



## Estimating Economic Benefits for Revenue Administration Reform Projects

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*The World Bank relies in part on economic benefit estimates to evaluate the merits of investment projects. Recent lending operations for revenue administrations in Vietnam have led to some rethinking of these calculations. This Note shares their findings.*

Financial and economic analysis, particularly the cost-benefit-analysis (CBA), is part of the standard requirements in the Project Appraisal Document (PAD). The CBA section of PAD is a summary of the quantitative assessment of the project's incremental net benefit to the society, taking into account the comparison of "with project and without project" scenarios. Such forecasting, measurable in monetary terms, based on calculation of the economic rate of return or net present value, and including sensitivity analysis, is a sophisticated exercise. Note, whereas social analysis in an integrated CBA is critically important in identifying and quantifying the distributed amount of benefits and costs to the "winners" and "losers" of a reform project, it is beyond the requirements for a PAD and thus not explored further in this PREM Note.

This note provides some pointers that may be useful in estimating the economic benefits of revenue reform projects. The guidance can also assist in preparation of the Technical Annex of the financial and economic analysis of individual projects as required by Bank guidelines. The building blocks of the guidance were developed in the context of the preparation of the PADs of the up-and-running Vietnam Customs Modernization Project (VCMP), and of the Vietnam Tax Administration Modernization Project (TAMP), which is in preparation.

### Shortcomings of earlier estimates of economic benefits

Review of the financial and economic analysis in several of the PADs indicates two major shortcomings. First, the authors of several project documents have limited themselves to stating that the projects would be feasible both financially and economically, but do not attempt to quantify the statement. This is obviously inadequate. Second, the authors of several other project documents make no distinction between the expected financial and economic benefits that are to be factored in the pro forma cash flow profiles of the projects.

In the revenue management modernization projects, financial benefits are reflected in the increase in budget revenue that the project generates. These financial benefits are in fact transfers from the private sector to the public sector, and tend to be cancel each other out. In terms of social welfare, these can be considered beneficial to the country only to the extent that the budget makes better use of these funds than the private sector. However, quantifying these relative benefits is tricky and colored by political views; to date no conclusive statement has been made. These projects do, however, benefit society if they reduce administrative and compliance costs, as will be noted in the following section.

### **Economic analysis in the PADs requires reliable and pragmatic approach**

The measurement of economic benefits and costs is built on information developed in the financial appraisal, and draws extensively on the economic principles developed in the field of applied welfare economics. The CBA exercise analyzes the pro forma cash flow of the project, and nets out the impact of debt financing and the financial transfers between economic agents, as discussed previously. For this reason it retains only the real net-cost and welfare-enhancing benefits of the project. For the PAD, where practicality is critical, a simplified approach will focus on the main sources of benefits. This approach is now applied successively to projects that aim at modernizing the customs and tax administrations in Vietnam.

### **Customs Administration**

Some of the major economic benefits estimated in the CBA in the VCMP include the fact that the cost of preparing customs clearance documentation (including reducing the facilitation money that may be involved in the process) would fall, that cargo will clear faster, and that international trade will expand as a result of increased competitiveness of the economy. Little research has been done on the cost of preparing clearance documentation. But an OECD (2003) study mentions survey data from the EU and Japan, suggesting that these costs could range from 3.5 to 15 percent of the value of the import cargo. The benefit from faster customs clearance and a reduction in the variability thereof relate to reduced loss of business opportunities, lower inventory costs, and lower depreciation of the goods held up in transport. Hummel (2001) estimates that each day saved in shipping time is worth 0.8 percent of the value of the shipment of manufactured goods. Improving external competitiveness will also expand trade, as has been abundantly illustrated in the macroeconomic literature.

The quantification of economic benefits requires only basic data on trade and customs clearance delays, and adopts simplify-

ing assumptions that fully take into account the particular country circumstances and the project targets. The sensitivity of the results can be tested using slightly different assumptions. Some pointers are as follows:

The reduction in administrative and compliance costs will depend on local circumstances. As a starting point, a reasonable "soft guesstimate," possibly for cost reductions of 0.1 to 0.5 percent of the cargo value, can be used.

Calculating the benefits from lower clearance times relies on the following data: (i) clearance times and share of imports and exports that enter and leave the country through ports of entry; (ii) projection of this trade over the project period; and (iii) targeted reduction in clearance time per port of entry. Economic benefits can be estimated at 0.5 percent (with values ranging from 0.2 to 0.8 percent for exploratory sensitivity estimates) of the value of the cargo per day the clearance time is lowered. Survey data for Vietnam identified the clearance delays that were the responsibility of Customs and those that were the responsibility of other agencies at the border. Thus, the analysis could estimate the benefits from improved customs operations as well as the additional benefits that would accrue if these other agencies were to reduce their clearance delays as a side benefit of the Customs modernization project.

Reducing the variability of clearance times as measured by the standard deviation would permit the trader to operate with less inventory. The authors know of such data only in the case of the Philippines. Halving this standard deviation is estimated to provide benefits equal to an additional benefit of 0.2 percent of cargo value. (Reduced benefits should be assumed where the variability is lower.) The main point would be to draw attention to this policy objective.

Better customs clearance procedures and lower trader costs would provide dynamic benefits through enhanced external competitiveness that will result in faster export growth. For illustration, one could add one percentage point to the projected export growth during the project period.

## Tax Administration

Some quantifiable economic benefits expected from tax administration reform projects are as follows:

### *Macroeconomic benefits*

Trade liberalization will result in lower revenues from trade taxes. If this trend were not accompanied by an increase in domestic tax revenue or lower expenditures, deficits would ensue. The negative social and economic effect of these options could be avoided if increases in domestic tax revenues were to make up for the loss in trade tax revenue. This represents economic benefits for a project that increases domestic revenue mobilization. Their quantification depends on (i) the benefits derived from retaining the expenditures that would be scaled down if no additional taxes were raised, and (ii) avoiding the economic costs of deficit financing. These benefits need not necessarily be quantified, yet they are certainly positive, suggesting that the calculated benefits represent a lower bound estimate.

### *Reduction in administrative costs of collecting the taxes*

The modernization of tax administration should lead to lower costs per amount of revenue raised as (i) the tax administration is streamlined, (ii) tax officials are better trained, and (iii) taxpayers become more compliant as a result of enhanced tax payer education, and the establishment of taxpayer support centers, process simplification, and improved automation. If the project results in a simpler tax policy, that would also add to the benefits.

### *Reduction in compliance cost for the taxpayer*

These costs, which tend to be higher than the cost of administering the tax itself, include the cost individuals and enterprises incur in preparing their tax declaration, and dealing with tax audits (Evans 2003). Some of these costs are in-house costs, whereas others result from fees paid to tax preparers and outside advisors, as well as the bribes paid to convince tax officials to reduce their tax liability, speed up the tax audits, and influence the results of these audits. In a static sense these bribes are merely transfers from taxpayers to tax officials and thus not an economic cost to the economy. In a

dynamic sense they adversely affect economic behavior; their reduction would benefit the economy. The design and targets of the revenue enhancing project will have an impact on the benefits generated. Based on good knowledge of local circumstances, basic assumptions can be reflected in the estimates. Results are likely to increase the awareness of taxpayers and tax authorities of the burden of compliance costs. A few pointers:

- Compliance costs for domestic taxes have been estimated at 2 percent to 10 percent of the revenue of these taxes, up to 2.5 percent of GDP (Evans 2003).
- Some taxes yield cash flow benefits (time lapse between the occurrence of tax liability and tax payment), and can substantially reduce the net compliance cost.
- Compliance costs tend to be higher for small and medium-sized enterprises than for large enterprises that are better equipped to deal with tax authorities.
- Projects that aim at simplifying the tax system—making it more predictable, enhancing the accountability of tax officials, improving tax payer services, speeding up appeals and audits, and introducing automation—are likely to reduce compliance costs more than projects that include none of these elements.
- Compliance costs relate to wage costs for in-house and outside advisors, and for this reason are expected to be lower in low-wage countries than in high-wage countries. Yet, studies on compliance costs done for India do not corroborate this reasoning.

### *Support trade liberalization*

Trade taxes distort consumption choices and resource allocation. In fact, this is often the purpose of these taxes as they intend to protect domestic producers at the expense of higher cost to the consumer. Trade liberalization policies will result in the reduction of trade-related taxes over time, a process that could be undermined if the revenue authorities were unable to make up for this trend by raising more domestic tax revenue. Benefits from trade liberalization would be slower in coming. These benefits have been estimated for 1997–2015 at \$500

billion (1997 dollars), three-quarters of which would result from the dismantling trade barriers in low- and middle- income countries (World Bank 2002). When account is taken of endogenous productivity gain, the benefits increase to two thirds. The revenue generation of the project under consideration would better ensure that the country shares in these benefits. Quantification of this would need to be based on country-specific estimates.

*The project might lead to a reduction in distortions of the present tax regime*

Many domestic tax regimes contain distortions that could be eased when the project assists in strengthening the capacity of the tax administration to identify and rectify

them. The project may intentionally provide for capacity building to capture such benefits. Table 1.1 summarizes the potential benefits of customs and tax administration reform.

### Conclusion

Financial and economic analysis of revenue administration reform projects is important and feasible. Its findings can strengthen the resolve of revenue authorities to overcome inevitable resistance to reform. Yet, the methodology used should be sound. It should avoid adding financial benefits of the project to economic benefits, use realistic parameters, and provide a sensitivity analysis. Although not all economic benefits are readily

**Table 1.1 Potential Economic Benefits in Customs and Tax Administration Reform Projects**

Customs	Issues	Estimate range
Lower administrative costs	Better administration is cheaper for Customs and trader	0.1-0.5% of cargo value
Shorter clearance time	Trader cost falls	0.5-0.8% of cargo value
Lower variability of clearance time	Lower inventory costs for trader	Halving the standard deviation provided 0.2% of cargo value
Enhanced competitiveness	Faster export growth	Export growth increased by 1 percentage point
<b>Domestic taxation</b>		
Macroexternality benefits	Improved fiscal management	Not estimated
Lower administrative costs	Simpler system easier to administer	Cost fall by 30% over project period
Lower compliance costs	Taxpayer spends less time and money on compliance	Costs fall by 2% of tax revenue over project period
Support trade liberalization	Avoids delays in trade liberalization by assuring budget revenue	Up to 0.8% of GDP over project period
Reduces distortions	Tax policy improves	Not estimated
<i>Source:</i> Hummel (2001); Evans (2003); and authors' projections.		

amenable to quantification, the major ones should be estimated and the others clearly discussed or “guesstimated,” suggesting that quantification is likely to be a lower bound estimate.

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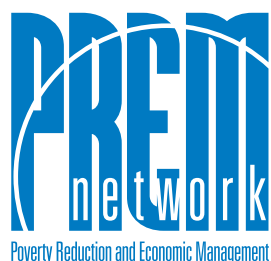
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### Cost-Benefit Analysis Acronyms, Abbreviations, and Initialisms

CBA	Cost-benefit-analysis
EU	European Union
GDP	Gross Domestic Product
OECD	Organisation for Economic Co-Operation and Development
PAD	Project Appraisal Document
PREM	Poverty Reduction and Economic Management
TAMP	Tax Administration Modernization Project
VCMP	Vietnam Customs Modernization Project



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