



# Economic Impact

Very few studies have applied a sound methodology to evaluate the economic impact of USAID's economic growth (EG) programs. Illustrative examples, however, show that EG programs can have catalytic effects that yield large benefits relative to USAID program costs to people of the partner country.

USAID projects are designed to achieve specified results and objectives and include a monitoring plan to track achievements. Some projects are also subject to evaluation studies that examine the quality of implementation, the delivery of outputs, the effectiveness of activities in producing the intended results, and lessons learned. For most projects, however, no serious effort is made to determine the actual impact of the interventions. (See Briefing Note 5 on measuring effectiveness.) This gap in the implementation process leaves unanswered vital questions about the extent to which various projects are truly effective in achieving the intended development outcomes. In particular, questions can be raised about the impact of USAID's EG programs in promoting growth and improving the well-being of the people in the partner countries.<sup>1</sup>

Fortunately, there is not a total dearth of impact evidence for EG projects. Some evaluation studies have gone beyond the standard approaches, and some project documents provide enough data to support an impact estimate. This paper reviews a selection of these cases, focusing on the economic impact of the interventions, as explained below. Apart from highlighting the need for more and better impact evaluations, the principal finding here is that well-designed EG programs can deliver remarkably large economic benefits relative to project costs and very high returns per dollar of aid.

## WHAT IS IMPACT EVALUATION?

According to the Evaluation Gap Working Group organized by the Center for Global Development (CGD), an impact evaluation provides a quantitative answer to the question: "What difference did this program make?" This requires estimating "the extent to which changes in the well-being of the target population can be attributed to a particular program or policy" (CGD 2006, 12). An impact evaluation compares changes in key indicators as observed with the program to an estimate of the changes that most likely would have occurred anyway (the "counterfactual").

Simply measuring how the indicators change from before the project started to after the interventions have been implemented can give a very misleading picture of the program's impact. For example, an enterprise development program run by the World Bank in Mauritius appeared to be very effective based on before-and-after data on the performance of program beneficiaries. A subsequent impact evaluation concluded, however, that the program largely supported developments that were taking place anyway, because nonparticipating businesses in the same sector achieved essentially the same performance gains (Biggs 1999). Without a careful impact evaluation of this sort, neither donors nor governments have a solid basis for learning about which interventions actually work or weeding out approaches that are less-productive uses of taxpayer funds.

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This briefing note is part of a series produced for the EGAT Bureau at USAID as a contribution to the recurrent debate on development priorities. Each note in the Programming for Growth series examines a topic relating to the value and effectiveness of USAID's economic growth programs. All the titles in the series are listed on the last page of this note.

## WHAT IS ECONOMIC IMPACT EVALUATION?

An economic impact evaluation focuses on measuring the economic benefit to people of the host country resulting from a particular intervention or policy measure. As explained in Box 1, economic impact is generally measured by net gains in income. In this way, benefits can be compared across different programs and weighed against project costs to determine whether a particular intervention is a good investment of aid funds. Furthermore, as discussed in other Programming for Growth notes, higher incomes generally lead to better employment opportunities, less poverty, improved household well-being, and greater capacity for the host government itself to finance critical public services. (These impacts can also be assessed separately.)

The results of an economic impact analysis are often expressed in terms of the benefit-cost ratio, which is simply the ratio of

### BOX 1

#### The Concept of Economic Impact

To understand the concept of economic impact, suppose that one of USAID's economic growth programs records an increase of \$50 million per year in exports by project-supported businesses, involving 1,000 new jobs that pay an average of \$2,000 per year. Suppose, too, that these numbers are properly measured relative to a plausible estimate of the trend in exports that would have occurred without the program intervention (the counterfactual). In this example, the net economic benefit to the host country is not \$50 million and certainly not \$50 million plus 1,000 x \$2,000 of wage income (since this would double-count payments to labor, which are already part of the export sales price).

To measure the addition to income one must take into account, among other things, what the invested funds and the workers could have earned in other uses (opportunity cost), as well as the share of added income that may accrue to foreign owners rather than nationals of the host country.

Notice, too, that net benefits recur each year and may even grow over time. The impact calculation must include the present value of this stream of benefits and costs by discounting future values, taking into account the time value of money (because a dollar in the hand today is worth more than a dollar years hence). Discounting is usually based on the rate of return that could be earned on alternative uses of capital in the host country.

net benefits to program costs. For instance, a benefit-cost ratio of 3.0 means that the project generates an estimated \$3 in income gains for the host country per \$1 of cost. This would be a highly worthwhile investment by any standard.

## PRACTICAL PROBLEMS IN MEASURING IMPACT

A study conducted in 2004 for USAID reviewed 27 evaluation studies that "addressed the question of impact in some way" for enterprise development projects. The study found that very few of the impact assessments were technically sound (Zandniapour, Sebstad and Snodgrass 2004, ix). This is not a problem for EG projects alone. The CGD report cited above focused on health programs and found "very little rigorous evidence" on the effectiveness of donor interventions (CGD 2006, 17). Another study by the National Research Council (2008) reached a similar conclusion for USAID's democracy-building programs.

Why are sound impact measures uncommon? A basic problem is that many projects do not collect suitable data. To be sure, this is not an easy task, and costs can be significant, especially if special surveys are required. For many EG programs, particularly those involving policy reform or institutional capacity building, the economic benefits can be indirect and spread across many sectors of the economy. In such cases, it may be impossible to quantify the impact, even when the programs are highly effective in establishing building blocks to promote private sector development and improve living standards. In many cases these problems are compounded by the fact that much of the impact emerges after a program has ended. For all these reasons, the absence of impact evidence does not mean that impact is absent.

Another fundamental problem involves defining the counterfactual. This may be fairly straightforward if there is good reason to believe that conditions or trends would have remained unchanged without the program intervention. In most cases, though, observed outcomes are affected by many factors that must be taken into account. One standard approach is to compare the outcomes for program beneficiaries with the outcomes for a "control group" of similar entities that did not benefit from the program. This approach can be costly, and it involves technical difficulties of its own (Deaton 2009; Khandker et al. 2010). In any case, creating a control group is often infeasible for EG programs that support policy reforms or build public institutions.

Finally, even if a plausible counterfactual can be established, the attribution of benefits to USAID is often unclear. One approach is to count benefits as a project impact only if there is strong evidence that the reforms or innovations would not have occurred without USAID assistance and then to assign 100 percent attribution. Alternatively, evidence may suggest that the outcomes might have taken place anyway, but not so soon; in this case one might attribute only the initial years of benefit to USAID. The United Kingdom's Department for International Development (DFID) assigns attribution in proportion to funding shares of the entities involved. This method works well when USAID collaborates with other donors or organizations to leverage the value of its own funds.

To deal with these problems, it is usually necessary to rely on various assumptions to estimate the benefits, establish the counterfactual, and determine attribution. When this is done, it is essential to adopt assumptions that are conservative and defensible in order to ensure that the resulting impact estimates will stand scrutiny.

## APPLICATION TO USAID'S ECONOMIC GROWTH PROGRAMS

For some economic growth programs, it is possible to quantify the outcomes, estimate the resulting income gains, establish a plausible counterfactual for comparison, and determine attribution to USAID—especially for cases involving interventions to support private sector development or regulatory reforms, where the benefits are clearly defined and well documented. This section reviews some illustrative examples.

### *Private Sector Development Projects*

Economic impacts are most readily measured for projects that help particular groups of enterprises to increase incomes and create jobs by improving productivity, overcoming constraints to growth, upgrading product quality, developing new products, and penetrating new markets.

One example is USAID's Poverty Reduction and Alleviation Project (PRA) in Peru, which ran from 1998 to 2008. A major component of the project attracted investment along economic corridors to impoverished regions and helped thousands

of small farmers dramatically increase sales to domestic and foreign markets (see Box 2 for details). From monthly data on sales and investment by direct beneficiaries, as well as data on economic trends for the respective sectors and regions, the

**For many EG programs, particularly those involving policy reform or institutional capacity building, the economic benefits can be indirect and spread across many sectors of the economy.**

PRA team estimated that this component of the project yielded \$1.14 of net income gains to people in the target regions for every \$1 of overall project cost. This may not seem high, but any benefit-cost ratio above 1.0 means that the activity generates higher returns than alternative uses of the capital and labor. In other words, it is a worthwhile investment. Equally important, this is clearly an underestimate of the actual benefits, because the analysis covered only one project component. The calculation also excluded spillover effects to other farmers and likely

multiplier effects benefiting other businesses in the region. The project also generated 14 million work days of employment over the 10-year period, the equivalent of approximately 6,000 full-time jobs per year.

Another example involves The Competitiveness Initiative (TCI) in Sri Lanka, which ran from 2001 to 2004. A midproject evaluation in 2003 examined data on project activities to enhance the competitiveness of eight industry clusters. Based on information available at the time, the study found eight activities for which benefits could be estimated and clearly attributed to the project support, including the development of new markets for rubber producers and group negotiations to reduce energy costs for the ceramics industry. For these eight activities, the estimated net income gains for Sri Lankan businesses and workers amounted to nearly \$70 million, or nearly \$10 in benefits for each \$1 of total TCI project costs (USAID 2004; Zandniapour et al. 2004).

The TCI study presented this result as a lower-bound estimate of the benefits, because the analysis examined only a subset of the project activities and incorporated only direct benefits to immediate clients. Unfortunately, a resurgence of war in Sri Lanka the following year invalidated some of the assumptions used to estimate the time stream of future net benefits. Even so, the TCI study demonstrated a methodology that can be applied widely to estimate the economic impact of private sector development projects, given appropriate data. It also showed that the benefits of such projects can be very large relative to project costs.

## BOX 2

### Reducing Poverty in Peru

The Poverty Reduction and Alleviation Program (PRA) was a 10-year, \$42.3 million USAID program in Peru that addressed food insecurity by developing economic links along corridors between poverty-stricken rural areas and markets in Peruvian cities and abroad. To improve conditions, PRA provided assistance in “market-pull” situations, where a specific buyer was available and ready to pay for products that could be produced in the target regions. In addition to establishing market linkages, PRA also provided technical support to help Peruvian firms identify and overcome critical constraints to growth. As a result of these interventions,

- PRA clients invested \$16.2 million along the transportation corridors,
- Client sales generated \$307.3 million of added revenue that was clearly attributable to PRA,
- The entry of new buyers for many products translated into better prices for rural producers, and

- Other organizations in Peru started replicating PRA’s methodology.

These are all intermediate results. The economic impact evaluation converted the figures into an estimate of the net income gains for PRA beneficiaries, including farmers, farm workers, and processors, taking into account the opportunity costs of labor and capital. The result: for every \$1 of total PRA costs, this one component alone yielded \$1.14 of net income gains in the target region over the life of the project. This estimate was based on conservative assumptions. For example, the calculations assumed that the profit margin for processors was 15 percent of sales, which was the low end of the normal range. The analysis also excluded indirect benefits and effects of other PRA activities. As a byproduct, the analysis showed USAID how the benefit-cost ratio could be improved on follow-on projects by streamlining the management structure to reduce costs.

Another study replicated the TCI methodology to estimate net income gains to businesses and workers from USAID’s Pakistan Initiative for Strategic Development and Competitiveness (PISDAC) project. In this case, the results were even more impressive, with a lower-bound estimate of \$19 in net benefits per \$1 of project costs (USAID 2008b). Briefing Note 9 discusses PISDAC in more detail, focusing on the intermediate results.

One other private sector development project merits attention. Out of dozens of USAID documents reviewed for this note, only one made an effort to compare changes over time for project beneficiaries and a control group. This was done for the Business Development Services and Horticulture Development Center projects in Kenya, which were designed to develop the mango, passion fruit, and avocado industries. Remarkably, the evaluation results found no statistically significant difference in the improvements observed between the beneficiaries and the control group. As explained in the evaluation report, “...despite efforts made to select control groups that were isolated from the two projects, some of the benefits enjoyed by control group farmers may in fact be the result of spillovers from project interventions.” Isolating the control

group turned out to be more difficult than anticipated at the project design stage.

#### *Business Enabling Environment Projects*

Here in the United States, the government routinely conducts benefit-cost analysis for regulatory reforms under consideration. With appropriate data collection, similar methods can be applied to measure the economic impact of USAID’s EG programs that support regulatory reforms to improve the business enabling environment (BEE) in partner countries. As with the TCI and PISDAC examples given above, the economic benefits from a BEE project can be very large relative to project costs, even when impact estimates can be obtained for only a subset of the project activities.

As an example, a series of USAID projects in Mozambique have been working with the government and with private sector organizations since 2003 to reduce red tape and improve the business environment for trade and investment, in order to enhance private sector-led growth. For five specific activities, it was possible to quantify the impact, relative to plausible assumptions about the likely scenario in the absence of USAID

An economic impact evaluation focuses on measuring the economic benefit to people of the host country—generally net gain in income—resulting from a particular intervention or policy measure.

support (the counterfactual). Just these five successes generated an estimated \$6 in income gains to Mozambican businesses for every \$1 of total USAID project costs (see Box 3).

USAID's Business Climate Reform (BCR) project in Georgia (2005 to 2009) produced even more impressive economic impacts by helping an aggressively proreform government introduce sweeping changes in the environment for private sector growth. In this case the project documents provide estimates of the monetary value of intermediate results from dozens of successful interventions. For present purposes, a separate calculation of the economic impact has been made for three of the interventions, where available information is sufficient to estimate income effects relative to a clear counterfactual. The activities in question: reforms to reduce the cost and time to clear goods through customs; efficiency gains from unifying the business and tax registration systems; and aiding Georgia's accession to the Hague convention, which reduced costs for cross-border validation of documents.

The analysis used here assumes that the reformist government in Georgia would have pursued the same measures without USAID help, but with a two-year lag. On this basis, these three BCR interventions alone produced nearly \$19 in benefits to the Georgian economy per \$1 of total project cost. Because of time and data limitations, this estimate excludes benefits from many other BCR interventions that reduced red tape, simplified procedures for business licensing and tax administration, modernized the bankruptcy law, developed a comprehensive strategy for promoting foreign direct investment, and revolutionized property registration—the list goes on. This example highlights the catalytic effect that BEE interventions can produce when USAID support is matched by strong government buy-in for reforms.

### **Other Economic Growth Program Areas**

Many USAID projects in the EG sphere help partner countries strengthen their capacity for economic governance. This support includes interventions relating to tax policy, tax administration, budget programming, public expenditure management, procurement systems, and strengthening capacity for policy analysis, among others. Projects involving policy reform and institutional capacity building, when successful, may have the largest impacts of any EG program, because benefits accrue to businesses, workers, and households throughout the country. But it is often very difficult or impossible to measure the economic impact of such interventions. What is the benefit, for example, of lower

#### **BOX 3**

### **Promoting Trade and Investment in Mozambique**

Since 2003, USAID has been working to improve the business environment in Mozambique through two projects: Technical Assistance to the Confederation of Mozambican Business Associations (CTA) and the Ministry of Industry and Commerce, and the Mozambique Trade and Investment Project. These projects provided technical assistance to help the government design and implement policies to dismantle barriers to trade and investment and strengthen capacity for managing reforms. The projects have also assisted CTA in analyzing constraints to business growth and lobbying for better policies and regulations.

For most project achievements, estimating benefits was not possible because of the nature of the reforms or data and time constraints. Examples include assisting the government with implementation of the Southern Africa Development Community (SADC) and the World Trade Organization trade agreements; helping Mozambique join the Integrated Framework (a multilateral program to help low-income countries integrate into the global economy); helping to streamline business licenses; and assisting with reform of the draconian labor law.

In 2008, however, an analysis of program activities through 2007 found five interventions for which benefits to the private sector were observable, measurable, and attributable to USAID: reducing the time to register a new business; reducing fees for scanning shipping containers; reducing refund delays for the value added tax; suspending problematic new rules that would have increased costs and slowed payments for international trade transactions; and eliminating tourist visas and associated fees for visitors from other SADC countries.

Applying conservative assumptions, the report estimated that these five interventions alone generated approximately \$6 in net benefits to Mozambican businesses for every \$1 of total USAID project funding.<sup>a</sup> For example, the analysis assumed a short duration of the benefits attributable to USAID, on grounds that the government would likely have adopted similar measures within a few years, in response to the influence of stakeholders and other international partners.

<sup>a</sup> These figures differ slightly from those in the original report because of small revisions to the methodology made in 2010 and a re-estimate of the discount rate reflecting the opportunity cost of capital in Mozambique in 2003.)

inflation? Or a smaller budget deficit? Or more efficient use of public funds for social programs?

For some projects, however, it is possible to quantify at least some of the economic benefits. An example is the Tax Modernization Project (TAMP) in Bosnia and Herzegovina (BiH), where USAID supported major reforms in the country's tax system. The most striking outcome was a large increase in government revenue. But this is an intermediate result and not a net gain to the economy, because additional government revenue is also an additional cost to taxpayers. Out of dozens of TAMP interventions, the available data support economic impact estimates for two project elements that generated large benefits for the people of BiH, as explained in Box 4.

Trade capacity building (TCB) has been another major focus of USAID's economic growth programming. It should be possible to estimate the economic impact of TCB interventions that have observable effects on the cost or time required to move shipments across borders, but no such project-level studies were available. There is, however, a recent statistical analysis of TCB programs undertaken by all U.S. government agencies that provides an interesting variation on the usual methodology for estimating impact (Bearce, Finkel, and Perez-Linan 2009). This study uses econometric methods to estimate the impact

of TCB assistance on trade performance indicators such as the value and volume of partner-country exports and imports and the extent of trade integration after controlling statistically for other macroeconomic variables that influence trade outcomes. One major finding is that on average, "the impact of every \$1 increase in overall USG TCB was estimated to be a \$53 increase in total merchandise exports two years later." (Bearce, Finkel, and Perez-Linan 2009, 2). For several other indicators, the analysis did not find statistically significant effects of a TCB program. Still, this is the first study of its kind to evaluate the overall impact on trade performance of U.S.-funded TCB programs.

EG programs can have catalytic effects that yield large net benefits to the people of a host country relative to program costs—even when many of the project benefits cannot be included in the quantitative analysis.

#### BOX 4

### Tax Modernization in Bosnia and Herzegovina

The USAID-funded Tax Modernization Projects (TAMP) in Bosnia and Herzegovina (BiH) supported a comprehensive reform of the tax system. Between 2001 and 2006, USAID provided more than \$12 million in assistance. Previously, all aspects of the tax system were extremely weak; tax offices were in poor condition; records were outdated and in disorder; and procedures were archaic.

TAMP modernized the tax law, centralized and unified systems for managing and processing tax information, created more effective control and enforcement teams, and streamlined and automated the core business processes of tax administration, among other contributions. These reforms greatly improved the efficiency of tax collection. TAMP's achievements include

- Fifteen percent annual growth in tax revenues, which helped BiH provide critical public services;
- Five new tax laws, including a new personal income tax that provides relief to the poorest segments of the population and a new corporate tax that reduces filing costs and eliminates most tax incentives; and

- A 35 percent reduction in tax collection costs in one major region, and an 18 percent reduction in other parts of the country.

As explained in the text, it is difficult to determine the net economic benefit from a rise in government revenue. But the decline in filing and collection cost is a clear gain to the economy. These benefits can be estimated using data on revenue trends and the drop in administrative costs per unit of revenue due to TAMP-supported reforms.

To err on the conservative side, the calculation used here assumes that the government would have implemented comparable reforms within three years in the absence of USAID assistance. On this basis, these two project elements alone yielded an estimated \$7 in net benefits to BiH for every \$1 of total USAID support for TAMP. Keep in mind that any benefit-cost ratio above 1.0 means that the investment generates a higher return than the alternative use of resources. If it were possible to estimate the economic impact of other project activities, the overall benefits estimate would be larger still.

## IMPROVING ECONOMIC IMPACT EVALUATION

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The impact evaluation cases discussed above are taken from a review of documentation for more than 50 economic growth programs and several other studies. Three observations stand out from this review:

- Very few economic impact evaluations are available for USAID's EG programs. Even some of the cases cited above reflect special calculations undertaken for this note rather than impact results reported in the project documents.
- For lack of systematic evidence, the examples used here may not be representative of USAID's EG programs. Nonetheless, these cases show that EG programs can have catalytic effects that yield large net benefits to the people of a host country relative to program costs—even when many of the project benefits cannot be included in the quantitative analysis.
- Third, an economic impact evaluation can be difficult or even impossible to carry out for many EG interventions. Nonetheless, impact evaluations could be conducted much

more widely if project monitoring plans and budgets were designed with this in mind, and if more USAID officers were trained to understand this tool.

The Evaluation Gap report from the CGD explains why this matters. In essence, impact evaluation is the best way to learn about what actually works, determine which programs (or program elements) are most effective, and thus to improve accountability in the use of taxpayer funds.

At the same time, rigorous impact evaluations can be costly and time consuming. Indeed, none of the impact results discussed above would qualify as rigorous tests—though all of them are based on reasonable and defensible calculations, relying on plausible and conservative assumptions. While USAID should certainly be in the business of conducting sound impact evaluations, this should be done selectively, with particular attention to cases where the results may have broad applicability.

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**BRIEFING NOTES CAN BE READ IN ANY SEQUENCE.**

## NOTE

1 Economic growth programs, for present purposes, are those designed to improve the business environment, strengthen economic governance, reform fiscal systems, build trade capacity, develop financial systems, and support private sector development and workforce development.

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