How to Prepare Expenditure Baselines
How to Prepare Expenditure Baselines

Prepared by Fazeer Rahim, Claude Wendling, and Eliko Pedastsaar
This note explains the use of expenditure baselines in budget preparation and provides a methodology for how to prepare and update them. It discusses the key success factors for the effective use of expenditure baselines, the institutional roles of different actors, and complementary public financial management (PFM) tools. The authors would like to thank David Gentry for initiating this note.

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I. Introduction

Expenditure baseline projections (hereafter, “baselines”) are a key analytical concept in budget preparation that refers to estimates of future expenditure on the assumption that current policies remain unchanged. They serve as reference points against which other data, such as proposed or approved budgets, or expenditure ceilings, can be compared. In many countries they are a basic tool for starting the preparation of the budget. They represent neither future spending allocations nor total expected outturn as they do not incorporate estimates of the cost of new policies and the expected impact of saving measures. Other features of baselines are that they are generally produced over a multiyear period, they can be calculated at any level or form of the budget classification (that is, ministries, economic classification, specific policies, functions or programs), and can be summed up to higher levels (such as the whole budget). Hence, they can be useful at both a micro and an aggregate level.

A key idea behind the concept of “baselines” is that even if policies remain unchanged, the cost of delivering them can change. Costs may change due to variations in prices (for example, an increase in salaries due to indexation or to wage drift resulting from turnover and the effect of seniority-based pay systems; indexation of welfare benefits to inflation) and/or quantities (for example, changes in the number of children in schools; or in the number of individuals accessing welfare benefits) that are not linked to new policies. Costs can also change, relative to their current levels, when current policies are still being fully implemented (for example, a pension reform that gradually extends the retirement age) or when policies reach an end (for example, the completion of an investment project) or when means are found to implement them at lower costs.

Baselines are an important tool to support budget preparation and underpin the dialogue on budget execution. They can help to frame the budget preparation dialogue between the Ministry of Finance (MoF) and line ministries and agencies (LMAs) by establishing a clear distinction between the projected cost of unchanged policies and all changes that require political decisions—either to increase or decrease spending. Applied on a multiyear period, baselines can provide early visibility on emerging spending needs and their underlying cost drivers. This fact can prove particularly important in policymaking as corrective measures often take time to come into effect. When aggregated for the budget as a whole and compared against available funding, baselines give an indication of the fiscal space likely to be available for the adoption of new policies or, if expected funding falls short, the magnitude of savings and/or revenue effort required. During the fiscal year, the work done on baselines also feeds into the monitoring of budget execution by the spending teams within the MoF and underpins the ongoing dialogue with LMAs on their spending patterns.

However, the concept of baselines suffers from some ambiguities, which are reflected in differing views as to how it should be defined and applied. Although the concept is seemingly intuitive—projecting the future cost of existing policy—it is not often clear what constitutes policy and what qualifies as a change in policy. These ambiguities are visible in the relative lack of literature on the subject and the plethora of terms used to define “baselines,” such as forward estimates, baseline forecasts, forward baseline projections, trend scenario, or no-policy change estimates.

This note aims to clarify and establish a framework that covers baselines’ various purposes and uses. It first discusses the definition and objectives of baselines and the methodology used for producing them before outlining how they should be prepared. It concludes with a discussion of the key success factors for making the most effective use of baselines.
II. Definitions and Purpose

What Is Meant by a “Baseline”

Key to the concept of “baseline” is the notion of unchanged policies, which requires a definition of policy. In the budgetary context, a policy is a decision that guides the provision and the level of public services. It typically takes the form of an explicit authorization of a course of action that guides operational decision-making. This can be specified in law, government decisions, or the stated policies of specific LMAs. While a policy is typically defined in terms of an outcome (for example, to reduce infant mortality by 10 percent over the next three years, increase educational attainment, or reduce traffic congestion) and/or a given output or level of service (for example, to construct five hospitals, provide universal primary school education, or build 100 kilometers of road), it will, in practice, be underpinned by a legal framework and/or a set of political decisions leading to a certain need for inputs.

In practice, focusing on laws and decisions is not enough to identify existing policies. First, a policy may not be stated explicitly but can be the result of customary practice and inferred from a pattern of spending. Second, while a policy may be explicitly stated, it can be persistently underfunded, which implies that this policy has de facto changed. A common example is the underfunding of education in many low-income countries due to resource constraints despite laws that provide universal access to primary schooling. Many advanced economies also have laws that they do not fully implement; for example, although the right to housing should in principle eliminate homelessness, the problem persists.

Hence, applying judgement and discretion on past policy decisions or legislation remains necessary before including them in the calculation of baselines. Existing policies that exist in name (or even law) but are not being implemented or reflected in existing funding should generally not be included to increase the realism of the baseline. This includes policy decisions that are simple political announcements with no clear objectives, costing, or timeframe for implementation.

On the other hand, costed policy decisions (those that have been approved by cabinet or included in legislation) that have been taken between budget cycles, but not necessarily included in existing funding, should generally be included within the baseline.

Identifying a new policy—to be excluded from the baseline—is an easier task. The key characteristics of a new policy are proposals for (1) a public intervention in a field hitherto unexplored; (2) a significant change in the level of services associated within an existing program; or (3) a significant change in the implementation of an existing program, which results in a change in spending patterns in some years.

What Are the Benefits of Baselines?

Baselines—as an important tool of forward-looking budget analysis and policymaking—can help improve the overall budget preparation process and resource allocation. The following are their main benefits:

• Baselines simplify budget negotiations by focusing discussions on new policies. When LMAs and the MoF are in agreement on the cost of ongoing policies, budget negotiations can move away from a line-by-line review of spending ministries’ budget bids and focus on new policy initiatives, as well as the quality and affordability of ongoing policies with a view to identifying possible sources of savings.

• Baselines provide early indications of spending pressures and their drivers. In many low-income countries, demographic trends coupled with policies to expand access are sources of upward pressures on education spending. In more advanced economies, an aging population is a source of pressure on pension and healthcare expenditures. Baselines give an early indication on how resources may have to be reallocated to address these pressures.

• Baselines allow the reassessment of continuing past policies. A baseline projection updates the future cost of a policy, program, or project, which could have changed since it was first adopted. Rather than rolling over a policy based on outdated cost estimates, policymakers can use baselines to reconsider its desirability based on an updated cost estimate.

• Baselines help in the identification of fiscal space. At an aggregate level, baselines can be compared with available resources to provide an assessment of the fiscal space available to implement new policies, or the extent to which corrective actions are

2An IMF study (Gaspar and others 2019) estimates that the additional spending (private and public) required to meet the UN Sustainable Development Goals on education, which have become formal policies in many countries, averages 4 percent of GDP in a sample of 49 low-income countries.
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needed when fiscal space is negative and savings are required.

• Baselines serve as a tool in the public debate on the fiscal sustainability of public policies. Publishing estimates of the evolution of expenditure on a no policy change basis provides the public with valuable information on the sustainability of current policies. This can stimulate public discussion on the cost of policy inaction in areas where spending pressures are high (for example, health and pension spending or new infrastructure) and reforms needed.

• Baselines facilitate the monitoring of execution. Baselines are a powerful tool for the MoF (notably through its sectoral units or spending teams) to engage with LMAs during the fiscal year and exert the so-called “budget challenge” function, that is, the ongoing scrutiny and engagement to keep track of service delivery and value for money.

• Baselines support transparency. The reconciliation of baselines between successive budgets (see Section V) provides an understanding on how spending has changed, distinguishing between factors in government’s control (policy decisions) and those outside its control. Publishing the outcome of this exercise helps to enhance budget transparency and build confidence in the budget.

For all these reasons, many countries make use of baselines in their budget preparation process. The list is not only confined to countries with mature public financial management (PFM) systems that make extensive use of baselines, including the allocation of resources in the medium term. Less advanced economies have also started using baselines essentially with a view to facilitating budget discussions. Annex 1 provides a summary of the diversity of approaches based notably on recent IMF experience with various PFM systems.

III. Basic Methodology

Guiding Principles

While different approaches can be taken, the exercise of preparing baselines should be based on a set of common high-level principles:

• Aligned expectations. Introducing baselines into budget practices should be led by the MoF, but the objectives should be clearly stated and agreed on by all stakeholders. This approach should be supported by a high level of commitment and announced upfront in the budget process.

• Shared ownership. Good baselines result from high-quality interactions between the MoF and LMAs. A common understanding on their respective roles is essential for baselines to play a role in the budget process (see subsection V.B below).

• Data and analysis driven. Good baselines should be based on reliable and up-to-date data. This will require time, effort, and strong cooperation among various institutions, each of which may bring complementary expertise and information.

• Well documented. The objective is to prepare supporting documentation and explanatory notes that enable the review of the estimates by external users; provide clear information of cost drivers to decision makers and facilitate future updates.

• Consistency across baselines. Consistency implies that various entities preparing their baselines (1) agree on the main concepts; (2) use a common set of parameters such as macroeconomic forecasts and population projections; and (3) adopt a common approach to costing.

Different Approaches to Baselines

The most common approach to prepare baselines is input-based, that is, based on the cost of inputs (labor, operating costs, equipment) needed for a given policy. This requires an estimation of the upcoming cost of inputs required to deliver the same level of services in the future. A standard approach is to decompose the factors affecting the cost of inputs into the price factors (for example, inflation, wages) and volume factors (for example, number of teachers, volume of goods and services). This approach is explained in subsection III.V below.

In some cases, baselines can be prepared at the level of outputs. In addition to having quantifiable outputs (that is, goods or services—usually the latter—provided by government agencies for citizens, businesses, or other government agencies), this approach requires the estimation of a unit cost for a given unit of output, which will depend on a number of nonfinancial parameters. The future cost of building, for example 100 kilometers of new roads every year is a simple example. While this policy is quantified, additional specifications are needed (paved vs. unpaved, highway vs. regional roads) in addition to the cost per kilometer
of such roads to estimate the baseline costs. Another example is the provision of free primary education. In this case, the output needs to be quantified, that is, the number of students. In addition, the scope of the policy needs to be clearly defined: is the policy limited to classroom teaching or does it include school meals, transport, and books?

The preparation of baselines can also be outcome-based but such a choice presents a challenging and complex exercise. In addition to the requirements mentioned in the case of output baselines, outcome baselines also require the identification of (1) the outcome target, that is, the ultimate result in terms of welfare and public good that the policy aims at achieving and (2) the various outputs contributing to achieving the outcome target. For example, an outcome target can be to reduce the incidence of tuberculosis by 10 percent over five years. That target may, for example, require three distinct sets of output, under which a series of activities and services are to be provided: (1) identifying people carrying the disease, (2) treating the carriers, and (3) preventing the spread of the disease. Each of these outputs will have its own cost structure.

Hence, even advanced economies with a long experience in performance budgeting often stick to input-based baselines. Of course, this does not obviate the need for a broader reflection on outcomes and outputs to assess the relevance of policies or to identify cost savings. But baselines as an analytical tool rather remain focused on inputs, as in shown in the case of France (Box 1). The remainder of this section will focus on how to prepare input-based baselines.

### Key Steps in Preparing Expenditure Baselines

Producing input-based baselines involves several steps. These are focused on (1) understanding current level of spending, (2) understanding and applying the medium-term cost drivers, and (3) aggregating to the required level. Each of these steps summarized in Box 2 needs to be identified, analyzed, and agreed on by the MoF and the LMAs.

#### Step 1: Understanding the budget

Four major issues need to be addressed:
- First, both the level of disaggregation and the approaches to costing must be tailored with a view to striking a balance between complexity and accuracy. While a granular approach (at the level of line items, administrative units, programs, or activities) may generate more accurate and robust results, it can also lead to an excessive complexity and require undue efforts. The priority is to get the “big picture” right, by focusing on the largest components of the budget and lumping together items that may have common or similar expenditure drivers (see Box 3 for an example from health care). This also means that the quality of available information and importance of spending dynamics should be considered when choosing a costing method.
Box 2. Major Steps in Preparing Baselines

1. Understanding the budget
   a) Make strategic choices. These include:
      • Choosing a preferred level of disaggregation
        (for example, main spending units/areas; programs)
      • Choosing the costing approach and the tools to use
      • Other decisions such as the level of effort to apply
   b) Set the base, which is the starting point of a baseline projection
   c) Adjust the base by
      • Identifying previous one-off spending items to remove from the base. These costs will not be incurred in coming years (for example, the cost of elections held in the base year)
      • Including the effect of past policies that have not been fully implemented in the base year.

2. Understanding and applying medium-term cost drivers
   a) Identify price and volume cost drivers. This task should be performed for each level of baseline projection.
   b) Link these cost drivers to macroeconomic and demographic variables (for example, consumer price index (CPI) or population growth or old (young) dependency ratio).
   c) Adjust base spending by the price and volume parameters

3. Sum up to get the overall baseline projections for the desired level of aggregation (for example, ministry level)

4. Aggregate for overall baselines

Box 3. Choosing the Level of Disaggregation: An Example from Healthcare Spending

A large proportion of healthcare expenditure usually falls under goods and services, and wages. Under both categories, several subcategories are driven by different price and volume factors. Under goods and services, these could include pharmaceuticals, medical goods, general primary care, medical diagnostics, and hospital care. For some of these categories, further disaggregation can be warranted when preparing baselines. For example, pharmaceuticals can be further subdivided into patent medicines and generics, as quite often the price of the former tends to grow faster than the latter. Similarly, funding for inpatient care can be subdivided into public and private hospitals, which may have different specializations and governed by different policies. Hospital spending can also be analyzed using the inpatient care/outpatient care distinction—in countries which have a good diagnosis-related group system enabling to track the inputs related to each of these two activities. Hence, the level of disaggregation very much depends on available information and requires a thorough understanding of the dynamics of expenditure.
Lastly, once identified, the base needs to be adjusted to account for past one-off spending items or for the full-year impact of policies adopted during the year. Most frequent examples of one-off spending include the cost of organizing elections, census collections, IT infrastructure upgrades, as well as spending linked to natural disasters or health emergencies such as Ebola or COVID-19. These variables should be excluded from the base if they are not expected to occur in future years. In contrast, current policies that are yet to be fully implemented should be identified and their additional future costs (or savings) included in the base. Examples include an increase in wages or social transfers that took effect midway through the year; therefore, their full-year impact is not fully incorporated in the base.

Step 2: Identifying and applying medium-term cost drivers

- Price drivers. Several factors can affect the price of delivering the same level of public services in the future. These include wages, inflation, and specific input factor prices (for example, fuel, utilities, and other consumables). A first step is to identify these price parameters, or proxies (for example, the price of many consumables can be assumed to adjust with inflation; fuel prices are driven by world oil prices). In general, the rule in choosing price parameters should be to rely on common macro parameters—to the extent possible. Uncertainties will usually be addressed by choosing the central scenario for a given macro variable (for example, fuel prices or exchange rates) or in some countries by choosing a more prudent scenario, thus creating certain buffers within the estimation of baselines. Other custom parameters can be used if large differences with macro parameters occur. Examples of these could include the wage forecasts for specific groups (police, teachers) or specific price forecasts (for example, pharmaceutical products).

- Volume drivers. Several factors will affect the volume of services being provided over the medium term. These can be (1) demographic change (for example, the impact of an increase in school-age children on the recruitment of teachers and the construction of new schools; the impact of an increase in the number of retirees on pensions); (2) macroeconomic factors (for example, the impact of a higher unemployment rate on unemployment benefit payouts); and (3) past policies that mature (for example, the impact of a higher infrastructure capital stock on increased maintenance spending). Like price parameters, volume parameters should to the extent possible be linked with variables for which forecasts already exist, such as macroeconomic (for example, real GDP growth and unemployment rate) and demographic forecasts. Other volume parameters not strongly correlated with these variables could, however, be forecast separately, by way of exception.

Once suitable price and volume drivers (see Table 2) are identified, the price x quantity approach can be used for the spending item. This approach is achieved by applying to the adjusted base (that is, accounting for one-off expenditures) the evolutions in the price and volume parameters. This may require an iterative process as volume and price changes may interact. For example, an increase in the volume of specific goods and services (for example, specialized equipment) may have an impact on unit prices—which may increase (if there are bottlenecks in supply) or decrease (if there are economies of scale).

Rather than decomposing price and volume factors, simpler approaches can be used for small spending

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Table 1. What Base to Choose?

<table>
<thead>
<tr>
<th>Base</th>
<th>Advantage</th>
<th>Disadvantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current year’s budget</td>
<td>No need to reopen recent budget discussion</td>
<td>Budget may be aspirational, so will need to be corrected to take into account information related to the interim execution of the current year.</td>
</tr>
<tr>
<td>Last year’s realization</td>
<td>Reflects actual execution</td>
<td>LMAs to justify new budget funding for current year.</td>
</tr>
<tr>
<td>Previous years’ budget</td>
<td>Avoid difficult-to-identify one-offs in recent years</td>
<td>LMAs to justify new budget funding for recent years.</td>
</tr>
<tr>
<td>Legal entitlement only</td>
<td>Suitable for demand-driven programs for which recent spending has been volatile</td>
<td>Legal entitlement may not reflect current level of funding.</td>
</tr>
</tbody>
</table>

Source: IMF staff.

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5An IMF Special Series Note, “Special Series on COVID-19: Budgeting in a Crisis: Guidance for Preparing the 2021 Budget,” provides more guidance on preparing the budget (and baselines) in coming years.
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lines. These include trend extrapolation (using recent cost experience for projection) or lump-sum costing (assigning a fixed amount when costs are small and cannot be estimated with enough certainty). Another alternative is analogous estimation, which projects costs based on the known cost of something similar.

Step 3: Aggregate for the ministry and over the entire budget

The final step is to aggregate across spending units and spending areas to yield a baseline estimate for a ministry or national budget. The expenditure baselines for the individual spending areas within a spending unit should be summed and then aggregated to give the overall baseline for the ministry. The same is true for the price and volume parameter variations, which can be used to provide a full reconciliation of the changes in the baselines (see Section V). Ministerial baselines can be summed up to provide an estimate of the baseline covering the entire budget.

Table 2. Common Price and Volume Drivers for Current Spending

<table>
<thead>
<tr>
<th>Economic Classification</th>
<th>Price</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wages and salaries</td>
<td>Negotiated wage increase; wage drift (reflecting promotions and increments, new staff replacing higher paid retired staff)</td>
<td>Projected recruitment and separation, replacement rate</td>
</tr>
<tr>
<td>Social contributions</td>
<td>Contribution rate; wage increase</td>
<td>Projected recruitment and separation</td>
</tr>
<tr>
<td>Goods and services</td>
<td>Macro variables (inflation; oil prices); specific components of the CPI (utilities, food), other price specific parameters (for example, pharmaceuticals)</td>
<td>Volume of goods and services (quantities of medicine; number of vehicles; number of square meters of office space; demographics)</td>
</tr>
<tr>
<td>Subsidies</td>
<td>Inflation; price-specific parameters</td>
<td>Estimates of demand in volume</td>
</tr>
<tr>
<td>Grants</td>
<td>Grant formula; inflation</td>
<td>Estimates of demand in volume</td>
</tr>
<tr>
<td>Grant inflows from donors</td>
<td>Relevant donor coordination unit</td>
<td>Donor agreement</td>
</tr>
<tr>
<td>Social transfers</td>
<td>Inflation, wage increase, pensions specific formula</td>
<td>Unemployment, demographics, ongoing increasing pension age reform</td>
</tr>
</tbody>
</table>

Source: IMF staff.
Note: The UK Office for Budget Responsibility provides an exhaustive list of price and volume drivers that is uses when estimating baselines. See OBR (2014).

IV. Specific Questions in Preparing Baselines for Different Expenditure Types

This section outlines some specific questions that are often encountered when preparing baselines for the most common types of expenditure and provides guidance on how they can be addressed. An example of a budget circular giving general guidance on how to define baselines is also provided in Annex 2.

Wages

The preparation of a baseline for wages should typically follow the “price x volume” approach. The number of employees in different occupations (that is, “volume”) can generally be assumed to remain unchanged except when increases are needed to maintain service levels or a multiannual replacement policy is in place. The number of teachers, for example, is assumed to track the number of school-age children. In some cases, policies on the size of the labor force are clearly stated (Box 4). The level of compensation (that is, “price”) can be assumed to change in response

Box 4. Singapore: An Example of the Price x Volume Approach in Wage Forecasting

Wage policies in Singapore are clearly set. Its Manpower Management Framework keeps the growth of the public sector labor force at “a sustainable rate in line with the resident labor force growth.” The goal is for manpower to be redeployed to implement new programs or deliver enhanced services, while preventing the over-expansion of public sector manpower over time. Civil service compensation is pegged to national economic performance. It is often revised to make salaries competitive with the private sector. This is complemented by merit-based personnel appraisal and advancement, as well as performance-based incentives which support performance management.
to existing wage-setting policies, negotiated agreements with public sector unions, or—in the absence of clear policies—economic indicators (such as inflation or private sector wages).

Beyond the price and volume drivers, the additional impact of “wage drift” on the wage bill should also be factored in. Wage drift refers to factors that drive individual wage levels independently of broader wage-setting policies and include (1) salary increments typically awarded for seniority, (2) promotions, (3) the reclassification of employment positions, and (4) the impact of turnover leading to retirement of higher-paid aged staff and to recruitment of lower-paid young staff. Wage drift can be estimated using econometric analysis or structural modelling.4

Practice on the inclusion of wages in the baselines of individual LMAs varies. In many advanced economies, LMAs have a degree of control over their employment and wage policies and prepare baselines over all their spending categories, including wages. In other countries, wage baselines are prepared centrally (by the Ministries of Finance or Public Service) and LMAs are required to prepare non-wage baselines to support their budget submissions. This is often justified by highly centralized employment and payroll systems.5

Two different approaches may be envisaged to provide a baseline for wages:

- An approach based on headcounts and compensation data by major occupations can provide a good estimate of the wage baseline for a spending area or LMA. It requires only data aggregated by occupational groups from the human resource and payroll systems and provides good forecasts of the wage bill for occupations in which entries and exits are low and stable.
- A more robust approach—particularly suitable when wage baselines are prepared centrally—is to develop age-specific matrices from anonymized microdata. It enables modeling of the dynamics of employment with considerable accuracy, particularly entries and exits, which are largely staggered around specific ages. While the number of anonymized data points used in these models can be large (ranging from hundreds of thousands to millions), this approach allows for age-specific aggregation at an early stage of the modeling process to generate data sets that can be easily manipulated in Excel.6

An issue of significant relevance is the sensitivity of assumptions made on future wage increases, which can prejudice future wage negotiations. Assuming full pass-through of inflation to wages may help fuel higher wage demands. This is the case, for example, in South Africa where this assumption is made public. Other countries try to avoid this difficulty by not disclosing the factor by which wages are expected to increase in the baseline projection, instead keeping the corresponding amount as a general reserve until the wage level negotiations have been concluded. For example, in Austria, expected wage increases are generally tied to inflation but without public disclosure in the budget preparation phase.

Capital Spending

Capital spending, especially infrastructure, carries several challenges that need to be overcome while preparing baselines. On one hand, the calculation of baselines can be straightforward particularly for large projects, by relying on existing commitments for these projects. On the other, the annual profiles of these commitments are not always well defined, and frequent adjustments due to changes in costs and delays in implementation are often made, which complicates the calculation of reliable baselines. The fact that capital spending tends to trail off in the outer years as existing projects are completed puts additional pressure on MoFs to get the baselines right: overestimating the baseline may lead to insufficient resources allocated to new projects, underestimating it can have the opposite effect.

In addition to the capital cost of projects, associated operating and maintenance costs must be included within the relevant baselines. These costs should be identified at the point of capital project approval and should be treated as existing policy for those that are already approved. Specifically, in the case of maintenance costs, good practice suggests that existing policy should aim at preserving the current level of the capital stock and the baseline maintenance spending can therefore be estimated on this assumption.

4Structural modeling estimates the magnitude of wage drift by simulating the movement of individual employees through their respective wage grids reflecting seniority and promotions and entry and exit to and from the civil service.

5The wages of extra-budgetary funds may be included in the parent ministry's baseline in the form of transfers.

6This is discussed in more detail in Abdallah and Bender (2022).
For the purpose of preparing baselines, investments can be split into two categories: major projects and minor projects/capital purchases. The former should include the major projects constituting the bulk of investment expenditure. The exact delineation between major and minor projects should be based on a de minimis level, which will be country specific. To create baselines:

- **For major projects**: request annual profiles of the project expenditure from the relevant agencies and confirm the basis upon which the project has been approved.

- **For minor projects or purchase of small capital goods**: as a rule of thumb, treat the current level of spending as the baseline, and hold this steady, either in nominal, real or share of agencies’ expenditure, particularly where these minor investments are made up of durable good purchases (cars, ICT equipment, and so on).

**Interest Spending**

The calculation of interest payment baselines should take account of the interaction between interest forecasting and financing needs (the debt-interest loop). In most countries, debt and interest payments are usually managed centrally, and they take precedence over other types of spending. This can however become a complex dynamic and iterative exercise: (1) interest depends on the debt stock and, with a lag, on current financing needs (the revenue-spending gap), which is in turn affected by interest payment, and (2) present interest costs add to financing needs and hence to next year’s debt creating an intertemporal dynamic that needs to be taken into account. Of course, the volatility of interest rates is also a major factor in the dynamic of interest spending—increases in interest rates can lead to very steep rises in the overall interest burden, especially in countries where the average maturity of the debt is short.

Countries use two main approaches to prepare interest payment baselines: “top down” and “bottom up.” The top-down approach aims to generate baselines by relying only on the aggregate debt stock and effective interest rate projections. It aims at providing ballpark estimates to support early stages of fiscal planning and does not take into account the interaction between the current financing requirement and the additional interest costs it entails. The bottom-up approach involves working through detailed cash-flow and financing plans, usually developed within cash management and debt management units.7

**Social Welfare and Pension Spending**

Forecasting spending on formula-driven entitlement programs is a demanding exercise. Calculating a baseline on pensions, unemployment benefits, income support, or child benefits demands a careful understanding of the target population, and its intertemporal dynamics, the eligibility criteria, the external environment (for example, unemployment and poverty rate). Behavioral factors such as inability or unwillingness to access some benefit programs provided without automatic enrolment further complicate the calculations, as do interactions across programs: for example, changes in eligibility for unemployment benefits can affect the baseline for disability payments.8

For this category of expenditure, the comparative advantage for line ministries and specialized agencies in preparing these baselines is stronger than for other types of expenditure. Their analysts generally tend to have the most in-depth knowledge and access to administrative and survey data. Specialized agencies, such as pension funds, routinely forecast payouts for the medium term, as part of their financial planning. A recommended approach is to use the estimates provided by these agencies as baselines, while the MoF oversees the process and checks the consistency of the agencies’ macroeconomic and fiscal assumptions.

**Other Transfers**

In cases where transfers are purely discretionary and not linked to existing entitlement mechanisms, using an historical average of actual spending may be an acceptable baseline. While the absence of legal obligation may lead to the conclusion that the baseline is equal to zero, in practice it is seldom realistic to expect a policy to disappear overnight. It would need a political decision (a policy change) to for example, phase out discretionary subsidies to a given policy field (art, agriculture, local authorities) that may have existed for a long time.

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7 This is discussed in Balibek and Hurcan (2022).
8 These complications aside, there are ways to forecast pension spending from basic demographic projections (for example, those provided by the United Nations Population Division) using an age-based decomposition methodology (see Miller, Mason, and Holz 2013).
V. Key Success Factors

Regular Update of Baselines

From one forecasting round to another, baselines will have to be updated to reflect changing conditions. These changes will be due to evolutions in price and volume parameters, new policies adopted which now form part of the baseline, and/or other adjustments (for example, one off spending, accounting changes). This is relevant for in-year updates (that is, when baselines prepared at the start of the budget cycle are updated to reflect the conclusion of budget negotiations) and for the rolling forward of baselines from one year to the next. In the latter case, a new outer year needs to be added.

At the start of a new budget cycle, the following sequence of events can be followed in updating three-year baselines for a LMA (Table 3):

- Reconcile approved budget with actuals. Update the previous year approved budget with realizations. Use updated forecast parameters and include new policies adopted since the previous round to explain the variations (column A);
- Reconcile estimates for outer years with new estimates. From one year to the next, the first outer year becomes the budget year; reconciliation involves using the previous year’s estimates as the starting point, and updating these with new price and volume parameters, new policies and other technical adjustments to reach the approved budget (column B). The same process is done for the first outer year (column C);
- Add a new estimate for the second outer year (column D).

The costing of new measures to be included in the updated baselines can be conducted at a more detailed level as long as it is compatible with the overall baseline classification. For example, a given ministry may choose to prepare its baseline spending by summing up the baselines of its various programs. By contrast, it may choose to estimate the cost of new policies at a more detailed level (say sub-programs or even activities) to lead a more granular and accurate costing exercise. The ministry would then as a second step be able to aggregate these detailed estimates at program level, so that they can be duly integrated into the revised baselines.

Distribution of Roles and Coordination

Experience suggests that the preparation of good baselines combines a strong central guidance from the MoF and an active participation of LMAs. Most countries start using baselines with the MoF taking a leading role. In the initial years, it will typically undertake the task itself, while receiving the inputs of LMAs (Figure 1). At this early stage, baselines are used primarily for ascertaining fiscal space and for informing the setting of ceilings at the initial phase of

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Table 3. Baseline Reconciliation from One Year to the Next

<table>
<thead>
<tr>
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<th>C</th>
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the annual budget. Later on, LMAs take over this task, while the MoF maintains strong oversight of the process, including specific guidance and templates. At this more advanced stage, the use of baselines could extend to the setting of indicative ceilings for the medium term. As the process matures, LMAs are granted more latitude in preparing baselines, with the MoF retaining a challenge function during budget negotiations. Although the progression along the various stages could also depend on the degree of decentralization of the budgeting process, a common feature is that as countries progress, LMAs take a bigger role in the process.

Within the MoF itself, work on baselines needs to ensure adequate collaboration between the cross-cutting unit in charge of strategy and overall fiscal policy and the sectoral units that monitor specific budgets. The sectoral units, ideally staffed with skilled budget analysts who are able to interact with their counterparts in LMAs, will have a better grasp of the nature of expenditures and a better ability to challenge the LMAs. The cross-cutting unit will need to define and uphold general guidance on construction of baselines. Most of the time, baselines prepared by sectoral units within the MoF will be higher than baselines prepared by the cross-cutting unit. The baseline computed in the early phases of the budget preparation process will often underestimate expenditure and, further down the line, additional information on timelines, and projects may lead to a significant downward revision of the baseline.

A robust institutional setup is key to producing realistic baselines and resisting temptations to “game the system.” Of course, as for all forecasts, there may be downward and upward risks to the central scenario in the baseline. Actors in the budget process may also want at each stage of the process to use baselines to their own best advantage. If in the budget preparation phase LMAs must abide by a pre-set ceiling, they have a strong incentive to minimize the baseline (through underestimation of volume or prices) to maximize fiscal space—apparently—available for new policies or measures corresponding to political priorities. When LMAs are forced to compete for a limited pool of resources but with no pre-set ceiling, conversely their incentive is to maximize the baseline to back up their claim on a larger share of resources. Only a strong challenge function within the MoF as described in the above paragraph can help mitigate these risks, by providing at every stage a well-grounded counter-expertise of the baselines prepared in LMAs and their basic assumptions.

The framework for baselines also needs to secure consistency of baselines with the overall macro-fiscal environment, along successive macro-fiscal forecasting rounds. This applies especially to two factors:

• Internal coordination within the MoF. To have a consistent set of parameters available during the preparation of baselines, macro-fiscal forecasts should be prepared during the strategic phase, updated regularly, and the forecasting rounds timed to coincide with the main milestones in the budget process.

• Coordination between the MoF and LMAs. There should be a channel through which LMAs can communicate with the macro-fiscal unit in the MoF to identify the parameters required for the work on baselines. For example, while the forecasters may prepare projections for the overall CPI, and its main subcomponents, they may need to develop a methodology for forecasting lower level indexes under the CPI (for example, fuel prices, import prices, construction prices).

Use of Baselines to Reflect Institutional and Technical Capacity

It is a common misconception that the use of baselines in budgeting should be limited to advanced economies with mature budget systems. While it is true that most countries making extensive use of baselines...
fall in this category, several low-income and emerging market economies (for example, Kenya, Peru, and Senegal) have made successful attempts to incorporate the use of baselines in their budget processes.

Another misconception is that a full-fledged medium-term budget framework (MTBF), with strong top-down constraints imposed by fiscal rules is required. While a well-designed MTBF enhances the benefits of baselines, producing baselines remains a useful tool in the context of an annual budget and generates several benefits outlined in Section II, namely, greater visibility over spending trends, identification of the fiscal space available for new policies, and easier in-year monitoring of budget outturn through a better understanding of spending dynamics.

When capacity is low, a more limited use of baselines can still be employed focusing on their role in assessing fiscal space and in budget negotiations. A key challenge faced by MoFs in many low-income countries is estimating the level of resources available to finance much-needed social and infrastructure spending in the future. Preparing high-level baselines can help. Another challenge often cited by MoFs is the lack of visibility on commitments related to existing capital projects, which can lead to the adoption of new projects for which resources may not be available. Knowing the baseline can strengthen the hand of a Minister of Finance to push back against unrealistic demands by LMAs.

Complementary PFM Tools

Mechanical reliance on baselines might lead to incremental budgeting and insufficient scrutiny of existing spending. A key benefit of the use of baselines is the ability to avoid renegotiating previously agreed-on funding and shift the focus of budget discussions to key policy measures. This approach can also become a weakness as it might lead to a throwback to incremental budgeting, where most of existing spending does not bear any scrutiny at all.

To counter incremental budgeting, some countries use spending reviews to periodically assess the quality of existing spending. These reviews are conducted in various ways: some countries undertake comprehensive spending reviews (United Kingdom), where all spending is assessed every four or five years; while others focus on one or two spending areas at a time, and roll through the whole of spending over a longer period (Australia, Canada, Korea, The Netherlands). Spending reviews and baselines go hand-in-hand: good baselines provide a spending review exercise with a benchmark against which to identify savings or spending needs, along with the price and volume factors driving future spending; without spending reviews, baselines can remain a black box.

A related risk is that LMAs may consider baselines as future entitlements, thereby resisting changes to their budgetary allocations when conditions change. In addition to creating spending rigidities, this approach can discourage efforts by LMAs and local governments to achieve efficiency gains and keep down costs. This argument is often presented by those resisting the introduction of a medium-term approach to budgeting that relies on baselines.

An effective top-down approach to budgeting may mitigate this risk. It requires a reassessment of the fiscal space every year, a limit on total expenditure adopted, and a budget process that ensures that expenditure allocations do not exceed this limit. Institutionally, top-down budgeting requires a strong MoF, backed by an equally strong political commitment to resolve conflicting pressures and priorities. Other considerations, such as achieving value for money or improving service delivery, should also form part of budget negotiations and may reflect input from the spending reviews mentioned earlier. To further reduce the risk of baselines becoming entitlements, some countries, such as Australia and Sweden, have introduced a charge against the baseline forecast for most agencies to reflect the “efficiency or productivity gains” that these agencies are expected to strive for in the future.

VI. Conclusion

The concept of baselines is a major and powerful analytical tool that aids in good budget preparation. It provides a forward-looking vision of expenditure pressures that help determine available fiscal space or to meet fiscal constraints in the future. It helps focus discussions on the design and adoption of spending or saving measures that require fresh decisions to have an impact. When combined—as is mostly the case—with a multiannual outlook, it clearly shows the cost of inaction and may incentivize reforms to quench

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10A forthcoming IMF How to Note discusses good practice in the design and institutions behind spending reviews (Doherty, Kurian, and Sayegh 2022).
unsustainable spending patterns. This is one major reason why this “baseline” approach is spreading to a wide variety of countries across continents and income categories.

Applying baselines, however, is not as straightforward as it may intuitively appear. Determining baseline expenditure requires making a series of assumptions on the expenditure dynamic and on the nature of the policies underpinned by the budget. Beyond all the technical work on expenditure drivers and price/volume mechanisms, judgement is often needed. A thorough knowledge of policies and their expenditure drivers may reduce but never fully eliminate subjectivity. Differentiation according to economic nature of expenditure constitutes an important principle—specific principles are applicable to the determination of baselines for payroll, for investment or for transfers.

In implementing baselines, countries should consider the following issues. First, finance ministries typically take the lead in launching the baseline approach but, over time, LMAs should be encouraged to assume the main responsibility. Second, a comprehensive and well-designed budget classification system is a key enabler. Third, complementary tools are needed to avoid the pitfalls of baselines, most notably to preclude the risk that the baseline approach leads to a throwback to incrementalism. These tools include spending reviews, which question the value for money of baseline expenditures, and a strong top-down process that ensures that spending is in line with policy objectives and fiscal constraints.
# Annex 1. Some Examples of Uses of Baselines around the World

<table>
<thead>
<tr>
<th>Country</th>
<th>Main objective(s)</th>
<th>Who prepares baselines?</th>
<th>Coverage of baselines</th>
<th>Time frame</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Identify fiscal space and facilitate budget discussions; set multi-year ministerial ceilings</td>
<td>Line ministries</td>
<td>Overall budget (baselines prepared at the level of programs)</td>
<td>4 years</td>
<td>Baselines are defined as “spending that would be appropriated assuming that government policy is ongoing, and do not include new programs, the expansion of existing programs that the government has not agreed to, or programs that are expected to end.” (Parliament of Australia, 2020). They are computed by LMAs following guidance and costing parameters provided by MoF and made public.</td>
</tr>
<tr>
<td>France</td>
<td>Facilitate budget discussions; facilitate review of policies; identify fiscal space</td>
<td>MoF and line ministries</td>
<td>State budget (baselines prepared at the level of missions — policy areas — and programs).</td>
<td>3 years</td>
<td>Baselines (“dépenses à paramètres inchangés” or “tendance”) are calculated separately by MoF and by LMAs (the latter on the basis of guidance provided by MoF) and then discussed in the budget negotiations (“conférences budgétaires”) prior to determination of the ceilings by the Prime Minister.</td>
</tr>
<tr>
<td>Senegal</td>
<td>Facilitate budget discussions</td>
<td>MoF</td>
<td>Budget</td>
<td>3 years</td>
<td>Baselines are computed within the Budget Directorate and help frame the budget discussions with LMAs.</td>
</tr>
<tr>
<td>United States</td>
<td>Transparency on spending trends</td>
<td>Congressional Budget Office</td>
<td>Federal spending (prepared at level of 3,000 subaccounts)</td>
<td>11 years</td>
<td>Baselines are neither meant to predict future outcomes, nor to determine budget allocation; but serve as a benchmark for assessing the effects of new legislation on fiscal aggregates. They are bottom-up estimates, computed on the basis of principles partly rooted in law (for example, the Deficit Control Act which states that mandatory programs are expected to continue even though they may expire during the period of the baselines) and partly developed by the Congressional Budget Office through experience in consultation with the budget committees of the House and the Senate.</td>
</tr>
<tr>
<td>European Union</td>
<td>Fiscal surveillance</td>
<td>Euro area members under guidance from the Commission</td>
<td>General government budget aggregates</td>
<td>3 years</td>
<td>Baselines are used in the preparation of the stability or convergence programs, and of the draft budgetary plans.1 The European Commission offers guidelines to ensure consistency across countries.2</td>
</tr>
<tr>
<td>Poland</td>
<td>Identify fiscal space</td>
<td>Line Ministries</td>
<td>State budget (baselines prepared at ministry level)</td>
<td>3 years</td>
<td>Baselines were introduced in 2017 in line with the transition towards a medium-term orientation to the state budget, against a backdrop of high spending rigidity (roughly 85 percent of expenditures are considered fixed or semi-fixed). The MoF first used data and expertise from line ministries to prepare baselines for the upcoming three years. LMAs are now required to prepare their three-year baselines early in the budget cycle, to be submitted to MoF for review and aggregation in order to brief the Council of Ministers on available fiscal space.</td>
</tr>
<tr>
<td>Peru</td>
<td>Increase allocative efficiency</td>
<td>MoF</td>
<td>General government budget</td>
<td>3 years</td>
<td>For each budget entity (Pliego), the MoF provides multiannual budget allocations as expenditure ceilings before the negotiation, taking into account baselines calculated by the Budget Directorate, information provided by the entities and fiscal space in compliance with the fiscal rules. Budget analysis focuses on the funding difference between the baseline and the proposed budget. Use of cost drivers employed when calculating the baseline is encouraged when analyzing the budget.</td>
</tr>
<tr>
<td>Kenya</td>
<td>Facilitate budget discussions</td>
<td>Treasury (MoF)</td>
<td>Specific line ministries</td>
<td>Annual</td>
<td>In 2018, the MoF embarked on an exercise to separate the cost of ongoing policies from new policy proposals in the budget submissions of line ministries. The rationale of this exercise was to enable the Treasury to assess and challenge the realism of these submissions. The next stage of this reform will be from 2021/22 for the line ministries themselves to provide this distinction in their budget submissions, following specific guidance on baseline and new policy costing by the Treasury. The MoF will then review and challenge these estimates during budget negotiation.</td>
</tr>
</tbody>
</table>

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2See EC (2016).

The French budget circular for 2021\(^1\) stresses that budget preparation work needs to be conducted in accordance with a set of methodological guidelines in order to ensure that budget preparation conferences take place well.

1. Definition of baseline (tendanciel)

The different steps of the budget construction require a precise vision of what relates to endogenous progression of expenditure on the one hand and what relates to new decisions on the other hand. The « baseline » corresponds to the progression of an expenditure linked to its own dynamic, all things being equal. This estimate is based on the appreciation of expenditure drivers and their evolution. Baseline expenditure thus needs to be distinguished from the impact of new measures, be it additional expenditure or savings.

Some expenditures have a compulsory character from a legal standpoint: this applies to debt payment, pensions or social transfers for which a legal base grants a right to the beneficiary (« entitlements »). For such expenditures, the notion of baseline is fully relevant since it is possible to assess the evolution of expenditure in an unchanged legal situation, on the basis of macroeconomic and demographic assumptions notably.

Other expenditures taken into account as part of baseline are not fully discretionary inasmuch as they are linked to past commitments. This is for example the case for outstanding payments related to investments made over past fiscal years, or payments in the framework of concluded public private partnerships. In that case, it is necessary to show clearly the impact of multi-year commitments. Beyond the general definition, the evaluation of baseline needs to be adjusted to each type of expenditure.

2. Type of expenditure

2.1. Staffing and payroll expenditures (title 2 of the French budget classification)

The evolution of staffing ceilings over the period has to reflect overall objectives set for the evolution of civil service staffing levels until 2022. General and specific measures effectively implemented in a legal text will be taken into account in the baseline. No other specific measure or redeployment support shall be integrated in the baseline—even if it has already been announced—unless a legal text has been published. By convention, it will be held that there will be no general increase of civil servants’ wages (stability of point fonction publique).

2.2. Operating expenditures other than subsidies to supervised entities (title 3, category 1 of the French budget classification)

These correspond mostly to supplies, utilities or services utilized directly by the State in the framework of its normal activity. The impact of exogenous economic factors (exchange rate, oil price) is taken into account for the evolution of these expenditures, as long as a direct link exists between this cost driver and the underlying expenditure. The inflation rate will be applied only for those expenditures which are legally indexed (for example some rentals). The activity level is stabilized in real terms. In the absence of evolution linked to direct costs, any increase or decrease shall be treated as a new measure or as a saving.

2.3. Subsidies to supervised entities (title 3, category 2 of the French budget classification)

These correspond to subsidies allocated to supervised entities in order to cover all or part of their operating costs linked to the implementation of public policies entrusted to them by the State. For supervised entities whose total budget includes more than 50 percent of payroll expenditure and whose headcount includes a majority of staff under public employment contracts, the following methods are applied to determine the baseline:

- for the part of the subsidy covering payroll expenditure, the same rules as used for State payroll expenditure are applied
- for the rest of the subsidy, any evolution of expenditure shall be deemed either a new measure or a saving.

For other supervised entities and for the totality of the subsidy, any evolution in expenditure shall be considered as a new measure or a saving.

2.4. Investment expenditures (title 5 of the French budget classification)

These correspond mostly to expenditure dedicated to the purchase of fixed assets which will remain in the

balance sheet of the State. Any investment expenditure that has not been authorized by a commitment appropriation or a legal commitment inscribed in the Finance Laws from 2017 to 2020 shall be treated as a new measure. The sequencing of disbursements of payment appropriations shall correspond to the rhythm of realization of investments as planned in the most recent forecasts, independently of the schedule initially announced. For recurring investment expenditures linked to the maintenance of a given asset, any increase or decrease of expenditure shall be considered as a new measure or saving.

2.5. Discretionary transfer expenditures (part of title 6 of the French budget classification)

These correspond to transfers toward end beneficiaries (households, businesses, local government, nongovernmental organizations) such as allowances for public work schemes, emergency housing or fungible investment subsidies for local authorities. Any increase or decrease in these transfers is considered as a new measure or a saving.

2.6. Transfer expenditures considered as entitlement (part of title 6 of the French budget classification)

These correspond to automatic disbursements as long as the beneficiary fulfills certain conditions set by legal texts. This applies to the allowance for handicapped adults, the earned income subsidy (prime d’activité), housing subsidies or means-tested scholarships. Final outturn for 2019 and forecasts for 2020 are taken into account, as well as the evolution of the indexation of expenditures as long as it is explicitly planned in a valid legal, regulatory, or contractual text.

2.7. Equity injections in supervised entities (title 7, category 2 of the French budget classification)

When supervised entities benefit from a subsidy specifically earmarked toward coverage of investment expenditures, rules applicable to State direct investment (title 5) are applicable.
References


Balibek, Emre, and Hurcan, Y. 2022. “How to Project Interest Payments for the Budget.” Fiscal Affairs Department How to Note, International Monetary Fund, Washington, DC.


