

Evaluating the Costs and Benefits of Corporate Tax Incentives

IN FOCUS

Methodological Approaches and Policy Considerations

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FINANCE,
COMPETITIVENESS &
INNOVATION

INVESTMENT CLIMATE

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Developing countries are increasingly offering tax breaks to attract investors and pursue various policy objectives such as encouraging investments in research and development (R&D) and increasing exports. Such incentives, however, can be very costly to governments. Too often, developing countries—already struggling with revenue mobilization—adopt investment incentives in an ad hoc manner, without analyzing the value for money of these instruments. Cost-benefit analysis can help policy makers demonstrate the direct cost (tax revenue foregone) incurred by governments against the economic benefits being pursued. Global evidence on investment location decisions suggests that while tax incentives can help attract investment, other factors, such as the wider investment climate and market opportunities, matter most. Tax incentives should therefore be conceived as part of a country’s broader investment policy framework and governments should be realistic about the potential impact any measure may have. In this light, cost-benefit analysis can serve as a powerful tool to inform incentives policy reform and offer important inputs into a country’s investment policy strategy.

I. Context: Why Governments Need to Evaluate the Costs and Benefits of Investment Incentives

“Striking the right balance between an attractive tax regime for domestic and foreign investment using tax incentives, and securing the necessary revenues for public spending, is a key policy dilemma.”

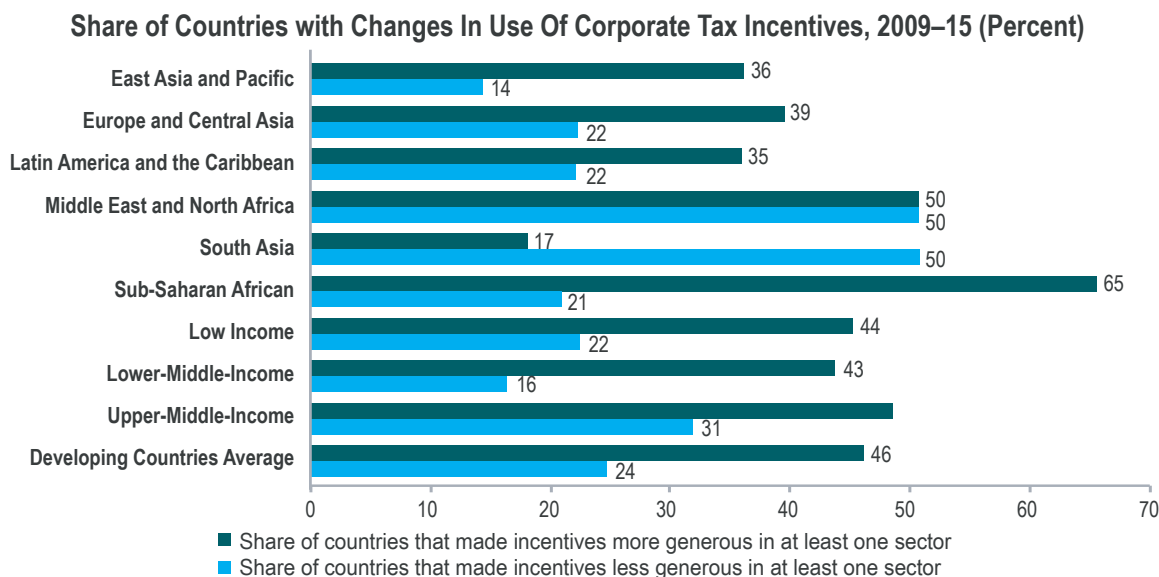
— IMF, OECD, UN, and World Bank 2011

The Growing Prominence of Tax Incentives and Their Fiscal Implications

Developing countries are increasingly relying on investment incentives to attract investors and influence their activities. As of 2015, out of 107 developing countries, more than half were granting tax holidays or preferential corporate tax rates across sectors at the national level. Between 2009 and 2015, 46 percent of them adopted new tax incentives or made existing incentives more generous (Andersen, Kett, and von Uexkull 2017) (see figure 1).¹

¹ The values cover corporate income tax reductions/holidays at the national level only. Other tax incentives are often offered at the subnational level (such as concessions on municipal taxes), suggesting that overall usage is likely even more widespread.

Figure 1. Nearly Half of Developing Countries Introduced New Tax Incentives or Increased the Generosity of Existing Ones from 2009–15



Source: Andersen, Kett, and von Uexkull 2018.

The growing popularity of corporate tax incentives derives partly from increased competition to attract foreign direct investment (FDI). Policy makers are driven to match, or even surpass, their regional neighbors by offering more generous concessions, which can motivate unhealthy competition between states, referred to as a “race-to-the-bottom.” From the governments’ perspective, foregone tax revenue from the reduction in firms’ tax liability can impose significant fiscal losses if incentives are not strategically conceived and applied. The costs of incentives are most burdensome for lower-income countries, which are already struggling with revenue mobilization, and where tax incentives tend to be less influential in attracting investment (IMF, OECD, UN and World Bank 2015a). International cooperation among countries on tax incentives policy can play a key role in curtailing some of the risks, but such frameworks are notoriously challenging to implement and require a longer-term time horizon.

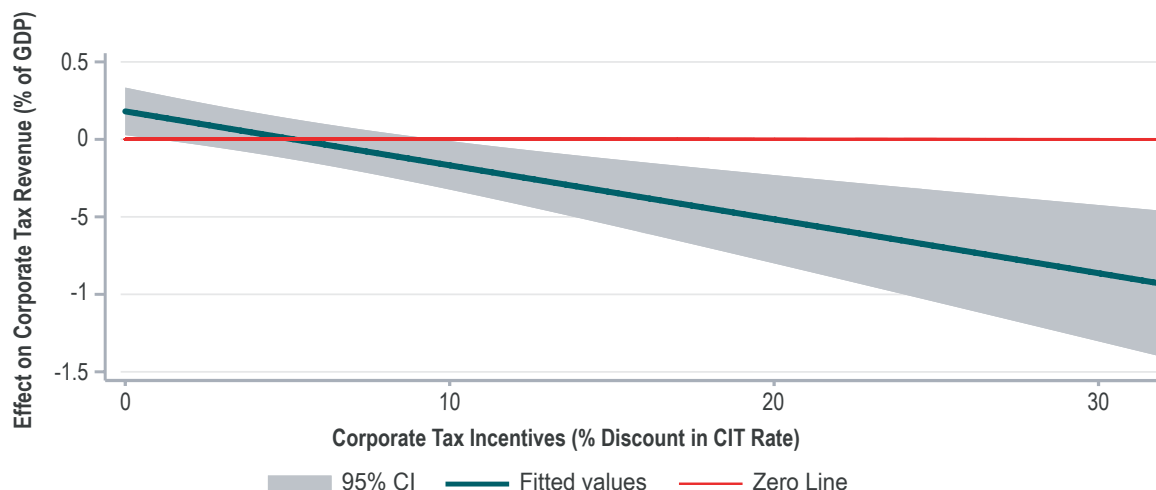
Policy makers who advocate for the use of incentives often justify their costs by suggesting that they are compensated for by the new investment, jobs and spillovers created by the firms benefiting from these concessions. But such assertions are rarely based on proper evaluation methods and the underlying

economic evidence. In fact, at the global level, there is a strong, negative relationship between the generosity of countries’ corporate tax incentives and their corporate tax revenue as a share of GDP. Figure 2 shows that for each 10-percentage point increase in corporate tax incentives, corporate tax revenue goes down by around 0.35 percent of GDP. A likely reason for this finding is that incentives do not only go to new, foreign firms, but also commonly reduce the tax liability of existing firms in the country, thus eroding the overall corporate tax base.

The Tenuous Impact of Tax Incentives on Investment

The role of tax incentives in influencing companies’ investment decisions is generally quite limited, although they have demonstrated some results in specific contexts. In countries like the Republic of Korea, Taiwan, China, and Singapore, tax incentives have been shown to be part of a broader strategy that helped attract investors and encourage industrialization between the 1960s and 1990s (Wade 1990; Tanzi and Shome 1992). However, surveys of investors around the world find that firms often do not rank incentives among their top reasons for investing but rather are often trumped

Figure 2. More Generous Tax Incentives are Associated with Lower Corporate Tax Revenue



Source: Authors' calculations based on the World Bank Group's Global Tax Incentives Database (Andersen, Kett, and von Uexkull 2018) and World Development Indicators (WDI), covering 109 countries: 72 developing countries and 37 high-income countries, for 2009–15.

Note: Corporate tax incentives are measured as percent-point difference between the standard corporate income tax (CIT) rate and tax incentive CIT rate. See annex table A.1 for details. CI = confidence interval.

by other variables, which typically include market opportunities and the broader investment climate (Kusek and Silva 2018; James 2014).

As a result, at the aggregate level, tax incentives often result in little or no new investment (Allen et al. 2001; IMF, OECD, UN and World Bank 2015a; Klemm and Van Parys 2012; Van Parys 2012). At the same time, they can pose a risk to government finances. For example, an assessment of the Eastern Caribbean Currency Union from 1990 to 2003 found that tax incentives had limited effect on FDI, though they significantly aggravated fiscal deficits and debt overhangs (Chai and Goyal 2006; James and Van Parys 2010).

The success of incentives in attracting FDI depends strongly on country-level characteristics. Tax incentives are more effective in countries with better infrastructure, reasonable transport costs, and a policy framework favoring investment (Bellak, Leibrecht, and Damijan 2009; Kinda 2014). In fact, tax incentives have been shown to be eight times more effective in attracting FDI in countries with good investment climates (James 2014). Investors

that are more internationally mobile (such as globally oriented manufacturing and financial services firms) have also been found to be more responsive to tax incentives (Zolt 2013). Other country-level factors such as political stability, regulatory quality, and market opportunities are more critical to investors' initial location considerations compared to tax rates and incentives (World Bank 2017; UNIDO 2011). In general, a low tax burden cannot compensate for a weak or unattractive FDI environment (Göndör and Nistor 2012). Yet, for suitable locations, incentives can play a role in the final stage of the site selection process when investors are deciding on shortlisted locations and wavering between similar options (Freund and Moran 2017).

In this context, different approaches and strategies for incentives reform may be warranted across countries. For example, in countries with poor performance along dimensions reflecting their investment climate, it may be best to streamline tax incentives to protect these countries' tax base. Tax revenues can instead be directed to help reduce firms' cost of doing business (such as through public investment in infrastructure and utilities). In countries with better

investment climates, tax incentives may be targeted toward higher-potential investors who are likely to be influenced by these instruments and contribute to economic development objectives. Deciding on the appropriate approach to take requires a better understanding of the costs and benefits of the existing incentives framework, which can inform policy reforms to improve the targeting, design, transparency, and administration of tax incentives.

II. Methodology: How Can Governments Undertake Cost-Benefit Analysis

Defining and Mapping Corporate Tax Incentives

Tax expenditures can be defined as “all tax measures that deviate from an established benchmark tax system” (Baar and Chandler 2017). Therefore, the type of tax expenditures included depends critically on how the benchmark tax system is defined, which varies across countries. While some countries use a narrowly defined set of tax measures to be departures from a “benchmark” tax system (such as tax subsidies), others cover many tax measures (such as “all available tax reductions, discounts and exemptions”) (ICAS 2009).

Corporate tax incentives constitute a subset of tax expenditure that are departures from the benchmark system that are granted only to those investors or investments that satisfy the prescribed conditions (Easson and Zolt 2002). To identify which measures can be considered tax incentives, three main criteria may be used (IFC 2014):

- They apply only to a subset of taxpayers that qualify according to a targeted set of criteria (such as companies located in export-processing zones).
- They are designed to induce a change in firms’ economic activity (such as to encourage a firm to locate in a particular location, or to invest more in R&D).

- They represent an exception and a departure from regional tax conventions and benchmarks (for example, they include tax holidays—which no country regards as standard—but do not include an investor’s ability to deduct investment expenses, which is conventional in almost all countries).

Estimating the Costs

Tax incentives bear a range of different costs, including the direct cost (such as tax revenue foregone), government administrative costs, and various indirect costs like market distortions from weakened domestic competition and increased risks of rent-seeking. Most analytical cost-benefit techniques focus on measuring the direct costs incurred by governments through tax revenue that is not collected. This cost often has the most profound effect on public finances, and is methodologically easier and less subjective to estimate than indirect costs.

There are various ways to calculate the direct cost of tax incentives (see box 1). The different approaches to measuring these tax expenditures can result in significantly different estimates of their value. Most countries rely on the revenue foregone approach, which is an estimation of the static revenue loss incurred by governments from the introduction of a tax incentive compared to the standard or benchmark rate² (IMF, OECD, UN and World Bank 2015b).

Example calculation using revenue foregone approach: A firm in country A has a total taxable profit of US\$90 million. It benefits from a 15% reduced corporate income tax rate, rather than the conventional 30% rate. The tax expenditure associated with this incentive equals: $(\text{Taxable Profits} \times \text{Benchmark Rate}) - (\text{Taxable Profits} \times \text{Discount Rate}) = (\text{US\$90 million} \times 0.30) - (\text{US\$90 million} \times 0.15) = \text{US\$13.5 million}.$

² While the benchmark rate is obvious at times (such as corporate tax rates applied to most firms), in other cases it is less clear, especially for taxes that vary considerably, such as customs duties. Because countries differ in how they define their benchmark tax system, cross-country comparisons of tax expenditures (such as tax expenditure as a share of GDP) can be misleading and should be interpreted with caution.

Box 1. Approaches to Estimating the Direct Cost of Tax Incentives

There are three main ways to estimate tax expenditures related to incentives:

- The **revenue foregone** method is a calculation of the static revenue loss incurred by introducing a tax incentive, assuming everything else remains unchanged. This is an ex post calculation of the difference between the revenue raised by the benchmark and the case in which the tax incentive is introduced into the tax system. This method does not consider interactions with other tax incentives or behavioral effects on taxpayers.
- The **revenue gain** method is defined as the amount by which tax revenue increases by eliminating a tax incentive, considering the change in taxpayer behavior and the effects on revenues from other taxes because of a shift in tax incentives. Since this approach depends on expected changes in taxpayer behavior and interactions with other taxes, the estimates are sensitive to the behavioral parameters (such as elasticities) used in the calculations.
- The **outlay equivalence** approach estimates the equivalent amount of direct incentives that would be required, in pre-tax dollars, to achieve the same after-tax dollar benefit if a tax incentive were replaced by a corresponding direct incentive program, with which the tax incentive is associated.

Direct cost estimates should consider not only corporate income tax incentives, but should also extend to the wider combination of tax concessions offered to firms, including customs duties, capital gains tax, pay-as-you-earn, and value added tax. Ultimately, it is the aggregate of all these incentives that constitutes the total amount of government support. Different tax types often differ in their amount and targeting of support for firms.³

Defining Success

A key conceptual step for undertaking a cost-benefit analysis of incentives is to identify the policy objectives (benefits) pursued through such instruments. Two broad types of objectives can be identified.⁴ The ways of defining their overall “success” or “failure” differ (figure 3).

- **Locational incentives** seek to attract new investors into a country or region by reducing their (tax) costs and thus raising their expected profit margins. Conceptually, firms would only

consider locating in a specific country or region if their general return on investment is above a minimum return to investment benchmark, also known as the “hurdle rate,” and their profitability is competitive to other locations and other types of investments (World Bank 2016; Forstater 2017). The aim of locational tax incentives then is to raise a firm’s expected level of profitability and are considered successful if they help switch a firm’s decision from “do not invest” to “invest,” or motivate the firm to invest in one location over another.⁵

- **Behavioral incentives** aim to stimulate firms’ use of specific inputs/factors of production (such as employment) or raise types of outputs (such as exports) by lowering their user costs (such as by reducing payroll taxes or reimbursing export expenses). Behavioral incentives are considered successful if they motivate firms to change their operational activities, for instance, by employing more staff or investing in more R&D than they would have otherwise.

³ Each incentive will have a different effect on firms’ tax liability, requiring separate micro-simulations and analysis that consider the interactions among all incentives to estimate the cost of the comprehensive set of incentives combined.

⁴ These two broad types of investment incentives are not mutually exclusive and typically intersect in practice. The categorization is helpful in defining key parameters to develop a measure for the benefits. See box 3 for an example where both locational and behavioral metrics were examined for a more holistic cost-benefit estimate.

⁵ To minimize the risk of market distortions by “picking winners,” governments should generally avoid targeting individual firms through their incentive schemes. Instead, targeting can be based on type and characteristics of investors (such as their sector, size, and activities).

Figure 3. Locational and Behavioral Incentives Have Different Aims and Expected Benefits

Objectives	Attract New Investment	Grow Strategic Sectors	Create Jobs	Promote R&D & innovation	Promote Exports
Objective Type	Locational Objectives (Attracting New Firms)		Behavioral Objectives (Shifting Firm Behavior)		
Incentive Aim	Raise firms' expected level of profitability • Effect on profit • Transparency/clarity		Lower user cost of specific behavior • Effect on input cost • Effect on output cost		
Incentive Success	New firms establish in the country/region due to incentives		Firms use inputs more/produce more output due to incentives		
Incentive Failure	Firms receiving incentives would have located there anyway		Firms receiving incentives would have used the same inputs/same outputs anyway		

Note: R&D = research and development.

Measuring the Benefits

There are different approaches to quantifying the benefits of incentives. To consider attribution, the focus is on identifying “marginal changes”—that is, whether and to what extent the incentives are necessary for the investment or changed behavior to take place. Different tools may be used to assess effectiveness of locational and behavioral incentives.

Locational Incentives

When considering the effectiveness of locational incentives, there is an underlying methodological limitation stemming from the inability to observe the performance of firms that chose not to settle in a specific location. Without a “control” group, there is no direct way to estimate a counterfactual. Three different approaches are often leveraged in this regard, each with different data requirements, strengths, and weaknesses (figure 4):

- **Return on investment (ROI) analysis** uses firm-level data to conduct a micro-simulation of the effect of all incentives on profitability. ROI is defined as post-tax profits divided by total capital stock. A comparison of the estimated ROI of firms with and without incentives helps determine the role of incentives in firms' location decisions (see box 2). This approach is

the most rigorous, compared to the other two approaches described below, but is also the most data-intensive and time-consuming.

- **Sectoral regression analysis** considers the relationship between incentives and the total number of firms in a sector.⁶ This approach commonly considers how taxes affect tax liability of a “sample” firm in that sector by imputing the average effective tax rate (AETR).⁷ If sectors with more generous incentives observe a greater increase in number of firms, incentives may have helped attract those investors. This approach is faster, but also less robust than ROI analysis. Because governments may simultaneously adopt other policies that affect firm numbers across sectors, it can be difficult to isolate the effect of incentives alone on changes in the number of firms in each sector.
- **Investor motivation surveys** can provide qualitative data on the role of incentives by directly asking investors if they would or would not have invested in the country in the absence of these concessions. Such surveys commonly focus on firms already established in the country that are receiving incentives. It can also include other multinationals exploring whether to invest

⁶ For an example of this approach applied to Hungary, Latvia, and Poland, see Clark and Skrok (2019).

⁷ AETR is calculated by dividing each firm's overall tax liability by its overall net taxable income.

Figure 4. Approaches for Evaluating Locational Incentives Have Different Data Requirements, Strengths, and Weaknesses

	More Data-Intensive ←		→ Less Data-Intensive
Type of Analysis	ROI Analysis (Micro-Simulation)	Sectoral Regression Analysis	Investor Motivation Surveys
Data Requirements	Firm-level data (corporate tax declaration, capital stock).	Sector-level data (number of firms, incentives eligible).	Investor survey data (sampled from firms receiving, or eligible for, incentives).
Strengths	Most rigorous and detailed results.	Fastest approach. Requires little data. “First-cut” option.	No previous data required. Can assess awareness of incentives. Helps in ranking of incentives.
Weaknesses	Heavy data requirement. More difficult and time-consuming.	Not as rigorous/accurate.	Not always representative. Firms’ response and actual behavior may differ.

in the country. However, this approach may lack representativeness and suffer from biased responses if investors inflate the importance of incentives. More broadly, firms’ survey responses and actual behavior may differ.⁸

Behavioral Incentives

When considering behavioral outcomes, standard impact evaluation approaches such as difference-in-differences, propensity score matching, and regression discontinuity design may be leveraged to assess different performance indicators. Three main approaches stand out:

- **User Cost of Capital (UCC) approach⁸** assesses the effect of corporate tax incentives (such as tax holidays) on a firm’s total amount of investment. The approach combines information about tax rates, tax incentives, and depreciation to estimate the cost of investment after taxes. These data points are then used in a regression with investment rates as a determinant to derive the long-term elasticity of investment to the user cost of capital, which is used to predict how incentives affects firms’ level of investment.
- **Tariff Reform Impact Simulation Tool (TRIST)** is a World Bank Group tool to assess the impact of

tariff reform on domestic output and tax revenue using price-demand elasticities. An adapted TRIST can similarly assess the effect of customs duty exemptions (versus full tariff prices) on firms’ input costs, output, employment, and profits (benefits), as well as foregone tax revenue (costs).

- **Conventional regression analysis** is commonly used for all other behavioral incentives (such as R&D grants and employee training deductions). Such analysis is based on a comparison of a “treatment” group (firms receiving incentives) and a “control” group (comparable firms that are not receiving incentives but are otherwise similar to the “treatment” group in terms of sector, size, capital intensity, etc.). The difference in behavior between the two groups then helps identify the effect of incentives.

Comparing Costs With Benefits

Once both the costs and benefits of incentives have been estimated, different metrics can be used to compare them and to gauge the “value for money” of incentives. For benefits, the focus is on contributions to the objectives of the incentive programs (such as job creation, export growth, or new investment). For

⁸ Investor motivation surveys may also be used to gain insight into the role of behavioral incentives by asking investors whether, and to what extent, they would have engaged in the incentivized activity (like investing in more R&D) without the concession. The approach has the same advantages and challenges as in the locational context. Investor motivation surveys can often serve as a valuable complement to other more rigorous evaluation approaches.

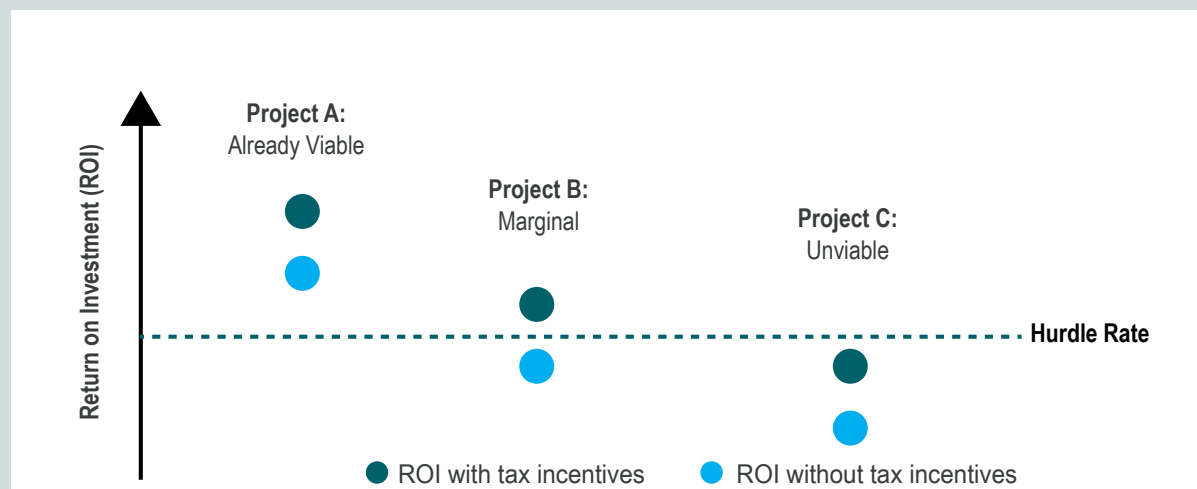
⁹ For more details, see James (2014); and World Bank (2016).

Box 2. A Closer Look at the Return on Investment (ROI) Approach

The ROI approach relies on the premise that tax incentives are considered effective if they allow a company to become profitable when they would be otherwise unprofitable without tax incentives. Profitability is defined as exceeding a minimum return to investment benchmark or the “hurdle rate”^a related to the investment. Tax incentives are considered redundant, meaning that the incentive was not ultimately influential in the investor’s marginal decision, if a firm is sufficiently profitable in absence of the tax incentives. Firms whose returns remain below the identified hurdle rate even with incentives, or above it even without incentives, are also less likely to be affected in their investment decision by incentives. Based on these considerations, three types of firms can be identified (figure B2.1):

- **Already viable (project A):** Firms that would be highly profitable even without tax incentives. Tax incentives are likely to be redundant for this type of firm.
- **Marginal (project B):** Firms that shift from being insufficiently profitable to profitable with the tax incentives. Tax incentives are likely to be cost-effective in attracting this type of firm.
- **Unviable (project C):** Firms that are unprofitable, even with incentives, so the firm is likely to be unresponsive to incentives. Tax incentives are likely to be redundant for this type of firm.

Figure B2.1. Firm Profitability and Investors’ Location Decisions



Note: The ROI approach to cost-benefit analysis is explained in more detail in James (2014).

^a The “hurdle rate” is the minimum rate of return a company expects to earn when investing in a project. Also known as the required rate of return or target rate, it is the rate that is needed for a project to proceed. Defining an appropriate investment hurdle rate is required for this type of evaluation and two approaches may be considered: (1) The user cost of capital can be estimated by summing the cost of borrowing (lending rate) and the opportunity cost of time (inflation rate). This sets an absolute minimum ROI that capital must meet to break even. (2) The expected ROI can also be obtained based on investors’ self-reporting from investor motivation surveys. It should be noted that estimating an average hurdle rate across the economy or sectors will invariably have limitations since different types of firm characteristics (e.g. financing structure, capital allocations, etc.) influence the actual value.

the costs, the key variable of interest is the net effect on tax revenue. By dividing specific benefits by the costs, several useful ratios can be estimated, such as the cost-per-job-created, the cost-to-export ratio, and/or the cost-to-investment ratio.

Cost-benefit ratios can be an important input to inform policy reforms to a country's incentives regime. It can be helpful to consider differences in cost-benefit ratios across types of tax incentives (such as tax holidays versus customs duty exemptions) or across different priority sectors (see box 3).

III. Conclusions: How Can Cost-Benefit Analysis Inform Incentives Policy

Developing countries are faced with a policy tension. On the one hand, they feel they need to offer more tax breaks to keep pace with growing global competition for investment. On the other hand, they need to increase domestic tax revenue to ensure fiscal sustainability. Cost-benefit analysis can improve and inform important policy dimensions, including:

- **Fostering greater transparency of public finances:** Systematically estimating the revenue foregone from incentives can result in greater transparency of public finances. Especially since the costs associated with tax incentives can face less scrutiny than direct government spending, estimating and incorporating such analysis as part of the budgetary process can lead to more informed budgetary and fiscal policy decision-making.
- **Gauging the impact of incentives and their opportunity cost:** Comparing the costs of incentives to benefits (such as levels of investment, and jobs created) helps inform whether and to what extent incentives are achieving their aims and at what expense. A comparison also sheds light on whether these instruments are the most cost-effective means to achieve policy objectives or whether government funds are better allocated by focusing on other measures (such as public investments in infrastructure).

- **Advising policy targeting and design of incentives:** Benefits from incentives may differ by sector and type of firm. Cost-benefit analysis can help target the types of investors whose decisions to invest are most likely swayed by incentives. If incentives are used, the findings from the analysis can inform government decisions on how to reform incentive programs to maximize their value for money.

The different approaches for examining the role of incentives on investors' locational and behavioral decisions can be used *ex ante* to forecast the outcomes of incentives or weigh different policy options, as well as *ex post*—integrated as part of a broader monitoring and evaluation framework. Such analysis may suggest reforms to scale up or down certain incentives (such as by incentive type or beneficiary sectors); change incentive targeting by revising the eligibility criteria; improve incentive administration (such as by addressing compliance issues or rent-seeking behavior); or adjust the parameters of the underlying corporate tax structure.

However, undertaking an isolated cost-benefit evaluation of incentives covers only part of the story around the success and challenges of these instruments. Variations across the cost-benefit ratios may be attributed to many different factors that go beyond the characteristics of the tax incentives. The effect of incentives is fundamentally entrenched in broader aspects of a country's investment, trade, competition, and tax policies, as well as the related administration and governance. Any reform option needs to be considered within the broader enabling environment, tailored to country-specific variables, and integrated with complementary qualitative assessments (especially in countries with limited data).

The key objective is for governments to consider cost-benefit analysis in their arsenal of diagnostic tools. And the larger premise of the exercise is for governments to shift away from an incentives system that is often based on vested interests or anecdotal observations to one that is rooted in economic evidence.

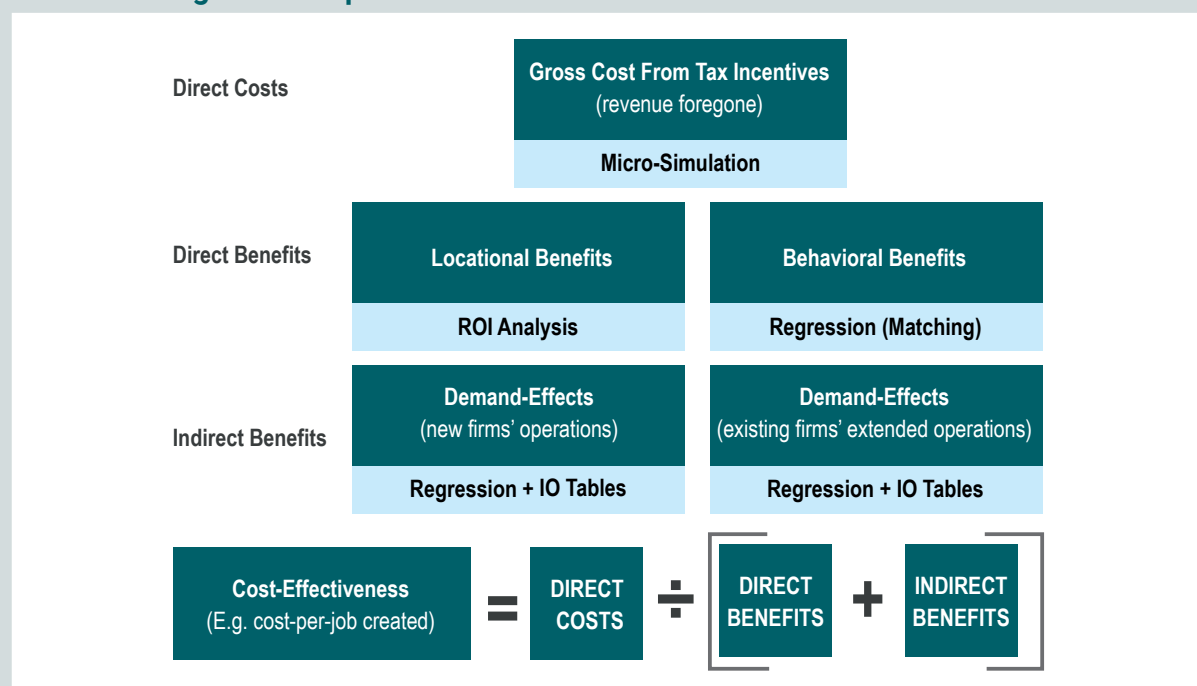
Box 3. Cost-Benefit Analysis of Corporate Tax Incentives in the Philippines

In 2018, the Government of the Philippines approached the World Bank Group for assistance in its efforts to reform the country's incentives regime. As part of its policy planning, the Government wanted to better understand the overall revenue impact and developmental benefits brought about by corporate tax incentives (including reviewing different tax policy proposals). To address this request, the World Bank Group supported a cost-benefit evaluation of incentives, considering the potential benefits across a range of objectives (locational and behavioral), combining various empirical methods. As illustrated in figure B3.1, the approach brought together four components:

- **Direct costs** (revenue foregone) estimated through a micro-simulation;
- **Direct locational benefits** (attracting new firms) analyzed using the ROI approach;
- **Direct behavioral benefits** (such as raising employment for existing firms) identified through matching-based regression analysis; and
- **Indirect benefits** (such as jobs created via supplier linkages) identified by considering sectoral input links (via industry Input-Output tables), combined with estimated employment-to-sales elasticities.

Combining these components, all the costs and benefits were compared across sectors via aggregate cost-benefit ratios. The output reflected a wide range of cost-per-job ratios. Policy makers were then able to leverage this analysis to inform recommendations on streamlining the country's incentives regime by focusing resources on those sectors and incentive instruments for which the cost-benefit ratios were more favorable.

Figure B3.1. Combining Locational and Behavioral Outcomes to Undertake a Cost-Benefit Analysis of Corporate Tax Incentives



Note: IO = input-output; ROI = return on investment.



Annex

Regression Analysis: The Relationship Between the Generosity of Tax Incentives and Corporate Tax Revenue (see Figure 2)

Table A.1. Regression of Generosity of Tax Incentives and Effect on Corporate Tax Revenue

Variable	Corporate Tax Revenue (Percent of GDP)
CIT Rate	0.195*** (0.0247)
Tax Incentives Rate	-0.0602*** (0.0140)
Region X Year Fixed Effects	Yes
Observations	682
R-squared	0.1871

Source: Authors' calculations based on the World Bank Group's Global Tax Incentives Database and World Development Indicators (WDI) for 2009-15, jointly covering 109 countries: 72 developing countries and 37 high-income countries. See Andersen, Kett, and von Uexkull (2018) for details about the World Bank Group's Global Tax Incentives Database. Although only developing countries are covered in the publication, the full dataset includes high-income countries as well.

Note: Corporate tax incentives are measured as percent-point difference between standard corporate income tax (CIT) rate and tax incentive CIT rate. Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.



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