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Beyond the Trillions

MAKING LIMITED DEVELOPMENT FINANCE WORK FOR CLIMATE AND THE SDGs

Benedict Clements, Sanjeev Gupta and Charley Ward

Abstract

Estimates of the finance needed to meet the Sustainable Development Goals and climate commitments imply that external official finance to developing countries would need to rise by about $500 billion a year. We ask what a transfer of this size would mean for recipient countries. Allocating the additional finance across low- and lower-middle-income countries according to poverty and climate vulnerability, we find that inflows for a typical low-income country would exceed 20 percent of GDP, well above current revenue and aid levels. Transfers on this scale are not a realistic prospect, and there are good reasons to doubt that they would be used well. Aid budgets fell sharply in 2025. Debt relief under the HIPC and MDRI initiatives created fiscal space of about 2 percent of GDP a year, a fraction of the inflows implied by the aggregate estimates, and even this smaller gain in poverty-reducing spending was not sustained. Public financial management assessments under the PEFA framework show that the countries that would receive the most finance tend to have the weakest systems, particularly in budget execution and procurement. We therefore ask how more limited external finance can be used to greatest effect. We review the evidence on paying for results and on matching increases in domestic revenue and health spending, and we discuss measures that high-income countries can take at little budgetary cost, such as making it harder to hide wealth abroad, that would help developing countries raise their own resources.

KEYWORDS
Finance for development, public financial management, public debt, debt relief, health and education spending

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Beyond the Trillions: Making Limited Development Finance Work for Climate and the SDGs

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Contents

Introduction and motivation **1**

Allocating additional flows to low- and lower-middle-income countries **2**

Are LICs and LMICs ready to effectively spend more? **5**

Macroeconomic management challenges **6**

Lessons from episodes of debt relief **7**

Reforms to improve macroeconomic management of aid flows and capacity to spend more aid and spend well **11**

- Tax reform 11
- Improving PFM 12

Making limited external finance go further **18**

- Paying for results 18
- Matching domestic effort 19
- Measures by high-income countries 19

Implications for the international community **20**

References **26**

Figures

1. Median annual flows to GDP, LICs 4
2. Median annual flows to GDP, LMICs 4
3. PEFA scores vs. new public finance flows, LICs 5
4. PEFA scores vs. new public finance flows, LMICs 6
5. Gross government debt to GDP, HIPC/MDRI countries 8
6. Median health and education spending to total expenditure, HIPC/MDRI countries 9
7. Median expenditure, revenue, public investment, and growth to GDP, HIPC/MDRI countries 10
8. External debt service to revenue, HIPC/MDRI countries 10
9. Average score for PEFA budget execution indicators, LICs and LMICs 13
10. Budget execution vs domestic health spending (% of GDP), LICs and LMICs 14
11. Average score for PEFA budget execution indicators, LICs and LMICs with execution score less than 2.5 15
12. Growth vs PEFA public investment score, LICs and LMICs 16
13. Average score for PEFA public investment indicators, LICs and LMICs 17

Tables

1. Estimates of finance needs (for developing countries excluding China) 2

A1. Country groups 22

A2. Estimates of official climate and SDG financing by country, LICs 23

A3. Estimates of official climate and SDG financing by country, LMICs 24

Introduction and motivation

Several expert groups have estimated that achieving the Sustainable Development Goals (SDGs) and addressing the costs of climate change in developing countries will require financial resources on the order of trillions of dollars a year. For instance, the G20 Independent Expert Group (2023) estimates that achieving these goals will necessitate $3 trillion in annual additional spending between 2025 and 2030. Similarly, the Independent High-Level Expert Group on Climate Finance (2023) projects comparable amounts, with increasing costs in later years if resources fail to materialize by 2030. More recently, the fourth international conference on financing for development at Seville (United Nations, 2025) has estimated an annual SDG financing gap of roughly $4 trillion in developing countries.

The G20 Independent Expert Group envisions that a sizable portion of these resources will originate from higher taxes in developing countries and the private sector. However, an important share—around $500 billion annually—will still need to come from external official development finance, which comprises both concessional and non-concessional bilateral and multilateral finance.

In this paper, we take a different starting point. We show that if the envisioned flows were realized, external finance for a typical low-income country (LIC) would exceed 20 percent of GDP a year, and 40 percent or more in some countries, far above current levels of revenue, spending, and aid. Transfers of this size are not a realistic prospect. Official development assistance fell by 23 percent in real terms in 2025, the largest annual drop on record (OECD, 2026). Nor would transfers on this scale necessarily be advisable. The experience of the Heavily Indebted Poor Countries (HIPC) Initiative and the Multilateral Debt Relief Initiative (MDRI) is instructive: debt relief reduced annual debt service by about 2 percent of GDP, less than a tenth of the inflows implied by the aggregate estimates, and even this smaller increase in fiscal space produced gains in poverty-reducing spending that were not sustained.

The policy question is therefore not how to absorb a very large scale-up, but how a more modest increase in external finance can be used to greatest effect, and what else can be done to help countries finance their own development. We examine three approaches: paying for results; matching increases in countries' own revenue and health spending; and measures by high-income countries, such as making it harder to hide wealth abroad, that cost little in budgetary terms and may command more political support than larger aid budgets.

Our paper contributes to the debate on how the international community can best support the achievement of the SDGs and help developing countries confront the costs of climate change. We go beyond the aggregate estimates of financing needs and assess the implications for the average LIC and lower-middle-income country (LMIC), comparing potential aid flows with existing revenues, spending, and aid levels. We also assess countries' capacity to manage additional resources effectively, drawing on assessments of the quality of public expenditure management, and review past experiences of LICs that received debt relief in the 2000s. On this basis, we identify reforms that can help countries

spend better, and we review what is known about ways of providing external finance that reward results and domestic effort. Taken together, these findings suggest how limited external finance can best support progress toward the SDGs and help countries meet the costs of climate change.

The paper is structured as follows. First, we estimate the annual official external finance that each LIC and LMIC could receive if the additional $500 billion were distributed, and compare these figures with current levels of revenue, spending, and aid. Second, we assess the readiness of public financial management (PFM) systems to spend more. Third, we review the macroeconomic challenges of absorbing a large influx of aid. Fourth, we examine the experience of LICs that received debt relief under the HIPC Initiative and MDRI, launched in 1996 and 2006, respectively, focusing on government spending on health and education. Fifth, we discuss reforms to raise domestic revenue and strengthen PFM. Sixth, we review the evidence on paying for results, on matching domestic effort, and on measures that high-income countries can take. Finally, we draw implications for the international community.

Allocating additional flows to low- and lower-middle-income countries

Differing assessments of the aggregate amounts of financing needed to reach the SDGs and climate goals are broadly similar (Table 1). From these estimates, external official development finance is expected to be an additional $500 billion per year. This is based on a total estimated need of $3 trillion per year for both climate action and the SDGs, with the remaining $2.5 trillion coming from domestic resource mobilization ($2 trillion) and private capital ($500 billion). These estimates were made before the recent cuts in aid budgets. With official development assistance having fallen by 23 percent in real terms in 2025 (OECD, 2026), the additional external finance required relative to current flows is now larger.

TABLE 1. Estimates of finance needs (for developing countries excluding China)

Authors	Working Group	Annual Increase in Climate Finance (USD trillion)	Annual Increase in SDG Finance (USD trillion)	Target Year	Notes
Summers and Singh, 2023	G20 Independent Expert Group	1.8	1.2	2030	
Songwe, Stern, and Bhattacharya 2022	Independent High-Level Expert Group on Climate Finance	1.8	1.2	2030	
Pangestu, Pazarbasioglu, and Stern, 2023*	High-Level Advisory Group on Sustainable and Inclusive Recovery and Growth	*1.3, 3.5 (for both)*	*1.3, 3.5 (for both)*	2025, 2030	1.3 per year by 2025, 3.5 per year by 2030

Notes: *Derives estimates from Songwe, Stern, and Bhattacharya (2022).
Sources: Summers and Singh (2023), Bhattacharya et al. (2023), Pangestu, Pazarbasioglu, and Stern (2023), and Songwe, Stern, and Bhattacharya (2022).

To distribute the annual additional inflows that a typical LIC and LMIC would need to absorb, we follow the G20 Expert Group's approach and assume 60% of funds are allocated to climate adaptation and mitigation and 40% to achieving the SDGs. The allocations to countries are based on the following considerations:

For SDGs: Funds are allocated according to each country's share of the group's total population living below the International Poverty Line (now $3 per day), adjusted for differences in purchasing power. The purchasing power adjustment accounts for differences in the cost of meeting the SDGs across countries (i.e., hiring a teacher is much more expensive in Argentina than Burundi). We calculate an adjustment coefficient by dividing each country's GDP in USD by its GDP in PPP dollars, then multiply this coefficient by the number of people living in extreme poverty. New finance is then distributed based on each country's price-adjusted extreme poverty population as a share of the whole. Poverty figures are from the World Bank's Poverty and Inequality Platform.

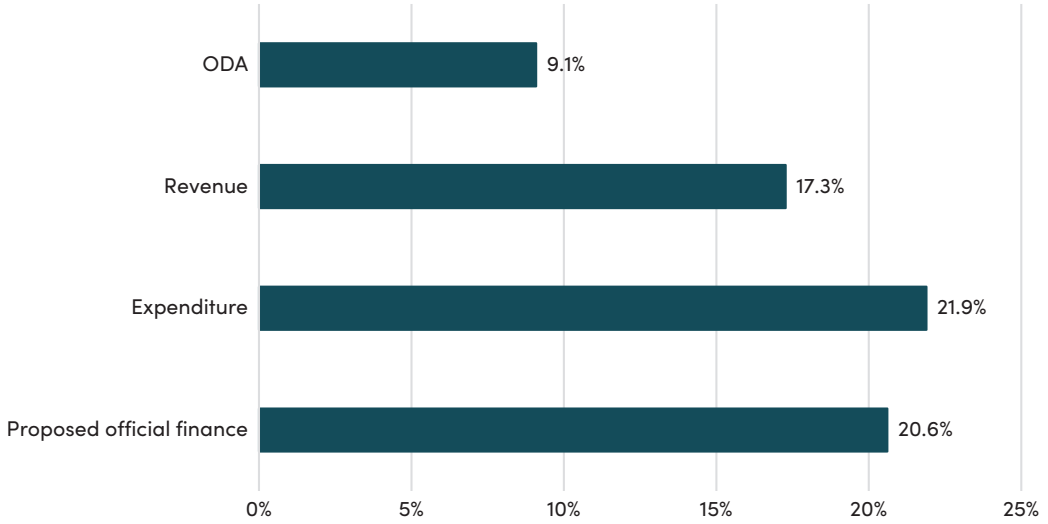
For Climate Change: Funds are allocated based on a country's population, adjusted for climate vulnerability and readiness for adaptation as measured by the ND-GAIN index (University of Notre Dame, 2025). The index ranges from 0 to 100, with higher values representing greater readiness and lower vulnerability. We calculate an adjustment coefficient by dividing the group's average ND-GAIN score by each country's score, then multiply this coefficient by the country's population. This gives greater weight to countries with lower scores, reflecting greater vulnerability and/or lower readiness. New finance is distributed based on each country's climate-adjusted population as a share of the whole.

Our findings reveal that for a typical LIC, the additional inflows would amount to over 20% of GDP annually, exceeding current revenue levels as well as Official Development Assistance (ODA) (Figure 1). In some LICs, the annual inflows will exceed 40 percent of GDP (e.g., Burundi, Central African Republic, Madagascar, Malawi, Mozambique, South Sudan). For LMICs, the challenge appears more manageable, with additional aid constituting around 4% of GDP on average (Figure 2).[1]

These figures are illustrative rather than a forecast. They show what the aggregate estimates would imply for individual countries if the additional finance were allocated according to need, and they help explain why transfers of this size are unlikely to be either feasible or advisable.

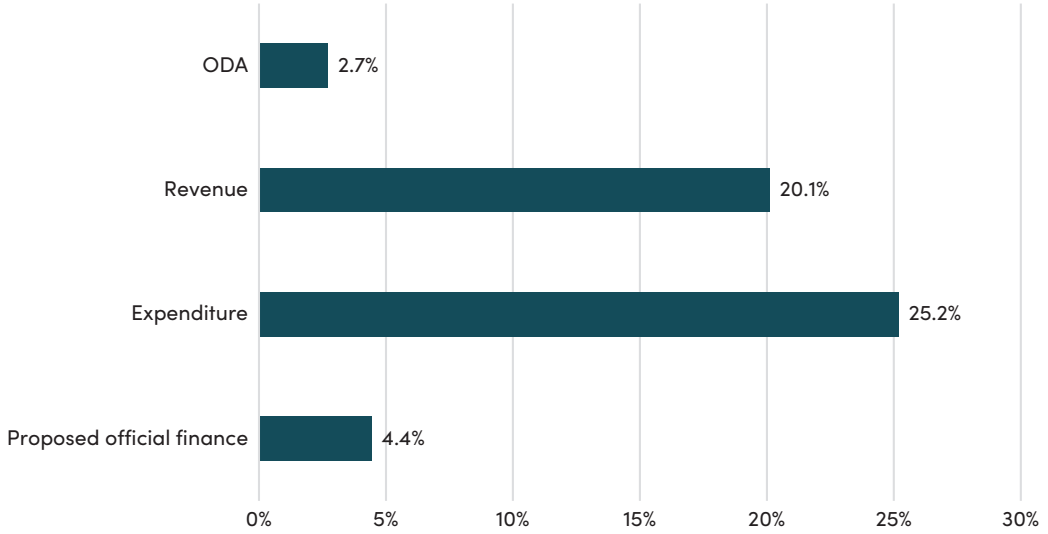
1 See Annex Table 2 and Annex Table 3 for country-level estimates.

FIGURE 1. Median annual flows to GDP, LICs



Sources: OECD DAC and IMF WEO. See Annex Table 1 for a list of LICs and and Annex Table 2 for a country-level breakdown of proposed official finance flows.

FIGURE 2. Median annual flows to GDP, LMICs



Sources: OECD DAC and IMF WEO. See Annex Table 1 for a list of LMICs and Annex Table 3 for a country-level breakdown of proposed official finance flows.

These estimates are broadly consistent in order of magnitude with the IMF's projections (Gaspar et al., 2019), which indicate that LICs require additional resources amounting to 16% of GDP annually to achieve the SDGs in five key areas (education, health, roads, electricity, and water and

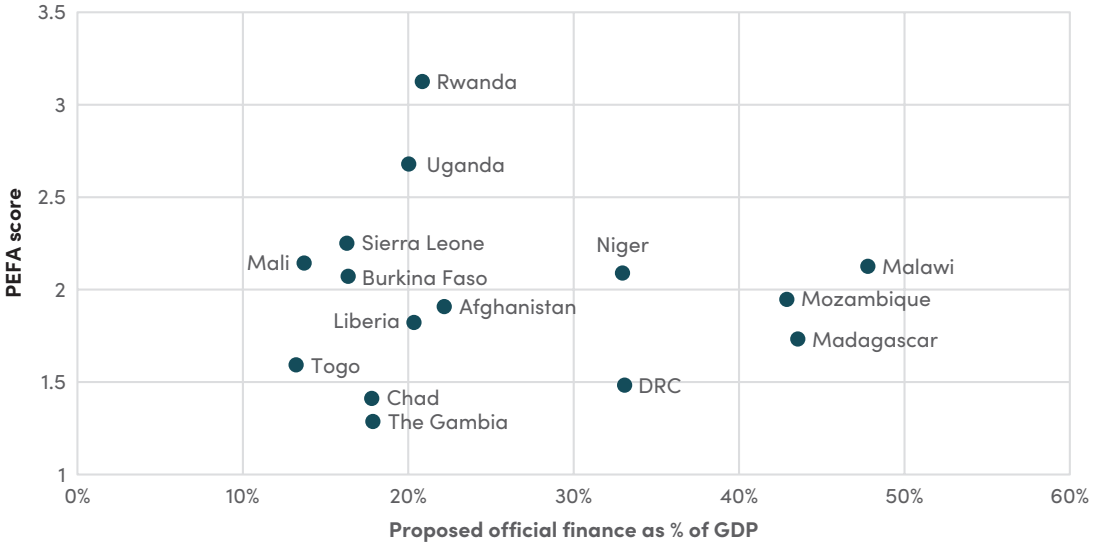
sanitation), while emerging markets (including LMICs) require about 4% of GDP.[2] In a subsequent analysis (Benedek et al., 2021), the IMF indicated that these costs have increased in the aftermath of the COVID-19 pandemic. It is important to note that the IMF estimates exclude financing needs for climate adaptation and mitigation and cover only five key SDGs.

Are LICs and LMICs ready to effectively spend more?

To explore this question, we analyzed data from the Public Expenditure and Financial Accountability (PEFA, 2025) framework. The latest version of the framework, introduced in 2016, includes 31 performance indicators that assess core public financial management functions. These indicators assess the strengths and weaknesses of a country's public financial management (PFM) systems across areas such as the transparency of public finances, accountability, and reporting. PEFA scores range from A to D (converted to 1 to 4), with four indicating an effective PFM system.

Figures 3 and 4 depict the relationship between PEFA scores and estimated additional resource inflows for LICs and LMICs. The data reveals a generally negative correlation between PEFA scores and external inflows: countries that would be receiving larger funds tend to have relatively lower PEFA scores. Only a handful of countries have scores above 3, highlighting significant room for improvement in the absorptive capacity of their PFM systems.

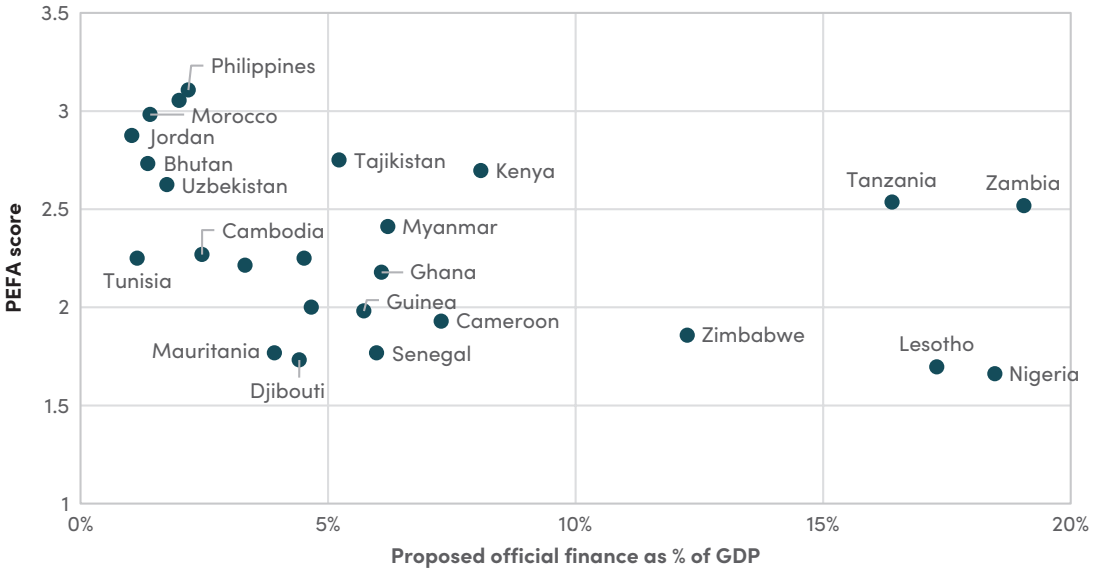
FIGURE 3. PEFA scores vs. new public finance flows, LICs



Sources: PEFA database. Data are for 2024 or most recent year. Includes LICs with data available for both PEFA scores and proposed official finance. Burundi's proposed official finance value exceeds the plotted range (159% of GDP).

2 The comparison is approximate. Gaspar et al. (2019) cover a wider group of countries (about 50 LICs, including roughly half of the countries classified as LMICs in this paper, and over 70 emerging markets) and report GDP-weighted averages, whereas our figures are unweighted.

FIGURE 4. PEFA scores vs. new public finance flows, LMICs



Sources: PEFA database. Data are for 2024 or most recent year. Includes LMICs with data available for both PEFA scores and proposed official finance.

Macroeconomic management challenges

The literature points to two key macroeconomic challenges policymakers face when confronted with a large increase in external finance: an appreciation of the real exchange rate and weaker domestic revenue collection.[3] The former arises from increased domestic absorption because of aid flows.[4]

Some appreciation of the real exchange rate is both likely and appropriate in response to sustained higher external inflows. Aid increases demand for imports as well as domestically produced nontradables, such as health care and education. Because the public sector has a higher propensity than the private sector to consume domestic goods and services, aid-financed spending will tend to raise domestic demand.

If excess supply is limited, stronger demand will push up the relative price of nontradables, inducing labor and other resources to shift from the tradable sector toward nontradables. As a result, the tradable goods sector contracts relative to nontradables—a phenomenon known as Dutch disease. Over time, these effects may be moderated if inflows expand supply capacity, but in the short term, inflationary pressures will need careful macroeconomic management.

3 See Gupta and Heller (2002), Berg et al. (2007), and Gupta et al. (2007).

4 The term domestic absorption here differs from two related but distinct concepts: absorbing aid and spending aid (IMF, 2005). The macroeconomic impact of aid depends both on how a country spends the resources and on its policy response, where the interaction of fiscal policy with monetary and exchange rate management is key.

Policy choices matter. Dutch disease effects can be alleviated if trade policy is liberalized alongside external inflows, while the macroeconomic consequences of aid also depend on its use. When aid finances supply-enhancing investments, adverse effects are reduced; when it is directed mainly to social spending, pressures on the real exchange rate are amplified.

A second challenge concerns revenue mobilization. Larger financial inflows, particularly aid and highly concessional flows, can weaken the incentives to undertake politically difficult but necessary reforms in tax systems, such as reducing exemptions and broadening the tax base. Between 2012 and 2022, tax-to-GDP ratios in LICs and LMICs have stagnated (Benitez et al., 2023), underscoring the importance of ensuring that domestic taxation plays its intended role in financing the SDGs and the climate transition, alongside concessional flows.

Gupta et al. (2003) examined the revenue response to foreign aid and found a negative relationship between net ODA and government revenues. The impact, however, depends on the composition of aid: grants are associated with lower revenues, whereas loans have either no significant effect or a positive one. The authors argue that loans encourage governments to preserve or strengthen revenue collection to meet future repayment obligations, while grants—being outright transfers—can substitute for domestic revenue mobilization. The adverse effect of grants is modest on average but much larger in countries with weak institutions (as reflected by PEFA scores above), where the decline in revenue effort can nearly offset the grant inflows.

More recent evidence by Benedek et al. (2014) broadly corroborates these findings. They also find that higher net ODA is associated with lower tax revenue, though the effect is smaller than in earlier studies, reflecting improvements in revenue administration and policy in many countries. As before, composition matters: grants are negatively linked to overall revenues, while loans are not. Looking across tax types, grants are associated with weaker collections from VAT, excises, and income taxes, but higher trade tax revenues—reflecting the import-boosting effects of aid inflows.

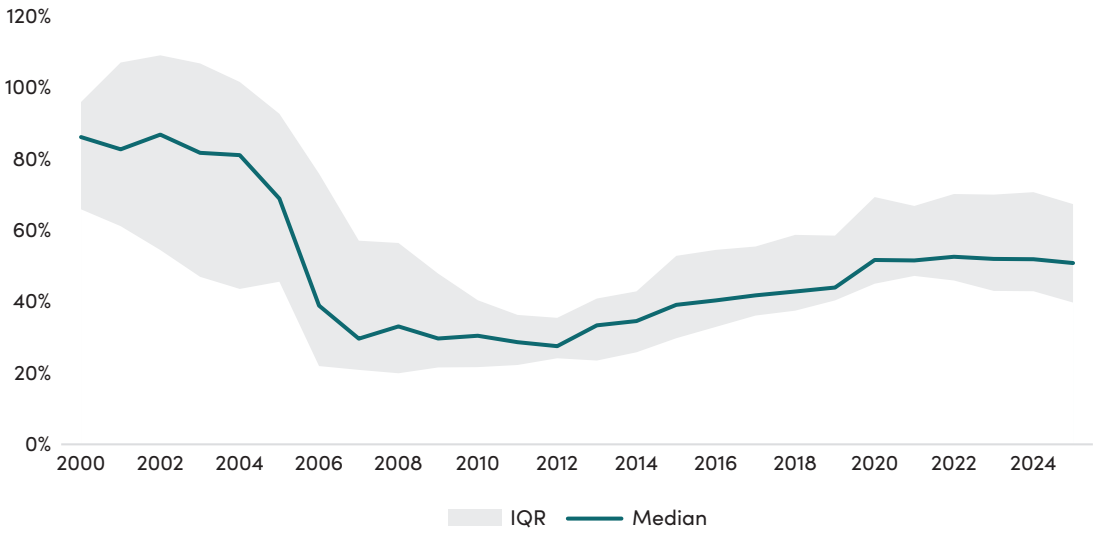
Lessons from episodes of debt relief

We now examine the experience of LICs that received debt relief under the Heavily Indebted Poor Countries (HIPC) Initiative and the Multilateral Debt Relief Initiative (MDRI), launched in 1996 and 2006, respectively. These initiatives, led by the World Bank and the IMF, provided debt relief to eligible countries that met specific criteria related to unsustainable debt levels and the implementation of poverty reduction strategies. By reducing debt burdens (both in terms of the net present value of debt and debt service), these initiatives aimed to free up resources for health, education, public investment, and poverty alleviation. Addressing debt overhang was also expected to boost growth.[5] As such, the experience with debt relief provides a useful case study of how countries have reacted to a large increase in external resources.

5 For an early empirical examination of the effects of external debt on growth, and a review of the literature, see Clements et al. (2004).

Figure 5 shows that the implementation of the HIPC and MDRI initiatives led to a sharp decline in the median debt-to-GDP ratio in HIPC/MDRI countries—from 86 percent in 2000 to about 30 percent in 2007, a reduction of two-thirds. By lowering annual debt service payments, these initiatives created fiscal space in national budgets,[6] potentially enabling increased allocations to education, health, and other poverty-reducing programs.[7] The fiscal space created was, however, smaller than the fall in the debt stock suggests, because much of the debt covered had already been rescheduled or was not being fully serviced. For the 36 countries past the HIPC decision point, debt service paid fell from 2.9 percent of GDP in 2001 to a low of 0.7 percent in 2010, while poverty-reducing expenditures rose from 5.9 percent of GDP to a peak of 8.3 percent in 2009 before falling back as debt service began to rise again (IMF, 2019). The annual saving of about 2 percent of GDP is an order of magnitude smaller than the inflows estimated in this paper for a typical LIC. As part of the initiative, HIPC/MDRI countries were required to prepare a comprehensive Poverty Reduction Strategy Paper (PRSP) every three years, with annual progress reports in the intervening years. This process helped ensure that poverty reduction strategies were regularly updated and aligned with broader development goals.

FIGURE 5. Gross government debt to GDP, HIPC/MDRI countries



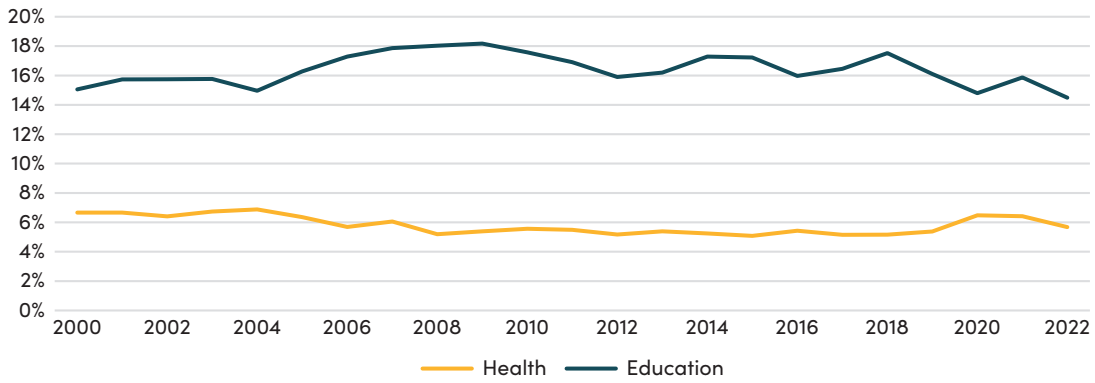
Sources: IMF WEO. Includes all countries that have received full or partial HIPC debt relief: Afghanistan, Benin, Bolivia, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Comoros, Republic of Congo, Democratic Republic of Congo, Côte d'Ivoire, Ethiopia, The Gambia, Ghana, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Nicaragua, Niger, Rwanda, Somalia, São Tomé & Príncipe, Senegal, Sierra Leone, Tanzania, Togo, Uganda, Zambia.

6 Fiscal space is defined as the ability of a government to engage in discretionary increases in expenditures or reductions in taxes while concurrently maintaining access to financial markets and meeting all current and prospective payment obligations without default or resorting to extraordinary financial assistance (such as backing from international organizations or the governments of wealthy countries and their agencies). See IMF (2016).

7 See IMF (2023) for a description of the HIPC Initiative and evidence of the decline in external debt service paid in its aftermath.

While budget allocations for education initially rose to 18 percent of total spending, they later stabilized at around 15 percent. However, the same cannot be said for the health sector (Figure 6), where allocations remained largely unchanged from 2000 to 2022—at roughly one-third the level of education spending—except during the COVID-19 pandemic in 2021.

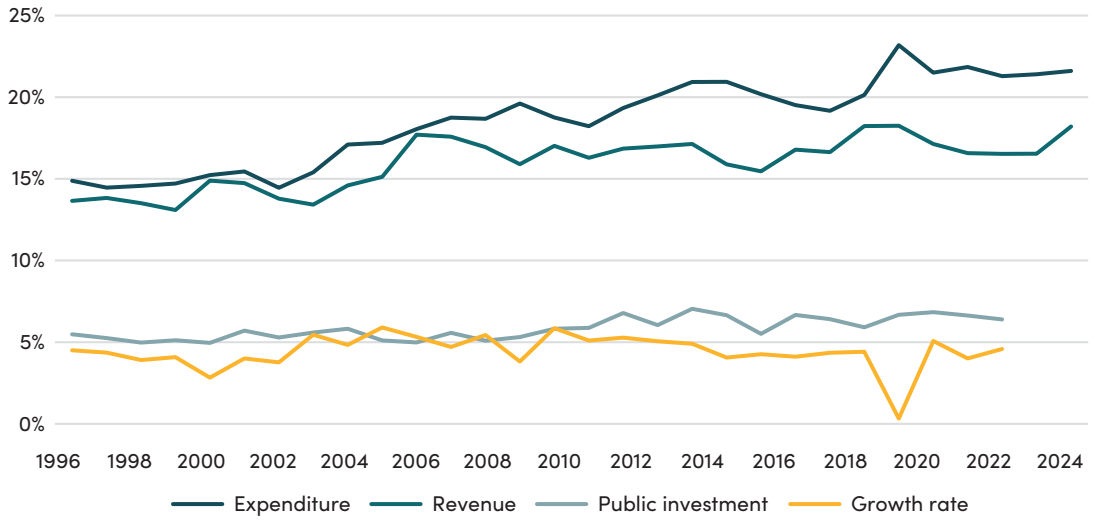
FIGURE 6. Median health and education spending to total expenditure, HIPC/MDRI countries



Source: World Bank WDI. Health refers to public spending that is domestically financed.

At the same time, the increased fiscal space improved the creditworthiness of these countries in the eyes of foreign lenders. Facing pressures to accelerate development, many also began borrowing from domestic markets. As a result, median public spending increased from 15 percent of GDP in 1996 to over 21 percent in 2025 (Figure 7). While median revenues grew until 2006, they have since stagnated as noted above, causing the gap between domestic revenues and spending to widen—from around 2 percent of GDP to 4–5 percent. With increased spending, median growth rates in these countries increased in the aftermath of debt relief but declined to a lower level from 2013 onwards, reflecting both the poor quality of public expenditures and the weak institutional capacity to manage them effectively. The tepid performance of growth was also disappointing considering the increase in public investment, which rose from about 5 percent of GDP before debt relief to 6–7 percent of GDP over the past 15 years.

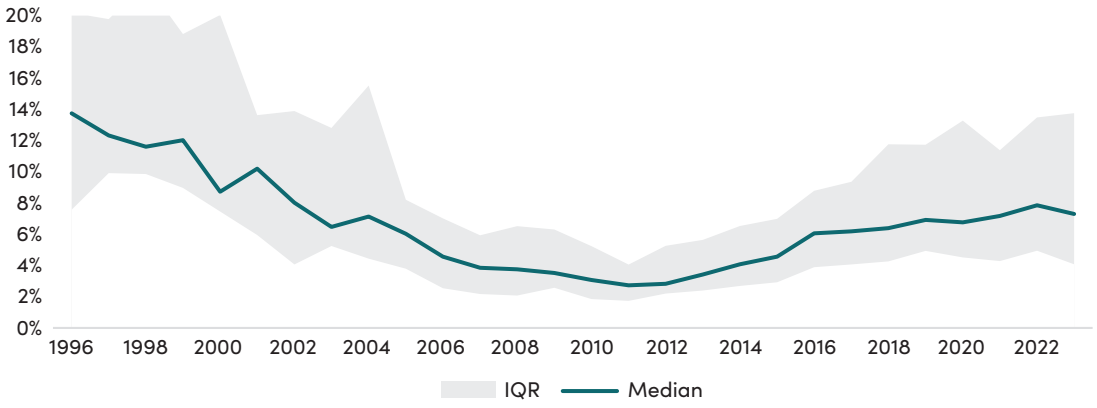
FIGURE 7. Median expenditure, revenue, public investment, and growth to GDP, HIPC/MDRI countries



Sources: IMF WEO and World Bank.

The widening fiscal gap during this period of higher spending led to a steady rise in debt burdens, with the median debt-to-GDP ratio doubling from 27 percent in 2012 to 51 percent in 2025 (Figure 5). External debt service as a share of revenues has also risen, squeezing fiscal space (Figure 8).

FIGURE 8. External debt service to revenue, HIPC/MDRI countries



Sources: World Bank International Debt Statistics and IMF WEO.

Importantly, this deteriorating fiscal situation cannot be attributed solely to domestic policy failures. External shocks also played a critical role. A collapse in commodity prices hurt export earnings, followed by the COVID-19 pandemic, which reduced revenues and forced governments to increase spending to protect lives and livelihoods. The subsequent appreciation of the U.S. dollar raised the cost of servicing foreign debt. Russia's war in Ukraine further drove up import prices.

Collectively, these shocks and domestic policy choices have led to a sharp increase in debt service burdens. Half of all LICs are at high risk or already in debt distress, according to the IMF's Debt Sustainability Framework. This means fewer resources for investments in education, health, infrastructure, and climate action.

Reforms to improve macroeconomic management of aid flows and capacity to spend more aid and spend well

Reforms will be needed to improve macroeconomic management of aid flows and the capacity of governments to increase spending and do so in an efficient manner. We focus on two key areas: first, tax reforms to improve macroeconomic management; and second, reforms to PFM.

Tax reform

There is considerable scope to raise revenues in both LIMCs and LICs. Based on estimates of tax potential and actual levels of revenues, it has been estimated that LICs could raise tax revenues from the current median level (13 percent of GDP in 2020) to 22 percent of GDP over time.[8] For emerging market economies (a group similar to LIMCs), additional revenues of 5 percent of GDP could be obtained by reforms in tax policy and administration implemented over time. If well designed, reform policies can raise revenues without increasing inequality. Potential measures include:

- Enhancing the coverage of the Value Added Tax (VAT) to cover the import of digital services and online-purchased parcels. This would broaden the taxable base. Complementary reforms in other areas (such as labor market laws) that reduce the disincentives for firms to join the formal sector and pay taxes should be considered.
- Reducing tax expenditures. Significant revenues are lost due to exemptions or lower tax rates. This applies to both consumption taxes (such as the VAT and import taxes) and income taxes. In cases where these exemptions affect products heavily consumed by the poor (such as food), the impact can be mitigated by spending that compensates affected low-income groups.

8 This section draws on Clements, Gupta, and Jalles (2025).

- Imposing additional excise duties on petroleum products, alcoholic beverages, tobacco, unhealthy foods (e.g., sugary drinks), and plastic waste.
- Reforming personal income taxation by introducing higher rates for capital incomes (such as dividends and capital gains). The tax base could also be widened by adjusting downward the threshold for filing, which would subject a larger share of the population to this tax. At present, a relatively small percentage of workers are subject to income tax at a relatively low top rate.

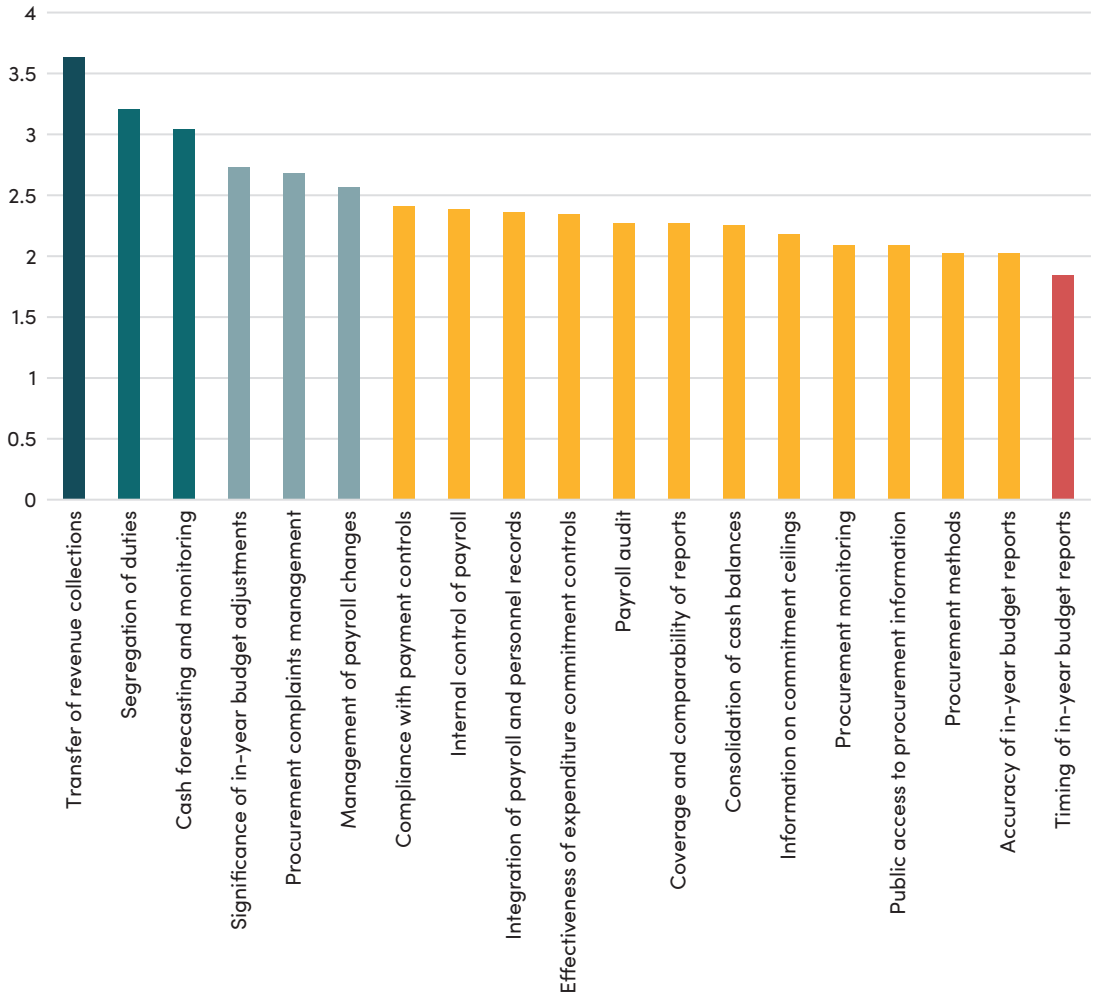
Efforts to raise revenues should be gradual, both to garner political acceptance but also put in place a tax system with a broad base that can raise revenues, when needed to counteract aid flows, with modest increases in tax rates.

Improving PFM

There are significant weaknesses in PFM systems in countries expected to receive large increases in aid to help meet the SDGs and adapt to climate change. Poor PFM systems are limiting the capacity to spend in priority areas, including health care. A joint report by the World Bank and World Health Organization (2025) found that LMICs underspend their approved health budgets by an average of 13%, amounting to an annual loss of $4 per capita, measured in constant 2020 international dollars. Countries with high-quality PFM systems tend to have lower maternal, under-five and non-communicable diseases mortality (Tapsoba et al., 2024). Countries improving PFM systems experience better delivery of a range of public services (Robinson et al., 2021). Furthermore, countries that meet structural benchmarks for improvements in public financial management under IMF- supported programs are also able to achieve higher levels of spending on education, health, and public investment (Gupta et al., 2020).

In the remainder of this section, we focus on two key areas within PFM: strengthening budget execution and strengthening public investment management. To better understand the challenges, we first delve further into the PEFA assessments on budget execution. Figure 9 illustrates the distribution of average PEFA grades across 19 such indicators. The variation in scores highlights specific areas of concern. Indicators such as timely in-year budget reports, procurement monitoring, and procurement methods exhibit the lowest average scores—indicating persistent challenges in timely financial reporting and the effectiveness of procurement processes.

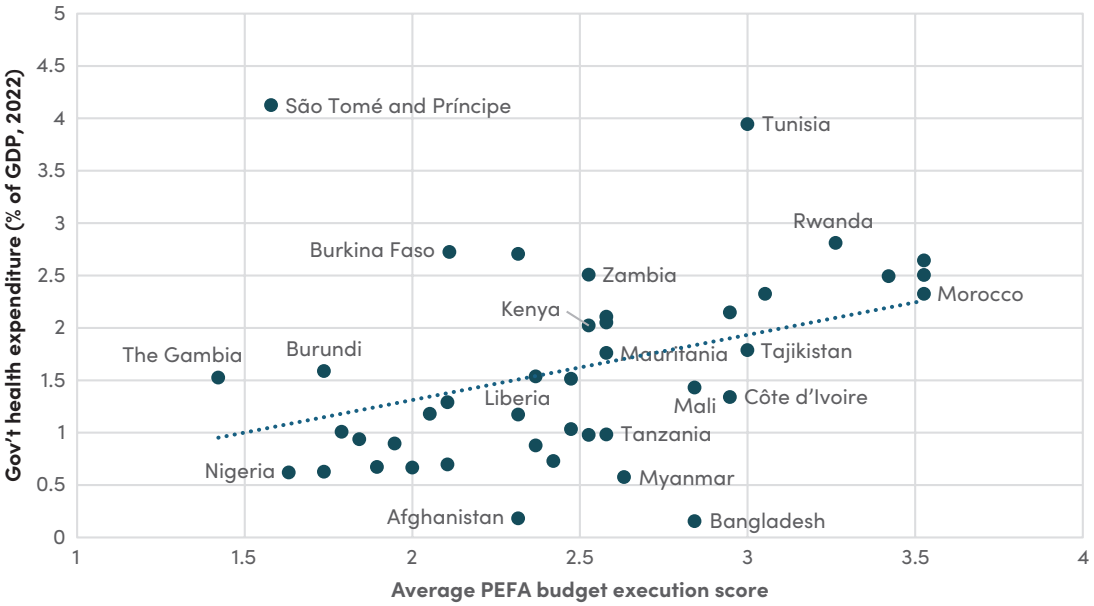
FIGURE 9. Average score for PEFA budget execution indicators, LICs and LMICs



Sources: PEFA database. PEFA grades are converted to a numerical scale (A = 4, B = 3, C = 2, D = 1).

Why does the quality of budget execution matter for spending levels? Figure 10 examines the relationship between domestic general government health expenditure (as a percentage of GDP) and PEFA budget execution scores. The trend line suggests a positive correlation—countries with weak budget execution systems tend to spend less on health. Countries such as Cameroon and Chad combine low execution capacity with minimal domestic health spending. Some countries with weak budget execution—such as Burkina Faso, Mozambique, and Sao Tome and Principe—report relatively high levels of domestic health spending, indicating potential to generate additional budget space for health through improvements in budget execution.

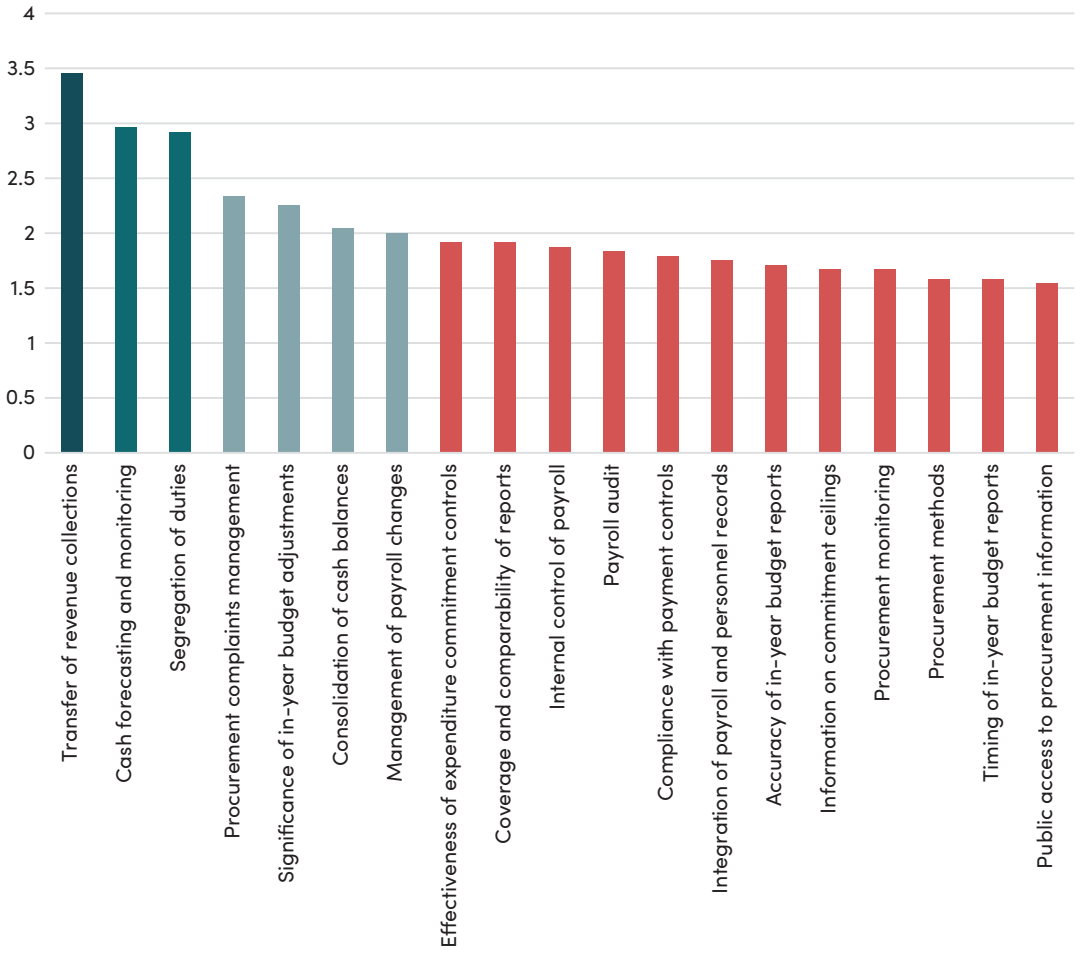
FIGURE 10. Budget execution vs domestic health spending (% of GDP), LICs and LMICs



Sources: PEFA database and World Bank WDI. Includes LMICs with data available for both PEFA scores and domestic health spending. Lesotho and Timor-Leste removed as outliers. Benin, the Central African Republic, Haiti, and Yemen were missing from the 2016 framework, so data for these countries comes from the 2011 PEFA Framework. For each country, we convert PEFA grades to a numerical scale (A = 4, B = 3, C = 2, D = 1) and took the simple average across the 19 budget execution indicators, excluding indicators not assessed. Countries with an average below 2.5, the midpoint between C and B, are classified as having weak budget execution.

To better understand where improvements in budget execution are most urgently needed, we focus on the subset of countries with normalized execution scores below 2.5, as displayed in Figure 11. Compared to the broader sample of countries, this group shows consistently lower performance across nearly all budget execution dimensions. While the general sample has average scores of 3 or higher in several areas, countries with weaker execution averaged scores of about 2.

FIGURE 11. Average score for PEFA budget execution indicators, LICs and LMICs with execution score less than 2.5



Source: PEFA database.

The most critical weaknesses in budget execution in countries with relatively low scores are found in core operational areas such as payroll management, procurement monitoring, and internal controls. These weaknesses are particularly concerning because they directly undermine the government's ability to deliver services reliably, efficiently, and transparently. For example, low scores in procurement monitoring and internal control raise concerns about the effective use of public funds, while weak payroll systems can lead to delayed or inconsistent payments to workers—impacting service delivery and staff motivation. In contrast, certain PFM functions—such as revenue collection, segregation of duties, and cash forecasting—perform relatively better, even in low-performing countries.

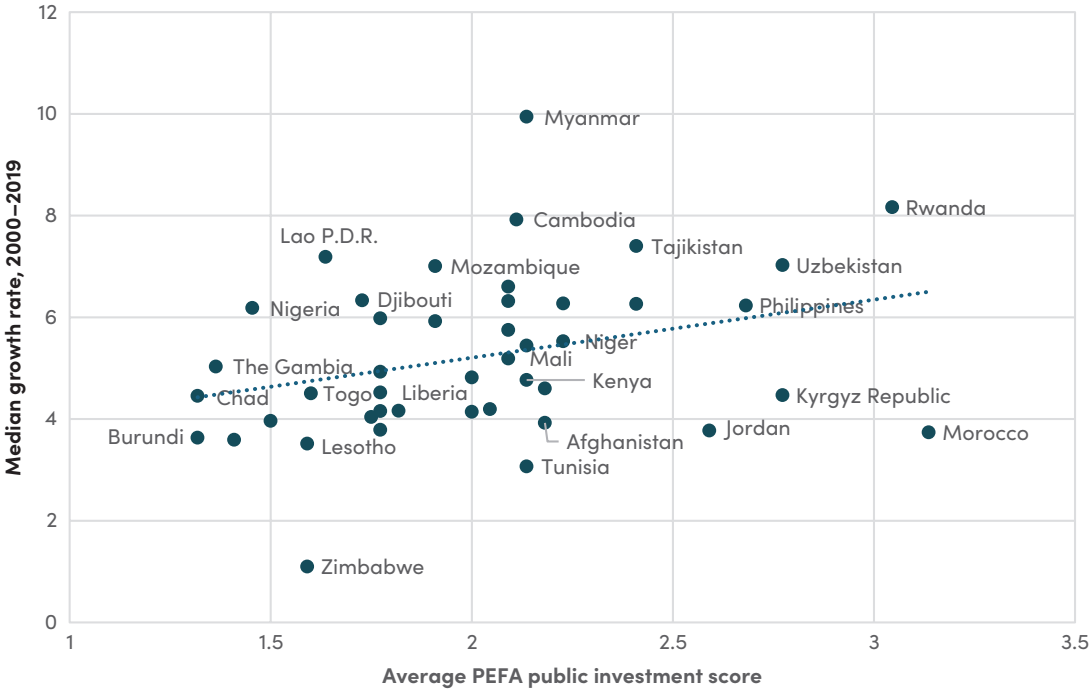
With respect to public investment, it is well recognized that weaknesses in managing these expenditures are preventing higher levels of government capital spending from translating into better infrastructure and higher economic growth. Countries in sub-Saharan Africa lose over one-third of their public investment due to inefficient spending practices, a significant setback given the extensive

infrastructure gaps that these nations face (Barhoumi et al., 2018). Inefficient spending diminishes the impact of public investment on growth, estimated to be only half as much as that experienced by countries with efficient investment spending (IMF, 2015). Weak public financial management systems allow corruption to impair the quality of public investment across all stages of the investment cycle—planning, allocation, and implementation (Pattanayak and Verdugo-Yepes, 2020).

To evaluate key areas where improvements in public investment management are needed, we identify 11 key aspects from PEFA's 31 indicators. Our selection includes three indicators related to budget preparation and allocation, three to budget reliability and execution, three to financial management and reporting, and two to external scrutiny and audit.[9]

Figure 12 shows a positive relationship between PEFA scores—which measure various aspects of public investment efficiency—and growth in LICs and LMICs. Countries that have higher PEFA scores often (but not always) generate higher growth rates from public investment. The relationship appears to be strongest among the LICs (such as Rwanda), as some LMICs with good PEFA investment scores (Jordan, Kyrgyz Republic, and Morocco) did not experience rapid growth.

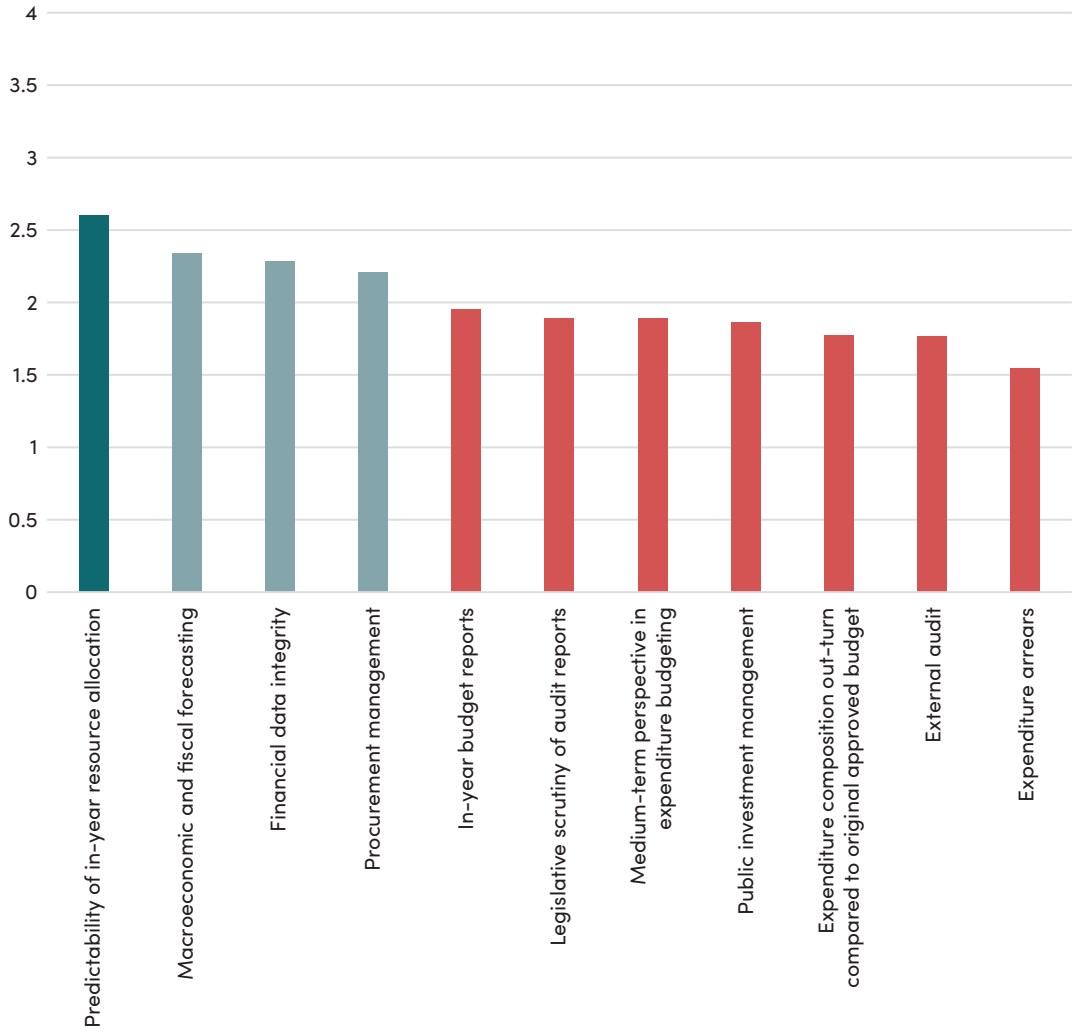
FIGURE 12. Growth vs PEFA public investment score, LICs and LMICs



Sources: PEFA database, World Bank. The 11 PEFA indicators used here are: public investment management, macroeconomic and fiscal forecasting, medium-term perspective in expenditure budgeting, expenditure composition out-turn compared to original approved budget, predictability of in-year resource allocation, expenditure arrears, procurement management, financial data integrity, in-year budget reports, external audit, and legislative scrutiny of audit reports.

9 For a similar analysis of weaknesses in public investment management in LICs and LMICs, based on the results from the IMF's Public Investment Management Assessments (PIMAs), see Clements, Gupta, and Ward (2025).

FIGURE 13. Average score for PEFA public investment indicators, LICs and LMICs



Source: PEFA database.

Where do weaknesses in PFM related to public investment lie? Figure 13 shows that public investment management scores are the fourth lowest among these countries.[10] This indicator covers key dimensions such as project selection, costing, and monitoring. When combined with weak performance on expenditure arrears, the productivity of public investment is further undermined. Expenditure arrears—arising when governments fail to honor contractual commitments in construction and other areas—reflect weaknesses in budgeting practices. Low levels of external audit also suggest that opportunities to scrutinize the quality of public investment projects are also being overlooked in many countries.

10 We focus on the entire sample of LMICs and LICs for the analysis, given the large share of countries (over three-fours) with low ratings (below 2.5).

Insights into the quality of public investment processes can also be gleaned from public investment management assessments (PIMAs), which are based on a diagnostic tool developed by the IMF. Eltokhy et al. (2024) found that five PIMA institutions are systematically and strongly correlated with estimates of public investment efficiency in LICs and should therefore be high priorities in reform efforts: project management, project appraisal, procurement, availability of funding, and project selection. These findings are consistent with those captured in PEFA indicators.

Making limited external finance go further

If transfers on the scale implied by aggregate estimates are not feasible, how can more modest increases in external finance deliver the greatest benefit? Three approaches have drawn attention: linking disbursements to verified results; matching increases in domestic revenue and spending; and measures by high-income countries that require little or no increase in aid budgets. Experience with each offers guidance, while the first two rely heavily on the quality of the PFM systems discussed above.

Paying for results

Under results-based approaches, funders disburse against verified outcomes, such as children immunized, students completing school, or revenue collected, rather than against inputs or activities. Examples include Cash on Delivery Aid (Birdsall and Savedoff, 2010), results-based aid for education in Ethiopia and Rwanda supported by the United Kingdom, the World Bank's Program-for-Results financing, and performance-based financing of health facilities. The appeal is that payments are linked to what matters to citizens, while recipient governments have more freedom to choose how to achieve the results.

The evidence, however, is mixed. In Rwanda, paying primary health facilities according to the services they delivered increased institutional deliveries and preventive care visits for young children, but did not increase the number of prenatal care visits (Basinga et al., 2011). A systematic review of results-based financing for maternal and child health concludes that the evidence remains partial and inconclusive: most evaluations measure the use of services rather than health outcomes, and many were conducted or funded by the agencies running the programs (James, Lawson and Acharya, 2020). Paying for results also requires reliable data and independent verification, and governments must be able to finance activities before payments arrive. These conditions are hardest to meet in countries with the weakest budget execution and reporting, precisely the areas, such as in-year budget reports and procurement monitoring, where PEFA scores are lowest. Paying for results is therefore best seen as a complement to investment in the systems that produce and verify results, not a substitute for it.

Matching domestic effort

A second approach is to link external finance to increases in countries' own revenue. Under the Addis Tax Initiative, launched in 2015, donors committed to double their support for tax administration and policy by 2020, while partner countries committed to step up their own revenue efforts. Donor support peaked in 2016 and the doubling target was not met; such support remains a very small share of total aid (Sanjeeda et al., 2025). Matching could go further by tying a portion of budget support or concessional lending to verified increases in the tax-to-GDP ratio. Two design issues matter. First, given the evidence discussed above that grants can weaken revenue effort, matching should reward increases in revenue rather than its level, so that external finance does not substitute for domestic effort. Second, revenues fluctuate with commodity prices and the economic cycle, so targets should be set over several years and allow for shocks outside a government's control.

Similar logic applies to health. The Global Fund makes a further 15 percent of a country's allocation available only if the government meets additional domestic commitments to the programs it supports (Global Fund, n.d.). In a similar vein, Gavi requires countries to finance a rising share of the cost of vaccines as their incomes grow (Gavi, n.d.). The case for such arrangements rests on evidence that external health funding channeled through governments has been partly offset by lower domestic government spending on health (Lu et al., 2010). But matching is only as good as the measurement of spending. Commitments in budgets mean little if budgets are not executed; as noted above, many countries underspend their approved health budgets by 13 percent on average. Matching should therefore be assessed against actual spending, which in turn requires timely and reliable budget execution reports, one of the weakest areas in the PEFA assessments.

Measures by high-income countries

Finally, high-income countries can help developing countries raise their own resources through measures that cost little in budgetary terms and may command more political support than larger aid budgets. In several developing and resource-rich countries, a large share of household financial wealth is held offshore, beyond the reach of domestic tax authorities (Alstadsæter, Johannesen and Zucman, 2018). The automatic exchange of bank account information among tax authorities, in place since 2017, has substantially reduced offshore tax evasion (Alstadsæter et al., 2023), but many low-income countries do not yet receive this information because they lack the legal frameworks and data safeguards required.

Measures that would help include supporting low-income countries in joining the automatic exchange of information, with transitional arrangements that allow them to receive information before they can fully reciprocate; giving tax authorities in these countries access to registers of the beneficial owners of companies, trusts and real estate; and stronger enforcement against financial institutions and professional intermediaries that help conceal wealth or the proceeds of corruption. High-income countries can also support international tax rules that take account of

the interests of low-income countries, including in the ongoing negotiations on a United Nations Framework Convention on International Tax Cooperation. These measures will not close financing gaps on their own, but they strengthen the revenue base on which any lasting increase in public spending must rest.

Implications for the international community

Aggregate estimates imply that a significant share of the resources needed to achieve the SDGs and address the costs of climate change in developing countries would need to come from external official development finance. Mobilizing such large volumes of finance is unlikely in the current environment, with aid budgets falling sharply. And even if it were possible, absorbing and using these resources effectively would place heavy demands on low- and lower-middle-income countries, many of which lack the necessary institutional capacity. In several cases, the projected inflows of external finance would vastly exceed current levels of revenue, expenditure, and external financing. For instance, annual inflows could exceed 40 percent of GDP in countries such as Burundi, the Central African Republic, Madagascar, Malawi, and Mozambique. Even at half that scale, the pressures on central banks and ministries of finance would be severe.

Managing larger inflows without destabilizing the macroeconomy will require countries to broaden their revenue bases and redirect spending away from lower-priority areas. There is considerable potential for equitable revenue mobilization, which could generate substantial additional resources over time relative to current levels.

But resource mobilization is not enough. The experience of the HIPC/MDRI initiatives demonstrates that expanding fiscal space alone does not guarantee higher productive investment in priority sectors. In HIPC/MDRI countries, poverty-reducing spending rose by roughly as much as debt service fell, but the increase was not sustained, and the share of health in total spending barely changed. And in periods where governments have exhausted fiscal space by borrowing, rising debt service payments have squeezed health and education sectors. The lesson is clear—scaling up external finance through new initiatives without supporting reforms risks failures.

The development community must therefore place absorptive capacity at the center of the SDG/climate change financing agenda. This means sustained investment in strengthening public financial management—particularly in budget execution, procurement monitoring, internal controls, and payroll management—as well as systems that govern public investment, external audit, and spending arrears. Countries that build this capacity will be far better placed to convert increased external finance into lasting improvements in the lives of their citizens.

The more limited external finance that is likely to be available should be provided in ways that reward results and domestic effort. Paying for verified results, and matching increases in tax revenue and in executed health spending, can strengthen incentives and reduce the risk that external finance substitutes for domestic resources, but only where governments can produce reliable data on what they collect and spend. Support for budget execution reporting and external audit is therefore a precondition for these approaches, not an alternative to them.

Finally, high-income countries can do more at little budgetary cost. Making it harder to hide wealth and the proceeds of corruption abroad, helping low-income countries benefit from the automatic exchange of tax information, and supporting international tax rules that reflect their interests would help these countries raise more of their own resources. Such measures may also prove easier to sustain politically in donor countries than larger aid budgets.

ANNEX TABLE 1. Country groups

LICs and LMICs are defined according to the World Bank's FY2026 income classifications. HIPC includes all countries that have reached the HIPC completion point (37)

LICs	LMICs	HIPC
Afghanistan	Angola	Afghanistan
Burkina Faso	Bangladesh	Benin
Burundi	Benin	Bolivia
Central African Republic	Bhutan	Burkina Faso
Chad	Bolivia	Burundi
Democratic Republic of the Congo	Cambodia	Cameroon
Eritrea	Cameroon	Central African Republic
The Gambia	Comoros	Chad
Guinea-Bissau	Republic of Congo	Comoros
Liberia	Côte d'Ivoire	Republic of Congo
Madagascar	Djibouti	Democratic Republic of Congo
Malawi	Egypt	Côte d'Ivoire
Mali	Eswatini	Ethiopia
Mozambique	Ghana	The Gambia
Niger	Guinea	Ghana
Rwanda	Haiti	Guinea
Sierra Leone	Honduras	Guinea-Bissau
Somalia	India	Guyana
South Sudan	Jordan	Haiti
Sudan	Kenya	Honduras
Syria	Kiribati	Liberia
Togo	Kyrgyz Republic	Madagascar
Uganda	Lao P.D.R.	Malawi
Yemen	Lebanon	Mali
	Lesotho	Mauritania
	Mauritania	Mozambique
	Micronesia	Nicaragua
	Morocco	Niger
	Myanmar	Rwanda
	Namibia	Somalia
	Nepal	São Tomé & Príncipe
	Nicaragua	Senegal
	Nigeria	Sierra Leone
	Pakistan	Tanzania
	Papua New Guinea	Togo
	Philippines	Uganda
	São Tomé and Príncipe	Zambia
	Senegal	
	Solomon Islands	

(Continued)

ANNEX TABLE 1. (Continued)

LICs	LMICs	HIPC
	Sri Lanka	
	Tajikistan	
	Tanzania	
	Timor-Leste	
	Tunisia	
	Uzbekistan	
	Vanuatu	
	Vietnam	
	Zambia	
	Zimbabwe	

Notes: North Korea (LIC) and the West Bank and Gaza (LMIC) excluded due to data availability.

ANNEX TABLE 2. Estimates of official climate and SDG financing by country, LICs

LICs	Climate Finance (USD billions)	SDG Finance (USD billions)	Total Finance (USD billions)	Total Finance per capita	Total Finance as % of GDP
Afghanistan	3.25	0.56	3.81	90.11	22.19%
Burkina Faso	1.56	2.25	3.81	163.70	16.37%
Burundi	0.94	2.50	3.45	260.29	159.36%
Central African Republic	0.52	1.31	1.83	319.06	66.59%
Chad	1.71	1.96	3.67	200.87	17.80%
Democratic Republic of the Congo	7.96	15.45	23.41	228.95	33.09%
Eritrea*	0.31		0.31	81.99	
The Gambia	0.18	0.27	0.45	161.56	17.87%
Guinea-Bissau	0.17	0.19	0.35	164.75	16.72%
Liberia	0.40	0.57	0.97	178.41	20.35%
Madagascar	2.17	5.42	7.59	250.26	43.56%
Malawi	1.40	3.86	5.26	251.41	47.80%
Mali	1.70	1.95	3.64	156.48	13.71%
Mozambique	2.22	7.40	9.62	283.72	42.90%
Niger	1.93	4.51	6.44	236.75	32.96%
Rwanda	0.79	2.18	2.97	210.94	20.86%
Sierra Leone	0.60	0.63	1.23	139.91	16.30%
Somalia	1.36	1.96	3.31	182.59	27.36%
South Sudan	0.63	7.62	8.25	744.00	68.76%
Sudan	3.69	0.56	4.26	88.54	8.53%
Syria	1.53		1.53	65.93	7.66%
Togo	0.53	0.78	1.31	144.99	13.23%
Uganda	3.49	7.26	10.75	221.32	20.04%
Yemen	2.48	2.80	5.29	153.47	24.47%
TOTAL	41.52	71.99	113.52	207.50**	32.98%**

Notes: *GDP not available. **Averages.
Source: Authors' estimates.

ANNEX TABLE 3. Estimates of official climate and SDG financing by country, LMICs

LMICs	Climate Finance (USD billions)	SDG Finance (USD billions)	Total Finance (USD billions)	Total Finance per capita	Total Finance as % of GDP
Angola	2.44	5.66	8.10	220.86	10.08%
Bangladesh	11.63	3.33	14.97	86.54	3.33%
Benin	0.88	0.84	1.72	125.71	8.02%
Bhutan	0.04	0.00	0.04	52.16	1.36%
Bolivia	0.74	0.09	0.84	67.45	1.68%
Cambodia	1.07	0.07	1.14	67.17	2.46%
Cameroon	1.81	1.93	3.74	130.56	7.29%
Comoros	0.06	0.07	0.13	150.28	8.28%
Republic of Congo	0.44	1.02	1.46	239.73	9.31%
Côte d'Ivoire	1.77	3.54	5.32	184.11	6.14%
Djibouti	0.07	0.11	0.18	158.95	4.42%
Egypt	6.10	0.31	6.41	56.83	1.65%
Eswatini	0.07	0.14	0.21	173.59	4.30%
Ghana	1.92	3.12	5.04	147.58	6.08%
Guinea	0.94	0.51	1.45	102.22	5.73%
Haiti	0.83	2.78	3.62	308.49	14.34%
Honduras	0.66	0.57	1.23	116.47	3.33%
India	80.87	14.78	95.65	66.95	2.44%
Jordan	0.55	0.00	0.55	48.81	1.04%
Kenya	3.51	6.56	10.07	182.72	8.09%
Kiribati	0.01	0.00	0.01	86.75	3.76%
Kyrgyz Republic	0.34	0.01	0.35	49.08	1.99%
Lao P.D.R.	0.44	0.02	0.46	60.53	2.80%
Lebanon	0.31	0.06	0.37	68.62	1.83%
Lesotho	0.14	0.25	0.39	168.59	17.30%
Mauritania	0.31	0.11	0.42	86.71	3.92%
Micronesia	0.01	0.00	0.01	81.78	2.00%
Morocco	1.82	0.35	2.17	57.39	1.41%
Myanmar	3.65	0.95	4.60	84.26	6.21%
Namibia	0.14	0.18	0.33	125.38	2.44%
Nepal	1.79	0.15	1.94	62.77	4.52%
Nicaragua	0.43	0.11	0.54	75.94	2.72%
Nigeria	14.66	20.02	34.68	154.95	18.47%
Pakistan	15.31	6.87	22.18	92.23	5.95%
Papua New Guinea	0.71	0.11	0.82	79.25	2.52%
Philippines	6.78	3.28	10.05	85.69	2.18%
São Tomé and Príncipe	0.01	0.04	0.06	244.04	7.40%
Senegal	1.08	0.85	1.93	108.63	5.98%

(Continued)

ANNEX TABLE 3. (Continued)

LMICs	Climate Finance (USD billions)	SDG Finance (USD billions)	Total Finance (USD billions)	Total Finance per capita	Total Finance as % of GDP
Solomon Islands	0.05	0.18	0.22	303.18	12.75%
Sri Lanka	1.19	0.10	1.29	58.63	1.31%
Tajikistan	0.54	0.20	0.74	73.16	5.22%
Tanzania	4.25	8.66	12.92	191.51	16.39%
Timor-Leste	0.08	0.01	0.09	64.48	4.66%
Tunisia	0.60	0.02	0.61	49.17	1.15%
Uzbekistan	1.76	0.25	2.01	55.14	1.75%
Vanuatu	0.02	0.05	0.07	217.39	6.26%
Vietnam	5.25	0.34	5.59	56.55	1.17%
Zambia	1.23	3.79	5.02	243.90	19.06%
Zimbabwe	1.18	4.23	5.42	324.98	12.26%
TOTAL	180.47	96.67	277.14	120.27**	5.81%**

Notes: **Averages. LICs and LMICs totals will not sum to the proposed $500 billion in annual official development finance because some will be allocated to SDG and climate-vulnerable UMICs, as per Summers and Singh (2023).

Source: Authors' estimates.

References

Alstadsæter, A., Godar, S., Nicolaides, P., & Zucman, G. (2023). *Global Tax Evasion Report 2024*. EU Tax Observatory. https://www.taxobservatory.eu/publication/global-tax-evasion-report-2024/

Alstadsæter, A., Johannesen, N., & Zucman, G. (2018). Who owns the wealth in tax havens? Macro evidence and implications for global inequality. *Journal of Public Economics*, 162, 89–100.

Barhoumi, K., Vu, H., Towfighian, N., & Maino, R. (2018). Public Investment Efficiency in Sub-Saharan African Countries. *IMF Departmental Papers*, 2018(8). https://doi.org/10.5089/9781484360019.087

Basinga, P., Gertler, P. J., Binagwaho, A., Soucat, A. L. B., Sturdy, J., & Vermeersch, C. M. J. (2011). Effect on maternal and child health services in Rwanda of payment to primary health-care providers for performance: an impact evaluation. *The Lancet*, 377(9775), 1421–1428.

Benedek, D., Crivelli, E., Gupta, S., & Muthoora, P. S. (2014). Foreign aid and revenue: Still a crowding-out effect? *FinanzArchiv: Public Finance Analysis*, 70(1), 67–96. https://doi.org/10.5089/9781475505344.001

Benedek, D., Gemayel, E., Senhadji, A., & Tieman, A. (2021). A Post-Pandemic Assessment of the Sustainable Development Goals. *IMF Staff Discussion Notes*. https://doi.org/10.5089/9781498314909.006

Benitez, J. C., Mansour, M., Pecho, M., & Vellutini, C. (2023). Building tax capacity in developing countries. *IMF Staff Discussion Notes*. https://doi.org/10.5089/9798400246098.006

Berg, A., Hussain, M., Roache, S., Mahone, A., Mirzoev, T., & Aiyar, M. S. (2007). The Macroeconomics of Scaling Up Aid. *IMF Occasional Papers*. https://doi.org/10.5089/9781589065918.084

Bhattacharya, A., Songwe, V., Soubeyran, E., & Stern, N. (2023). *A climate finance framework: decisive action to deliver on the Paris Agreement—Summary*. Independent High-Level Expert Group on Climate Finance. https://www.lse.ac.uk/granthaminstitute/publication/a-climate-finance-framework-decisive-action-to-deliver-on-the-paris-agreement-summary/

Birdsall, N., & Savedoff, W. D. (2010). *Cash on Delivery: A New Approach to Foreign Aid*. Washington, DC: Center for Global Development.

Clements, B., Bhattacharya, R., & Nguyen, T. Q. (2004). "External Debt, Public Investment, and Growth in Low-Income Countries," in Gupta, S., Clements, B., & Inchauste, G., eds. *Helping Countries Develop: The Role of Fiscal Policy* (International Monetary Fund).

Clements, B., Gupta, S., & Jalles, J. (2025). Promotion of Equitable Monetary and Fiscal Policies. *Working Papers REM*, 0368-2025. https://rem.rc.iseg.ulisboa.pt/wps/pdf/REM_WP_0368_2025.pdf

Clements, B., Gupta, S., & Ward, C. (2025). "Just Add Trillions? As Climate Finance Ambitions Grow, So Must Countries' Investment Capacities," Center for Global Development Blog.

Eltokhy, K., Feruglio, N., Miao, K., Navarro, A., & Tandberg, E. (2024). Public Investment Management Bottlenecks in Low-Income Countries. *IMF Working Papers*, No. 24/232. https://doi.org/10.5089/9798400289231.001

G20 Independent Expert Group (2023). *Strengthening multilateral development banks: The triple agenda* (Center for Global Development Note). Center for Global Development. https://www.cgdev.org/publication/strengthening-multilateral-development-banks-triple-agenda

Gaspar, V., Garcia-Escribano, M., Prady, D., & Soto, M. (2019). Fiscal policy and development: Human, social, and physical investments for the SDGs. *IMF Staff Discussion Notes*. https://doi.org/10.5089/9781484388914.006

Gavi (n.d.). How Gavi's co-financing model works. https://www.gavi.org/vaccineswork/how-gavis-co-financing-model-works

Global Fund (n.d.). Co-financing requirements. Sustainability, Transition and Co-Financing Policy. https://resources.theglobalfund.org/en/policies-requirements/sustainability-transition-and-co-financing/co-financing-requirements/

Gupta, S., & Heller, P. (2002). More aid—Making it Work for the Poor. *Review of World Economics*, 3(4), 131–146.

Gupta, S., Clements, B., Pivovarsky, A., & Tiongson, E. R. (2003). *Foreign Aid and Revenue Response: Does the Composition of Aid Matter? IMF Working Papers*, No. 03/176. https://doi.org/10.5089/9781451858839.001

Gupta, S., Schena, M., & Yousefi, S. (2020). Revisiting IMF expenditure conditionality. *Applied Economics*, 52(58), 6338–6359. https://doi.org/10.1080/00036846.2020.1790494

Gupta, S., Schwartz, G., Tareq, S., Allen, R., Adenauer, I., Fletcher, K., & Last, D. (2007). Fiscal Management of Scaled-up Aid. *IMF Working Papers*. https://doi.org/10.5089/9781451867862.001

International Monetary Fund (2005). The Macroeconomics of Managing Increased Aid Flows: Experiences of Low-Income Countries and Policy Implications. (Washington: International Fund) http://www.imf.org/external/np/pp/eng/2005/080805a.htm

International Monetary Fund (2015). Making public investment more efficient. *Policy Papers*. https://www.imf.org/en/Publications/Policy-Papers/Issues/2016/12/31/Making-Public-Investment-More-Efficient-PP4959

International Monetary Fund (2016). Assessing Fiscal Space - An Initial Consistent Set of Considerations. Policy Papers. https://www.imf.org/en/publications/policy-papers/issues/2017/01/13/pp5080-assessing-fiscal-space-an-initial-consistent-set-of-considerations

International Monetary Fund (2019). *Heavily Indebted Poor Countries (HIPC) Initiative and Multilateral Debt Relief Initiative (MDRI)—Statistical Update*. IMF Policy Paper. Washington, DC: International Monetary Fund.

International Monetary Fund (2023). Factsheet on Debt Relief Under the Heavily Indebted Poor Countries (HIPC) Initiative, https://www.imf.org/en/about/factsheets/sheets/2023/debt-relief-under-the-heavily-indebted-poor-countries-initiative-hipc

James, N., Lawson, K., & Acharya, Y. (2020). Evidence on result-based financing in maternal and child health in low- and middle-income countries: a systematic review. *Global Health Research and Policy*, 5, 31.

Lu, C., Schneider, M. T., Gubbins, P., Leach-Kemon, K., Jamison, D., & Murray, C. J. L. (2010). Public financing of health in developing countries: a cross-national systematic analysis. *The Lancet*, 375(9723), 1375–1387.

OECD (2026). International aid fell sharply in 2025, says OECD. Press release, April 2026. https://www.oecd.org/en/about/news/press-releases/2026/04/international-aid-fell-sharply-in-2025-says-oecd.html

Pangestu, M., Pazarbasioglu, C., & Stern, N. (2023). *The big push for transformation through climate and development: Recommendations of the High-Level Advisory Group on Sustainable and Inclusive Recovery and Growth*. World Bank Group, International Monetary Fund, London School of Economics and Political Science, & Brookings Institution. https://openknowledge.worldbank.org/entities/publication/7498f2ad-6dd5-4834-a751-a8dc20e9cba1

Pattanayak, S., & Verdugo-Yepes, C. (2020). Protecting Public Infrastructure from Vulnerabilities to Corruption: A Risk-Based Approach. In G. Schwartz, M. Fouad, T. Hansen, & G. Verdier (Eds.), *Well spent: How strong infrastructure governance can end waste in public investment*. https://doi.org/10.5089/9781513511818.071

PEFA (2025). *What is PEFA?* Public Expenditure and Financial Accountability Program, World Bank. https://www.pefa.org/global-report-2020/en/report/what-is-pefa/

Robinson, T., McGrann, J., Kadir, A., Jiménez-Ontiveros, I., & Ashraf Barton, U. (2021). *Analyzing the link between PFM system strength and public investment performance* (PEFA Research Paper Series). Public Expenditure and Financial Accountability Program. https://www.pefa.org/resources/analyzing-link-between-pfm-system-strength-and-public-investment-performance

Sanjeeda, R., Hurst, P., Granger, H., & Kamninga, T. M. (2025). Why supporting domestic revenue mobilisation matters even more in an era of aid cuts. ODI Global, 30 June.

Songwe, V., Stern, N., & Bhattacharya, A. (2022). *Finance for climate action: Scaling up investment for climate and development*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.lse.ac.uk/granthaminstitute/publication/finance-for-climate-action-scaling-up-investment-for-climate-and-development/

Summers, L., & Singh, N. K. (2023). *The triple agenda: Strengthening multilateral development banks – Volume 1: Mandates, finance, mechanisms* (Report of the Independent Expert Group). Center for Global Development. https://www.cgdev.org/sites/default/files/The_Triple_Agenda_G20-IEG_Report_Volume1_2023.pdf

Tapsoba, Y., Silim, A., Addai Frimpong, K., & Barroy, H. (2024). Does public financial management save life? Evidence from quantitative review of PFM and health outcomes in Sub-Saharan African countries. *Health Systems & Reform*, 10(1), 1–17. https://doi.org/10.1080/23288604.2023.2298190

United Nations (2025). *Outcome Document of the Fourth International Conference on Financing for Development* (Seville: United Nations).

University of Notre Dame (2025). *Country Index*. ND-GAIN: Notre Dame Global Adaptation Initiative. https://gain.nd.edu/our-work/country-index/

World Bank & World Health Organization (2025). *Budget execution in health: From bottlenecks to solutions*. World Bank Group. http://documents.worldbank.org/curated/en/099030625172546489