

Integrating Infrastructure Planning and Budgeting

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INTRODUCTION

Efficient and well-integrated planning and budgeting functions are key for building quality infrastructure. Planning establishes a framework of national, sectoral, and subnational government goals, policies, and targets. Budgeting puts these policies into a defined fiscal space and resource envelope, thus allowing policy-makers to move from aspiration to action. In many countries, however, strategic planning and budgeting systems are neither efficient nor well integrated. Planning systems are often poorly designed and largely aspirational in focus, while decisions on major infrastructure projects can be dominated by short-term political and electoral considerations. Budgeting is often separate from the planning process, undermined by weak enforcement of fiscal and budgetary rules, and affected by poor control in budget execution, so that the annual budget lacks credibility.

What are integrated planning and budgeting functions and why does integration matter? At one level, “integration” amounts to little more than loose coordination between the government ministries and agencies responsible for planning and budgeting. At the other extreme, it means full integration of the tools and decision-making processes that encompass planning and budgeting. Between these two extremes, a variety of intermediate approaches can be observed. Approaches to planning and budgeting that are not well integrated frequently result in plans for infrastructure investment that are aspirational or overambitious, continuous improvisation in project selection, delays and cost overruns in project implementation, and weak accountability for results.

This chapter defines the concepts of planning and budgeting, sets out a brief history of the evolution of these two key functions of government, and analyzes how well they are integrated, drawing on evidence from the IMF’s Public Investment Management Assessment (PIMA) database. It considers some possible mechanisms—notably medium-term budget frameworks and public investment

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programs—to better integrate planning and budgeting functions. The chapter discusses whether an optimal organizational structure for planning and budgeting exists and, to achieve better integration, the relative advantages and disadvantages of establishing a single ministry or entity responsible for both planning and budgeting or separating these functions. Last, the chapter examines the role of national infrastructure commissions and other specialized government agencies recently established in advanced economies such as Australia, New Zealand, and the United Kingdom to provide a strategic approach to planning and financing infrastructure projects and technical support for line ministries.

A key message is that most countries are still struggling to find efficient mechanisms for linking their medium- and long-term infrastructure plans within a sustainable fiscal framework. The chapter offers some suggestions for moving forward. Second, the chapter argues that establishing efficient and effective planning and budgeting functions is much more important than their organizational form, for which solutions are country dependent. Although centralized agencies can play a useful role in the strategic planning of infrastructure and mitigating the influence of political factors and the electoral cycle on infrastructure investment, capacity constraints and data requirements may limit the applicability of such innovations in many low-income developing countries.

DEFINITION OF BUDGETING AND PLANNING FUNCTIONS

The concept of budgeting is relatively straightforward. Elements of modern budgeting practices can be traced back to ancient Greece, Rome, Mesopotamia, and China. In more recent times, de Renzio (2013, 137) referred to a French law of 1862 and an earlier British practice from the mid-1700s defining the budget as “a document that forecasts and authorizes the annual receipts and expenditures of the state” and the related processes and procedures. Since then, budgets have developed, from plans of a government’s revenues and expenditures for a period of generally one year ahead into comprehensive systems for allocating and managing public resources over the medium term. In some systems, the capital or investment budget is separately identifiable from the budget for wages, goods and services, interest payments, and other current spending. In other systems, capital investment projects may not be identified separately but are subsumed within the spending programs of sectors (or regions or municipalities). In many low-income developing countries, however, the capital budget is replaced by a development budget that comprises both capital and recurrent expenses (Allen and others 2017).

The core of the budget function is the allocation of fiscal resources across public services and public investments. The budget envelope for the year ahead is derived from forecasts of government revenue and other financing available. The task of allocating this finite sum across government functions and alternative public investments, which typically compete for funding, then becomes a critical

aspect of the budget function. This involves prioritizing among uses of public resources and between alternative infrastructure investment opportunities, within and across sectors. Thus, in its most comprehensive sense, budget preparation comprises a determination of the macroeconomic and fiscal framework, the preparation and issuance of budget instructions, the preparation and examination of budget proposals, negotiations on those proposals, the prioritization of competing proposals for funding, and the submission of these proposals for legislative approval (Schiavo-Campo 2007).

A concise definition of planning is more difficult to find in the literature because the concept embraces many ideas and approaches and has evolved considerably over the years. Waterston (1969, 28), for example, defined the planning process as “an organized, conscious and continual attempt to select the best alternatives to achieve specific goals.” In many countries, by long tradition, planning is associated with a government-prepared national development plan, but these have many different dimensions and variants. Most commonly, plans are aspirational or visionary documents with a time horizon stretching forward 10 or more years and with titles such as “Vision 2050.”¹ Medium-term national development plans typically look four or five years ahead and are usually underpinned by electoral or presidential cycles, organizational structures, and a decision-making process—typically defined in a country’s constitution or the supporting legal framework—designed to prepare and implement a governmental political agenda to improve economic and social outcomes. Other forms of strategic planning are outside the scope of this chapter.²

Notwithstanding its developmental origins, the planning function is not confined to low-income developing countries and emerging market economies. Some wealthier countries (examples include Australia, Austria, France, Ireland, and New Zealand) have used national development plans to reorient the focus of economic strategy, such as to improve national competitiveness, diversify the economy from dependence on a single sector, or realize a major transformative initiative. Others have used planning to focus on thematic or sectoral priorities, such as bridging the infrastructure gap, improving connectivity, and reducing regional inequality (OECD 2017).

In practice, very few national and sectoral plans are costed and constrained by an effective fiscal framework. Planning involves the identification of national policy objectives, and the preparation of national and sectoral strategies to realize these objectives. It is performed at multiple levels: typically a central agency in the case of the national plan, and by sectors or line ministries in the case of sectoral plans. The planning function provides important support to a strategic medium-term approach to policymaking and resource allocation (Diamond

¹ Among many examples, see World Bank and the Government of Rwanda (2018). This report explores Rwanda’s goal to become a middle-income country by 2035 and a high-income country by 2050.

² For example, the important field of spatial planning (a branch of geography) focuses on the distribution of people and activities in urban and other physical spaces of diverse sizes.

2013). However, a distinction should be made between plans that are fiscally constrained and the majority, which are not. The absence of costing and weak links to the fiscal framework are among the most important shortcomings of national development plans. A recent survey by Chimhowu, Hulme, and Munro (2019), for example, showed that out of 107 national development plans studied, 79 had “no specific costing associated with the plan implementation save for vague references to domestic and foreign sources [of finance].” While some national development plans do include estimates of the cost of projects, the figures are rarely broken down by year and are frequently out of date or unreliable (see the subsequent discussion of public investment programs and in Chimhowu, Hulme, and Munro 2019).

An integrated approach to planning and budgeting is especially important in relation to public infrastructure projects. Table 12.1 shows some examples of planning and budgeting functions and key areas in which these intersect. Where national development plans and budgets are not guided by a unified framework of macroeconomic assumptions and projections and a coherent and credible fiscal framework, the likelihood of the plans being implemented or of the budgets being sustainable may be severely reduced. The project appraisal (cost-benefit analysis), prioritization, and selection functions are other key intersections of the planning and budgeting functions. Projects selected through a clearly defined appraisal process, having been included in the budget, need to be funded to completion, including for their associated operations and maintenance expenditures. Infrastructure clearly risks being degraded when the budgetary provision for operations and maintenance expenditure is inadequate, thus requiring much

TABLE 12.1.

Selected Examples of Planning and Budgeting Functions	
Planning	Budgeting
National Policy Objectives	
Reflected in national and sectoral plans	
Guiding resource allocation through the budget process	
Macroeconomic and Fiscal Framework	
National plans constrained by a resource envelope derived from the medium-term fiscal framework	
Sectoral plans constrained by sectoral allocations consistent with the medium-term budget framework	
Annual budgets aligned with the medium-term fiscal framework and medium-term budget framework	
National Development Plan	Medium-Term Budget Framework
Thematic and Sectoral Plans	Budget Proposals by Sectors
Project Identification	Budget Review by Ministry of Finance
Project Appraisal	Budget Consultations and Negotiations
Project Appraisal and Selection	
Prioritization and selection from appraised projects	
National and sectoral plans reflecting only projects that have been screened	
Annual budgets including only screened and appraised projects drawn from the pipeline	
Pipeline of Appraised Projects	Budget Submission and Approval

Source: Authors.

greater expenditure later on (Heller 1982). Similarly, multiannual commitments made by donors and domestic suppliers through infrastructure contracts approved during the planning process need to be properly recorded and monitored in the budget so that arrears do not arise.

HISTORICAL DEVELOPMENTS

The historical development of planning systems can be traced to two main roots. First is the former Soviet Union model that originated in the late 1920s (for example, see Nove 1961; Agarwala 1983; and Ericson 1991). The Soviet planning system comprised a series of nationwide centralized economic plans, based on the theory of productive forces that was central to the communist ideology. An elaborate structure of more than 20 centralized state committees—including *Gosplan* (planning), *Gossnab* (materials and equipment supply), and a state bank (*Gosbank*)—administered the plan until the Gorbachev era (Nove 1986; Ericson 1991). Alongside the planning of all physical activity and production ran a parallel process of budgeting and financial planning managed by the Soviet Ministry of Finance.

The second root is the French model of “indicative” planning developed after World War II, which quickly spread to other European countries such as Belgium, the Netherlands, Norway, and Italy (see, for example, Waterston 1969). As noted by Kindleberger (1967, 125), the French approach to planning was “indicative, rather than imperative . . . that is, it shows the directions in which an economy ought to go, rather than (as in the Soviet model) providing specific targets for individual plants and firms.” By the late 1960s, strongly influenced by the Soviet or French models, development planning had spread to most developing countries, as well as to many emerging market economies and advanced economies (see Waterston 1969; and Caiden and Wildavsky 1974).

Although in some countries traditional planning systems may be waning, in others they remain strong or are enjoying a revival. One recent study shows that the number of countries with a national development plan increased from 62 to 134 between 2006 and 2018, partly because of the need to plan for the internationally agreed-upon Sustainable Development Goals (see Chimhowu, Hulme, and Munro 2019). In some countries, however, all-embracing planning institutions have been replaced by a policy-oriented process that focuses on specific areas or sectors (defense, social security, health care, and so on) and on infrastructure requirements. Once a bastion of traditional planning in its most elaborate form, India in 2018 abolished its once all-powerful Planning Commission and terminated production of its monumental and byzantine five-year national development plan. Indian states are following suit. This has helped create a policy vacuum, without clearly defined mechanisms to set strategic priorities or to coordinate and finance the sector plans that remain.

In many (mostly lower-income) countries, national development plans have evolved in response to demand from international financial institutions and other

development partners who wish to influence decisions on infrastructure investment. Their involvement represents an additional challenge to planners who must balance their own domestic requirements and the perceived preferences of the donors when raising finance for infrastructure. As an example, in the late 1990s and early 2000s, poverty-reduction strategy papers—national development plans with a different name and focus—were used as a condition for countries demonstrating both need and eligibility for debt relief under the Heavily Indebted Poor Country initiative and its successor, the Multilateral Debt Relief Initiative. Challenges with costing and prioritization, as well as the credibility of the underlying macroeconomic frameworks, are often said to have undermined the practical value of poverty-reduction strategy papers (World Bank and IMF 2005). National development plans, however, continue to be a powerful mechanism to attract donor funding, which in many low-income developing countries represents a large proportion of public investment, as high as 80–90 percent in some countries.³

The adoption of the Millennium Development Goals and the Sustainable Development Goals that replaced them is another example of externally driven demand for planning, notwithstanding domestic ownership of the associated planning frameworks. The Sustainable Development Goal process includes annual voluntary national reporting on progress with the goals. The progress reports typically include a description of steps taken to align development plans and strategies with the Sustainable Development Goals (United Nations 2017). As a result, several countries have developed national plans either targeting these goals or ensuring alignment. More recently, recognition of the shortcomings of these plans in the absence of robust costings has led to efforts to develop and apply more rigorous costing methodologies, including by the IMF (Gaspar and others 2019). Studies have showed that implementing the Sustainable Development Goals in low-income developing countries cannot be achieved without massive additional resources from domestic sources, the capital markets, development partners, and the private sector. However, the well-integrated planning and budgeting mechanisms required for delivering these resources have not yet been established (see also Chapter 4).

In some advanced economies, planning systems have survived and are even enjoying something of a revival, even as they take a different form than traditional models. As noted earlier, the resurgence of national planning is not confined to low-income developing countries and emerging market economies but includes advanced economies in Europe and Australasia (Chimhowu, Hulme, and Munro 2019). An Organisation for Economic Co-operation and Development (OECD) study (2017), however, notes most advanced economies

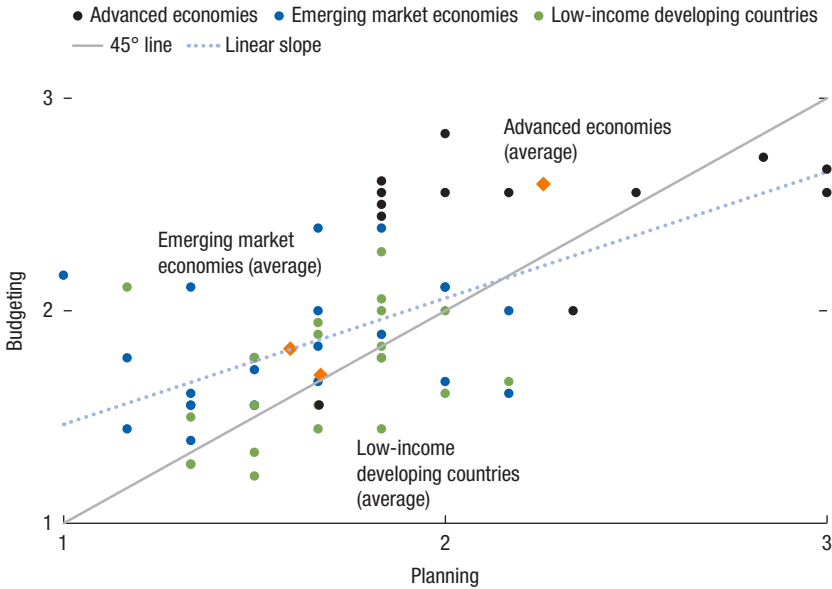
³ In The Gambia, for example, the authorities presented their national development plan financing strategy at an international conference in Brussels in May 2018. The strategy costed 21 priority projects with a value of \$2.4 billion, of which \$750 million was committed by the donors, leaving a \$1.6 billion shortfall to be met by additional donor support, domestic funding, or public-private partnerships. See IMF (2019).

do not have a coherent long-term framework for national infrastructure planning. Infrastructure is planned mostly at the sector level and is informed by cost-benefit assessments that do not necessarily factor in cross-sector interdependencies or wider developmental issues that may be signaled in the Sustainable Development Goals (such as climate change, resilient infrastructure, and gender equality). Many projects are dictated by reactions to urgent needs or short-term political interests rather than by long-term and comprehensive strategies. To anticipate an important conclusion of this chapter, the planning process is continuing to evolve and can retain its relevance if focused on key economic and social objectives and applied with flexibility.

Budgeting systems have developed on largely independent lines from planning systems as budgets have taken a much larger share of national resources since the early 20th century (de Renzio 2013). The original focus of budgeting up to the 1930s was on the proper accounting and recording of expenditure and revenue transactions. Over the past 90 years, budget systems in advanced economies have developed a stronger emphasis on the outputs and results of public expenditure, a medium-term focus, a gradual decentralization of budget responsibilities to spending ministries, and greater transparency. Developing countries have followed suit, with varying degrees of success, under pressure from development partners and peers (de Renzio 2013). However, with the exception of a focus on institutional arrangements, and some attempts to integrate the planning and budgeting of infrastructure through public investment programs, links between planning and budgeting functions and processes have remained essentially unchanged.

Planning and budgeting institutions also evolve as countries develop. As explained in Chapter 5, the PIMA framework is a comprehensive approach for analyzing public investment institutions. Figure 12.1 sets out an analysis of PIMA data for the five institutions relating to the coordination of planning and budgeting functions.⁴ It finds that, on average, low-income developing countries implement planning functions about as well as budgeting functions. On the other hand, emerging market economies and advanced economies tend to implement budgeting functions better than planning functions (both lie above the 45° line). This result is in part because of the relative strength of spending controls and budget institutions in most advanced economies and emerging market economies. There are, however, some exceptions—for example, the IMF's PIMA database identifies Mexico as an emerging market in which planning institutions have retained their importance and advanced budget institutions are still developing. Looking across all countries, one can see a broad spectrum of policies and instruments related to planning and budgeting, and strong variations among countries at different levels of development.

⁴ The five institutions concerned have separate responsibility for national and sectoral planning, coordination between entities, multiyear budgeting, budget comprehensiveness and unity, and budgeting for investment.

Figure 12.1. Relationship between Planning and Budgeting (Effectiveness)

Source: Authors' calculations based on the PIMA database.

Note: PIMA = Public Investment Management Assessment.

Strong links between plans and resources may arise among countries that are members of an economic and monetary union or that receive substantial external resources for infrastructure investment. An example is the structural and investment funds of the European Union.⁵ These funds are the EU's main policy tool for planning public investment in member states. Each eligible country negotiates a partnership agreement with the European Commission on access to and use of the structural and investment funds. The agreements covering 2014–20 set out priorities, expected results, and a budget for each of the funds. These agreed-upon spending envelopes allow beneficiary countries to plan their expenditure, part of which is capital infrastructure, within a known resource constraint. The mechanism is not perfect, however. For example, absorption of EU funds can be delayed significantly, leading to a rush of project spending at the end of each programming period, creating inefficiencies and potentially bad implementation decisions. Anecdotal evidence also suggests that EU funds in some member states are managed outside the national budget process, with separate project pipelines and appraisal methodologies (in Serbia, for example).

⁵ There are three main funds: the European Regional Development Fund, the European Social Fund, and the Cohesion Fund. In addition, there are other funds set up under the EU's Common Agricultural Policy.

HOW TO BETTER INTEGRATE PLANNING AND BUDGETING

Planning within a Defined Fiscal Constraint

As noted earlier, of the many features of a modern national development plan, integration of the planning process with the provision of financial resources from the budget and external sources is arguably the weakest link (Chimhowu, Hulme, and Munro 2019). Are there any public financial management tools for building stronger links between planning and budgeting functions? The answer is yes, and foremost among them is the medium-term fiscal framework. Close integration of planning and budgeting requires the national development plan to be subject to the reality of a fiscal constraint, which is determined by such a framework. To ensure that national development plans provide meaningful guidance to the budget process, they need to be costed at least indicatively and constrained to fit within the aggregate resources (fiscal space) that are forecast to be available over the medium-term planning horizon.

Medium-Term Budget Frameworks

The medium-term budget framework⁶ has also often been suggested as a potential bridge between planning and budgeting functions. These frameworks have a multiannual perspective, include expenditure ceilings, and increasingly adopt a programmatic classification of spending, which ideally should be (though in practice is frequently not) a common element in both modern planning and budgeting systems (Harris and others 2013). Nevertheless, even in advanced economies with relatively strong public financial management practices, there are frequent challenges in linking the medium-term budget framework to a country's medium- and long-term strategic development objectives and its national infrastructure plan (if one exists). An integrated approach to planning and budgeting requires that annual budgets and medium-term budget frameworks are credible: namely, that both reflect and are executed in line with the plan. This is not the case in many low-income developing countries and emerging market economies, and medium-term budget frameworks and national development plans often lack a consistent programmatic structure (Allen and others 2017). Thus, the financial base for good planning is often absent or weak.

Medium-term budget frameworks are also prepared on different assumptions and classifications compared to a country's national development plan. For example, these budget frameworks often have a different time horizon than the planning

⁶ The medium-term budget framework differs from the medium-term fiscal framework in that the latter only provides projections of the main fiscal aggregates (revenue, expenditure, borrowing, and debt) with minimal disaggregation. In contrast, the medium-term budget framework provides a much more detailed breakdown of spending.

framework and are prepared on a rolling basis,⁷ whereas many national development plans cover a fixed 4/5-year period. They may also use a different system for classifying projects and investment spending. For example, many low-income countries, in preparing their national development plans, use the concept of a “development budget” and “development projects” rather than capital investment projects.⁸ As a result it may not be possible to identify infrastructure projects within the national development plan or annual budget documents. Countries need to establish a consistent set of assumptions and classifications, aligned with international benchmarks, if a reliable bridge is to be built between the planning framework and the budget.

Other features of public financial management systems can help improve the link between planning and budgeting. These are more widely applied in advanced economies and emerging market economies, which generally have more efficient decision-making processes and higher capacity than low-income countries. For example, if countries have put in place a program- or performance-based management system (Curristine and Flynn 2013), it is helpful to include a framework for measuring outputs, outcomes, and other aspects of performance that is common to the annual budgets, the medium-term budget framework, and the national development plan. In practice, however, different concepts and definitions are frequently used, even in more developed economies. In advanced economies and some emerging market economies, spending reviews applied to sectors or state enterprises with heavy infrastructure needs (for example, energy, transport, and water) can also provide a useful bridge between planning and budgeting.

Public Investment Programs

Another widely used tool to help integrate planning and budgeting is a public investment program. At its simplest, a public investment program comprises a list of projects, small or large, a country wants to implement to meet the goals and objectives of its national development plan. Some countries provide rough estimates of the total cost of these projects, sometimes broken down by year, but the quality of these projections varies widely. In more advanced systems, the public investment program includes a pipeline only of projects that have been subject to

⁷ A rolling framework (covering, for example, four years) is one in which, at the end of each year, the first year of the framework is moved forward by one year to become the new base year, and one year is added to the end of the four-year period.

⁸ The concept of the “development budget,” widely used in Africa and Asia, often includes both current and capital expenditure. To get around this problem, it is common for countries to report development spending using the economic classification to identify current and capital expenditure. However, this is not the same as identifying individual capital projects, with their unique demands for appraisal, selection, monitoring, and management. Many budget and supporting information systems found in low-income countries do not currently identify capital projects within their development budget.

a feasibility study and cost-benefit appraisal, have been selected to be included in the medium-term budget framework, and are based on more reliable cost estimates. Ideally, public investment programs should provide robust resource projections for investment projects over the medium term, but this objective is rarely met in practice.

Public investment programs emerged initially in the 1970s and 1980s and were expanded in the 1990s, accompanying multiyear national or strategic development plans (Jacobs 2008). Economic growth models popular at that time helped stimulate interest in the development of public investment programs by providing a simple justification for increased public investment.⁹ This basic prescription underpinned recommendations supported by development partners for governments to introduce lists of investment projects (basic public investment programs), funded by the domestic budget or (mainly) by external finance. The Public (Sector) Investment Reviews, popular in the 1980s and often carried out by World Bank-funded teams, were a by-product of this approach (Jacobs 2008).¹⁰

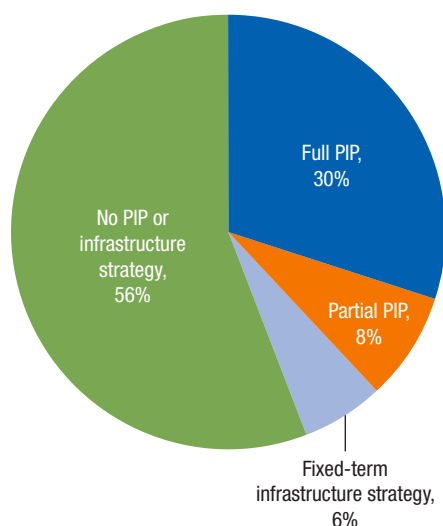
A key objective of introducing public investment programs, for both governments and external partners, was to provide a tool for the coordination of overseas development assistance. The disbursement of resources on projects supported by development partners could help governments with their planning and their requests for additional external support, including technical assistance. The literature cites numerous examples in which public investment programs were used to facilitate coordination between the government and development partners. For example, coordination was an explicit rationale given by the Kenyan government for introducing a public investment program, specifically “to become a tool for better aid coordination to assist in the matching of Government investment needs with donor financing opportunities” (Kenya National Treasury).¹¹

How useful are public investment programs as a tool of infrastructure planning? An analysis of 218 countries and independent territories by the authors

⁹ The implied, simplistic message of the celebrated Harrod-Domar model, for example, was that a higher rate of economic growth could be achieved by increasing capital investment. Furthermore, if domestic savings rates were insufficient to generate the investment required to achieve the desired growth rate, the thinking was that foreign savings (external financing) should be used (Rosenstein-Rodan 1961).

¹⁰ Jacobs (2008) noted that there was a symbiotic relationship between Public Investment Reviews and public investment programs. Eventually, the analysis in the Public Investment Reviews expanded beyond just investment to include all public expenditures, resulting in their transformation into Public Expenditure Reviews. Over time, the influence of these simplistic models has waned, as there has been little evidence that the linear relationship between growth and investment worked as supposed (Burnside and Dollar 2000).

¹¹ Kenya National Treasury, “Public Investment Programme.” Accessed in November 2018 from <http://www.treasury.go.ke/28-departments/79-public-investment-programme.html>.

Figure 12.2. Classification of Use of PIPs

Source: IMF staff calculations, based on online searches for 218 countries and independent territories.

Note: A full PIP refers to a rolling multiyear list of public investment projects that have been selected for inclusion in a multiyear budgetary framework. A partial PIP has some elements of a full PIP but is not part of a multiyear budgetary framework. PIP = public investment program.

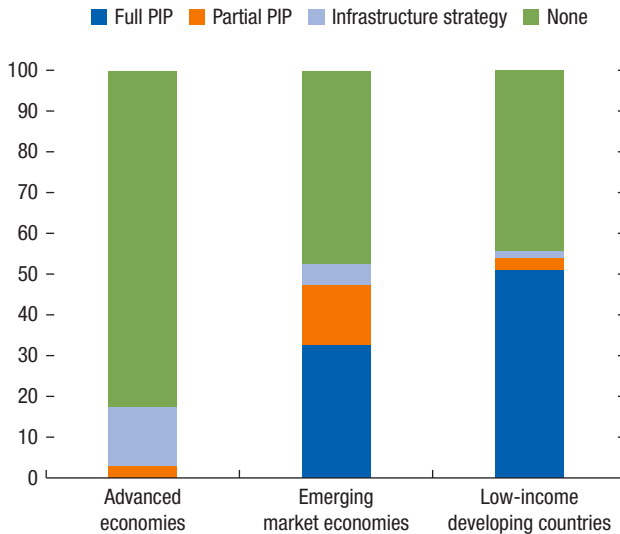
(summarized in Annex 12.1) suggests that, globally, around one-third of countries currently have in place multiyear rolling public investment programs, while a further 8 percent have some elements of a public investment program in their budgets (Figure 12.2).¹² The prevalence of public investment programs is much higher in low-income developing countries than in advanced economies or emerging market economies (Figure 12.3). This is not surprising because the former group is generally much more dependent on projects financed by development partners. The regional distribution of public investment programs largely reflects income levels across regions (Figure 12.4).¹³

Public investment programs need to be appropriately designed to serve as an effective link between infrastructure plans and budgets. Countries should aim to ensure the following:

¹² This survey, and the survey of organizational arrangements for planning and budgeting discussed in the “Organizational Arrangements” section of this chapter, was carried out by Mary Betley and is based on publicly available information.

¹³ Further details of this analysis are provided in the companion working paper.

Figure 12.3. PIP Prevalance, by Income Group
(Percent)



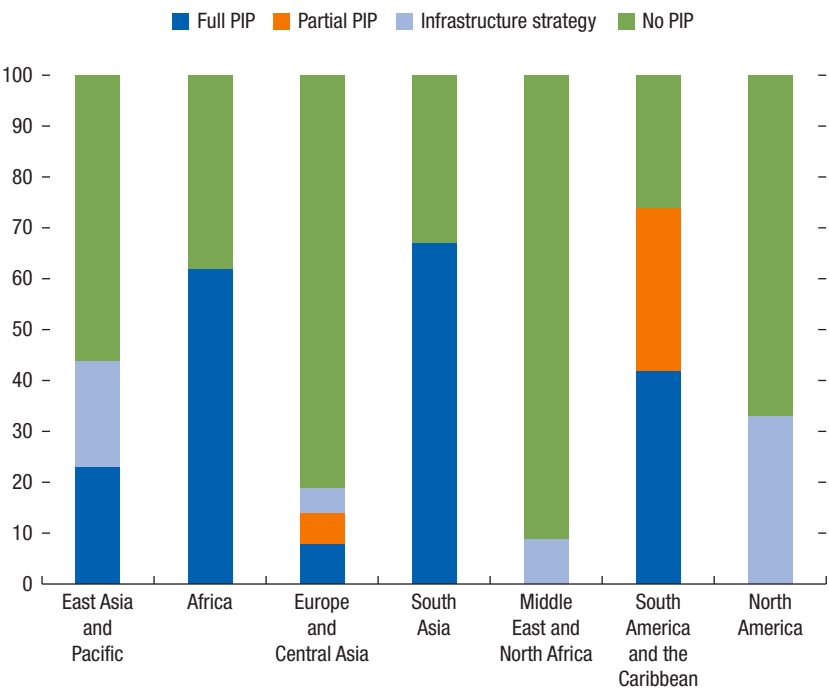
Source: IMF staff calculations, based on online searches for 218 countries and independent territories.

Note: A full PIP refers to a rolling multiyear list of public investment projects that have been selected for inclusion in a multiyear budgetary framework. A partial PIP refers to a PIP with some elements of a full PIP but not part of a multiyear budgetary framework. PIP = public investment program.

- The resource framework for the public investment program is realistic, particularly in terms of forward projections and the planning of projects, which are due to start in the later years of the medium-term period;
- The public investment program is not simply an unconstrained wish list of poorly prepared and unscreened or weakly screened projects searching for domestic or external funding;
- The public investment program pipeline includes both ongoing projects and new projects being planned for the medium term, ideally with regularly updated estimates of their total cost; and
- An appropriate link exists with the government's strategic/results framework on the one hand and with the medium-term budget framework on the other hand.

Most public investment programs also do not provide any mechanism for incorporating the recurrent costs associated with infrastructure costs (for example, the costs of equipping and staffing a hospital). Lack of integration of current and capital spending is exacerbated to the extent that public investment programs were, and in some countries still are, associated with separate development budgets.

Figure 12.4. PIP Prevalence, by Region
(Percent)



Source: IMF staff calculations, based on online searches for 218 countries and independent territories.
Note: A full PIP refers to a rolling multiyear list of public investment projects that have been selected for inclusion in a multiyear budgetary framework. A partial PIP refers to a PIP with some elements of a full PIP but not part of a multiyear budgetary framework. PIP = public investment program.

ORGANIZATIONAL ARRANGEMENTS

A crucially important issue that remains unresolved in the literature and in practical application is the organizational arrangements for planning and budgeting. There is no uniformity of practice across countries. Broadly, the arrangements fall into the following three categories: (1) separate entities—the central functions of planning and budgeting are undertaken by two separate ministries or agencies, (2) a single central ministry (typically the finance ministry) is responsible for both planning and budgeting functions, and (3) there is no agency undertaking a central planning function.

The authors analyzed the organizational responsibilities for planning and budgeting in 218 countries and independent territories (see Annex 12.2). Table 12.2 summarizes the results (see also Figures 12.5 and 12.6). Of the countries surveyed, 37 percent have established a single organization for both functions, in most cases a ministry of finance and planning or a ministry of finance with a distinct planning section. In some, line ministries are responsible for preparing strategies or plans at the sector, ministry, or program level, and the central budgeting institution or

TABLE 12.2.

Summary of Organizational Arrangements for Planning and Budgeting			
	Single Planning and Budgeting Entity	Separate Planning and Budgeting Entities	No Central-Level Planning Entity
Advanced economies	15%	26%	59%
Emerging market economies	39%	56%	5%
Low-income developing countries	47%	53%	0%
All countries	37%	49%	15%

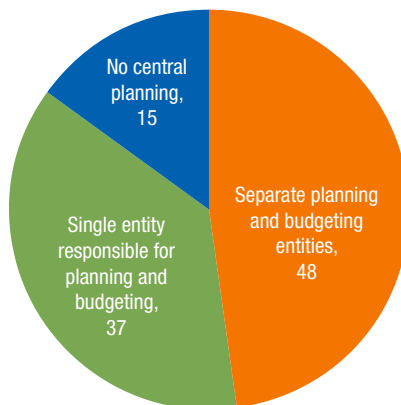
Source: Authors.

Note: The data shown exclude Syria. The classification of countries by income group is based on the list in the IMF's April 2019 *World Economic Outlook*.

ministry of finance is responsible for certain functions, such as project selection or the independent review of cost-benefit analyses. Almost half the countries surveyed have established separate entities (such as a ministry of finance or ministry of the budget and a ministry of planning or economic development), which carry out the government's planning and budgeting functions. The remaining 15 percent do not have a central organization responsible for national development planning.

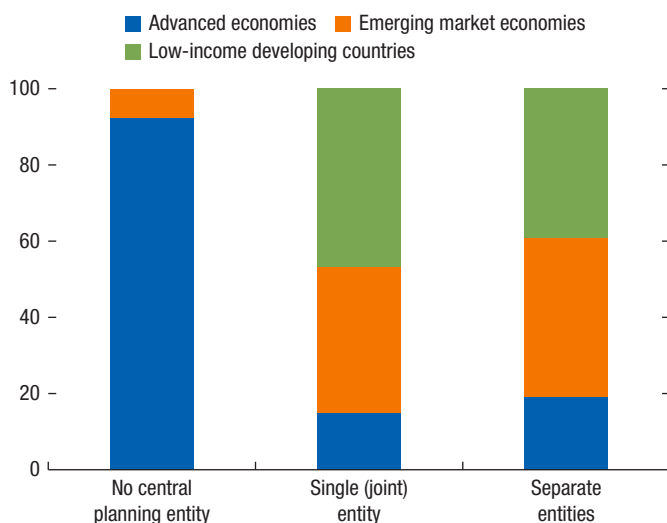
The pattern of institutional arrangements varies widely across countries and regions. Nearly all low-income developing countries and emerging market economies have established a single or separate planning agency at the center of government, but this pattern is less common in advanced economies, where nearly

Figure 12.5. Organization of Responsibilities for Planning and Budgeting
(Percent)



Source: Authors, based on online searches for all 218 countries.

Figure 12.6. Organizational Responsibilities, by Income Group
(Percent)



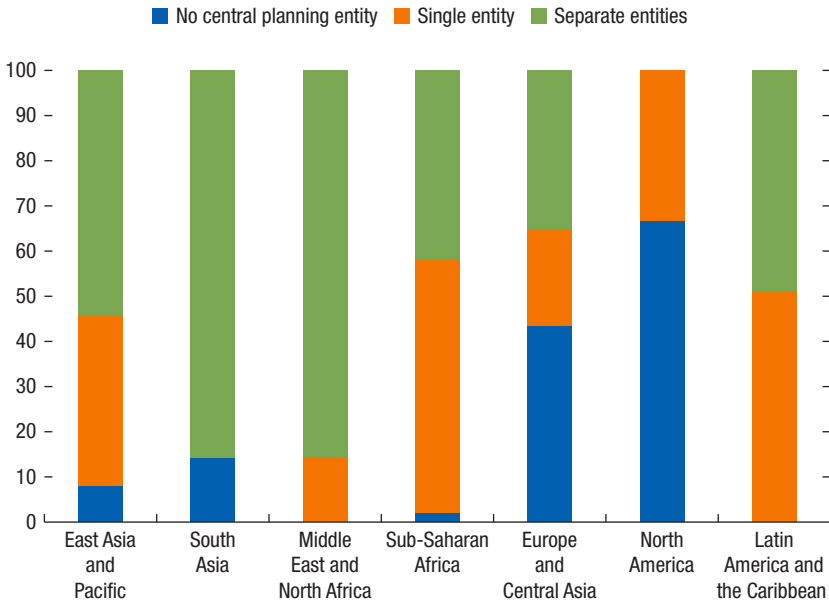
Source: Authors, based on online searches for all 218 countries.

60 percent of countries have no central planning agency. Many advanced economies and some emerging market economies have decentralized their planning functions to line ministries—and thus away from the center. They also have no (or little) need to manage externally financed infrastructure projects or to use a national development plan to mobilize resources from development partners. Figure 12.7 shows the distribution of organizational arrangements by region, which varies widely according to the mix of advanced economies, emerging market economies, and low-income developing countries in the region. For example, both in Latin America and the Caribbean and in the Middle East and North Africa region, all countries surveyed have some type of planning entity.

The organizational arrangements for planning and budgeting described previously have been fluid in many countries. The survey shows that many countries have changed their organizational arrangements for planning and budgeting at least once over the past couple of decades, either splitting out planning functions from a single ministry that originally covered both finance and planning functions into a separate ministry or agency, or consolidating these functions into a single entity (such as the finance ministry). Some large countries (for example, Brazil, Kenya, Korea, Nigeria, and the Philippines) have experienced three or more such back-and-forth iterations over the past 20 years. The effect of these changes on the efficiency and effectiveness of planning and budgeting processes has not been assessed.

This instability largely reflects political economy factors. Where planning and budgeting functions are situated in separate ministries, the minister of planning's role has some of the characteristics of a line minister as the proponent of new policies and projects. In contrast, one of the finance minister's key roles is to

Figure 12.7. Organizational Responsibilities, by Region
(Percent)



Source: Authors, based on online searches for all 218 countries.

eliminate ideas for new projects that do not create economic or social value, find savings in ministers' spending programs, or cut out waste. As Schick (1966, 243) put it, "planning and budgeting have run along separate tracks and have invited different perspectives, the one conservative and negativistic, the other innovative and expansionist . . . in its extreme form, the one measures saving, the other spending." A similar tension may arise when separate units within the same ministry perform planning and budgeting functions, and where the minister of finance and planning wears two hats that do not fit comfortably on one head.

The inherent tension between the planning and budgeting functions does not necessarily have a negative effect on the efficiency of decision-making about infrastructure investment. If properly harnessed, it can serve a useful role in creating a symbiotic relationship between the functions. Thus, finance officials can challenge the proposals for new infrastructure put forward by the planning ministry to ensure they are economically and financially robust. Similarly, planners can challenge budget officials to ensure fiscal space is allocated in a manner that allows policy objectives and plans to be realized. Countries where such a symbiotic relationship exists are not easy to find but include Colombia, where planning and budgeting are closely coordinated both at the working and political levels, and Ireland, whose new planning framework includes medium- and long-term projections of infrastructure requirements prepared by the finance ministry in close coordination with the planning ministry.

Government decisions on whether to combine or separate planning and budgeting functions, and on the appointment of the heads of the responsible agencies, often signal the views of the political leadership on how much power to vest in a single minister or whether to operate a policy of “divide and rule.” In many instances, a key consideration is the need to balance the ambitions of the planning function and the fiscal conservatism of the budget function. Institutional rivalries tend to prevail.¹⁴ Some countries have attempted to use interministerial committees and commissions to better coordinate the work on planning and budgeting and to achieve a balance between the competing policy objectives noted previously. An example is Colombia. A high-level committee composed of cabinet ministers (*El Consejo Nacional de Política Económica y Social*, CONPES), chaired by the president, approves the national development plan, the medium-term fiscal framework, and the annual budget, after the latter has been reviewed by the CONFIS (*Consejo Superior de Política Fiscal*). CONFIS is chaired by the Minister of Finance with full participation of the National Planning Department.

THE ROLE OF SPECIALIZED INFRASTRUCTURE AGENCIES

Political economy factors can influence decisions on infrastructure investment in various ways. Most investment projects have multiyear fiscal implications and larger projects often have fiscal and economic consequences that extend beyond a single electoral cycle. Gupta, Liu, and Mulas-Granados (2016), for example, have documented the strong effect of the political cycle on public investment activity across different country groups.¹⁵ In advanced economies, older democracies, and countries with very efficient management systems, fluctuations in public investment tend to be linked less to electoral cycles. Williams (2017) used project data to examine investment efficiency through noncompletion rates, and attributed observed inefficiencies at least partially to the political process, noting also that the effects of political failure could be mitigated by stronger fiscal institutions.

Some countries have aimed to establish institutional arrangements to reduce the effect of the political cycle on public investment decisions. In recent years, especially in advanced economies, some entities have been set up to address the reality of the political cycle and its effect on public investment (for a full discussion, see OECD 2017).¹⁶ These agencies, which typically have a lot of operational independence, are

¹⁴ As Caiden and Wildavsky (1974) note, “The relationship between planning and finance is generally one-sided. Finance usually holds most of the cards. It will allow planning influence up to the point of actual decision, but it will keep for itself the power to make decisions on resources. . . . This is one reason why planners have found it hard to make the budget carry out the plans.”

¹⁵ The results show that—for a sample of 67 advanced economies, emerging market economies, and low-income developing countries—the growth rate of investment is larger at the beginning of a government, peaks at about 28 months before an election, and declines fast as the election approaches.

¹⁶ See OECD (2017) for a review of experiences with strategic infrastructure planning in a selection of OECD countries.

designed to help improve the efficiency and effectiveness of public investment, and to protect infrastructure to the extent possible from short-term political influences and the electoral cycle. Some centralized agencies also provide technical support services to line ministries (such as on the appraisal and selection of projects).

Infrastructure Australia, for example, is responsible for conducting strategic audits of nationally significant infrastructure projects and developing 15-year rolling infrastructure plans that specify national and state priorities. The agency also determines which nationally significant projects are included in Australia's Infrastructure Priority List. It enjoys operational independence from the executive by law. In the United Kingdom, a National Infrastructure Commission was established in 2015 to review the country's infrastructure needs and provide advisory services to government agencies. A separate agency, the Infrastructure and Projects Authority, monitors progress in implementing major projects. In New Zealand, the Infrastructure Transactions Unit in the Treasury helps deliver major infrastructure projects (New Zealand Treasury 2018).

Another approach followed in some countries has been to establish an infrastructure "delivery" unit at the center of government, sometimes in the president's or prime minister's office. Examples include the Performance Management and Delivery Unit (PEMANDU) in Malaysia and the United Kingdom's former Prime Minister's Delivery Unit. Units such as these track strategically important investment projects and may take remedial action if the projects go off track or underperform. Some delivery units may also provide technical support to line ministries (for example, the *Escritório de Gestão de Projetos* in some Brazilian states and the Office of *Proyectos México* [Mexico Projects], which is under the auspices of the government's development bank [*Banobras*] and provides technical support on public-private partnerships).

The goal of these specialized agencies at the center of government is not to undertake or duplicate functions that could be better performed at ministry level. Rather, they are designed to help create a coherent long-term strategy for national infrastructure planning, and account for economic and social interdependencies and Sustainable Development Goal priorities such as climate change and gender equality. The effectiveness of these arrangements, however, has yet to be assessed comprehensively.

At the same time, the emergence of new and nontraditional investors in infrastructure is challenging traditional planning and budgeting institutions. China, for example, has become the largest source of infrastructure financing in Africa in recent years (McKinsey 2017), and its Belt and Road Initiative is expected to transform transcontinental infrastructure.¹⁷ The large volume of resources now available, combined with strong supply-side incentives to execute

¹⁷ In Africa, for example, at least five countries have had their rail transport systems financed by China (Angola, Djibouti, Ethiopia, Kenya, and Nigeria). At the close of the 2018 China-Africa Forum for Cooperation Summit held in Beijing, the Chinese government announced that it had set up a new fund of 900 billion Yuan (\$60 billion) intended for Africa's development. This fund covers telecommunications, roads, bridges and ports, energy, human resources development, government buildings, and other infrastructure.

projects and disburse funding quickly, has made it possible for many poor countries to finance megaprojects for which funding would previously have been unavailable. It is important to ensure that these new sources of finance, and an analysis of the associated projects, are brought within the scope of a country's planning and budgeting processes to ensure that investments are fiscally sustainable and consistent with a country's priorities for economic and social development.

CONCLUSIONS

The main conclusions of this chapter are as follows.

First, planning functions have evolved over the years, from the historic Soviet and French models, in diverse ways across countries and regions. Norms and standards that define how planning should be carried out and by which entity are rare. Some countries continue to prepare full-blown national development plans, while others—more typically several advanced economies—rely on systems in which sectors play a dominant role in decision making, notably on infrastructure investment. A flexible approach to planning, focused on key economic and social objectives, can achieve better results than traditional methods.

Second, good integration of planning and budgeting functions is key to quality infrastructure, although difficult to achieve in practice. The absence of a resource envelope for capital projects that is binding and built into the planning process is a serious challenge in most countries. Medium-term budget frameworks and public investment programs can provide a bridge between planning and budgeting functions, if designed properly, and the chapter provides general guidance on how these mechanisms can be improved.

Third, planning and budgeting functions are based on fundamentally different objectives, approaches, and skills. There is a creative tension between the two functions that in principle can lead to better decisions on the management of public investment, yet often does not in practice. It is much more important for countries to ensure that their planning and budgeting functions are carried out efficiently and effectively than that they take a specific organizational form, for which no unique model exists.

Fourth, the recent establishment of semiautonomous agencies at the center of government has helped mitigate the influence of the electoral cycle of political opportunism on infrastructure decisions. These entities are designed to provide strategic oversight of infrastructure planning and deliver technical services to line ministries on the appraisal, selection, financing, and monitoring of infrastructure projects. Some emerging market economies and low-income developing countries may be able to learn from these initiatives, while noting that they require a high level of skilled capacity and access to plentiful and reliable data.

ANNEX TABLE 12.1.

Typology of Public Investment Program, by Country/Territory and Income Category (Selected Countries)				
Country	Full Public Investment Program	Partial Public Investment Program	Fixed-Term Infrastructure Strategy	No Public Investment Program or Infrastructure Strategy
Advanced economies				
Australia			x	
Austria				x
Canada			x	
France				x
Japan				x
Korea				x
United Kingdom			x	
Emerging market economies				
Angola	x			
Armenia				x
Brazil		x		
Colombia		x		
Egypt				x
Hungary				x
Indonesia				x
Iran				x
Kosovo	x			
Mexico		x		
Mongolia	x			
Russian Federation				x
South Africa				x
Ukraine				x
Low-income developing countries				
Bangladesh				x
Cambodia	x			
Ethiopia				x
Rwanda	x			
Senegal	x			
Tajikistan				x

Source: Authors.

Note: This annex presents a selection of data from the full analysis of 218 countries and territories prepared by the authors. The countries and territories are based on the World Bank's classification, defined as those in which the authorities report separate social or economic statistics. Further details are available on request. A full public investment program refers to a rolling multiyear list of public investment projects included in a medium-term budget framework. A partial public investment program has some elements of a full public investment program but is not part of a medium-term budget framework.

ANNEX TABLE 12.2.

Typology of Planning and Budgeting Institutions, by Country/Territory and Income Category (Selected Countries)

Country	Single Planning/ Budgeting Entity	Separate Planning/ Budgeting Entity	No Central Planning Entity
Advanced economies			
Australia			x
Austria			x
Canada			x
France			x
Japan			x
Korea	x		
United Kingdom			x
Emerging market economies			
Angola		x	
Armenia		x	
Brazil		x	
Colombia		x	
Egypt		x	
Hungary	x		
Indonesia		x	
Iran		x	
Kosovo		x	
Mexico	x		
Mongolia		x	
Russian Federation	x		
South Africa		x	
Ukraine		x	
Low-income developing countries			
Bangladesh		x	
Cambodia		x	
Ethiopia	x		
Rwanda	x		
Senegal	x		
Tajikistan		x	

Source: Authors.

Note: This annex presents a selection of data from the full analysis of 218 countries and territories prepared by the authors. The countries and territories are based on the World Bank's classification, defined as those in which the authorities report separate social or economic statistics. Further details are available on request. The category of a single planning/budgeting institution includes countries where there is no separate planning entity, but some planning functions are carried out by the finance ministry or the institution responsible for budgeting.

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