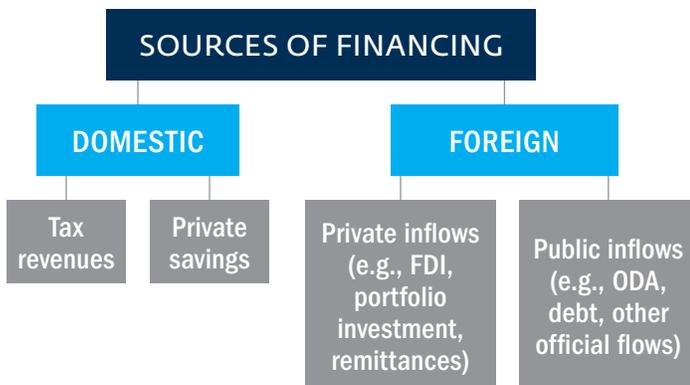


# Closing the SDG Financing Gap—Trends and Data

By Djeneba Doumbia and Morten Lykke Lauridsen

How big is the financing gap to achieve the 2030 Sustainable Development Goals (SDGs)? Can private capital fill the gap? This note provides an updated overview of estimates of SDG financing in low- and middle-income countries and gives an analytical and data-based foundation for discussion. Based on a review of recent studies, as well as IFC’s own calculations of cross-border flow trends, the note documents the ongoing and significant SDG financing gap. Raising taxes to expand public spending is an option for many middle-income countries to fill the gap, but it will be insufficient for low-income countries. Private financing, especially of infrastructure, can also contribute to bridging the gap, but it will depend on the availability of investable projects. Capital market development and improved domestic financial systems can help intermediate more private capital into available investment opportunities.

Meeting the Sustainable Development Goals (SDGs) will require the global community to increase development financing from “billions” to “trillions,” which implies a substantial financing gap. In addition to much needed increases in domestic revenues, getting to “trillions” will also require significant contributions from cross-border inflows, including private capital inflows (Figure 1).



**FIGURE 1** Potential sources of financing for the SDGs

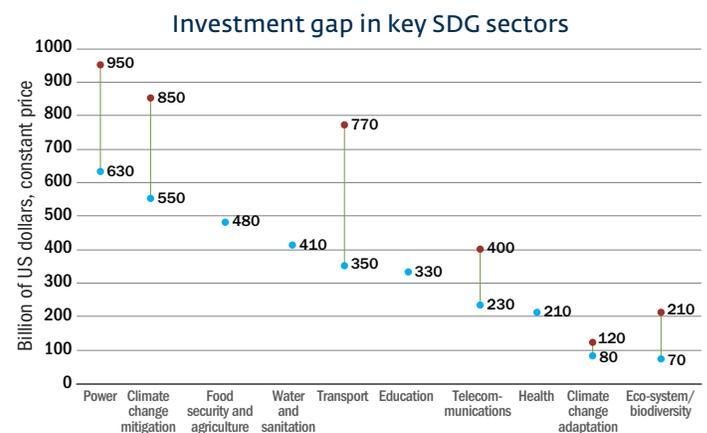
Source: Authors’ own elaboration.

## About the Authors

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## Financing Requirements to Meet the 2030 Agenda

A key reference for SDG financing needs over the last five years has been UNCTAD’s World Investment Report (2014).<sup>1</sup> UNCTAD estimates that to meet the SDGs by 2030, total annual investments in SDG-relevant sectors in developing countries will need to be between \$3.3 trillion

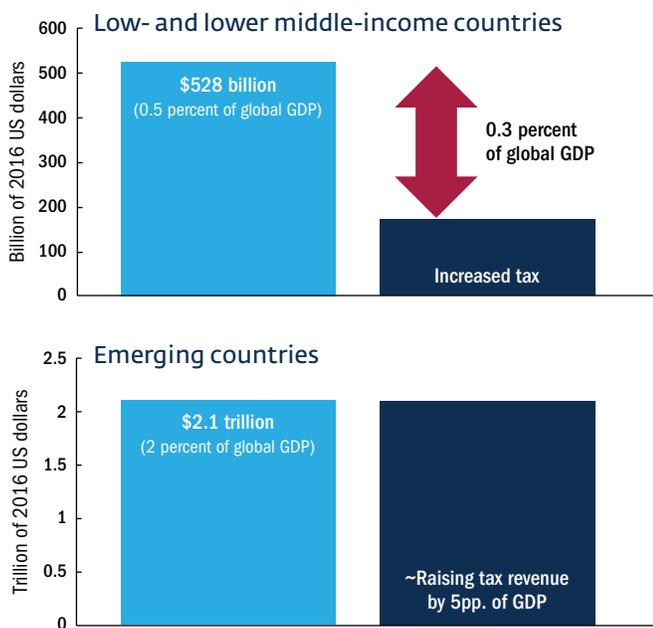


**FIGURE 2** Investment gap for developing countries

Source: Authors using UNCTAD estimates – World Investment Report 2014, UNCTAD.

and \$4.5 trillion. Such estimates mean there is an annual financing gap of some \$2.5 trillion between current funding and what is required.<sup>2</sup>

A closer look at the sectoral level reveals significant investment gaps, with some of the largest funding needs related to economic infrastructure. At up to \$950 billion, power infrastructure carries the greatest financing need, followed by climate change mitigation (\$850 billion) and transport infrastructure (\$770 billion). There are also sizeable investment gaps in social infrastructure, ranging from \$140 billion in health to \$250 billion in education (Figure 2). In a recent paper, the IMF estimated that meeting the SDGs in five priority areas—education, health, roads, electricity, and water and sanitation— by 2030 will require additional private and public annual spending of \$528 billion for low- and lower middle-income countries and \$2.1 trillion for emerging countries (Figure 3).<sup>3</sup> These estimates are comparable to those from UNCTAD for similar sector grouping (roads, electricity, and water and sanitation).<sup>4</sup>

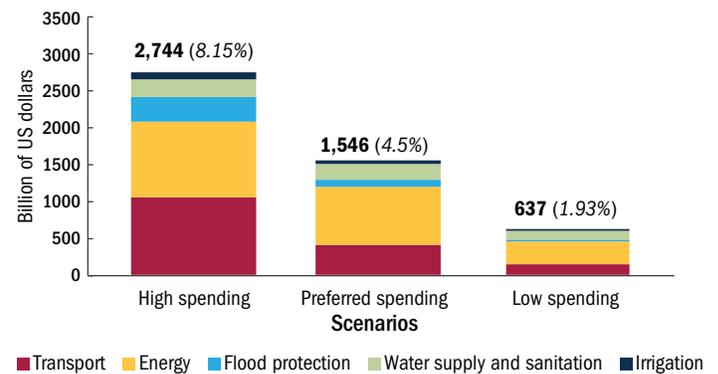


**FIGURE 3** Financing gap for low- and lower middle-income countries and emerging countries

Source: Gaspar et al. 2019. “Fiscal policy and development: human, social, and physical investment for the SDGs.” International Monetary Fund. Note: The sample comprises 72 emerging market economies (the median of GDP per capita in 2016 US\$ is 7,954), and 49 low- and lower middle-income developing countries (the median of GDP per capita in 2016 US\$ is 900). The list of these countries can be found in Gaspar et al (2019). 73 percent of the emerging countries used in Gaspar et al (2019) are upper middle-income countries as classified by the World Bank. The remaining emerging countries are either non-advanced high-income (Bahrain, Barbados, Chile, Croatia, Hungary, Kuwait, Poland, Qatar, Saudi Arabia, Trinidad and Tobago, and United Arab Emirates) or low-middle income (Angola, Bolivia, India, Indonesia, Mongolia, Philippines, Timor-Leste, Tunisia and Ukraine).

Looking at the infrastructure financing gap, a 2019 World Bank report found that the costs for new SDG-related infrastructure could range from \$637 billion (or 2 percent of GDP) to \$2.74 trillion (8 percent of GDP) in low- and middle-income countries (LMICs) depending on the spending efficiency and the quality of services delivered (Figure 4).<sup>5</sup> Investments of 4.5 percent of GDP will allow LMICs to reach the infrastructure related SDGs and stay on track to limit climate change to 2 degree Celsius. In addition to new infrastructure spending needs, LMICs would need to spend between 1.9 and 3.8 percent of GDP (2.7 percent using the preferred scenario) per year to maintain their existing and new infrastructure.<sup>6</sup> Consequently, with the preferred spending scenario, the overall investments required would be on the order of 7.2 percent of GDP.

Annual cost for infrastructure investments, by sector, 2015–2030



**FIGURE 4** Infrastructure investment needs in low- and middle-income countries

Source: Authors using World Bank. 2019. <http://www.worldbank.org/en/data/interactive/2019/02/19/data-table/infrastructure-investment-needs-in-low-and-middle-income-countries-investment-in-percent-of-gdp>.

Note: Numbers in brackets represent the annual cost for infrastructure.

The 2019 World Bank report provides the first consistently estimated data set on infrastructure investments and finds that meeting infrastructure investment requirements in all regions except Asia will require much higher spending levels.<sup>7</sup> LMICs spent between 3.4 percent and 5 percent of GDP in 2011, with a central estimate of around 4 percent. These estimates vary by region, ranging from 2.5 percent of GDP in Sub-Saharan Africa to 5.7 percent in East Asia and Pacific, using the central estimates. The East Asia and Pacific region also spends the most in absolute terms. The region accounts for more than half (54 percent) of total LMIC spending on infrastructure, with China alone accounting for 48 percent. In contrast, Sub-Saharan Africa accounts only for 4 percent of total LMIC infrastructure spending.

Zooming in on country-specific contexts and gaps, in a recent blog Kharas and McArthur (2019) show that the lowest-income countries tend to have the largest SDG financing gaps.<sup>8</sup> For instance, the estimated gaps in terms of GDP per capita for Burundi and South Sudan are approximately \$310 and \$530, respectively. These figures are more than 100 percent of GDP per capita in those countries.

Improving the efficiency of infrastructure investment is an important element that will facilitate meeting the SDGs, especially in low-income countries where resources are limited. As illustrated by the Public Investment Management Assessment (PIMA) overall index, the efficiency of capital spending tends to be lower for less developed countries. For instance, the average PIMA score is lower for low-income developing countries than for emerging economies (Box 1).

According to a 2017 McKinsey report, there is significant scope to improve the effectiveness and efficiency of how infrastructure investment is spent. Up to 38 percent of global infrastructure investment is not spent effectively because of bottlenecks, lack of innovation, and market failures. Efficiently spending infrastructure investment (fact-based project selection, streamlined delivery, and the optimization of operations and maintenance of existing infrastructure) can reduce spending by more than \$1 trillion a year for the same amount of infrastructure delivered and can help close the existing financing gap.<sup>9</sup>

Achieving the SDGs will require significant contributions from both private and public sectors, including cross-border inflows. However, the challenge is not only quantitative, it is also important to use public funds more sparingly, ensure a better mobilization of private capital and spend more efficiently.

### Domestic Revenue Mobilization

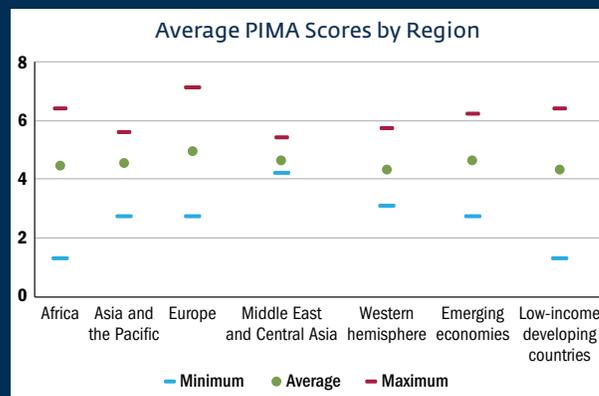
Domestic revenue mobilization is one of the most critical development priorities and is essential to financing sustainable development investments.

Over the last two decades, many developing countries have achieved substantial progress in revenue mobilization. For the median low- and lower middle-income countries, total revenues excluding grants increased from 15.5 percent of GDP in 2000 to 18.5 percent in 2017 (Figure 5). For the median upper middle-income country, total revenues excluding grants rose from 20 percent of GDP in 2000 to 26 percent in 2017. In contrast, over this period total revenues excluding grants to GDP have shown a slightly downward trend for the median high-income country (from 34 percent in 2000 to 33 percent in 2017).

## Box 1 Public Investment Management Assessment

The IMF's Public Investment Management Assessment (PIMA) framework, introduced in 2015, is a tool to help improve infrastructure governance by identifying strengths and weaknesses of country practices and providing tailored recommendations. The PIMA index captures 15 key institutional features across the three stages of the public investment management cycle: (i) planning public investment; (ii) allocating public resources to sectors and projects; and (iii) implementing productive public assets.

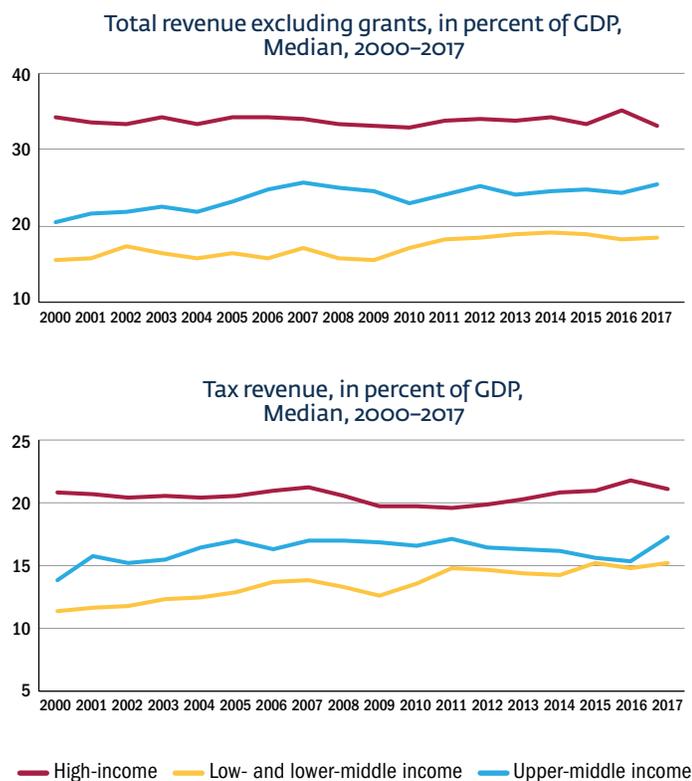
PIMAs provide rigorous assessment of the key public investment management (PIM) institutions and processes of a country. PIMA scores vary across regions with advanced countries in Europe scoring higher, on average, than other regions. Disparities are also noticeable between countries from the same region. For instance, Africa displays a large dispersion, with scores ranging from 1.3 to 6.4.



### PIMA SCORES BY REGION

Source: International Monetary Fund. 2018. "Public Investment Management Assessment – Review and Update."

Note: Calculations are based on PIMA reports. Scores range from 0 to 10, with 10 indicating full alignment with good Public Investment Management (PIM) practices. Africa = 13 countries, Asia and the Pacific = 5 countries, Europe = 5 countries, Middle East and Central Asia = 3 countries, Western Hemisphere = 4 countries. Low-income developing countries include low- and lower-middle income countries as classified by the World Bank. The graph does not include advanced countries as Ireland is the only country in this group.



**FIGURE 5 Trends in Domestic Revenue Mobilization**

Source: Authors, using International Monetary Fund Government Finance Statistics Yearbook and data files, and World Bank and OECD GDP estimates.

Notwithstanding recent progress, tax revenue mobilization continues to underperform in developing countries. For instance, tax revenues for the median low- and lower middle-income country increased from 11 percent of GDP in 2000 to 15 percent in 2017 (Figure 5). Even though the 2017 figures are higher for the median upper middle-income country compared to the median low- and lower-middle income country, tax revenue as a percent of GDP falls short of the desired level and remains below that of the median high-income country (21 percent).<sup>10</sup>

In a 2019 report the IMF estimated that, assuming efficient public spending, raising tax revenue by 5 percentage points of GDP could finance about \$170 billion in new infrastructure, or a third of the total additional needs for low- and lower middle-income countries. As such, domestic revenue mobilization will not be sufficient to finance outlays needed to meet the SDGs. However, for most emerging countries, the extra tax revenues—if effectively realized—could be sufficient to finance an additional \$2.1 trillion required to deliver on the SDG agenda (Figure 3).

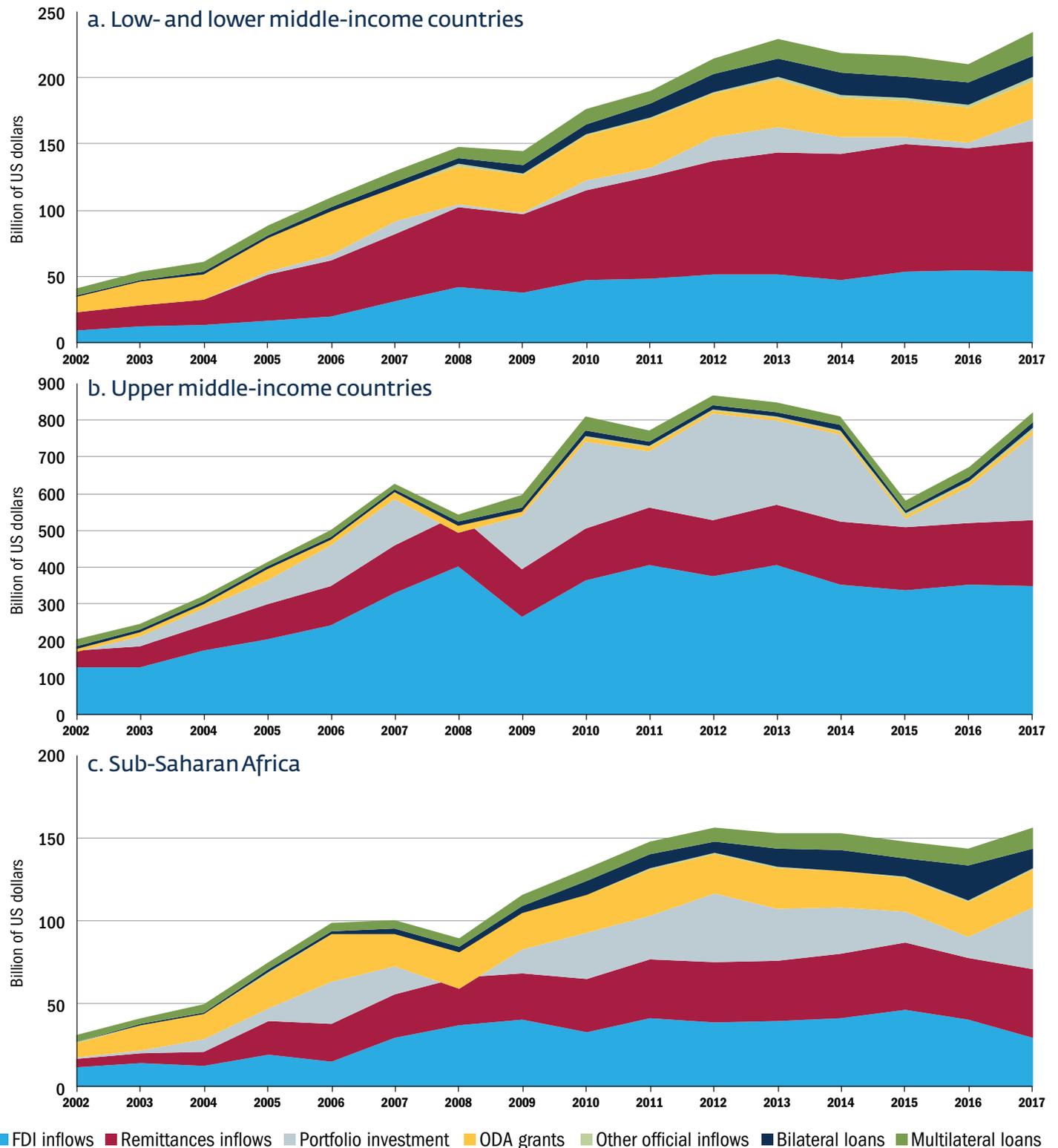
In addition to government revenues, private savings can be tapped through the financial sector to provide resources for the SDGs. Notwithstanding progress in financial development (both financial institutions and markets) in low-income countries and emerging countries, the IMF financial development index is much lower in these countries (0.15 in LICs and 0.33 in emerging economies) compared to advanced economies (0.64 in 2017).<sup>11</sup> Capital markets—which help intermediate funds directly from savers to governments and firms seeking financing—also remain underdeveloped or are nonexistent in many developing countries.

### Cross-Border Inflows

To assess the options for SDG financing, it is also critical to consider the trends in cross-border flows. In addition to domestic revenue mobilization, other sources of financing can help close the financing gap and help meet the 2030 agenda. Total cross-border flows to developing countries increased by 32 percent from 2015—the year of adoption of the Addis Ababa Action Agenda (AAAA)—to reach \$1.6 trillion in 2017.<sup>12</sup> This increase was mainly driven by greater portfolio investment.

Total 2017 cross-border flows to low- and lower middle-income and upper middle-income countries are estimated at \$0.234 trillion and \$0.819 trillion, respectively (Figure 6).<sup>13</sup> Directing a portion of these flows to SDG related sectors could presumably make it easier to meet the SDGs in upper middle-income countries by lowering the need for greater domestic revenue mobilization through taxation. For low- and lower middle-income countries, assuming that the potential for higher domestic revenue mobilization is fully realized (\$170 billion), cross-border flows will still need to increase by more than 60 percent (from \$234 billion to \$358 billion) to close the financing gap in order to meet the SDGs by 2030.<sup>14</sup>

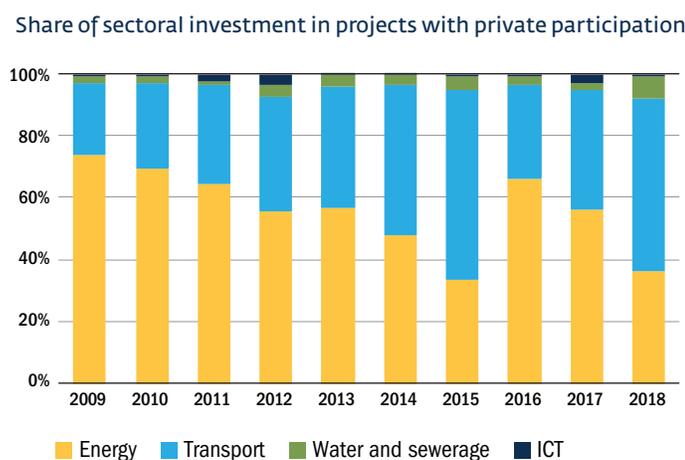
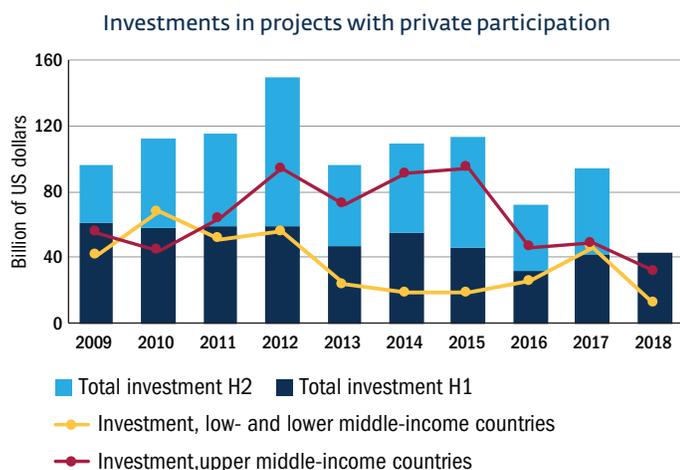
The trends and needs for cross-border flows differ significantly across regions, with the greatest need to scale up in Africa. Cross-border flows to Sub-Saharan Africa rose by 9 percent between 2016 (\$143 billion) and 2017 (\$157 billion). During the same period, FDI inflows to the region decreased by 27 percent to \$27 billion, primarily due to the lasting macroeconomic impacts of the 2014-2016 oil price decline (Figure 6).<sup>15</sup> While other official flows also decreased during this period, portfolio investment almost tripled and remittance inflows and multilateral loans exhibited an upward trend.



**FIGURE 6** Cross-border finance to developing countries

Source: Authors' calculations using OECD Creditor Reporting System database; UNCTAD FDI Statistics; World Economic Outlook (2018); World Bank Migration and remittances data, and World Development Indicators (2019).

Note: All the variables are in current US dollars. To allow comparison between the gap in financing SDGs and the cross-border flows, the sample of low- and lower middle-income countries used in Figure 6a comprises 49 countries as in Gaspar et al. (2019). The sample of upper middle-income countries comprises 47 countries. SSA figures represent 48 countries. Due to data availability, the note considers the period 2002-2017. Samples may vary.



**FIGURE 7** Trends in investments in infrastructure projects with private participation, developing countries

Source: Authors, using World Bank PPI database.  
 Note: H1 and H2 indicate first half and second half. The latest data available is for the first half of 2018. PPI data record commitments rather than actual spending. Samples may vary by year.

### The role of the private sector

Both private and public sectors play fundamental roles in financing the SDGs. The public sector clearly dominates in terms of infrastructure investments in low- and middle-income countries. The private sector accounts for only 9 to 13 percent of total infrastructure investments in LMICs (Fay et al. 2019). As Chinese infrastructure investments are public rather than private, excluding China from the sample of LMICs shows the private sector share is substantially larger (14 to 31 percent).

An increased participation by the private sector could potentially help close the SDG financing gaps. PPI (Private Participation in Infrastructure) investments in developing countries reached \$150 billion in 2012. With recent data

highlighting lower PPI investment figures (\$95 billion in 2017 and \$43 billion in the first half of 2018), this can indicate an even greater need to raise PPI investments. Hypothetically, increasing PPI investments eightfold in low- and lower middle-income countries from \$46 billion to \$368 billion could bring SDGs closer within reach when combined with higher domestic revenue mobilization efforts and increased cross-border flows.<sup>16</sup>

However, this would imply a significant scale-up of private sector engagement in low- and lower middle-income countries, which in turn could be facilitated by an enabling business environment. Here the International Finance Corporation (IFC) is scaling its upstream support to help creating markets including attracting private investment and helping viable projects get started.

Recent trends in PPI investments in developing countries show greater private sector participation in transport and energy (Figure 7).<sup>17</sup> More than half of PPI investments in H1 2018 were in transport and less than two-fifths in the energy sector. Information and communications technology (ICT) and water and sanitation represent a small portion of PPI investments in developing countries. A closer look at income levels reveals some disparities in sectoral PPI investments.

In H1 2018, investments in the energy sector represented about two-thirds of total PPI investments in low- and lower middle-income countries, while they were only one-fourth in upper middle-income countries (Figure 8).

Existing large needs for energy and transport infrastructure in most developing countries indicate room for additional investments in these sectors. In addition, the still embryonic ICT sectors in most developing countries—in light of the rapid digitalization of economies across the world and the associated economic gains—point to great potential for increased investment in this sector.

There is significant room for the private sector to crowd in more investment into SDG-related sectors with high development impact, which is crucial to the World Bank Group’s focus on Maximizing Development Finance.

Financing for sustainable development requires better orchestration of all private and public resources.<sup>18</sup> The project of universal electrification in Myanmar by 2030 is a concrete example of such coordination. Here the World Bank Group (WBG) used a coordinated and comprehensive approach to mobilizing resources. In 2017, the WBG introduced a new way to maximize development finance to

fully leverage the private sector for sustainable development and only rely on public funds in areas where private sector engagement would not be feasible.<sup>19</sup>

## Looking Forward

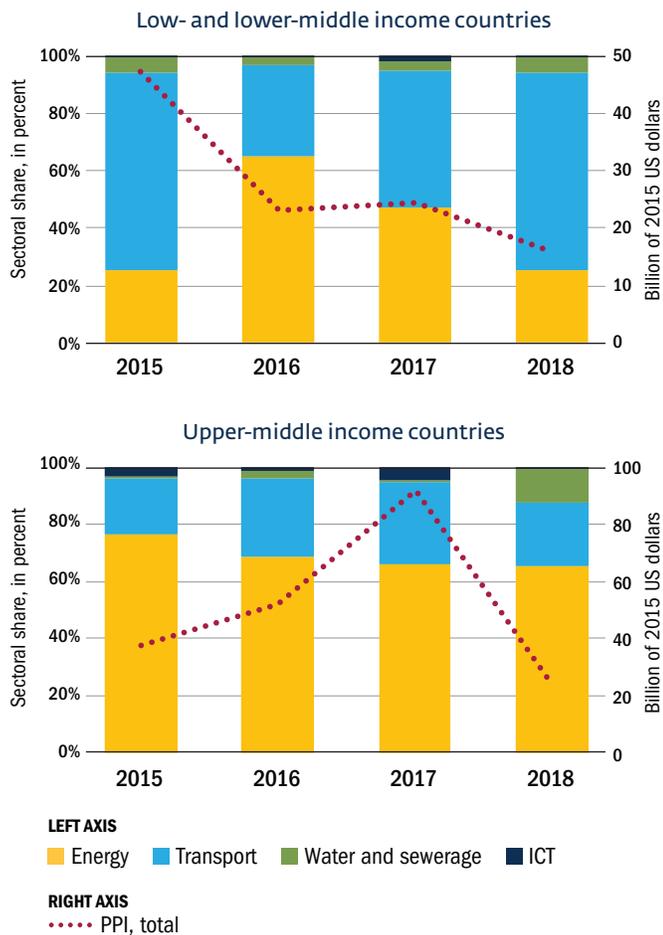
There is no time to waste in increasing the level of development finance from billions to trillions to address the SDG financing gap. Making progress toward the SDG 2030 goals will require comprehensive solutions to support stronger co-investment platforms, to enable business environments in low- and middle-income countries, to advance financial deepening, and to increase the efficiency of public spending.

## ACKNOWLEDGMENTS

The authors would like to thank the following colleagues within the Vice Presidency Economics and Private Development of IFC for their reviews and suggestions: Neil Gregory, Chief Thought Leadership Officer, Thought Leadership; Arthur Karlin, Consultant; Facundo Martin, Principal Economist, Global Macro and Market Research; Florian Moelders, Operations Officer, Global Macro and Market Research; Jennifer Keller, Lead Economist, Macro, Trade and Investment Global Practice, World Bank, currently on assignment to Thought Leadership, IFC; Jonathan Timmis, Economist, Thought Leadership; Sebastian Essl, Economist, Macro, Trade and Investment Global Practice, World Bank; and Thomas Rehmann, Senior Economist, Thought Leadership.

## Please see the following selected additional EM

**Compass Notes:** *Institutional Investing: A New Investor Forum and Growing Interest in Sustainable Emerging Markets Investments* (Note 64); *Peru's Works for Taxes Scheme: An Innovative Solution to Accelerate Private Provision of Infrastructure Investment* (Note 55); *Crowding-In Capital: How Insurance Companies Can Expand Access to Finance* (Note 52); *Toward a Framework for Assessing Private vs. Public Investment in Infrastructure* (Note 29); *Mitigating Private Infrastructure Project Risks* (Note 20).



**FIGURE 8** Trends in investments in infrastructure projects with private participation, developing countries

Source: Authors, using World Bank PPI database. See <https://ppi.worldbank.org/data>.

Note: H1 2018 indicates first half of the year 2018 which is the latest period available. PPI data record commitments rather than actual spending. Samples may vary by year.

- UNCTAD. 2014. "World Investment Report: Investing in the SDGs: An Action Plan." United Nations Conference on Trade and Development. UNCTAD (2014) estimated financing needs for developing countries. UNCTAD figures on financing needs came out before launch of SDGs and the formal adoption of the 2030 Agenda for Sustainable Development by the 193-Member United Nations General Assembly on September 2015.
- UNCTAD (2014) estimated current annual investment at around \$1.4 trillion. Given that the mid-point estimate of total annual SDG-related investment is about \$3.9 trillion, subtracting current annual investment gives a mid-point estimated investment gap of \$2.5 trillion.
- Gaspar, Vitor, David Amaglobeli, Mercedes Garcia-Escribano, Delphine Prady, and Mauricio Soto. 2019. "Fiscal Policy and Development: Human, Social, and Physical Investment for the SDGs." IMF Staff Discussion Note. [www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2019/01/18/Fiscal-Policy-and-Development-Human-Social-and-Physical-Investments-for-the-SDGs-46444](http://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2019/01/18/Fiscal-Policy-and-Development-Human-Social-and-Physical-Investments-for-the-SDGs-46444). The authors estimate the additional total—private and public—spending required to make substantial progress toward the SDGs in five areas (education, health, roads, electricity, water and sanitation). They used a costing methodology relying on a sample of 155 countries: 49 low and lower middle-income countries, 72 emerging market economies, and 34 advanced economies.
- While IMF estimates suggest that additional annual spending needed in these sectors is approximately \$1.4 trillion in low-income countries (LICs) and emerging economies, UNCTAD estimates suggest that figure is higher, at about \$1.8 trillion. For low- and lower middle-income countries, Schmidt-Traub (2015) finds annual infrastructure spending of US\$660 billion, compared with IMF estimates of US\$725 billion for the same country grouping. See Schmidt-Traub, Guido. 2015. "Investment Needs to Achieve the Sustainable Development Goals—Understanding the Billions and Trillions." SDSN Working Paper Version 2.
- Rozenberg and Fay (Eds). 2019. "Beyond the Gap – How Countries Can Afford the Infrastructure They Need while Protecting the Planet." The World Bank. Washington DC.

- <sup>6</sup> The three scenarios are as follow: high spending scenario refers to ambitious goals and low efficiency; preferred spending scenario refers to ambitious goals and high efficiency; and low spending scenario refers to less ambitious goals and high efficiency. For more details regarding the three scenarios by sector, see Rozenberg, Julie and Marianne Fay. 2019. “Beyond the Gap: How Countries Can Afford the Infrastructure They Need while Protecting the Planet.” Sustainable Infrastructure Series. World Bank. Washington, DC.
- <sup>7</sup> See World Bank. 2019. “Overview of Infrastructure Investment Needs in Low- and Middle-Income Countries by 2030.” Policy Note 1/6. [https://openknowledge.worldbank.org/bitstream/handle/10986/31291/33266\\_Policy\\_Note\\_1.pdf](https://openknowledge.worldbank.org/bitstream/handle/10986/31291/33266_Policy_Note_1.pdf).
- <sup>8</sup> Kharas, Homi and John McArthur. 2019. “How Much Does the World Spend on the Sustainable Development Goals?” Future Development, Brookings Institution. <https://www.brookings.edu/blog/futuredevelopment/2019/07/29/how-much-does-the-world-spend-on-the-sustainable-development-goals/>.
- <sup>9</sup> Woetzel, Jonathan, Nicklas Garemo, Jan Mischke, Priyanka Kamra, and Robert Palter. 2017. “Bridging Infrastructure Gaps: Has the World Made Progress?” McKinsey Global Institute. [www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/bridging-infrastructure-gaps-has-the-world-made-progress](http://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/bridging-infrastructure-gaps-has-the-world-made-progress).
- <sup>10</sup> Gaspar, Jaramillo and Wingender (2016) estimated the tipping point as a minimum tax-to-GDP of 12 ¾ percent that enable the state to perform some of its most important functions, especially adequate spending on developmental programs. This threshold is likely associated with changes in social norms of behavior and state capacity. See Gaspar, Vitor, Laura Jaramillo and Philippe Wingender. 2016. “Tax Capacity and Growth: Is there a Tipping Point?” IMF Working Paper WP/16/234.
- <sup>11</sup> See IMF Financial Development Index Database. <https://data.imf.org/?sk=F8032E80-B36C-43B1-AC26-493C5B1CD33B>
- <sup>12</sup> Due to limited data availability and to avoid double counting, cross-border flows in this note include FDI, portfolio investment, remittances, ODA grants, other official flows, multilateral and bilateral loans. The sample of developing countries includes 49 low and lower middle-income countries and 72 emerging economies as in Gaspar et al. (2019). All the figures in Section 3 (Cross-border inflows) are in current US dollars. Because of data availability regarding cross-border flows, the note considers the period 2002–2017 which is covered by all indicators.
- <sup>13</sup> Total 2017 cross-border flows to emerging countries as defined in Gaspar et al. (2019) are estimated at \$1.36 trillion.
- <sup>14</sup> To allow comparisons between cross-border flows and the estimates of additional spending required to meet the 2030 Agenda, the same samples of low- and lower middle-income countries are used.
- <sup>15</sup> According to UNCTAD’s World Investment Report 2019, FDI flows to SSA increased between 2017 and 2018.
- <sup>16</sup> Assuming efficient public spending and that countries could raise their tax revenues by 5 percentage points of GDP (Gaspar and others, 2019). While the methodology accounts for synergies across the sectors (education, health, roads, electricity, water and sanitation) analyzed in Gaspar et al. (2019), spending estimates presented in this paper should be viewed with caution, as other SDG areas might involve substantial additional costs.
- <sup>17</sup> UNCTAD’s SDG Investment Trends Monitor (2019) shows that in developing countries, investment (private and public) in the power sector has only marginally increased, despite increases in FDI and domestic private flows. Available data suggest that investment has steadily increased in the transport sector. The report also notes that limited data availability and poor data quality constrain the ability to estimate investment trends in all SDG-relevant sectors. See [https://unctad.org/en/PublicationsLibrary/diaemisc2019d4\\_en.pdf](https://unctad.org/en/PublicationsLibrary/diaemisc2019d4_en.pdf).
- <sup>18</sup> See Da Silva, J. M. 2018. “For better returns on development investments, we need a better market.” <https://blogs.worldbank.org/developmenttalk/better-returns-development-investments-we-need-better-market>
- <sup>19</sup> A Cascade Decision-Making Approach. Infrastructure Finance – Guiding Principles for the World Bank Group. 2018. World Bank Group. (Booklet). See also World Bank Group. 2017. “Maximizing Finance for Development: Leveraging the Private Sector for Growth and Sustainable Development.”

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