as well, with little prospect of routinely refinancing the principal. In other words, many countries are facing a severe liquidity squeeze. In a few cases, there is also a solvency crisis, because the interest service is too high to pay even in the long term. The global official development system, especially the IMF, should take steps to help developing countries to refinance their debts falling due, so that we avoid a new wave of sovereign defaults. It takes years or even decades to re-establish a country’s creditworthiness after such a default.

Re-thinking debt sustainability: a conceptual digression

One of the barriers to SDGs financing is conceptual: the widespread belief that sovereign borrowers should avoid building up public debt beyond an upper limit of 50–70% of GDP. This view is shared by the IMF and the credit rating agencies. The belief is that debt levels beyond such ratios are likely to result in default. This is a hasty over-generalization.

To understand why, consider briefly a quantitative illustration. Let us describe a country’s GDP as a function of its capital stock per person, K, according to a standard aggregate production function familiar in macroeconomic theory. A typical assumption is that the GDP function has the Cobb-Douglas form:

$$GDP = tfp * K^b$$

Here, tfp (total factor productivity) is a measure of overall productivity and the coefficient b is the share of capital in national income. Considering capital broadly to include both physical capital and human capital (mainly education), the coefficient b is around 0.7.

Removing the barriers to increased capital market flows

Net domestic product (NDP) equals GDP minus depreciation of capital, which we will take to be 5% per annum. Therefore:

$$\text{NDP} = \text{GDP} - 0.05 * K$$

If the country has net international debt, it pays interest to foreign creditors, so that net national product (NNP) equals NDP minus the interest payments. NNP is the baseline measure of real income of the economy, net of depreciation and debt service. We will also assume that the international interest rate is 5%. The cost of capital equals 10%, the sum of the interest rate and the rate of depreciation:

$$\text{NNP} = \text{GDP} - 0.05 * K - 0.05 * \text{Debt}$$

For purposes of illustration, we will choose parameter values $\text{tfp} = 6.8$ and $K = \text{US}\$400,000$ in order to mimic a HIC. With this level of capital per person, the GDP equals $\text{US}\$57,100$ and $\text{NNP} = \text{US}\$37,100$, with depreciation equal to $\text{US}\$20,000$. The marginal product of capital (MPK) equals 10%, which is also the cost of capital.

Now consider a developing country with $K = \text{US}\$40,000$, just one-tenth of the HIC capital per person. Assume also that the developing country starts with zero international debt. Because of the lower stock of capital per person, we can calculate that $\text{NNP} = \text{US}\$9,400$. A middle-income country such as Egypt is roughly in this position. Now, we can determine that its MPK equals 20%, rather than 10% as in the HIC. That is, the marginal return on investment in the developing country is *higher* than that of the HIC because of the capital scarcity in the developing country.

Assume that the developing country can borrow internationally at a 5% interest rate to increase its capital stock, with all borrowing used to augment K . Let D be the debt per person, so that capital stock per person with borrowing equals $K^{\text{NEW}} = \text{US}\$40,000 + D$. The new NNP equals:

$$\text{NNP}^{\text{NEW}} = \text{tfp} * (\text{US}\$40,000 + D)^{0.7} - 5\% * (\text{US}\$40,000 + D) - 5\% * D$$

It's now easy to calculate the optimum amount of debt per person in order to maximize NNP^{NEW} . The answer is that the developing country should borrow enough to raise K^{NEW} to the level of K in the HIC. Debt per capita, in other words, should equal $\text{US}\$360,000$, to increase the

capital stock per person to $\text{US}\$400,000$. The government should therefore borrow an astounding 32 times its initial GDP and channel it into increased capital per person!

By borrowing $\text{US}\$360,000$, the country's GDP rises from $\text{US}\$11,400$ to $\text{US}\$57,100$, and its NNP rises from $\text{US}\$9,400$ to $\text{US}\$19,100$. The borrowing country takes on a massive amount of debt, but also enjoys a 5X increase in GDP and a 2X increase in NNP after interest payments. In the model, this rise in output happens all at once. In the real world, it takes one to two generations. Yet the principle is the same: large-scale borrowing can finance a dramatic rise in living standards and thereby justify a high level of borrowing relative to GDP.

Initially, in the model, the D/GDP ratio reaches 31.5, but after the five-fold growth, D/GDP settles at 6.3 (630%). This too seems to suggest insolvency by conventional standards, but with the interest rate at 5%, the interest servicing is 32% of GDP. That is huge, but in the modeling exercise it is a price worth paying to generate a 5X increase in GDP. Of course, this is merely a heuristic exercise, as it completely ignores the fact that raising 32% of GDP in tax revenues for interest payments would by itself create massive economic distortions. A realistic account of debt-servicing capacity must take into account not only the marginal productivity of investment, but also the ability to service sovereign debt through sufficient tax revenues, and the ability to convert GDP into net exports.

Still, the essential message remains. LICs and LMICs are capital scarce. They have high prospective growth rates and high marginal productivities of capital. They should borrow, and borrow heavily, in order to finance a broad-based increase in investments on human capital (education and health), public infrastructure (power, digital, water and sanitation, transport), and environmental protection.

Removing the barriers to increased capital market flows

Why don't the international capital markets direct such large lending to developing countries, so that they can massively increase their capital stocks and achieve rapid development? There are several important explanations.

First, to service heavy debts, the borrowing country has to run a large trade surplus to pay its interest abroad. In the illustration, the borrowing country would have to run a trade surplus equal to 32% of GDP. Many countries borrow abroad but then fail to take appropriate steps (such as maintaining a competitive exchange rate) to promote the increase in net exports needed to service the increased debts.

Second, the borrowing country needs to collect increased taxes to be able to service the increased interest payments. It's not enough for the national economy to borrow and grow. The sovereign borrower must take care to raise taxes sufficiently to service the higher level of interest payments.

Third, an irresponsible sovereign borrower might take on a huge stock of debt, but then use the debt for consumption or wasteful investment rather than for the kinds of investment really needed to raise national income. Therefore, sovereign borrowers must establish reliable and trusted systems of public administration, so as to prove that incremental borrowing gets translated into incremental, high-quality capital.

Fourth, there are inherent limits to a government's ability to rapidly boost capital stock. Most importantly, human capital investments require a timescale of a full generation: they must educate today's young children so that they can become skilled members of the workforce in twenty years time. Such investments therefore need time to come to full fruition, and sovereign borrowing should be paced according to the timeline of economic growth.

Fifth, governments often fall into unwanted liquidity crises that prevent them from servicing debts even with a growing economy. Typically, governments pay not only interest on the debt (as in the illustration) but on the principal as well. As the principal is paid down (amortized) it should in theory be refinanced with new loans, to keep the debt stock constant (or growing with GDP). In practice, governments are often unable to refinance debts coming due. Lenders often panic and refuse to supply new loans to refinance old debts coming due. If the government loses access to new borrowing, it is often pushed into default. At that point, the country's credit rating collapses, and a short-term liquidity problem quickly becomes a long-term financial crisis!

This analysis points to three main policy conclusions:

First, developing countries can and should take on much larger debts than is now considered normal, but to do so, they need to be able to borrow long-term at reasonable interest rates.

Second, the IMF and credit-rating agencies need to rethink the current rating systems and debt-sustainability indicators to take the future economic growth prospects of the developing countries into account, thereby revealing a much larger debt servicing capacity than is shown in static analyses.

Third, developing countries need to manage their budgets, trade policies, and liquid assets so that they can routinely service their external debts without fear of a liquidity crisis. Improved credibility and liquidity management will be essential to enable LICs and LMICs to tap the international capital markets on a much larger scale.

Next steps towards a global plan to finance the SDGs

First, the G20 should declare, clearly and unequivocally, its commitment to channel far larger flows of financing to developing countries: so that they can achieve economic development and meet the SDG targets. Second, the G20 should greatly increase the lending capacity and annual flows of the MDBs, mainly through greater paid-in capital to these institutions, but also through greater leverage of their balance sheets. Third, the G20 should support other measures as well – notably increased ODA, large-scale philanthropy, and refinancing of debts falling due – to bolster SDG finance for the LICs and LMICs. Fourth, the IMF and the credit-rating agencies need to redesign assessments of debt sustainability, taking into account the growth potential of developing countries and their need for far larger capital accumulation. Fifth, working together with the IMF and the MDBs, the developing countries need to strengthen their debt management and creditworthiness by integrating their borrowing policies with tax policies, export policies, and liquidity management, all to prevent future liquidity crises.

Table 1.1

Creditworthiness of Countries According to World Bank Income Category

	Number of UN Member States	Number with Moody's Ratings	Number with an Investment Grade Rating	% Countries with an Investment Grade Rating	% of population in WB Income Category with an Investment Grade Rating
LICs	27	9	0	0	0
LMICs	53	35	3	8.6	52.9
UMICs	54	40	10	25	72.5
HICs	59	52	44	84.6	97.3
WORLD	193	136	57	41.9	61.4

Source: Moody's (2021) and World Bank (2022b)

Table 1.2

Regression table: SDG Index vs General Government expenditure

SDG index vs. Government Outlays			
Dependent variable			
SDG index, 2022			
	All	Expenditure below USD\$10K per capita	Expenditure above US\$10K per capita
Log of government outlays per capita (USD PPP, 2019)	6.055***	6.704***	3.491
	-0.296	-0.407	-2.333
Constant	17.940***	13.320***	42.555*
	-2.405	-3.071	-22.748
Income group fixed effects	No	No	No
Observations	157	111	46
R ²	0.746	0.703	0.048
Adjusted R ²	0.744	0.7	0.027
Note	*p**p***p<0.01		

Source: Authors' analysis. Government outlays data are from the "World Economic Outlook Database, October 2021" (IMF, 2021)