A User's Guide to Poverty and Social Impact Analysis

The World Bank

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Acknowledgments

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Materials from this work have been posted on a new website launched jointly by PRMPR and SDV (www.worldbank.org/psia), which will continue to be updated with new tools and methods, and country applications produced by the World Bank, countries and external partners. Suggestions and comments are most welcome at psia@worldbank.org.

Acronyms

ADB	Asian Development Bank
BA	Beneficiary assessment
CGE	Computable general equilibrium
DFID	Department for International Development (UK)
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (Germany)
IMF	International Monetary Fund
IO	Input-output
M&E	Monitoring and evaluation
NGO	Nongovernmental organization
PETS	Public expenditure tracking survey
PPA	Participatory poverty assessment
PREM	Poverty Reduction and Economic Management Network (World Bank Group)
PRS	Poverty reduction strategy
PRSP	Poverty Reduction Strategy Paper
PSIA	Poverty and social impact analysis
QSDS	Quantitative service delivery survey
SAM	Social accounting matrices
SDV	Social Development Department (World Bank Group)
SIA	Social impact assessment
SOCAT	Social capital assessment tool

Purpose of the User's Guide

Poverty and social impact analysis (PSIA) involves the analysis of the distributional impact of policy reforms on the well-being of different stakeholder groups, with a particular focus on the poor and vulnerable. PSIA is a systematic analytic approach, not a separate product.

This User's Guide introduces the main concepts underlying PSIA, presents key elements of good practice approaches to PSIA, and highlights some of the main constraints and operational principles for PSIA. It is intended for practitioners undertaking PSIA in developing countries. It does not set out operational policy or guidance to World Bank staff. This User's Guide highlights some of the key tools that practitioners may find useful to analyze poverty and social impacts of policy reforms, but does not aim to be comprehensive in its coverage.

As a complement to this User's Guide, the World Bank has also developed guidance on selected tools and techniques, through the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies* and the *Social Analysis Sourcebook*, available on the World Bank website. Additional guidance on economic and social analysis tools and methods is under preparation. The Bank is also developing guidance on issues, challenges, and tools that may be of particular relevance in analyzing specific reforms. A summary matrix and reform-specific notes will be posted on an ongoing basis on the PSIA website. More generally, the PSIA website presents resources on economic and social tools and methods for PSIA, country experience in undertaking PSIA for specific reforms, training events and material, and other resources: http://www.worldbank.org/psia. Suggestions and comments are most welcome (psia@worldbank.org).

1 Introduction

Poverty and social impact analysis (PSIA) refers to the analysis of the distributional impact of policy reforms on the well-being or welfare of different stakeholder groups, with particular focus on the poor and vulnerable.[1] The adoption of the Poverty Reduction Strategy Paper approach and of the Millennium Development Goals has led to an increased need for more systematic analysis of the poverty and social implications of reforms. This User's Guide is part of a comprehensive response undertaken by the World Bank to address those concerns.[2]

The User's Guide is intended for practitioners undertaking PSIA in developing countries. Given the broad scope of policy issues, methods, and challenges involved, the User's Guide does not specify minimum standards for PSIA, but rather provides suggestions on how to approach the analysis. In advocating a multidisciplinary approach to PSIA, the User's Guide presents both economic and social analysis tools and methods. While focusing on distributional impacts, PSIA also addresses issues of sustainability and risks to policy reform that come with the poverty and social impacts of policy changes.

PSIA includes ex-ante analysis of the likely impacts of specific reforms, analysis during reform implementation, and ex-post analysis of completed reforms. Each of these has a specific utility. Ex-ante PSIA can inform the choice, design, and sequencing of alternative policy options. During implementation, the monitoring of a reform and its impacts can lead to refinement of the reform, a reconsideration of the pace/sequencing or institutional arrangements of the reform, or the introduction or strengthening of mitigation measures. Finally, ex-post PSIA assesses the actual distributional impacts of a completed reform, which helps analysts understand the likely impacts of future reforms.

PSIA is not new, and lessons can be drawn from past experiences.[3] Effective PSIA is undertaken early enough to inform the design of reforms, clearly sets out the assumptions behind the analysis, addresses the risks to policy implementation, considers all stakeholders in the analysis, and promotes transparency about expected impacts to strengthen local ownership. Analysts have typically faced constraints in terms of data, analysis, capacity, and time. Some of these constraints can be addressed by building on earlier experience and by employing flexibility in the choice of tools and methods.

The User's Guide is organized as follows. Chapter 2 introduces the main concepts underlying PSIA and establishes the conceptual framework. Chapter 3 then presents an approach to PSIA by reviewing 10 basic elements underlying the sound analysis of the poverty and social impacts of reforms. Chapter 4 considers some of the major constraints often identified by PSIA practitioners, especially in developing countries, and provides basic operational principles for PSIA. Chapter 5 proposes a summary matrix that can be a useful tool to capture and integrate the various elements of good PSIA. Finally, chapter 6 closes with brief conclusions.

Notes

1. This User's Guide uses the terms "well-being" and "welfare" synonymously.

2. The PSIA website (http://www.worldbank.org/psia) presents guidance on the application of economic and social tools and methods for PSIA, country experience in undertaking PSIA for specific reforms, training events and material, and other resources.

3. The Bank has been engaged in this area for some time, especially in the context of projects. For economic literature on the topic, see, among others, Squire and van der Tak 1975; Timmer, Falcon, and Pearson 1983; and Gittinger 1985. For anthropological and sociological literature, see Finsterbusch, Ingersoll and Llewellyn 1990; Becker 1997; Goldman 2000; and Brinkerhoff and Crosby 2002.

2 A Conceptual Framework for Understanding Poverty and Social Impacts

This chapter presents the main concepts underlying poverty and social impact analysis. It addresses seven key areas:

- What is being analyzed?
- What is the welfare measure being assessed?
- Whose welfare is being analyzed?
- How are impacts channeled?
- How do institutions affect outcomes?
- When do impacts materialize?
- What are the risks of an unexpected outcome?

Impact of what: What is being analyzed?

Poverty and social impact analysis focuses on the impact of policy change. The scope of the policy debate in the development arena has now broadened beyond macroeconomic stabilization and associated measures to also include specific structural and public expenditure reforms. This broader view is also implicit in the poverty strategies of developing countries. In fact, a review of fifteen Poverty Reduction Strategy Papers (PRSP) shows that poverty strategies commonly focus on enhanced expenditure programs (especially in health, education, water and sanitation, and roads and infrastructure); institutional reforms to improve governance (such as decentralization, civil service reform, and tax reform); and structural reforms (including trade reform, privatization, financial sector reform, and agriculture sector reform).[1] Tools for PSIA therefore must be able to address not just major macroeconomic reforms, but also the key structural and sectoral policy changes with which countries are currently contending.[2]

This shift from broad-based "stabilization and adjustment" suggests that PSIA should be undertaken on a reform-specific basis. Such an approach also makes the task of analyzing the impact of several reforms more manageable. While it would be conceptually preferable to assess the combined effect of a series of policy changes in a single analytical framework, few tools can accomplish this—and those that can tend to be complex and data-intensive. Therefore, it is often more practical to disaggregate expected overall impacts to individual reforms, and consider sequencing on a reform-specific basis. Consideration of the impacts of a "package" of reforms is still pertinent, however. Where they cannot be analyzed in a single analytical framework, their combined effects on various groups such as the poor may be most practically considered by independently assessing the impact of each reform set on each group. However, such an approach will tend to lose interaction effects.

Impact on what: What is the welfare measure being assessed?

PSIA focuses on assessing distributional impacts on welfare, or well-being, including both its income and non-income dimensions. With poverty now recog-

nized as multidimensional (World Bank 2000a), development efforts are being targeted to address both income and non-income measures of welfare and poverty, recently captured in part by the Millennium Development Goals. Until recently, the income dimension of welfare was the main focus of poverty and distributional analysis, and economic tools were most often applied in analyzing the money-metric welfare measure.[3] Now, however, non-income dimensions of welfare and poverty—such as human development and social development indicators addressing risk, vulnerability, and social capital[4]—are being given closer consideration. In undertaking PSIA, the analyst will need to choose appropriate indicators of welfare and poverty based on the country and policy context.

Impact on whom: Whose welfare is being analyzed?

PSIA is concerned with the distributional impacts of policy change on various groups, with a particular focus on the welfare of the poor and those vulnerable to impoverishment. Depending on country circumstance, groups may be defined in terms of income class, gender, ethnicity, age, geographic location, livelihood, or other such criteria. In practice, however, household members do not always pool resources or allocate benefits equally. When the impacts on different members within a household are likely to differ, it is important to also analyze intra-household effects.

PSIA is concerned with distributional impacts for two reasons. First, policy change can have a direct impact on the welfare of the poor or other disadvantaged groups. Understanding the impacts of policy change on these groups can inform the design of policy. Second, the distributional impacts of a policy, even among non-disadvantaged groups, are important for the effectiveness of that policy and its ultimate sustainability. Even if a policy change results in overall welfare gains, it is likely that some groups may experience losses, at least in the short run. While losers may not necessarily be poor, reduction in their welfare may not be acceptable for social or political economy reasons and may significantly affect the implementation and sustainability of the reform. For instance, business and union interests that fear the impact of competition on protected commodity and labor markets can derail trade liberalization. Similarly, vested interests within the public sector can also derail reforms. PSIA thus should identify and analyze the impact of policy on other stakeholders, beyond the poor, who are affected by or can influence reforms.

Impact how: How are impacts channeled?

Policy reforms can be expected to have an impact on various stakeholders through five main transmission channels outlined below: employment; prices (production, consumption, and wages); access to goods and services; assets; and transfers and taxes. Each policy reform is likely to have impacts through more than one channel. For example, utility reforms might result in changes in prices and access, but might also have an impact on the fiscal stance of a country, and hence on transfers and taxes. Further, different stakeholders are likely to be affected differently through these channels. For example, relative price changes will affect net consumers and net producers differently, and even among these groups the impact may vary. For example, consumers will be affected differently depending on their consumption patterns or their ability to substitute goods.

Employment

The principal source of income for most households is employment. To the extent that a policy change affects the structure of the labor market or the demand for labor, particularly in sectors that employ the poor (such as unskilled, rural off-farm, and agricultural labor), the welfare of low-income households will be affected. There may be direct transmissions through this channel in the case of certain policies: for example, restructuring of a state enterprise may lead directly to retrenchment of workers. In other cases transmission may be indirect. For instance, macro policies may stimulate faster growth, leading in turn to increased employment among the poor; an exchange rate depreciation or trade liberalization may result in contractions and layoffs in the nontradable sector. Alternatively, some policies will have different impacts on formal labor markets and informal labor markets

that employ many of the poor. For example, expenditure increase, reduction or switching may have different impacts on formal sector employment and informal sector employment due to labor market segmentation (Agénor and Aizenman 1999).

Prices (production, consumption, and wages)

Prices determine real household income. Prices in the markets for goods and services differentially affect the real income of households to the extent that they consume or produce these products. How policy affects prices will have an important bearing on income and, directly or indirectly, on non-income measures of welfare. For all households, but especially for small farmers and the self-employed, price changes will affect both consumption and resource allocation decisions. On the consumption side, policies that cause an increase in the prices of goods consumed by the poor will have a direct negative effect on household welfare. These can include import tariffs on traded staples, or increased utility tariff rates. Consumer prices may be indirectly affected as well, for example through expansionary monetary policy that leads to general price inflation. Producers will also be affected by policies that cause relative price changes—particularly changes to the prices of their outputs or inputs. Producer incomes are further affected by the difference between farmgate and market prices, often conditioned by transport costs and the degree to which private markets are efficient and competitive, rather than monopsonistic. Wage changes will affect net buyers and sellers of labor differently, and policies that change relative prices will induce shifts in both demand and supply.

Access

Well-being will be affected by access to goods and services, whether through access to markets and service outlets or through improvements in the quality and responsiveness of public or private service providers. Policy can affect access directly by enhancing provision of the infrastructure or services in question, or indirectly by removing constraints to access by particular households or groups. For example, improved road infrastructure could dramatically enhance access to markets and services for groups in certain geographic areas. A policy that expands connections to an electricity grid, particularly among the poor, can also represent a welfare gain.[5] In this regard, privatization of service provision could either increase or decrease access relative to public sector provision.[6] Lack of access to key infrastructure or services, either because they do not exist or because they are of poor quality, can limit the intended benefit of a policy. For example, restructuring a marketing board may be fiscally desirable but may eliminate key market services where alternatives do not exist. Structural or cultural norms (such as restrictions on female mobility or female property rights) may also impose higher transaction costs or create barriers to access.

Assets

Changes in the value of households' assets will affect income and non-income dimensions of welfare. Changes in asset values can be due to changes in their levels or their returns. Assets themselves can be categorized into five classes, all of relevance to poor households: physical (such as housing); natural (such as land, water), human (such as education, skills); financial (such as a savings account); and social (such as membership in social networks that increase access to information or resources). Policy changes can have a direct or indirect impact on these assets and their returns. For example, land reform may directly result in an increase or decrease in land assets of the poor. Policy changes can also impact assets through indirect channels. For example, inflationary policies will have a negative wealth effect on those with monetary savings, while participatory budgeting or community programs may increase social capital. Pricing or trade changes could affect the natural resource assets of households or groups (such as by increasing or decreasing deforestation or desertification) or even their human capital (such as by causing a deterioration in health conditions due to increased indoor air pollution as a result of energy price changes). In many cases, certain assets are also prerequisites to benefit from a reform. For example, if farmers cannot reach a market due to lack of transport, the benefits of price liberalization are likely to be realized primarily by middlemen and traders. It is important to take into account the legal and regulatory frameworks when analyzing this transmission channel; for example,

there are sometimes constraints on female land ownership.

Transfers and taxes

Household welfare, finally, is affected by transfers to and from the household. These transfers can take the form of private flows (such as gifts and remittances) or public flows (such as subsidies and taxes). Public finance has a direct impact on the welfare of specific groups through transfers and tax policy. Public expenditure programs may focus on granting additional resources to particular groups through transfer policies, which may be in the form of subsidies or direct, targeted income transfer programs. Social protection programs may be useful in protecting the poor against risk and vulnerability, depending on their targeting. Tax policy has direct distributional effects to the extent that the resources or income of a household are taxed. Regressive tax regimes disproportionately burden less well-off households. Subsidies may be captured by the non-poor or may simply be badly targeted. There may also be a conflict between strict progressivity and the political feasibility of policies (see Gelbach and Pritchett 2000). Poorer households may also be hurt in the long run if the funds for public expenditure are borrowed and must be repaid; they will suffer either from any attempt to "inflate away" the debt or from increased future taxes needed for repayment. In societies with high gender inequities, the intra-household impact of transfers may warrant special attention.

Impact how: How do institutions affect outcomes?

The impacts of policy reform on economic agents are mediated through institutions. Institutions are the formal and informal rules of the game in society; they are the shared understandings that allow organizations to interact.[7] The impact of a policy reform is influenced by the behavior of organizations. Organizations, in turn, act in response to incentives created by the set of public, private, and civil society institutions whose rules mediate economic activity in the society (Rutherford 1994). These institutions include markets, legal systems, and the formal rules and informal behavior of implementing agencies, including government. Policy reform can affect institutions by changing organizational structures, roles, and responsibilities, or rules and incentives, as well as by altering market incentives—for example, by removing price distortions or encouraging competition. These reforms in turn affect the behavior of economic agents and interest groups, and thereby economic outcomes, including distribution and poverty reduction.

Many reforms depend for their implementation on institutional change. This may involve creating new organizations or changing rules and incentives to achieve new objectives through existing organizations (for example, improved cooperation among government agencies). Creation or modification of organizational structures does not in itself guarantee the institutional changes necessary for the reform to succeed.[8] Changes in formal rules of the game often must be accompanied by changes in incentives in order to alter the behavior of agents. Moreover, it is often assumed that institutions (including markets) function smoothly and according to formal rules. In practice, high transaction costs, ineffective enforcement, or lack of competition or accountability can lead to suboptimal performance of government, market, or civil institutions. In some cases, institutional change accompanying policy reform is not internalized by key implementing agents, and the behavior of these agents can thus lead to perverse policy outcomes.

Understanding the impact of a policy reform requires an appreciation of the country's organizational structures and the institutional rules governing them. PSIA therefore depends upon careful organizational and institutional analysis of the formal and informal rules, the behaviors of key stakeholders who can affect reform outcomes, and the underlying dynamics among them. This allows policymakers to determine whether and how the existing rules and informal practices will affect real costs and quality of goods and services for the poor and other stakeholders in the context of a specific policy change.

Impact when: When do impacts materialize?

A major challenge to PSIA is understanding that policies can affect different groups in very different ways.

This is in large part because some of the economic and behavioral responses to a policy change can take time. What is fixed in the short term may be variable in the longer term. Understanding and explaining how short-run losses may result in long-run gains for given groups, or how immediate gains may lead to eventual losses, is one of the challenges inherent to PSIA. For instance, trade liberalization may cause employment losses in the nontradable sector in the short term. However, increased efficiency may later result in economic growth, and some of the laid-off workers may find jobs in the expanding tradable sector. In addition, some consumers may switch to cheaper nontraded goods, thereby increasing consumption of these. The combination of all these effects will determine the net impact on different groups over the long term.

To take another example, a policy that pursues or results in an overvalued exchange rate will benefit some population groups in the short run (consumers and importers). But if the overvaluation proves unsustainable in the long run and devaluation occurs, those same groups will be negatively impacted. The net effect for these groups of having an initially overvalued exchange rate (a gain) followed by a devaluation (a loss) will clearly depend on the magnitude of the deviations. The international evidence suggests that sustained overvaluations may lead to abrupt currency collapses (as in Mexico in 1994, East Asia in 1997, Brazil in 1999, and Argentina in 2002) that are likely to generate net long-run losses. The issue becomes even more complex if one considers the impact on exporters. Unlike importers, exporters are harmed by an overvalued exchange rate and are likely to benefit from devaluation. Eventually it will be necessary to consider both the net effects across groups for a given time horizon and the net effects over time for a given group.

Impact if: What are the risks of an unexpected outcome?

The design of reforms is based on underlying assumptions about the context and the behavioral response of key institutional and human actors. If these assumptions are not realized, reform outcomes are at risk. A crucial element of PSIA, therefore, is understanding and (publicly) articulating ex ante the key assumptions for the success of the policy reform.[9] Assumptions must be made explicit as to how economic agents and institutions are expected to act (for example, the sign and magnitude of an elasticity) and how policy impacts would be transmitted to households. A second set of assumptions concerns conditions exogenous to the policy that need to be in place for the reform to achieve its intended impacts. In addition to questions of direct relevance to a reform, risks from underlying country conditions (for example, ethnic tensions) need to be factored into the risk assessment. Clearly identifying and articulating critical assumptions will serve to sharpen the rigor of the analysis, increase its transparency, and facilitate its validation (and if necessary, correction) by knowledgeable stakeholders. The analysis will also permit the monitoring of, and hence improve the understanding of, transmission channels and impacts, with possible adjustments to the reform program over time.

Notes

1. Fifteen PRSPs were completed by end July 2002 and included those for Albania, Bolivia, Burkina Faso, Guyana, Honduras, Malawi, Mauritania, Mozambique, Nicaragua, Niger, Tanzania, Uganda, Vietnam, Yemen, and Zambia. Seven of these strategies call for utility reforms; 5 for reforms of public sector pensions; 6 for civil service reforms; 7 for fiscal decentralization; 11 for reforms in the tax system (incl. VAT and other consumption taxes); 11 for land reforms; 10 for trade reforms; and 6 for reforms of the macro-economic framework.

2. Of course, structural changes could have macroeconomic effects. For instance, trade liberalization could have serious consequences for the fiscal deficit, the current account deficit, and macroeconomic stability. Understanding how these impacts affect the poor is critical to PSIA.

3. This User's Guide lays out existing economic and social tools and approaches for distributional analysis in order to give a broader picture of poverty to policy analysts and decisionmakers. Insofar as the economic tools draw on existing examples of such analysis, applications focus mainly on income/expenditure measures of welfare. Increased attention to assessing the impacts of policy on non-income measures of welfare is an

important priority for future work. The social development tools described in this User's Guide are more focused on non-income dimensions of poverty, such as stakeholder interests, social capital, and vulnerability.

4. The World Bank's Social Development Department has developed a new tool that provides data on these indicators from Bank- and non-Bank sources for country-level applications.

5. To the extent that increasing access is viewed as a reduction in transport and transaction costs, it is effectively reducing the "price" of the good or service in question.

6. Sometimes an increase in access may come at the cost of a higher price (or, where there was previously no access at all, access may be granted at a price that is prohibitive for the poor). In urban Peru, liberalization of telephone services led to greater access for the poor as well as lower prices. On the other hand, liberalization of electricity has led to greater access and reliability, but higher prices and lower overall consumption (Torero and Pascó-Font 2001).

7. Organizations are purposive entities (such as public agencies or firms) that have a formal structure and seek to achieve certain objectives within the opportunities and constraints afforded by the institutional framework of society (North 1990).

8. Formal changes in organizational structure are relatively easy to make but may take much longer to be institutionalized. In such cases, it is important to pay attention to the capacity and accountability of the concerned agencies as well as the power relations within them. Understanding these issues allows for the mobilization of existing capacity and for the tailoring of interventions to the institutional and organizational contexts in which they will be implemented.

9. Forecasting or simulating likely impacts of policy by definition presupposes a view of likely causality and behavior. Depending on the analyst's information base these can be empirically "estimated" based on the past, derived on the basis of theory, or assessed on the basis of knowledge of the country context and discussions with key stakeholders and experts.

3 Elements of Good Poverty and Social Impact Analysis

Although there is no methodological template for analyzing the poverty and social impacts of policy, it is possible to identify a number of elements that make for good-practice PSIA. This chapter outlines 10 key elements that those attempting to undertake or advise on PSIA will need to address:

1. Asking the right questions
2. Identifying stakeholders
3. Understanding transmission channels
4. Assessing institutions
5. Gathering data and information
6. Analyzing impacts
7. Contemplating enhancement and compensation measures
8. Assessing risks
9. Monitoring and evaluating impacts
10. Fostering policy debate and feeding back into policy choice.

While there is a logical sequence to these elements, this does not imply that they need to be undertaken in strict order or that all the steps will be feasible in every country. This chapter provides a broad overview of specific methods and tools that can be used to address each of these elements, pointing to the annex for further details and references; those methods and tools discussed in the annex are presented in **bold** in the text. (Building country capacity is presented in chapter 4 as one of the overarching principles for operationalizing PSIA, rather than in this chapter as a discrete element of PSIA.)

Element 1: Asking the right questions

The first step in the analysis of poverty and social impacts is to identify the reforms that will be subject to analysis. This requires identification of the set of reforms included in the government's agenda that are likely to have an impact on the distribution of income or assets. Ideally, if time and resources permit, PSIA should be carried out for each of these reforms. In practice, analyzing all the reforms in a development plan may not be realistic, so it will be necessary to further narrow down the reforms selected for analysis to a manageable number. This selection process will inevitably be a matter of judgment at the country level, and will likely depend on factors such as:

- The expected size and direction of the poverty and social impacts
- The prominence of the issue in the government's policy agenda
- The timing and urgency of the underlying policy or reform, and
- The level of national debate surrounding the reform.

After selecting the reforms that will be subject to PSIA, the second step is to formulate key questions for analysis. This requires an understanding of the underlying problems that the reform is intended to address (see box 1). A focus on overly narrow questions, or exclusively on short-term effects, may obscure issues

that could prove critical to the achievement of a particular policy objective, or to informing policymakers and stakeholders of the tradeoffs inherent in a certain policy. A useful device is to conduct a problem diagnosis by organizing the chain of cause-effect relationships, from policy objectives and policy actions to impacts, in the form of a hierarchical problem tree,[1] in order to formulate relevant research hypotheses.

Identifying policy constraints is a key component of the analytical process and can often prevent subsequent missteps. Policy reforms are often implemented to remove constraints that stand in the way of achieving certain development goals. For instance, a country may be unable to balance its budget because of unsustainable losses by state-owned enterprises. The problem in this case will be to improve the overall fiscal balance as well as the performance of individual agencies. For some objectives there may be multiple constraints, some being more important than others. In such cases, it may be necessary to pursue more than one policy reform, but also to be on the alert for interactive effects that those reforms might have on each other. In another example, a policymaker faced with inadequate public revenues may decide to raise taxes. However, this will not be the appropriate response if the real problem is that expenditures are too high, rather than that revenues are too low. In order to avoid inappropriate or mismatched policies, it is important that the constraints on development objectives be made explicit—rather than assumed—at the beginning of the PSIA process.

Element 2: Identifying stakeholders

After asking the right questions and identifying the problem that requires solution, an early identification of relevant stakeholders is important. Not only can policy choices affect different stakeholders or economic agents in different ways, but these stakeholders can also influence whether a policy is adopted and how it is implemented.

Stakeholder analysis identifies people, groups, and organizations that are important to take into account when conducting PSIA.[2] It identifies and analyzes those who are affected by the policy, as well as those who can potentially affect policy implementation. Identifying and disaggregating the stakeholders in the first category—beneficiaries and those who suffer adverse impacts—is central to the analysis of poverty and social impact of policy. They can be disaggregated by a large number of characteristics such as household type, household size, ethnicity, gender, location, occupation, and so forth. For modeling work, stakeholder analysis can serve as an input into determining how best to disaggregate representative household groups or subgroups. Stakeholders in the second category—organized groups such as unions, business associations, donors, and civil society organizations—may become sources of support or opposition to policies. Analyzing such influential actors is essential to understand behavioral responses that condition impacts, and the likelihood of reform success. Box 2 illustrates the use of stakeholder analysis to address the impact of mine closures in Russia.

Box 1. Asking the Right Questions

The analysis of a fiscal reform ideally includes an evaluation of the short-term impact as well as the expected longer-term impact and the assumptions underlying the realization of long-term benefits. But beyond the dynamic impact of the reform, the analyst should also consider whether structural issues are affecting the country's fiscal performance.

In PSIA work in the Pakistan energy sector, the initial focus was on an electricity tariff increase to cover costs that represented a significant and chronic fiscal drain. Further problem analysis revealed that questions about the increased costs of power generation and non-tariff charges, and the imbalance between distribution and generation investments, were equally important to achieving a more sustainable energy sector.

Reform of the sugar sector in Guyana is being analyzed because of its fiscal cost and the number of people affected by the reform. The analysis is comparing the reform's direct impacts on employment and indirect effects on municipal services and dependents with the long-term employment and fiscal losses that would likely occur if the sector were to continue in its current state, given the continuing decline in world sugar prices and the phasing out of preferential prices under the Lomé Accord.

Box 2. Analyzing the Impact of Mine Closure in Russia: Stakeholder Analysis

In the early 1990s, the Russian coal industry was in a state of crisis. A large number of economically inefficient mines were kept afloat by subsidies that reached $2.76 billion (more than 1 percent of GDP) in 1994. Restructuring entailed closing 183 loss-making mines and downsizing the workforce (including those involved in coal production, administration, social services, and other auxiliary activities) from 900,000 in 1992 to 328,000 by end-2001.

The Bank provided $1.3 billion in loans and played a major role in helping the Russian government develop its strategy for mitigation of the poverty and social impact of coal sector restructuring. The team carried out a stakeholder analysis using structured interviews in Moscow, mine visits, and discussions with union leaders. The analysis was designed to clarify the nature of the problem, identify the interests of various actors, and develop a solution for effective fund transfer using existing actors.

The team grouped the stakeholders into several categories. Government ministries were not seen as neutral agents, and their interests were explicitly identified. Similarly, the options of mine employees were differentiated by their previous employment. Workers on the mine face, analytic and administrative support workers, and workers in the schools and hospitals previously funded by mine revenue would be impacted differently as mines closed. The interests of municipal and *oblast*-level governments were based partially on the revenues that each could muster in the event of mine closure.

The differences between stakeholder groups lay largely in their analysis of the core problem. On the one hand, the Ministry of Energy, regional governments, the labor union, and the mine face workers advocated a narrow solution focused on preserving the mining industry in some form. On the other hand, municipal governments, social service workers employed by the mines, and local businesses focused on the need to find new drivers of growth in mono-industry towns, as well as sources of funding for services previously supplied by the mines. Municipal governments did not have the revenue base to support the schools and other services formerly provided by the mines, and were hard hit by the closures.

An Interagency Coal Commission with representatives from municipalities, ministries, and government agencies helped discuss and plan reforms. The Ministry of the Treasury was identified as a transparent channel through which social protection funds could be transferred directly to the workers, rather than moving funds through the Ministry of Energy and regional governments. The analysis of stakeholder interests was used to create a system of checks, balances, and independent assessments to ensure that all actors followed the rules laid out in mine closure plans.

Sources: Lockhart 2001; Haney and others 2003.

A distinction should be made between stakeholders who share multiple characteristics that enable them to coalesce as a cohesive group (for example, labor unions) and those that are analytical categories rather than organic groups (for example, "the fourth income quintile" or "the poor"). Stakeholder analysis goes beyond simply identifying groups to analyzing the stated or unstated interests of actors in relation to a policy, as well as the nature and degree of their organization or ability to mobilize behind a common purpose (see box 3). To the extent that groups of the second type are atomized or unorganized (such as landless peasants, non-unionized workers, small businesses, consumers), they are less likely to be able to easily voice their opposition to or support for a policy, even if their support may be crucial to reform success.[3] While secondary resources such as social science research, news media reports, and advocacy literature can help identify broad political economy issues and social tensions, key informant interviews may be needed to analyze the interests of stakeholders whose support is critical to reform implementation, including those within government agencies, or interest groups able to influence reform. Analyzing interests of stakeholders who are less organized may involve special surveys or focus groups.

Stakeholder analysis contributes to an assessment of the extent of country ownership of a particular policy in order to predict how different interests are likely to influence government in general, and the policy process in particular. Ownership assessment reveals sources of potential resistance to policy change and provides a rough estimate of the location and extent of pressure that government will face in adopting a policy reform. This helps to assess government's willingness to undertake and stick with the reform over time. Weak ownership can lead governments to abandon reforms midterm or produce distorted policies. For

Box 3. Interest Groups and Collective Action

Estimating the influence of a particular group over decisions is as much art as science. However, there are some useful criteria for predicting the propensity of a group to lobby the government. The logic of collective action suggests that interests will exert more pressure on policymakers or elected leaders when: (a) the number of group members is small; (b) the benefits or rents that would accrue to each member from the desired policy are very substantial and easy to perceive; and (c) members have the means, especially the financial resources and networks, to protect their interests. The behavioral premise is simple: people fight harder when they have a large personal stake. In contrast, the more diffused interests of unorganized groups such as consumers are typically less influential. Many development interventions are designed to reduce or eliminate rents among a small group of privileged interests and increase the overall welfare of the public. These are precisely the policies that are most likely to be fought, making either tough political decisions or a concerted communications strategy paramount. However, if the impact is sufficiently large, public interest groups may emerge to advocate the interests of the less powerful, or violent street protests may break out. For example, the Consumers Rights Commission of Pakistan was formed to advocate consumer interests on tariff reform, and this lobbying is substituting for more violent forms of urban protest.

example, some countries pursue bank deregulation and privatization, but refuse to remove barriers to entry because of entrenched interests, resulting in an oligopolistic sector that charges high interest rates and provides poor services.

Factors that typically affect ownership can be analyzed by looking at both the political economy of a country and its diversity (based on ethnic, religious, linguistic, gender, and age differentials). By considering political economy, analysts can identify affected groups and assess their influence over government decisionmakers. Taking stock of diversity is important because reforms may polarize existing tensions in the short term, even while improving welfare in the long run.

Element 3: Understanding transmission channels

Once potential stakeholders have been identified, an important early step in the PSIA process is to delineate the channels by which the analyst expects a particular policy change to impact various stakeholder groups.[4] It is important to explicitly present the hypotheses and assumptions underlying this analysis. These can then be tested empirically through economic and social analysis techniques.

As discussed in chapter 2, the expected impact of a policy change on the welfare of target groups and other key stakeholders takes place through five main transmission channels: employment, prices (production, consumption, and wages), access to goods and services, assets, and transfers and taxes. The transmission channels that are going to dominate and require analysis will vary and will have distinct impacts on different stakeholders, depending on the reform and the country context. Impacts may differ along two key dimensions: first, they can be direct or indirect, and second, they can occur in the short or the long term.

Some policy reforms may have primarily *direct* impacts, that is, impacts that result directly from changes in the policy levers altered by the reform. For example, an increase in the value-added tax will translate directly into lower purchasing power for a given disposable income. Reforms may also have important *indirect* impacts, that is, impacts resulting from the reform through channels other than the actual policy lever or action. Thus an increase in value-added tax rates will have a positive impact on the fiscal stance of the country; if this is translated into increased government expenditure, it will have impacts on various groups of households through the goods, services, transfers, and subsidies they receive. Such a stronger fiscal stance also will likely generate improved growth, affecting household welfare.

The second critical dimension relates to the timing of impacts. Given that the nature of the impacts may change over time, so will net impacts on various stakeholders. To keep our earlier example of an increase in value-added tax rates, the direct impacts on purchasing power will likely be felt in the very short term, while the indirect impacts of improved service delivery and higher growth will typically take more time to materialize. Stakeholders might therefore feel both negative and positive impacts, but at different points in time.

Element 4: Assessing institutions

As discussed above, institutions affect the impact that policies have on poverty and the welfare of different households or groups. First, institutions mediate the transmission of certain policy impacts to people. Understanding social and market institutions helps to understand impacts of a given policy change (such as deregulation, privatization, or removal of an export tax). Second, institutions are often the object of many types of policy reform. Privatization, civil service reform, decentralization, and expenditure management reform are examples of institutional reform that involve changes in the incentives and rules that govern public and private organizations. Third, many policy changes depend on particular organizations for their implementation. The incentives, performance, and capacity of these organizations will be critical to the actual implementation of the policy and thus its impact. Fourth, aside from well-known barriers to entry faced by the poor, institution-specific intents of the reform may introduce new transaction costs stemming from information asymmetry and bounded rationality that affect market behavior or access to public services (Powers 2003). Two key areas of focus for PSIA are the analysis of market structure and the analysis of implementing agencies.

Analysis of market structure

Surveys among consumers and producers of goods and services can be useful approaches to enhancing understanding of context-specific market structure. Identifying the nature of the market (monopoly, monopsony, oligopoly, perfectly competitive, etc.) and what determines this market structure (natural monopoly, restrictions to entry, or collusion, for example) is a crucial first step toward understanding the enabling conditions that would need to be created for market reform to lead to improvements in performance and better outcomes for the poor.

Enterprise (or trader) surveys can be useful for understanding the nature of the market, the number and types of economic agents, and market constraints, as well as de jure and de facto barriers to entry and transaction costs. In the case of privatization or liberalization, where an assumption is that market entry will lead to competition and price reduction, it might also be useful to undertake concurrently an analysis of the constraints to private sector entry and participation. Quantitative or qualitative household surveys can also reveal who buys services, where, and at what price. Quantitative service delivery surveys and citizen report cards can be applied to the analysis of the effectiveness of state marketing agencies. Price analysis is always useful in ascertaining the competitiveness of a market and of market structure.

Analysis of implementing agencies

In judging the likely poverty impacts of reforms that involve a change in government responsibility, or cooperation among government agencies or other implementing agencies, the flow of decisionmaking, information, and resources within and among organizations needs to be considered (see box 4). Two options for collecting this kind of information are organizational mapping and the institutional assessment tool.

Organizational mapping is a method that enhances understanding of the internal behavior of organizations by creating an inventory of the actors carrying out reforms and explicitly revealing relationships among them. Organizational mapping has two components: static mapping and process mapping. *Static mapping* identifies ex ante the specific public actions associated with a policy reform, and the organizations (which may be outside government) responsible for implementing them. It maps out the relations among the implementing agencies and identifies those expected to support or obstruct the reform. The exercise is informed by earlier stakeholder analysis (see the section above on identifying stakeholders) of government and other organized actors. *Process mapping* draws on work carried out to improve efficiency in the public and private sectors in industrialized countries (Hunt 1996). It identifies current practices and norms in relevant organizations that cannot easily be gleaned from documents or diagrams. It does so by tracing flows of critical resources, decisionmaking authority, and information in the current system. This helps create an understanding of the rules and incentives that affect internal behavior and the extent to which organizations pursue development objectives. Process mapping can help identify constraints to effective policy implementation at three levels: in organizational pro-

Box 4. Decentralization in Indonesia: Institutional Analysis and Social Accountability

A research team led by Scott Guggenheim carried out an institutional analysis of village-level governmental structures and traditional village decisionmaking bodies in Indonesia as part of a decentralization project designed to address corruption and top-down decisionmaking. The Kecamatan Development Project (KDP) was committed to using local capacity rather than developing a separate project implementation unit. The analysis, conducted through focus groups and interviews with government officials, helped to identify the relative strength and capacity of existing systems, the flow of money and information, and the location and nature of decisionmaking in the chain. The project changed the role and authority of those structures, shifting the locus of power within the system from regional governmental bodies to village councils. Through the interview process, the team identified the Village Infrastructure Project as a field-tested means to get money directly from central accounts to the village level. An existing government agency, the Department of Community Development, acted as a partner and enforcing agency.

The KDP used transparency and social accountability to make the new institutional structure work. Existing village councils at the *kecamatan* (subdistrict) level, which were formal organizations that had met once a year to feed into the government's planning process, became the primary decisionmaking bodies. Decisions on proposals from villages were made in public meetings of the council, procurement forms were limited to one page, expenditure information was kept on cash ledgers, and information about the program was disseminated through posters, flyers, and radio broadcasts. Further, the KDP worked with the Association of Independent Journalists to ensure media coverage and gave small grants to reporters to build capacity for independent reporting.

Source: National Management Consultants 2000.

cedures, in the relationship between organizations, and in the relationship with the authorizing environment. Addressing them may require fine-tuning procedures, recasting fundamental rules of operation, or even replacing entire organizations. Process maps are constructed through in-depth, semi-structured interviews with staff at all levels of the organization, focusing particularly on those at the "front line" of delivering services. The main advantage of organizational mapping is its ability to expose a problem area that may not be readily seen by relying directly on stakeholders to describe their interests and constraints (see box 4). A drawback is that it is more time-consuming, costly, and technically demanding than guided questionnaires. Good process mapping needs to be used iteratively to test assumptions by monitoring institutional performance over time.

The **institutional assessment tool** was designed to permit an institutional analysis of various components of a project. The tool consists of questions that help the analyst structure thinking about the complex relationships and processes within organizations upon which reforms depend.[5] The questions are used to evaluate the effectiveness of institutions, from performance incentives to their capacity to implement policy. They address key issues of relevant organizations, including: (a) roles; (b) knowledge and access to information; (c) incentive structures; (d) receptivity to policy change; (e) capacity; (f) resources or financial clout; and (g) scope to adapt to the new reform agenda. The advantage of the institutional assessment tool is that it can enable more systematic analysis of issues ranging from political incentives to administrative capacity at low cost. The disadvantage is that the tool relies on a desk assessment, and lacks the interactive dimension of interviews with staff of the organizations that are being reformed. The tool is currently better suited for the analysis of institutions with respect to investment operations, but it could be used to assess institutions in the context of the implementation of policy reform.[6]

Element 5: Gathering data and information

Assessing data needs and available data and planning the phasing of future data collection efforts are an important part of PSIA. Identification of data needs will benefit from the prior identification of policy issues, stakeholders, and likely transmission channels, as outlined above. Four discrete steps are suggested: mapping out desirable data for PSIA; taking stock of available data and analysis; coping with PSIA data lim-

itations up front; and addressing PSIA data limitations today so they do not limit PSIA in the future.

Mapping desirable data for PSIA

Analysis of the poverty and social impacts of policy can be extremely data-intensive. Specific data requirements will, of course, depend on the nature of the reform being analyzed and the analytical tool or technique being employed. In approaching data and methods, it is useful to distinguish among data collection instruments (close-ended or open-ended); data type (numeric or non-numeric); and associated methods of data analysis (quantitative or qualitative). Traditionally, analytical approaches have been either quantitative in nature and based on numeric data collected using close-ended data collection methods, or qualitative in nature and based largely on non-numeric data collected using open-ended data collection methods. "Mixed methods" are increasingly being employed and are extremely useful for PSIA.

The approach based on quantitative analysis, numeric data, and close-ended data collection offers certain advantages. Analyzing the poverty and distributional impacts of policy on welfare indicators will require linking data at the macro or sectoral level (generally corresponding to the level of policy intervention) to disaggregated household-level data that capture the welfare measure of interest (usually an income/expenditure aggregate, but possibly other welfare measures such as literacy or infant mortality) and other behavioral variables (such as access). Close-ended surveys have generally been used to collect such data. For analysis to be generalizable, data should be derived from a random sample. When the reform is expected to impact only a discrete group (for example, laid-off mine workers) or a geographic subregion, purposive sampling of just that group or subregion may be more appropriate and economical than a nationally representative survey. Numeric data can be used to undertake statistical and multivariate analysis to test hypotheses and determine relationships (see table 1).

Table 1. Data Collection Methods

Aspect	*Close-ended*	*Open-ended*
Data collection instrument	• Structured, formal, predesigned questionnaires, such as living standards measurement study, social impact assessment survey[a], willingness-to-pay survey, client satisfaction survey, citizen report card.	• In-depth, open-ended, or semi-structured interviews, such as key informant interviews and case histories, focus group interviews, community interviews, mini-surveys. • Ethnographic observation. • Systematic (or directed) consultation, such as beneficiary assessment. • Participatory data collection methods, such as participatory action research, participatory rural appraisal, participatory public expenditure review. • Focus group discussion. • Community and institutional surveys. • Written documents (for example, program records, process documentation, media reports). • Participatory visual exercises.
Analytic method	• Predominantly statistical analysis. • Deductive reasoning.	• Inductive reasoning. • Interactive analytical process: research questions formulated, answered, and analyzed iteratively, e.g. in stakeholder analysis, participatory poverty assessment, scenario analysis. • Methods tailored to social context.
Advantages	• Findings can be generalized. • Can quantitatively estimate size and distribution of impacts. • Explains statistical correlations.	• Able to analyze behavioral responses, explore new hypothesis, or recognize previously undiscovered phenomena. • More effective in capturing intra-household features and non-income dimensions of poverty. • Can identify particularly vulnerable subgroups. • Allows respondents to articulate their own views.
Disadvantages	• Results not available for long period of time. • Limited types of information can be gathered. • Can sometimes be expensive and time-consuming.	• Findings difficult to generalize, and difficult to aggregate and compare systematically. • Fieldwork requires greater research skills than for quantitative enumeration.

Note: This table is intended to provide an indicative distinction between these methods and not a comprehensive description of individual techniques.
a. Social impact assessment adopts a more eclectic approach to data collection, choosing among open-ended, semi-structured, and close-ended instruments to fill information gaps for mixed-method analysis.
Sources: Adapted from Carvalho and White 1997; Baker 2000; and World Bank 2002a.

Likewise, the approach based on qualitative analysis and open-ended data collection has particular strengths. A variety of open-ended data collection methods can be used to collect non-numeric information relevant to PSIA. Qualitative and contextual data can be collected through participatory appraisals, asset mapping, and structured interviewing of individuals, communities, or focus groups. This information can be used to undertake stakeholder analysis (discussed above), participatory poverty assessment, beneficiary assessment, institutional analysis, and risk analysis (discussed below). Open-ended data collection methods such as those described in table 1 permit an interactive analytical process—one in which research questions can be formulated, answered, and analyzed iteratively in the field. The open-ended approach allows subjects to articulate the research problem and question. This interactive analytical process could enable quicker turnaround and a shorter time lapse between questionnaire design and analysis than close-ended data collection methods and associated statistical analyses.[7] Open-ended data collection methods may also be undertaken using a random sample or a purposive sample and may also be quantified to tabulate and analyze information.[8]

In undertaking PSIA there is much benefit to mixing and, where possible, matching elements of the above approaches.[9] This includes drawing on different types of data collected by different techniques for multidisciplinary analysis. It is important to be aware that economic analysis is not limited to quantitative analysis. Close-ended and/or open-ended data collection techniques can be used to generate numeric and/or non-numeric data, for analysis using quantitative and/or qualitative techniques and approaches. Moreover, analytical methods can be mixed sequentially or in parallel over time. Mixed methods can leverage the benefits of both quantitative and qualitative analysis. Qualitative analysis can inform the design of close-ended questionnaires or the specification of an econometric model and generate hypotheses to be tested further through quantitative research. Hypotheses generated by qualitative analyses can be tested for generalizability using quantitative approaches. The results of quantitative analysis can be further examined using open-ended data collection methods to develop a richer understanding of the impacts of policy on different subsets of the population, and to analyze counter-intuitive results that might otherwise be dismissed as spurious. And a successful mixture can elucidate history, context, process, and identification of transmission channels and differential impacts. While mixed methods can involve higher costs, requiring more complex skills and coordination with multidisciplinary teams, the benefits in some cases outweigh the costs. As the work of Amartya Sen and others demonstrate, economics has contributed a great deal to, and made liberal use of, qualitative analyses.

Taking stock of available data and analysis

The first element of the stocktaking is to ascertain the existence of key data. This will allow identification of data gaps that need to be filled or taken into account when choosing an analytical approach. Household survey data are generally pivotal to undertaking quantitative poverty and distributional analysis.[10] An important consideration for poverty and social impact analysis is whether, in addition to a welfare (e.g. income/expenditure) aggregate, there is information in the survey that provides the variable (or the computation of such a variable) related to the policy lever in question—for example, household expenses on transport, or specifically public bus transport, if bus tariffs are to be increased; or purchases of maize at subsidized prices, if the subsidy is to be removed. Other important sources of data include sector studies—which may include administrative data, household survey data, and qualitative information—and information on the macroeconomic situation, including national accounts. In analyzing policy reform, it is very useful, where possible, to test the robustness of conclusions by matching data from different sources. This is often referred to as "triangulation," the practice of validating results among three different sources. For example, in Armenia three different sources were used to compile and compare information on consumption of, and expenditure on, utilities (using household survey data, utility accounts data, and focus groups). Similarly, for particularly controversial issues, participants in discussion groups may have an incentive to exaggerate or minimize certain impacts. Matching or triangulating results is particularly important to validate such results.

Second, after identifying the availability of relevant primary data, ascertaining the existence of analysis and secondary data on the policy issue at hand is an obvious next step. In many instances, burning policy issues have been the subject of analysis and debate in the past; it is useful to draw on whatever analysis already exists, and whatever public debate has already occurred. Project and program documentation, as well as data and analyses from other development agencies, are invaluable. For sectoral reforms, information from existing sector analysis, including administrative, household survey, and qualitative data, can strengthen PSIA. Academic research and theses can also yield in-depth insights not normally available in official reports.

Third, it is useful to ascertain and build the capacity of local agencies involved in data collection and analysis (such as national statistical offices, ministries, universities, research organizations, consulting firms, NGOs, and so forth) to collect and analyze data.

Coping with PSIA data limitations

In many countries there are severe data limitations to conducting poverty and social impact analysis. Some or many of the desired data outlined above may simply not be available. In this case, policymakers and analysts will need to consider several options, outlined below.

First, they can adapt the analytical approach to data currently available. If the urgency of policy action severely limits the time available to gather further data, expeditious analysis using the limited available data may be required. Some tools and approaches to poverty and social impact analysis are far less data-intensive than others. Adapting the analytical approach to the available data, such as using time-use data or focus group data to construct a simple household model, might be the best course of action. While any analysis entails making assumptions, taking shortcuts generally means making more assumptions in order to proceed. The analysis should be honest and transparent in stating these assumptions. Qualitative techniques, such as individual, community, or focus group interviews, can be used to validate assumptions and inform the design of quantitative surveys.

A second option is to collect more data. If critical data gaps have been identified, it may be useful to gather the data needed—whether administrative or survey data. In the interest of building national capacity and enhancing ownership of the data and analysis, where possible these data collection efforts should be undertaken through national institutions, such as the statistical agency, ministries, universities, or other research organizations. A national household survey is a large undertaking; it can take months to plan and implement such a survey and analyze the resulting data. Where possible, it is useful to identify planned household surveys that are to be fielded imminently and to add key questions relevant to the policy issue at hand. These questions can leverage a wealth of analytical possibilities in the context of a full-fledged household survey.

Alternatively, there are now several "off-the-shelf" survey instruments that can be used to quickly collect, enter, and analyze data (for example, the Core Welfare Indicator Questionnaire, or CWIQ, survey). Social impact assessment surveys, based on purposive sampling, can often be turned around in a shorter time than a representative national household survey. Likewise, depending on the reform issue at hand, quantitative surveys can be employed using a purposive sample (for example, among workers of a firm that is to be downsized).[11] When possible, use of mixed methods, combining qualitative and quantitative analytical approaches to triangulate results, helps to generate richer and more robust findings. The use of data from a non-representative sample to estimate parameters may sometimes be required, and the "borrowing" of parameters from other countries may also be needed. Again, clearly stating assumptions (for example, that these elasticities apply to the population at hand) will be important in these instances. Care should be taken when generalizing from such a purposive sample.[12]

Third, policymakers can rethink the policy decision or the sequencing and pace of reform. One option is to postpone the policy decision until adequate data can be collected and appropriate analysis conducted. If this course is taken, the costs of delaying reform (a policy decision in itself) will need to be considered. Other possibilities are to pilot or phase the reform, so that progress can be monitored before a final decision is made to implement a national program.

In the end, a tactical judgment will have to be made as to how to proceed based on these consider-

ations. This judgment will be influenced by the time and resources at one's disposal, which in turn will depend critically on political and economic pressure for action. In most cases, decisionmakers will not want to embark on a major policy change without a sound understanding of the poverty and social implications of a policy action, particularly if such action is aimed at reducing poverty. In some instances, however, political or economic imperatives (as in a crisis situation) may lead policymakers to take quick action. Where this happens, it will be important to undertake PSIA as soon as feasible and to consider measures to protect the poor from adverse impacts and vulnerability to significant risks (see section on compensatory measures, below).

Addressing PSIA data limitations today so that they do not limit future PSIA

When circumstances dictate that a policy decision needs to be made without adequate data, it is important that steps be taken to improve the information set over time. Since PSIA is necessarily a dynamic process of formulating and adjusting policy based on increased knowledge, it would also be important to put into place a strategy to gather the necessary data to enhance the basis for further and future (ex-ante and ex-post) analysis of the poverty and social impacts of policy. Such a strategy can be designed in a manner that builds national capacity for data collection and analysis. Where possible, a strategy for data collection should be linked to the timetable for policy formulation, or for policy review and reformulation. In other words, the reason for developing a strategy for future data collection is not solely to permit ex-post monitoring and evaluation of a current policy decision, but also to lay the groundwork for future ex-ante analysis. Developing such a strategy is an integral part of PSIA.

Element 6: Analyzing impacts

This section begins with general considerations in choosing approaches to impact analysis and then provides an overview of several broad classes of methods for estimating impacts.

Considerations in choosing approaches to impact analysis

In general, four factors will condition the choice of approach or tool to be used in analyzing the poverty and distributional consequences of a given reform: the importance of indirect impacts; data availability; time availability; and capacity. For purposes of presenting a simple typology, these four factors can effectively be collapsed into two dimensions.

The first is the importance of indirect impacts. As noted above, policy changes may have direct and/or indirect impacts, depending on the reform in question and the structure of the economy. A policy reform has high indirect impacts if the net effect is transmitted through several channels and markets, leads to behavioral changes at the household level, and/or has multiple round effects that may take time to work themselves through the economy. An example could be a massive devaluation that immediately results in changes in relative prices, consumption, and power structures, but over time might be expected to lead to shifts in the structure of employment and the economy, changes in productivity, improved governance (by removing rent seeking), and possibly growth.

Second is the availability of data, time, and local capacity. As discussed above, data availability and domestic capacity for data collection and analysis will necessarily constrain the type of approach adopted. The simple typology presented here collapses data/time/capacity into a single dimension. Over time, an objective of PSIA ought to be to improve the capacity of local practitioners and users. Wherever possible, it is important that local partners—in the government or outside organizations, as appropriate—become involved both in selecting tools for analysis and in applying them. This engagement can be the basis for domestic capacity building, so that over time local analysts rather than international specialists conduct a larger share of the analysis.

Table 2 presents an indicative typology of how an analyst may want to select an approach. It lays out a choice of tools based on the importance of indirect impacts for the reform in question, taking into consideration constraints of data, time, and capacity.[13] This table is only indicative, and the reality will vary depending on the country circumstances and the

Table 2. Considerations in Choosing Impact Analysis Approaches

Indirect impacts \ Data/Time/Local Capacity Availability	Low	Medium	High
Low	• Beneficiary assessment	• Social impact assessment • Participatory poverty assessment • Benefit incidence analysis • Social capital assessment tool • Demand/supply analysis • Household models	• Poverty mapping
High	• Social impact assessment • Collect more data • Use tools in adjacent cells in conjunction with assumptions	• Multimarket analysis • Reduced form	• Social accounting matrices • Input/output models • Computable general equilibrium • Macro-model + micro-simulation

Note: The tools presented along the dimension of "Data/Time/Capacity Availability" are additive across rows. That is to say, any tool that can be used in the context of lower data/time/capacity can also be used with higher data/time/capacity, and certain tools, such as social impact assessment, can be applied to examine higher indirect impacts.

reform in question. Choices will therefore have to be made on a case-by-case basis.

In contemplating the choice of tools, a helpful first step is to consider whether the reform in question is likely to have low or high indirect impacts. The answer will depend partly on the scale of the reform and its importance to the economy, as well as the time horizon. With regard to the latter, elasticities are typically lower in the short run than in the long run. For instance, a tax reform may have low indirect impacts in the first year of implementation, but much larger ones in subsequent years as agents adjust to the new tax rates. As another example, the indirect impact of utility reforms could be very low, in the case of changes in tariffs paid only by a handful of rich consumers—or they could be very significant, as with the wholesale restructuring of the electricity sector in an industrial country. Moreover, the impact of individual reforms may be low, but if they are taken as a package the combined impact could be high.

While country circumstances and reform specificities will ultimately determine the strength of indirect impacts, it is possible to broadly classify specific reforms as having lower or higher indirect impacts, based on the scale on which they are undertaken in most low-income countries. Box 5 provides an indicative breakdown.

Once the relevance of indirect impacts has been determined, the next consideration will be the availability of data, time, and capacity. Where these are in short supply, the analysis might need to use simpler tools and methods in the short term. In such cases, an action plan to strengthen data and capacity should be put in place for more robust analysis in the future. This way countries in the "low" data and capacity situation could aim to improve their information base so they have the option of adopting methods in the "medium" and "high" columns, as appropriate. (See Annex for data, time, and skill requirements for each tool.)

PSIA can utilize various methods and tools, many of which require the combined skills of various disciplines (for example, macroeconomics, microeconomics, social and political analysis). Where feasible, it is advisable to integrate economic and social analyses in order to deepen the analysis. For instance, social impact assessments can be used to help define the parameters and explanatory variables used in econometric modeling, and conversely, an understanding of economic dynamics and constraints can strengthen the social analysis of a given policy.

The rest of this section briefly lays out the different social and economic tools for PSIA, and the reforms to which they are best applied. It first presents tools for *social analysis,* which can be used in conjunction with

Box 5. Illustrative Categorization of Selected Reforms according to Scale of Indirect Impacts

This categorization is indicative only: actual indirect impacts of a given reform will ultimately be driven by country circumstances, including the scale and complexity of the policy adjustment.

Reforms with typically higher indirect impacts

- Macroeconomic and fiscal reform: monetary policy reforms, affecting inflation and interest rates; broad external policy, affecting balance of payments and reserves; and broad fiscal policy, affecting fiscal deficits.
- Trade and exchange rate reform: reform of tariff and nontariff barriers; exchange rate adjustments.
- Agricultural reform: elimination of administered prices; changes in domestic subsidies and taxes; abolition of marketing boards.
- Financial sector reform: liberalization of interest rates; allocation of credit; lowering barriers to entry; regulatory reform.

Reforms with typically lower indirect impacts

- Public finance reform: changes in allocation and level of public expenditures; changes in level and composition of revenues; improvements in tax administration; cost recovery.
- Land reform: distribution to landless; changes in legal rights to own, exchange, and inherit land.
- Utility reform: restructuring of state-owned utilities; increased private participation; full divestiture.
- Financial sector reform: privatization/closure of state banks; promotion of financial institutions serving the poor.
- Privatization: lease of assets; private management contracts; full divestiture.
- Civil service retrenchment: layoffs, reductions in the wage bill.
- Decentralization of public services.
- Social safety nets: changes in targeted cash/in-kind transfers; benefits to needy groups (such as AIDS orphans); social insurance benefits.
- Pensions: scaling back pay-as-you-go public schemes; increased private provision; introduction of social pensions (cash assistance for poorest pensioners).

either direct or behavioral analysis methods and/or to inform the approaches for indirect impacts. It then reviews the two broad economic approaches to analyzing direct impacts: *direct impact analysis* and *behavioral analysis.* Finally, the section reviews complementary economic approaches to analyzing indirect impacts: The first covers macroeconomic frameworks that aim at modeling the different impacts of policy interventions on a variety of sectors or markets, but that leave open the distributional implications of policy changes. These frameworks are either *partial equilibrium analysis* or *general equilibrium techniques.* Then, the second group comprises tools that use as inputs the results of any of the macroeconomic frameworks, and assess the distributional implications of policy changes: *Tools linking microeconomic distribution or behavior to macroeconomic frameworks or models.* Under each class of methods, the discussion presents an overview of specific tools (referred to in **bold** text) that are discussed in greater detail in the annex (including their data requirements and particular advantages and shortcomings).

Social analysis

The first approach consists of several techniques of social analysis that combine understanding of direct impacts with behavioral analysis.[14] These tools analyze how people are likely to be affected by reform, how this impact will differ among groups (based on gender or ethnicity, for example), what coping mechanisms people have to deal with changes effected by reform, and who is most likely to be vulnerable to a particular reform. In addition to the analysis of direct impacts, social analysis typically also includes an evaluation of how different people are likely to respond to a reform (behavioral response), and some of the institutional constraints the reform may face during implementation. In addition to demand and supply analyses, which are multidisciplinary tools typically carried out using a combination of qualitative and quantitative techniques (presented below under "behavioral analysis"), three broad classes of methods fall within the repertoire of social analysis for policy reform: social impact assessment, participatory poverty assessments, and the social capital assessment tool. The choice among methods depends on the particular policy and the time available for research.

Social impact assessment (SIA) is used to assess how the costs and benefits of reforms are distributed among different stakeholders and over time. It is particularly useful in understanding how the assets (phys-

ical, financial), capabilities (human, organizational), economic and social relations (e.g. gender, exclusion) of stakeholders, and the institutional mechanisms through which policy actions are transmitted, affect policy outcomes. Stakeholder analysis is a prerequisite for SIA. When reasonable national survey data exist, SIA uses a range of qualitative data collection tools (focus groups, semi-structured key informant interviews, ethnographic field research, stakeholder workshops) to determine impacts, stakeholder preferences and priorities, and constraints on implementation. In the absence of adequate quantitative data, SIA supplements qualitative, sociological impact analysis with purposive surveys that capture direct impacts and behavioral responses to reform, or specific dimensions (such as time-use patterns) that affect reform outcomes (the "low-low" cell in table 2). SIA can be used to examine the impacts of structural reforms such as privatization of state-owned enterprises, agricultural reform, reform of basic services, utility reform, civil service reform, and fiscal policy. It is particularly relevant for understanding the quality of impact on different groups, and examining how the poor cope with reforms and access market opportunities. Given the overlap of research methods, SIA is more cost-effective when undertaken simultaneously with institutional analysis and social risk assessment.

Participatory poverty assessments (PPA) and beneficiary assessments (BA) both rely on direct consultation of specific groups and field observation, using primarily qualitative techniques (focus groups, key informant interviews, and a range of other tools classified under the broad label of participatory rural appraisal). Like poverty maps, PPAs have often been used before the analysis of a specific policy reform to identify those policies and issues of most relevance to the poor, and to understand the non-income dimensions of poverty and the processes through which reform actions filter down to the poor. PPAs tend to focus on information and analysis at the national level by selecting a sample of regions for intensive research on poor people's views, in order to understand poverty impacts through a series of rapid assessment tools and structured task-based analytical exercises. They can be adapted for use in monitoring or seeking feedback on a particular policy and in designing pro-poor public policies (Norton and others 2001). They are more relevant to broad-based fiscal/expenditure and sectoral reforms with potential impacts on livelihoods and vulnerability (Dulamdary and others 2001). BAs tend to use similar qualitative data-gathering techniques, but they focus specifically on consultation with those groups directly affected by a specific intervention, project, or policy, and therefore have not typically looked for national representativity. They do not focus specifically on the poor.

The **social capital assessment tool (SOCAT)** measures social capital (institutions and networks, and their underlying norms and values) at the level of households, communities, and key organizations. It allows analysts to identify how these social assets affect productive behavior (for example, income generation and risk management), and how this in turn responds to policy reform. For instance, well-functioning networks with high levels of trust, such as among parent-teacher associations or farmer associations, may facilitate policy changes that call for collective action or cooperation. Alternatively, SOCAT data make it possible to assess whether certain policies strengthen or undermine social assets. The tool can be tailored to specific policies or used to give depth to other methods of data collection and analysis. A tailored version of the SOCAT survey was administered in Bosnia and Herzegovina, where measurement of the level of social capital led to recommendations for reform of the social welfare system, and improvements in service provision and the integration of returning refugees (World Bank 2002b).

Direct impact analysis

Direct impact analysis is a simple assessment of who is directly affected by a policy change, and how much they are affected. It assumes no behavioral response from affected households or groups; that is, if prices change, quantities do not adjust. Effectively all elasticities are assumed to be zero, including own-price elasticities. This assumption is appropriate for assessing short-term impacts, before economic agents have time to make adjustments. It otherwise represents a limitation of the approach. In particular it will tend to overstate the impact on household welfare. The approach can be used to analyze any type of policy change—for example, a change in prices (such as a commodity price, tariff, wage, or exchange rate) or a change in

public finance policy (such as an expenditure program subsidy, tax, civil service or state-owned enterprise retrenchment). But it is best suited to reforms whose impacts are mainly short-term. Examples include the removal of a subsidy, a small-scale privatization, or a single price change in a relatively isolated market.

Below are three examples of tools that fall within this approach: incidence analysis, poverty mapping, and tools to assess public service delivery. These range in terms of data/time/capacity requirements from low to high, as shown in table 2, with poverty mapping by far the most demanding.

Incidence analysis estimates the distributional incidence of a component of income or expenditure at the household level. The analysis is an appropriate starting point where quantitative data are available (the "low-medium" cell in table 2). A useful first step is to examine key descriptive statistics for the country to see which households are "exposed" to the policy change. The most common application is in relation to tax and expenditure reform; the technique has been used, for instance, to estimate the incidence of education expenditure in Malawi. It can also be used for reforms that affect prices and consequently household incomes, such as utility or agricultural reform. Applications of this type include access to utility services in Guatemala (Foster and Araujo, 2001). There are two main types of incidence analysis relevant to the direct impact analysis: **simple incidence analysis** and **marginal incidence analysis**. The first measures the incidence of *average* expenditure or tax, that is, it considers *all* expenditure or taxes. The second focuses on the distributional incidence of the *last* or *next* unit of expenditure or tax (see box 6).[15]

Poverty maps are geographical profiles that show the spatial distribution of poverty within a country, and suggest where policies might have the greatest impact on poverty reduction. Poverty maps can be used to illustrate outputs of most analytical tools. For instance, a poverty map can be combined with maps that show the placement of primary health care facilities to understand the access to health services by the poor. The technique is particularly suited to reforms with regionally differentiated impacts such as decentralization and agricultural reform, as in the case of rice price changes in Madagascar (Mistiaen, 2002). Applications also include planning of public investments in education, health, and transport, and targeting of direct social assistance and food aid to vulnerable populations. The method is most useful when constructed at a fine level of disaggregation, but this requires very large data sets.

Tools to assess public service delivery allow analysts to measure the efficiency of public spending and the delivery performance through assessing leakages and their sources, captures of financial flows, and incentives and accountability mechanisms at all stages of the expenditure chain. This complements incidence analysis, which relies on analyzing the cost of the services provided, irrespective of the service that actually reaches the beneficiaries. Applications of these tools include the analysis of the efficiency and quality of health and education service delivery in Tanzania and Uganda (Government of Tanzania, 1999 and 2001 and Reinikka, 2001). These tools, including **Public Expenditure Tracking Surveys** (PETS) and **Quantitative Service Delivery Surveys** (QSDS), are described in more detail in the section on monitoring and evaluation and in box 13, and are presented in the Annex, under the "monitoring and evaluation" section.

Behavioral analysis

Behavioral analysis includes economic tools that go beyond direct impact analysis to recognize some behavioral responses among households and economic agents. Behavioral analysis includes methods that permit non-zero own-price and cross-price elasticities. In other words, with a price or other policy change, households may switch to consuming or producing other goods and services and move along their respective demand or supply curves. The approach is, however, limited to a purely "micro" focus. Namely, supply is not equated to demand in a market, markets do not clear, and prices are therefore not endogenous. Rather, households simply react to an exogenous policy shock based on behavioral specifications and assumptions. If data, time, and capacity permit, behavioral analysis should always supplement simpler incidence analysis to more fully illuminate household responses to policy change. Some of the tools of behavioral analysis are behavioral incidence analysis, demand/supply analysis, and household models.

Box 6. Impact of Public Expenditures in Indonesia: Average versus Marginal Benefit Incidence

Average and marginal benefit incidence has been examined by Lanjouw and others (2001) to assess how education and health expenditures affect different income groups in Indonesia. Static benefit incidence analysis entailed dividing groups into expenditure quintiles and computing rates of utilization of the facilities for each group. For primary education, total government outlays in 1998 amounted to nearly 8,000 billion rupiah (covering both routine and development expenditures). In that year there were just over 25 million students enrolled in public primary schools. Assuming uniform transfers, the government thus transferred some 307,000 rupiah per public primary student per year.

The table below gives the incidence of government primary education spending for each expenditure quintile. As can be seen from the table, government expenditure has a pro-poor distribution, with an average per capita transfer of around 47,900 rupiah for the lowest quintile and 25,300 for the highest quintile. With practically universal enrollment, the pro-poor bias is largely driven by the fact that poorer households tend to have more young children than other households (6.2 million primary school students in the lowest quintile, versus 3.3 in the highest quintile).

A similar exercise was carried out for junior and senior secondary education and indicated that benefits of public spending for higher education levels become increasingly regressive. In health, per capita transfers on primary health care were found to be rather evenly distributed across quintiles, while government spending on hospitals was highly regressive.

The authors also considered the *marginal* benefit incidence of public expenditures. In other words, they asked how a *change* in government spending would be felt across expenditure groups. First the incidence of changes in education and health provisioning across two periods of approximately a decade each was analyzed. Second, the quintile-specific "marginal odds ratio" of participation—defined as the incremental increase in the quintile-specific participation rate associated with an aggregate change in the program participation rate—was estimated on the basis of survey data. This was compared with the "average odds ratio"—the quintile-specific participation rate in a given year relative to the participation rate for the population. On the basis of the historical analysis as well as the estimation results, the evidence suggests that changes in public spending on primary education would be even more strongly felt in the bottom two quintiles than what static analysis would suggest.

	Expenditure Quintile					
	1	2	3	4	5	Total
Population age 7–12 (millions)	6.8	6.2	5.4	4.8	3.8	27.0
Public school students (millions)	6.2	5.9	5.2	4.5	3.3	25.2
Average per capita transfer (rupiah)	47,898	45,324	40,004	34,375	25,270	38,574
Percent of total	24.0	23.5	20.7	17.8	13.1	100.0

Behavioral incidence analysis combines incidence analysis, presented above, with econometric estimates of household behavior. It can be used to *explain* distributional changes arising from a policy change, and thereby addresses one of the shortcomings of incidence analysis. Applications have included analysis of the role of government policy (in relation to the private sector) in expanding access to education in Malaysia (Hammer, Nabi, and Cercone 1995); examination of the disincentive effects of food stamps on labor supply in Sri Lanka (Sahn and Alderman 1995); and study of the crowding out of private transfers by public funds in the Philippines (Cox and Jimenez 1995) and South Africa (Jensen 1998). The Annex present details on techniques for the **ex-post behavioral marginal incidence analysis,** the **ex-ante behavioral marginal evaluation of policy reforms,** and the **ex-post evaluation of assigned programs.**

Demand and supply analyses estimate the responses of consumers and producers, respectively, to price changes. Demand analysis can assess the willingness of consumers at different income levels to pay for public services like water and electricity. It has been used to assess the impact of higher electricity tariff rates in Armenia (box 7), and is being applied to the same issue in the Kyrgyz Republic. It has also been used to evaluate preferences and likely responses of water consumers to tariffs and institutional reform such as privatization in several African countries (Mozambique, Lesotho, Angola, and Zambia). Supply analysis is most

suited to analyzing agricultural reforms that affect the poor in their role as producers, and has been used to examine the impact of agricultural liberalization on poor farmers in Mexico (box 8). Supply and demand analyses are typically carried out using a combination of qualitative and quantitative techniques.

Household models are somewhat more complex, in that they analyze impacts by taking account of households as both consumers and producers. The models integrate producer, consumer and worker decisions into a household problem, to reflect the fact that many households, especially in rural areas, are simultaneously units of production and consumption. They are particularly suited to addressing agricultural reforms, but have been used in relation to large sets of reforms, including taxation.

Partial equilibrium analysis

Partial equilibrium analysis goes a step beyond behavioral impact analysis in that it equates supply and demand in one or more markets so that prices clear at their equilibrium level.[16] Thus prices are now endogenous. Partial equilibrium analysis is distinguished from general equilibrium analysis (discussed below) in that it does not include *all* production and consumption accounts in an economy, and does not attempt to capture *all* markets and prices in an economy. Partial equilibrium approaches (which include elasticities on both the demand and supply sides) will allow for indirect impacts that occur when changes in one market affect other markets, but they will only capture these changes to the extent that they include the relevant markets.[17] This is their biggest drawback relative to general equilibrium approaches. For this reason, partial equilibrium analysis is better suited to analyzing sectoral reforms (such as agricultural marketing and pricing and utility pricing reforms) that are less likely to have large impacts on macro aggregates. Partial equilibrium techniques fall within the "high-medium" category of table 2 in that they at least require household survey data. Tools for partial equilibrium analysis are multimarket models and reduced form techniques.

Box 7. Impact of Utility Pricing on the Poor in Armenia: Demand Analysis

A recent study (Lampietti and others 2001) uses multivariate welfare analysis to assess the poverty impact of raising tariffs in the electricity and water sectors in Armenia. It looks ex post at the impact of higher electricity prices (and an accompanying expansion in social safety net provision) and ex ante at increased water tariffs. The study estimates a demand function to examine consumers' responses to changes in prices, including through substitution of other forms of fuel for electricity. Possible supply side adjustments (to the cost and structure of production) are not taken into account.

The analysis draws on two specially commissioned surveys, undertaken over the course of the electricity reform: a quantitative household survey of water and electricity consumption patterns (as well as of standard information on income and demographics), and a qualitative consumer satisfaction survey based on focus group research concerned with attitudes toward provision. For electricity, the data are matched with administrative statistics on payment and consumption.

The electricity study examines changes in consumption and payment behavior (pattern of arrears, and so forth) of poor and non-poor households following reform. The water analysis considers (a) how much extra non-poor and poor households would be willing to pay for an improved service, and (b) the policy tradeoff involved in raising tariffs, which can help cover costs but also threatens to reduce household consumption.

In both cases results from survey data are corroborated against the predictions from multivariate models of household expenditure per head. The models include as explanatory variables demography, asset holding, and regional location; each is estimated separately for rural and urban households.

The electricity study finds that households cut their consumption and switched to wood and natural gas alternatives as a result of the rate increase. This effect was particularly marked for poor households. As a result, the reform has produced only a modest improvement in revenue. One policy implication is that future tariff rises are more closely aligned with likely consumer responses. Another is the need for action to mitigate poverty and environmental impacts.

The results of the water analysis suggest that consumers are reluctant to pay significantly more for a service they deem unreliable. The authors suggest that reform should, therefore, proceed in two stages—first enforcing payment from households with reliable service, and then raising tariffs incrementally to balance cost recovery with the need to maintain access of poor users.

Box 8. Impact of Liberalization in Mexico: Supply-Side Analysis

Simple supply-side estimation can be used to examine the differential impacts of policy change on welfare. López, Nash, and Stanton (1995) use a household survey from Mexico to estimate the relationship between household assets and agricultural supply response. At the time, the Mexican economy was becoming increasingly open – markets for inputs, outputs, and credit were being liberalized. The study had two related goals. The first was to monitor the condition of Mexican farmers, especially the poor, and see how they had been affected by changes in policy and environment. The second goal is to understand the constraints facing the ability of poor households to adjust to the new regime and take advantage of new opportunities.

López and others (1995) construct a model showing that own wealth affects both the level of output and the ability to respond to price changes. They test this model against a large "baseline" dataset from 1991 and a smaller selected survey from 1993. Using the baseline data, they find that farmers with fewer productive capital assets (the "poor") grew fewer crops on average, had less access to and more problems with credit, and were less likely to use purchased inputs, such as seeds, fertilizer, pesticides, or to use a tractor for soil preparation. Their land was of lower quality on average, and their educational level lower, than those with greater productive assets. This analysis predicted that poor farmers would benefit less from liberalization.

However, the results of the smaller "panel" study suggest that conditions had improved both on average, and for the poorer farm households in the sample. Cropping patterns are more diverse, landholdings have increased, as has the use of purchased inputs, and asset ownership has also improved modestly. They also find that among the poor, educational attainment and off-farm income have declined. Although López et al. (1995) do not speculate, this may be due to the greater returns to on-farm labor brought about by liberalization, which reduce (relatively) the returns to off-farm income and the educational investments necessary to enter the off-farm labor market.

Source: López, Nash, and Stanton (1995).

Multimarket models permit the combined estimation of systems of supply and demand relationships, so that the analyst can see how policies in one sector impact on other related sectors. Multimarket models represent a simpler alternative to computable general equilibrium models, and have been used, for example, to examine the welfare impact of technical change in agriculture, increased exports, and input subsidies in India (Binswanger and Quizon 1984, 1986) and agricultural subsidies and tariffs in Turkey (see box 9).

Reduced-form estimation can be used to simulate the impact of different policy variables on poverty and social outcomes. The approach is less data-intensive than multimarket modeling. For instance, reduced form techniques were used to study rural poverty in Zambia, taking advantage of household budget data, time-use information, and other sociological and anthropological data.

General equilibrium analysis

General equilibrium analysis goes beyond partial equilibrium analysis in that it models all economic accounts in the economy and thus aims to present a comprehensive picture. What the methods in this category have in common is a complete specification of the economy, in varying degrees of aggregation. In theory, a well-specified general equilibrium model can capture indirect impacts of policy generated from all other markets. However, in practice, as with any economic estimation, it captures indirect impacts only from those markets that are included in the model, and results depend on the model specification and parameters.[18] While general equilibrium analysis can be used to analyze most types of policy reform, it is most relevant to reforms with multiple and significant indirect impacts on the economy through a number of transmission channels. An exchange rate devaluation or alternative aggregate fiscal policies would be best assessed with a general equilibrium approach, data and capacity permitting. General equilibrium analysis, in capturing accounts from the entire economy, requires not only household survey data but also comprehensive and consistent national aggregate data. The computational and capacity requirements are also generally high. Other drawbacks are that the technique can be difficult to explain to policymakers, and results are sensitive to the assumptions on which a particular model is based. The approach hence is presented in the "high-high" cell in table 2. Specific tools for general equilibrium analysis are social accounting matrices

Box 9. Impact of Agricultural Subsidies and Tariffs in Turkey: Multimarket Modeling

Hammer and Tan (1989) constructed a multimarket model of the agricultural sector in Turkey. Their model contains eight separate agricultural markets, all of which are potential substitutes for each other. Some of these are traded internationally. Incomes in the rural areas are derived from agricultural profits. The model also includes an explicit government account, which taxes, provides subsidies, and intervenes directly in the markets for selected outputs. Elasticities for supply and demand were taken from published sources, and modified to satisfy theoretical restrictions and to conform to base data. Sensitivity analysis confirmed that the model was robust to large changes in these and other assumptions.

The model simulates the impact of changes in government policy concerning direct intervention (subsidies and support prices) and tariffs. The results indicate that reducing export taxes leads to a broad-based increase in supply and exports, and that the incidence of subsidies to fertilizer and feed grains is sufficiently skewed that they could be cut without damage to farm incomes or export earnings. Also, import duties on milk products are regressive. Imposing border prices (removing import tariffs and restrictions) leads to improved government finance and foreign exchange earnings. It also improves the incomes of middle and wealthy farm households, but at the risk of harming consumers—especially the poor—through higher prices.

and input-output models and computable general equilibrium models.

Social accounting matrices (SAM) and input-output (IO) models can be used for simple policy simulations (by selecting some accounts as exogenous, and leaving the others endogenous). For instance, in a SAM containing agricultural production and transportation accounts, the impact of an exogenous change to agriculture can be simulated (leaving transport fixed) or the other way round.[19] SAMs have some serious limitations, including the facts that prices do not adjust to reflect changes in real activity, and results are highly sensitive to which accounts are assumed to be endogenous and which exogenous.

Computable general equilibrium (CGE) models are completely specified models of an economy (or a region). They vary in their complexity from the basic 1-2-3 model (one country, two activities, three goods) to versions with several activities and actors and hundreds of parameters. CGEs can be used in a number of policy contexts, including public finance reform and macroeconomic stabilization.[20] Box 10 illustrates the use of a CGE model to calculate the impact of fiscal incidence in the Philippines. As well as being data-intensive, CGEs—even simple ones—can be difficult to build and understand.

Tools linking microeconomic distribution or behavior to macroeconomic frameworks or models

The last class of tools and methods links microeconomic behavior and/or distribution with a consistent macroeconomic framework or model. Distributional and poverty outcomes are arrived at iteratively and outside the macro-modeling exercise. In its simplest form, the macroeconomic framework/model (such as any of those reviewed above) is solved to derive the main equilibrium parameters (such as prices, wages, fiscal deficit, and so forth); these parameters are then fed into a micro-model. There are several micro approaches that can be used to derive poverty and distributional outcomes based on the parameters derived from the macroeconomic framework/model.[21] The approaches presented below can be applied to a wide variety of reforms. However, they are data- and skill-intensive, and are located in the "high-high" cell in table 2.[22] The following specific techniques are described in more detail in the annex.

Linking macro-framework to a reduced form estimation is a minimalist approach that simulates poverty impacts on the basis of various macroeconomic variables.[23] Tools have also been developed to examine how changes in certain macro-variables—most particularly growth rates—affect poverty, based on a country-specific distribution. **SimSIP** and **PovStat** are tools of this type.[24]

Linking macro-framework to behavioral analysis estimated for representative households has been done in the **1-2-3 PRSP** model, which links the 1-2-3 model to a behavioral analysis of representative households (Devarajan and others 2001), and **PAMS**, which joins a labor-poverty module to a macro-consistency model (such as the Bank's RMSM-X).[25] The technique can be used to simulate a wide range of policies, from labor and wage policies to taxation, prices, and the alloca-

Box 10. Net Fiscal Incidence in the Philippines

Ideally, one should be able to analyze the incidence of tax and expenditure policies simultaneously, that is, conduct a net fiscal incidence analysis. In practice, this type of analysis is difficult to undertake because the data requirements are extensive. Devarajan and Hossain (1998) completed one of the few examples of this type of analysis in the Philippines. The net incidence of fiscal policy (indirect taxes, direct taxes, and expenditures) was estimated using a variety of data sources and tools.

For both direct and indirect taxes, the authors calculate the effective tax rate for each income decile defined as the change in purchasing power of each income class. For direct taxes, they calculated the effective tax rate using actual tax collection rates broken down by gross income. The family income and expenditure survey was used to map income classes into deciles. For indirect taxes, a multisector CGE model was used to calculate the incidence of taxes. The effective tax rate for each type of tax (such as VAT, import tariffs, excise taxes) was calculated individually. This was done by simulating the removal of each type of tax with the CGE model. The incidence reflects both actual tax collections and the increased costs associated with each tax. The effective rates for indirect and direct taxes were aggregated to obtain overall tax burden.

For expenditures, the authors focused on health, education, and infrastructure spending. Nationwide incidence patterns were derived from regional patterns of expenditures along with information on income distribution. To derive benefit incidence, the authors inferred the implicit subsidy on health, education, and infrastructure for each income decile. Overall incidence of public expenditures in health, education, and infrastructure was calculated as the weighted average of the regional incidence, with the weights being the regional allocations of these expenditures. Total incidence of public expenditures was calculated as benefits as a share of gross income.

The results indicate that tax incidence is fairly neutral. Expenditure incidence is strongly progressive, as is the combined incidence.

tion and levels of government spending. Applications include the linking of a simple CGE model with a demand system for food to examine the impact of macroeconomic policy changes on food consumption and nutritional status in the Philippines (Orbeta and Alba 1998).[26]

A third technique is **linking macro-framework to micro-simulation.** A more disaggregated variant of the representative household method above is to simulate behavior at the level of the individual household. Robillard, Bourguignon, and Robinson (2001) use this approach to analyze the poverty impact of the Indonesian financial crisis (see box 11). Their household model is linked to a CGE through wages, and the sectoral allocation of employment and prices. It is constrained to be consistent with the output of the CGE.

Element 7: Contemplating enhancement and compensation measures

Poverty and social impact analysis is undertaken to maximize welfare gains, in particular for the poor, by influencing the design of a policy reform. To the extent that there are losers from the reform, PSIA can inform policy design leading to choices that minimize the number of losers or the extent of adverse impacts. Better understanding of adverse impacts can also inform the design of appropriate compensation mechanisms, if needed. This component of the PSIA is informed by the analysis and tools laid out in the previous section. This analytical work can provide potential options to limit the negative impacts on the welfare of the poor or other groups. In addition, finding the appropriate solution, or set of solutions, also often necessitates substantial discussion and debate by key stakeholders, in particular consultation with those affected to test whether the proposed compensation measures can feasibly be implemented. In short, if the ex-ante poverty and social impact analysis shows that a proposed reform will have short-term adverse impacts on the living standards of the poor or other groups, it is critical that the analyst address the following considerations.

Consider alternative design

The design of reform may be improved by including enhancement or mitigation measures, or by different sequencing of public actions. First, one may opt to proceed with the implementation of a reform as planned, but with a subsidization arrangement to protect the poor or others adversely affected by the policy. For example, a water tariff increase associated with utility reform may be designed to protect those who

Box 11. Impact of the Indonesian Financial Crisis on the Poor: Partial Equilibrium Modeling and CGE Modeling with Micro-simulation

General equilibrium models permit the analyst to examine explicitly the indirect and second-round consequences of policy changes. These indirect consequences are often larger than the direct, immediate impact, and may have different distributional implications. General equilibrium models and partial equilibrium models may thus lead to significantly different conclusions.

A comparison of conclusions reached by two sets of researchers, examining the same event using different methods, reveals the differences between the models. Levinsohn, Berry, and Friedman (1999) and Robillard, Bourguignon, and Robinson (2001) both look at the impact of the Indonesian financial crisis on the poor—the former using partial equilibrium methods, the latter using a CGE model with micro-simulation.

The Levinsohn study used consumption data for nearly 60,000 households from the 1993 SUSENAS survey, together with detailed information on price changes over the 1997–98 crisis period, to compute household-specific cost-of-living changes. It finds that the poorest urban households were hit hardest by the shock, experiencing a 10–30 percent increase in the cost of living (depending on the method used to calculate the change). Rural households and wealthy urban households actually saw the cost of living fall.

These results suggest that the poor are just as integrated into the economy as other classes, but have fewer opportunities to smooth consumption during a crisis. However, the methods used have at least three serious drawbacks. First, the consumption parameters are fixed, that is, no substitution is permitted between more expensive and less expensive consumption items. Second, the results are exclusively *nominal*, in that the welfare changes are due entirely to changes in the price of consumption, and do not account for any concomitant change in income. Third, this analysis cannot control for other exogenous events, such as the El Niño drought and resulting widespread forest fires.

Robillard, Bourguignon, and Robinson use a CGE model, connected to a micro-simulation model. The results are obtained in two steps. First, the CGE is run to derive a set of parameters for prices, wages, and labor demand. These results are fed into a micro-simulation model to estimate the effects on each of 10,000 households in the 1996 SUSENAS survey. In the micro-simulation model, workers are divided into groups according to sex, residence, and skill. Individuals earn factor income from wage labor and enterprise profits, and households accrue profits and income to factors in proportion to their endowments. Labor supply is endogenous. The micro-simulation model is constrained to conform to the aggregate levels provided by the CGE model.

The Robillard team finds that poverty did increase during the crisis, although not as severely as the previous results suggest. Also, the increase in poverty was due in equal parts to the crisis and to the drought. Comparing their micro-simulation results to those produced by the CGE alone, the authors find that the representative household model is likely to *underestimate* the impact of shocks on poverty. On the other hand, ignoring both substitution and income effects, as Levinsohn, Berry, and Friedman do, is likely to lead to *overestimating* the increase in poverty, since it does not permit the household to reallocate resources in response to the shock.

consume relatively small quantities of water by incorporating a subsidy mechanism.[27] Often contextual information and consultations are required to select the most appropriate type of mechanism to best fit specific country circumstance and implementation capacity. Alternatively, analysis of an electrical utility reform may determine access to be the main constraint for the poor, resulting in the design of subsidized grid connection fees for targeted poor communities.[28] In fiscal reform, key staple goods that make up the bulk of consumption for the poor may be exempted from taxation.[29]

Second, the policy set may need to be expanded beyond the core policy measures (driven by the problem diagnosis) to include complementary measures. For example, if "behind the border" bottlenecks (such as barriers to entry in the domestic transport sector) reduce the benefits of trade liberalization accruing to intended beneficiaries, taking measures to address those constraints will be critical to achieving expected welfare gains. Similarly, it will be essential to understand and address the factors that constrain the poor or other target groups from benefiting from market reforms—for example, lack of assets (land, credit, electricity grid connection) or of capabilities (price information, market access). Micro-econometric analysis as well as qualitative analysis can assist in identifying the type of complementary measures that might be necessary.

Third, it is important to carefully consider sequencing. For example, shutting down a commodity board can eliminate monopsony and subsidized inputs at the

same time. If critical inputs are likely to be unavailable or prohibitively expensive for vulnerable farmers in certain locations, PSIA might suggest that the government first take action to drop barriers to entry or encourage private merchants to pursue untapped markets *before* it dismantles the commodity board. Also, sustainability of the reform process can be enhanced with quick wins among key stakeholders to build support for reform. For example, new resources for mining safety in Russia were used to persuade the unions of the need for reform.

Consider direct compensatory mechanisms

When adverse impacts of reform are unavoidable, considerations driving the decision to compensate losers may be based on: (a) poverty grounds (especially if some of the poor lose in the short run and the objective of the policy is poverty reduction); (b) equity grounds (especially if groups that have traditionally been the poorest and most vulnerable lose ground to those with greater economic security); or (c) political economy grounds (especially if the losers have the capacity to organize and threaten either the sustainability of reform or survival of the government).

Careful consideration is required in the design of compensatory schemes—to ensure appropriate targeting of intended beneficiaries and cost effectiveness, and to avoid perverse or distortionary incentive schemes that might compromise implementation of the intended policy (see box 12). It is also important to calculate the cost of compensation, and consider it relative to the expected benefits of reform. In terms of costs, the compensation scheme itself (for example, a large retrenchment or social program) will have fiscal costs that, depending on magnitude, can have indirect impacts on fiscal stability, prices, and the economy. Moreover, there is an opportunity cost, as any compensation scheme will use resources that would otherwise have been spent elsewhere.[30]

Consider delay or suspension

If the findings of PSIA suggest that the short-to-long-term benefit of the best-designed policy intervention does not exceed the short-term (or long-term) costs of mitigating or compensating the poor, or that other important groups might suffer irreversible losses, then consideration could be given to delaying the reform (that is, resequencing) or abandoning or suspending implementation of the policy.

Element 8: Assessing risks

Upon laying out the broad parameters of possible reform alternatives, it is important to consider the risk that some of the assumptions underlying the analysis may not be realized.[31] This process may provide further insight into policy choice and design, including sequencing. Risk analysis addresses the issue of what could go wrong to prevent a policy reform from delivering the intended poverty or social

Box 12. Labor Downsizing and the Design of Compensation Packages in Vietnam

The issue of labor downsizing and the design of compensation packages have been analyzed ex ante in the context of Vietnam by Martin Rama (2001). Proposed reforms included a major downsizing operation involving the liquidation, divestiture, or restructuring of approximately 6,000 state-owned enterprises, resulting in unemployment of roughly 5 percent of the Vietnamese labor force or 450,000 workers. In anticipation of the massive layoffs a special compensation package was developed which amounted to two months of salary per year of service plus a substantial cash training allowance. This package was a result of policy debates around simulations generated by Rama using DOSE (Downsizing Options Simulation Exercise). The simulation computed "acceptance rates" for alternative severance packages, based on the characteristics of individual workers.

The acceptance rate is defined as the fraction of the workers for whom the separation package would exceed the present value of the estimated loss from job separation. Rama found that a formula based solely on earnings history had a consistently higher acceptance rate for men, while women found a uniform lump-sum compensation more attractive. Based on these simulations, the government of Vietnam picked a separation package that involved a sizeable lump-sum component in the form of the training allowance in order to ensure that female workers would not be unduly penalized by the layoffs.

impacts. By addressing these questions explicitly, adjustments can be made to mitigate the risks (for example, modifying the reform or introducing complementary measures).

Risk analysis can therefore help governments to anticipate—and avoid—major unintended consequences. The analysis should consider risks to the reform program as well as risks emanating from its impacts. Part of the challenge is to identify explicitly in the analysis the assumptions that must be valid for a policy to have its intended impact. This is a difficult task and underscores the need to make operating assumptions explicit in monitoring the evolution of the policy reform and its evolving impacts (see the section on monitoring and evaluation, below).

There are four main types of risk in PSIA:

- *Institutional risks.* These include risks that assumptions made regarding institutional performance were incorrect. This could be due, for example, to market or institutional failures in existence where none was assumed (such as asymmetric information or missing markets), or to the fact that key organizations involved perform in unexpected ways.
- *Political economy risks.* This includes the risk that powerful interest groups may undermine reform objectives by blocking implementation, capturing benefits, or reversing reform actions.
- *Exogenous risks.* These include risk of shocks to the external environment such as a natural disaster or regional economic crisis that might have a bearing on the vulnerability of the poor.
- *Other country risks.* These include the threat of an increase in political instability or social tensions that could undermine effective implementation.

There are three main methods available to conduct a risk analysis: risk assessment, sensitivity analysis, and scenario analysis. The first and third are discussed in more detail in the annex.

Risk assessment is an approach for systematically identifying risks, and their importance to the reform at hand. It looks beyond vulnerability risks, which are captured by the impact analysis, to include consideration of risks arising out of the sociopolitical and institutional context that could undermine the reform, as well as risks arising out of behavioral responses to the proposed reforms. Obvious examples are political economy risks that may be latent but may become more acute when interest groups perceive reforms as a threat. Another example might be increased exposure to exogenous market conditions in the absence of risk coping or insurance mechanisms to deal with external competition or market failures. Risk assessment is based on the premise that risks become reality when assumptions turn out to be wrong. The likelihood of an assumption being invalid is, therefore, another way of judging the extent of risk. The first step is to identify the assumptions—implicit and explicit—about what should and should not happen in order for a policy to achieve its goals. The next step is to make a judgment as to the likelihood that each assumption will hold, and its importance to policy. The more likely it is that an important assumption will be invalid, the greater will be the need to alter the policy. If assumptions are considered important but more likely to be valid, there may be a need for a contingency plan. A variety of tools are available for risk assessment. In particular, social risk assessment compares data and indicators from the World Development Indicators with external agencies to estimate the likelihood and importance of risks to the reform program (see annex).

Sensitivity analysis is usually applied in the context of quantitative economic models, and entails varying the magnitude of certain key parameters to judge their sensitivity to the model's outcomes. Sensitivity analysis is especially important for parameters that are particularly uncertain (as may be the case where these are based on estimates from other countries) or where risks are known (for example, droughts in the Sahel). One practical limitation of the approach is that it is more often used to test sensitivity within a given model than to assess alternate scenarios using different models, which is not always feasible.[32]

Scenario analysis is a tool for helping decisionmakers consider how policy impacts might vary in different plausible scenarios. Scenarios are based on a range of social, economic, political, or technological outcomes that drive change in the country. In this way, unexpected risks can be highlighted, and contingency plans made.[33]

Element 9: Monitoring and evaluating impacts

When identifying and designing reform based on ex-ante PSIA, it is important to consider setting up at an early stage systems for monitoring, social accountability, and ex-post evaluation of the impacts. In doing so, some specific concerns should be borne in mind in the context of reform-specific PSIA. This section outlines these issues.[34]

As noted above, good PSIA calls for monitoring and evaluation (M&E), both to validate ex-ante analyses and to influence the reformulation of policy. Effective PSIA therefore implies a heavy demand on data and information bases. In considering the information needs of PSIA, it is essential to build where possible on existing systems of M&E. This should be done with a view to developing a coherent national poverty monitoring system that brings together information bases, indicators, mechanisms for linking M&E and policy decisionmaking, and so forth. This is another area where capacity building is an embedded part of PSIA: the development or refinement of systems for monitoring, social accountability, and evaluation is most effective where it strengthens in-country capacity.[35]

Monitoring involves tracking the progress of processes and implementation (as measured by indicators on inputs, outputs, and outcomes) associated with an intervention. This is done to ensure that agreed targets are met and the policy is on track. Evaluation analyzes how and why observed changes in indicators have occurred. Impact evaluation assesses the extent to which a past intervention has contributed to changes in outcomes or impacts for individuals, groups, households, and institutions.

Particular characteristics of M&E in the context of PSIA

M&E related to PSIA may be seen as a subset of a national poverty monitoring system, and as having several characteristics. It is focused on monitoring impacts of *specific policy reforms* with a view to validating policy analysis or informing policy adjustment during the course of implementation. This ideally requires information on key indicators before (baseline data), during, and after the reform. The evaluation problem is particularly challenging in the case of economy-wide policy reforms. As these reforms often apply to whole sectors or economies (unlike projects, which are restricted to a group or specific region), it is difficult to establish the counterfactual. Use of control groups is possible only when the policy has been initially designed as a pilot or phased in so that those who do not initially experience the reforms can serve as controls. The particular challenges of ex-post evaluation for certain kinds of economy-wide reform require particular foresight in setting up an evaluation framework ex ante. Given the challenges of ex-post evaluation and the need for more rapid feedback on the evolution and impact of policy, PSIA implies a special role for monitoring for purely practical purposes. Although monitoring cannot attribute causality, it can say something about whether, for whatever reasons, assumptions are holding and expected impacts are materializing. Monitoring can identify where "things are going well or going wrong," as well as where supplementary interventions or changes in policy may be needed to ensure that the desired impacts materialize. For example, reforms that affect service delivery may benefit from participatory monitoring and evaluation that provides feedback from intended beneficiaries on quality of service delivery. Some methods for participatory M&E are described below.

Choosing indicators for PSIA

Several key criteria may be used to choose relevant indicators to monitor for PSIA. First, if impacts are transmitted through specific channels (for example, changes in producer prices, increases in sectoral employment), these are obvious indicators to track. Second, if the conceptual framework underpinning the analysis hinges on specific assumptions (for example, that traders or firms will enter with liberalization, that consumers or producers will substitute, or even that certain elasticities will be of certain magnitude), the validity of these assumptions holding over time can also be monitored. As discussed above, tracing impacts through transmission channels and making all assumptions explicit in undertaking PSIA increases understanding of the theoretical premises on which the program is based.

In the context of M&E, the process of tracing through the theory-based transmission channels also enables one to identify potential intermediate and process indicators that can be used to monitor the implementation and outcomes of reform. Third, given the importance of monitoring for adjusting policy in "real time," some indicators for PSIA (such as prices) should be chosen so that they can be tracked over a short time period (such as six months). The purpose is to identify proxy or intermediate indicators for outcomes or impacts that will gradually materialize. One way to do this is to trace through the critical assumptions or "theory" through which it is believed the reform will influence outcomes. Fourth, it is important to establish indicators to monitor key risks to reform (see the preceding section on risk assessment). These might cover reform-specific risks (regarding transmission mechanisms or institutions, for example) or broader risks arising from the sociopolitical context (such as the risk of elite capture). Fifth, when monitoring the impacts of a reform, it is important to ensure that impacts on gender or the environment are included, especially when they are expected to be significant. Finally, the choice of indicators can be informed by the existing set of indicators already monitored in the country, in the context of the existing national poverty monitoring system or of regular government reporting to its stakeholders. Building on existing systems reduces costs and limits duplications.

In addition, indicators should satisfy a simple set of basic technical criteria true for all monitoring indicators. The ideal indicator will be:

- Highly and unambiguously correlated with the objective variable of interest (for instance, test scores accurately reflect literacy)
- Sensitive to changes in the outcome or impact of interest
- Timely, in that it can be collected in time to feed back into policy adjustment
- Relatively insensitive to other unrelated changes in the sector
- Relatively difficult to manipulate, either by target groups or by policymakers
- Not too costly to monitor.

Effective monitoring facilitates good evaluation

Understanding gained during the process of ex-ante analysis in the course of PSIA and the identification of indicators helps in designing a good evaluation. Process evaluation is important to understanding the "hows" and "whys" of policy reform. Process indicators are usually timely and not costly to collect. Tracing transmission mechanisms prior to the reform helps in thinking through implicit assumptions and highlights where potential constraints or risks may arise. The process also helps to evaluate whether the expected impact of the reform is borne out in practice. Where it is not, more in-depth analysis to explain divergence can be conducted. When results confirm the assumptions, documenting the lessons learned can help in the design of similar reforms elsewhere or in the future.

The approach used in identifying indicators will ideally encompass both open-ended and close-ended methods, and as far as possible incorporate participatory methods. Open-ended methods examine the how and why of policy reform, and in the case of participatory methods, promote ownership, accountability, and transparency. Close-ended methods, on the other hand, only touch on the how and why of changes, and are primarily designed to assess the magnitude of change.

M&E to promote social accountability and transparency

Monitoring and evaluation can also be implemented to promote social accountability during the process of reform, thereby leading to increased ownership and sustainability. There are various M&E tools available that if used appropriately can help to promote social accountability. These include public expenditure tracking surveys (PETS), quantitative service delivery surveys (QSDS), citizen report cards, and participatory public expenditure reviews (see box 13). Similarly, perception surveys that capture more qualitative information provide another means of pinpointing problems within service provider organizations. Ideally, quantitative and perception surveys can be used in tandem to provide critical information on the issues surrounding design and access to policy reform.

Box 13. M&E Tools for Promoting Accountability and Transparency during Policy Reform

Public expenditure tracking surveys (PETS), quantitative service delivery surveys (QSDS), participatory public expenditure reviews (PPER), and citizen report cards are useful tools for tracking public expenditure and monitoring reform effectiveness as it pertains to the expected outcomes, processes, and impacts that will occur as a result of policy reform.

PETS and QSDS collect data through structured interviews and documentation from service providers. While a PETS traces money through an organization, a QSDS provides a more robust analysis by pinpointing organizational weaknesses that can be addressed through reform. One output of these survey instruments is a case-specific diagnosis of public service delivery, helping to identify weaknesses in implementation capacity and suggesting where reform efforts should be concentrated. Data from PETS and QSDS can help provide answers to several kinds of questions, including:

- How to strengthen the "voice" of service users
- What kind of accountability mechanisms between different levels of government can improve service delivery
- How to regulate private providers.

Drawing on a number of successful cases and tested models from around the globe, the World Bank has developed a framework for a PPER in which civic groups influence stages of the budget process in a cyclic and iterative manner. The PPER framework can also be applied to the participatory monitoring and evaluation of policy reforms covering all levels of indicators—input, output, outcome, impact—in a participatory manner. The system has four key stages:

- Formulation: how expenditure proposals are made, to which sectors, and in what amount
- Analysis: review of the impact and implication of alternative policy proposals and allocations
- Expenditure tracking: identification of elusive bureaucratic channels through which funds flow, bottlenecks in the flow of resources, and other deficiencies of delivery systems
- Performance evaluation: direct feedback from citizens (for example, report cards) on quality of, access to, and satisfaction with public services.

One-off engagement at any stage of the PPER cycle can be useful, but participatory public expenditure systems only deliver when the feedback loop is institutionalized and space is given to external voice at each stage. Achieving that level of institutionalization requires the commitment of significant resources over the long term.

A few key principles should be borne in mind in establishing an M&E system:

- Participatory monitoring and evaluation can help promote ownership of reform. It can be used to identify output, outcome, process, and impact indicators that are meaningful to stakeholders. Reaching agreement on key performance indicators can be challenging, and is much better dealt with prior to the reform. Agreement on standards to be achieved is valuable both for policy managers and for affected parties who are then more likely to accept the results of monitoring reports and use this to improve policy. In addition, follow-up public disclosure of information strengthens commitment to the reform.
- Accountability can be promoted by employing specific data collection tools designed to allow beneficiaries to monitor inputs and outputs of the reform, while also soliciting their views on the effects of policy outcomes on their well-being.
- Selectivity in choosing whether to conduct an impact evaluation or not is important because impact evaluation is data- and time-intensive relative to other forms of evaluation, and often can only be implemented after the reform has already been in place for some time. Therefore, the decision to do impact evaluations should be based on a need to fill knowledge gaps, or to apply lessons learned in expanding reforms.
- Involvement of national expertise in the implementation and setting up of an M&E system—relevant ministries, the statistical office, the planning office, private research agencies, universities, NGOs—not only promotes ownership, but helps to build capacity for poverty analysis.

Planning and implementing M&E: activities related to each stage of the PSIA

Where possible, monitoring and evaluation systems for PSIA should be integrated within an existing national poverty monitoring and evaluation system. Building on existing resources reduces the cost of setting up the system, and further strengthens existing national capacity.

Before the reform, while analysts are still grappling with the key questions and objectives of the PSIA, a preliminary list of indicators and required tasks and timeline for the M&E system can be identified. In particular, it will be important to ascertain the existing information base and gaps, including the availability of relevant baseline data with regard to key indicators and welfare measures and the possible need to collect baseline data (see table 3).

Once some ex-ante analysis is completed and there is an improved understanding of how the reform will operate, the preliminary list of indicators, particularly intermediate and proxy indicators, can be refined; these may include views and perceptions of those to be affected. An instrument can then be developed to be used in measuring the indicators. It is important that improved understanding of the program and indicators feed into the design of the quantitative evaluation. Once indicators have been identified, plans can be made to collect any missing baseline data, ideally before implementation of the reform.

During the reform or implementation period, there could be a periodic collection of indicators (proxy/intermediate, every three to six months; some indicators, such as prices, every month; outcome/impact indicators on a six-month-plus cycle, depending on the reform). Soon after implementation begins, perhaps after three to six months, preliminary monitoring and evaluation of processes can be conducted to see whether the theory of how the reform would work is being supported in practice. Do specified inputs and outputs appear to be leading to outcomes or impact in the manner expected? If not, why not? At this time, midstream adjustments are made, as required, to ensure the reform is on track.

In the post-reform or completion stage, roughly three to six months after completion of the reform, there could be—as a matter of good practice—a follow-up assessment and an incidence analysis of basic outcome indicators to identify early "losers" and "winners" and reasons for the patterns observed. This analysis, along with a more rigorous evaluation, should ideally be repeated as required to fill knowledge gaps in key policy areas, or to inform plans to further deepen or expand reforms or scale up pilots.

Element 10: Fostering policy debate and feeding back into policy choice

For low-income countries, PSIA has been conceptualized as an integral part of the PRSP process and as an

Table 3. Planning M&E as Part of Poverty and Social Impact Analysis

Reform timeline	*PSIA timeline*	*M&E processes timeline*
STAGE 1: Prior to reform	Identify key reform issues, questions, outcomes, and risks for investigation. Trace out "theory" of how reform will lead to the desired results on the ground.	Identify input, output, intermediate, outcome, and impact indicators. Identify availability of baseline data. Identify existing information sources and gaps. Specify required tasks/needs for covering gaps in M&E.
	Preliminary field visit for ex-ante analysis. Design ex-ante analysis.	Identify specific institution(s) to be responsible for M&E. Begin to define process for M&E—periodicity for data collection; storage; maintenance, etc. Plan collection of baseline data, if such data do not exist.
	Conduct ex-ante analysis.	Refine preliminary indicators with input from key stakeholders. Collect baseline data. Design instrument to be used in measuring indicators.
STAGE 2: During implementation of reform	3–6 months after initial implementation (and periodically up until completion of reforms): follow-up analysis.	Process evaluation. Social impact assessment. Preliminary incidence analysis.
STAGE 3: Completion/post implementation of reform	3–6 months to 1 year after completion of reforms (depending on outcomes of interest).	Process evaluation. Social impact assessment. Incidence analysis.

element of the dialogue on the country's poverty reduction strategy. Fostering and drawing upon public discussion of policy can be useful at various points of the PSIA process —for example, to help identify stakeholders and their positions, to understand transmission channels, to validate technical impact analysis, or to leverage social accountability. It is critical for PSIA to "close the loop" and ensure that the lessons learned from impact analysis, monitoring and evaluation, social accountability, and public policy debate actually inform and affect policy.[36]

Fostering policy debate

Policy formulation is not simply a technical process; it is political as well. PSIA provides the technical parameters for evidence-based policymaking, laying out for policymakers what is feasible and what are the likely impacts of proposed policies and reform actions. The accompanying debates determine what is likely to be realistic in that political context, where the perceptions and interests of particular constituencies are invariably weighed against the merits and demerits of the reform. For that reason, the policy debate needs to involve technocrats and researchers as well as parliamentarians, civil society, donors, and other key stakeholders whose support is essential to the reform.

The process of policy debate, including among stakeholders, can be just as important as the analysis. Numerous studies have concluded that policy is most likely to be effective where there is broad ownership, and policy debate among stakeholders is useful in developing consensus and building ownership. One way to approach this is to disseminate information about the proposed reform and the results of the PSIA to the public, especially to key stakeholders, and then to organize a policy forum where stakeholders can discuss the tradeoffs involved. Such a policy forum can produce invaluable information. Insights gained through dialogue may be technical (for example, academic research) or social (for example, the perspectives and concerns of groups that typically do not participate in the formal policy debate process). These insights can either validate or revise previous hypotheses or analysis, including critical assumptions. Communicating policy impacts to stakeholders can also enhance their understanding of the logic behind a given policy reform. Such initiatives are particularly relevant in the context of widespread uncertainty, suspicion, and ignorance—or in countries where poor and marginalized groups have no political voice. Establishing systems and forums for policy debate is not only a valuable part of ex-ante PSIA, but is also important for its contribution to monitoring and social accountability during implementation of a reform and ex post, as discussed above.

There may also be good reasons for a government to take a policy forum seriously. Elected leaders who rely on democratic legitimacy to bolster their popularity may find such a forum attractive, as may policymakers who are genuinely uncertain about which policy reform path to take. From a leadership perspective, it may be sensible and more sustainable to pursue a policy that rests on a social coalition or bargain than one that theory may dictate as first-best.

Convening such policy forums among stakeholders, however, is not without risks. One is that implicit conflict between major interests may become open hostility. A second risk is that political competition may override the possibility of constructive dialogue.[37] Yet another common risk is that overly high expectations of the forum will result in disappointment: people may assume that public debate will lead to the adoption of a policy that simultaneously meets the needs of all stakeholders, whereas in reality the typical process of negotiation and compromise during policy formulation often leads to policies that do not mirror all stakeholder preferences.

Managing the process of policy debate and discussion itself requires some planning, particularly in order to manage risks. In particular, once the decision is made to convene a forum, three concrete issues must be addressed: whom to invite, what to discuss, and how to structure the dialogue. These decisions are best made jointly by the PSIA team and the relevant ministry or agency implementing the reform under consideration. In the context of social accountability discussed above, the government may integrate these debates within existing political processes (for example, by opening parliamentary debates to outside stakeholders), but may also consider setting up more inclusive, long-term structures of policy debate—such as regular consultations, national workshops, or "town

hall meetings."[38] In many low-income countries, such structures were established during the poverty reduction strategy (PRS) consultation process. Building on those structures may be an easy and viable way to sustain this policy dialogue.

Feeding back into policy choice

Ensuring that lessons learned from the continuous monitoring and analysis of policy implementation feed back to the redesign and adjustment of policy is a major objective of PSIA. Sound ex-ante PSIA, as discussed, should lead to an explicit articulation of expected impacts, transmission mechanisms, and assumptions, and the establishment of a monitoring system for key indicators tracking the evolution of the reform program. Necessarily, ex-ante PSIA will *not* get everything right. Rather, monitoring and evaluation, during and after policy implementation, is a critical part of PSIA, with the objectives of (a) correcting flawed policies, (b) making adjustments to improve policy choices, and/or (c) identifying constraints and opportunities for further public action to maximize poverty-reducing impacts.

A critical step in the PSIA loop, therefore, is the feedback of lessons from the monitoring of reforms during implementation and the subsequent evaluation of the poverty and social impacts of policy choice, so that the M&E can lead to appropriate adjustment of policy. Institutional setups are fundamental here. A common pitfall is that units or systems charged with M&E are not properly linked with the decisionmaking bodies responsible for policy formulation. The crucial final link in an effective PSIA process, then, is ensuring that the key body making decisions about a particular policy reform is accountable for and charged with the reporting of related M&E and the periodic reassessment of policy. Here again, building institutional capacity, by creating such linkages where they may not previously exist, is an important part of the PSIA agenda.

Notes

1. The problem tree is a tool that has been popularized through its integration within the ZOPP methodology championed by many European development organizations (see GTZ 1991). For a description of the problem tree see http://europa.eu.int/comm/europeaid/evaluation/methods/PCM_Manual_EN-march.pdf, and European Commission 2002.

2. To the extent that stakeholder analysis helps focus subsequent research on specific sets of actors, it increases the relevance of more complex analysis of poverty and social impacts while reducing time and cost. A more detailed discussion of stakeholders and their relevance to policies and programs is provided in the *Social Analysis Sourcebook* (World Bank 2002c).

3. The identification process disaggregates these actors in terms of social characteristics—such as cultural, structural, economic, political, or governmental.

4. Doing this early on provides a basis for early validation of hypotheses, subsequent identification of data and information needs, and more rigorous analysis of hypotheses in subsequent steps of PSIA.

5. Some questions address issues of ownership and commitment discussed in the previous section. In situations where informant interviews are not feasible or where findings are not considered reliable, the institutional assessment tool can be used to conduct or complement stakeholder analysis.

6. Toolkits for institutional assessments can be found at http://www1.worldbank.org/publicsector/toolkits.htm.

7. This statement requires qualifiers. First, faster methods of close-ended data collection and analysis are being developed (for example, the Core Welfare Indicator Questionnaire). Second, reliable open-ended analysis requires time and care if quality is to be ensured.

8. These data collection instruments have often been employed using non-random samples, for example in ethnographic analysis. However, there is no reason that they could not be used on random samples to generate statistically representative data. Likewise, non-numeric data could be coded into numeric data.

9. See Rao and Woolcock 2003 for examples of mixed methods.

10. Most countries have now undertaken at least one national household survey, although at times the vintage and quality of data are an issue. Intra-household data, when available, can permit distributional analysis at the level of individual household members, a particular concern in considering the welfare of

women or other individuals who may be less powerful or privileged within the household.

11. In examining an economy-wide reform, such as a rice tariff increase, it would obviously be preferable to adopt a representative sample for any new survey, or to adopt the same sample (or select a panel) from a household survey for which data already exist. Where the reform is location-specific, or affects a specified population—for example, with the shutting down or privatization of a state mining company—a purposive sample of those expected to be directly affected would be appropriate.

12. Using a non-representative sample to extrapolate differentiated impacts of policies among groups nationwide assumes that national distributional characteristics are identical to those of the non-representative sample—a non-trivial assumption.

13. For the purpose of presenting this simple table, indicative classifications of high, medium, and low are used, whereas clearly this is a continuum in practice. While recognizing that time, data, and local capacity are not perfectly correlated, they are deemed a close enough match to collapse into a single dimension. For example, when data is used as a proxy for this dimension, "low" means that no nationally representative household survey data exist; "medium" means that nationally representative household survey data exist; and "high" indicates the existence of nationally representative household survey data along with other data, such as census data for poverty mapping, national accounts, and other data for computable general equilibrium models.

14. The *Social Analysis Sourcebook* (World Bank 2002c) provides a more detailed description linking equity and social sustainability to development outcomes.

15. Incidence analysis has drawbacks. First, it does not explain *why* things are the way they are. Second, whereas incidence may use public expenditure as the measure of the service's benefit to the recipient, there may be no correlation between expenditure and received (or perceived) value, or outcomes. Third, as with many interpersonal welfare comparisons, the results of the analysis may vary depending on the method and the dimension used to rank households. See Demery 2000 and van de Walle 1998. See also "tools to assess public service delivery," later in this section.

16. Behavioral impact analysis, in focusing on demand analysis and supply analysis separately, can arguably be seen as a "partial" equilibrium analysis. The distinction drawn here is that since market demand and supply are not equated and do not clear, it is not technically "equilibrium" analysis.

17. In general equilibrium terms, it also effectively assumes a closure.

18. The standard caution and caveat with respect to economic modeling thus applies: great care should be taken in specifying the model and its parameters to country context and in making explicit the specific assumptions and limitations of simulations derived from such models.

19. Supply is either perfectly elastic (if chosen to be endogenous) and entirely demand driven, or perfectly inelastic—that is, supply is constant. SAM-IO simulations also vary greatly depending on the assumptions made about which accounts are exogenous and which endogenous.

20. Dervis, de Melo, and Robinson (1982) and Shoven and Whalley (1992) provide good summaries.

21. It is also possible to run the micro-simulation exercise not on the basis of parameters derived from a consistent macro-model, but on the basis of exogenously assumed changes in parameters. Such an approach would not be so different from the simplest form of "direct impact analysis" described earlier.

22. This is also an area where work is still ongoing and new tools and applications continue to be developed.

23. This has been done, for example, by Agénor (2002), who has estimated such an equation—including the relevant elasticities—on the basis of a cross-country regression tailored to take as inputs the outputs of the RMSM-X model. One limitation to this approach relates to the robustness of cross-country estimates of these elasticities when applied to a national context.

24. SimSIP has a module that looks at growth impacts, and is being expanded to include a module that will accept as inputs the key aggregate wage and consumption variables generated from the 1-2-3 model.

25. The separate labor and poverty module can simulate the impact of policies on the labor market, income and expenditures, and related social welfare indicators. It permits the reallocation of labor in response to changes in prices and wages.

26. Ianchovichina, Nicita, and Soloaga (2001) used a similar approach to examine the impact of NAFTA on household welfare in Mexico.

27. PSIA conducted for the water sector in Africa has highlighted the importance of carefully evaluating which mechanism is best suited to specific country conditions (lifeline tariffs, coupon schemes, subsidized types of supply). This is often done by consulting consumers and key stakeholders such as utility personnel.

28. Subsidization choice would depend, at least in part, on institutional capacity and transaction costs of delivering the subsidy.

29. It is worth noting that such exemptions may introduce undesirable distortions into the tax and incentive scheme, and not only from an efficiency standpoint. To the extent that they allow non-poor producers to avoid taxes legally or facilitate tax evasion, exemptions that appear patently progressive can limit progressive budgets that address social programs for the poor.

30. The opportunity cost calculation is complicated to the extent that the reform package as a whole might be conditional on the compensation mechanism.

31. This discussion deals with risk analysis only as it relates to PSIA. It is not intended as a comprehensive treatment of the issue. For further treatment of risks see the *Social Analysis Sourcebook* (World Bank 2002c).

32. This is being done, for example, in Madagascar, where three different modeling approaches are being used to assess the impact of a rice tariff on distribution.

33. For an operational discussion with examples, see Maack 2001. For in-depth case studies of applied scenario analysis, see: www.gbn.org/public/gbnstory/downloads/gbn_mont_fleur.pdf (South Africa).

34. This discussion deals with monitoring and evaluation only as they relate to PSIA. It is not intended as a comprehensive treatment of the issue.

35. Building capacity in this context includes not only the development of technical skills, but also changes in incentives and demands for such information among country stakeholders (including government) as well as improved understanding of what constitutes a good information base and how that information base can be used for more creative analysis and for immediate policy decisionmaking.

36. This discussion deals with policy feedback only as it relates to PSIA. It is not intended as a comprehensive treatment of the issue.

37. Under some circumstances, there may be compelling political reasons to avoid public forums. Examples of situations in which a policy dialogue may be inadvisable are: (a) government commitment to the policy is irreversible regardless of public reaction to short-term costs; (b) an intransigent opposition party or social movement is expected to use the forum simply as a vehicle to embarrass the government; (c) representatives of marginalized people are lacking, meaning that the only organized interests likely to have a seat at the table are privileged social groups; or (d) open violence between participants is a serious possibility. In such cases, some other form of consultation with stakeholders may be more appropriate than a public policy forum.

38. This is another area where good PSIA should consider capacity building as part of the agenda. At the institutional level, capacity is required to organize such forums and to open up space for policy discussion. At the individual level, capacity is often required for informed and effective participation and thus for an informed debate.

4 Challenges and Operational Principles

The previous chapter has presented a road map to conducting good PSIA. Practitioners should follow an approach to PSIA that is country- and context-specific, dependent upon available data and capacity as well as the reform issue in question. Key constraints and principles are briefly outlined below.

Constraints

Specific challenges that analysts may expect in practice include constraints on data, analysis, capacity, and time.

Data and information constraints

In many instances the data and information required to do a comprehensive analysis are not readily available. Household survey data, which are particularly relevant to undertaking distributional analysis on a national level, sometimes do not exist or are dated. Equally common, information sources that do exist, including survey data and sociological analyses, may not address questions relevant to the reform at hand.

Analytical constraints

First, it is difficult to analyze the impact of macroeconomic and structural reforms at the microeconomic or household level. Policies have many direct and indirect effects at the microeconomic level, mediated through local institutions and behavior. It is often difficult to capture the complexity of reality in a model. The analyst has to walk a fine line between simplifying reality to explain impacts and capturing context-specific institutions and behavior.

Second, the extent and nature of reform impacts may differ over time. For instance, the impact of tax reform might be limited to a single sector in the short run but might expand to other sectors over time as agents adjust to the new tax rates. Or a policy might result in short-term losses and gains among different groups, even when long-term effects are expected to be positive. Capturing these inter-temporal dimensions within distributional analysis is a complex undertaking.

Third, rigorous analysis requires a comparison to be made between outcomes with and without reform (the status quo itself being an alternative policy choice or counterfactual). This is very hard to do ex ante, when the analyst has to "simulate" what would happen without a reform. It is also challenging in ex-post analysis, as many factors will have changed during reform implementation, masking reform-specific effects.

Finally, addressing these analytical challenges requires the right economic and social tools. Many useful tools exist, and this User's Guide highlights some of the main ones. But more work is needed to develop analytical methods that are better equipped to meet the gaps and to develop more rigorous indicative survey tools and analysis, where adequate information is otherwise lacking.

Capacity constraints

Capacity constraints affect the choice of analytical method. In poor countries, capacity to analyze policy is typically limited among government agencies, academia, and civil society organizations. So while rigorous analysis might call for complex tools and methods, local capacity may be suited to simpler approaches. Over time, however, the capacity of in-country development agencies also requires strengthening, in terms of both core analytical expertise and resources allocated to PSIA.

Time constraints

While the analyst may face difficult data and analytical challenges, the policymaker is often under pressure to make fast policy decisions and will not want to wait for a rigorous PSIA to be completed. In such circumstances—such as in an economic crisis—arguments for postponing policy decisions until there is adequate analysis, debate, and consensus will need to be weighed against the case for acting expediently. In other cases, policymakers may want to time their action for a particular moment in tune with the policy or political cycle.

Principles

The challenges outlined above have often deterred policy analysts and decisionmakers from undertaking ex-ante assessments of the poverty and social impacts of reform. While some have argued that "no analysis is better than bad analysis," it is important to consider what analysis is feasible, even where data and capacity are limited. The question, then, is how to approach poverty and social impact analysis in the face of the various constraints. Some basic principles for a good analysis of poverty and social impacts of reforms are as follows.

Promote country ownership

If PSIA is to be an effective tool for policy, it needs to be country-owned. Ideally, countries should be responsible for the choice of reforms and for the analysis. In undertaking the analysis, they can seek external assistance from partners including the World Bank, the United Nations, and bilateral donors.

Increase attention to ex-ante analysis

It is important that ex-ante analysis of expected poverty and social impacts underpin the design and choice of policies, particularly those that are expected to have the greatest impacts in the short to medium term. This will help ensure that policies are conceived, designed, and implemented with a view to enhancing poverty reduction and social objectives.

Build on earlier experience

In practice, reforms often involve a series of measures over a long period of time. The ex-ante analysis of future reforms can be informed by the analysis of earlier reforms to ensure that past events and changes are considered. Where possible, ex-post and ex-ante analysis should be combined.

Use monitoring and evaluation to validate ex-ante analysis

Ex-ante analysis cannot fully capture policy impacts. It is therefore important to track actual results through monitoring and, where possible, ex-post evaluation. That way, midcourse corrections can be made to reforms that are not having their intended poverty or social impact. In many low-income countries, national poverty monitoring capacity is being developed through PRS monitoring systems. Whenever possible, PSIA monitoring should be integrated within the PRS monitoring system.

Maintain flexibility on tools and methods

It is important to tailor approaches to country capacity, reform issues, data availability, and time pressures. In some circumstances, some basic economic analysis enriched with qualitative analysis may be appropriate, while in other cases econometric modeling may be the most useful entry for PSIA. Understanding of impacts is enhanced when results from different analytical techniques reinforce each other or highlight different aspects of impacts.

Increase transparency in the links between policy and poverty

There is much to be gained from laying out for public scrutiny the logic behind a policy choice—including

expected losers and winners from reform, key assumptions, and transmission mechanisms. It can help promote national debate and acceptance of reform, and serve as a baseline against which to monitor progress. Moreover, it can highlight potential tradeoffs between the long-run benefits of reform, in terms of higher growth and poverty reduction, and possible welfare declines in the short run.

Strive to enhance gains and minimize losses, especially among the poor

PSIA should give explicit consideration to such measures as alternative policy choices and complementary or compensatory policies intended to enhance the benefits to stakeholders, especially poor people, and minimize the losses they may experience as a result of reform. This will strengthen the pro-poor impact of policies and improve their acceptability and sustainability.

Build national capacity

Building national capacity is key to improving analytical rigor over time, in tandem with strengthened country ownership. Many low-income countries have limited capacity and experience in areas of critical importance to PSIA. These areas include data collection systems, monitoring and evaluation systems, the capacity to conduct analysis and to translate data and analysis into policy, and the institutional structures and mechanisms for debate on such policy issues in the public domain. Building national capacity in these areas must be a fundamental crosscutting aspect of PSIA. Development partners, including the Bank, have an important role in strengthening national capacity and in filling analytical gaps. PSIA approaches that foster "learning by doing" should undergird development partners' assistance to countries.

5 Possible Summary Matrix

Chapter 3 presented a series of elements for good PSIA. Pulling these elements together in a coherent, strategic, and integrative fashion is what makes for good poverty and social impact analysis. Invariably, as discussed throughout this paper, a sensible approach to PSIA is going to be country- and context-specific, dependent upon available data and capacity as well as the reform issue in question. Box 14 provides an example of this, describing the PSIA approach currently being used in Chad to address an ongoing reform issue in that country.

The User's Guide recognizes that the tools and techniques used for PSIA are likely to vary greatly across countries and reforms. However, regardless of the chosen methodology, there are some key components that should be addressed in this kind of analysis. Table 4 presents an example of a summary matrix that captures and integrates these key components. In addition to providing the analyst with a framework for considering and articulating key aspects of PSIA for a given reform, it offers a template for making explicit some of the results and assumptions underlying such analysis. The matrix itself can serve as a useful tool during the PSIA process. For instance, an analyst may wish to sketch out the priors in each of the 10 elements of good PSIA before even undertaking an analysis, and then return to the matrix to validate or correct these hypotheses.

The matrix calls for the analyst to set out the reform components and the reasons for selecting that reform for PSIA (question 1) and the institutional mechanisms through which the reform will be carried out (question 2). It then allows the analyst to summarize the anticipated impact of the policy reform on different stakeholders, as transmitted through the five channels discussed in chapter 2: employment, prices, access to goods and services, assets, and transfers and taxes (questions 3, 4, and 5). The analyst should explicitly recognize the stakeholders who are likely to gain from the reform, those who are likely to lose, and those who are likely to have significant influence over the reform. The matrix also calls for an explicit statement of the assumptions underlying the reform. Depending on the country concerned, conclusions on likely policy impacts will draw on differing information bases and tools. For example, in one country context the matrix may be filled out using informed reasoning based on secondary data and qualitative field research; in another context, the conclusions may be based on empirically simulated effects derived from modeling techniques using data from a recent household survey and existing social analysis. In either instance, the matrix calls for a description of the nature of the information base and analytical methodology. The matrix also calls for the analyst to specify key risks associated with the reform, their likelihood and expected magnitude (question 6). Finally, it proposes to present the impact that the analysis has had on national policy discussions (question 7).

Box 14. Poverty and Social Impact Analysis of Cotton Reform in Chad

Cotton is a key crop in Chad, both for revenue generation and for poverty reduction. Cotton accounted for 24 percent of total government revenues in 1997 and is the most important cash earner for about 300,000 rural farm families. However, weak organization and knowledge among farmers' groups coupled with structural inefficiencies in the sector have resulted in low yields and low farmer revenues.

To address these inefficiencies, the government of Chad has decided to privatize Cotontchad, the parastatal that currently manages national cotton production, and strengthen farmers' groups. A key objective of the cotton sector reforms is to improve farmer incomes. Several factors underscore the government's decision to proceed carefully in designing and implementing the reforms: the possibility that yields will fall further if reform prompts farmers to return to subsistence agriculture, the limited availability of information on rural poverty, and cotton farmers' perceptions of the risks involved with the reform. For these reasons, the government is carrying out a poverty and social impact analysis to guide the reform.

In order to analyze the likely poverty and social impacts of reform ex ante, the PSIA needs to do a problem analysis and clarify the assumptions on which the program is based. The PSIA team, in consultation with the government and local counterparts, has identified pathways through which they expect the reform to improve performance. By explaining the causal links that tie program inputs to expected outputs, outcomes, and the ultimate goal of improving farmer income, the team has explicitly outlined the assumptions for each transmission channel of the reform so that they can be verified.

The PSIA that grew out of these discussions has three components: (a) an economic scenario study of different options for privatization; (b) ex-ante qualitative analysis, and a baseline quantitative survey; and (c) ex-post analysis that includes both qualitative and quantitative methods.

The aim of the scenario study is to identify and evaluate the technical and economic efficiency of alternative scenarios for privatizing Cotontchad. The study examines options for privatization (such as continued vertical integration, separate private ginneries, and so on) and assesses the risk posed by each.

In parallel with this study, the PSIA assesses the impacts of the reforms on the welfare of farmers in the sector. The ex-ante qualitative component identifies relevant stakeholders (including farmers, Cotontchad employees, microentrepreneurs), barriers faced by stakeholders under different reform scenarios, the strength of current institutional structures, and the social risks of reform.

The quantitative and qualitative analyses look at the compensation and enhancement measures necessary for reform success and highlight farmer capacity, access to credit, input use, and transport. Further work involves a "quasi-comparison group" for different types of farmers—those who produce cotton and those who do not or who have abandoned cotton—in order to analyze the likely impact of the reforms on different groups and get a sense of the welfare impact on farmers who abandon cotton production.

The different scenarios for partial and complete privatization and the ex-ante qualitative and quantitative work will be discussed during a stakeholder forum. This public discussion is meant to increase the transparency of the reform and build ownership by fostering policy debate.

In addition, there will be an ex-post impact evaluation of the reform. The ex-ante analysis will define key indicators to be monitored for policy feedback in ex-post analysis. The ex-post analysis will employ quantitative methods of impact evaluation, which attempt as far as possible to assess impact based on what would have happened in the absence of reforms. This ex-post quantitative analysis will be applied to a panel data set, to estimate the impact on producer welfare.

Table 4. A Summary Matrix for Poverty and Social Impact Analysis of Reform

Reform:

1. What reform was chosen (major components), and why?

2. What are the institutional mechanisms through which the reform will be carried out?

3. Which stakeholders are likely to be affected by the reforms? Which stakeholders are likely to affect the reform and how?	4. Through which channels are the stakeholders affected?					5. What are the expected direction and order of magnitude of impact(s)? What are the underlying assumptions?
	Labor market	Prices	Access to goods and services	Assets	Transfers and taxes	
Stakeholders affected (positively and negatively):						

Stakeholders with significant influence over the reform:	Possible support or opposition:

What information basis and techniques were used to answer questions 3, 4, and 5?

6. What are the main risks that would change the expected impact of the reform? What are their likelihood and expected magnitude?

Type/nature of risk	*Likelihood*	*Expected magnitude*
Political economy risks:		
Exogenous shocks:		
Institutional risks:		
Other country risks:		

7. What impact has the analysis had on national policy discussions?

6 Conclusions

This User's Guide to PSIA has provided an initial overview of the key considerations for practitioners contemplating the poverty and social impacts of policy options with a view to informing policy choice and design. It contends that ex-ante analysis of the likely poverty and social impacts of a specific reform can be undertaken more systematically than is typically done at present. It also takes the practical view that, for this to be possible, approaches and methods will need to be adapted to fit the context and circumstances at hand, and the limits to what is possible through ex-ante analysis will need to be addressed through continual monitoring, analysis, and reevaluation of policy over time.

This User's Guide has laid out 10 key elements to be considered by analysts and policymakers in approaching PSIA. Furthermore, it has given a brief overview of some of the tools and methods that might be used in undertaking analysis of poverty and social concerns associated with policy change. In so doing, it has attempted to draw upon tools used by economists and social scientists and to present them in an integrated fashion. Applying these tools to the operational context using this multidisciplinary approach will lead to a richer, more integrated understanding of policy impacts. Moreover, because of the marked differences between individual cases in terms of reform issues, transmission channels, and available data, the choice of tools and methods used for PSIA will vary substantially by type of reform.

Annex: Economic and Social Tools for Poverty and Social Impact Analysis

This annex presents information on a series of tools and methods available for the analysis of poverty and social impacts of reforms. This annex presents summary information on the tools, drawing in particular on the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies* and the *Social Analysis Sourcebook*, which provide more detailed information[1]. Additional guidance is currently under preparation on selected social and economic tools. The World Bank is also developing guidance on issues, challenges, and tools that may be of particular relevance in analyzing specific reforms. A summary matrix and reform-specific notes will be posted on an ongoing basis on the PSIA website.

This annex highlights some of the key tools for such analysis, but does not aim to be comprehensive in its coverage; updates on additional tools and methods will be posted on an ongoing basis on the PSIA website: http://www.worldbank.org/psia. These tools are organized following the User's Guide elements, including stakeholder analysis, institutional assessment, impact analysis, risk assessment and monitoring. In practice, the analysis of poverty and social impacts of reforms requires the combination of a variety of complementary tools, both within and across categories. In addition, some tools have evolved to comprise the integrated application of both social and economic methods.

Each tool or method is presented within a summary table. The table contains five components: (1) what the tool/method is, what policy reforms it can evaluate, what types of questions it can answer, and its complementarity with other tools/methods, (2) its key elements, (3) the requirements in terms of data, time, skills, software, and cost, (4) the limitations of the tool/method, and (5) references and country applications.

Note that some of the tools presented in this annex belong to more than one category. For instance, beneficiary assessment or participatory poverty assessment can also be used as monitoring tools; while public expenditure tracking or quantitative service delivery surveys can also be used to analyze stakeholders and impacts. Also, note that some of the tools to analyze impacts categorized under "social" or "economic" actually use a mix of methods, as is the case for demand analysis. Moreover, some of the techniques presented can be used in carrying out more than one type of analysis. For instance, demand and supply analyses are components of partial equilibrium analysis presented under "Multi-market models", and both IMMPA and the Augmented CGE model with representative household approach also fall within the "general equilibrium models" category.

Note

1. These are available at http://www.worldbank.org/psia and http://www.worldbank.org/socialanalysis sourcebook/ , respectively.

The tools and methods presented in the annex include the following.

I. Identifying Stakeholders

– Stakeholder analysis

II. Assessing Institutions

– Institutional analysis

III.Analyzing Impacts – Social Tools

– Social impact analysis
– Beneficiary assessment
– Participatory poverty assessment
– Social capital assessment tool
– Demand analysis: Consumer assessment

IV. Analyzing Impacts – Economics Tools

1. Direct impact analysis tools

– Benefit incidence analysis (Average and Marginal)
– Tax incidence analysis
– Poverty mapping

2. Behavioral models.

– Ex-post behavioral marginal incidence analysis of public spending and social programs
– Ex-ante behavioral marginal evaluation of policy reforms
– Ex-post impact evaluation methods for assigned programs
– Demand analysis: Estimating demand functions
– Supply analysis
– Household models

3. Partial equilibrium models

– Partial equilibrium analysis: Multi-market models
– Partial equilibrium analysis: Reduced-form estimation

4. General equilibrium models

– Social Accounting Matrices
– Computable General Equilibrium (CGE) Models

5. Tools linking microeconomic distribution or behavior to macroeconomic frameworks or models

– PovStat
– SimSip Poverty
– 123 PRSP
– Poverty Analysis Macroeconomic Simulator (PAMS)
– Integrated macroeconomic model for poverty analysis (IMMPA)
– Augmented CGE Model with Representative Household Approach

V. Assessing Risks

– Social Risk Assessment
– Scenario Analysis

VI. Monitoring and Evaluation

– Public expenditure Tracking Survey (PETS)
– Quantitative Service Delivery Survey (QSDS)
– Citizen Report Card
– Community Score Card

Tool Name:		Stakeholder Analysis
What is it?		Stakeholder analysis is a systematic methodology that uses qualitative data to determine the interests and influence of different groups in relation to a reform.
What can it be used for?		While stakeholder analysis can be carried out for any type of reform, it is particularly amenable to structural and sectoral reforms. Basic stakeholder analysis should precede reform design and should be consistently deepened as reform elements are finalized.
What does it tell you?		Stakeholder analysis assesses: (i) the extent to which reform may provoke political or social action; (ii) the level of ownership among different groups; (iii) differences in perception of the reform among different ethnic, religious or linguistic groups. Stakeholder analysis can be expanded into fuller political economy analysis that identifies affected groups and looks at: (i) their position vis-à-vis policy; (ii) their influence on government; (iii) the likelihood of their participation in coalitions to support change; (iv) strategies for overcoming opposition such as compensating losers or delaying implementation.
Complementary tools:		• Normally used in conjunction with social impact analysis. • Stakeholder analysis identifies groups to consider as categories for analysis. It is useful for the design of household surveys, microeconomic modeling and micro-macro linked models.
Key Elements:		Stakeholder analysis is iterative, and usually proceeds through the following sources of data to reach final conclusions: (i) background information on constraints to effective government policy- making; (ii) key informant interviews that identify specific stakeholders relevant to the sustainability of policy reform. Participants should be drawn from a diverse groups of interests in order to limit bias; (iii) verification of assumptions about stakeholder influence and interest through survey work and quantitative analysis of secondary data
Requirements	Data/information:	Stakeholder interests are seldom explicitly spelled out in existing sources. The main sources of information are: (I) key informant interviews; (ii) secondary material such as newspaper articles, and social science research.
	Time:	In cases where key informant interviews are already being carried out as part of other qualitative analysis, preparing an analytical piece on stakeholders can take as little as one additional staff week of effort. In cases where there is no significant qualitative work planned, a thorough exercise would likely involved a trip to the field and two to three staff weeks of effort. Analysis that is meant to predict the positions of key stakeholders in different reform scenarios is not a one-off piece of work and should grow out of the findings of other analytic work. Ensuring a complete and updated picture may require that specialists carry out the work over several calendar months.
	Skills:	Sociological or anthropological training is helpful, as is a background in political science. Local knowledge, including contacts with local experts, is crucial. Those carrying out the analysis must also thoroughly understand the reform and the recent history in the sector.
	Supporting software:	N/A
	Financial cost:	When combined with other qualitative work, the incremental cost of stakeholder analysis can be as low as US$10,000. When no qualitative work is planned, costs can be up to US$25,000.
Limitations:		Stakeholder analysis relies on qualitative data and perceptions and preferences. The absence of statistical representative places greater onus on careful selection of respondents and interpretation of data.
References and applications:		• Bianchi and Kossoudji. (2001). • Brinkerhoff and Crosby (2002). • World Bank (2002e), Annex VII on Guyana.

Tool Name:		Institutional Analysis
What is it?		An analytical approach that uses qualitative methods to unpack the "black box" of decision-making and implementation processes
What can it be used for?		Useful for PSIA regardless of reform type, but particularly important for policy changes involving institutional reforms, such as decentralization of public services, utility reforms, land reforms, social safety net reforms. Useful for policy design and implementation.
What does it tell you?		Understanding of political economy and governance issues through analysis of the institutions that are involved in the design and implementation of reforms, and identification of dynamic processes, and potential constraints in this respect. Steps include: (i) Identification of government agencies, non-government organizations and firms that carry out the policy reform. (ii) Identification of their characteristics and dynamic relationships. Output: Understanding of the formal "rules of the game" (via static mapping, i.e.: functional organigram), and the informal rules that govern actual behavior in decision-making processes (via process mapping of crucial resource flows, e.g. money, information).
Complementary tools:		• Used in conjunction with Stakeholder Analysis, SIA, and demand analysis/customer assessments • PETS, Benefit Incidence Analysis
Key Elements:		Three types of information: (i) background information on key stakeholders, and organizational structures of relevant agencies; and (ii) in-depth interviews or focus groups with key informants from government agencies, non-government organizations and firms; (iii) triangulation and cross-referencing with other information to validate background information and key informant interviews.
Requirements	Data/information:	Secondary material, including PERs, DPRs, IGRs, social/ political science research and in-country assessments of organizational structures and institutional settings. Primary data, that illustrates informal practices and identifies the dynamic processes within the policy design and implementation
	Time:	A few weeks (4-5 person weeks) to a few months (2-3 person months for fieldwork, analysis and report): Can be completed quickly in combination with a Stakeholder Analysis to gain a brief overview of the formal and informal rules of the game. Institutional Analysis that aims to identify the dynamic processes within the policy design and implementation requires a more in-depth analysis, and may take a few months.
	Skills:	Sociological, anthropological, and public policy training (incl. qualitative field research skills) are helpful. In depth knowledge of the country-context, reform area, policy design and implementation, and political economy (including interests and influences of key stake holders) is crucial.
	Supporting software:	IPS Ltd.: http://www.ips-uk.com/ProcessMapping.htm - ProcessMap; Toolpack.com: http://www.toolpack.com/workflow.html; HPS Inc.: http://www.hps-inc.com/ithinkDemo.htm#; Triaster http://www.processnavigator.com/english/index.html; Ash House: http://www.ashhouse.co.uk/process.htm; Process Mapping: http://www.processmapping.com/; TSQ Europe: http://www.tqseurope.com/activemo.htm; Designtech: http://www.designtech.com/processmap.html;
	Financial cost:	Depending on the depth of analysis, it can be low-cost if used in combination with Stakeholder Analysis, or adapted to SIA (US$ 25,000), but can be more costly if done more in depth (US$ 50,000).
Limitations:		Care should be taken in generalizing findings across different units of analysis and across regions with dissimilar informal institutions even within a country (e.g. panchayat institutions will vary enormously across different states within India). Resource and time requirements vary by the depth of analysis (incl. scope of geographical fieldwork done at local, provincial and/or national level) and reform complexity which may necessitate continuing the analysis during implementation.
References and applications:		• Brinkerhoff and Crosby (2002). • Hunt (1996). • North (1990). • Tymons and Jacobs (1997).

Tool Name:		Social Impact Analysis
What is it?		An analytical framework to identify the range of social impacts and responses to reform by people and institutions, including those that are vulnerable or poor. Often undertaken in an iterative manner, and includes relatively detailed information on social context for reform.
What can it be used for?		Can be used for many types of policy reforms. Has been used extensively for mining sector restructuring, parastatal privatization and agricultural reforms giving rise to significant social impacts.
What does it tell you?		Social, political context for reform, who is affected by the reform at what point in time, preferences and priorities of those affected by reform, constraints to implementation of reform, how people, institutions are likely to respond to reform including whether assumptions on how they will react or be affected by the reform are correct. Also provides insight into coping mechanisms and social risks, suggestion from stakeholders on most appropriate means to mitigate negative impact of reform and potential effectiveness in local context.
Complementary tools:		Used in conjunction with stakeholder analysis. Other tools such as institutional analysis and risk analysis complement and draw heavily on SIA. SIA can feed into assumptions for economic modeling.
Key Elements:		Characterized by use of mixed methods and direct consultation of those potentially affected that can include a wide range of data collection techniques: open-ended community discussion, key informant interviews, focus groups, quantitative survey, observation, ethnographic field research, PRA. Proper structuring of qualitative methods and interpretation of both qualitative and quantitative research requires sufficient knowledge of local customs and cultures and thus normally requires partnership with local consulting, NGO or research firms. Typically, SIA uses purposive surveys to collect quantitative information from a sample representative of a particular region or population groups relevant to a particular reform. This is particularly useful in situations when national household data do not exist or do not contain the specific information needed to assess reform impacts.
Requirements	Data/information:	(1) The degree of diversity of the groups likely to be affected or to influence a reform (from the stakeholder analysis) based in part on detailed country level contextual information (cultural, ethnic, regulatory and institutional issues relevant to the reform or affected groups), typically from existing studies, press reports, and key informant interviews. This determines the sampling strategy for fieldwork. (2) Direct data on stakeholder perspectives, typically from field research. (3) Quantitative data typically on income, expenditures, behavioral responses, coping mechanisms or other variables relevant to the reform to compare with results from qualitative data. Typically, SIA uses purposes surveys to obtain quantitative information relevant to a particular reform expected to have disproportionate impacts on a specific region or known population groups. The sample will then be representative of that region but not nationally representative. This is particularly useful for situations when national household data do not exist or do not contain the specific information needed.
	Time:	SIAs can vary greatly in length depending on the scale of research and the number of sample areas (which will be in part a function of the diversity or complexity of the groups involved and the size of the population affected). As this is typically combined with stakeholder analysis, a minimal time for both exercises is approximately 3 man months.
	Skills:	Often requires either a team with mixed skills (in qualitative techniques and in quantitative data collection and analysis, and preferably with someone with sector knowledge), or two teams or individuals working together. The coordination, and iterative analysis of both qualitative or participatory data collection methods and quantitative analysis is paramount.
	Supporting software:	N/A
	Financial cost:	Varies according on the depth and purpose of analysis. A complete mixed methods SIA costs US$80-100,000. When national household survey data exist, a supplementary SIA for a specific reform would cost an average of US$35,000, excluding supervision time. May cost more where local capacity is low and needs to be supplemented by international consultants.
Limitations:		SIA is not the best instrument to use for broad based reforms where the transmission channels and groups affected are not well known.
References and applications:		• Finterbusch, Ingersoll and Llewellyn (1990). • Goldman (2000); Becker (1997). • World Bank (2002c) http://www.worldbank.org/socialanalysissourcebook/socialassess.htm. • Cernea and Kudat (1997) on the application to sectoral policy reforms including tariff issues. • Other applications: http://lnweb18.worldbank.org/ESSD/essdext.nsf/61ByDocName/CaseStudies

Tool Name:		Beneficiary Assessment
What is it?		A participatory assessment method and monitoring tool that incorporates direct consultation of those affected by and influencing reform. Similar to PPA, it relies primarily on qualitative research though with less emphasis on the use of visual techniques and on community follow-up to the research process.
What can it be used for?		Has traditionally been used to evaluate projects or sectoral reforms in the health, education, infrastructure, social protection and agricultural sectors, but can be adapted to assess or monitor the impact of some discrete policy interventions where transmission channels and affected groups are clearly defined. Can be used even for countries with limited capacity as an add-on to other economic tools. Used both to evaluate proposed reforms, to signal constraints to participation faced by target group, as well as to gain beneficiary feedback for ongoing reforms.
What does it tell you?		What is the beneficiary perspective on the problem being addressed by the reform, their perception of the proposed policy, and of any mitigatory measures being considered. Provides insights into the likely reception the reform will receive, as well as issues that may arise during implementation. Tends to reach down to the community-level, but not focused exclusively on the poor or the community.
Complementary tools:		• Used in conjunction with stakeholder analysis, and institutional analysis. Can also complement representative quantitative surveys. • Information on how different groups are likely to react to a proposed policy change can influence assumptions in macro and micro models, in terms of behavioral response (particularly where historical data is insufficient or lacking).
Key Elements:		Relies primarily on three data collection methods: (1) conversational interviews (2) focus group discussions, which in some cases have been combined with PRA tools; and (3) direct and participant observation. Although information collected may be qualitative in nature, also includes quantitative analysis of this beneficiary feedback.
Requirements	Data/information:	Background information on stakeholders, on cultural, ethnic, or socioeconomic variations, and on the variables determining whether specific groups would be affected (such as type of access) is required to properly design a BA and its sampling strategy.
	Time:	Generally within three to four months, from design to presentation of the final report.
	Skills:	Sociological or anthropological training are helpful, but good listening skills are paramount. Good knowledge of the program, historical and cultural setting also important.
	Supporting software:	N/A
	Financial cost:	Average of US$40,000.
Limitations:		Tends to have a narrower focus than SIA or PPA, providing less contextual and historical background information, though also likely less resource intensive.
References and applications:		• Salmen (2002). • Salmen and Amelga (1998). • For summaries of specific country application of both BA and PPAs see: • http://www.worldbank.org/participation/beneficiaryassesment/beneficiary assessment.pdf

Tool Name:		Participatory Poverty Assessment
What is it?		An instrument for including the poor directly in discussions and debates on policies and priorities, and that relies primarily on qualitative, visual, participatory rural appraisal techniques. Uses data collection techniques similar to BA, though with a greater focus on consultation of the poor, and on a broader set of policy issues affecting the poor.
What can it be used for?		Can be adapted to the analysis or monitoring of many policy reforms. Has been used extensively in public expenditure reforms that require priority setting, or better understanding the reasons for accountability or low service use, or for institutionally complex reforms (such as land reform, liberalization of markets, labor market reforms) or for better targeting safety nets. Could also be used to monitor the local impact of macroeconomic policies such as devaluation.
What does it tell you?		In-depth analysis of the views of the poor and their political, social, and institutional context; policy priorities of the poor, multi-dimensional dynamic of poverty and of coping mechanisms; identification of constraints that could be overcome through public action to increase access to reform benefits, with a particular focus on constraints for the poor.
Complementary tools:		• Used in conjunction with stakeholder analysis. • Can also be used to complement institutional analysis, larger representative household surveys, or SOCAT. • Can be used together with poverty mapping, statistical analysis of household surveys, public expenditure tracking surveys, and benefit incidence analysis.
Key Elements:		PPAs (i) use a variety of flexible participatory methods that combine visual methods (mapping, matrices, diagrams) and verbal techniques (open-ended interviews, discussion groups) and (ii) emphasize exercises that facilitate information sharing, analysis and action, with a goal of giving communities more control over the research process. By their very nature, PPAs may create opportunities or expectations of follow-up at the community level, such as the development of community action plans, often supported by local government or NGOs.
Requirements	Data/information:	Selecting the appropriate (purposive) sample areas for PPAs (typically from 40 - 60 sample communities) requires an adequate understanding of social, economic and poverty context of the various regions or areas of a country. PPAs focus on direct field research and therefore do not have other information pre-requisites.
	Time:	From 5 to 9 months for research and analysis, assuming a research team of between 10 and 20 people.
	Skills:	Skilled and experienced facilitators, who are able to listen and record information in as unbiased a manner as possible, and to manage expectations from the PPA at the community level.
	Supporting software:	N/A
	Financial cost:	From US$15,000 to US$200,000 depending on scale.
Limitations:		Not statistically representative. May raise expectations for follow-up or service improvements at the community level that local actors and/or the research team may not be able to provide.
References and applications:		• Robb (2002). • Norton et al (2001). • Salmen (1995). • For summaries of specific country application of both BA and PPAs: • http://www.worldbank.org/participation/beneficiaryassesment/beneficiary assessment.pdf

Tool Name:		**Social Capital Assessment Tool (SOCAT)**
What is it?		A set of integrated quantitative and qualitative measurement tools to investigate institutions, networks and norms that enable collective action. Has to be adapted to a specific research issue. Can be implemented in conjunction with other tools.
What can it be used for?		Primarily useful for reforms with low/medium indirect impacts. Agricultural reforms (changing subsidies/taxes), liberalizing markets, financial reforms (changing access to credit), labor market reforms (active labor market programs), utility reforms (access to services), decentralization, social safety net programs (changing public/private transfers).
What does it tell you?		Existence of institutions and networks affected by and/or involved in reform implementation. Which norms and values lead to policy adoption or resistance? The distribution of social assets and their role in income generation and risk management. What are the impacts of reforms on households with low social assets? Which adaptations in policy formulation and / or which mitigation measures are advisable?
Complementary tools:		Stakeholder analysis, institutional analysis, social impact analysis (SIA), beneficiary assessments (BA).
Key Elements:		Integrated application and analysis of quantitative and qualitative information (surveys, key informant interviews, focus groups) obtained at the level of households, communities, and organizations. Analysis builds on the understanding of solidarity, trust and cooperation, and conflict resolution (cognitive social capital), as well as organizations and their membership (structural social capital).
Requirements	Data/information:	Use as standalone tool for social capital analysis, or use in conjunction with other surveys (e.g. LSMS, income/expenditure surveys) for analysis of links between poverty and social capital. Modules for integration in other surveys are available, so are sector specific questionnaires.
	Time:	Typical application requires 3-4 months.
	Skills:	Sociological or anthropological training are helpful, in particular a sound understanding of formal and informal institutions and networks. Good knowledge of the program and its setting is crucial.
	Supporting software:	SOCAT Toolkit including interactive CD-ROM is available.
	Financial cost:	Depends on sample size and local wage and transport costs for field team. Typical range for standalone SOCAT exercise would be US$50,000 to US$200,000. Costs can be substantially lower if used in conjunction with other data collection instruments.
Limitations:		Collects social capital data only at micro and meso levels. For analysis of links between social capital and poverty, combination with other survey is necessary.
References and applications:		• Grootaert and van Bastelaer (2002). • Additional information at: http://poverty.worldbank.org/library/topic.php?topic=4294 or at: http://iris.umd.edu/adass/proj/soccap.asp

Tool Name:		Demand Analysis: Consumer Assessment
What is it?		The adaptation and expansion of traditional demand analysis to a broader qualitative and quantitative research process that looks at consumer or client demand for different types of services (willingness to pay, ability to pay, preferences), probes qualitative and other factors driving demand and potential substitutes, obtains feedback on likely responses to potential changes tariffs or in service management (such as privatization), and explores ways in which to more effectively help the poor in terms of price and access based on local institutional context and past experience with programs targeted at the poor. (See also Table on Demand Analysis: Estimating Demand Functions)
What can it be used for?		Has been used in energy sector reforms and water sector reforms including privatization, but can also be applied to changes in cost recovery in other sectors such as health, education, or transport.
What does it tell you?		To shed light on how price increases affect different groups of consumers including the poor, specifically taking into account institutional factors that affect the transmission of these prices. Also, Consumer Assessment (CA) helps to project more realistic revenue/cost recovery levels, incorporate client perspectives and levels of satisfaction, and rank the service in question in terms of overall development priorities of different groups of clients. In its application in Africa CA has also outlined the viability of various options for reaching the poor given existing institutional and market constraints, and given their preferences.
Complementary tools:		• Can be used in conjunction with stakeholder analysis and institutional analysis. Elements of SOCAT can be integrated into CA. Can also complement nationally representative household surveys. • Feedback from CA can inform assumptions on elasticity or welfare impact on different groups in other economic models. In ECA, CA has been used to build standard demand models as well.
Key Elements:		Requires: (1) quantitative household surveys that include, but are not limited, to willingness and ability to pay, indicators of vulnerability or poverty, income, social capital and/or (2) can use existing LSMS or other household surveys and data from other utility or service providers on types of consumers and consumption or service levels; and (3) traditional focus group discussions, or focus group discussions using a variety of PRA (SARAR) visual aids. In some cases CA has also included (4) key informant interviews and (5) observation to triangulate information obtained from the various sources. In Africa CA has also been integrated into utilities' financial models to project realistic cost recovery rates and tariffs.
Requirements	Data/information:	Data on sources and services for different groups of consumers, coverage levels, consumption levels and tariffs, over time if available, from either utility data or direct research or existing surveys, and income distribution data by service type or customer grouping (though this is often collected during the research). Most effective as a decision tool if actual and projected costs of service provision under different scenarios are used in willingness to pay questions.
	Time:	For CA generally six to eight months, with field work of two to three months total, though more disaggregated demand analysis (within peri-urban areas of a city) has taken longer.
	Skills:	Requires quantitative skills (economist, social economist, or sector economist) in addition to skills in qualitative research (sociologist, anthropologist). Good knowledge of sector structure is essential.
	Supporting software:	N/A
	Financial cost:	For fieldwork from US$40,000 up to over US$100,000 excluding supervision of consultants.
Limitations:		Requires skill in triangulating information to provide assessment of client response to changes in tariff levels, and to distinguish potential biases in information provided. Also, effective qualitative work requires skilled facilitators. Willingness to pay questions can raise expectations of service improvements, and need therefore to be carefully linked to sector constraints and likely scenarios.
References and applications:		• Lampietti et al (2001) on utility pricing in Armenia • Sechaba Consultants (2002) on the water sector

Tool Name:		**Benefit Incidence Analysis (Average and Marginal)**
What is it?		Benefit incidence analysis estimates the impact of public transfers, taxes, subsidies, or policy changes that affect prices. BIA measures the distributional incidence of benefits for different groups of interest, for instance households at different income levels or in different regions. Average (or simple) BIA measures the incidence of all benefits - i.e. of the aggregate benefit. Marginal BIA estimates the incidence of the last (or the next) unit of benefit. (See also Table on Tax Incidence Analysis)
What can it be used for?		Benefit incidence analysis is most commonly used to examine the impact of public expenditures and public expenditure reforms. It is also applicable to other policy reforms, including reforms affecting prices that change household income or expenditure and tax reforms. It can be applied to direct transfers as well as to transfers obtained by consuming subsidized goods or services.
What does it tell you?		Benefit incidence tells us who benefits from services, transfers, or price changes. When estimating the size of benefits received by different groups, average BIA calculates the benefits received on average (i.e. on the basis of average unit costs); marginal BIA tells you who will benefit from a increase or decrease in benefit (i.e. the marginal change). These two might be very different – typically, additional beneficiaries are more likely to belong to groups not yet covered by the system (e.g. remote areas).
Complementary tools:		Simple or marginal BIA can be combined with information on household or individual behavior – see Tables on Behavioral Benefit Incidence Analysis, Social Impact Analysis and Beneficiary Assessment. These techniques explain distributional changes from a policy reform by taking into account the reactions households or individuals will have to the change.
Key Elements:		BIA proceeds as follows: (1) estimation of the value of the benefit: typically estimated as the cost of providing the service, transfer or subsidy. This can be quite difficult, with issues related to the inclusion of investment and administrative costs, and the treatment of cost recovery. Estimations are sometimes made at a regional level, to account for cost differences; (2) Identification of the users on the basis of household surveys; (3) Aggregation of users into groups of interest (commonly defined by income levels, region, urban/rural location, poor/non-poor, occupation, ethnicity, etc); (4) Accounting for household spending, in case of out-of-pocket expenditures to access the benefit. In case of financial transfers, the income groups can be defined pre- or post-transfers, which will yield different results.
Requirements	Data/information:	(1) individual or household-level data from household surveys on welfare and on the use of service and receipt of public spending and (2) information on public expenditure to estimate the value of the benefits. For marginal BIA, panel data is ideal, although methods exist for cross-sectional data.
	Time:	Analyzing household survey data can be time consuming, depending on how clean the data are, and how well managed the data entry process was. BIA can take between 4 to 8 weeks depending on the condition of the household survey data, and the accessibility of the unit cost of providing those services (usually obtained from government data). If a survey has to be undertaken first, then the timeframe extends significantly, to between 1 to 2 years.
	Skills:	Good data handling skills, and experience with analyzing large scale household survey data sets. Experience with related statistical software packages (SPSS, SAS, STATA)
	Supporting software:	SPSS, SAS, STATA.
	Financial cost:	Costs of developing and using the tool can vary enormously, depending on whether a household survey already exists. If it does, the analysis can be done for around US$10,000.
Limitations:		Benefit incidence analysis does not take behavior into account, i.e. the likely change in demand from households that would result from policy changes. For methods which handle this, see Tables on "Ex-post behavioral marginal incidence analysis of public spending and social programs" and "Social Impact Analysis".
References and applications:		• For an overview of the technique, see Demery (2003), Chapter 2 of the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies.* • Demery (2000) and van der Walle (1998) on the overall technique. • Castro-Leal, Dayton and Demery (1997) on a group of African countries. • Castro-Leal (1996) on South Africa. • Demery et al. (1995) on Ghana. • Devarajan and Hossain (1998) on benefit and tax incidence analysis in the Philippines. • Van der Walle (1992) and Lanjouw et al (2001) on Indonesia. • Van der Walle (2002c) on incidence of public transfers in Yemen.

Tool Name:		Tax Incidence Analysis
What is it?		Tax incidence analysis evaluates the distributional incidence of taxation – its incidence for various household groups (on the basis of income, geographic location, and other dimensions). The taxes have an effect on real income directly or via prices. (See also Table on Benefit Incidence Analysis).
What can it be used for?		Tax incidence analysis can be used to analyze the distributional impact of taxes or subsidies. It can also be used to analyze the distributional impact of other exogenous changes in prices, and publicly provided services.
What does it tell you?		The tool estimates the effect of changes in prices and incomes on the welfare of individuals or households. Most analysis is concerned with the share of taxes paid by different groups. Taxation is understood as a loss in real income.
Complementary tools:		Tax incidence analysis can be complemented by the analysis of the statutory incidence of taxation (i.e. the analysis of the rules which set who has to pay which taxes) and by the analysis of the functioning of the tax collection processes (see Tables on Institutional Analysis and Quantitative Service Delivery Surveys). As tax incidence analysis, benefit incidence analysis (simple and marginal) assesses the incidence of benefits, and behavioral BIA assesses distributional changes from change in benefits, taking into account reactions to the change. (See Tables on these two techniques).
Key Elements:		The technique (1) defines the groups of interest, typically in terms of income/consumption, geographic location, gender, ethnicity, age, socio-economic group, etc. and (2) calculates the taxes paid by each household groups. To do so, one needs to recognize that the statutory incidence of taxation (those who have to transfer the tax to the government) is not the same as the economic incidence of taxation (those whose real purchasing power declines because of the tax. The difference results from the fact that different statutory taxes are shifted among agents. Typically, one assumes that indirect taxes on goods are completely shifted to the consumer (i.e. the prices reflect the taxes paid by other categories), and that duty taxes are reflected in prices. Hence, taxation has impacts on various groups of households through the goods, services, transfers and subsidies that they receive. To quantify the tax paid, the technique either (a) estimates the taxes paid as the official tax rate times the pre-tax value of expenditure (if taxes can be assumed to be collected according to the letter of the law) or (b) estimates the "effective" tax rate for different categories of expenditure by dividing the tax base by the actual tax revenues and applies it to these categories.
Requirements	Data/information:	The analysis requires information on tax/subsidy and their changes, and nationally representative household income or expenditure survey data (e.g. LSMS), including information on specific items to be taxed/subsidized.
	Time:	One month, if the data are clean and include a calculated welfare variable (such as household expenditure, consumption or income).
	Skills:	Familiarity with the tax system and market structure of the country. Econometric skills and expertise in the supporting software (see below).
	Supporting software:	Any statistical software package can calculate point estimates easily (Stata, SPSS, etc). For variances, a matrix programming language (Gauss, Matlab, SAS IML) is useful. The software package DAD calculates concentration curves and other summary measures of incidence with standard errors.
	Financial cost:	US$15,000
Limitations:		Simple analysis of the incidence of taxes does not account for behavioral changes and hence only provides a first-order approximation of a tax's true incidence. Furthermore, inaccuracy can come from the simple assumption of how statutory taxes translate into economic incidence. In addition, many indirect taxes are also levied on intermediate goods, and estimating the incidence of the tax on final consumer would require complex models. Finally, the method only focuses on the incidence of taxes and should be complemented by an analysis of the economic and administrative efficiency of the system.
References and applications:		• For an overview of the technique, see Sahn and Younger (2003), Chapter 1 of the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies*. • Alderman and del Ninno (1999) on the targeting of VAT exemptions in South Africa. • Ahmad and Stern (1984, 1987, 1990 and 1991) on alternative forms of taxation in India and Pakistan. • Chen et al. (2001) on Uganda. • Gibson (1998) on Papua New Guinea and the introduction of VAT. • Younger et al. (1999) on Madagascar. • Younger (1993) on Ghana.

Tool Name:		**Poverty Mapping**
What is it?		Technique to estimate geographically disaggregated welfare and inequality levels and changes, for small geographic areas, such as districts and sub-districts. This allows to take geographic heterogeneity into account.
What can it be used for?		The method can inform the targeting of public resources, and can simulating the geographic impact of policy reforms such as changes in trade barriers, decentralization, public expenditure, etc. Information disaggregated for small geographic areas is particularly important in the context of decentralization of public services.
What does it tell you?		The method provides an estimation of poverty/inequality distribution across a country's sub-regions. It identifies poverty pockets, by giving satisfactorily precise estimates of poverty at levels of disaggregation far below that allowed by typical household surveys. Poverty and inequality estimates can then be represented on maps. These maps, on which other variables of interest can be applied, help assess the spatial impact of policies. Typically, the poverty maps can also include information on education, water, health, public services, agricultural production, etc. depending on the reform of interest.
Complementary tools:		A poverty map can be merged with other GIS (Geographic Information Systems) containing information on a variety of public actions. Social Impact Analysis and Participatory Poverty Assessments can help explain the geographic trends revealed in a poverty map.
Key Elements:		The method uses a household survey and a census. It imputes information on poverty and inequality in the census, using estimates from the household survey, through the construction of consumption-based welfare indicators for small geographic areas. In order to do so, (1) the variables common to the survey and the census are identified, (2) the survey is used to estimate a prediction model relating consumption to the variables which the two data sets have in common, (3) the parameter estimates can be applied to the census data to derive poverty statistics for each household in the census, and (4) poverty and inequality estimates can be calculated for small geographic areas and transposed into a GIS system.
Requirements	Data/information:	A household survey and a population census, ideally from the same year. If different years are used the compatibility of the two sources showed be checked by comparing the estimates with basic poverty/inequality statistics in the sample data. In this case, the welfare estimates refer to the year of the census, whose explanatory variables form the basis of the predicted expenditure distribution
	Time:	Depends on the quality of the survey and census data, minimum of two months; six months on average
	Skills:	Good knowledge of poverty and inequality measurement. Good data handling skills, and experience with analyzing large scale household survey and census data sets. Experience with related statistical software packages (SPSS, SAS, STATA)
	Supporting software:	SPSS, SAS, STATA and GIS software such as ARCView, purpose-written software produced by the World Bank (http://econ.worldbank.org/programs/poverty/topic/14460/).
	Financial cost:	US$20-100,000 depending on level of specialized consultant, availability of counterpart contributions in terms of computational assistance, etc
Limitations:		Household variables do not capture some unobserved geographic effects (such as climate, quality of local administration etc). Hence, it may be desirable to complement the analysis using such additional data. Also, when using the technique to simulate the impact of reforms, behavioral changes are typically ignored.
References and applications:		• For an overview of the technique, see Lanjouw (2003), Chapter 4 of the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies.* • Elbers, Lanjouw and Lanjouw (2002) on the overall approach. • For purpose-written software and manual, as well as other country applications, see http://econ.worldbank.org/programs/poverty/topic/14460/. • Demombynes et al. (2002) on poverty in Ecuador, Madagascar and South Africa. • Elbers, Lanjouw, Mistiaen, Ozler and Simler (2002) on inequality in Ecuador, Madagascar and Mozambique. • Elbers, Lanjouw, Lanjouw and Leite (2002) on Brazil. • Mistiaen (2002) on the analysis of the impact of rice price changes in Madagascar. • Mistiaen et al. (2002) on health spending in Madagascar.

Tool Name:		**Ex-post behavioral marginal incidence analysis of public spending and programs**
What is it?		This type of analysis combines the analysis of the marginal incidence of benefits with the econometric modeling of household behavior. The analysis is *ex-post*, since it focuses on past interventions, drawing lessons for future ones. The methods allow to take the *behavior* of both the recipients of public spending or participants in the programs, and of the agents implementing them. Finally, the analysis is *marginal* since it focuses on the impact of increases or cuts in public spending and programs.
What can it be used for?		It can be used to explain distributional impacts of public finance or policy reform on individuals and households, allowing for behavioral responses. This applies to public spending and programs on education, health, and cash transfer programs. It can also be used in the analysis of other reforms, including land reform, pension reform, and micro-finance programs.
What does it tell you?		The analysis allows to estimate the distributional impacts of changes in public spending or programs, taking the behavioral responses or beneficiaries and implementing agencies into account. By examining actual change ex-post, these methods can also provide a reality check for the results of methods that attempt to approximate or predict changes ex-ante.
Complementary tools:		Ex-post Social Impact Analysis can complement these efforts, as can adaptations of tools such as the Quantitative Service Delivery Survey and Public Expenditure Tracking Surveys that use historical data (see Tables on these tools and techniques).
Key Elements:		The technique entails the econometric analysis of household data on welfare indicators and on receipt of the benefit under consideration and the modeling of household responses, such as changes in labor supply.
Requirements	Data/information:	Behavioral marginal incidence can be done using: 1) single household survey cross-section with sufficient regional disaggregation and variance in participation; 2) two or more comparable household cross-sections; 3) Household level panel data, or 4) geographic level panel data for dynamic marginal incidence
	Time:	A few weeks to a few months depending on the quality of the data.
	Skills:	Econometric skills.
	Supporting software:	EXCEL and STATA (or other micro-econometric and spreadsheet software)
	Financial cost:	Costs of developing and using the tool can vary, depending on whether household surveys exist already. If they do, the analysis can be done for around US$10,000
Limitations:		Behavioral benefit incidence analysis typically has more onerous data requirements than simple benefit incidence analysis to allow for behavioral modeling.
References and applications:		• For an overview of the technique, see van de Walle (2003), Chapter 3 of the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies.* • Lanjouw & Ravallion (1999) • van de Walle (1994) on Indonesia. • van de Walle (2002a) on rural roads. • van de Walle (2002b) on Viet Nam. • Ravallion (1999)

Tool Name:		**Ex-ante behavioral marginal evaluation of policy reforms**
What is it?		The techniques allow to estimate the situation that would result from changes in policies. The techniques allow for the analysis *ex-ante*, i.e. before a reform is implemented, of the distributional impacts of the reform. This analysis is *marginal*, because it aims at capturing changes from the existing situation (e.g. new policy, expansion, reduction of existing public actions). The analysis is also *behavioral* since the behaviors of various stakeholders are taken into account when defining the counterfactuals.
What can it be used for?		This type of analysis can be applied to types of transfer programs with expected impact on some dimension of household behavior (e.g. occupational choices, schooling, demand for various goods or services, etc.). This includes, among others, changes in taxes, expenditure, and targeted programs. It can also be used for any exogenous change in the environment of a household likely to trigger a non-negligible behavioral response (e.g. accessibility of various types of services, conditions on the labor market, producer and consumer prices).
What does it tell you?		It tells you what would be the likely distributional impacts of policies changes, taking the behaviors of various stakeholders into account.
Complementary tools:		Tools such as Stakeholder Analysis, Social Impact Analysis, and – in some cases – the Social Capital Assessment Tool can help analysts better understand the variables that are most likely to affect household behavior.
Key Elements:		The technique proceeds as follows: (1) identification of the policy reform to be analyzed; (2) identification of data set and information sources which contains the necessary information; (3) specification of the economic model which captures the mechanisms likely to affect the individual or household's responses to the policy; (4) estimation of the model; (5) and simulation of the policy reform using the empirical estimate of the model.
Requirements	Data/information:	Household surveys (+ specific surveys or questions depending on the issue of interest)
	Time:	6 months with experienced microeconomic modeler
	Skills:	Micro-econometric modeling
	Supporting software:	All software used in micro-econometrics - Stata, SAS, etc.
	Financial cost:	Depends on the question being asked and the need for new data. If data is available, the cost can vary from US$10,000 to US$30,000.
Limitations:		The estimation of behavioral models that fit the policy to be evaluated or designed can be difficult, but can rely on simpler assumptions (accounting micro-simulation). Second, the approach relies on a structural model, which requires a set of assumptions.
References and applications:		• For an overview of the technique, see Bourguignon and Ferriera (2003), Chapter 6 of the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies*. • Atkinson and Bourguignon (1991) on tax-benefit models. • Attanasio, Meghir and Santiago (2002) on education choices in Mexico. • Bourguignon, Ferreira and Leite (2002) on conditional cash transfers in education in Brazil. • Blundell et al (2000) on tax credit in the U.K. • Younger (2002) on marginal benefit incidence and education in Peru.

Tool Name:		**Ex-post impact evaluation methods for assigned programs**
What is it?		Methods for assessing the counter-factual to evaluate the poverty impact of assigned programs
What can it be used for?		Any policy, program or shock that are assigned to some observational units but not others, and the units not assigned are largely unaffected. The units might be people, households, firms, communities, provinces or even countries.
What does it tell you?		It measures the impact, typically defined as difference between the value of the outcome with the program and its value under the counter-factual (what would have been the value of the indicator in the absence of the program).
Complementary tools:		The best evaluations often combine multiple methods: randomizing some aspects and using econometric methods to deal with the non-random elements, or by combining matching methods with longitudinal observations to try to eliminate matching errors with imperfect data. Complementary tools include Benefit Incidence Analysis, Social Impact Assessment and Demand Analysis, which can help policymakers track the impact of historical policy changes by combining household survey data with financial or service-provision data .
Key Elements:		The identification strategy establishes the assumptions under which observed outcomes for participants and non-participants can be used (often in combination with other data) to infer impact. If the program is randomly assigned across the population (every has the same chance, ex-ante, of being in the program) then the observed ex-post differences in outcomes are attributable to the program. This is not often the case, however, since programs tend to be purposively targeted to certain groups. In such cases, methods exist to estimate counterfactuals. Examples include propensity-score matching and "difference-in-difference" methods.
Requirements	Data/information:	Data on relevant outcome indicators for those units who participate versus those who do not. Survey or census data covering participants and non-participants are essential. The data must include relevant outcome indicators and (depending on the identification strategy) other relevant covariates for either participation or outcomes.
	Time:	Evaluation design should ideally begin even before the policy/program begins; it is often hard to do a good evaluation if one starts late. "Off-the-shelf" data are sometimes feasible, but it is more often the case that special-purpose data collection is needed and this needs advance planning.
	Skills:	Sufficient knowledge of statistics/econometrics and quantitative data skills. Knowledge of microeconomics often helps. Good knowledge of the program and its setting is important.
	Supporting software:	Standard statistical/econometric packages such as STATA are often sufficient. A number of special-purpose STATA routines are available for evaluation
	Financial cost:	Varies enormously, mainly depending on current data availability. The marginal cost of the evaluation can be low in "data rich" settings and high in "data poor" settings where a lot of primary data collection is called for. Even in data rich settings, supplementary data collection is often required.
Limitations:		
References and applications:		• For an overview of the technique, see Ravallion (2003), Chapter 5 of the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies.* • Galasso et al. (2001) and Angrist et al. (2001) on randomized programs. • Van de Walle (2002a), Jalan and Ravallion (2003a and 2003b) on propensity-score matching. • Ravallion et al. (2001) on double-differences techniques.

Tool Name:		Demand Analysis: Estimating demand functions
What is it?		Partial equilibrium model that focuses on the level of demand for the commodities an individual, household or producer demands given the structure of relative prices faced, real income, and a set of individual characteristics. (See also Table on Demand Analysis: Consumer Assessment)
What can it be used for?		Can be used with a broad range of reforms for which the knowledge of consumer behavior is important. This simple technique, which focuses on a single good can be particularly useful for the analysis of changes in prices in which the good or service in question has few, if any, substitutes. This can include changes in tariffs, subsidies, and other prices.
What does it tell you?		How changes in income or in the price of a given good affect the demand of a particular group of consumers or producers.
Complementary tools:		Can be used in conjunction with stakeholder analysis. The analysis of a complete demand system is often used as the basis for more complex multi-market and computable general equilibrium models (see Tables on these two techniques). The most common complete demand systems are: Linear Expenditure System (LES); the Almost Ideal Demand System (AIDS) and the Generalized Almost Ideal Demand System (GAIDS) Demand analysis is also used to build household models, in combination with supply analysis.
Key Elements:		Methodologically there are two main approaches to estimate the parameters of a demand equation. One consists of specifying estimable single equation demand functions in a pragmatic fashion without recourse to economic theory, using reduced-form estimation. Alternatively one may wish to use the theory of demand to derive an estimable structural model which should provide guidance for the choice of variables to be included, functional forms, and restrictions on the parameters. This model, although usually difficult to estimate due to its typical high nonlinear nature, provides straightforward interpretations of the transmission channels. When demand analysis is used for complete models (see for instance Table on multi-market analysis or CGEs), complete systems of demand equations must be specified and estimated, which are able to take into account the mutual interdependence of large numbers of commodities in the choices made by consumers.
Requirements	Data/information:	Requires household level consumption and income data, with sufficient variation in prices, either geographically or preferably over time.
	Time:	1 to 3 months.
	Skills:	For reduced-form models, basic econometric skills may suffice. For structural models, advanced econometric and typically programming skills.
	Supporting software:	Software for the analysis of household level data.
	Financial cost:	US$5,000 for simple reduced form models; US$35,000 for detailed of especially complex models
Limitations:		Reduced form demand equations are simple to estimate, but the results depend on the choice of functional form and variables included in the equation. It also requires constancy in elasticities over all values of exogenous variables. Structural models, on the other hand, are affected by the theoretical underpinnings used to derive the estimable model, and can be extremely complex to estimate.
References and applications:		For the estimation of demand systems: • Stone (1954) on the Linear Expenditure System, • Deaton and Muellbauer (1986) on the Almost Ideal Demand System • Christensen et al. (1975) on the Transcendental Logarithmic System

Tool Name:		Supply analysis
What is it?		System of input and output equations used to determine supply responses to changing circumstances by producers (including households). Supply analysis takes into account changes in both output supply and input/factor demand.
What can it be used for?		Supply analysis can be used to determine the impact of changes in product and factor prices, in technology, and in access on factor demands (including labor), production, marketed output, aggregate supply, and incomes. For instance, it could be used to estimate the change in agricultural household production that could result from the liberalization of some markets (inputs, credit, outputs...). More generally, can be used to analyze the impact on production of the removal of barriers to access or other changes in markets.
What does it tell you?		Supply analysis is central to policy decisions in that it helps us understand the impact that alternative policy packages may have on the producers themselves. Through the changes it induces in commodity supply and in factor demand, the analysis of production response is an essential component of models that seek to explain market prices, wages and employment, external trade and government fiscal revenues.
Complementary tools:		Supply analysis can be combined with demand analysis to build household models. Institutional analysis and stakeholder analysis can help inform assumptions about constraints to changes in supplier behavior and the incentive structures within a market. PPA/BA techniques help understand inter-household relationships and how households are likely to respond.
Key Elements:		In studying supply response, it is important to distinguish between specific goods and broad sector aggregates, and between short-run and long-run responses. The basic theory of production is based on profit maximization with respect to output and input quantities. Maximization techniques will yield a set of input demand and output supply functions that are then used to solve for quantities. The impact of price changes on producers can be estimated for a single commodity, or for a system of commodities in the case where the firms/households produce multiple outputs. It is also important to distinguish between short-run and long-run outcomes. It is usually assumed that certain productive factors are fixed in the short run. In agriculture, for instance, the amount of land and the level of technology do not change within a cropping cycle. Labor, too, may be relatively slow to adjust. For this reason, it can be argued that the supply elasticity of agriculture is close to zero in the short run. In the medium- and long-term, fixed investments in productive technology come on-line, and supply can increase.
Requirements	Data/information:	In the case of producing households, this requires household-level production data. For firm-level analysis, firm survey data is needed.
	Time:	Between 1 and 3 months if the data is available
	Skills:	Advance econometric techniques
	Supporting software:	Advanced econometric software, such as SAS, STATA, etc
	Financial cost:	US$10,000 to US$30,000
Limitations:		Despite its different focus on short-run and long-run effects, supply analysis is a static tool. In addition, at the firm level many decisions are based on expectations that are difficult to model.
References and applications:		• López et al. (1995) on Mexico.

Tool Name:		Household Models
What is it?		Micro-econometric models that integrate producer, consumer and worker decisions into a household problem. These models reflect the fact that many households, especially in rural areas, are simultaneously units of production and consumption.
What can it be used for?		In the context of farm households, when markets are perfect the only link between production and consumption decisions is through the level of farm income from production. If there are market imperfections, policies that affect the prices of goods (factors) both produced (used) and consumed (sold) thus have complex implications for production and welfare. These models have been used to examine a wide range of policy reforms, such as price and marketing changes, market failures, and taxation. In addition, separate models can be constructed for different groups to examine structural differences in the impact policies have on these different groups.
What does it tell you?		The models allow to estimate the response of households to changes, in terms of their consumption, production, labor supply, and more generally any allocation of resources within the household.
Complementary tools:		• When production (labor) exceeds consumption (production needs), the household will be a net supplier of products (labor), and vice versa. In those circumstance, demand and supply analysis can be a complement to household models. • Also, if there are no market failures the household behaves as if production and consumption decisions were taken sequentially, in which case theory of production (i.e. supply analysis) and consumption (i.e. demand analysis) applies. • Social impact analysis and beneficiary assessment, which looks at household-level determinants of behavior, can provide information on household preferences and likely switching behavior in the event of a reform.
Key Elements:		If the household model is separable (i.e. production and consumption decisions can be assumed to be taken sequentially), the problem can be divided into two parts (demand and supply). If the model is not separable, the estimation of production and consumption must be done simultaneously. One possibility is proceeding with a reduced form approach. A second possibility is the calibration and simulation of a structural household model.
Requirements	Data/information:	These models require integrated household surveys. Information is needed both on the demand side and the supply side. Ideally, the models would also account for the allocation of time within the household, which requires data on factors that do not usually appear on consumption or production surveys, such as allocation of time to child care, or other unremunerated work (e.g. time spent fetching water).
	Time:	If an integrated household survey exists, a few months
	Skills:	Advanced experience with household surveys and econometric skills.
	Supporting software:	Statistical packages for the analysis of household data, including Stata, SPSS, and other software.
	Financial cost:	US$10,000 - US$30,0000
Limitations:		
References and applications:		• For an extensive review of these models see Sadoulet and de Janvry (1995). • Singh, Squire and Strauss (1986) on impact of price changes. • De Janvry et al. (1991) on household models for agricultural households.

Tool Name:		Partial Equilibrium Analysis: Multi-Market Models
What is it?		Multi-market models belong to the class of partial equilibrium models. They use partial equilibrium analysis of the impact of changes in prices and quantities in selected markets on household income and expenditure. They specify a system of demand and supply relationships for a few sectors of the economy, so that the impact of policies on one sector can be seen on other sectors in the economy.
What can it be used for?		Multi-market models are useful to analyze the poverty and distributional impact of policies that affect the prices and quantities of a small group of commodities. For example they can be used in estimating distributional impacts of the imposition or change in taxes, subsidies, quotas, tariffs on specific commodities; rise or fall in the price of imported or exported commodity.
What does it tell you?		Multi-market models allow the estimation of the impact of a policy or external shock on prices and output in a few sectors, and on household well-being.
Complementary tools:		• Stakeholder analysis can be useful to identify different groups of interest. • Multi-market models are not general equilibrium models, since they are not necessarily fully specified. If the policy reform is likely to have general equilibrium impacts, the analysis should be complemented by a CGE model.
Key Elements:		A multi-market model expands the traditional benefit incidence analysis to capture the induced substitution effects across selected goods in response to policy reform. The first step with this approach would be the identification of the market or markets where the policy reform under analysis is expected to have a direct effect. Household survey information would then be used to derive estimates of income, own-price and cross price elasticities of demand for the entire set of interlinked markets. Market closure (either price or quantity clearing) is imposed for each good in the system of equations. In short, multi-market models involve a system of equations, representing actors (producers, consumers, government), production or profit functions, factor and product markets, income accruing to the owners of productive inputs (including labor), and final consumption.
Requirements	Data/information:	Multi-market models require (1) a disaggregated set of data on income or consumption distribution across households, (2) a complete parameterization for supply and demand functions in the market(s) directly affected by the policy reform, (3) a determination of the closures of the market(s) being modeled, (4) software to solve a system of potentially non-linear equations for the endogenous prices and quantities, and (5) a quantitative mapping of these endogenous variables into the income and consumption of households.
	Time:	The required time to perform an analysis based on partial equilibrium models depends to a large extent on data availability and degree of sophistication of the econometric model. It could vary from about one week for a simple model to three months for very detailed models
	Skills:	Familiarity with basic partial equilibrium modeling and micro-econometric estimation techniques
	Supporting software:	Stata, SAS, GAMS
	Financial cost:	US$5,000 for simple models; US$25,000 for detailed or especially complex models
Limitations:		These models are limited to selected markets, and hence ignore other interlinked markets by design. It is also prudent for the analysis to conduct sensitivity analysis of the results for different values of the parameters used in the model.
References and applications:		• For an overview of the technique, see Arulpragasam and Conway (2003), Chapter 12 of the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies*. • Binswanger and Quizon (1984, 1986) on agriculture in India. • Dorosh, del Ninno and Sahn (1995) on food aid in Mozambique. • Minot and Goletti (1998) on rice refom in Vietnam.

Tool Name:		**Partial Equilibrium Analysis: reduced-form estimation**
What is it?		Partial equilibrium model focusing on the effects of policy changes (including interest rate changes, taxes, etc.) or exogenous shocks (a change in import tariffs in another country, or a terms of trade shock) on a variable of interest, such as aggregate consumption or income.
What can it be used for?		Analysis of partial equilibrium on the basis of reduced-form estimation is one of the most common applications of econometric analysis, and can be used to examine a myriad of different outcomes. It can be applied to most policy changes or exogenous shocks. It is most useful for PSIA of policy reforms which have significant indirect effects. For example, simple tax incidence analysis (see Table on this method) can analyze the direct distributional impacts of tax changes, but does not capture the impact of tax changes on the overall economy and growth, thereby only providing a partial answer to the question of impact. Partial equilibrium analysis with reduced-form estimation can capture this indirect impact and provide a first approximation of the expected impact on aggregate incomes.
What does it tell you?		It can provide a good estimation of the impact that changes in a given policy or exogenous shocks have on a particular variable of interest. Once a model containing the policy variable and the variable of interest has been estimated, reduced-form models can be used to simulate the impact of policy alternatives.
Complementary tools:		Reduced-form estimation can be useful to understand the macroeconomic impact of a policy intervention on a selected variable of interest. There is often a need to complement the analysis by the use of household surveys to map these impacts into distributional changes. Stakeholder analysis can be useful to identify different groups of interest for the analysis.
Key Elements:		Reduced-form estimation assumes an underlying system of demand and supply equations but the model itself does not fully specify the whole array of economic and social interactions. Rather, the model is solved to derive a single estimating equation: an econometric model that relates the outcome and the policy variables or shock of interest. This can be done on the basis of two observations separated over time by a policy change. When using a single cross-sectional dataset, there must be significant variation across the sample population to estimate the equation. Analysis on aggregate units, such as cross-country regressions, should ideally be conducted on panels of cross-sectional and time-series data.
Requirements	Data/information:	Reduced-form models require information on the variable of interest, and its hypothesized determinants. The specific data requirements depend on the unit of analysis, from household or individual level to country level.
	Time:	The required time to perform analysis based on partial equilibrium model and reduced-form estimation depends to a large extent on the data availability and the degree of sophistication of the econometric model. It could vary from a week for a simple model to three months for very detailed models.
	Skills:	Econometric skills
	Supporting software:	Eviews, STATA, Gauss, etc.
	Financial cost:	US$5,000 for simple models, US$25,000 for detailed, complex models.
Limitations:		The elasticities of the policy variable to the variable of interest are often based on cross-country regressions, and may differ from the elasticity in the country itself.
References and applications:		• Barro (1997) • Quah and Durlauf (1999) • Dollar and Kraay (2002)

Tool Name:		Social Accounting Matrices
What is it?		A social accounting matrix (SAM) is a technique related to national income accounting, providing a conceptual basis for examining growth and distributional issues within a single analytical framework. It can be seen as a tool for the organization of information in a single matrix of the interaction between production, income, consumption and capital accumulation.
What can it be used for?		SAMs can be used for some simple policy simulations
What does it tell you?		SAMs can be applied to the analysis of the interrelationships between structural features of an economy and the distribution of income and expenditure among household groups.
Complementary tools:		SAMS would complement and be complemented by the use of household surveys to map impacts into distributional changes. Stakeholder analysis can be useful to identify different groups of interest.
Key Elements:		A typical SAM contains entries for productive activities, commodities, factors, institutions, the capital account, and the "rest of the world." An activity produces (and receives income from) commodities, buys commodities as production inputs, pays wages to labor, rents to capital, and taxes to the government. Factor income accrues to households as owners of the factors. The SAM can be constructed to distinguish household groups by, for example, sources of income. SAM techniques select some accounts as exogenous, and leave the remaining accounts endogenous. In part, this selection can be made with a sound theoretical basis, but it is often arbitrary. For example, if the SAM contains an account for agricultural production and one for transportation, an experiment can be run by imposing some exogenous change (a "shock") to agriculture while leaving the transport sector fixed, or while allowing the transport sector to adjust endogenously as a result of the shock
Requirements	Data/information:	The data sources for a SAM come from input-output tables, national income statistics, and a household survey with a labor module.
	Time:	About three months for a moderately detailed SAM.
	Skills:	Working with household datasets; strong knowledge of national accounts; use of Excel and maybe GAMS (for using dedicated software)
	Supporting software:	Excel and GAMS-based dedicated software; STATA, SAS or SPSS for working with household datasets
	Financial cost:	US$25,000 when the data is available. This does not include the cost of developing a new household survey.
Limitations:		SAM models have at least two major drawbacks. First, prices are fixed, and do not adjust to reflect changes in, say, real activity. As a result, supply is either perfectly elastic (if chosen to be endogenous) and entirely demand driven, or perfectly inelastic – that is, supply is constant. Second, the results of the simulations vary greatly depending on the assumptions made about which accounts are exogenous and which endogenous.
References and applications:		• For an overview of the technique, see Round (2003), Chapter 14 of the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies.* • Pyatt and Round (1985). • Powell and Round (2000). • Reinert and Roland-Holst (1997). • Sadoulet and de Janry (1995). • Tarp, Roland-Holst and Rand (2002).

Tool Name:		CGE models
What is it?		CGE models are completely-specified models of an economy, or a region, including all production activities, factors and institutions. The models therefore include the modeling of all markets (in which agents' decisions are price responsive and markets reconcile supply and demand decisions) and macroeconomic components, such as investment and savings, balance of payments, and government budget.
What can it be used for?		CGEs can be used to analyze the poverty and social impacts of a wide range of policies, including exogenous shocks (exchange rate, international prices, etc.), changes in taxation, subsidies and public expenditure (including changes in trade policies), and changes in the domestic economic and social structure (including technological changes, asset redistribution, human capital formation).
What does it tell you?		CGE models are best chosen for policy analysis when the socioeconomic structure, prices, and macroeconomic phenomena all prove important for the analysis. CGEs allow to take into account all the sectors of the economy as well as the macro-economy, and hence permit the explicit examination of both direct and indirect consequences of policies. This is particularly important for those policy reforms that are likely to play a large role in the economy and might have important impacts on other sectors and/or on the flow of foreign exchange or capital.
Complementary tools:		Other tools described here belong to this class of models, with an additional model to take distribution into account: the 1-2-3 PRSP, IMMPA and the Augmented CGE Model with Representative Household Approach. See their respective Tables.
Key Elements:		A CGE can be described by specifying the agents and their behavior, the rules that bring the different markets in equilibrium, and the macroeconomic characteristics. CGEs are based on SAMs (see Table on Social Accounting Matrices), and can be distinguished by the complexity and level of disaggregation of productive activities, factors and institutions, including households.
Requirements	Data/information:	CGE models are data-intensive. They are constructed from combined national accounts and survey data. These are first compiled into a SAM, which is then used as the foundation of the CGE.
	Time:	A few months to a year, depending on the existence of a SAM, or of another CGE model built to address a different question. Even these simple CGEs can be complex and time consuming. An alternative is to use a previously constructed CGE. For example, Ianchovichina et al. (2001) use a CGE model constructed by the Global Trade and Analysis Project (GTAP) to examine the impact of NAFTA on household welfare in Mexico. However, the use of a previously constructed simple CGE can limit the number of policy changes that can be simulated (in the previous example, the model was constructed to examine trade policy, and did not contained domestic taxes or public expenditure).
	Skills:	Experienced modelers with substantial prior exposure to Computable General Equilibrium models are required
	Supporting software:	Excel, Eviews, Gauss
	Financial cost:	US$25-75,000 depending on existing data
Limitations:		The results of CGE simulations depend at least partly on the assumptions made in the model, such as the "closure" rules. These ensure that macroeconomic accounts (fiscal, trade, savings-investment) balance. Whether they are fixed exogenously or allowed to balance endogenously, and how they balance, can have a significant impact on the outcomes. In addition, the production accounts specified in most available CGEs are too aggregated to identify the impact of policy changes in one component of one account. Many CGEs have at most two agricultural activities, one each for tradable and non-tradable crops, or food crops and cash crops.
References and applications:		• Dervis et al. (1982) and Shoven and Whalley (1992) for summaries of CGE models use. • Ianchovichina, Nicita and Soloaga (2001). GTAP models at http://www.gtap.agecon.purdue.edu.

Tool Name:		PovStat
What is it?		An Excel based software program which simulates the changes in poverty and inequality over time resulting from changes in output and employment growth.
What can it be used for?		PovStat may be used to simulate the poverty and inequality impact of policies affecting sector-level output and employment growth rates.
What does it tell you?		PovStat simulates poverty and inequality measures under alternative growth scenarios. Forecasts of varying levels of complexity may be computed depending on the availability of reliable data and the extent to which factors influencing poverty levels are incorporated. The simulations vary according to optional projection parameters.
Complementary tools:		Other software programs that provide poverty and inequality forecasts include SimSIP Poverty (see Table on SimSIP), and DAD (a software for distributive analysis). Social impact analysis and institutional analysis could complement this analysis by identifying constraints to market participation by certain groups which can affect poverty and inequality estimates.
Key Elements:		On the basis of household-level data, the software translates differential output and employment growth across sectors into differential growth in per capita income or consumption of households across those sectors. The tool simulates the impact of policies affecting output on poverty using the fact that poverty changes can be decomposed into two parts: a component related to the uniform growth of income, and a component due to changes in relative income. The simulations are made under the assumption either that the policy analyzed will be distribution neutral, or conversely assuming a specific quantifiable form for the distributional change. Changes in occupational distribution are accommodated through reweighing of sample households.
Requirements	Data/information:	This program requires unit record household survey data. Also, a poverty line, survey year, and forecast horizon are parameters that must be provided by the user. Macroeconomic variables at the nationally aggregated or sectorally disaggregated level and growth rates of income, employment and population are also required. In addition, the user can input change in CPI and GDP deflator, change in relative price of food and shares of food in CPI, and changes in poverty line consumption bundle. This allows to generate different types of fore casts optional projection parameters such as employment shifts across sectors. The software can also be adapted for grouped data.
	Time:	1-2 days to format the household survey data, collate and check exogenous economic variables and enter everything into PovStat.
	Skills:	Familiarity with Excel and appropriate household data handling software (such as Stata). Also, with PovCal if synthetic data from a grouped distribution are to be used
	Supporting software:	Excel
	Financial cost:	
Limitations:		PovStat does not capture second round effects. These may be captured by CGE models.
References and applications:		• For an overview of the technique, see Datt, Ramadas, van der Mensrugghe, Walker and Wodon (2003), Chapter 10 of the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies.* • Datt and Walker (2002). • Software available at http://www.worldbank.org/psia, section on Tools and Methods.

Tool Name:		SimSIP Poverty
What is it?		SimSIP Poverty is a generic Excel based simulator, which allows to estimate the changes in poverty and inequality over time resulting from changes in output and employment growth.
What can it be used for?		This tool may be used to simulate the poverty and inequality impact of policies affecting sector-level output and employment growth.
What does it tell you?		It simulates poverty and inequality measures nationally and within sectors (urban and rural; agriculture, manufacturing and services). It may simulate the impact of various sectoral patterns of growth and population shifts between sectors on future poverty and inequality.
Complementary tools:		Other tools for poverty forecasts include PovStat (see Table on PovStat), and DAD (a software for distributive analysis) Social impact analysis and institutional analysis could complement this analysis by identifying constraints to market participation by certain groups which can affect poverty and inequality estimates.
Key Elements:		On the basis of existing information on group level household survey data (typically by deciles or quintiles), the software translates differential output and employment growth across sectors into differential growth in per capita income or consumption of households across those sectors. The tool simulates the impact of policies affecting output on poverty using the fact that poverty changes can be decomposed into two parts: a component related to the uniform growth of income, and a component due to changes in relative income. The simulations are made under the assumption either that the policy analyzed will be distribution neutral, or conversely assuming a specific quantifiable form for the distributional change. Changes in occupational distribution are accommodated through reweighing of sample households.
Requirements	Data/information:	SimSIP Poverty uses grouped household data, typically groups by income: the mean income or consumption by group and the share of these groups are required. In addition, SimSIP Poverty requires macroeconomic data at a nationally aggregated or sectorally disaggregated level. This includes for example past or expected growth rates of output, employment and population by sector. Finally, the population size and growth, and a poverty line are necessary for calculating poverty incidence.
	Time:	1 day to gather the data on population shares and mean income/consumption by group, check the realism of scenarios, and enter the data into the software.
	Skills:	Familiarity with Excel
	Supporting software:	Excel
	Financial cost:	
Limitations:		SimSIP does not capture second round effects. These may be captured by CGE models.
References and applications:		• For an overview of the technique, see Datt, Ramadas, van der Mensrugghe, Walker and Wodon (2003), Chapter 10 of the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies.* • Wodon et al. (2003). • Ramadas et al. (2002). • Software available at www.worldbank.org/simsip.

Tool Name:		**123 PRSP**
What is it?		123PRSP (one country, two sector, and three goods) is a static computable general equilibrium (CGE) model.
What can it be used for?		123PRSP can be used to analyze the impact of macroeconomic policy and external shocks on income distribution, employment and poverty.
What does it tell you?		It allows for a forecast of welfare measures and poverty outcomes consistent with a set of macroeconomic policies in the context of a very simple general equilibrium model. For a given set of macroeconomic policies, 123PRSP generates a set of wages, sector specific profits and relative prices that are mutually consistent. The projected changes in prices, wages and profits are then inputted into household data on wages, profits and commodity demand for representative groups, or segments of the distribution. In principle, 123PRSP can calculate the policy impact on each household in the sample so as to capture the effect on the entire distribution of income. For a given poverty line, 123PRSP can also compute the effect of different poverty measures.
Complementary tools:		Analysis of impacts on income distribution could be complemented by social impact analysis and institutional analysis, which look at variables that would affect household participation in growth. Scenario analysis, which helps policymakers assess the effects of major discontinuities on economic projections, could complement CGE models operating on a long time horizon.
Key Elements:		123PRSP can be viewed as a middle ground between consistency models (such as RMSM-X), and more sophisticated approaches such us disaggregated computable general equilibrium models. The former are simple to estimate and use, but take the two most important determinants of poverty -economic growth and relative prices- as exogenous. The latter\ are useful to capture the poverty impacts of policies but are too data-intensive and difficult to master. One salient feature of 123PRSP is its modular approach; by linking several existing models together it can make use of individual modules which already exist. Further, if for data or other reasons a particular module is not available the rest of the framework can be implemented without it.
Requirements	Data/information:	The 123PRSP model requires national accounts, a social accounting matrix (SAM), and some basic distributional data or a household survey. The model builds on an existing static aggregate model, such as the IMF's Financial Programming Model (containing a consistent set of national accounts which are linked with fiscal balance of payments and monetary accounts). Macroeconomic policies are then fed into the "Get Real Module" or an alternative country specific model of long-run growth determination and into a trivariate VAR module of short run fluctuations. This trivariate module would require historical national account data. Both long-run and short-run projections would then feed into the 123 model to generate projections on changes in wages, profits and the prices of the three goods, which in turn are fed in a household data module to capture the effects of macroeconomic policies on poverty.
	Time:	About three months if a household survey and the macro model are available
	Skills:	Experienced modelers with expertise in financial programming and advanced time series econometrics.
	Supporting software:	Eviews, Excel
	Financial cost:	Without the cost of developing the macro model or the Household survey, about US$25,000 to set a new model.
Limitations:		As noted above, 123PRSP adopts several strategic simplifications in order to make the model user friendly. The cost of adopting this approach is that the causal chain from macroeconomic policies to poverty is in one direction only. The model in this regard does not capture the feedback effect of changes in the composition of demand (due to shifts in the distribution of income) on macroeconomic balances.
References and applications:		• For an overview of the technique, see Devarajan and Go (2003), Chapter 13 of the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies.*

Tool Name:		**Poverty Analysis Macroeconomic Simulator (PAMS)**
What is it?		PAMS is an econometric model that links a macro-consistency model or macroeconomic framework to a labor-poverty module.
What can it be used for?		PAMS can be used to address the impact of macroeconomic policies and exogenous shocks (such as an exogenous rise or fall in output growth, or a change in the sectoral composition of output) on individual households.
What does it tell you?		PAMS can produce historical or counterfactual simulations of: (i) alternative growth scenarios with different assumptions for inflation, fiscal, and current account balances. These simulations allow for testing tradeoffs within a macro stabilization program. (ii) Different combinations of sectoral growth (agricultural or industrial, tradable or nontradable goods sectors) within a given aggregate GDP growth rate (iii) tax and budgetary transfer policies
Complementary tools:		Stakeholder analysis can be useful to identify groups to inform the selection process of micro categories. Social impact analysis and institutional analysis could help analysts identify constraints to market participation by certain groups which would affect poverty and inequality estimates.
Key Elements:		PAMS has three main components: (i) a standard aggregate macro-framework that can be taken from any macro-consistency model (for example, RMSM-X, 123) to project GDP, national accounts, the national budget, the balance of payments, price levels, etc. in aggregate consistent accounts; (ii) a labor market model breaking down labor categories by skill level and economic sectors whose production total is consistent with that of the macro framework. Individuals from the household surveys are grouped in representative groups of households defined by the labor category of the head of the household. For each labor category, labor demand depends on sectoral output and real wages. Wage income levels by economic sector and labor category can thus be determined. In addition, different income tax rates and different levels of budgetary transfers across labor categories can be added to wage income; and (iii) a model that uses the labor model results for each labor category to simulate the income growth for each individual inside its own group, assumed to be the average of its group. After projecting individual incomes, PAMS calculates the incidence of poverty and the inter-group inequality
Requirements	Data/information:	The model requires national accounts (with a breakdown by sector) and household survey data with income/expenditure data by unit, and a wage and employment breakdown by sectors
	Time:	With a macro model the time needed to build a PAMS would be about three months: (i) One month to select/extract categories of households from the household survey and match the economic sectors from the macro model. (ii) One month to link the macro model to the household survey data, and (iii) One month to run the macro and household module together and adjust.
	Skills:	Knowledge of (i) National Accounts based macroeconomic models, (ii) of basic labor demand models and (iii) of the structure of household surveys is required
	Supporting software:	Eviews, Excel
	Financial cost:	US$25,000 when the data is available. This does not include the cost of developing a macro model or a new household survey
Limitations:		The main limitation is the lack of feedback of the micro model into the macro model.
References and applications:		• For an overview, see Pereira da Silva, Essama-Nssah and Samake (2003), Chapter 11 of the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies.* • Pereira da Silva, Essama-Nssah and Samake (2002).

Tool Name:		**Integrated macroeconomic model for poverty analysis (IMMPA)**
What is it?		IMMPA is a dynamic computable general equilibrium (CGE) model.
What can it be used for?		IMMPA can be used to analyze the impact of macroeconomic policy and external shocks on income distribution, employment, and poverty.
What does it tell you?		One of the main features of IMMPA is that it integrates the real and financial side of the economy; in this regard, IMMPA is useful to analyze both the impact of structural reforms (such as changes in tariffs or the composition of public expenditure) and the effects of short term stabilization policies (such as a cut in domestic credit or a rise in deposit interest rates). The detailed treatment of the labor market is key for the assessment of the poverty reduction impact of macroeconomic policies. Also it is useful to make the distinction between rural and urban sectors by completing separate projections on output and employment fluctuations for both areas, and therefore to study poverty in different geographical areas
Complementary tools:		IMMPA would complement and be complemented by the use of household surveys to map impacts into distributional changes. Stakeholder analysis can be useful to identify different groups of interest. Social impact analysis and institutional analysis could help analysts identify constraints to market participation by certain groups which would affect poverty and inequality estimates.
Key Elements:		The main distinguishing features of IMMPA from other CGE models are the following. First, IMMPA has a very detailed specification of the labor market, which is the main transmission channel of macroeconomic shocks and adjustment policies to economic activity, employment and relative prices. The labor market specification allows for a disaggregation at the urban and rural levels and in turn, for each of these areas, in the formal and informal sectors. Second, IMMPA links real and financial sectors through an explicit treatment of the financial system. Third, the model emphasizes the negative effect of external debt on private investment and therefore incorporates the possibility of debt overhang. Finally, IMMPA accounts explicitly for the channels through which various types of public investment outlays affect the economy.
Requirements	Data/information:	The greatest drawback of any fully specified CGE model is the time and data required to construct it. The model must be constructed from combined national accounts and survey data. These are first compiled into a SAM, which is then used as the foundation of the model. IMMPA for example consists of 131 equations, more than 30 exogenous variables and more than 200 endogenous variables.
	Time:	The process can take more than a year, and rarely less than a few months.
	Skills:	Experienced modelers with substantial prior exposure to Computable General Equilibrium Models are required
	Supporting software:	Eviews, Excel
	Financial cost:	US$75,000 to develop the IMMPA general equilibrium model
Limitations:		CGE simulations depend to a large extent on the assumptions made in the model, especially those that are required to close the model. They are also data-intensive and difficult to master, something that could limit its usefulness under tight deadlines or capacity constraints.
References and applications:		• Agenor, Izquierdo, Fofack (2003).

Tool Name:		**Augmented CGE Model with Representative Household Approach**
What is it?		This technique is based on a computable general equilibrium model with representative households that are linked to a household module.
What can it be used for?		Representative Household Models can be used to analyze the impact of macroeconomic policy and external shocks on income distribution, employment, and poverty
What does it tell you?		Representative household models allow for a forecast of welfare measures and poverty outcomes consistent with a set of macroeconomic policies in the context of a general equilibrium model
Complementary tools:		
Key Elements:		The key features of the Representative Household Approach are (i) a Computable General Equilibrium (CGE) model that incorporates markets for factors and commodities and their links to the rest of the economy, which generates equilibrium values for employment, wages and commodity prices as well as its "extended" functional distribution (i.e. labor differentiated by skill, education, gender, region, and sector of employment); and (ii) a mapping from the extended functional distribution into the "size" distribution (the distribution of income across different households). In this approach, the Representative Households that appear in the CGE (corresponding to aggregates or averages of groups of households) play a crucial role: the "size" distribution is generated by feeding data on the simulated outcomes for the Representative Household into a separate module that contains additional information about each household.
Requirements	Data/information:	Representative Household Models require a social accounting matrix (SAM) and distributional data describing the Representative Household groups or, more specifically, a household survey
	Time:	Only a few days to generate a base solution if data and skills are available. Between six months and a year to collect data and work with the simulations
	Skills:	Experienced modelers with substantial prior exposure to Computable General Equilibrium models are required.
	Supporting software:	Excel, Eviews, Gauss
	Financial cost:	US$25-75,000 depending on the data that exists
Limitations:		In the absence of a CGE model to feed in the Representative Household module, it is data-intensive and difficult to master
References and applications:		• For an overview, see Logfren, Robinson and El-Said (2003), Chapter 15 of the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies.* • Robillard, Bourguignon and Robinson (2001) on Indonesia. • Coady and Harris (2001) on Mexico. • Lofgren et al. (2002).

Tool Name:		Social Risk Assessment
What is it?		Analytical approach that uses qualitative methods to identify and assess risks to, and from the policy reform, and to inform risk management strategies
What can it be used for?		Risk assessment is relevant to all reforms that have significant poverty and social impacts. Particularly useful for decentralization reforms; civil service retrenchment; land reform; financial sector reform (e.g. regulatory reform, privatization of SOE); labor market reform (e.g. minimum wage legislation); social safety nets; pension reforms; and agricultural reform (e.g. changing domestic subsidies and taxes, eliminating marketing boards). Social Risk Assessment follows an analysis of stakeholders, institutions, and social impacts, and feeds into M&E systems by establishing a baseline of objective risk indicators for country- and sector-level risk assessments
What does it tell you?		Helps to (a) identify risks that could undermine policy reform objectives; (b) inform analysis of alternatives in policy design, and inform design of complementary measures when it appears that a reform will have adverse impacts; (c) develop risk management strategies for the identified risks to, and from the policy reform. Risk assessment involves the following steps: (i) identification of assumptions – implicit or explicit – about what should (or should not) happen in order to for a policy to achieve its goals; (ii) assessing the likelihood that these assumptions will hold, and their importance to policy; (iii) assessing the impact of policy change should the assumptions prove invalid; (iv) informing risk management strategies to address important risks that are unavoidable.
Complementary tools:		Normally conducted after Stakeholder Analysis and Institutional Analysis, as a complement to impact analysis. Provides crucial insights for Scenario Analysis, and M&E systems
Key Elements:		(1) Identification of risks, (2) Assessment of the likelihood of occurrence and importance of each risk to the reform, and (3) Elaboration of adequate risk management strategies. Risks are identified from assumptions about transmission channels and likely impacts. This should cover country risks (e.g. conflict and violence, political instability, ethnic or religious tension); institutional risks (e.g.: weak governance or capacity, design complexity); political economy risks (e.g. capture of benefits, opposition or distortion by influential stakeholders); and exogenous risks (e.g. terms of trade, climate effects). Information about risks is gathered from (i) secondary literature, (ii) discussions with Bank staff and other partners; (iii) existing agencies that assess country risks; and (iv) questionnaires, in-depth interviews or focus groups with key informants from government agencies, non-government organizations and firms. This information is validated through triangulation and crosschecking among information obtained from these different sources.
Requirements	Data/information:	Secondary material, including objective risk indicators, and risk assessments available from country databases, international risk rating agencies (e.g. EIU risk rating, ICRG, TI), and social science research, as well as from implementing agencies and partners. Primary data, that identifies the spectrum of risks to, and from the reform, illustrates their likelihood of occurrence and importance to the policy, and helps develop adequate risks management strategies.
	Time:	Can be undertaken rapidly (2-4 person weeks) in country, depending on reform complexity.
	Skills:	Sociological and anthropological training are helpful. It is crucial to have an in-depth knowledge of the country-context, reform area, country- and sector-level assessment of key assumptions regarding the reform, and objective country-level risk indicators.
	Supporting software:	N/A
	Financial cost:	Can be undertaken at relatively low-cost (US$16-25,000)
Limitations:		If poorly facilitated or done with contentious stakeholders, assessment can easily produce skewed perceptions of risks that are based, for instance, on dogma or political calculation, rather than reflection and deliberation. As findings are necessarily based on stakeholder understanding of complex issues, it is key to validate results through reiteration exercises.
References and applications:		• Beck et al (2002). • Kaufman and Kray (2000). • World Bank (2002c). • Economist Intelligence Unit Country Risks Ratings (http://www.eiu.com) • Transparency International Corruption Perception Index (http://www.transparency.org) • International Country Risk Guide ratings (http://www.prsgroup.com)

Tool Name:		Scenario Analysis
What is it?		Scenario analysis is a participatory exercise based on a facilitated process of brainstorming, rigorous data gathering to explore the issues raised in brainstorming and the creation of three to four plausible future situations (scenarios) in which a reform will play out. These scenarios are differentiated by plausible discontinuities (such as a change in government, a currency devaluation or a major shift in commodity or input prices), but take into account significant predictable factors (such as demographic trends).
What can it be used for?		Scenario analysis is forward-looking and is generally used to analyze "lumpy" investments or major changes in strategic direction. The process is particularly adapted to bringing the perspectives of different stakeholders together around contentious decisions. "Civic scenarios" have been used to bring leaders from different political groups together to lie out alternative paths during government transition in South Africa and the transition away from violence in Colombia and Guatemala. Scenarios have also been used to bring community leaders, environmentalists, politicians and transport specialists together to make long-term strategic plans for state-level transport investment in the United States.
What does it tell you?		Scenario analysis lets policy-makers: (i) "pre-test" the performance of a policy reform in different plausible situations, allowing for the creation of alternate plans; (ii) assess the level of ownership for a reform agenda among key stakeholders; (iii) get support for a reform agenda by including relevant stakeholders in discussions around scenarios to build a shared understanding of key issues in a reform.
Complementary tools:		Normally used in conjunction with economic models, which can serve as inputs to the scenario-building process, and stakeholder analysis, which helps determine key groups to consider in different scenarios.
Key Elements:		The elements of a complete scenario analysis are: (i) preliminary scenario workshop which brings together relevant stakeholders to brainstorm the key issues around a reform agenda; (ii) data collection wherein a researcher assembles relevant information around the issues identified in a workshop; (iii) scenario-building workshop where relevant stakeholders build alternate scenarios; (iv) dissemination process where scenarios are shortened to one-page briefing notes and shared with the public via newspapers, television and radio
Requirements	Data/information:	Scenario analysis requires: (i) economic information, including standard economic projections; (ii) demographic information; (iii) sector-specific information relevant to the issues at hand; (iv) a basic profile of a country's political economy and of ethnic, linguistic and religious divisions within a country.
	Time:	When used to challenge analytic assumptions rather than to build support among stakeholders, the scenario exercise itself could be completed in three to four staff weeks. A participatory scenario exercise is usually carried out in two to three workshops lasting several days each. These workshops are usually spread over several calendar months in order to allow time for data collection and to accommodate the schedules of participants.
	Skills:	An individual with strong facilitation skills and specific experience running scenario exercises. Research skills, including familiarity with economic and demographic trends.
	Supporting software:	N/A
	Financial cost:	A small exercise intended to ensure that the assumptions of policymakers are challenged would cost approximately US$10,000. A full exercise with participatory workshops designed to build support among stakeholders could cost as much as US$30,000.
Limitations:		Successful scenario analysis is based on the skill of facilitators and the choice of participants. Because the process is participatory and based on subjective understanding, it is best for strategic rather than tactical questions.
References and applications:		• Maack (2001). • Pruitt (2000). • Civic Scenarios: Kahane (1996) on South Africa, Kahane (1998) on Colombia. • Planning Scenarios: see experience of Utah at http://www.envisionutah.org/

Tool Name:		Public Expenditure Tracking Survey (PETS)
What is it?		A technique to survey service-provides to assess the efficiency of public spending and the quality and quantity of services.
What can it be used for?		PETS can be used for the analysis of public expenditure management reforms, reforms to improve the efficiency of public expenditure, cross-cutting public sector reforms, anti-corruption, and service delivery reforms.
What does it tell you?		A PETS tracks the flow of resources through the various layers of government bureaucracy, down to the service facilities in order to determine how much of the originally allocated resources reach each level, and how long they take to get there. It can help identify the location and extent of impediments to resource flows (financial, staff, equipment). It can therefore evaluates the mechanisms and incentives responsible for public expenditure leakages, capture and deployment impediments. A PETS focuses on service provider behavior, incentives, and relationship between providers, policy-makers and users.
Complementary tools:		• A PETS can be cross-validated by a Quantitative Service Delivery Survey (QSDS) which assesses the efficiency of public spending at the level of service provider. • A PETS analysis can be linked upstream to public administration surveys, and downstream to household surveys. • Linking a PETS with household surveys would allow to include the demand for services or outcomes. • Benefit incidence analysis can be enhanced by using filter coefficients obtained from PETS/QSDS to deflate cost per user to take into account leakage or capture of funds. • Institutional and stakeholder analysis can help define the parameters of PETS surveys. • Citizen Report Cards can serve as a monitoring tool to verify the perceived effectiveness of public services for stakeholders.
Key Elements:		A PETS is typically implemented with the following steps: (1) Consultations with key stakeholders, including government agencies, donors and civil society organizations are carried out to: define the objectives of the survey, identify the key issues, determine the structure of resource flows and the institutional setup, review data availability, outline hypotheses and chose the appropriate survey tool. (2) Survey instruments are then constructed and implemented. The PETS deals with the fact that agents may have strong incentives to misreport data by using a multi-angular data collection strategy and carefully considering which sources and respondents have incentives to misreport, and identifying sources that tare the least contaminated by these incentives.
Requirements	Data/information:	In addition to the PETS itself, uses public accounts sample data, preferably panel data, on government spending and information on outputs of service providers at ministerial, regional, local and service provider levels. Field testing of the survey is key to ensuring high quality results
	Time:	Consultations, design, and pre-testing take several months. The survey itself takes 1-2 months, depending on sample size and data accessibility.
	Skills:	Some prior experience of micro survey work and STATA required, and a detailed knowledge of the relevant institutional context. Microeconomics of provider behavior (incentives and organization theory).
	Supporting software:	STATA
	Financial cost:	US$60-100,000 plus design
Limitations:		Results suffer from data limitations, i.e. where service provision is not well recorded, or is in-kind. Respondents may have incentives to misreport information
References and applications:		• For an overview, see Dehn, Reinikka and Svensson (2003), Chapter 9 of the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies.* • Reinikka and Svensson (2002a) for an overview of the approach. • Reinikka (2001), Reinikka and Svensson (2003), Republic of Uganda (2000 and 2001) on Uganda. • Government of Tanzania (1999 and 2001) on education and health care in Tanzania. • Xiao and Canagarajah (2002) on Ghana. • Das et al. (2002) on Zambia. • World Bank (2001b) on Honduras. • See www.publicspending.org and http://econ.worldbank.org/programs/public_services/topic/tools/ for some of the tools available and their applications.

Tool Name:		**Quantitative Service Delivery Survey (QSDS)**
What is it?		A technique to survey the efficiency of service provision
What can it be used for?		A QSDS can be used for the analysis of public expenditure management reforms, service-delivery reforms, reforms to improve the efficiency of public expenditure, as well as cross-cutting public sector reforms.
What does it tell you?		A QSDS examines the efficiency of public spending and incentives, and various dimensions of services delivery in provider organizations, especially at the level of the service facility. It quantifies the factors affecting quality of service such as incentives, accountability mechanisms, and the relationship between agents and principals.
Complementary tools:		• A QSDS can be cross-validated by a Public Expenditure Tracking Survey (PETS) which tracks the flow of resources from the central level to the level of service provider. A QSDS analysis can also be linked upstream to public administration surveys, and downstream to household surveys • A QSDS analysis can also be linked upstream to public administration surveys, and downstream to household surveys. • Linking a QSDS with household surveys would allow to include the demand for services or outcomes. • Benefit incidence analysis can be enhanced by using filter coefficients obtained from PETS/QSDS to deflate cost per user to take into account leakage or capture of funds. • Institutional and stakeholder analysis can help define the parameters of PETS surveys. • Citizen Report Cards can serve as a monitoring tools to verify the perceived effectiveness of public services for stakeholders.
Key Elements:		The QSDS is typically implemented with the following steps: (1) Consultations with key stakeholders, including government agencies, donors and civil society organizations are carried out to: define the objectives of the survey, identify the key issues, determine the structure of resource flows and the institutional setup, review data availability, outline hypotheses and chose the appropriate survey tool. (2) Survey instruments are then constructed and implemented. The QSDS deals with the fact that agents may have strong incentives to misreport data by using a multi-angular data collection strategy and carefully considering which sources and respondents have incentives to misreport, and identifying sources that tare the least contaminated by these incentives.
Requirements	Data/information:	In addition to the QSDS itself, uses public accounts sample data, preferably panel data, on government spending and information on outputs of service providers at ministerial, regional, local and service provider levels. Field testing of the survey is key to ensuring high quality results.
	Time:	Consultations, design, and pre-testing take several months. The survey itself takes 1-2 months, depending on sample size and data accessibility.
	Skills:	Some prior experience of micro survey work and STATA required, and a detailed knowledge of the relevant institutional context. Microeconomics of provider behavior (incentives and organization theory).
	Supporting software:	STATA or other similar software
	Financial cost:	US$60-100,000 plus design
Limitations:		Results suffer from data limitations, i.e. where service provision is not well recorded, or is in-kind. Respondents may have incentives to misreport information
References and applications:		• For an overview, see Dehn, Reinikka and Svensson (2003), Chapter 9 of the *Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies.* • Chaudhury and Hammer (2003) on Bangladesh. • Lindelow et al. (2003) on Uganda • See www.publicspending.org and http://econ.worldbank.org/programs/public_services/topic/tools/ for some of the tools available and their applications.

Tool Name:		Citizen Report Card
What is it?		A participatory survey that solicits client feedback on the performance of public services. It combines qualitative and quantitative methods to collect useful demand side data that can help improve the performance of public services. Extensive media coverage and civil society advocacy allows the tool to be used for public accountability.
What can it be used for?		Citizen Report Cards are used in situations where demand side data, such as user perceptions on quality and satisfaction with public services, are absent. By collecting and aggregating user feedback they provide an avenue for citizens to signal public agencies and politicians on key reform areas, and also to create competition among state-owned monopolies.
What does it tell you?		Citizen Report Cards provide feedback from actual users of services regarding issues such as: (a) Availability of services, (b) Satisfaction with services, (c) Reliability/Quality of services and the indicators to measure these, (d) Responsiveness of service providers, (e) Hidden costs - corruption and support systems, (f) Willingness to pay, and (g) Quality of life.
Complementary tools:		• Can be used in conjunction with national service delivery and other household surveys. It is also being supported by the more qualitative community scorecard process. • Needs to be complemented with effective communications and publicity strategy to put information in the public domain and increase effectiveness. The data from citizen report cards can also be used in conjunction with Public Expenditure Tracking Surveys (example Sierra Leone) and Benefit Incidence Analysis.
Key Elements:		User-determined assessment criteria; quantitative feedback on service delivery quality; media involvement and broad public debate on process and survey results.
Requirements	Data/information:	Being a survey itself, the only data/information required is for developing the sampling frame for the execution of the survey. For this basic demographic, economic and social data from recent household surveys would be needed to decide on the stratification.
	Time:	Between 3-6 months from the initial scoping to the dissemination stage. In most countries an initial orientation workshop for different stakeholders is included.
	Skills:	Usually the citizen report card is managed by a different agency from the on that actually executes the survey. For the latter, the norm has been to out source to a market research agency such as ORG-MARG (India) or the Social Weather Station (Philippines), which has adequate market research and statistical survey analysis skills. The managing organization is either an independent CSO with solid advocacy skills, networks and reputation (India), an international donor like the World Bank (Philippines), or a Government Department in charge of monitoring and independent review/oversight of public services.
	Supporting software:	N/A
	Financial cost:	Varies according on the depth and purpose of analysis. A full national survey in a moderately sized country would cost in the range of US$100,000.
Limitations:		The limitations include: (i) requires an agency with market research and data collection skills to conduct the survey, (ii) requires support of media, (iii) role of expectations in user perceptions needs to be factored, (iv) limitations in comparability across services, (v) cost considerations, (vi) large sample required for heterogeneous population and lesser used services, (vii) effort & time to stimulate action by service agencies & civil society, (viii) lack of predictability in how different players respond.
References and applications:		• World Bank. (2002d). • Public Affairs Center (2002).

Tool Name:		**Community Score Card**
What is it?		A community based qualitative monitoring tool that draws on techniques of social audit, community monitoring and citizen report cards. The process is also an instrument for empowerment and accountability as it includes an interface meeting between service providers and the community that allows for immediate feedback.
What can it be used for?		The community scorecard is a tool for Participatory Public Expenditure Reviews. It is also used for local level monitoring and performance evaluation of services, projects and even government administrative units (like district assemblies) by the community themselves. The process allows for (a) tracking of inputs or expenditures (e.g. availability of drugs), (b) monitoring of the quality of services/projects, (c) generation of benchmark performance criteria that can be used in resource allocation and budget decisions, (d) comparison of performance across facilities/districts, (e) generating a direct feedback mechanism between providers and users, (f) building local capacity and (g) strengthening citizen voice and community empowerment.
What does it tell you?		The community scorecard provides information on (a) how inputs or expenditures match with entitlements/allocations at the local/ facility level, (b) the criteria used by the community and by providers themselves to assess their own performance, (c) how both the community and providers score themselves on these criteria, (d) anecdotal evidence on which these scores are based, and (e) how the assessments by the community and providers can be used to develop an action plan for improvements in the project/service.
Complementary tools:		• Can be used in conjunction with national service delivery surveys and the citizen report card survey. • Can form participatory component of public expenditure reviews, public expenditure tracking surveys, formal financial audits and benefit incidence analyses.
Key Elements:		Community-based, i.e. designed and executed, qualitative service assessment; professionally facilitated public discussion of results.
Requirements	Data/information:	The input tracking scorecard requires supply side information on inputs and expenditures such as (a) Budgets/allocations to a facility/project, (b) Entitlements as specified under a policy/project document, (c)List of inventories at facility level, etc. At the community level, an existing social mapping, and basic demographic data is needed to divide the community into focus groups. If the process is to be conducted on a representative sample of communities across the nation/district then basic socio-economic data would be needed to select the sample frame.
	Time:	The process itself requires only a few (sometimes a single) community gatherings. However the groundwork and orientation for collecting supply-side input/expenditure data, preparing the providers and community for the scorecard and for the interface meeting, as well as the secondary data analysis may require in the region of 3-6 weeks.
	Skills:	The community scorecard process requires expert facilitation and so experience with participatory methods and a history of involvement with the community are usually pre-requisites for the process to run smoothly.
	Supporting software:	N/A
	Financial cost:	Financial costs of conducting the process in a single community are quite low - limited mainly to the time of the facilitating staff. If however done on a large scale with many communities involved, the costs would be higher. Overall cost ranges from US$30,000 to US$40,000, comparable to a beneficiary assessment.
Limitations:		The limitations of the community scorecard process include: (a) it depends a great deal on quality of facilitation, (b) input tracking dependent on availability of supply side data, (c) the interface meeting can get confrontational, (d) greater standardization of indicators needed when scaling up, (e) small sample size during gathering can bias results, (f) scoring not always applicable.
References and applications:		• Republic of Gambia (2002). • Information can be found at: http://www.worldbank.org/participation/spaccount.htm

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Note: The word *processed* describes informally reproduced works that may not be commonly available through libraries.

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