THE SUSTAINABLE DEVELOPMENT GOALS, DOMESTIC RESOURCE MOBILIZATION AND THE POOR

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ABSTRACT

Achieving the Sustainable Development Goals will require fiscal resources to deliver the floors in social protection, social services and infrastructure embedded in them. A significant portion of these resources is expected to come from tax collection in developing countries. Raising additional revenues domestically, however, may leave a significant portion of the poor with less cash to buy food and other essential goods. The demand for additional resources must be balanced against the competing need to protect poor households from becoming poorer as a result of taxes.

JEL Codes: D31, H22, H50, I38, Q01
Keywords: fiscal incidence, social spending, inequality, poverty, Sustainable Development Goals

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1. Introduction

At the UN General Assembly of September 2015, countries around the world committed to the Sustainable Development Goals (SDGs).[1] By 2030, counties committed to attain poverty and hunger eradication, healthy lives, quality education, gender equality and sustainable development. Countries also committed to promoting full-employment growth, decent work, peaceful societies and accountable institutions as well as to reducing inequality and strengthening global partnerships for sustainable development. One key factor to achieving the SDGs will be the availability of fiscal resources to deliver the floors in social protection, social services and infrastructure embedded in the SDGs. A significant portion of these resources is expected to come from domestic sources in developing countries themselves, complemented by transfers from the countries that are better off. The conference on Financing for Development in July 2015,[2] for example, set the framework for where the resources to achieve the SDGs and other commitments endorsed in the numerous global and regional compacts will need to come from. Moreover, countries will be expected to set spending targets to deliver social protection and essential public services for all and set nationally defined domestic revenue targets.

As is typical with these exercises designed to identify priorities and commitments which the great majority of countries endorse, the proposals shy away from acknowledging that goals have trade-offs. In particular, that raising additional revenues domestically for infrastructure, protecting the environment or social services may leave a significant portion of the poor with less cash to buy food and other essential goods. It is not uncommon that the net effect of all governments taxing and spending is to leave the poor worse off in terms of actual consumption of private goods and services. Achieving the new Sustainable Development Goals will depend in part on the ability of governments to improve their tax collection and enforcement systems. However, demand for investments into infrastructure and public services must be balanced against the competing need to protect low-income households that may otherwise be made worse off from misaligned tax and transfer policies.

Based on the fiscal incidence studies by the Commitment to Equity Institute at Tulane University, this document addresses three questions:

1. To what extent do fiscal systems leave the poor worse off in terms of consumption of private goods and services?
2. How frequently fiscal systems may be inequality reducing but at the same time leave the poor worse off in terms of their purchasing power of private goods and services?
3. In what countries are the poor and the vulnerable net payers of the fiscal system?

[1] For the document endorsed by the General Assembly in September 2015, please see https://sustainabledevelopment.un.org/post2015/transformingourworld. The Sustainable Development Goals and their targets can be found here https://sustainabledevelopment.un.org/?menu=1300.

[2] Document endorsed by the General Assembly of the United Nations on July 27, 2015: "Addis Ababa Action Agenda of the Third International Conference on Financing for Development.http://www.un.org/esa/ffd/wp-content/uploads/2015/08/AAAA_Outcome.pdf

The data used for the analysis is based on household surveys of around 2010 for the following twenty-five countries: Argentina (Rossignolo 2016), Armenia (Younger and Khachatryan 2016), Bolivia (Paz Arauco et al. 2014), Brazil (Higgins and Pereira 2014), Chile (Martinez-Aguilar et al. 2016), Colombia (Lustig and Melendez 2016), Costa Rica (Sauma and Trejos 2014), Dominican Republic (Aristy-Escuder et al. 2016), Ecuador: (Llerena et al. 2015), El Salvador (Beneke et al. 2014), Ethiopia (Hill et al. 2016), Georgia (Cancho and Bondarenko 2016), Ghana (Younger et al. 2015), Guatemala (Cabrera, Lustig, and Moran 2015), Honduras (Castañeda and Espino 2015); Indonesia (Afkar et al. 2016), Jordan (Alam et al. 2016), Mexico (Scott 2014), Peru (Jaramillo 2014), Russia (Lopez-Calva et al., 2016), South Africa (Inchauste et al., 2016), Sri Lanka (Arunatilake et al., 2016), Tanzania (Younger et al., 2016), Tunisia (Shimeles et al., 2016), Uruguay (Bucheli et al., 2014).

Table 1 Headcount Ratio for Market Income, Disposable Income and Consumable Income in Developing Countries

Poverty line: $2.5 2005PPP/day

Market Income lDisposable Inco Consumable Income Headcount ($2.5 2005 PPP) (Pens

	Contributory pensions as deferred income				
Country	**Market income plus pensions**	**Disposable income**	**Consumable income**	**Disposable income: change in %**	**Consumable income: change in %**
Argentina (2012)	4.7%	1.8%	3.0%	-61.0%	-35.4%
Armenia (2011)	31.3%	28.9%	34.9%	-7.7%	11.4%
Bolivia (2009)	19.6%	17.6%	20.2%	-10.4%	3.3%
Brazil (2009)	15.1%	11.2%	16.3%	-26.1%	8.1%
Chile (2013)	2.8%	1.2%	1.3%	-58.4%	-51.8%
Colombia (2010)	20.3%	18.9%	18.5%	-7.0%	-9.0%
Costa Rica (2010)	5.4%	3.9%	4.2%	-27.8%	-22.2%
Dominican Republic (2013)	19.5%	18.2%	19.5%	-6.5%	-0.2%
Ecuador (2011)	10.8%	7.7%	7.0%	-28.5%	-35.1%
El Salvador (2011)	19.2%	17.3%	19.1%	-10.1%	-0.8%
Ethiopia (2011)	81.7%	82.4%	84.2%	0.9%	3.1%
Georgia (2013)	39.2%	23.3%	30.0%	-40.6%	-23.3%
Ghana (2013)	26.4%	26.8%	28.8%	1.5%	9.1%
Guatemala (2011)	33.3%	32.3%	35.1%	-2.8%	5.5%
Honduras (2011)	25.1%	24.2%	25.2%	-3.3%	0.5%
Indonesia (2012)	56.4%	55.9%	54.8%	-1.0%	-2.9%
Jordan (2010)	5.2%	4.0%	3.4%	-24.0%	-34.8%
Mexico (2010)	12.6%	10.7%	10.7%	-14.9%	-15.1%
Peru (2009)	15.2%	14.0%	14.5%	-7.3%	-4.4%
Russia (2010)	4.0%	2.6%	2.8%	-35.9%	-29.1%
South Africa (2010)	49.3%	38.7%	44.1%	-21.4%	-10.6%
Sri Lanka (2010)	38.9%	38.2%	39.4%	-1.8%	1.1%
Tanzania (2011)	83.5%	84.4%	88.3%	1.1%	5.7%
Tunisia (2010)	5.0%	4.6%	3.8%	-8.3%	-25.2%
Uruguay (2009)	5.0%	1.4%	2.5%	-71.4%	-51.1%

Poverty line: $4.0 2005PPP/day

Market Income]Disposable Inco Consumable Income Headcount ($4 2005 PPP) (Pensic

	Contributory pensions as deferred income				
Country	**Market income plus pensions**	**Disposable income**	**Consumable income**	**Disposable income: change i %**	**Consumable income: change in %**
Argentina (2012)	12.3%	7.3%	12.5%	-41.0%	1.6%
Armenia (2011)	55.1%	55.5%	62.7%	0.7%	13.7%
Bolivia (2009)	32.5%	30.7%	33.9%	-5.6%	4.4%
Brazil (2009)	26.2%	23.2%	31.0%	-11.4%	18.2%
Chile (2013)	7.5%	4.4%	5.7%	-41.2%	-24.2%
Colombia (2010)	36.3%	35.5%	35.5%	-2.1%	-2.3%
Costa Rica (2010)	10.8%	9.3%	11.1%	-13.9%	2.8%
Dominican Republic (2013)	37.0%	35.9%	37.7%	-2.9%	1.9%
Ecuador (2011)	24.1%	21.0%	20.3%	-12.9%	-15.6%
El Salvador (2011)	39.3%	38.3%	40.8%	-2.7%	3.8%
Ethiopia (2011)	95.2%	95.6%	96.1%	0.4%	1.0%
Georgia (2013)	na	na	na	na	na
Ghana (2013)	48.9%	49.9%	52.1%	2.0%	6.6%
Guatemala (2011)	58.5%	58.3%	60.9%	-0.4%	4.1%
Honduras (2011)	39.7%	39.0%	41.6%	-1.7%	4.9%
Indonesia (2012)	78.4%	78.3%	77.8%	-0.2%	-0.8%
Jordan (2010)	25.8%	24.6%	23.6%	-4.7%	-8.4%
Mexico (2010)	24.7%	23.1%	23.8%	-6.2%	-3.5%
Peru (2009)	28.6%	27.8%	28.7%	-2.7%	0.4%
Russia (2010)	6.3%	4.6%	5.5%	-26.8%	-12.5%
South Africa (2010)	57.5%	52.9%	57.3%	-8.0%	-0.3%
Sri Lanka (2010)	69.8%	69.7%	71.2%	-0.1%	1.9%
Tanzania (2011)	93.7%	94.6%	96.3%	1.0%	2.8%
Tunisia (2010)	14.3%	14.9%	14.7%	4.3%	2.7%
Uruguay (2009)	11.4%	6.6%	8.9%	-42.0%	-21.8%

Source: based on Argentina (Rossignolo, 2016), Armenia (Younger and Khachatryan, 2016), Bolivia (Paz-Arauco et al., 2014), Brazil (Higgins and Pereira, 2014), Chile (Martinez-Aguilar et al., 2016), Colombia (Lustig and Melendez, 2016), Costa Rica (Sauma and Trejos, 2014), Dominican Republic (Aristy-Escuder et al., 2016), Ecuador: (Llerena et al., 2015), El Salvador (Beneke et al., 2014), Ethiopia (Hill et al., 2016), Georgia (Cancho and Bondarenko, 2016), Ghana (Younger et al., 2015), Guatemala (Cabrera, Lustig and Moran, 2015), Honduras (Castañeda and Espino, 2015); Indonesia (Afkar et al., 2016), Jordan (Alam et al., 2016), Mexico (Scott, 2014), Peru (Jaramillo, 2014), Russia (Lopez-Calva et al., 2016), South Africa (Inchauste et al., 2016), Sri Lanka (Arunatilake et al., 2016), Tanzania (Younger et al., 2016), Tunisia (Shimeles et al., 2016), Uruguay (Bucheli et al., 2014).

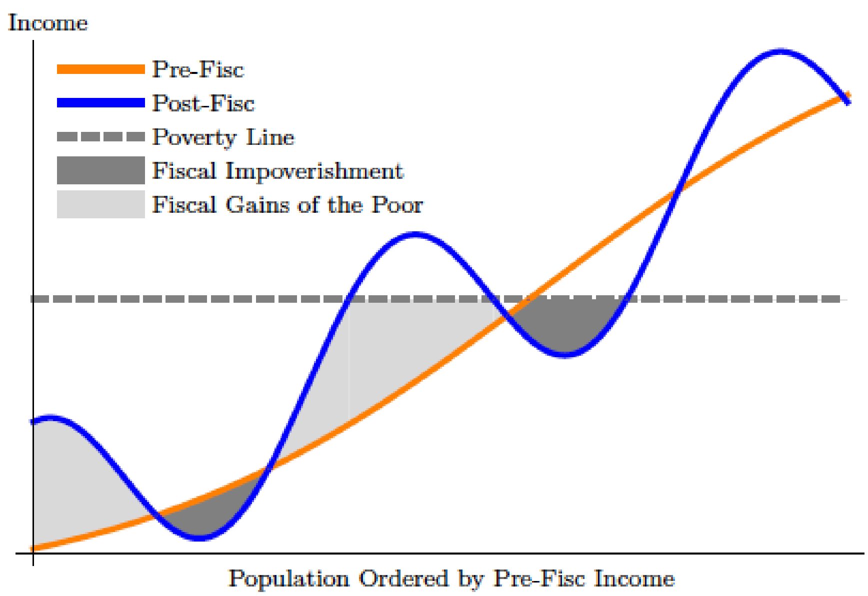
In table 1, one can observe the change in headcount ratio from market income to consumable income (income after net direct and indirect taxes) for three poverty lines: US$1.25, US$2.50 and US$4 dollars per day (2005 ppp), lines that the World Bank has used to measure global poverty and extreme and moderate poverty in middle income countries, respectively.[3] These results are for twenty five countries for which CEQ Assessments are available. Using the US$1.25 poverty line, fiscal policy increases the headcount ratio in Ghana, Sri Lanka and Tanzania. That is, in these

[3] All the CEQ studies applied the common fiscal incidence methodological framework discussed in Lustig and Higgins (2013) and Lustig, ed. (2016). Results presented here consider contributory pensions as deferred income. The definition of income concepts and a brief methodological overview is in the Appendix.

countries the number of poor people who are made poorer through the taxing and spending activities of governments exceeds the number who actually benefit from those activities. When using the US$2.50 poverty line, the headcount ratio increases in Armenia, Bolivia, Brazil, Ethiopia, Ghana, Guatemala, Honduras, Sri Lanka and Tanzania. And the same countries experience an increase in the headcount ratio with the US$4 line.

As shown by Higgins and Lustig (2016), conventional measures of poverty such as the headcount ratio can fail to capture whether the poor are made worse off (and the nonpoor made poor) by fiscal interventions. A stylized illustration of fiscal impoverishment can be seen in Figure 1. The areas in dark grey indicate the order of magnitude of fiscal impoverishment and the areas in light grey show the extent of fiscal gains to the poor.

Figure 1 – Fiscal Impoverishment: A Stylized Figure



Source: Higgins and Lustig (2016).

Table 2 presents the proportion of individuals that are fiscally impoverished (i.e., the equivalent of those for which the blue line falls below the orange line in the stylized figure above) as a share of the total population (column 6) and of the population classified as poor with consumable income (column 7) for eighteen countries for which these calculations were available. To measure fiscal impoverishment table 2 shows indicators for consumable income as the relevant after taxes and transfers income concept even though taxes are used to fund more than just direct cash and food transfers and indirect subsidies from the government (e.g., they are used to fund public goods and services, many of which also reach the poor) because this is the income concept relevant for measuring poverty: it is "disposable money and near-money income" that should be compared to the poverty line when the latter is based on "a poverty budget for food, clothing, shelter, and similar items" (Citro and Michael 1995, 212 & 237). For low and lower-middle income countries, a poverty line of $1.25 per person per day is used; for upper middle income countries, $2.50 per day is used. Table 2 column 1 shows the market income poverty headcount and column 2 shows the change in poverty from market to consumable income. Moving to the progressivity of the tax and transfer system and change in inequality in each country, column 3 shows the market income Gini coefficient and column 4 shows the Reynolds and Smolensky (1977) index of global progressivity (the Reynolds-Smolensky equals the market income Gini minus the concentration coefficient of consumable income with respect to market income, and thus globally progressive systems have a positive Reynolds-Smolensky index). Column 5 shows the change in inequality, with negative numbers indicating that inequality declined as a result of the tax and transfer system.

Table 2. Fiscal Impoverishment
(from market income plus pensions to consumable income; circa 2010)

Cuntry (Survey year)	Market income plus pensions Poverty Headcount (%)	Change in poverty headcount (p.p)	Market income plus pensions inequality (Gini)	Reynolds-Smolensky	Change in inequality (Δ Gini)	Fiscally Impoverished as % of population	Fiscally Impoverished as % of consumable income poor
Panel A: Upper-middle income countries, using a poverty line of $2.5 PPP 2005 per day							
Brazil (2008-2009)	16.8	-0.8	57.5	4.6	-3.5	5.6	34.9
Chile (2013)	2.8	-1.4	49.4	3.2	-3.0	0.3	19.2
Ecuador (2011)	10.8	-3.8	47.8	3.5	-3.3	0.2	3.2
Mexico (2012)	13.3	-1.2	54.4	3.8	-2.5	4.0	32.7
Peru (2011)	13.8	-0.2	45.9	0.9	-0.8	3.2	23.8
Russia (2010)	4.3	-1.3	39.7	3.9	-2.6	1.1	34.4
South Africa (2010-2011)	49.3	-5.2	77.1	8.3	-7.7	5.9	13.3
Tunisia (2010)	7.8	-0.1	44.7	8.0	-6.9	3.0	38.5
Panel B: Lower-middle income countries, using a poverty line of $1.25 2005 PPP per day.							
Armenia (2011)	21.4	-8.4	47.4	12.9	-9.2	6.2	52.3
Bolivia (2009)	10.9	-0.5	50.3	0.6	-0.3	6.6	63.2
Dominican Republic (2007)	6.8	-0.9	50.2	2.2	-2.2	1.0	16.3
El Salvador (2011)	4.3	-0.7	44.0	2.2	-2.1	1.0	27.0
Ethiopia (2010-2011)	31.9	2.3	32.2	2.3	-2.0	28.5	83.2
Ghana (2013)	6.0	0.7	43.7	1.6	-1.4	0.1	76.6
Guatemala (2010)	12.0	-0.8	49.0	1.4	-1.2	7.0	62.2
Indonesia (2012)	12.0	-1.5	39.8	1.1	-0.8	4.1	39.2
Sri Lanka (2009-2010)	5.0	-0.7	37.1	1.3	-1.1	1.6	36.4
Tanzania (2011-2012)	43.7	7.9	38.2	4.1	-3.8	50.9	98.6

Source: Higgins and Lustig (2016).
Note: Year of survey in parenthesis.

Note that although fifteen of the eighteen countries in table 2 experienced a *reduction* in poverty and inequality due to the tax and transfer system, they experienced various degrees of fiscal impoverishment.[4] In ten countries—Armenia, Bolivia, Brazil, El Salvador, Guatemala, Indonesia, Mexico, Russia, Sri Lanka, and Tunisia—between one-quarter and two-thirds of the post-fisc poor lost income to the fiscal system. In other countries, this figure is much lower, at 13.3% of the post-fisc poor in South Africa (but, due to the high proportion of the total population that is poor, still 5.9% of the total population) and 3.2% of the post-fisc poor in Ecuador. In the three countries

[4] Note that Brazil here appears with a reduction in the headcount ratio because poverty was measured differently than the results shown in Table 1.

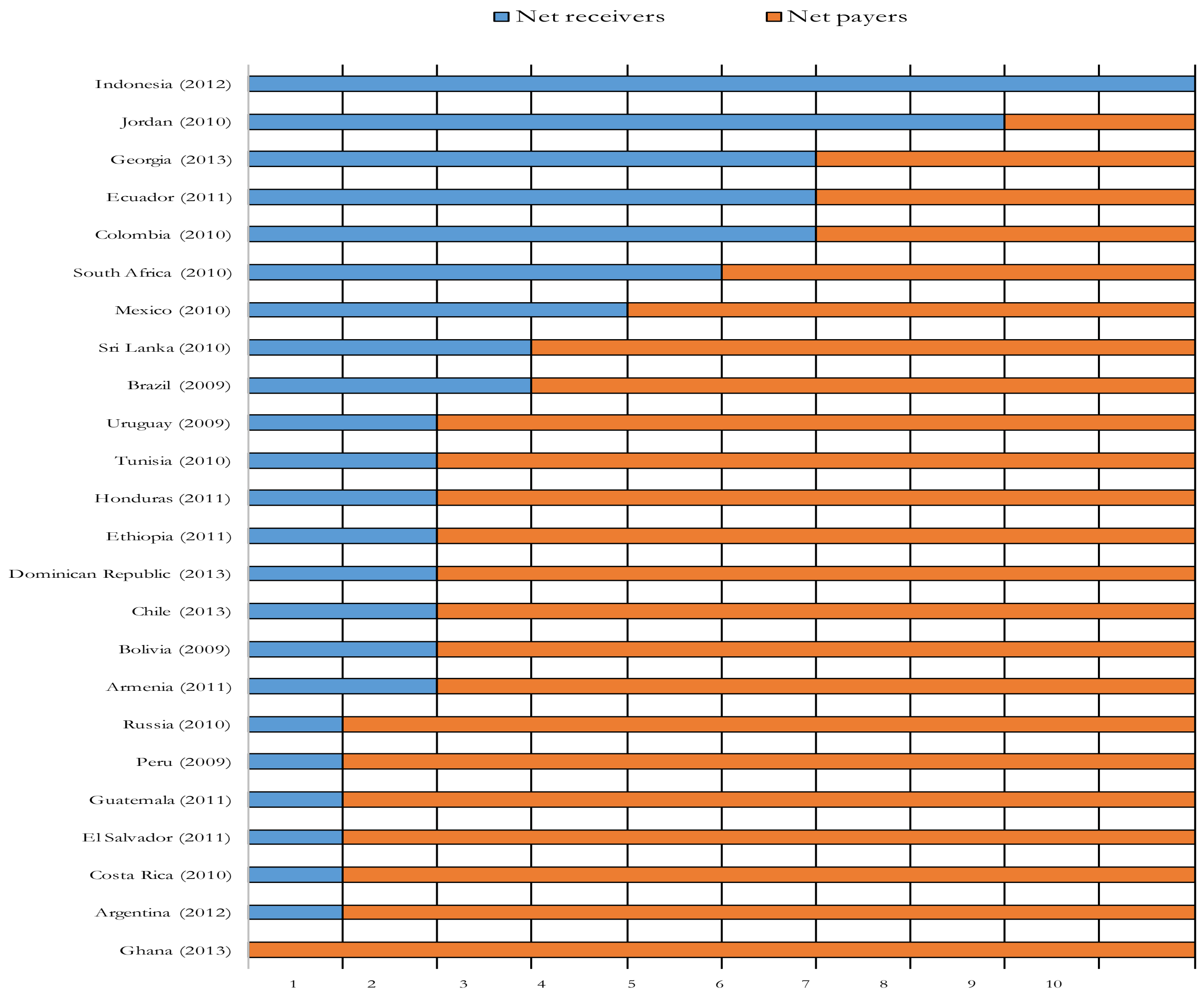
where the headcount ratio rose (Ethiopia, Ghana, and Tanzania), the proportion of the poor who were impoverished by the fiscal system is staggering (above 75 percent).

It should also be noted that, "even if we add the value of public spending on education and health (imputed at their government cost to families who report a child attending public school or who report using public health facilities), fiscal impoverishment is still high in several countries: in Armenia, Ethiopia, Indonesia, Tunisia, and Russia, between 25 and 50% of those who are fiscally impoverished before adding in benefits from public spending on health and education are still fiscally impoverished when these benefits are included as transfers" (Higgins and Lustig 2016, 8).

This undesirable outcome of the poor being made worse off by the combination of taxes and transfers is the consequence of primarily consumption taxes—e.g., value added or excise taxes. For example, the Brazilian tax system results in heavy taxes on such basic staples as rice and beans. For many households, transfers from Bolsa Familia are not there or are not large enough to compensate what they pay in consumption taxes (Higgins and Pereira 2014). This is not the result of a "diabolical" plan: it is the outcome of targeting schemes which select households on their characteristics (poor with school-age children), a very complex cascading tax system and consumption patterns of the poor. In the case of Ethiopia, it is mainly the result of taxes on agriculture, even small-holder agriculture. The big risk in setting an ambitious domestic resource mobilization agenda is that in the process governments will impoverish poor people even further. As it stands, the SDGs list of targets would not alert us of such a perverse outcome. Under Goal One on poverty reduction, there should be a Target 1.6: "By 2030 to ensure that the fiscal system does not reduce the income of the poor."

In Figure 2, one can observe which deciles, on average, are net receives or net payers (in orange) to the *fisc* in cash terms (that is, excluding benefits derived from public goods and services such as public education and health). As one can observe, in thirteen out of the twenty-five countries analyzed here, net payers are found in all deciles (Ghana) or in three (Argentina, Costa Rica, El Salvador, Guatemala, Peru, and Russia), two (Armenia, Bolivia, Chile, the Dominican Republic, Ethiopia, Honduras, Tunisia, and Uruguay) or at least the fourth decile (Brazil and Sri Lanka) of the bottom 40 percent of the population, the target group of the World Bank's shared prosperity goal.

Figure 2 - Net payers and receivers to the fiscal system by decile (circa 2010)



Source: based on Argentina (Rossignolo, 2016), Armenia (Younger and Khachatryan, 2016), Bolivia (Paz-Arauco et al., 2014), Brazil (Higgins and Pereira, 2014), Chile (Martinez-Aguilar et al., 2016), Colombia (Lustig and Melendez, 2016), Costa Rica (Sauma and Trejos, 2014), Dominican Republic (Aristy-Escuder et al., 2016), Ecuador: (Llerena et al., 2015), El Salvador (Beneke et al., 2014), Ethiopia (Hill et al., 2016), Georgia (Cancho and Bondarenko, 2016), Ghana (Younger et al., 2015), Guatemala (Cabrera, Lustig and Moran, 2015), Honduras (Castañeda and Espino, 2015); Indonesia (Afkar et al., 2016), Jordan (Alam et al., 2016), Mexico (Scott, 2014), Peru (Jaramillo, 2014), Russia (Lopez-Calva et al., 2016), South Africa (Inchauste et al., 2016), Sri Lanka (Arunatilake et al., 2016), Tanzania (Younger et al., 2016), Tunisia (Shimeles et al., 2016), Uruguay (Bucheli et al., 2014).

Appendix

Fiscal Incidence Analysis: Methodological Highlights[5]

Fiscal incidence analysis is used to assess the distributional impacts of a country's taxes and transfers. Essentially, fiscal incidence analysis consists of allocating taxes (personal income tax and consumption taxes, in particular) and public spending (social spending in particular) to households or individuals so that one can compare incomes before taxes and transfers with incomes after taxes and transfers. Transfers include both cash transfers and benefits in kind such as free government services in education and healthcare. Transfers also include consumption subsidies such as food, electricity and fuel subsidies.

As with any fiscal incidence study, let's start by defining the basic income concepts. Here there are four: market, disposable, post-fiscal and final income. These income concepts are described below and summarized in Diagram 1.

Market income[6] is total current income before direct taxes, equal to the sum of gross (pre-tax) wages and salaries in the formal and informal sectors (also known as earned income), income from capital (dividends, interest, profits, rents, etc.) in the formal and informal sectors (excludes capital gains and gifts), consumption of own production,[7] imputed rent for owner occupied housing, and private transfers (remittances, pensions from private schemes and other private transfers such as alimony).

Disposable income is defined as market income minus direct personal income taxes on all income sources (included in market income) that are subject to taxation plus direct government transfers (mainly cash transfers but can include near cash transfers such as food transfers, free textbooks and school uniforms).

Post-fiscal (also called consumable) income is defined as disposable income plus indirect subsidies (e.g., food and energy price subsidies) minus indirect taxes (e.g., value added taxes, excise taxes, sales taxes, etc.).

Final income is defined as post fiscal income plus government transfers in the form of free or subsidized services in education and health valued at average cost of provision[8] (minus co-payments or user fees, when they exist).

One area in which there is no clear consensus is how pensions from a pay-as-you-go contributory system should be treated. Arguments exist in favor of both treating contributory pensions as

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[5] This section is based on Lustig and Higgins (2013) and Lustig, ed. (forthcoming).
[6] Market income is sometimes called primary or original income.
[7] Except in the case of South Africa, whose data on auto-consumption (also called own-production or self-consumption) was not considered reliable.
[8] See, for example, Sahn and Younger (2000).

deferred income[9] or as a government transfer, especially in systems with a large subsidized component.[10] Since this is an unresolved issue, CEQ studies present results for both methods. One scenario treats social insurance contributory pensions (herewith called contributory pensions) as deferred income (which in practice means that they are added to market income to generate the original or "pre-fisc" income). The other scenario treats these pensions as any other cash transfer from the government. [11] The studies analyzed here present results considering contributory pensions as deferred income. For consistency, when pensions are treated as deferred income, the contributions by individuals are included under savings (they are mandatory savings) while when they are treated as government transfers, the contributions are considered a direct tax.

It is important to note that the treatment of contributory pensions not only affects the amount of redistributive spending and how it gets redistributed, but also the ranking of households by original income or pre-fiscal income. For example, in the scenario in which contributory pensions are considered a government transfer, households whose main (or sole) source of income is pensions will have close to (or just) zero income before taxes and transfers and hence will be ranked at the bottom of the income scale. When contributory pensions are treated as deferred income, in contrast, households who receive contributory pensions will be placed at a (sometimes considerably) higher position in the income scale. Thus, the treatment of contributory pensions in the incidence exercise could have significant implications for the order of magnitude of the "pre-fisc" and "post-fisc" inequality and poverty indicators.

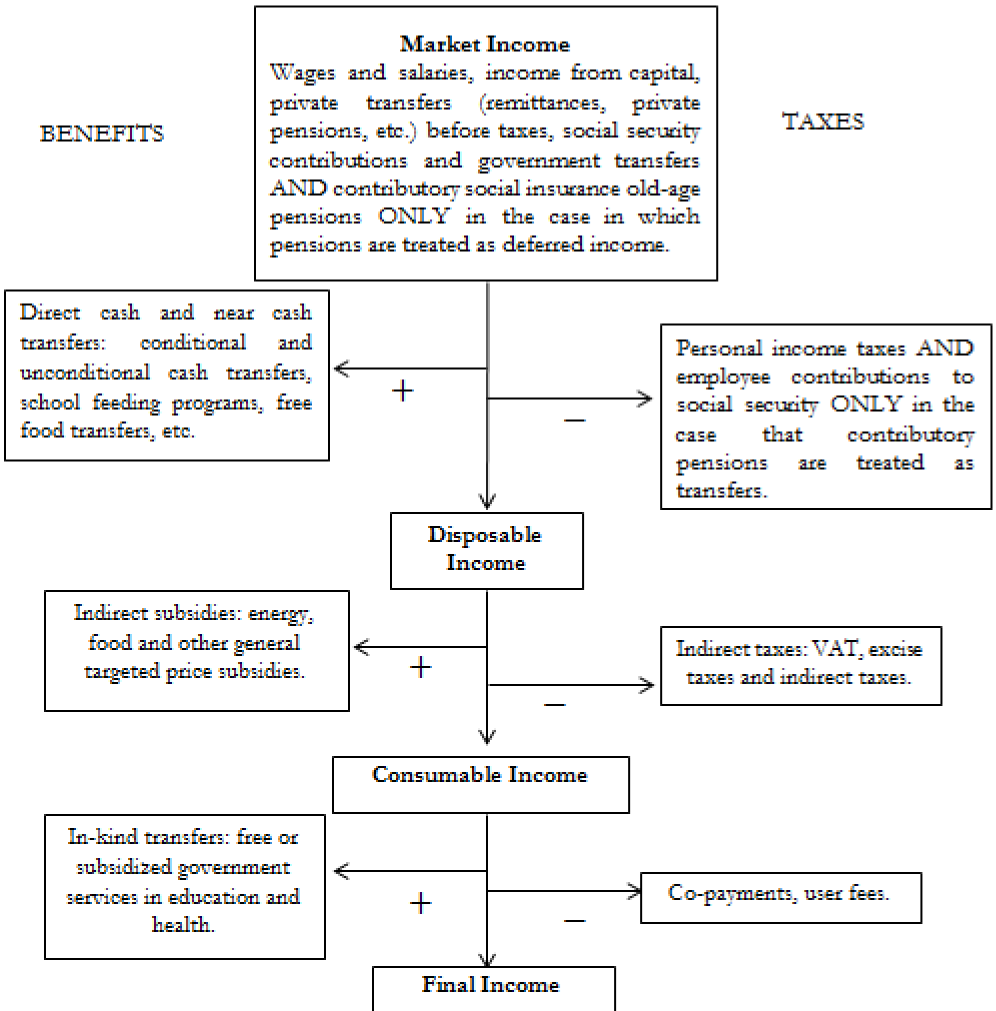
In the construction of final income, the method for education spending consists of imputing a value to the benefit accrued to an individual of going to public school which is equal to the per beneficiary input costs obtained from administrative data: for example, the average government expenditure per primary school student obtained from administrative data is allocated to the households based on how many children are reported attending public school at the primary level. In the case of health, the approach was analogous: the benefit of receiving healthcare in a public facility is equal to the average cost to the government of delivering healthcare services to the beneficiaries. In the case of Colombia, however, the method used was to impute the insurance value to beneficiary households rather than base the valuation on utilization of healthcare services.

This approach to valuing education and healthcare services amounts to asking the following question: how much would the income of a household have to be increased if it had to pay for the free or subsidized public service (or the insurance value in the cases in which this applies to healthcare benefits) at the full cost to the government? Such an approach ignores the fact that consumers may value services quite differently from what they cost. Given the limitations of available data, however, the cost of provision method is the best one can do for now.[12] For the

[9] Breceda et al. (2008); Immervoll et al. (2009).
[10] Goñi et al.(2011); Immervoll et al. (2009).; Lindert et al. (2006).
[11] Immervoll et al. (2009) do the analysis under these two scenarios as well.
[12] By using averages, it also ignores differences across income groups and regions: e.g., governments may spend less (or more) per pupil or patient in poorer areas of a country. Some studies in the CEQ project adjusted for regional

readers who think that attaching a value to education and health services based on government costs is not accurate, the method applied here is equivalent to using a simple binary indicator of whether or not the individual uses the government service.[13] [14]

Diagram 1: Basic Income Concepts.



Source: Lustig and Higgins (2017).

The welfare indicator used in the fiscal incidence analysis is income per capita.

The fiscal incidence analysis used here is point-in-time and does not incorporate behavioral or general equilibrium effects. That is, no claim is made that the original or market income equals the true counter-factual income in the absence of taxes and transfers. It is a first-order approximation

differences. For example, Brazil's health spending was based on regional specific averages.

[13] This is of course only true within a level of education. A concentration coefficient for total non-tertiary education, for example, where the latter is calculated as the sum of the different spending amounts by level, is not equivalent to the binary indicator method.

[14] In order to avoid exaggerating the effect of government services on inequality, the totals for education and health spending in the studies reported here were scaled-down so that their proportion to disposable income in the national accounts are the same as those observed using data from the household surveys.

that measures the average incidence of fiscal interventions. However, the analysis is not a mechanically applied accounting exercise. The incidence of taxes is the economic rather than statutory incidence. It is assumed that individual income taxes and contributions both by employees and employers, for instance, are borne by labor in the formal sector. Individuals who are not contributing to social security are assumed to pay neither direct taxes nor contributions. Consumption taxes are fully shifted forward to consumers. In the case of consumption taxes, the analyses take into account the lower incidence associated with own-consumption, rural markets and informality.

In general, fiscal incidence exercises are carried out using household surveys and this is what was done here. The surveys used in the country studies are the following: Argentina: Encuesta Nacional de Gasto de los Hogares 2012-13; Armenia: Integrated Living Conditions Survey 2011; Bolivia: Encuesta de Hogares 2009; Brazil: Pesquisa de Orçamentos Familiares 2008-2009; Chile: Encuesta de Caracterización Social (CASEN) 2013; Colombia: Encuesta de Calidad de Vida 2010; Costa Rica: Encuesta Nacional de Hogares 2010; Dominican Republic: Encuesta Nacional de Ingresos y Gastos de Los Hogares 2006-2007; Ecuador: Encuesta Nacional de Ingresos y Gastos de los Hogares Urbano y Rural 2011-2012; El Salvador: Encuesta de Hogares de Propósitos Múltiples 2011; Ethiopia: Household Consumption Expediture Survey 2010-2011 and Welfare Monitoring Survey 2011; Georgia: Integrated Household Survey 2013; Ghana: Living Standards Survey 2012-2013; Guatemala: Encuesta Nacional de Ingresos y Gastos Familiares 2009-2010 and Encuesta Nacional de Condiciones de Vida 2011; Honduras: Encuesta Permanente de Hogares de Propósitos Múltiples 2011; Indonesia: Survei Sosial-Ekonomi Nasional 2012; Jordan: Household Expenditure and Income Survey 2010-2011; Mexico: Encuesta Nacional de Ingreso y Gasto de los Hogares 2010; Perú: Encuesta Nacional de Hogares 2009; Russia: Russian Longitudinal Monitoring Survey of Higher School of Economics 2010; South Africa: Income and Expenditure Survey 2010-2011; Sri Lanka: Household Income and Expenditure Survey 2009-2010; Tanzania: Household Budget Survey 2011-2012; Tunisia: National Survey of Consumption and Household Living Standards 2010; Uruguay: Encuesta Continua de Hogares 2009.

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