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Commitment to Equity Assessment (CEQ) A diagnostic framework to assess governments' fiscal policies Handbook

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Commitment to Equity Assessment (CEQ) A diagnostic framework to assess governments' fiscal policies[*] Handbook

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Abstract

Fiscal policy can change poverty and inequality substantially or slightly depending on the government's redistributive effort. We develop a diagnostic framework to assess how aligned fiscal policies are with supporting a minimum living standard and human capital accumulation, as well as with reducing inequality. The Commitment to Equity Assessment (CEQ) evaluates efforts based on whether governments: i. collect and allocate enough resources to support a minimum living standard for all; ii. collect and distribute resources equitably; iii. ensure that spending is fiscally sustainable and that programs are of good quality and incentive compatible; iv. collect and publish relevant information, as well as are subject to independent evaluations. CEQ relies on inequality, poverty and tax and benefit incidence analyses.

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1. Introduction

Based on the economics of the welfare state,[3] the *Commitment to Equity Assessment (CEQ)* is a diagnostic framework used to measure and evaluate how aligned government expenditures and taxes are with supporting a minimum living standard and reducing inequality in ways that are broadly consistent with macroeconomic stability, microeconomic efficiency and growth. Inspired by the economics of the welfare state, CEQ evaluates government efforts in individual countries in terms of the following criteria. Do governments collect and allocate enough resources to support a minimum living standard and human capital accumulation for all? Is the collection and distribution of fiscal resources consistent with eradicating extreme income and human capital poverty gaps? Do governments collect and distribute resources equitably? Do they ensure that spending is fiscally sustainable and that programs are incentive compatible? Do they collect and publish relevant information and are programs subject to independent evaluations? For each criterion there are quantitative and qualitative indicators derived from poverty and inequality analysis, tax and benefit incidence analysis and best practices in macroeconomic management, program and policy design and evaluation, and accountability indicators.[4]

CEQ's main purpose is to inform governments of how their public finances affect their equity goals, recommend practical measures, and enhance accountability and transparency through better data collection and evaluation systems.[5] In the case of Heavily Indebted Poor Countries (HIPC) and very poor countries more broadly, CEQ contributes to inform donors on the orders of magnitude of resource shortfalls to achieve certain goals (for example, reducing poverty by half and universal coverage of primary education) as well as on the actual use and ability of foreign aid to help achieve these goals. Of course, CEQ can be used for other purposes: for example, participatory budgeting processes and non-governmental social observatories. In the future, CEQ will be used to construct a Commitment to Equity Index to rank countries and monitor their performance over time.[6]

While there has been substantial progress in the methods and approaches to evaluate individual policies and programs, there is really no instrument to evaluate social policy as a system. CEQ has been created to fill that void. CEQ is one of the first frameworks to comprehensively assess social

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[3] See, for example, Musgrave (1957) and Barr (2004).

[4] For the limitations of static incidence analysis see, for example, Bergh (2005). Also, see Adema and Ladaique (2005), Atkinson (1983), Bourguignon and Pereira da Silva (2003), Barr (2004), Barros et al. (2009), Birdsall et al. (2008), Breceda et al. (2008), Dilnot et al. (1990), Ferreira and Robalino (2010), Fiszbein et al. (2009), Grosh et al. (2008), Goñi et al. (2008), Kakwani (1977), Lambert (2002), Lora (2006), Morra et al. (2009), Lustig (2000), O'Donnell et al. (2008), Shah (2003), Suits (1977), van de Walle and Nead (1995), World Bank (2000/2001, 2006, 2009b, 2011).

[5] CEQ assesses efforts and not outcomes. CEQ can be viewed as a complement to ongoing initiatives such as the World Bank's biennial *Human Opportunity Index* (Barros et al., 2009), UNDP's *Human Development Index* and the UN's MDG (Millennium Development Goals) Monitor.

[6] Also a joint initiative of the Inter-American Dialogue and Tulane University's CIPR and Economics Department, the construction of such an index is under way.

policy—or, rather, public policy with social equity objectives—and to make the assessment comparable across countries.

This handbook has two main purposes: to present the methodological framework of CEQ and to provide a step-by-step guide to applying it in practice, including precise definitions of the variables used in the assessment. Section 2 highlights the redistributive effort of the state in Latin America. Section 3 outlines the characteristics of the CEQ diagnostic framework. Section 4 presents the diagnostic questionnaire. Section 5 discusses some of the main concepts used in the framework and data requirements. Section 6 includes the technical definitions of variables and indicators necessary to apply CEQ in a specific country.

2. *Commitment to Equity in Latin America: a Long Way to Go*

Latin America is the most unequal region in the world. With a Gini coefficient[7] of .53, Latin America is 19 percent more unequal than Sub-Saharan Africa, 37 percent more unequal than East Asia, and 65 percent more unequal than developed countries (Figure 1). Latin America's poverty rate[8] (using the US$2.50 PPP per day international poverty line) is 22.1 percent. In contrast, East Asia's poverty rate (50.7 percent) is nearly double Latin America's, and poverty rates in Sub-Saharan Africa (80.5 percent) and South Asia (84.4 percent) are roughly four times higher (Figure 2). This should come as no surprise; Latin America is richer than other regions. Its per capita GDP (adjusted for cost of living) is around two times higher than East Asia's and is close to five times that of Sub-Saharan Africa.[9] A small percentage of the world's extreme poor live in Latin America; in 2005, the share was approximately four percent.[10] In absolute numbers, however, Latin America has around 120 million people living below US$2.50 PPP per day, or twice as many as Eastern Europe and Central Asia.[11] The 16 million living on less than US$1.25 PPP per day (the international poverty line used by WB and others) in Brazil and Mexico alone in 2005 was about the same as the entire population of sixteen Least Developed Countries.[12] Because of its highly unequal distribution of

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[7] Named after its proponent, the Gini coefficient is a commonly used indicator to measure inequality. The Gini coefficient is an index that can take values between zero and one (or between zero and 100, if in percent). The closer it is to zero (one), the less (more) unequal the distribution in question. In practice, Gini coefficients are usually not above .65 or below .20.

[8] The incidence of poverty is measured with the headcount ratio, which is equal to the number of people living below the poverty line divided by the total population. Poverty rates are for 2005 and are from Chen and Ravallion (2008, p. 33).

[9] All the comparisons here are made using GDP per capita PPP in constant 2005 international $ from World Bank (2008).

[10] Author's comparisons based on Chen and Ravallion (2008, p. 32, Table 6).

[11] Based on Chen and Ravallion (2008, p. 32, Table 6).

[12] Author's calculations based on 2005 population statistics from World Bank (2008) and 2005 poverty estimates from World Bank (2009a). The Least Developed Countries used for comparison are: Bhutan, Comoros, Djibouti, Equatorial Guinea, Gambia, Guinea-Bissau, Kiribati, Lesotho, Liberia, Maldives, Mauritania, Samoa, Sao Tome and Principe, Solomon Islands, Timor-Leste, Vanuatu.

income, Latin America has to grow much faster than other regions to achieve the same reductions in poverty.[13]

Figure 1 - Inequality by Region, 2004
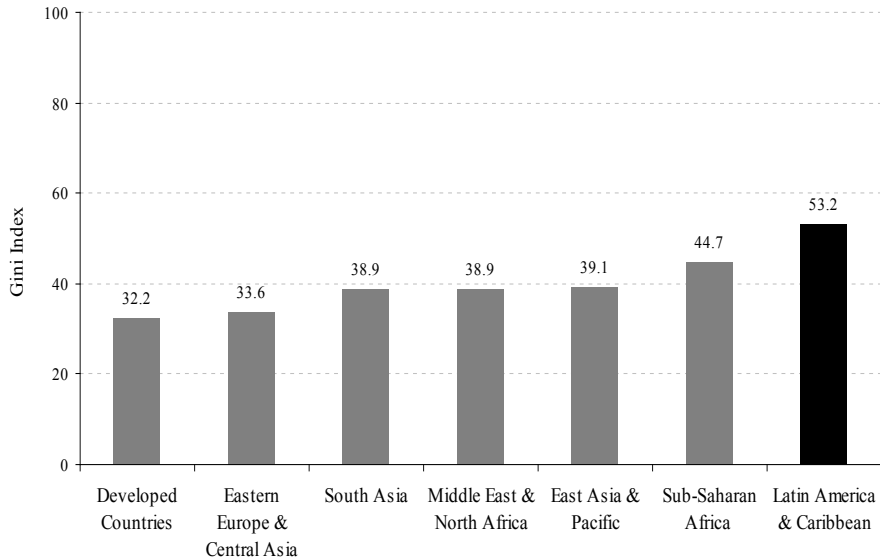
Source: López-Calva and Lustig (2010).
Note: Ginis are unweighted averages of available coefficients for each region.

Figure 2 - Poverty by Region, 2005
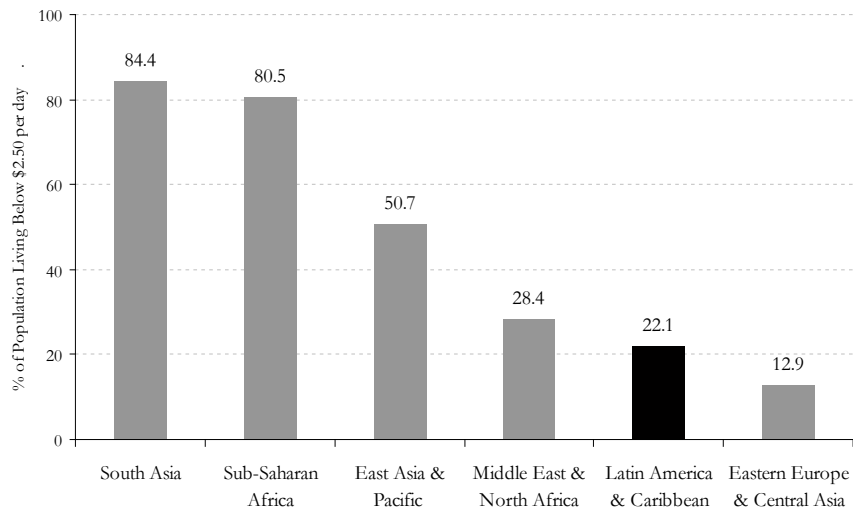
Source: Chen and Ravallion (2008).

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[13] Perry et al. (2006, p. 4, Table 1.1); De Ferranti et al. (2004, pp. 26-27); World Bank (2005, pp. 84-85).

One fundamental reason why inequality is high in Latin America is because governments underutilize their power to reduce income inequality through fiscal policy. Fiscal policy can redistribute income directly (through taxes and transfers) and indirectly (mainly through public services that build human capital, such as education, health and nutrition). On both fronts, Latin American governments redistribute relatively little.

Before direct taxes and monetary transfers, Latin America's income inequality,[14] measured by the Gini coefficient, is approximately 13 percent higher than the average before direct taxes and transfers inequality for advanced European countries. In contrast, Latin America's income inequality after direct taxes and monetary transfers is approximately 60 percent higher than the advanced European countries' after taxes and transfers average.[15] This is a consequence of two factors. First, most governments in Latin America collect less tax revenues than their European counterparts.[16] Second, monetary transfers are a smaller share of government spending in Latin America and are not necessarily progressive.[17] For instance, targeted cash transfers represent a small share of government spending: for example, "while in the United Kingdom per capita cash transfers to the poorest income quintile amount to 6.9 percent of GDP per capita, the average in our Latin American sample equals less than one percent, with the country spending the most – Mexico – transferring only 1.1 percent to the poor."[18]

Even if one adds in-kind transfers (that is, government spending on education and health that people consume in the form of free or quasi-free public services), the redistributive impact is still limited.[19] Incidence analysis finds a fairly flat distribution of social spending across income quintiles in Latin America.[20] In the case of education, for example, this low redistributive impact of government spending is the consequence of overall education spending that is generally progressive, but highly regressive at the tertiary level.[21] In health, fairly progressive spending on the uninsured

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[14] Income inequality before direct taxes and monetary transfers is also sometimes called *pre-fiscal* inequality.

[15] Author's calculations based on Goñi et al. (2008, pp. 5-6): The market income Gini for the Latin American countries in the sample was .52, and the disposable income Gini was .5; the market income Gini for European countries in the sample was .46 and the disposable income Gini was .31. This estimate includes monetary transfers and direct taxes only. In-kind transfers and indirect taxes, such as VAT, are not included in the analysis. The comparison should be viewed with certain caution since the market income inequality is quite likely endogenous to the existing transfer systems. If pensions were not generous enough, for example, households which now portray zero or low market incomes would probably have higher levels of market incomes.

[16] Organization for Economic Cooperation and Development (OECD) and The Development Centre (2008, p. 122).

[17] OECD and The Development Centre (2008, pp. 60-61); Goñi et al. (2008, p. 18).

[18] Breceda et al., p. 13.

[19] Economic Commission for Latin America and the Caribbean (ECLAC) (2007, pp. 105-111); OECD and The Development Centre (2008, pp. 32-33); López-Calva and Lustig (2010, chapters 4, 5, 6 and 7); Huber et al. (2006, pp. 950-951).

[20] See, for example, ECLAC (2007, p. 125), López (2006), Breceda et al. (2008, p. 11).

[21] Since the vast majority of students from poor families never reach the tertiary level, the result is a massive subsidy to the middle and upper classes. More than 70 percent of the benefits of public spending on higher education go to the richest 40 percent of the population. Breceda et al. (2008, p. 12).

population is largely offset by the incidence of benefits in (partially subsidized) contributory systems, where most of the benefits accrue to the non-poor.[22]

The good news is that Latin America has made progress in the last decade; in several countries monetary transfers and subsidies as well as in-kind transfers have become more progressive (that is, less regressive).[23] In Brazil and Mexico, for example, large-scale conditional cash transfers targeted to the poor have reduced post-transfer inequality and poverty.[24] These programs have demonstrated that redistribution to the poor—even to those in remote areas—is technically feasible. Changes in the composition of public spending in education (towards basic education, for instance) and health (towards preventative care of the uninsured, for instance), have made in-kind transfers more equitable in some countries.[25] There also have been greater efforts in some countries to bring basic infrastructure (electricity, water, sanitation and sewerage) to the rural poor.[26]

Given these encouraging trends, this is an auspicious time to assess Latin American governments' commitment to foster social equity through fiscal policy. CEQ can be used to do just that. What follows is a description of this diagnostic tool.

3. *Commitment to Equity Assessment (CEQ): a Methodological Framework*

The first main objective of the welfare state is *supporting a minimum living standard.*[27] Supporting a minimum living standard, in turn, entails three goals: i. *poverty reduction*: that is, ensuring that everyone has a minimum level of consumption; ii. *insurance*: that is, preventing individuals from falling (or falling further) below the minimum level of consumption due to adverse shocks, both idiosyncratic (unemployment, illness, disability, bad harvests, etc.) and systemic (economic crises, natural disasters, spikes in food prices, etc.); iii. *income smoothing*: that is, ensuring that a minimum level of consumption is achieved throughout an individual's life-cycle (maternity/paternity leave and retirement, in particular). Welfare states are also concerned with equity.[28] In particular, welfare states want to equalize opportunities. Thus, the second main objective of the welfare state is *supporting a minimum level of human capital accumulation*—that is, ensuring that everyone has a minimum level of access to

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[22] Breceda et al. (2008, p. 11) write that "…aside from Nicaragua – public health spending is quite pro-rich: on average, the government spends on the poorest income quintile 70 percent of what it spends on the richest quintile. In addition, many Latin American countries have a two-tier health system (usually linked to people's work status) which contrasts [with] the universal health system of the United Kingdom. Accordingly, in Latin America universal health spending declines with people's income, while contributory health spending…strongly increases...."

[23] López-Calva and Lustig (2010).

[24] See, for example, Barros et al. (2007); Barros et al. in López-Calva and Lustig (2010); Esquivel et al. in López-Calva and Lustig (2010); and Fiszbein and Schady (2009 p.104-107).

[25] For example, these changes are present in Argentina, Brazil, Mexico and Peru (López-Calva and Lustig, 2010).

[26] Barros et al. (2009, pp. 12, 81, 88, 112 and 114) highlight changes in policies for basic service provision that have improved access among the rural poor in Brazil, Chile, El Salvador, Mexico, Paraguay and Peru.

[27] See, for example, Barr (2004).

[28] See, for example, Barr (2004).

education and healthcare—especially for the income poor.[29] Finally, welfare states are also concerned with egregious inequalities; in particular, inequalities arising from market failures, exploitative and predatory behavior or perverse social norms.

Governments can work towards supporting a minimum living standard and reducing inequality through four main channels: taxes and transfers (fiscal policy);[30] non-budgetary/regulatory interventions;[31] redistribution of assets; and interventions that change the distribution of voice and power among different groups in society[32] and alter cultural norms.[33] Actions in these areas will affect poverty through two main channels: growth and distribution, either by their effect on market (primary) incomes and/or post-fiscal (after net transfers) incomes. CEQ confines its assessment to government efforts in fiscal policy (also called fiscal or budgetary interventions). CEQ uses static incidence analysis; it does not include behavioral responses or general equilibrium effects.

The welfare state not only improves equity but also improves efficiency. For example, transfers can help the credit constrained poor to invest in human capital and thereby result in lower poverty *and* higher growth.[34] Directly producing or regulating certain social services can correct market failures in markets where information asymmetries are large (e.g., health care).[35] However, as economic theory also predicts, state interventions through taxes and transfers can have important efficiency costs. In these instances, there will be a trade-off between efficiency and equity. Fiscal interventions should be such that distortions are kept to a minimum; in particular, the financing and construction of benefits should not result in large negative incentives to labor supply, investment in human capital, saving, fertility, informality or private transfers. Thus, CEQ also assesses whether fiscal interventions are designed and implemented in ways that minimize distortions.

In addition to causing microeconomic distortions, poorly designed or badly implemented fiscal interventions can cause unsustainable macroeconomic imbalances. These imbalances can lead to economic downturns or crises that, in turn, result in large increases in poverty.[36] That is why tax and transfer policies should avoid cost explosions and unfunded spending commitments. In addition,

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[29] These dimensions are consistent with poor people's perceptions about poverty and the analytics of the multidimensionality of poverty. See, for example, Narayan et al. (2000), World Bank (2000/2001) and Alkire and Santos (2010). One could add other dimensions such as *building poor people's access to basic infrastructure and/or housing.*

[30] "Taxes" here refer to all government revenues (including "profits" from public sector enterprises); "transfers" refer to current expenditures and includes consumer subsidies. Depending on the country, it may include some producer subsidies, especially in agriculture. More precise definitions will be discussed below.

[31] For example, price controls, minimum wage policies, land reform, import or export restrictions, labor market regulations, and anti-trust legislation and competitiveness policies.

[32] These include changes in fostering and supporting the mobilization of certain groups (landless peasants, informal workers, unions, women, ethnic minorities, etc.).

[33] Examples are campaigns to reduce fertility rates or denounce domestic violence.

[34] On the effect of credit constraints on poverty, inequality and growth see Aghion et al. (1997); Aghion and Howitt (1992) and Mookherjee and Ray (2003 and 2006).

[35] See Barr (2004).

[36] See, for example, Lustig (2000) and Ravallion (2008).

governments should collect sufficient revenues from sustainable sources (e.g., not rely on occasional windfalls from commodity booms).[37] CEQ assesses the extent to which the combination of tax and transfer policy is consistent with the overarching goal of macroeconomic stability.

Finally, the success of fiscal interventions in reducing poverty and inequality requires having the ability to measure progress and evaluation mechanisms to determine the effectiveness of fiscal interventions. CEQ assesses the extent to which governments are accountable: that is, whether needed information is produced and shared, whether there are mechanisms to independently validate this information and finally, whether there are mechanisms to independently evaluate the design and implementation of taxes and transfers.

i.   *Policy Instruments*

In order to assess and quantify the impact of policies and programs, we must identify which redistributive instruments[38] will be included in the diagnostic tool and organize them in some fashion. There are four main types of redistributive instruments available to governments through fiscal policy: i) taxes on income, consumption and assets; ii) monetary transfers; iii) subsidies to consumption goods, inputs and credit (including tax expenditures); and iv) in-kind transfers through the fully or partially subsidized provision of goods and services particularly in the area of education and health.

Specifically, CEQ will attempt to be as comprehensive as possible in assessing government efforts on both the revenue and spending sides. The menu of policies and programs is vast: direct and indirect taxes (e.g., sales tax and VAT); monetary transfers; subsidies to consumption (e.g., housing, food, fuel and VAT exemptions) and inputs (e.g., fertilizers, improved seeds and credit); in-kind transfers such as national (and sub-national when appropriate) spending in: education including pre-primary, primary, lower secondary, (upper) secondary, and tertiary; day care services; early childhood programs; youth programs; scholarships; student credit programs (subsidy component); fee waivers; pensions (subsidized component); health for the insured and uninsured population (subsidized component); housing subsidies; school feeding programs; targeted food subsidies; and rural roads, electricity, water and sanitation in poor regions and neighborhoods. Some of the transfers will take the form of investments (e.g., rural roads, electricity grids, drainage, schools, health facilities, etc.) but almost all are recurrent expenditures (e.g., teachers' and doctors' salaries, educational and medical inputs, etc.). CEQ will quantify and assess the impact of the most significant policies and programs[39] on the income poverty and human capital poverty gaps, and on inequality.

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[37] See Birdsall et al. (2008).

[38] "Redistributive" here refers to state actions and policies that can potentially result in a more equal distribution of income.

[39] Examples of policies: tax systems, public education systems, public health systems, pension systems, price subsidies, price support systems, subsidies to specific sectors (e.g., agriculture), to mention the most important. Examples of programs: conditional or unconditional cash transfer programs; workfare or employment (or employment guarantee)

ii. The Design of CEQ

CEQ consists of a diagnostic framework which helps identify the main causes and constraints (successful fiscal interventions) that prevent a country from achieving (enable a country to achieve) a universal minimum standard of living and lower inequality in ways that are consistent with macroeconomic and microeconomic efficiency. A diagnostic framework follows a logical sequence to identify or discard factors that may be either obstacles or crucial to achieving a particular objective or essential to understanding a specific phenomenon. Diagnostic exercises usually rely on a combination of predictions from theory, rigorous empirical evidence, practical knowledge and what we call "common sense." The diagnostic approach has been widely used to identify the binding constraints for economic growth.[40] CEQ is one of the first attempts to apply it to a social equity goal. In broad terms, one would like to know whether a government: i. has enough resources and allocates them well enough to meet social equity policy objectives; ii. has appropriate policies and programs and collects and distributes resources equitably; iii. ensures spending is fiscally responsible and that programs minimize distortions and negative incentives; iv. collects and publishes relevant information, as well as subjects itself to independent evaluations. For simplicity, these criteria are called: resources, equity, quality and accountability and they are defined as follows:

Resources

- Assess whether government revenues and redistributive spending are <u>potentially</u> sufficient with what would be required for supporting a minimum standard of living. [41]

Equity

- Assess whether the <u>actual</u> level and allocation of redistributive spending as well as the range, design and implementation of programs and policies are consistent with supporting a minimum standard of living.

Quality

- Assess whether the design and implementation of programs and policies[42] to support a minimum standard of living are broadly consistent with macroeconomic and

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programs; programs to protect poor households from the financial impact of illness, disability or death; programs to provide non-contributory health insurance; programs to prevent people from falling into poverty during old age; programs or policies specifically addressed to building human capital and assets of the poor; early childhood development programs for poor children; programs for pregnant and lactating poor women; programs for poor youth at risk; programs to increase school attendance of the poor (e.g., scholarships, school feeding programs, CCTs); programs to improve the poor's nutrition and health (e.g., food coupons, subsidized basic foodstuffs, nutritional supplements, etc.); programs to improve the poor's access to housing; programs to improve the poor's access to energy (e.g., differential prices); programs to improve the poor's access to credit and private insurance; programs to empower the poor; programs to reduce social exclusion and discrimination; programs to support ethnic minorities; programs to empower women; programs to achieve other socially desirable objectives.

[40] Hausmann et al. (2006), Rodrik (2007) and Hausmann et al. (2008).

[41] For definitions, see section 6.

[42] Throughout this section, "programs" refers to programs designed to support a minimum standard of living and "policies" refers to policies designed to support a minimum standard of living.

microeconomic efficiency and whether the programs and policies implemented have high social returns as well as are cost-effective, of high quality and incentive compatible.

Accountability

- Assess the degree of accountability and transparency with respect to programs and policies designed to support a minimum standard of living.

In sum, CEQ is among the first frameworks to comprehensively assess social policy—or, rather, public policy with social equity objectives—and to make the assessment comparable across countries and able to be translated into a performance index. CEQ is based on extensive research and expert opinion that give it high content validity.[43] In particular, the diagnostic framework and indicators for CEQ are selected according to existing analysis of what is constituted as essential to achieving significant reductions in poverty and inequality through fiscal policy. The following sections present the diagnostic framework and questionnaire. Section 6 includes the definitions of variables and indicators.

While CEQ may have some similarities to international benchmarking exercises such as the World Economic Forum's "Global Competitiveness Report"[44] and the World Bank's "Doing Business Indicators,"[45] there is an important difference. First, it relies on an in-depth tax and benefit incidence analysis rather than on mainly secondary sources and/or perceptions and opinions. Second, international benchmarking exercises such as the Global Competitiveness Index classify as "positives" areas where a country performs better than the average for the reference group and as "negatives" those areas where it underperforms. As noted by Hausmann et al. (2008), however, it is quite possible that over-performance in some areas by a particular country may actually mean underperformance vis-à-vis its own optimal or desirable outcome. In contrast, CEQ is based on a diagnostic framework that allows us to identify the binding constraints (or the crucial contributing factors) to achieving a goal regardless of whether the indicator in question is above or below the average for the group of reference. For example, a government may be allocating a larger share of GDP to redistributive spending than the average for its reference group and yet the amount spent may be insufficient to ensure a minimum living standard for its population. In this case, CEQ will classify it as a "negative" and will attempt a systematic search for the fundamental cause of why, if resources are potentially sufficient, the after net transfers poverty gap is still greater than zero.

iii.   *Diagnostic Framework*

In order to understand the diagnostic framework, it is best to visualize it as a diagnostic tree as in Figure 3. Let us consider the first objective of the welfare state: supporting a minimum living

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[43] For more on content validity, see Morra Imas and Rist (2009, p. 294) and Adcock and Collier (2001).
[44] www.gcr.weforum.org.
[45] www.doingbusiness.org.

standard for all. If that objective were met, the disposable income poverty gap ratio measure with an agreed upon poverty line would equal zero. If it is zero, two situations may arise: the market income (income before net transfers) poverty gap ratio is very low to begin with—that is, the country is an equity success story—or, if it isn't, the state made substantial effort to reduce the poverty gap through fiscal policy. Of course, if a country is already successful before fiscal policy, the direct impact of fiscal policy becomes irrelevant (unless it makes things worse). Understanding the causes for this kind of success is very important but CEQ would not be the appropriate instrument. Instead, if the country's success is determined by direct fiscal policy, CEQ will help unveil which specific interventions account for success and why. Likewise, if the government is not successful in supporting a minimum living standard after taxes and transfers, CEQ will help identify the causes of failure and policy actions to improve the government's performance.

Figure 3 - CEQ: Diagnostic Tree
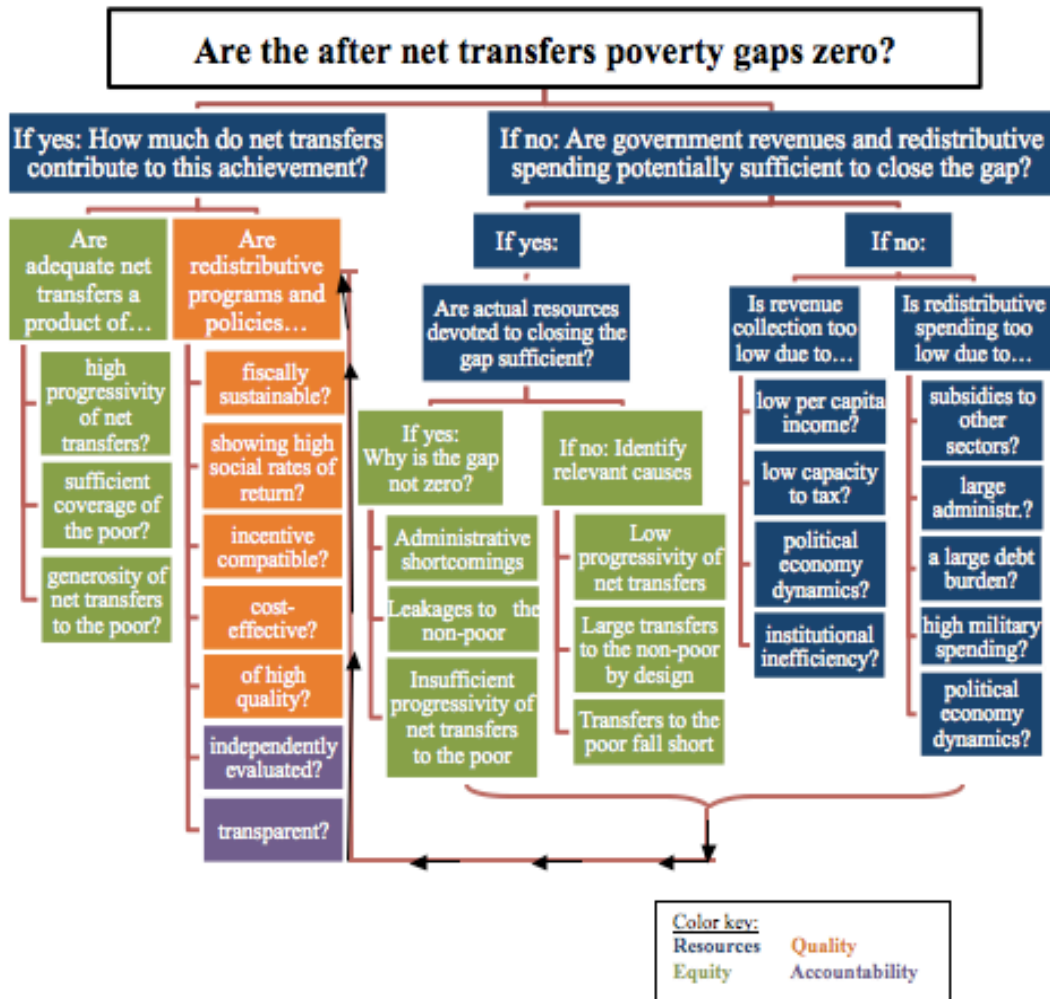
Suppose that, as in most developing countries, the disposable income poverty gap ratio is not zero. There are a number of reasons why that might be the case. In searching for the causes, we follow a logical sequence that will help us to identify the contributing factors and binding constraints. The first reason why the poverty gap is not zero might be that the government either collects too little revenue and/or spends too little for redistributive purposes. We can check that by comparing total revenues and total redistributive spending (defined below) with the *before* net transfers poverty gap (that is, the poverty gap estimated with market income). If it turns out that either or both are the cause, the next step is to check whether this is so because the country is too poor, the government's capacity to tax is too low or public spending is mainly on other items (military expenditures or debt servicing, for example).

In middle-income countries like most of the countries in Latin America, insufficient total fiscal resources or redistributive expenditures are not likely to be a cause for the disposable income poverty gap not being equal to zero. Even if enough resources are spent on redistributive programs and policies, redistributive spending allocated *to the poor* might not be enough to close the poverty gap. There are at least four—not mutually exclusive—causes for this. First, redistributive spending is regressive or not progressive enough. Second, regardless of how much is allocated to the non-poor—and, even if what is allocated to the poor is potentially sufficient—the poverty gap may not be zero because the safety net system does not cover the universe of the poor;[46] third, the perpoor person transfer might be lower than required; fourth, transfers among the poor might not be sufficiently progressive.[47]

In turn, the reasons mentioned above may be the result of several factors. The safety net system may benefit the non-poor or leave out some poor households intentionally. For example, "universal" social security systems often do not include agricultural workers and housekeepers. Cash transfers to the poor can exclude households without children, individuals who are below the age of 65, or undocumented migrants. Second, the design of programs may have unintended effects. For example, the participation costs may be too high for the poorest of the poor, or the eligibility cut-off and amount transferred might not be adjusted for differences in prices across regions within a country. Third, in practice the programs may leave out eligible individuals and include non-eligible individuals due to corruption, clientelistic politics or honest mistakes.

In the literature, the share of poor who do not receive benefits of safety net programs are called errors of exclusion and the share of non-poor who are beneficiaries are called errors of inclusion. However, we consider that it is useful to classify the "errors" of exclusion and inclusion into two groups: intentional and unintended errors of exclusion and inclusion. For simplicity, we shall call the <u>intentional</u> exclusion of the poor and inclusion of the non-poor as exclusion and leakage <u>by design.</u> The unintended errors will be called errors of exclusion and errors of inclusion. The latter could be caused by unintended failures in design or implementation of programs such as higher than anticipated participation costs, deficient information systems, clientelistic politics or corruption, underestimation of geographic isolation, higher than expected administrative costs, unanticipated leakages, lack of accrediting documentation among potential beneficiaries, or self-exclusion, among other factors.

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[46] Transfers could bring a portion of the poor way above the poverty line, for example, yet leave out some of the poor by design.

[47] Of course, another reason may be that direct taxes are not sufficiently progressive.

4. CEQ: Diagnostic Questionnaire

> **Policy Objective: Government makes substantial fiscal efforts to support a minimum standard of living and build the human capital of the poor in ways that reduce overall inequality and are broadly consistent with fiscal sustainability and economic efficiency**
> **Criteria: resources, equity, quality and accountability**

Step 1: Calculate basic indicators to determine whether goals are achieved (see section 6).

Step 2: After calculating the basic indicators, are the after net transfers income and human capital poverty gaps[48] (poverty gaps, from now onwards) zero?

If yes: => proceed to Step 3.

If no: => proceed to Step 5.

Step 3: If poverty gaps <u>are</u> zero (i.e., poverty is eradicated), which of the following factors explain this success?

      a. High economic growth and/or equitable (pro-poor) economic growth.
      b. Fiscal resources are sufficient and equitably collected and distributed. (To comment on this item, complete section E2 below)

Step 4: If the poverty gaps <u>are</u> zero, sections E2-E5 are designed to assess the contribution of the progressivity of net transfers, coverage of the poor, size of net transfers to the poor, and progressivity of net transfers among the poor, respectively, to achieving the goal of closing the poverty gaps. => Proceed to E2.

Step 5: If the poverty gaps <u>are not</u> zero, is it because total government revenues fall short and/or because the government does not allocate sufficient budgetary resources for redistributive spending purposes? => Proceed to R1

> **RESOURCES: Assesses whether government revenues and redistributive spending are <u>potentially</u>[49] sufficient with what would be required for supporting a minimum standard of living.**

R1. *Revenue Collection Effort*

    R1.1   Does the government collect sufficient combined resources to close the: i. before net transfers income poverty gap (market income poverty gap); ii. before net transfers human

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[48] For definitions of net transfers poverty gaps see section 6 of this handbook.
[49] For definitions, see Section 6.

capital gap; and, iii. before net transfers overall poverty gap, both in normal times and in the event of systemic shocks?[50]

R1.2   Are total revenues and tax revenues (as a percent of GDP) consistent with the country's GDP per capita?[51]

If the answer to R1.1 is yes, => proceed to question R2. If not, => proceed to R1.3.

R1.3   Explain why the government does not collect sufficient combined resources to close the i. before net transfers income poverty gap (market income poverty gap); ii. before net transfers human capital gap; and, iii. before net transfers overall poverty gap. Is it due to:[52]

   a. Low per capita income?
   b. Low capacity to tax/raise revenues? In turn, is the low capacity to tax due to:
        i. Political economy dynamics?
        ii. Institutional inefficiency?
        iii. Other (specify)?
   c. Other (specify)?

R2. *Redistributive Spending Effort*

R2.1   Does the government allocate sufficient budgetary resources for redistributive spending purposes to potentially close the: i. before net transfers income poverty gap (market income poverty gap); ii. before net transfers human capital gap; and, iii. before net transfers overall poverty gap, both in normal times and in the event of systemic shocks?

R2.2   Are total government spending and social spending (as a percent of GDP) consistent with the country's GDP per capita?[53]

If the answer to R2.1 is yes, => proceed to Step 7 (Equity section). If not, => proceed to R2.3 and then to Step 6.

R2.3   Explain why the government does not allocate sufficient budgetary resources for redistributive spending purposes to potentially close the: i. before net transfers income poverty gap (market income poverty gap); ii. before net transfers human capital gap; and, iii. before net transfers overall poverty gap, both in normal times and in the event of systemic shocks. Is it due to:

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[50] During systemic shocks a government may choose to use reserves or contingency funds. This should be counted as part of the total resources to smooth the impact of adverse systemic shocks.

[51] The answer to this question will depend on benchmarks that can be provided upon request.

[52] Throughout the questionnaire, the answers to a question such as "Is it due to…?" should be explained. For example, if political economy dynamics are identified as a cause for low capacity to tax, identify which dynamics and why.

[53] The answer to this question will depend on benchmarks that can be provided upon request.

a. Subsidies to other sectors?
   b. Overblown administration?
   c. A large debt burden?
   d. High military spending?
   e. Political economy dynamics?
   f. Other (specify)?

Step 6: If the poverty gaps <u>are not</u> zero <u>and</u> the government's total fiscal revenue and/or redistributive spending <u>are not sufficient</u> to close the poverty gap, poverty reduction might still be lower than it could be with the given redistributive spending. Sections E2 (progressivity of net transfers), E3 (coverage of the poor by safety net system[54]), E4 (generosity of net transfers to the poor) and E5 (progressivity of net transfers among the poor) are designed to identify policy actions that could further reduce poverty even when existing resources are insufficient. => Proceed to E2.

Step 7: If the government allocates sufficient budgetary resources for redistributive spending purposes, why is the poverty gap not zero? There could be several reasons: the share of redistributive spending going to the poor is insufficient; coverage of the poor is not universal; generosity of net transfers to the poor is too low; progressivity of transfers among the poor is too low. => Proceed to the Equity section.

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EQUITY: Assesses whether the <u>actual</u> level and allocation of redistributive spending as well as the range, design and implementation of programs and policies are consistent with supporting a minimum standard of living.

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E1. *Allocation of Redistributive Spending to the Poor*

   E1.1   Is the proportion of redistributive spending allocated to closing the before net transfers poverty gaps (on anti-poverty programs, basic education, basic health care, etc. as specified in public sector budget) sufficient, both in normal times and in the event of systemic shocks?

Step 8: If the goal of closing the poverty gaps is not achieved because the share of redistributive spending allocated to the poor is <u>insufficient</u>, E2 seeks to assess whether net transfers are not sufficiently progressive (in particular, because net transfers to the non-poor are too large). If the goal is not achieved but the share of redistributive spending allocated to the poor <u>is</u> sufficient, E2 seeks to assess the progressivity of the system. In either case, => proceed to E2.

E2. *Progressivity of Net Transfers*

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[54]Safety net system here can include redistributive programs not included under social spending.

E2.1   Are net transfers to the non-poor too large? To answer this question, estimate the amount and proportion of net transfers that reach the non-poor (based on household surveys and public sector budget). Is what remains insufficient to close the poverty gap?

E2.2   How equalizing/unequalizing is the distribution of net transfers and of specific programs and taxes?[55] To answer this question, calculate the incidence of specific programs,[56] policies, taxes,[57] and overall net transfers by: i. quantiles;[58] ii. poor vs. non-poor; and iii. other groupings. Calculate the Kakwani index of progressivity and the redistributive effect of all taxes individually and combined and all the flagship programs and policies individually and combined. Calculate the Reynolds-Smolensky index for all taxes individually and combined.

   a.   What is the progressivity of the tax (revenue-raising) system, total government spending, redistributive spending and net transfers overall?
   b.   What proportion of transfers for specific programs, total monetary transfers, policies (for example, education and health spending) and overall (the sum of all monetary and in-kind transfers) accrues to: i. the non-poor; ii. the middle range;[59] and iii. the richest 20, 10, 5, 1 and 0.1 percent?[60]
   c.   What is the average size of per capita net transfers going to: i. the non-poor; ii. the middle range; and iii. the richest 20, 10, 5, 1 and 0.1 percent?
   d.   How much of cash transfers (individually for flagship programs and combined for all cash transfers) goes to i. the bottom 20% and ii. the bottom 40% of the income distribution? This should be expressed in absolute terms (the value of transfers in local currency units), as a proportion of total cash transfers, and as a percent of GDP.
   e.   Which programs and policies are: i. progressive in absolute terms? ii. "neutral" in absolute terms; iii. progressive in relative terms; iv. neutral in relative terms; v. regressive?
   f.   What proportion of total redistributive spending is allocated to programs that are: i. progressive in absolute terms? ii. "neutral" in absolute terms; iii. progressive in relative terms; iv. neutral in relative terms; v. regressive?
   g.   Are income tax revenues and taxes on wealth (as a percent of GDP) consistent with the country's GDP per capita?[61]

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[55] Note that E3.1 asks for a list and description of all redistributive programs and policies. It might make sense to complete E3.1 before E2.2.

[56] Some surveys do not include questions directly asking about specific program benefits that a household might have received. There are three methods to determine whether a household received transfers from a specific program and quantify the benefits. See the "Definitions" subsection of Technical Definitions of Variables.

[57] Indicate whether the tax data is included in the survey or if it must be imputed, and if so, how it is imputed.

[58] Quantiles ideally should be centiles. If that is not feasible, use the smallest feasible quantile (by 5 percent, deciles and quintiles).

[59] The boundaries for middle range should be given by the non-poor that are not in the top 10 percent.

[60] The feasible level of disaggregation will depend on the representativeness of the surveys used for the calculations.

[61] The answer to this question will depend on benchmarks that can be provided upon request.

h. What proportion of taxes is paid by: i. the non-poor; ii. the middle range; iii. the richest 20, 10, 5, 1 and 0.1 percent?

i. Which taxes and revenue-raising mechanisms are: i. progressive; ii. neutral in relative terms; iii. regressive in relative terms; iv. "neutral" in absolute terms; v. regressive in absolute terms?

j. What proportion of taxes/government revenues is: i. progressive; ii. neutral in relative terms; iii. regressive in relative terms; iv. "neutral" in absolute terms; v. regressive in absolute terms?

k. Do government spending patterns significantly reduce inequality in access to and quality of services (including inequality between genders, ethnic/racial groups, socioeconomic groups and geographic locations)?

l. What proportion of flagship program and policy beneficiaries is: i. non-poor; ii. middle range; and iii. rich?[62]

m. What proportion of i. the non-poor, ii. the middle range and iii. the richest 20, 10, 5, 1 and 0.1 percent are flagship program and policy beneficiaries?

n. What impact has each flagship program and policy (individually and combined) had on inequality (as measured by the Gini coefficient)?

o. What is the simulated impact of each flagship program and policy (individually and combined) on inequality (as measured by the Gini coefficient), if there were perfect coverage and no leakages according to the program's eligibility rules?

p. How does the impact of each flagship program and policy (individually and combined) compare to the *simulated* impact on inequality, assuming perfect coverage and no leakages according to the program's eligibility rules?

q. Which programs and policies have the greatest benefits to the non-poor by design: formal sector insurance schemes, price subsidies, etc.?

r. Which programs and policies have the greatest benefits to the poor by design?

s. Which socioeconomic groups receive the bulk of net transfers going to the non-poor for specific programs, policies, taxes and overall? Possible groups include the near poor, low-income urban workers, corporatist unions, rent-seeking elites, etc.

t. Which socioeconomic groups do not pay their "expected" share of taxes?

E2.3 If the distribution of net transfers is not sufficiently equalizing, is it due to:

a. "Universalistic" welfare systems (by design, everybody has the right to a benefit and hence benefits going to the poor are too small)?

b. State-capture by ruling elites?

c. Distribution rules or patterns among federal and sub-national governments?

d. Other (specify)?

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[62] Calculate for the richest 20, 10, 5, 1 and 0.1 percent.

E2.4   Are benefits to the non-poor by design (i.e., intentional), or are there errors of inclusion (i.e., unintended beneficiaries receive benefits)? If there are errors of inclusion, are they due to:

    a. Unintended shortcomings in the diagnostic, design, dissemination and/or implementation of existing policies and programs?
    b. Clientelistic politics and/or corruption?
    c. Shortcomings in targeting mechanisms?
    d.   A discrepancy between the government's definition of poverty and the definition used here?
    e. Other (specify)?

E2.5   Which programs and policies with large benefits to the non-poor should be kept, and how could they be improved? Which programs and policies should be downsized, reformed or eliminated? In particular:

    a. Which programs and policies with large benefits to the non-poor should be kept, and what are the potential benefits (quantify if possible) of keeping those programs? To what groups would those benefits accrue?
    b. How can existing programs and policies (with or without large benefits to the non-poor) be improved with respect to their progressivity? What are the potential redistributive effect and potential benefits to the non-poor (quantify if possible) of the reforms proposed here?
    c. Which programs and policies with large benefits to the non-poor should be downsized or eliminated? Explain.

Step 9: If redistributive spending allocated to the poor <u>is</u> sufficient to close the poverty gaps, E3 seeks to assess whether poverty gaps are not zero because coverage of the poor is not universal. If redistributive spending allocated to the poor <u>is not</u> sufficient to close the poverty gap, E3 seeks to assess what would happen under the hypothetical situation that resources allocated to the poor were raised to the sufficient level; would the range of existing safety net programs cover the universe of the poor? => Proceed to E3

E3. *Coverage of the Poor of Specific Programs and the Safety Net System*

E3.1   List all redistributive programs and policies.[63] Examples of types of redistributive programs and policies are listed in the footnote below, and in Section 6. Be sure to include

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[63] The list should include all relevant policies and programs even if not all of them will be subject to the detailed analysis included in CEQ. Examples of programs: conditional or unconditional cash transfer programs; workfare or employment (or employment guarantee) programs; programs to protect poor households from the financial impact of illness, disability or death; programs to provide non-contributory health insurance; programs to prevent people from falling into

programs that help the poor cope with the effects of systemic shocks such as natural disasters, economic crises, epidemics, rising food and fuel prices, etc. Also be sure to include newer or recently implemented programs, even in the case of a program that is so recent that it is not captured by the household survey being used. For each program and policy, indicate the type of program (using the examples listed in the footnote as a guideline), provide a brief description of the program, and answer the following questions:

a. What are the program's target population and eligibility rules? In the case of monetary or in kind transfer programs, also describe any conditions attached to the program, the amount or value of the transfer, etc.
b. What is the program's budget? Report the budget in absolute terms, as a percent of social spending, as a percent of aggregate market income according to household surveys and as a percent of GDP.
c. How is the budget distributed? What proportion of the budget is devoted to administrative costs, salaries, capacity building, monetary transfers, services, investment, etc.?
d. How is the program financed?
e. What level of government is responsible for the design, implementation and evaluation of the program? If multiple levels of government are responsible, describe the responsibilities of each.
f. Under what circumstances was the program implemented? For example, was it implemented after a debate among policymakers, by decree, after a pilot study with impact evaluations, etc.?
g. Is there any other important information with regard to the operational or institutional aspects of the program?

E3.2   Is coverage sufficient? Estimate the following for each program and policy, or at least for the flagship program(s) and main policies (specify which programs and policies will be assessed), individually and combined:

a. What is the coverage rate among the poor? Is it close to 100 percent?
b. What is the coverage rate among relevant sub-groups within the poor (women, children, elderly, ethnic minorities, youth at risk, etc.)? Is it close to 100 percent?
c. If coverage of the programs combined is not close to 100 percent, what are the characteristics of the excluded (after net transfers) poor?

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poverty during old age; programs or policies specifically addressed to building human capital and assets of the poor; early childhood development programs for poor children; programs for pregnant and lactating poor women; programs for poor youth at risk; programs to increase school attendance of the poor (e.g., scholarships, school feeding programs, CCTs); programs to improve the poor's nutrition and health (e.g., food coupons, subsidized basic foodstuffs, nutritional supplements, etc.); programs to improve the poor's access to housing; programs to improve the poor's access to energy (e.g., differential prices); programs to improve the poor's access to credit and private insurance; programs to empower the poor; programs to reduce social exclusion and discrimination; programs to support/empower ethnic minorities; programs to empower women; programs to achieve other socially desirable objectives. Examples of policies: tax systems, public education systems, public health systems, pension systems, price subsidies, price support systems, subsidies to specific sectors (e.g., agriculture).

If coverage <u>is</u> close to 100 percent, explain what accounts for this success and proceed to E4. If coverage <u>is not </u>close to 100 percent, proceed to E3.3.

E3.3   If program/policy coverage is not close to 100 percent, what is the cause?

a. Does the combination of programs, safety nets and social policies jointly cover all the groups in need of assistance? For example:
    a. The chronic poor.
    b. The transient poor.
    c. Those in danger of falling below the poverty line after a systemic shock.
    d. Those affected by reforms.
    e. The vulnerable (pregnant and lactating women, the elderly, youth at risk, etc.).
    f. The socially excluded.
    g. Groups suffering from discrimination.
    h. Other (specify).
b. Do programs and policies leave out some of the poor by design (intentionally)? Who are they (for example, poor households without children or senior citizens, young adults, undocumented migrants, etc.)?
c. Why are poor people left out by design (intentionally)?
    i.   Political reasons.
    ii.   To leave out "undeserving" groups.
    iii. Discrimination.
    iv.   To minimize negative incentive effects.
    v.   To ensure fiscal sustainability.
    vi.   Fiscal austerity.
    vii. Other (specify).
d. Is there a limit to the number of beneficiaries that can enroll in the flagship programs? If so:
    i.   Is that limit below the total number of *eligible* households?
    ii.   Is that limit below the total number of *poor* households?
    iii. Is there a waiting list of eligible households that are not receiving program benefits? If so:
    iv.   How many households are on the waiting list (in absolute terms, as a proportion of current beneficiaries, and as a proportion of eligible households)?
e. If the poor are left out unintentionally, what explains the errors of exclusion/shortcomings in targeting?
    i.   Inadvertent gaps in the range of programs and policies.
    ii.   Unintended shortcomings in the design, dissemination and/or implementation of programs.
    iii. Unintentional consequences of rules regarding the distribution of resources among subnational governments.
    iv.   Administrative weaknesses.
    v.   Clientelistic policies and/or corruption.

  vi. Geographic isolation of certain poor groups.
  vii. Lack of accrediting documentation.
  viii. Lack of infrastructure.
  ix. Other (specify).
 f. Do safety net programs designed to protect the poor during systemic shocks (economic downturns, escalating food prices, natural disasters, etc.) exist? Do programs and policies have the capacity to increase the number of beneficiaries in the event of systemic shocks?

E3.4 Does the government make efforts to increase access of traditionally excluded or discriminated-against groups (afro-descendants, indigenous people, youth at risk, women, etc.) to:

 a. Antipoverty programs?
 b. Education?
 c. Affordable health care?
 d. The labor force?
 e. Equal pay?
 f. High-quality jobs?
 g. Other (specify)?

E3.5 What groups are more likely to be poor before and after transfers?[64] In particular:

 a. What groups are more likely to be poor before net transfers?
 b. What groups are more likely to be excluded (or not receive sufficient transfers to escape from poverty) from transfer programs?
 c. What groups are more likely to escape poverty due to fiscal policy (i.e., of the before transfers poor, they are more likely to no longer be in poverty after transfers)
 d. Based on what groups are more likely to escape poverty due to fiscal poverty, what implications does this have for the intergenerational cycle of poverty (quantify if possible)?

E3.6 What impact has each flagship program and policy had (individually and combined) on the headcount index, poverty gap ratio, and squared poverty gap ratio?

 a. In addition, what is the simulated impact of each flagship program and policy (individually and combined) on the headcount index, poverty gap ratio, and squared poverty gap ratio, if there was perfect coverage and no leakages according to the program's eligibility rules?
 b. How does the impact of each flagship program and policy (individually and combined) compare to the *simulated* impact on the headcount index, poverty gap

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[64] E3.5 should be analyzed using probit regressions. See Section 6.

ratio, and squared poverty gap ratio, assuming perfect coverage and no leakages according to the program's eligibility rules?

E3.7   Which programs and policies should be implemented or reformed to increase coverage of the poor? In particular:

    a. What existing programs and policies should be reformed to increase overall coverage of the poor? Explain how they should be reformed. What are the potential benefits to the poor and increases in coverage of the poor (quantify if possible) of the reforms suggested here?

    b. What existing programs and policies should be reformed to increase coverage of excluded sub-groups of the poor or underrepresented groups? Explain how they should be reformed. What are the potential benefits and increases in coverage of these sub-groups (quantify if possible) of the reforms suggested here?

    c. What new programs or policies should be implemented to increase overall coverage of the poor? Explain the ideal design of such programs. What are the potential benefits to the poor and increases in overall coverage of the poor (quantify if possible)?

    d. What new programs or policies should be implemented to increase coverage of excluded sub-groups of the poor or underrepresented groups? Explain the ideal design of such programs. What are the potential benefits and increases in coverage of these sub-groups (quantify if possible)?

    e. What programs or policies cover such a low proportion of the poor that they should be eliminated? Explain.

Step 10: If redistributive spending allocated to the poor <u>is</u> sufficient to close the poverty gaps, E4 seeks to assess whether the size of transfers to some of the poor is not large enough to bring them out of poverty. If redistributive spending allocated to the poor <u>is not</u> sufficient to close the poverty gaps, E4 seeks to assess what would happen under the hypothetical situation that resources allocated to the poor were raised to the sufficient level; would the size of transfers to some of the poor remain too small to bring them out of poverty?

E4. *Generosity of Net Transfers Among the Poor*

E4.1   Do net transfers per beneficiary to the poor fall short of what is needed to close the poverty gaps? To answer this question, estimate the average net transfers to the poor (per poor person) and the average poverty gap. How do they compare?

If net transfers per beneficiary to the poor <u>do not</u> fall short of what is needed to close the poverty gaps, explain what accounts for this success and proceed to E5. If they <u>do</u> fall short, proceed to E4.2.

E4.2   Does the design of programs and policies intentionally keep net transfers below sufficient levels? If yes, why?

a. Scarcity of resources.
b. To minimize negative incentive effects.
c. To ensure fiscal sustainability.
d. Fiscal Austerity.
e. Other (specify).

E4.3   Do net transfers to the poor fall short due to unintended shortcomings in program and policy allocation rules or budgetary decisions? If so, are they due to:

a. Administrative costs?
b. Rules regarding the distribution of resources among national and subnational governments?
c. Not adjusting the magnitude of transfers in the face of systemic shocks?
d. Other (specify)?

E4.4   Do net transfers fall short because the tax, fees and/or co-payments burden or other factors (such as transportation or labor opportunity costs) on the poor lower the real value of net transfers?

a. What would the poverty gap be if the poor paid zero direct and indirect taxes, fees and co-payments?
b. Which revenue-raising categories within the tax, fees and co-payments system place the highest burden on the poor?
c. Which revenue-raising categories should be downsized, reformed or eliminated to decrease the tax, fees and co-payments burden on the poor? Why and how?

E4.5   Which policies and programs should be implemented or reformed to increase the size of net transfers to the poor who remain in poverty? In particular:

a. What existing programs and policies should be reformed to increase the size of net transfers to the poor who remain in poverty? Explain how they should be reformed. What are the potential benefits to the poor and decreases in poverty (quantify if possible) of the reforms suggested here?
b. What new programs or policies should be implemented to increase the size of net transfers to the poor who remain in poverty? Explain the ideal design of such programs. What are the potential benefits to the poor and decreases in poverty (quantify if possible)?

Step 11: If redistributive spending allocated to the poor is sufficient to close the poverty gaps, E5 seeks to assess whether the progressivity of transfers among the poor is such that some do not escape poverty. If redistributive spending allocated to the poor is not sufficient to close the poverty gaps, E5 seeks to assess what would happen under the hypothetical situation that resources allocated to the poor were raised to the sufficient level; would the progressivity of transfers still prevent some of the poor from escaping poverty?

E5. *Progressivity of Net Transfers Among the Poor*

    E5.1   Are net transfers among the poor sufficiently progressively distributed? In particular:

        a.   What is the distribution of benefits among the poor? Estimate the squared after net transfers poverty gap ratio, after transfers poverty gaps among the poor by quantile and benefits incidence curves among the poor by quantile.

        b.   If net transfers among the poor are not sufficiently progressive, is it due to:
   - i. Administrative weaknesses?
   - ii. Mistakes in the design, dissemination and/or implementation of existing programs?
   - iii. Clientelistic policies and/or corruption?
   - iv. Rules regarding the distribution of resources among national and subnational governments disadvantage areas with the poorest of the poor?
   - v. The poorest of the poor suffer from systemic shocks more frequently, are hit harder by systemic shocks and/or are more likely to suffer systemic shocks, and the program or policy does not adjust the magnitude of transfers in the face of systemic shocks.
   - vi. Other (specify)?

    E5.2   Are the tax, fees and/or co-payments burdens or other factors (such as transportation or labor opportunity costs) on the poor higher for the poorest of the poor?

        a.   What would the squared poverty gap ratio be if the poor paid zero direct and indirect taxes, fees and co-payments? How does this compare with the (after transfers)[65] squared poverty gap ratio otherwise?

        b.   Which revenue-raising categories within the tax, fees and co-payments system place a higher burden on the poorest of the poor?

        c.   Which revenue-raising categories should be downsized, reformed or eliminated to decrease the tax, fees and co-payments burden on the poorest of the poor? Why and how?

    E5.3   Which policies and programs should be implemented or reformed to increase the progressivity of net transfers among the poor? Why and how?

        a.   What existing programs and policies should be reformed to increase the progressivity of net transfers among the poor? Explain how they should be reformed. What are the potential benefits to the poorest of the poor and increases in progressivity among the poor (quantify if possible) of the reforms suggested here?

        b.   What new programs or policies should be implemented to increase the progressivity of net transfers among the poor? Explain the ideal design of such programs. What

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[65] If an individual program or policy is being analyzed, "after transfers" refers only to the transfers from that program.

are the potential benefits to the poorest of the poor and increases in progressivity among the poor (quantify if possible)?

Step 12: Proceed to the Quality section.

QUALITY: Assesses whether the design and implementation of programs and policies[66] to support a minimum standard of living are broadly consistent with macroeconomic and microeconomic efficiency and whether the programs and policies implemented have high social returns as well as are cost-effective, of high quality and incentive compatible.

Q1. *Macroeconomic Efficiency*

> Q1.1   Is spending on programs consistent with broader goals of macroeconomic stability and growth? In particular:
>
> > a.   Are the costs of programs likely to be kept within reasonable bounds and not to become explosive? This analysis should be based on the current budgetary size of the program and projections of the future eligible population, based on demographic estimates and the probability of eligible poor families escaping the intergenerational poverty cycle.
> > b.   Are contributory and non-contributory social insurance systems sustainable?
>
> Q1.2   Does the government fund their spending on programs with non-distortionary taxes and not with windfalls from exceptional conditions (commodity price booms, proceeds from privatization, etc.), inflation tax, unsustainable (domestic or external) debt or by cutting resources available for other programs that benefit the poor and vulnerable?
>
> Q1.3   Does the government have fiscal space to implement counter-cyclical policies? If yes, does it use it?
>
> Q1.4   In the face of fiscal austerity, is spending on the poor relatively protected from cuts?

Q2. *Microeconomic Efficiency*

> Q2.1   Does the range of anti-poverty programs include those we know have the highest social rates of return (for example, programs which increase the human capital of poor children, reduce the incidence of crime, create local forward and backward linkages, make credit constraints for the poor non-binding, etc.)?
>
> Q2.2   Do the programs' actual social rates of return meet expectations?

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[66] Unless specified otherwise, throughout this section, "programs" refers to programs designed to support a minimum standard of living and "policies" refers to policies designed to support a minimum standard of living.

Q2.3   Are programs and policies incentive compatible? In particular, are negative incentive effects on labor supply, investment in human capital, saving, fertility, informality, private transfers, migration, etc. small?

Q2.4   Are programs cost-effective? In particular:

a.   Are leakages (in terms of beneficiaries and benefits) to non-intended groups small compared with international averages?
b.   Are operational costs as a percentage of the total budget within the range of international averages?

Q2.5   Are programs and policies of high quality? In particular:

a.   Are independent evaluations of programs positive?
b.   Are the results of independent program evaluations used to change the programs' design, implementation and resource allocation (including salaries of service providers)?
c.   What is the quality of social services for the poor in relation to the average quality of social services in the country and in relation to international standards?
d.   Does the government employ competent staff and pay competitive salaries for the design, implementation and evaluation of antipoverty programs and social services for the poor?
e.   Do programs designed to support a minimum standard of living have adequate and clear eligibility criteria and, when applicable, an "exit" strategy?

Q2.6   Are the mechanisms for allocation of resources and selection of beneficiaries sufficiently robust to protect the program from political manipulation and corruption?

a.   Does a register of beneficiaries exist that can be audited and evaluated?
b.   Does beneficiary selection depend on objective indicators that cannot be manipulated, such as numeric scores (i.e. a means test or proxy means test) or poverty mapping?
c.   Is the only justification for removal from the program if conditions are not fulfilled or if the beneficiary is no longer within the target population (for example, a child graduates from school)?
d.   Do transparent mechanisms exist to transmit complains and offer suggestions?
e.   Can public officials be held accountable by judicial mechanisms?

Q2.7   Is the tax and subsidy system broadly non-distortionary (in terms of productive and allocative efficiency)?

Q2.8   Are negative incentive effects of the tax system (and other revenue sources) on labor supply, investment in human capital, saving, fertility, informality, private transfers, migration, etc. small?

Q2.9   Is the tax productivity for direct and indirect taxes consistent with OECD standards?

Q2.10   Are negative incentive effects of programs not addressed to the poor (subsidies to industry and agriculture, for example) on labor supply, investment in human capital, saving, fertility, informality, private transfers, migration, etc. small?

Step 13: Proceed to the Accountability section.

ACCOUNTABILITY: Assesses the degree of accountability and transparency with respect to programs and policies designed to support a minimum standard of living.

A1. *Evaluation Systems*

A1.1   Does the country have credible mechanisms to do evidence-based program evaluations?

A1.2   Are independent evaluations an administrative or legal requirement of all programs and policies implemented by the government?

A1.3   In the case of in-kind transfers, are there independently validated indicators of quality for government services?

A1.4   Is the tax system subject to independent evaluations to determine the efficiency and equity of various types of taxes?

A2. *Adequacy and Transparency of Information Systems*

A2.1   Are the information sources to monitor poverty trends adequate? In particular:

   a.   Are the coverage, frequency and design of household surveys adequate to make reliable, comparable, national estimates of poverty?
   b.   Does the government make metadata and microdata from household surveys available?
   c.   Does metadata comply with the international standard for metadata documentation?

A2.2   Does the country have credible mechanisms for external validation of poverty measures?

A2.3   Is information to monitor progress on poverty reduction, evaluation methods and evaluation results made available to researchers, policy experts, the business community, civil society and policymakers outside the executive branch?

A2.4   Is information on the cost and budget of public services and programs publicly available? In particular:

a. Is information on the costs (administrative costs in particular) of services and flagship program(s) publicly available?

b. Is information on the (itemized) budget allocated to specific schools, health care facilities, etc. posted in visible places so users can see it?

A2.5   Does the government perform and publish incidence studies? In particular:

a. Does the government collect information to do incidence studies of taxes and government spending, and make the information available?

b. Is it a legal requirement for the government to provide incidence analysis to the legislatures during the budget approval process?

c. Does the government disclose its methods to do incidence analysis to researchers, policy experts, business community, civil society and policymakers outside the executive branch?

d. Does the country have credible mechanisms for external validation of government incidence studies?

A2.6   Does the government make income tax files available in the same way as most advanced OECD countries?

5. CEQ Indicators and Data Requirements

In what follows we describe the main concepts used by CEQ. In section 6 we present the technical definition of each variable.

Definition of Income Concepts: Market, Net Market, Disposable, Post-fiscal and Final (Table 1 and Figure 4)

Monetary market income[67] is defined as earned plus unearned (monetary) market incomes before government taxes and transfers. It should include net private transfers, net remittances, and net alimony payments. It should also include all pensions except pensions received from the non-contributory system.[68] *Total market income* equals earned plus unearned market incomes (monetary and non-monetary) before government taxes and transfers. It should include net private transfers, net remittances, net alimony payments, all pensions except those received from the non-contributory system AND imputed rent for owner-occupied housing and auto-consumption. *Net market income* equals (monetary or total) market income[69] minus direct taxes and employee contributions to social security. *Disposable income* equals net market income plus direct monetary transfers. *Post fiscal income* equals disposable income plus indirect subsidies (including indirect tax

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[67] Market income is also known as primary income.

[68] Some studies also define a concept called "factor income" which is equal to market income minus pensions from the contributory social security system.

[69] Note that the two different calculations for market income will lead to two different calculations for each definition of income.

expenditures) and minus indirect taxes. *Final income* equals post fiscal income plus in-kind transfers (e.g., imputed value of free or quasi-free government services particularly in education and health), minus in-kind taxes, co-payments in cash or in-kind (e.g., when beneficiaries of anti-poverty programs are required to contribute with inputs including labor inputs), user fees and participation costs (e.g., transportation costs and opportunity costs).
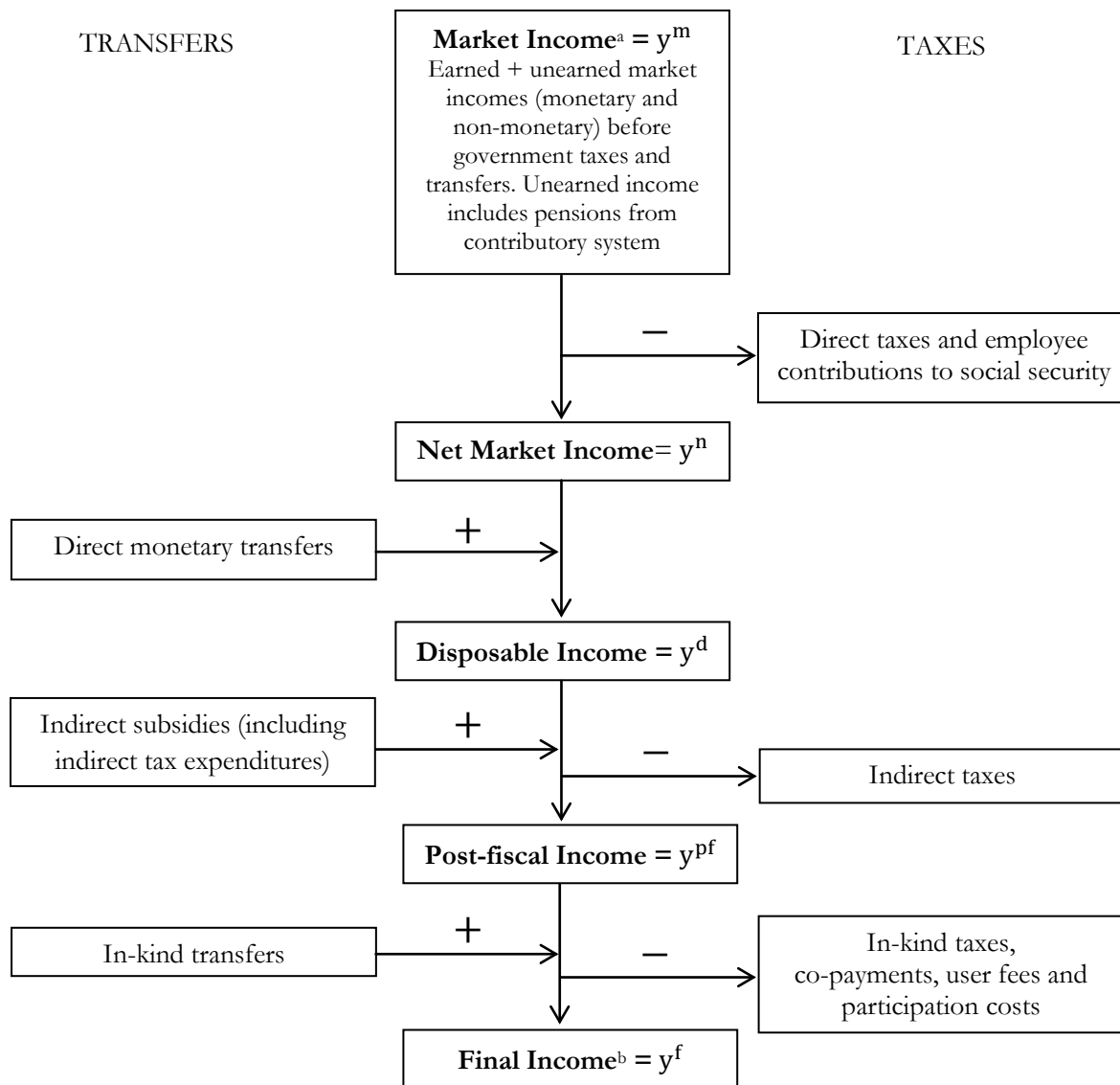
Table 1 - Definitions of Income Concepts

Market Income = y^m	Monetary: Earned plus unearned (monetary) market incomes before government taxes and transfers. It should include net private transfers, net remittances and net alimony payments. It should also include all pensions, except pensions received from the non-contributory system. Total: Earned plus unearned market incomes (monetary and non-monetary) before government taxes and transfers. It should include net private transfers, net remittances, net alimony payments, all pensions except those from the non-contributory system AND imputed rent for owner-occupied housing and auto-consumption.
Net Market Income = y^n	Market income y^m minus direct taxes and employee contributions to social security
Disposable Income = y^d	Net market income y^n plus direct monetary transfers
Post-fiscal Income = y^{pf}	Disposable income y^d plus indirect subsidies (including indirect tax expenditures) minus indirect taxes
Final Income = y^f or Final Income* = y^{*f}	Post-fiscal income y^{pf} plus in-kind transfers minus in-kind taxes, co-payments, user fees and participation costs. Because the necessary data to compute post-fiscal income will not be available in all countries, final income* y^{*f} equals disposable income y^d plus in-kind transfers minus in-kind taxes, co-payments, user fees and participation costs.

Source: Author's elaboration

Figure 4 – Definitions of Income Concepts: A Stylized Presentation

TRANSFERS

Market Income^a = y^m
Earned + unearned market incomes (monetary and non-monetary) before government taxes and transfers. Unearned income includes pensions from contributory system

TAXES

$-$ → Direct taxes and employee contributions to social security

Net Market Income= y^n

Direct monetary transfers $+$ →

Disposable Income = y^d

Indirect subsidies (including indirect tax expenditures) $+$ → $-$ → Indirect taxes

Post-fiscal Income = y^{pf}

In-kind transfers $+$ → $-$ → In-kind taxes, co-payments, user fees and participation costs

Final Income^b = y^f

^{a} There are actually two ways that Market Income should be calculated (note that the two different calculations for market income will lead to two different calculations for each definition of income). The two calculations are: 1) Monetary: Earned plus unearned (monetary) market incomes before government taxes and transfers of any sort. It should include net private transfers, net remittances, and net alimony payments. It should also include all pensions, except pensions received from the non-contributory system. 2) Total: Earned plus unearned market incomes (monetary and non-monetary) before government taxes and transfers of any sort. It should include net private transfers, net remittances, and net alimony payments, all pensions except those received from the non-contributory system AND imputed rent for owner-occupied housing and auto-consumption.
^{b} Because the necessary data (consumption data on goods and services to estimate the impact of VAT or sales taxes, for example) to compute post-fiscal income will not be available in all countries, for comparability another definition of income, final income*, should be presented. Final income* is defined as disposable income plus in-kind transfers and minus in-kind taxes, co-payments, user fees and participation costs.

Data on household market and disposable income can be obtained from standard household surveys (although sometimes there is no information on non-monetary income sources such as auto-consumption). Disposable income is obtained as a combination of available and imputed information depending on how data on income and taxes is collected in the surveys.[70] Indirect subsidies and indirect taxes to calculate post-fiscal income are usually imputed based on consumption data from household surveys (income-expenditure surveys). In-kind transfers are usually imputed based on the reported use of public services by individual households and reported workers' benefits, and the direct average cost of supplying the service based on public expenditures accounts.

Total Government Revenue

Total government revenue includes the total budgetary income of the federal government: tax and non-tax revenue plus income generated by direct budgetary controlled entities or public enterprises. In countries where revenue collected at the provincial or state level is important, the total will include the revenues obtained by governments at the subnational level.

Social and Redistributive Spending

To assess government efforts on the spending side we use *social spending* from public sector accounts and the concept of *redistributive spending*. Social spending as commonly defined in official government budgetary classifications and the concept of redistributive spending can be different. Social spending as reported in public sector accounts will typically include spending on education, health, social assistance and social security payments (the latter is only included in countries with a pay-as-you-go pension system).[71] It may also include other forms of social expenditures such as spending on water and sewerage, etc.[72] Redistributive spending includes spending on education, health, social assistance and social security (the latter will only be included in countries with a pay-as-you-go pension system) plus spending on indirect consumer subsidies (e.g., food, electricity and gasoline subsidies), some producer subsidies (e.g., agricultural producer subsidies), and "social" tax expenditures (exemption of VAT for certain foodstuffs). The information on redistributive spending has to be teased out

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[70] This varies by country. In some countries, household surveys report after direct taxes and social security contributions income only; in other countries, they report it before taxes. The problem is compounded because often wage income is after taxes but the situation of self-employment income is left unclear.

[71] For the purposes of CEQ, two versions of social security payments are used in the analysis, which leads to two versions of social spending and redistributive spending. The first version is total social security payments, equal to the total amount of pensions paid out by the government (from the contributory system). The second version is the subsidized portion of social security or the "social security deficit", equal to the total pensions paid out by the government (from the contributory system) minus employer and employee contributions to the contributory system. Note that non-contributory pensions (sometimes called "minimum pensions") are included as part of social assistance rather than social security.

[72] For comparability across countries, we also define "CEQ Social Spending" as exactly equal to the sum of education, health, social assistance and (in countries with a pay-as-you-go pension system) social security spending; see Section 6.

from public sector accounts at the federal level (and subnational level in the countries where study will include subnational government spending in the analysis). In some countries there is no information on other forms of redistributive spending; in such cases, one should confine the analysis to social spending.

Progressivity and Regressivity (Table 2 and Figure 5)

Since one criterion of the assessment of governments' fiscal interventions is based on the extent of their progressivity, this is a good place to review the definitions used in the literature of what constitutes a progressive tax and progressive transfer system. The most frequently used method to measure the progressivity (or regressivity) of government taxes and transfers is incidence analysis. In essence, incidence analysis consists of comparing the amount of transfers (taxes) received (paid) by population quantiles. Progressivity is measured in absolute terms, comparing transfers or taxes per capita among quantiles; or, it is measured in relative terms, comparing transfers or taxes as a share of each quantile's income. Thus, a transfer will be progressive (regressive) in absolute terms if the poorer one is, the larger (smaller) the size of the transfer one receives in per capita terms; a tax will be progressive (regressive) in absolute terms if the poorer one is, the less (more) one pays in per capita terms. A transfer will be progressive (regressive) in relative terms if the poorer one is, the larger (smaller) the size of the transfer one receives in relation to one's income; a tax will be progressive (regressive) in relative terms if the poorer one is, the less (more) one pays in relation to one's income (Table 2).[73]

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[73] See Lambert (2002) for a formal discussion. If a transfer is progressive (regressive) in absolute (relative) terms, it follows by definition that it must be progressive (regressive) in relative (absolute) terms, but the converse is not true. If a tax is progressive (regressive) in relative (absolute) terms, it follows by definition that it must be progressive (regressive) in absolute (relative) terms, but the converse is not true.

Table 2 - Definitions of Progressivity of Taxes and Transfers

	Taxes		Transfers	
	Relative	*Absolute*	*Relative*	*Absolute*
Progressive	Poorer people pay lower taxes in relation to their income. Post-fiscal income is *more equal* than market income.		Poorer people get larger transfers in relation to their income. Post-fiscal income is *more equal* than market income but *less equal* than when transfers are progressive in absolute terms.	Poorer people get larger transfers in per capita terms. Post-fiscal income is *more equal* than market income, <u>and</u> *more equal* than when transfers are progressive in only relative terms. Also called "pro-poor" transfers.
			If transfers are progressive in absolute terms, by definition they are progressive in relative terms. The converse is not true.	
Neutral	Everyone pays the same proportion of taxes in relation to their income. Market income and post-fiscal income distributions are the same.	Everyone pays the same amount of taxes in per capita terms. Post-fiscal income is *more unequal* than market income and *more unequal* than when taxes are regressive in only relative terms, but *less unequal* than when taxes are regressive in absolute terms.	Everyone receives the same proportion of transfers in relation to their income. Market and post-fiscal income distributions are the same.	Everyone receives the same amount of transfers in per capita terms. Post-fiscal income is *more equal* than market income and *more equal* than when transfers are progressive in only relative terms, but *less equal* than when transfers are progressive in absolute terms.
Regressive	Poorer people pay more taxes in relation to their income. Post-fiscal income is *more unequal* than market income but *less unequal* than when taxes are regressive in absolute terms.	Poorer people pay more taxes in per capita terms. Post-fiscal income is *more unequal* than market income <u>and</u> *more unequal* than when taxes are regressive in only relative terms.	Poorer people get smaller transfers in relation to their income. Post-fiscal income is *more unequal* than market income.	
	If taxes are regressive in absolute terms, by definition they are regressive in relative terms. The converse is not true.			

Figure 5 - Concentration Curves for Progressive and Regressive Transfers (Taxes)

6. Technical Definitions of Variables and Indicators

DEFINITIONS

Definition of Household

For comparability, we adopt the definition of a household used by SEDLAC, which excludes external members of the household: boarders (*inquilinos* in Spanish and *pensionistas* in Portuguese), domestic servants and their families are not considered part of the household, and must be dropped from the data set.[74]

NOTE: This definition of household is used to calculate all the measures of income per capita and equivalized income. It is important to note, however, that the poverty and inequality calculations will be in terms of *individuals* (for example, the incidence of poverty will equal the proportion of individuals whose income is below the poverty line) unless otherwise specified.

Definitions of Income

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[74] See CEDLAS and World Bank (2011).

NOTE: All the income variables will be calculated in per capita and equivalized units as defined below.

Per capita household income (y_i) *and equivalized household income* (y_i^{equiv})

For each definition of income below, individual i's per capita income y_i should be calculated in two ways: (1) dividing household income by the number of members in the household and (2) dividing household income by the equivalized number of members using the equivalence scales presently used by OECD[75] and LIS (for comparability with other studies).

$$y_i = \frac{Y_H}{M} \quad , \qquad y_i^{equiv} = \frac{Y_H}{\sqrt{M}}$$

where Y_H is the aggregate income of the household according to whichever definition of income is being used, and M is the number of household members.

1. *Market income* (y^m)

There are two ways that Market Income should be calculated (note that the two different calculations for market income will lead to two different calculations for each definition of income below). The two calculations are: 1) Monetary: Earned plus unearned (monetary) market incomes before government taxes and transfers of any sort. It should include net private transfers, net remittances and net alimony payments. It should also include all pensions except pensions received from the non-contributory system. 2) Total: Earned plus unearned market incomes (monetary and non-monetary) before government taxes and transfers of any sort. It should include net private transfers, net remittances and net alimony payments, all pensions except those received from the non-contributory system AND imputed rent for owner-occupied housing and auto-consumption.

2. *Net market income* (y^n)

Market Income y^m minus direct taxes and employee contributions to social security. Indicate whether taxes and contributions to social security are reported on the household survey or imputed from public accounts. If imputed, explain the imputation method in great detail so it could be replicated. If taxes are imputed, indicate whether only federal taxes are considered, or if sub-national taxes are included as well.

3. *Disposable income* (y^d)

Net market income y^n plus direct monetary transfers (except for contributory pensions which are counted as part of market income). Indicate which method was used to identify transfer recipients for each program (see "Identifying Transfer Recipients" below). For each program, explain how recipients were identified in great detail.

4. *Post-fiscal income* (y^{pf})

Disposable income y^d plus indirect subsidies (including indirect tax expenditures) minus indirect taxes. Indicate how indirect subsidies and taxes were assigned or imputed to households. For example, in the case of indirect taxes, were household consumption surveys used, or secondary sources that use consumption surveys? In either case, explain the methodology used in great detail so it could be replicated.

5. *Final income* (y^f)

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[75] OECD has been using the so-called "square root scale" since 2008 (OECD, 2008).

Post-fiscal income y^{pf} plus in-kind transfers minus in-kind taxes, co-payments and user costs. Indicate how in-kind transfers and in-kind taxes were assigned or imputed to households. Whenever possible, a <u>second estimate</u> of final income should include participation costs such as opportunity cost of waiting in line, transportation costs, etc. Indicate how participation costs were assigned or imputed to households. If imputed, explain the imputation method in great detail so it could be replicated.

6.   *Final income* (y^{*f})*

Because the necessary data (consumption data on goods and services to estimate the impact of VAT or sales taxes, for example) to compute post-fiscal income will not be available in all countries, for comparability final income*, defined as disposable income y^d plus in-kind transfers minus in-kind taxes, co-payments and user fees, should also be presented. Whenever possible, a <u>second estimate</u> of final income* should include participation costs such as opportunity cost of waiting in line, transportation costs, etc. Again, indicate how in-kind transfers, in-kind taxes, and participation costs were assigned or imputed to households. If imputed, explain the imputation method in great detail so it could be replicated.

Treatment of Income Underreporting

It is well-known that household income surveys tend to understate "true" income. This has several possible causes: people might underreport their own incomes (on purpose or by accident), surveys might fail to ask adequate questions to capture certain categories of income or might have too long of a recall period, and society's richest members are usually not captured by household surveys (especially under conditions of high inequality when a large share of national income is concentrated on a small fraction of the population). For this reason, some studies scale up household survey income to match a comparable definition of income in national accounts before estimating poverty. However, Deaton (2005) argues that the methodologies of computing income in national accounts should not be used when estimating poverty because they are upward-biased and not designed to generate poverty statistics. Thus, income should not be scaled up by national accounts when estimating poverty indicators. These include the income poverty gaps, human capital gaps, overall poverty gaps, multidimensional poverty index, poverty incidence curves, middle class incidence curves and probit analysis of the probability of being poor.

However, when calculating the incidence of public transfers over the whole distribution or inequality indicators, failing to adjust for income underreporting would necessarily overestimate the redistributive effect of in-kind transfers, as the monetary value of the transfers received by households is obtained from the budgetary cost of providing these transfers as reported in the public component of national accounts. In countries where direct taxes are imputed to households by applying the prevailing tax law (adjusted for tax evasion when the survey allows identification of informal employment) rather than directly reported in the household survey questionnaire, failing to adjust for income underreporting would also overestimate the redistributive effect of direct taxes. Thus, a second "scaled up" vector of income variables should be generated for each household, scaling up reported market income to national accounts. This scaling up is done by identifying the closest equivalent definition of income in national accounts, then aggregating the total population's market income according to the household survey and using the ratio of aggregate income in national accounts to aggregate income in the survey as a multiplier for each household's market income in the survey. From this scaled up market income, direct taxes and employee contributions

to social security are subtracted to arrive at net market income. If taxes are reported directly in the household survey, they should also be multiplied by the multiplier; if they are imputed to households, no multiplier adjustment should be made. When direct monetary transfers are added to arrive at disposable income, the same criteria is applied: if the transfer is reported on the survey, it is multiplied by the multiplier, but if it is imputed to households based on national accounts totals, it is not adjusted. The same criteria is applied to indirect subsidies, indirect taxes, in-kind transfers, in-kind taxes, co-payments, and user fees as they are added and subtracted from disposable income to arrive at the subsequent definitions of income: anything reported on the survey should be adjusted using the multiplier, while anything imputed to households based on national accounts should not be adjusted. The scaled up vector of income definitions should be used for all inequality and distribution-related indicators, such as the Gini coefficients, Theil index, 90/10, income distribution by deciles, Lorenz curves, concentration curves and concentration coefficients, incidence of transfers and taxes, anonymous and non-anonymous fiscal incidence curves, Kakwani index of progressivity, Reynolds-Smolensky index, redistributive effect, and impact on inequality of specific programs.

In sum, the original, non-adjusted vector of income definitions should be used for all poverty estimations, while a second, scaled up vector of income definitions should be used for all estimations related to income distribution, including estimations of inequality[76] and progressivity.

Treatment of Missing or Zero Incomes

When a survey respondent reports receiving a certain income source but does not report the value or reports a value of zero as their income from that source, we adopt the convention used by SEDLAC. Missing and zero incomes are regarded as zero, unless the household head's primary income source is missing or zero, in which case the household is excluded from the data (CEDLAS and World Bank, 2011).

Definitions of Poverty Lines

7. *Income poverty line* (z)

    The standard international income poverty lines are \$2.50 PPP per day (per capita) for extreme poverty and \$4 PPP per day (per capita) for poverty. To convert these poverty lines into local currency poverty lines, the PPP conversion rate should be selected for the same year as the survey. The PPP conversion rate should be based on private consumption rather than GDP; if obtained from the World Development Indicators Databank (http://databank.worldbank.org), the series "PPP conversion factor, private consumption

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[76] Scaled up income should be used for all inequality estimations, even though it is not necessary for estimating the Gini coefficients of market income and (if taxes are reported on the survey rather than imputed based on prevailing tax law) net market income. In those cases, the Gini coefficient will be the same regardless of whether income is scaled up, as scaling up market income does not change the market income distribution. However, for post-fiscal income, final income, and final income*, as well as for net market income if taxes are imputed, scaling up is necessary to avoid over-estimating the impact of (imputed taxes and) in kind transfers. To minimize the risk of error, we therefore recommend using the scaled up vector of income for *all* inequality estimations.

(LCU per international \$)" should be used. The monthly international poverty line in local currency is equal to the PPP per day poverty line times the PPP conversion factor (of local currency units per PPP dollar), times 365 days per year, divided by 12 months per year. For example, in the case of Brazil, the private consumption-based PPP conversion factor for 2009 (the same year as the household survey being used for Brazil) is 1.71 Brazilian reais = \$1 PPP, so the \$4 PPP per day international poverty line would be converted into local currency (reais) per month as follows:

$$\frac{\$4 \text{ PPP}}{1 \text{ day}} \times \frac{1.71 \text{ reais}}{\$1 \text{ PPP}} \times \frac{365 \text{ days}}{1 \text{ year}} \times \frac{1 \text{ year}}{12 \text{ months}} = \frac{208.50 \text{ reais}}{1 \text{ month}}$$

Thus, the \$4 PPP per day international poverty line is equivalent to 208.50 reais per month. A relative poverty line set at 50% of national median per capita disposable income should also be used to allow for comparability with the same figures calculated for advanced countries.

If a national or official poverty line (or set of official regional poverty lines) is available, it/they should be used as well.

The various poverty gap calculations should be performed using each of the poverty lines mentioned above.

8. *Education "Poverty Line" (Critical Level)*

The critical level of schooling is 12 years for upper middle income countries and 9 years for lower middle income countries. However, estimates should be done for both critical levels for comparability.

9. *Health "Poverty Line" (Critical Level)*

The critical level for health is the per capita cost of a basic health insurance or a basic health package.

Definitions of Macroeconomic Variables

The macroeconomic variables should be expressed in local currency (where applicable). In addition, they should be from the same year in which the household surveys used to calculate poverty were conducted. Preferably, they should be obtained from national accounts. Please specify the source used for each indicator. Include the hyperlink or a copy of the page where the information came from for verification purposes.

10. *Gross Domestic Product* (GDP)

If obtained from the World Development Indicators Databank, the series "GDP (current LCU)" should be used.

11. *Population according to national accounts*

Population counts all residents regardless of legal status or citizenship--except for refugees not permanently settled in the country of asylum. Preferably, national statistics on total population should be used. If instead taken from the World Development Indicators Databank (http://databank.worldbank.org), the series "Population, total" should be used.

12. *Population according to the household survey* (N)

A second figure for population should be reported based on the expanded sample of the household survey being used to estimate poverty.

13. *Total government revenues*

Total government revenues include the total budgetary income of the federal/central government: tax and non-tax revenue plus income generated by direct budgetary controlled entities or public enterprises. In countries where revenue collected at the provincial or state level is important, the total should include the revenues obtained by governments at the subnational level if possible. Specify whether subnational revenue is included, and if so, include one figure with all revenues and one with only federal/central revenues (for comparability with other countries).

14. *Total government spending*

Total government spending according to public sector accounts. It should include all social spending, all administrative spending, spending on housing, water, sanitation, etc., spending on economic subsidies, servicing external debt, military spending, etc. It should include both recurrent spending and investment spending (e.g. in education, health, and infrastructure). If you are including subnational spending and taxes in your study, it should include subnational spending. Write down specific definition of total government spending used in your study and specify whether it is federal/central only or the latter plus subnational.

15. *Social spending*

Social spending as reported in public sector accounts, which will typically include spending on education, health, social assistance and total social security payments (the latter will only be included in countries with a pay-as-you-go pension system [*sistema de reparto* in Spanish] rather than an individual accounts system). It may also include other forms of social expenditures such as spending on water and sewerage, etc. For comparability, a separate figure for "CEQ Social Spending" should be reported, which will be exactly equal to the sum of education spending, health spending, social assistance spending, and (only in countries with a pay-as-you-go pension system [*sistema de reparto* in Spanish]) social security spending. The latter will be the total that is paid out, i.e. it will include both the contributions from employers and employees as well as the subsidized portions of social security if the social security system shows a deficit for the year of the survey. Furthermore, CEQ Social Spending should be disaggregated into the four categories listed above. In addition, the total social security paid out (in countries with a pay-as-you-go pension system [*sistema de reparto* in Spanish]) should be disaggregated into two categories: the contributory portion (total contributions from employees and employers) and the subsidized portion or "social security deficit" (the difference between the amount the government pays out and the amount it receives in contributions to the social security system).

Include the definitions used in your country for each category of social spending.

16. *Social spending minus employers and employees' contributions to social security*

This variable only applies to countries with a pay-as-you-go pension system (*sistema de reparto* in Spanish) rather than an individual accounts system. Based on the definitions of social spending above, report social spending minus employee and employer contributions to social security, CEQ Social Spending minus employee and employer contributions to social security, and total social security paid out minus employee and employer contributions to social security. The latter is equivalent to the subsidized portion of social security, also known as the "social security deficit".

17. *Social spending allocated to the poor*

Based on the definition of social spending, consider what is targeted to the poor, i.e. allocated to anti-poverty programs, basic education, basic health care, etc. as specified in the public sector budget. In addition, report the social spending allocated to the poor that is

monetary only (i.e., subtract out in kind transfers targeted to the poor such as spending on basic education, basic health care, food stamps, school feeding programs, etc.). Include definitions used in your country. If your country does not include a category of public targeted spending on the poor, estimate it to the best approximation and include a description of what was included.

18. *Redistributive spending*

Redistributive spending includes spending on education, health, social assistance and social security (the latter will only be included in countries with a pay-as-you-go pension system [*sistema de reparto* in Spanish]), plus spending on indirect consumer subsidies (e.g., food, electricity and gasoline subsidies), some producer subsidies (e.g., agricultural producer subsidies), and "social" tax expenditures (exemption of VAT for certain foodstuffs). The information on redistributive spending has to be teased out from public sector accounts at the federal level (and subnational level in the countries where study will include subnational government spending in the analysis). In some countries there is no information on forms of redistributive spending that do not fall into the category of social spending; in such cases, one should confine the analysis to social spending. Include a definition of what you are able to include in redistributive spending in your country study.

19. *Redistributive spending minus employers and employees' contributions to social security*

This variable only applies to countries with a pay-as-you-go pension system (*sistema de reparto* in Spanish) rather than an individual accounts system. Based on the definition of redistributive spending above, report redistributive spending minus employee and employer contributions to social security.

20. *Redistributive spending allocated to the poor*

Based on the definition of redistributive spending, consider what is targeted to the poor, i.e. allocated to anti-poverty programs, basic education, basic health care, etc. as specified in public sector budget. In addition, report the social spending allocated to the poor that is monetary only (i.e., subtract out in kind transfers targeted to the poor such as spending on basic education, basic health care, food stamps, school feeding programs, etc.) Include a definition of what you are able to include in redistributive spending allocated to the poor in your country study.

Definition of Net Transfers

Net transfers equals transfers (and subsidies whenever applicable) minus taxes (and co-payments, fees, etc. whenever applicable). Which transfers and taxes are included depends on the definition of income being used. For example, for post-fiscal income, "net transfers" includes direct monetary transfers, indirect subsidies (including indirect tax expenditures), direct taxes and employee contributions to social security, and indirect taxes (such as VAT on consumption).

Identifying Transfer Recipients

Direct Identification Method
On some surveys, questions specifically ask if households received benefits from certain social programs, and how much they received. When this is the case, it is easy to identify transfer recipients and add or remove the value of the transfers from their income, depending on the definition of income being used.

Inference Method
Unfortunately, not all surveys have this information. In some cases, transfers from social programs are grouped with other income sources (in a category for "other income", for example). In this case, it might be possible to infer which families received a transfer based on the value they report in that income category.

Simulation Method
In the case that neither the direct identification nor the inference method can be used, transfer benefits should be simulated. For example, in the case of a conditional cash transfer that uses a proxy means test to identify eligible beneficiaries, one can replicate the proxy means test using survey data, identify eligible families, and simulate the program's impact. However, this method gives you the potential impact of transfers with perfect targeting and no errors of inclusion or exclusion. In order to correct for the overestimation of the incidence of benefits, you can use information on the errors of inclusion and exclusion estimated for your own or other countries.

NOTE: It is very important to specify which transfer identification method you are using for each program AND to present results separately by method.

Treatment of Pensions

As mentioned under the definitions of income, all pensions except pensions received from the non-contributory system should be included in market income. Pensions received from the non-contributory system (sometimes called "minimum pensions") are social assistance, thus they are not included in market income; they are treated as a government transfer and included in disposable income.

Including all pensions except those from the non-contributory system as part of market income is a simplification; in countries with a "pay-as-you-go" pension system, employee and employer contributions into the social security system can be smaller than the amount paid out by the system (occasionally or frequently), which results in a social security deficit that is financed by the government. In this case, a portion of pensions should technically be considered a subsidy; however, there is no way to identify from the household surveys whose pensions are coming from the subsidized portion of the social security system, and whose pensions are coming from the contributory pool. As a result, all pensions except those from the non-contributory system will be considered part of market income for all calculations of poverty, inequality, dominance tests, anonymous and non-anonymous fiscal incidence curves, etc.

When calculating concentration coefficients as part of the incidence analysis, however, the subsidized portion of social security must be considered a subsidy, and must be imputed to households. We propose two methods to impute how the subsidized portion of social security was distributed among households (calculations should be provided using both methods): a) divide the total social security deficit by the number of people who receive pensions and assign the per capita value to each individual who received a pension; b) assign the subsidy in proportion to the pensions each household received (i.e., the subsidized portion of pensions are distributed identically to total pensions). These two methods will give a lower and upper bound for the incidence of the subsidized

portion of pensions. In tables and text related to CEQ, report the range of concentration coefficients (given by the lower and upper bound mentioned above) when reporting the incidence of the subsidized portion of pensions.

When calculating the incidence of various categories of government spending, calculate three versions: one without the subsidized portion of social security, one with the subsidized portion of social security distributed according to method (a), and one with the subsidized portion of social security distributed according to method (b).

BASIC INDICATORS[77]

Income Poverty Gaps

NOTE: Poverty gaps should be reported in local currency, and should be yearly. Calculations are to be performed using all the selected poverty lines and with income in both per capita and equivalized terms (definitions are above).

21. *Before Net Transfers Income Poverty Gap or Market Income Poverty Gap* (PG^m)
    The sum of the distances between each poor person's market income y^m and the income poverty line. Poor people are defined here as people whose market income y^m is below the income poverty line z.
    $PG^m = \sum_i z - y_i^m$ for $i = 1, \dots, Q^m$ and for all $y_i^m < z$
    where Q^m is the headcount of the market income poor (defined below).

22. *After Direct Taxes Income Poverty Gap or Net Market Income Poverty Gap* (PG^n)
    The sum of the distances between each poor person's net market income y^n and the income poverty line. Poor people are defined here as people whose net market income y^n is below the income poverty line z.
    $PG^n = \sum_i z - y_i^n$ for $i = 1, \dots, Q^n$ and for all $y_i^n < z$
    where Q^n is the headcount of the net market income poor (defined below).

23. *After Direct Net Transfers Income Poverty Gap or Disposable Income Poverty Gap* (PG^d)
    The sum of the distances between each poor person's disposable income y^d and the income poverty line. Poor people are defined here as people whose y^d is below the income poverty line z.
    $PG^d = \sum_i z - y_i^d$ for $i = 1, \dots, Q^d$ and for all $y_i^d < z$
    where Q^d is the headcount of the disposable income poor (defined below).

24. *After Direct and Indirect Net Transfers Income Poverty Gap or Post-Fiscal Income Poverty Gap* (PG^{pf})
    The sum of the distances between each poor person's post-fiscal income y^{pf} and the income poverty line. Poor people are defined here as people whose y^{pf} is below the income poverty line z.

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[77] The Basic Indicators, as well as the macroeconomic variables above and other variables that will be estimated while completing the Diagnostic Questionnaire, will be presented in tables and figures. To facilitate this process we have created an Excel workbook called CEQ: Template for Tables and Figures. This version of the Handbook corresponds to version 3.0 (July 2011) of the Template.

$PG^{pf} = \sum_i z - y_i^{pf}$ for $i = 1, ..., Q^{pf}$ and for all $y_i^{pf} < z$

where Q^{pf} is the headcount of the post-fiscal income poor (defined below).

25. *After Direct, Indirect and In-kind Net Transfers Income Poverty Gap or Final Income Poverty Gap* (PG^f)

    The sum of the distances between each poor person's per capita final income y^f and the income poverty line. Poor people are defined here as people whose y^f is below the income poverty line z.

    $PG^f = \sum_i z - y_i^f$ for $i = 1, ..., Q^f$ and for all $y_i^f < z$

    where Q^f is the headcount of the final income poor (defined below).

26. *After Direct and In-kind Net Transfers Income Poverty Gap or Final Income* Poverty Gap* (PG^{*f})

    The sum of the distances between each poor person's final income* y^{*f} and the income poverty line. Poor people are defined here as people whose y^{*f} is below the income poverty line z.

    $PG^{*f} = \sum_i z - y_i^{*f}$ for $i = 1, ..., Q^{*f}$ and for all $y_i^{*f} < z$

    where Q^{*f} is the headcount of the final income poor (defined below).

27. *Headcount of the Income Poor* (Q^j)

    The number of people whose per capita income y_i is less than the poverty line z. Multiple headcounts should be calculated, using each definition of income and different poverty lines. The superscript j refers to each definition of income (i.e., $j = m, n, d, pf, f, f^*$).

28. *Income Poverty Headcount Index* (P_0^j)

    The number of people whose per capita income y_i is less than the poverty line z, expressed as a percentage of the total population. Multiple headcount indices should be calculated, using each definition of income and different poverty lines. The superscript j refers to each definition of income (i.e., $j = m, n, d, pf, f, f^*$).

    $P_0^j = \frac{Q^j}{N}$

    where N is the total population according to the household survey.

29. *Income Poverty Gap Ratio* (P_1^j)

    The sum of the distances between each poor person's income and the poverty line, divided by total population and expressed as a percentage of the poverty line. Multiple poverty gap ratios should be calculated, using each definition of income and different poverty lines. The superscript j refers to each definition of income (i.e. $j = m, n, d, pf, f, f^*$).

    $P_1^j = \frac{1}{N} \sum_{i=1}^{N} \left(\frac{z - y_i}{z} \right)$

    where N is the total population according to the household survey and $z - y_i$ takes a value of 0 when $y_i \geq z$.

30. *Squared Income Poverty Gap Ratio* (P_2^j)

    The sum of the squared distances between each poor person's income and the poverty line, divided by total population and expressed as a percentage of the poverty line. This indicator takes the distribution of income among the poor into account by weighting the distance that each poor person's income is below the poverty line. Multiple squared poverty gap ratios should be calculated, using each definition of income and different poverty lines. The superscript j refers to each definition of income (i.e. $j = m, n, d, pf, f, f^*$).

$$P_2^j = \frac{1}{N}\sum_{i=1}^{N}\left(\frac{z-y_i}{z}\right)^2$$

where N is the total population according to the household survey and $z - y_i$ takes a value of 0 when $y_i \geq z$.

NOTE: The Income Poverty Headcount Index, Income Poverty Gap Ratio, and Squared Income Poverty Gap Ratio should also be calculated before and after transfers (using market and final income) for the following subgroups of the poor: male-headed vs. female-headed households, age of household head (grouped as less than 25 years old, 25-40, 41-64, 65 or more), different racial or ethnic groups, urban vs. rural households, etc. These calculations only need to be performed using income per capita (without equivalence scales) using the $2.50 and $4 PPP per day poverty lines.

Human Capital Gaps

31. *Total Demand for Education Coverage Among the Market Income Poor* (EG^{bt})
    Calculated by multiplying the number of children in poor households times the relevant cost (public spending) per student (taking into account the different costs by level) plus the required demand-side subsidies to keep children in school. Children are defined as individuals between 6 and 18 years old (inclusive) and poor children are defined as children who live in households whose per capita or equivalized market income y^m is below the corresponding poverty line z. Poor children who have already achieved the critical level of schooling are not included in the calculation. Poor children who are not enrolled in school <u>are included</u> in the calculation of total demand for education among the market income poor, and treated as belonging to the level (primary, lower secondary, etc.) to which their age corresponds. Poor children who are enrolled in school but behind are treated as belonging to the level that corresponds to their age, not the actual level in which they are enrolled. The critical level of schooling is 12 years for upper middle income countries and 9 years for lower middle income countries (inclusive), but calculations should be done using both critical levels for comparability purposes. Information should be presented for the whole "gap", but also by the number of poor children in the relevant age group, the average per capita cost by level, and the "gap" by level.

    $$EG^{bt} = \Sigma_l\left[\frac{\text{Annual public spending on education at level } l}{N_l}(Q_l) + (\text{required subsidy per poor student at level } l \times Q_l)\right]$$

    where N_l is the total number of students at level l (l = primary, lower secondary, secondary, tertiary) and Q_l is the total number of *poor* school age children at level l

32. *Total Demand for Health Coverage Among the Market Income Poor* (HG^{bt})
    Calculated by imputing the cost of providing a standard health package to all the market income poor. Equivalently, the cost of a basic health insurance or package per insured person times the headcount of the market income poor.

    $$HG^{bt} = (\text{Total cost of basic health insurance package per insured person}) \times Q^m$$

33. *Before Net Transfers Human Capital Gap* (HKG^{bt})
    The sum of the total demand for education coverage among the market income poor and the total demand for health coverage among the market income poor.

    $$HKG^{bt} = EG^{bt} + HG^{bt}$$

34. *After Net Transfers Education Coverage Gap* (EG)

Method I: the after net transfers education coverage gap is equal to the before transfers Education Coverage Gap minus actual education spending on the market income poor (defined below).

$$EG = EG^{bt} - ESP \qquad \text{(Method I)}$$

Method II: An alternative method to calculate the After Net Transfers Education Coverage Gap is based on the number of years that poor students are behind in school, as well as the number of years missed by poor students who are not attending school. In this case, the gap is equal to the sum of the number of years that poor students are behind in school or have missed, times the relevant cost (public spending) per student per year (taking into account the different costs by level. As an example, in Bolivia primary education consists of eight years. The gap corresponding to a poor student who, according to his or her age, should be in ninth grade, but is instead in fourth grade, would be four years (of primary school) times the average cost per student of one year of primary school, plus one year (of lower secondary) times the average cost per student of one year of lower secondary school.

$$EG = \sum_l \left[\frac{\text{Annual public spending on education at level } l}{N_l} (A_l) + (\text{required annual subsidy per poor student at level } l \times A_l) \right] \text{ (Method II)}$$

where N_l is the total number of students at level l (l = primary, lower secondary, secondary, tertiary) and A_l is the total number of years that poor students are behind in school or that poor students who are no longer enrolled in school have missed.

35. *Actual Education Spending on the Market Income Poor* (ESP)

Calculated using standard benefit incidence analysis, by multiplying the number of children in poor households attending public school times the relevant cost (public spending) per student plus the actual demand-side subsidies given to poor households, all by level.

36. *After Net Transfers Health Coverage Gap* (HG)

The before net transfers Health Coverage Gap minus actual government health spending on the market income poor (defined below).

$$HG = HG^{bt} - HSP$$

37. *Actual Health Spending on the Market Income Poor* (HSP)

Calculated using standard benefit incidence analysis: that is, imputing the amount of government subsidized health-related goods and services received by all the market income poor. "Received" will be measured two ways: by use of services and by rights of access to health services. The former is calculated as follows: the number of households who report using the contributory or non-contributory public health services at least once times the cost of the basic health package. The latter is calculated by multiplying the number of households who are covered by contributory or non-contributory public health services times the cost of the basic health package.

38. *After Net Transfers Human Capital Gap* (HKG)

The sum of the after net transfers education coverage gap and the after net transfers health coverage gap.

$$HKG = EG + HG$$

Overall Poverty Gaps

39. *Before Transfers Overall Poverty Gap* (OPG^{bt})

The sum of the Before Net Transfers Income Poverty Gap and the Before Net Transfers Human Capital Gap

$OPG^{bt} = PG^{bt} + HKG^{bt}$

40. After Transfers Overall Poverty Gap (OPG)

The sum of the After Net Transfers Income Poverty Gap and the After Net Transfers Human Capital Gap. Multiple After Transfers Overall Poverty Gaps should be calculated, using each of the definitions of income (except market income) and selected poverty lines.

$OPG = PG + HKG$

Multidimensional Poverty Index

NOTE: The multidimensional poverty index is of lower priority than other indicators included in CEQ, since CEQ already addresses the multidimensionality of poverty by including the human capital gap. Under time constraints, the multidimensional poverty index can be calculated last.

We use the multidimensional poverty index (MPI) adopted by the United Nations Development Programme's 2010 Human Development Report (UNDP, 2010; see in particular pp. 94-100 and technical note 4, pp. 221-222). The MPI is a member of the M_α class of multi-dimensional poverty measures proposed by Alkire and Foster (2011).[78] It measures ten dimensions of poverty under three categories: health, education, and standard of living. Each category is given an equal weight of $1/3 \times 10 = 10/3$, where 10 is the total number of dimensions. In the health category, there are two dimensions: child mortality and nutrition. In the education category, there are two dimensions: years of schooling and child school attendance. In the standard of living category, there are six dimensions: electricity, drinking water, sanitation, flooring, cooking fuel and assets. Within each category, each dimension is given an equal weight. Thus, the two dimensions under health each have a weight of $1/2 \times 10/3 = 5/3$, the two dimensions under education also each have a weight of $5/3$ and the six dimensions under standard of living each have a weight of $1/6 \times 10/3 = 5/9$. Let the weight assigned to dimension j be denoted w_j.

Every member of a household is considered deprived in the respective dimension if: any child in the family has died (**child mortality**); any member of the household is malnourished (**nutrition**); no household member has completed at least five **years of schooling**; any school-aged child (up to grade 8) is out of school (**child school attendance**); the household does not have access to **electricity**; the household does not have access to clean **drinking water**; the household does not have access to adequate **sanitation** or its own toilet; the **flooring** is dirt, sand or dung; the **cooking fuel** used is wood, charcoal, or dung; and the household does not own a car or truck *and* does not own *more than one* of the following **assets**: radio, television, telephone, bicycle, motorcycle, refrigerator.

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[78] Specifically, the MPI corresponds to the M_0 measure, which is the appropriate measure when one or more of the dimensions being considered is ordinal or categorical. The MPI assigns specific dimensions, weights, and cutoffs to the M_0 methodology (Alkire and Santos, 2010).

Following Alkire and Santos (2010), denote an $N \times 10$ deprivation matrix (where N is the total number of individuals and 10 is the total number of dimensions being considered) by g^0, and let the ijth entry of g^0 be defined as follows:

$$g_{ij}^0 = \begin{cases} w_j \text{ when individual } i \text{ is deprived in dimension } j \\ 0 \text{ if individual } i \text{ is not deprived in dimension } j \end{cases}$$

Recall that if *any member* of a household meets the corresponding deprivation criteria above, all members of that household are considered deprived in that dimension. For example, if any member of the household is malnourished, *all* members of the household are considered deprived in the nutrition dimension. This reflects the externalities experienced within households: one child dying or one family member being malnourished (as examples) can have negative impacts on all members of the household. Furthermore, households can experience positive externalities when (as examples) all of the children are enrolled in school or the parents have completed a certain amount of schooling.

Next, construct a column vector c of deprivation counts, whose ith entry will equal the sum of weighted deprivations suffered by individual i, or in mathematical terms: $c_i = \sum_{j=1}^{10} g_{ij}^0$.

Intuitively, c_i is simply the total number of deprivations suffered by individual i (adjusted by the weight assigned to each deprivation). A cut-off k must be defined to determine the amount of weighted deprivations an individual must suffer to be considered multidimensionally poor. As in UNDP (2010), we consider individual i multidimensionally poor if $c_i \geq 3$ and vulnerable to becoming multidimensionally poor if $2 \leq c_i < 3$. Because each dimension under health or education has a weight of $5/3$ and each dimension under standard of living has a weight of $5/9$, the cut-off $k = 3$ corresponds to being deprived in at least two dimensions from health or education or six dimensions from standard of living, or a combination thereof.

To aggregate the number of deprivations suffered by the multidimensionally poor into the MPI measure, construct two censored deprivation vectors $g^0(k = 3)$ and $g^0(k = 2)$ by replacing row i of g^0 with a zero vector if $c_i < k$. The MPI is simply the arithmetic mean of the matrix $g^0(k = 3)$, and the vulnerability-adjusted MPI is the arithmetic mean of the matrix $g^0(k = 2)$.[79] The latter includes both the multidimensionally poor and those vulnerable to becoming multidimensionally poor.

If a country has adopted a different multidimensional poverty index in its official reporting (e.g., Mexico), multidimensional poverty using the official methodology should also be reported.

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[79] Using summation notation, the MPI is equal to $\frac{1}{N}\frac{1}{10}\sum_{i=1}^{N}\sum_{j=1}^{10} g_{ij}^0 (k = 3)$ and the vulnerability-adjusted MPI is equal to $\frac{1}{N}\frac{1}{10}\sum_{i=1}^{N}\sum_{j=1}^{10} g_{ij}^0 (k = 2)$.

Poverty Incidence Curves

Graph the poverty incidence curves, with the cumulative proportion of the population on the vertical axis and income per capita on the horizontal axis (or, equivalently, the headcount ratio on the vertical axis and different possible income poverty lines on the horizontal axis). In one graph, graph the poverty incidence curves for each definition of income and set the maximum value on the horizontal axis equal to $10 PPP per day, which has been used in studies that look at not only the currently poor but also those that are vulnerable to poverty. Include vertical lines for the poverty lines of $1.25 PPP per day, $2.50 PPP per day, $4 PPP per day and $10 PPP per day. Also include a vertical line for the official national poverty line, converted into PPP per day, if applicable. Test for stochastic dominance, and when stochastic dominance does not occur, report at what poverty line value(s) the curves intersect.

Middle Class Incidence Curves

On another graph, graph the middle class incidence curves for each definition of income. The middle class incidence curves are identical to poverty incidence curves except the maximum value on the horizontal access is set to reflect an upper bound of what it means to be middle class rather than what it means to be poor (or vulnerable to becoming poor, as above). Set the maximum value on the horizontal axis equal to $100 PPP per day, which has been used in studies to define the upper bound of the middle class in developing countries. Include vertical lines for the middle class lines of $2 PPP per day, $4 PPP per day, $10 PPP per day, $13 PPP per day, $50 PPP per day and $100 PPP per day.[80] Also include a vertical line for the official national middle class line, converted into PPP per day, if applicable. Test for stochastic dominance between the minimum middle class line of $2 PPP per day and the maximum line of $100 PPP per day, and when stochastic dominance does not occur, report at what poverty line value(s) the curves intersect.

Probit Analysis of the Probability of Being Poor

Estimate a probit regression to predict the probability of being poor before net transfers (using market income), using only the household heads as observations. Possible independent variables include geographical region, gender, marital status, educational attainment, age, race, number of children (or a dummy variable equal to 1 if the household has children), precarious location (i.e. a

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[80] The $2 PPP per day line corresponds to the lower threshold for the middle class in developing countries used in Banerjee and Duflo (2008) and Ravallion (2009). Ravallion (2009, p. 4) defines the lower threshold of the developing world's middle class as "those who are not deemed 'poor' by the standards of developing countries". Since we use $4 PPP per day as the moderate poverty line, that line corresponds to the lower threshold for middle class when applying Ravallion's definition to Latin America. The $10 PPP per day line corresponds to both the upper bound for the middle class in Banerjee and Duflo (2008) and the lower bound in Kharas (2010) and Ferreira et al. (2012, forthcoming). The $13 PPP per day line corresponds to the upper bound proposed by Ravallion (2009), which was chosen because it is approximately equal to the US poverty line in 2005, and therefore fits his definition of the developing world's middle class, who "are still poor by the standards of rich countries" (p. 4). The $50 PPP per day line corresponds to the upper bound proposed by Ferreira et al. (2012, forthcoming). The $100 PPP per day line corresponds to the upper bound proposed by Kharas (2010).

dummy variable equal to 1 if living in a shantytown), and urban/rural. Please specify how the variables are defined (i.e. how urban and rural areas are defined).

Second, estimate a probit regression to predict the probability of remaining poor despite net transfers (equivalently, this is the probability of being poor using final income, conditional on being poor using market income). Compare the coefficients of the two probit regressions in a table and a graph (and also report the standard errors), and summarize who is most likely to be poor before net transfers and who is most likely to remain poor despite government transfers.

Inequality

41. Market Income Gini (G^m)

Graphically, the market income Gini is represented by twice the area between the market income Lorenz curve and the line of equality. The market income Lorenz curve maps the cumulative share of market income on the vertical axis against the cumulative share of the population, ordered by market income, on the horizontal axis.

$$G^m = 2 \int_0^1 \left(p - \mathrm{L}(p) \right) dp$$

where p is the cumulative proportion of the total population when individuals are ordered in increasing income values using market income (graphically, p is also equivalent to the line of perfect equality) and $\mathrm{L}(p)$ is the Lorenz curve.

Recall that scaled-up market income must be used for inequality indicators.

42. Net Market Income Gini (G^n)

Net Market Income Gini should be calculated by the same method as above, using scaled-up net market income to construct the Lorenz curve.

43. Disposable Income Gini (G^d)

Disposable Income Gini should be calculated by the same method as above, using scaled-up disposable income to construct the Lorenz curve.

44. Post-fiscal Income Gini (G^{pf})

Post-fiscal Income Gini should be calculated by the same method as above, using scaled-up post-fiscal income to construct the Lorenz curve.

45. Final Income Gini (G^f)

Final Income Gini should be calculated by the same method as above, using scaled-up final income to construct the Lorenz curve.

46. Final Income* Gini (G^{*f})

Final Income* Gini should be calculated by the same method as above, using scaled-up final income* to construct the Lorenz curve.

47. Other Inequality Measures

Also include calculations for the Theil index, the 90/10, and the income distribution by deciles for each income definition. In addition, include any other inequality measures that you deem appropriate. Recall that the scaled-up versions of each income definition must be used.

Lorenz Curves

Plot Lorenz curves for each definition of income, with cumulative proportion of income on the vertical axis and the cumulative proportion of the population on the horizontal axis. Recall that the scaled-up versions of each income definition must be used. Check for Lorenz dominance.

Concentration Curves and Concentration Coefficients

Plot concentration curves, with cumulative proportion of benefits received or taxes paid on the vertical axis and cumulative proportion of the population ranked by market income on the horizontal axis. On one graph, plot concentration curves for the flagship programs and policies and all transfers combined. On the same graph, also plot the market income Lorenz curve and the 45 degree line so it is easy to visualize which transfers are regressive, relatively progressive, etc. On another graph, plot concentration curves for the main taxes (income tax, IVA, etc.), and all taxes combined, as well as a market income Lorenz curve and the 45 degree line.

Provide a table with the concentration coefficients of the flagship programs and policies, main categories of government spending, and all transfers combined. For all programs (including subsidies) and taxes (including indirect taxes), briefly identify how benefits or taxes were assigned or imputed to households in a note under the graphs. In addition, create a "bubble graph" with the concentration coefficient on the vertical axis and the proportion of the program that reaches the poor along the horizontal axis. The size of the bubbles will reflect actual (as opposed to budgeted) spending on the program and different colors will be used to classify the different categories of spending (such as education, health, targeted transfers, consumer subsidies, etc.). If your country has a social security deficit, use method (a) described under "Treatment of Pensions" to report the concentration coefficient of pensions in the bubble graph.

Distribution and Incidence of Transfers and Taxes

Divide the population into deciles based on market income, and report the distribution of total redistributive spending, total social spending, social spending allocated to the poor, education spending, health spending, social assistance spending, social security spending, other social spending, and "non-social spending" (that is, redistributive spending that does not qualify as social spending). For spending categories that include pensions, calculate the distribution and incidence three ways: one without the subsidized portion of social security, one with the subsidized portion of social security distributed according to method (a), and one with the subsidized portion of social security distributed according to method (b) (see "Treatment of Pensions"). In the same table, report the distribution of total taxes, direct taxes, indirect taxes, and contributions to social security, all by decile. Also in the same table, report the decile incidence of each of these categories of spending and taxes. Recall that the scaled-up versions of each income definition must be used.

Anonymous Fiscal Incidence Curves

Plot anonymous fiscal incidence curves[81] with the percent change in income on the vertical axis and the population, divided into percentiles and allowing for re-ranking, on the horizontal axis. As an

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[81] Fiscal incidence curves are similar to growth incidence curves; fiscal incidence curves measure change in income before and after taxes and transfers, whereas growth incidence curves measure change in income at two points in time.

example, a fiscal incidence curve would compare the market income of the poorest decile of the population ranked by market income to the final income of the poorest decile of the population ranked by final income, noting that the poorest decile in these two cases will most likely not be composed of the same individuals. Recall that the scaled-up versions of each income definition must be used.

On one graph, plot five anonymous fiscal incidence curves, comparing change in income between: (1) market income and net market income; (2) market income and disposable income; (3) market income and post-fiscal income; (4) market income and final income; and (5) market income and final income*. If possible, divide the population into deciles. Allow for re-ranking of individuals. Check for first and second order dominance.

On another graph, plot five anonymous fiscal incidence curves, comparing change in income between: (1) market income and net market income; (2) net market income and disposable income; (3) disposable income and post-fiscal income; (4) post-fiscal income and final income; (5) disposable income and final income*. Again, for all curves, allow for re-ranking and divide the population into deciles. Check for first and second order dominance.

Non-Anonymous Fiscal Incidence Curves

Plot non-anonymous fiscal incidence curves with the percent change in income on the vertical axis and the population, divided into deciles based on market income, on the horizontal axis. In contrast with anonymous fiscal incidence curves, non-anonymous fiscal incidence curves do not allow a re-ranking of individuals between the initial and terminal points.[82] As an example, a traditional fiscal incidence curve would compare the market income of the poorest decile of the population ranked by market income to the final income of *the exact same individuals*, not the final income of the poorest decile as ranked by final income. Recall that the scaled-up versions of each income definition must be used.

On one graph, plot five non-anonymous fiscal incidence curves, comparing change in income between: (1) market income and net market income; (2) market income and disposable income; (3) market income and post-fiscal income; (4) market income and final income; and (5) market income and final income*. For all curves, individuals should be ranked by *market income* on the horizontal axis. If possible, divide the population into deciles. Do not re-rank individuals (i.e., for the curve that compares change between market income and final income, one compares market incomes of the poorest percentile of the population ranked by market income to the final incomes of the same individuals, not to the final incomes of the poorest percentile when the population is re-ranked by final income). Check for first and second order dominance.

On another graph, plot five non-anonymous growth incidence curves, comparing change in income between: (1) market income and net market income; (2) net market income and disposable income; (3) disposable income and post-fiscal income; (4) post-fiscal income and final income; (5) disposable income and final income*. Again, for all curves, individuals should be ranked by *market income* on the

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[82] See Bourguignon (2010) on non-anonymous growth incidence curves. Non-anonymous fiscal incidence curves are similar to non-anonymous growth incidence curves (see previous footnote).

horizontal axis, and the population should be divided into deciles. Check for first and second order dominance.

On another graph, compare the anonymous and non-anonymous fiscal incidence curves for the change in income between market income and disposable income (or, if market income is not available, compare anonymous and non-anonymous fiscal incidence curves for the change in income between net market income and disposable income).

Government Effort – NOTE: In order to ensure comparability among countries, these benchmark regressions are provided by the author; DO NOT estimate them

48. *Government Revenue Effort* (**GRE**)
    Government revenue effort is calculated by performing ordinary least squares (OLS) regressions of log GDP per capita (PPP) against total government revenues as a percent of GDP of all countries for which data is available. The country's government revenue effort is equal to two times its residual value (actual value minus predicted value) divided by the standard deviation of the residual, plus five.
    $$\text{GRE} = \left(2 \times \frac{\text{Residual value}}{Std(\text{residual})}\right) + 5$$

49. *Tax Collection Effort* (**TCE**)
    Tax collection effort is calculated by performing ordinary least squares (OLS) regressions of log GDP per capita (PPP) against total tax revenues as a percent of GDP of all countries for which data is available. The country's tax collection effort is equal to two times its residual value (actual value minus predicted value) divided by the standard deviation of the residual, plus five.
    $$\text{TCE} = \left(2 \times \frac{\text{Residual value}}{Std(\text{residual})}\right) + 5$$

50. *Income Tax Collection Effort* (**ITCE**)
    Income tax collection effort is calculated by performing ordinary least squares (OLS) regressions of log GDP per capita (PPP) against tax revenues on income, profits, and capital gains as a percent of GDP of all countries for which data is available. The country's income tax collection effort is equal to two times its residual value (actual value minus predicted value) divided by the standard deviation of the residual, plus five.
    $$\text{ITCE} = \left(2 \times \frac{\text{Residual value}}{Std(\text{residual})}\right) + 5$$

51. *Wealth Tax Collection Effort* (**WTCE**) (when available)
    Wealth tax collection effort is calculated by performing ordinary least squares (OLS) regressions of log GDP per capita (PPP) against tax revenues on property as a percent of GDP of all countries for which data is available. The country's wealth tax collection effort is equal to two times its residual value (actual value minus predicted value) divided by the standard deviation of the residual, plus five.
    $$\text{WTCE} = \left(2 \times \frac{\text{Residual value}}{Std(\text{residual})}\right) + 5$$
    Note: the necessary data is currently not available to calculate the WTCE.

52. *Government Spending Effort* (**GSE**)
    Government spending effort is calculated by performing ordinary least squares (OLS) regressions of log GDP per capita (PPP) against government spending as a percent of GDP

of all countries for which data is available. The country's government spending effort is equal to two times its residual value (actual value minus predicted value) divided by the standard deviation of the residual, plus five.

$$GSE = \left(2 \times \frac{\text{Residual value}}{Std(\text{residual})}\right) + 5$$

53. Social Spending Effort (SSE)

Social spending effort is calculated by performing ordinary least squares (OLS) regressions of log GDP per capita (PPP) against social spending as a percent of GDP of all countries for which data is available. The country's social spending effort is equal to two times its residual value (actual value minus predicted value) divided by the standard deviation of the residual, plus five.

$$SSE = \left(2 \times \frac{\text{Residual value}}{Std(\text{residual})}\right) + 5$$

DEFINITIONS FOR QUESTIONNAIRE

Resources

R1.1
Sufficient combined resources

Combined resources collected by the government is sufficient to close a poverty gap if its value is strictly larger than the value of the poverty gap.

R1.2
Consistent

Total revenues are consistent with the country's GDP per capita if the government revenue effort (GRE) (defined under Basic Indicators) is greater than 5. Tax revenues are consistent with the country's GDP per capita if the tax collection effort (TCE) (defined under Basic Indicators) is greater than 5.

R1.3
Low per capita income

Latin American countries can be classified as having low per capita income if they have 2009 GDP per capita of less than $4000 PPP per year.

R2.1
Sufficient (resources allocated to redistributive spending)

Redistributive spending is potentially sufficient to close the poverty gap if its value is strictly larger than the value of the poverty gap.

R2.2
Consistent

Government spending is consistent with the country's GDP per capita if the government spending effort (GSE) (defined under Basic Indicators) is greater than 5. Social spending is consistent with the country's GDP per capita if the social spending effort (SSE) (defined under Basic Indicators) is greater than 5.

R2.3
High military spending

According to the Stockholm International Peace Research Institute (SIPRI), high military spending is defined as military spending greater than 4% of GDP.

NOTE: we do not provide figures that might serve as a benchmark for large subsidies to other sectors, overblown administration, or a large debt burden; it will be up to the country experts to determine if these factors might explain why the government does not allocate sufficient resources to redistributive spending.

Equity

E1.
Sufficient (proportion of redistributive spending allocated to closing the before net transfers poverty gaps)
   The proportion of redistributive spending allocated to closing the before net transfers poverty gaps is potentially sufficient to close the poverty gap if its value is strictly larger than the value of each poverty gap.
E2.1
Too large (net transfers to the non-poor)
   Net transfers to the non-poor are too large if total net transfers is sufficient to close the poverty gap but total net transfers allocated to the poor is not.
E2.2
Quantiles
   Quantiles ideally should be percentiles. If that is not feasible, twentieth-tiles, deciles or quintiles can be used.
Kakwani index of progressivity (K)
   For taxes: [83] Graphically, the Kakwani index of tax progressivity is twice the area between the market income Lorenz curve and the tax concentration curve. If the tax concentration curve is above the Lorenz curve, the Kakwani index will be negative, which indicates that taxes are regressive in relative terms. Equivalently, the Kakwani index can be calculated as the tax's concentration coefficient (with the population ranked by market income) minus the market income Gini. Recall that the scaled-up version of market income must be used.
   $K^{\text{tax}} = D_m^{\text{tax}} - G^m$
   where D_m^{tax} represents the concentration coefficient of a particular tax when the population is ranked by market income.
   For transfers:[84] The Kakwani index of transfer progressivity is the negative of the right hand side of the equation above. This adjustment is made because in the case of transfers, regressivity occurs when the transfer concentration curve lies *below* the market income Lorenz curve. Thus, taking the negative of the right hand side of the above equation ensures that a negative Kakwani index still corresponds to regressivity.
   $K^{\text{transfer}} = -(D_m^{\text{transfer}} - G^m)$
   where D_m^{transfer} represents the concentration coefficient of a particular transfer when the population is ranked by market income.
Redistributive effect (RE)
   Redistributive effect measures the change in Gini due to a particular transfer (or tax). Graphically, the redistributive effect is twice the area between the market income Lorenz curve and the Lorenz curve corresponding to market income plus a particular transfer

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[83] See Kakwani (1977).

[84] See Lambert (1985 and 1988).

(minus a particular tax). Note that the Lorenz curve for market income plus a transfer (minus a tax) re-ranks the population by income plus the transfer (minus the tax). Equivalently, redistributive effect can be calculated as the market income Gini minus the Gini coefficient corresponding to market income plus a particular transfer (minus a particular tax). Recall that the scaled-up version of market income must be used.

$$RE = G^m - G^{m+\text{transfer}\,(m-\text{tax})}$$

Note: while redistributive effect was originally expressed in the literature as a percentage change in Gini (by dividing by G^m), the modern treatment is to express it as a *percentage point* change in Gini.[85]

Reynolds-Smolensky index (RS)

Graphically, the Reynolds-Smolensky is twice the area between the market income Lorenz curve and the concentration curve of market income minus a particular tax. Note that the concentration curve of market income minus a particular tax is not the same as the Lorenz curve of market income minus a particular tax, as the concentration curve does not re-rank the population (population is still ranked by market income), whereas the Lorenz curve would re-rank the population (population would be re-ranked by market income minus the particular tax). Equivalently, the Reynolds-Smolensky can be calculated as the market income Gini minus the concentration coefficient of market income minus a particular tax when the population is ranked by market income. Recall that the scaled-up version of market income must be used.

$$RS = G^m - D_m^{m-\text{tax}}$$

where $D_m^{m-\text{tax}}$ represents the concentration coefficient of market income minus a particular tax when the population is ranked by market income.

Middle range

The boundaries for middle range should be given by the non-poor (using a poverty line of $4 PPP per capita per day) that are not in the top 10 percent of the income distribution.

Progressive in absolute terms (programs and policies)

Poorer people get larger transfers in per capita terms. Post-fiscal income is *more equal* than market income, and *more equal* than when transfers are progressive in only relative terms. Also called "pro-poor" transfers.

Progressive in relative terms (programs and policies)

Poorer people get larger transfers in relation to their income. Post-fiscal income is *more equal* than market income but *less equal* than when transfers are progressive in absolute terms. If transfers are progressive in absolute terms, by definition they are progressive in relative terms. The converse is not true.

"Neutral" in absolute terms (programs and policies)

Everyone receives the same amount of transfers in per capita terms. Post-fiscal income is *more equal* than market income and *more equal* than when transfers are progressive in only relative terms, but *less equal* than when transfers are progressive in absolute terms.

Neutral in relative terms (programs and policies)

Everyone receives the same proportion of transfers in relation to their income. Market and post-fiscal income distributions are the same.

Regressive (programs and policies)

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[85] See Urban (2009).

Poorer people get smaller transfers in relation to their income. Post-fiscal income is more unequal than market income.

Consistent

Income tax revenues are consistent with the country's GDP per capita if the income tax collection effort **ITCE** (defined under "Basic Indicators") is greater than 5. Taxes on wealth are consistent with the country's GDP per capita if the wealth tax collection effort **WTCE** (defined under "Basic Indicators") is greater than 5.

Progressive (taxes)

Poorer people pay less taxes in relation to their income. Post-fiscal income is *more equal* than market income.

Neutral in relative terms (taxes)

Everyone pays the same proportion of taxes in relation to their income. Market income and post-fiscal income distributions are the same.

"Neutral" in absolute terms (taxes)

Everyone pays the same amount of taxes in per capita terms. Post-fiscal income is *more unequal* than market income and *more unequal* than when taxes are regressive in only relative terms, but *less unequal* than when taxes are regressive in absolute terms.

Regressive in relative terms (taxes)

Poorer people pay more taxes in relation to their income. Post-fiscal income is *more unequal* than market income but *less unequal* than when taxes are regressive in absolute terms.

Regressive in absolute terms (taxes)

Poorer people pay more taxes in per capita terms. Post-fiscal income is *more unequal* than market income and *more unequal* than when taxes are regressive in only relative terms.
If taxes are regressive in absolute terms, by definition they are regressive in relative terms. The converse is not true.

Impact on inequality

The impact of each program or policy on inequality is measured as its impact on the market income Gini, independent of the other programs (i.e., the impact of each individual program assumes the other programs do not exist). Calculate the Gini (and other inequality measures) using market income plus transfers from *one* program or policy. The market Gini after program *j* should be recorded, as well as the percent reduction in the Gini caused by the program:

$$\text{Impact} = \frac{G^m - G^{m+\text{transfer}}}{G^m}$$

This should be done for each flagship program or policy, always beginning with market income and only adding the transfers from one program. The combined impact must be calculated the same way, by calculating the Gini using market income plus combined transfers from the flagship programs and policies. NOTE that the combined impact is not equal to the sum of their impacts or the sum of the percentage point Gini reductions caused by each program. Recall that the scaled-up version of market income must be used.

Simulated impact on inequality

The simulated impact of each program is measured as its impact on the market income Gini, independent of the other programs (i.e., the impact of each individual program assumes the other programs do not exist). Simulate the impact of *one* program or policy by assuming that it has perfect targeting (no leakages to non-eligible households) and complete coverage of the target population (all eligible families receive the appropriate transfer) according to the

program's eligibility rules. The market Gini after program j should be recorded, as well as the percent reduction in the Gini caused by the program:

$$\text{Simulated impact} = \frac{G^m - G^{m+\text{simulated transfer (with perfect coverage and targeting)}}}{G^m}$$

This should be done for each flagship program or policy, always beginning with market income and only adding the transfers from one program. The combined simulated impact must be calculated the same way, by calculating the Gini using market income plus simulated combined transfers from the flagship programs and policies, assuming perfect coverage and targeting. NOTE that the combined simulated impact is not equal to the sum of their simulated impacts or the sum of the percentage point Gini reductions caused by each simulated program. Recall that the scaled-up version of market income must be used.

E3.1

Redistributive programs and policies

Examples of programs: conditional or unconditional cash transfer programs; workfare or employment (or employment guarantee) programs; programs to protect poor households from the financial impact of illness, disability or death; programs to provide non-contributory health insurance; programs to prevent people from falling into poverty during old age; programs or policies specifically addressed to building human capital and assets of the poor; early childhood development programs for poor children; programs for pregnant and lactating poor women; programs for poor youth at risk; programs to increase school attendance of the poor (e.g., scholarships, school feeding programs, CCTs); programs to improve the poor's nutrition and health (e.g., food coupons, subsidized basic foodstuffs, nutritional supplements, etc.); programs to improve the poor's access to housing; programs to improve the poor's access to energy (e.g., differential prices); programs to improve the poor's access to credit and private insurance; programs to empower the poor; programs to reduce social exclusion and discrimination; programs to support/empower ethnic minorities; programs to empower women; programs to achieve other socially desirable objectives. Examples of policies: tax systems, public education systems, public health systems, pension systems, price subsidies, price support systems, subsidies to specific sectors (e.g., agriculture).

Coverage rate among the poor

The percentage of the poor that are covered by the specific programs and overall. Equivalently, number of covered poor divided by total number of poor.

Coverage rate among relevant sub-groups

The percentage of members of each sub-group that are covered by the specific program. Equivalently, the number of covered members of the sub-group divided by the total number of members of the sub-group. Note that all members of the sub-group are poor by definition.

E3.2

Safety nets

Examples of targeted safety net programs include cash transfers, food stamps, school feeding programs, food-for-work, and food distribution programs.

E3.4

More likely to be poor

Based on the Probit Analysis of the Probability of Being Poor, defined under Basic Indicators.

More likely to be excluded

Based on the Probit Analysis of the Probability of Being Poor, defined under Basic Indicators.

E3.5

Impact on the headcount index, poverty gap ratio, and squared poverty gap ratio

See the instructions for calculating the impact on inequality above, and replace G^m with P_0^m, P_1^m, and P_2^m using the original, unadjusted (not scaled up) version of market income.

Simulated impact on the headcount index, poverty gap ratio, and squared poverty gap ratio

See the instructions for calculating the simulated impact on inequality above, and replace G^m with P_0^m, P_1^m, and P_2^m using the original, unadjusted (not scaled up) version of market income.

E4.1

Average Poverty Gap (APG)

The average poverty gap is equal to the Before Net Transfers Income Poverty Gap divided by the number of market income poor.

$$APG = \frac{PG^m}{Q^m}$$

E5.1

Squared After Net Transfers Poverty Gap Ratio (P_2^j)

Equivalent to the Squared Income Poverty Gap, defined under "Poverty" in "Basic Indicators". Here, the after-transfers Squared Income Poverty Gap Ratio refers to P_2^j when $j = d, pf, f, f^*$

Quality

Q1.2

Non-distortionary taxes

Taxes that do not prevent market efficiency by creating distortions or externalities in the market.

Windfalls

Excess revenue from exceptional conditions such as commodity price booms or proceeds from privatization.

Q1.3

Counter-cyclical policies

Policies intended to counteract income volatility resulting from idiosyncratic or systemic shocks.

Q2.5

Independent evaluations

Evaluations that are not carried out by the government. Ideally, these evaluations should be carried out by academics.

International standards for quality of social services

This could be measured using PISA (Programme for International Student Assessment) and SERCE (Second Regional Comparative and Explanatory Study).

Exit strategy

Process under which a program has a plan to help the beneficiaries escape poverty and no longer receive benefits from the program.

Accountability

A1.1

Credible mechanisms for external validation

> Credible mechanisms for external validation could include academics, independent national organizations, or international organizations such as the Socio-Economic Database on Latin America and the Caribbean (SEDLAC), the United Nations' Economic Commission on Latin America and the Caribbean (ECLAC), or the World Bank.

A2.1

International standard for metadata documentation

> International standards for metadata documentation can be measured using the Accelerated Data Program, available at http://www.ihsn.org/adp/ or the Special Data Dissemination Standard established by the International Monetary Fund, available at http://dsbb.imf.org/Pages/SDDS/Home.aspx.

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