

The Public Investment Management Assessment Framework: An Overview

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INTRODUCTION

Efficient, high-quality, and sustainable public investment requires strong infrastructure governance. The link between public investment, infrastructure quality, and sustainable growth has been established elsewhere in this book and in other literature. Strong evidence exists that estimated efficiency gaps are sizeable—on average, countries lose more than one-third of their resources in the public investment process—and that the average country could close more than half the efficiency gap if it adopted best infrastructure governance practices (Chapter 3). Evidence also suggests that countries with better infrastructure governance enjoy positive output effects from public investment, while such impacts disappear in countries where governance is weaker (Chapter 2).

There are several useful guidelines and frameworks to support sound infrastructure governance, but most focus on the project level and pay little attention to the macro effects (see Box 5.1). Although project design and management are key parts of sound infrastructure governance, sound practices to choose the right investments, select the right financing means (including public-private partnerships), and ensure that investments are brought to fruition are macro-critical and essential for achieving overall economic policy goals and managing fiscal risks related to infrastructure.

In 2015, recognizing the need to approach infrastructure governance in a holistic manner, the IMF developed the Public Investment Management Assessment (PIMA) framework to help countries strengthen critical infrastructure governance areas. Given the central role of public investment in promoting growth in a macroeconomically sustainable fashion, the PIMA offers a comprehensive diagnostic tool for assessing the infrastructure governance of countries at all levels of economic development. It identifies areas in need of attention to improve infrastructure governance and points to specific reforms that governments can implement to stretch limited resources and spend better on public investment.

Box 5.1. Overview of Global Principles and Tools for Infrastructure Governance

The international community has developed various principles and tools to help countries strengthen their infrastructure governance. In June 2019, the Group of Twenty (G20) under Japan's presidency endorsed the G20 Principles for Quality Infrastructure Investment. In these, strengthening infrastructure governance is embraced as one of the six principles to promote quality infrastructure investment based on the shared recognition that "sound infrastructure governance over the life cycle of the project is a key factor to ensure long-term cost-effectiveness, accountability, transparency, and integrity of infrastructure investment" (Ministry of Finance, Japan 2019).

In parallel, international organizations have stepped up efforts to help countries strengthen different aspects of their infrastructure governance. The IMF's Public Investment Management Assessment offers a comprehensive and systemic assessment that allows for comparison of infrastructure governance across countries (IMF 2015; IMF 2018b; IMF and OECD 2019). Several other tools are also available:

- The World Bank has developed a framework for assessing public investment management, which helps countries evaluate the strengths and weaknesses of public investment management practices through eight "must-have" features (Rajaram and others 2014).
- The IMF, jointly with the World Bank, has developed the Public-Private Partnership Fiscal Risk Assessment Model (PFRAM). PFRAM is a tool to assess the potential fiscal costs and risks related to public-private partnership projects, either individually or in a portfolio (IMF and World Bank 2019).
- The OECD published "Getting Infrastructure Right: A Framework for Better Governance" in 2017. This framework lays out governance tools to help policymakers improve the management of infrastructure policy, based on 10 dimensions for how governments prioritize, plan, budget, deliver, regulate, and evaluate infrastructure investment (OECD 2017).

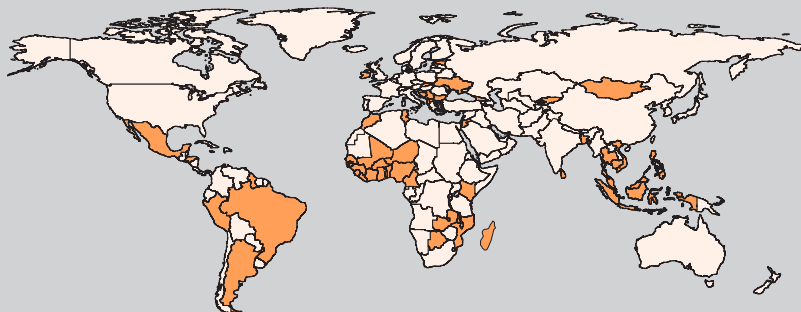
Together, these tools provide a comprehensive approach to helping countries strengthen their infrastructure governance.

On the basis of PIMAs conducted in more than 50 countries, this chapter shows that most countries have much room to improve their infrastructure governance institutions. All countries, irrespective of region or income group, have scope to make improvements in various areas of infrastructure governance, although more so in emerging market economies and low-income developing countries than in advanced economies. On the whole, infrastructure governance institutions tend to be better in design, particularly in the planning stage, than in practice, where weaknesses are particularly evident in the allocation and the implementation stages of public investment. Countries generally score better on more general infrastructure governance institutions that more indirectly affect decision making on public investment, such as budget comprehensiveness and fiscal rules, compared to key infrastructure governance institutions that are specific to public investment decision making, such as project appraisal, project selection and maintenance funding.

Box 5.2. PIMAs around the World

PIMAs have become a key tool for helping IMF member countries strengthen their infrastructure governance. From 2015 to October 2019 PIMAs have been conducted in 58 countries¹ across all regions and income levels (Figure 5.2.1). PIMAs and follow-up capacity development activities are conducted by IMF staff in cooperation with staff from other organizations (such as the World Bank, the Inter-American Development Bank, and the Asian Development Bank) and are supported by the IMF's regional capacity development centers.

Box Figure 5.2.1. Distribution of PIMAs around the World



Source: IMF staff.

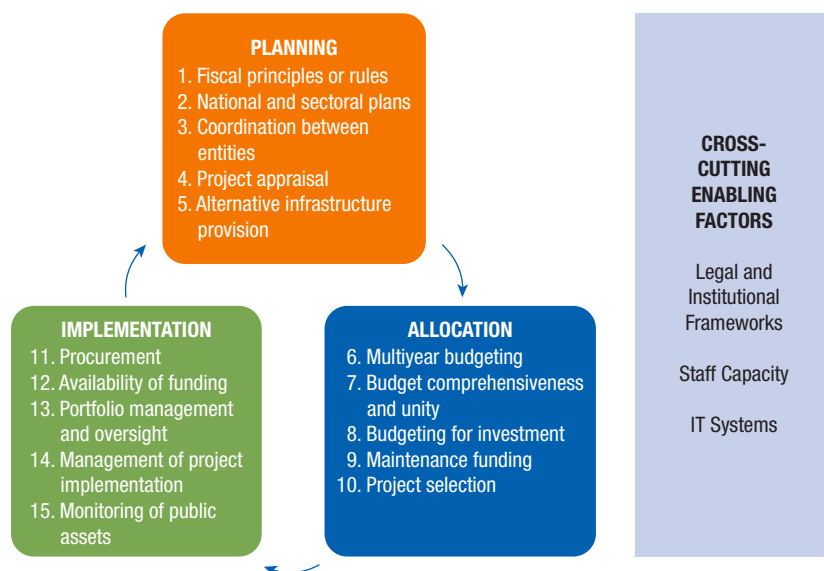
Note: Shaded countries are those that have conducted PIMAs. PIMA = Public Investment Management Assessment.

¹ For analytical purpose, this chapter uses the results of 52 PIMAs whose reports had been finalized by mid-2019.

The chapter looks at what PIMAs conducted so far have taught us, starting with an overview of the lessons learned from 52 country assessments across the globe finalized by mid-2019 (Box 5.2) and then discusses how governments have used PIMA recommendations to help strengthen their infrastructure governance institutions, often supported by development partners.

FEATURES OF THE PIMA FRAMEWORK

The PIMA is a comprehensive and standardized framework to assess infrastructure governance in countries across all levels of economic development. PIMAs evaluate the procedures, tools, decision-making and monitoring processes that governments use to provide infrastructure assets and services to the public. PIMAs take a systematic approach to analyzing governance that allows countries to quantify and benchmark their practices against peers. The in-depth analysis, complemented with cross-country comparisons, raises awareness and builds a shared understanding among key stakeholders of required reform actions. This can help countries to develop an overarching strategy for strengthening infrastructure governance that is accessible to policymakers and development partners alike.

Figure 5.1. Overview of the PIMA Framework

Source: IMF staff based on IMF (2018b).

Note: IT = information technology; PIMA = Public Investment Management Assessment.

PIMAs evaluate 15 institutions, or practices, involved in the three key stages of the public investment cycle (Figure 5.1): (1) planning sustainable investment across the public sector, (2) allocating investment to the right sectors and projects, and (3) implementing projects on time and within budget.² All three stages are critical from a macro perspective:

- **Planning.** Efficient investment planning requires institutions that ensure public investment is fiscally sustainable, effectively coordinated across sectors and levels of government, and properly appraised.
- **Allocation.** Allocating public investment to the most productive projects requires comprehensive, unified, medium-term budgeting and objective criteria for selecting projects.
- **Implementation.** Timely and cost-effective implementation of public investment projects requires institutions that ensure projects are fully funded, transparently monitored, and effectively managed throughout their implementation.

Each institution is analyzed along three dimensions that reflect the key features of the given institution, resulting in a total of 45 dimensions. Three possible scores (not met, partially met, or fully met) are assigned to each dimension, and their average within an institution produces a score for that institution. To complete the

² For more details, see IMF (2018b).

analysis, PIMAs also include a qualitative assessment of three cross-cutting enabling factors that often impact the overall effectiveness of infrastructure governance institutions: (1) the legal and regulatory framework, (2) IT systems, and (3) general staff capacity. For instance, poor integration of IT systems may limit data sharing on projects. Weak IT systems can have a negative impact across the project cycle, but particularly during implementation, where knowing the correct status of projects, the funds spent, and the condition of individual assets is important for efficient resource use.

A key feature of the PIMA is that it makes a clear distinction between institutional design (what is on paper) and effectiveness (what happens in practice). This is important because what exists on paper may differ from actual practice. For example, a country can establish fiscal rules to set limits on fiscal aggregates, but it might fail to consistently comply with them. Or a country may have developed guidelines for project appraisal that are only applied to a few projects. Low scores in either one or both of these dimensions help inform the reform priorities for the country.

By covering the full public investment cycle in a comprehensive manner, the PIMA also addresses the networked nature of infrastructure governance. In a network, the weakest link determines overall quality. For infrastructure governance, that means that the benefits of having strong institutions in some areas may be jeopardized by weaknesses in other areas. For example, a country may employ high-quality practices for planning public investments, but these will not be effective if insufficient funding is allocated to projects during budget preparation, or if funding gaps during project implementation impede project completion (Box 5.3).

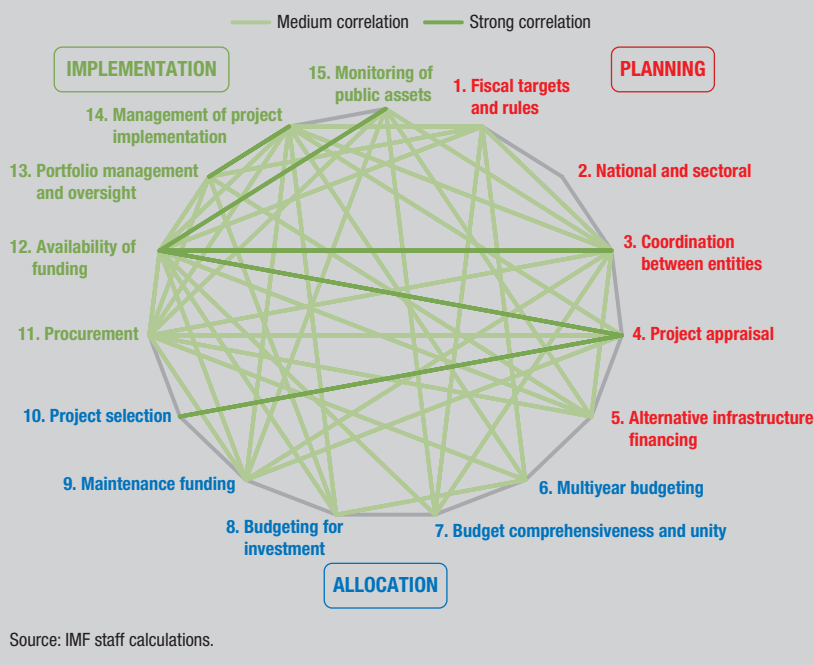
Box 5.3. Links between Public Investment Management Institutions

Correlations in the strength of different institutions point to the importance of taking a holistic view of the public investment management cycle, as they show complementarities between different stages of the process (Figure 5.3.1).

- Fiscal rules and targets are correlated, although moderately, with a large number of institutions, especially in budget execution, indicating that sound macrofiscal institutions are important for the implementation of projects.
- Countries with strong institutions for project appraisal are generally also strong in project selection, highlighting the benefits of robust project evaluation for project selection.
- Countries that effectively oversee their investment portfolios also tend to have good management mechanisms for individual project implementation, underscoring the importance of proper oversight for project implementation.
- Availability of funding and monitoring of public assets are strongly correlated, indicating the complementarity between cash management and proper accounting and reporting of assets.
- National and sectoral planning correlates weakly with other institutions, suggesting that national and sectoral plans can sometimes be drawn up in a vacuum and in a manner that is not well integrated with budgeting.

Box 5.3. (Continued)

Figure 5.3.1. Correlations among Public Investment Management Institutions, 2015–19



BENEFITS OF STRONGER INFRASTRUCTURE GOVERNANCE

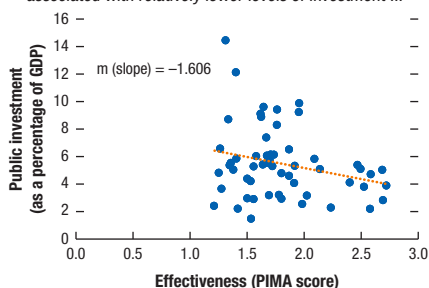
The benefits of strong infrastructure governance were established in earlier chapters and include its positive impacts on output (Chapter 2) and efficiency (Chapter 3).

Indeed, evidence shows that stronger infrastructure governance institutions lead to better investment outcomes by raising the efficiency of public expenditure, even as spending declines. Stronger infrastructure governance institutions tend to be associated with lower levels of public investment (Figure 5.2, panel 1), but also translates into higher efficiency (Figure 5.2, panel 2).

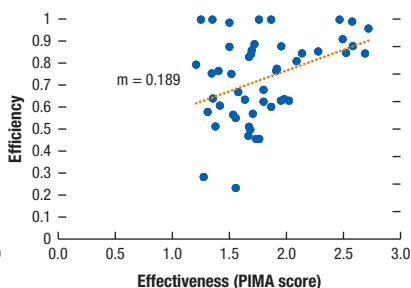
Also, stronger institutions are associated with more stable investments and lower perceptions of corruption. As shown in Figure 5.2, panel 3, countries with strong infrastructure governance institutions have less volatile investment flows, suggesting they are less prone to stop-go investment policies. Consequently, more stable investment could lead to better-quality infrastructure. Also, as shown in Figure 5.2, panel 4, stronger infrastructure governance institutions discourage corrupt practices, which is a major risk for large and complex infrastructure projects (see also Chapter 10).

Figure 5.2. Public Investment Efficiency and Governance Outcomes**1. Public Investment and Effectiveness**

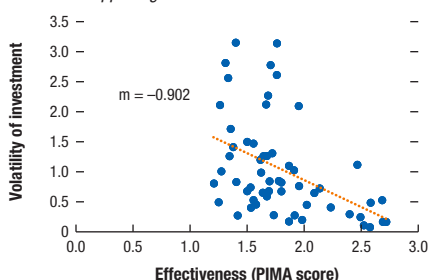
Stronger infrastructure governance institutions are associated with relatively lower levels of investment ...

**2. Efficiency and Effectiveness**

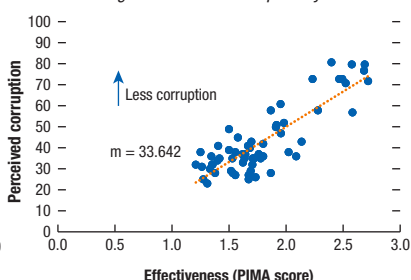
... which possibly reflects higher levels of efficiency ...

**3. Volatility of Investment and Effectiveness**

... while supporting more stable investment flows ...

**4. Perceived Corruption and Effectiveness**

... and better governance and transparency.



Sources: World Economic Outlook and IMF staff estimates.

Note: In panel 2, efficiency is defined by the Hybrid Public Investment Efficiency Index. See Chapter 3 for details. In panel 3, volatility of investment is measured by the standard deviation of the change in the ratio of public investment to GDP between 2010 and 2015. Panel 4 reflects data from the Corruption Perception Index 2018. PIMA = Public Investment Management Assessment.

WHAT PUBLIC INVESTMENT MANAGEMENT ASSESSMENTS TELL US ABOUT THE STRENGTH OF INFRASTRUCTURE GOVERNANCE INSTITUTIONS

The PIMAs conducted so far provide valuable insights into the strength of infrastructure governance institutions across countries.

- Countries generally score higher on institutional design than effectiveness, indicating that many countries are not fully translating reforms into practices.
- The gap between institutional design and effectiveness is most pronounced for low-income developing countries, reflecting weak implementation capacity even where sound design features are in place.

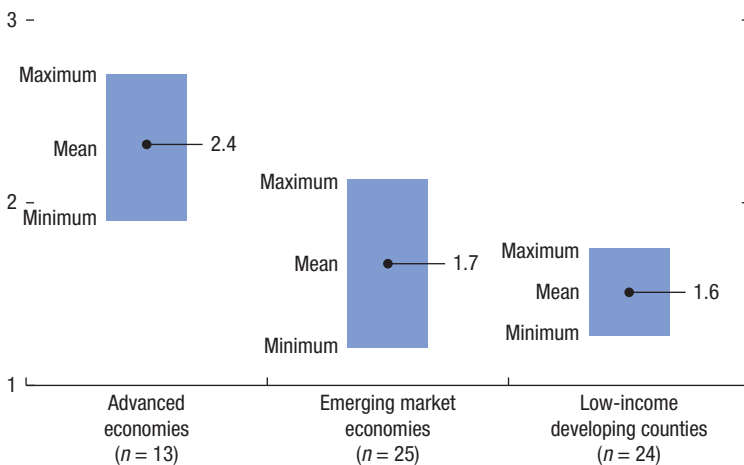
- Across the three key stages of the public investment cycle—planning, allocation, and implementation—the lowest effectiveness scores and highest gaps are generally recorded in the allocation and implementation stages, when assets are selected, monitored, and maintained.
- Countries often score more poorly in the key institutions specific to public investment decision making, such as project appraisal, project selection, and maintenance funding, compared to the more general infrastructure governance that more indirectly affect decision making on public investments, such as budget comprehensiveness and fiscal rules.

Overall, the PIMA results show that advanced economies are far stronger in infrastructure governance than emerging market economies and low-income developing countries. Figure 5.3 shows that, on a scale of 1 to 3, emerging market economies and low-income developing countries on average perform far below best practice (a score of 3). However, even advanced economies do not achieve best practice, showing that they too have scope for improvement in selected areas. Much of this chapter focuses on the performance of emerging market economies and low-income developing countries, which have the most to gain from infrastructure governance reforms.

Design versus Effectiveness

Countries generally score higher on institutional design than on effectiveness (Figure 5.4). Overall, countries achieved an average score of 1.9 on institutional

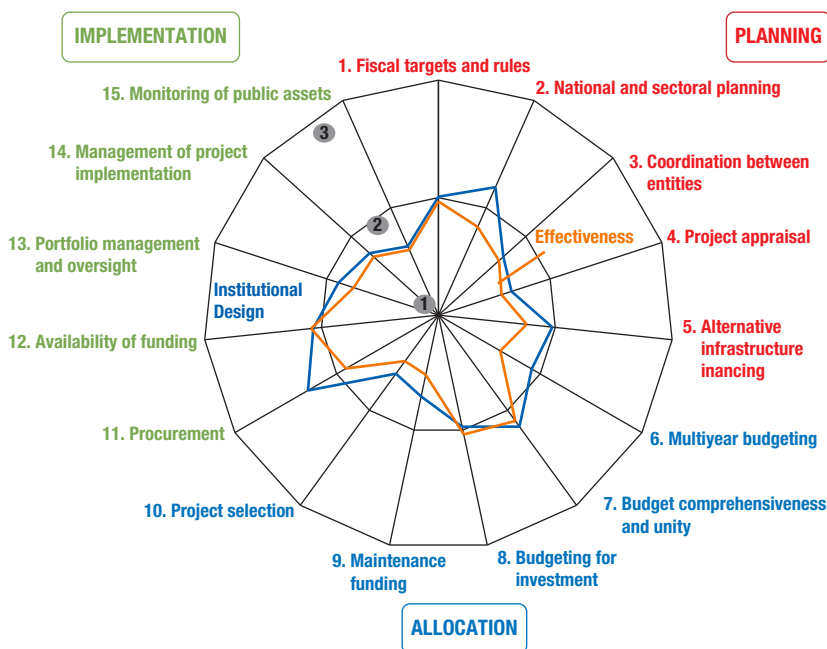
Figure 5.3. Effectiveness of Public Investment Management, by Income Group, 2015–19



Source: IMF staff calculations based on PIMA reports.

Note: The advanced group includes 10 advanced country desk assessments. Effectiveness is measured on a scale of 1 to 3, with best practice being a score of 3. PIMA = Public Investment Management Assessment.

Figure 5.4. Institutional Design versus Effectiveness: All Countries, 2015–19



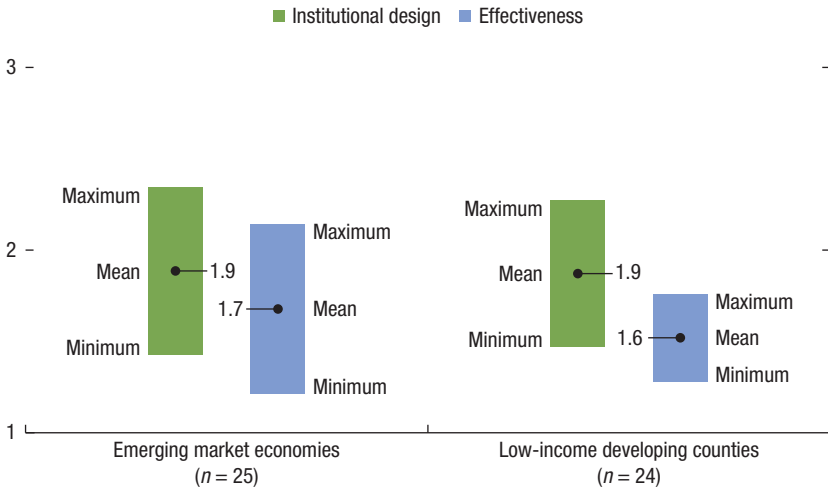
Source: IMF staff calculations based on PIMA reports.

Note: Institutional design and effectiveness are measured on a scale of 1 to 3, with best practice being a score of 3. PIMA = Public Investment Management Assessment.

design compared to 1.8 on effectiveness. This is mostly explained by emerging market economies and low-income developing countries performing worse on effectiveness than advanced economies, perhaps reflecting that the latter have longer experiences in implementing robust infrastructure governance systems and better access to technical and managerial skills.

Emerging market economies and low-income developing countries score lower on effectiveness than on institutional design (Figure 5.5), with low-income developing countries showing the biggest difference between the two. Both groups show similar strength in the planning and allocation stages. However, low-income developing countries fall behind in key aspects of implementation, for example, by failing to provide funding for investment projects in a timely manner, likely because of cash constraints.

The challenges faced by low-income developing countries are frequently related to capacity constraints, particularly in implementing policy reforms. Low-income developing countries have often focused on setting up the legal and regulatory aspects of infrastructure governance and have paid less attention to implementation. They have relatively strong design features in national and sectoral planning, enacting strong public procurement laws and adopting fiscal rules, but weak capacity to undertake

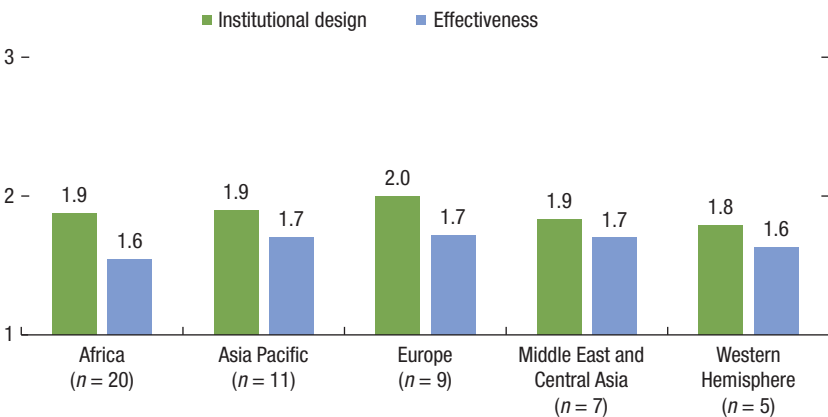
Figure 5.5. Institutional Design versus Effectiveness, by Income Group, 2015–19

Source: IMF staff calculations based on PIMA reports.

Note: Institutional design and effectiveness are measured on a scale of 1 to 3, with best practice being a score of 3. PIMA = Public Investment Management Assessment.

rigorous project appraisal and selection. For example, while Mali (IMF 2018a) has designed relatively solid systems for project selection, it has yet to implement them fully.

There is scope to strengthen the effectiveness of infrastructure governance across all regions (Figure 5.6). Africa and Europe present the biggest gaps

Figure 5.6. Average Scores on Institutional Design and Effectiveness, by Region, 2015–19

Source: IMF staff calculations based on PIMA reports.

Note: Institutional design and effectiveness are measured on a scale of 1 to 3, with best practice being a score of 3. PIMA = Public Investment Management Assessment.

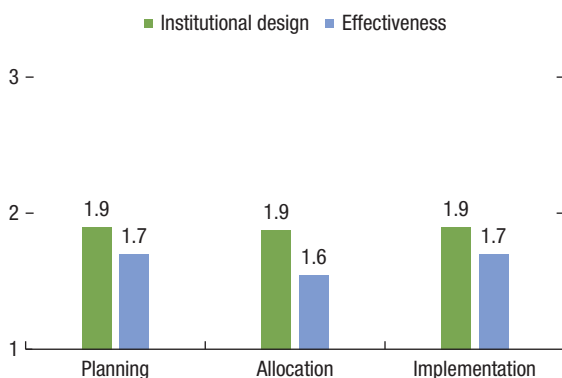
between design and effectiveness, while Africa and Western Hemisphere present the lowest average effectiveness score. In low-income developing countries, sub-Saharan Africa presents the greatest potential to improve infrastructure governance, pointing to large capacity gaps. The weakest areas include lack of rigorous project appraisal and weak systems to fund and monitor public assets.

Strength of Institutions across the Public Investment Cycle

Gaps between institutional design and effectiveness are evident in all three stages of public investment (Figure 5.7). Countries perform unevenly within each stage of the public investment cycle. At the planning stage, most countries—with a few notable exceptions such as Ireland (IMF 2017) and Mexico—struggle to design and implement robust systems for project appraisal. At the allocation stage, the lowest effectiveness scores are recorded for project selection and maintenance funding. Most countries, including advanced economies, fail to apply a standard methodology for estimating routine and capital maintenance costs. At the implementation stage, the lowest scores was recorded in the monitoring of public assets.

What emerges from this picture is that better scores are often achieved in the early stages of the investment cycle, when countries are setting fiscal targets and rules, and formulating national and sectoral plans. Once in place, these broad frameworks and supporting rules are difficult to translate into effective allocation and implementation because of weaknesses in project selection, maintenance funding, and the monitoring of public assets.

Figure 5.7. Institutional and Effectiveness Scores, by Stage of Investment, 2015–19



Source: IMF staff calculations based on PIMA reports.

Note: Institutional design and effectiveness are measured on a scale of 1 to 3, with best practice being a score of 3. PIMA = Public Investment Management Assessment.

Strongest to Weakest Institutions

The 15 PIMA institutions can be divided into infrastructure governance institutions that are specific to public investment and more general public financial management institutions that more indirectly affect decision making on public investments. The broader institutions typically score higher than the ones specific to public investment. Figure 5.8 shows that lower scores are observed, on average, in institutions related to project selection, maintenance funding, and project appraisal, areas specific to public investment, while countries tend to fare better in more general public financial management institutions, such as budget comprehensiveness and unity, availability of funding, and fiscal targets and rules. This suggests that countries have paid less attention to institutions whose roles are specific to public investment.

Figure 5.8. Average Scores for Broader Public Financial Management versus PIM-Specific Institutions



Source: IMF staff calculations based on PIMA reports.

Note: Institutional design and effectiveness are measured on a scale of 1 to 3, with best practice being a score of 3. PFM = public financial management; PIM = public investment management; PIMA = Public Investment Management Assessment.

Project appraisal and selection stand out as two of the most difficult reform areas. Part of the problem is often a lack of funding for these activities and inadequate skills to perform project appraisals. But even where funding is adequate, project appraisal is often rushed because the pressure to deliver quickly leads to shortcuts to get to procurement. Inadequate appraisals, coupled with unwarranted political interference during project selection, can result in poor outcomes.

Monitoring of public assets also stands out as a weakness. Once an asset has been delivered, less attention is paid to maintaining its quality. For example, few countries have a detailed understanding of the number of buildings they have in the public sector, the condition of those buildings, and the maintenance backlog. The same applies to other types of infrastructure.

Advancing reforms of institutions specific to public investment requires closer collaboration between a wide range of players, including ministries of finance, planning ministries, line ministries, and regulatory agencies. Broader public financial management institutions generally fall within the remit of the Ministry of Finance, while reforms of specific institutions rely more on expertise within line ministries and sector regulators. For example, in the energy sector, successful implementation of public investment requires a close collaboration between the Ministry of Finance, the Ministry of Energy, and the energy sector regulator.

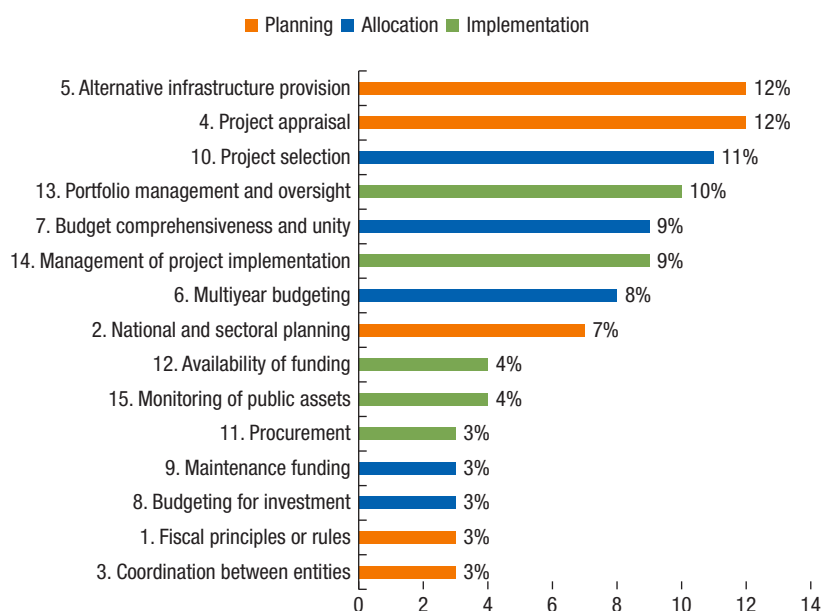
HOW PIMAs ARE USED

How have PIMA recommendations been used to help catalyze country reforms? What follow-up reform actions have countries taken and how has their infrastructure governance been strengthened?

PIMAs produce a set of prioritized recommendations specific to each country and informed by multiple information sources. The assessments draw on information from officials and other stakeholders, and from analysis of available data and documents.

While recommendations cover all stages and reflect the variety of challenges in different countries, the most common PIMA recommendations concern the area of alternative infrastructure financing, as seen in Figure 5.9. Public-private partnerships and investments by state-owned enterprises are often introduced as alternative ways to scale up infrastructure investment by directing resources through channels not restricted by traditional procurement and budget procedures. These alternatives tend to fall outside the budget process and have become major sources of fiscal risk for national budgets (Chapter 11).

In addition, project appraisal and project selection are featured regularly in recommendations, reflecting widespread weaknesses in these areas. One reason for this is that project preparation is costly and oftentimes not adequately funded, particularly in low-income countries where it is not always viewed as an essential part of the planning process. Project selection is often compromised because objective criteria for selection are lacking.

Figure 5.9. PIMA Recommendations, by Institution, 2015–19

Source: PIMA reports.

Note: IMF staff calculations are based on the recommendations in the 52 PIMA reports. PIMA = Public Investment Management Assessment.

For country authorities, PIMA reports provide a basis for developing reform plans tailored to their needs and prioritized to match their resources and institutional capabilities. The reports bring together in-depth data analyses based on standard charts and qualitative discussions of the key issues. Also, because a consultative approach is followed, which encompasses government ministries and agencies, development partners, and other actors, the reform plans from PIMA assessments typically have broad support.

Many countries have taken actions to implement PIMA recommendations. Some specific examples are presented in Box 5.4.

Box 5.4. Examples of Infrastructure Governance Reforms from PIMAs

The PIMA conducted in 2017 in Ireland found infrastructure governance practices were generally high standard, for both institutional design and effectiveness. Nonetheless, a number of recommendations were made to enhance infrastructure governance practices at all stages of the public investment cycle. The National Development Plan 2018–2027, published in February 2018, presented several new measures based on the PIMA recommendations. These include (1) the establishment of an Infrastructure Projects Steering Group, (2) publication of a Capital Tracker, which will become Ireland's primary tool for

Box 5.4 (Continued)

public transparency on infrastructure projects, priorities, timelines, and performance targets, and (3) improvements in the methods of project appraisal and selection. The government has also reinforced technical processes and staff resources in the Department of Public Expenditure and Review and other government departments dedicated to the appraisal and evaluation of completed investment projects.

In Kenya, the PIMA conducted in January 2017 recommended the establishment of a central public investment management unit to improve coordination among ministries and agencies. It also identified the need for a set of standard project appraisal guidelines to bring consistency across entities. In the months that followed, both reforms were implemented by the government with the support of development partners. The reforms came at a time when President Uhuru Kenyatta announced an escalation of the fight against corruption, which brought greater transparency around large-scale procurement decisions. Such transparency was another area the PIMA had highlighted for action.

From 2012–13, Mongolia experienced a rapid expansion of off-budget spending on public investment, financed by borrowing through the Development Bank of Mongolia. The level of spending, which was volatile, reached nearly 10 percent of GDP and led to a large accumulation of liabilities. Amid declining revenues, Mongolia was unable to sustain this level of spending as it reached the limits of its borrowing capacity. Following the PIMA, authorities transferred the off-budget projects to the state budget and introduced tighter control over the Development Bank of Mongolia's borrowing for new projects. Mongolia also improved project appraisal and selection through a new standard methodology and evaluation criteria, as recommended by the PIMA. This will help to improve the quality of project preparation and contribute to stronger implementation.

Note: PIMA = Public Investment Management Assessment.

CONCLUSIONS

The PIMA framework helps countries to improve infrastructure governance by identifying targeted reforms that will raise the efficiency and productivity of public investment. PIMAs provide policymakers with comprehensive analysis of strengths and weaknesses in infrastructure governance and how to close the efficiency gaps. However, actions by country authorities are required to bring reforms into effect. For this reason, each PIMA is accompanied by a prioritized reform action plan that includes timelines and reference to the responsible institutions. Most countries score significantly lower on the effectiveness of infrastructure governance institutions than on institutional design. This observation helps to pinpoint where reforms are required most urgently to strengthen infrastructure governance.

Large gains can be made by enhancing reforms of institutions that are specific to public investment. Countries generally score better on more general public financial management institutions, but they fall short on project appraisal and project selection (early in the project cycle) and also on monitoring and accounting for assets (later in the cycle). This often translates into project scope and size being misguided, and maintenance being inadequately funded. Poor maintenance reduces the economic life of valuable capital assets.

More broadly, the PIMA identifies practical ways of determining how to spend limited resources in better ways to improve the efficiency and productivity of public investment. By raising spending efficiency, countries can extract greater value from limited resources, spend less to produce the same or similar outputs, and deliver more stable and higher-quality public services.

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