



FISCAL AFFAIRS

How to Evaluate Tax Expenditures

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Context

Reporting on the revenue impact of TEs is key for fiscal transparency (IMF 2018)...

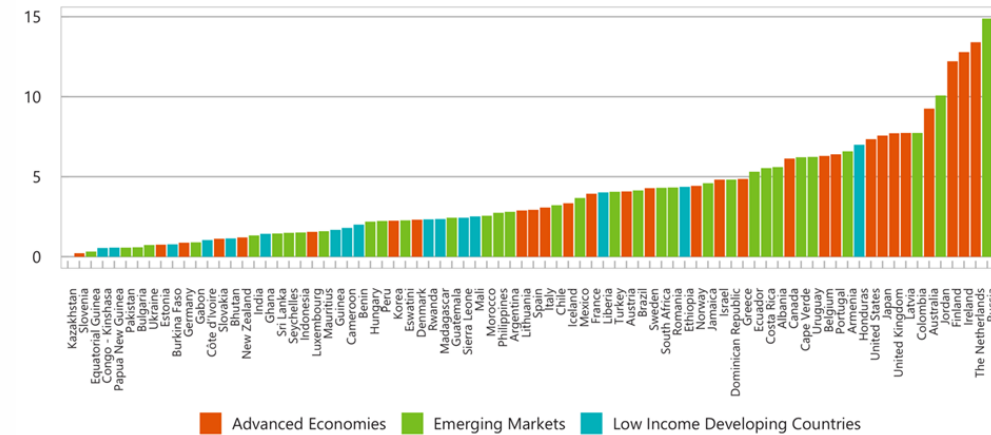
....and the starting point for any policy debate on their appropriateness

Heady & Mansour (2019) provide guidance

Systematic quantification of revenue forgone advanced considerably (> 100 countries)

Proliferation and complexity of tax incentives regimes often remains a reform priority

Total tax expenditures (in percent of GDP)



Source: [Global Tax Expenditures Database](#)

Context cont'd

Policy reform requires a discussion of both costs and benefits

Few countries evaluate TEs with any regularity and evaluations are often performed on an ad hoc basis rather than institutionalized

Evaluations can help guide informed decision-making and avoid a narrative on TEs driven by profiting stakeholders

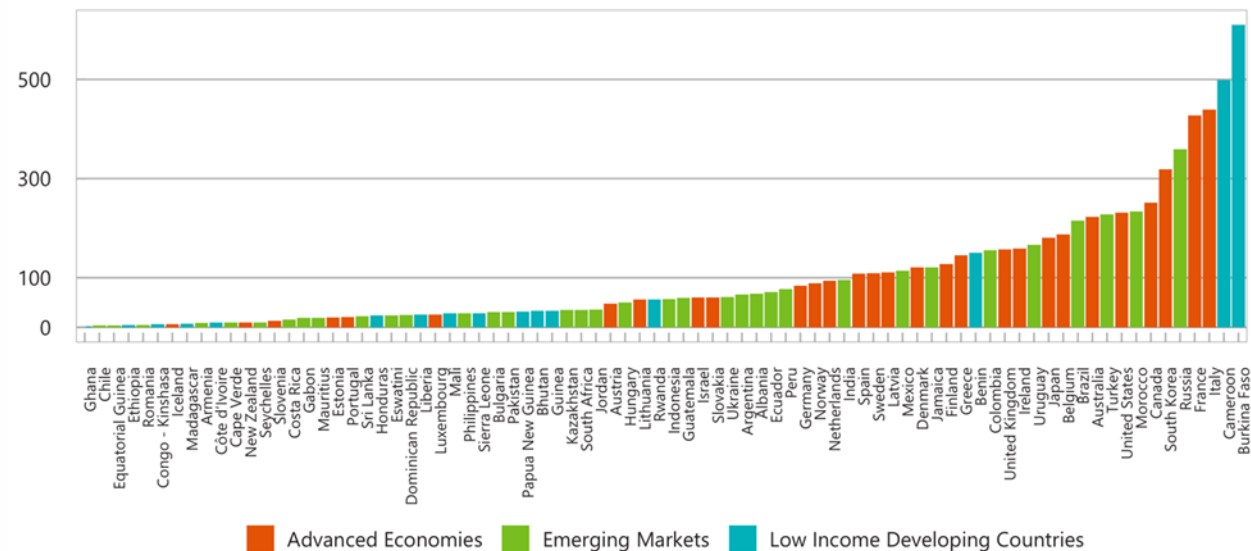
- Systematic process to gather and analyze available quantitative and qualitative information on TE effects
- Tailored to different levels of data availability and analytical capacity
- Can contribute to refinement of cost estimates

Scope, depth and timing of evaluations

Conducting in-depth annual research on all TEs is not practically feasible in most economies

It is, however, desirable to evaluate all TEs periodically over a multi-year evaluation cycle (Germany, Netherlands, UK)

of recorded tax expenditures



Source: [Global Tax Expenditures Database](#)

What should be evaluated?

Evaluations should seek to answer the same set of basic questions, irrespective of methods and resources employed:

- Is a TE effective in achieving its stated or implied objectives?
- At what direct and indirect costs are objectives achieved?

PCT (2015) provides a template to guide evaluations of tax incentives for investment

Practical steps: (i) clear delineation of intended purpose and functioning (ideally done ex-ante); (ii) mapping expected effects (“theory of change”/ “logic modelling”) to illustrate causal relationships and pathways for unwanted effects

Guiding Questions and Indicators

Frequently it is not feasible to quantify all outcomes that have been identified

Yet often even a simple review with reference to qualitative indicators can be a meaningful contribution

Questionnaires can help ensure the process addresses all components (direct and indirect)

Box 2. Sample Evaluation Questions

Effectiveness

- What are the intended benefits of the program and who are the intended beneficiaries?
- Do most eligible taxpayers claim the TE? If not, what prevents them from doing so?
- What are potential indirect benefits?
- Would the desired behavior also occur in the absence of the expenditure?
- What is the potential for displacement effects?

Costs

- How large and how reliable are the cost estimates for the program?
- What is the potential for market distortions introduced by the tax expenditure?
- How is the qualifying threshold for accessing the tax expenditure being monitored?
- What are the “pain points” with regard to administering the program?
- Are there any issues with claims being submitted by taxpayers who are ineligible?
- How simple is it for eligible taxpayers to obtain the tax benefits?
- What are the implications of the tax expenditure for horizontal and vertical equity?
- Are there any unwanted side effects of the program?

Potential for improvement

- Are there any program changes that would reduce the compliance burden associated with the tax expenditure?
- Are there any program changes that would make the program easier to administer?
- Is eligibility defined in a way that maximizes the tax expenditure’s effectiveness?
- Could the benefits be delivered more effectively and efficiently through a direct expenditure program or a different tax mechanism (e.g., a refundable credit rather than a deduction or non-refundable credit)?
- Does the tax expenditure overlap with other tax expenditures or direct expenditure programs that are targeted at similar objectives? If so, how do they interact, and should they be evaluated together?

Tools for measuring impact

A wide range of instruments at disposal of evaluators

- Minimum: Basic indicators of direct cost and benefits
- Maximum: Structural models to capture relevant direct and indirect effects
- In between: A variety of reduced-form estimation approaches

Since TEs vary greatly in terms of their design, operation, and intended benefits, there is no “one-size-fits-all” approach to measuring their impact

Commonly used Tools for Evaluation

Tool	Basic Description	Areas commonly assessed	Examples
Survey based qualitative analysis	Providing a descriptive profile of beneficiaries, self-reported impacts, and experience	Targeted TEs with narrow group of beneficiaries.	Amarach Research (2012) review of experience with the Film Tax Credit in Ireland
Effective tax rate measures ¹	Summarizes combined impact of statutory tax rates, tax incentives, and features of the tax system on the effective tax burden.	Assessment relative impact of different TE investment incentives on tax liabilities. Average effective tax rates are commonly used to assess tax incentives impact decisions to locate FDI activities	Botman, Klemm and Baqir (2010) comparing investment incentives for seven East Asian economies.
Interrupted Time Series Analysis (ITSA)	Seeks to identify impact of a TE by comparing pre-implementation trend for the expected result to post-implementation implementation	Used where incentives apply broadly and no suitable comparison group of taxpayers who did not qualify is available	The Canadian Department of Finance using administrative data to assess impact of TE on R&D expenditures.
Quasi experimental econometric methods: Difference-in-Differences (DID) Analysis, statistical matching methods, and regression discontinuity designs	Compare whether deviations in pre- and post- differ for beneficiaries of TEs and a similar group of non-beneficiaries	Whenever suitable comparison groups can be identified using based on eligibility criteria of the incentives.	Indecon (2019) using trade data to estimate impact of TE on export performance of beneficiaries in Ireland.
Static simulation models: Microsimulation (MSM) and models based on I-O data /S-U tables	Computing the impact of tax incentives on the tax liabilities of a representative sample (or in some cases, the entire population) of taxpayers. Other models can be based on Household survey data, for example to evaluate targeting of VAT exemptions and reduced rates or the input and output VAT of certain sectors using disaggregated economic data	When seeking to assess distribution of TE benefits across income groups (among individual taxpayers) or by size and sector (among corporate taxpayers)	The U.S office of Tax Analysis (2016) using administrative data to measure distribution of retirement savings. Hutton (2010) presents a micro-simulation framework for evaluating VAT TEs.
Overlapping generations models	Studying long-run life-cycle behavior (e.g., retirement savings) and resource allocation across generations.	Impact of TEs impacted by demographic trends, such as education, health, and retirement incentives	Cifuentes (2005) on retirement savings incentives in Chile.
Structural Modelling: computable general equilibrium (CGE) models, (and dynamic stochastic general equilibrium models (DSGE)	Used to account for spillover effects of TEs on employment, capital investment, productivity, and income as well as induced (multiplier) effects that are brought about through increased consumption.	To evaluate TEs that are intended to promote substantial indirect benefits.	Copenhagen Economics (2007) evaluating the impact of VAT rate reduction in the EU.

Practical Implementation: Information Sources

A pragmatic approach for getting suitable data:

- Leveraging all available information sources, starting with administrative data, and collecting additional data where readily available information is insufficient
- Sufficient lead time needed to secure access to information sources (data protocols with other agencies)...
- ... and/or to expand reporting obligations (ideally ex-ante)

Practical Implementation: Institutionalization

TE evaluations require well-coordinated institutional arrangements (e.g., with Auditor General, Fiscal Councils, Line Ministries)

- A strong case for centralizing oversight under the auspices of the Ministry of Finance to ensure balanced and objective approach
- Tax Policy Units (Grote 2017) to steer evaluation efforts, feedback loop for future tax designs

External partnerships in conducting evaluation studies are common (Germany, the Netherlands, etc)

- High returns to transparency: Making (anonymized) administrative data publicly available; Publishing independent evaluation reports, ...

Conclusion

Evaluations of TEs are an important tool for better (tax) policy making

Cost estimates are a critical starting point but often need to be complemented with an assessment of benefits to drive policy decisions

Efforts can be challenging and resource intensive, but even basic qualitative and partial quantitative analyses is preferable to ceding the discussion to benefiting stakeholders

There is no single best practice approach to replicate

With limited resources, countries should initially focus on the most important TEs, but seek to gradually expand their evaluation mandate