

# The Impact of Taxes, Transfers, and Subsidies on Inequality and Poverty in Uganda

**Jon Jellema, Nora Lustig, Astrid Haas, and Sebastian Wolf**

## Abstract

This paper uses the 2012/13 Uganda National Household Survey to analyze the redistributive effectiveness and impact on poverty and inequality of Uganda's revenue collection instruments and social spending programs. Fiscal policy – including many of its constituent tax and spending elements – is inequality-reducing in Uganda, but the reduction of inequality due to fiscal policy in Uganda is lower than other countries with similar levels of initial inequality, a result tied to low levels of spending in Uganda generally. The impact of fiscal policy on poverty is negligible, while the combination of very sparse coverage of direct transfer programs and nearly complete coverage of indirect tax instruments means that many poor households are net payers into, rather than net recipients from, the fiscal system. As Uganda looks ahead to increased revenues from taxation and concurrent investments in productive infrastructure, it should take care to protect the poorest households from further impoverishment from the fiscal system.

**JEL Codes:** D31, D62, H22, H23, I38

**Keywords:** fiscal incidence, poverty, inequality, fiscal policy, Uganda



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Working Paper 443  
November 2016

## The Impact of Taxes, Transfers, and Subsidies on Inequality and Poverty in Uganda

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This paper was first published by the Commitment to Equity Institute as [CEQ Working Paper No. 53](#). The Uganda CEQ Assessment and Report are International Growth Centre ([www.theigc.org](http://www.theigc.org)) projects. The Commitment to Equity Institute is based on research produced by the Commitment to Equity (CEQ) Institute at Tulane University. Led by Nora Lustig since 2008, the methodological indicator known as the CEQ was designed to analyze the impact of taxes and social spending on inequality and poverty. The CEQ is a joint initiative of the Center for Inter-American Policy and Research (CIPR) and the Department of Economics at Tulane University, as well as the Center for Global Development and the Inter-American Dialogue. The CEQ Institute would also like acknowledges the generous support provided by the the Bill & Melinda Gates Foundation. All errors and omissions are the author's sole responsibility.

Jon Jellema, Nora Lustig, Astrid Haas, and Sebastian Wolf. 2016. "The Impact of Taxes, Transfers, and Subsidies on Inequality and Poverty in Uganda." CGD Working Paper 443. Washington, DC: Center for Global Development.  
<http://www.cgdev.org/publication/taxes-transfers-subsidies-uganda>

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## Executive Summary

In between 1992 and 2012, Uganda reduced by half the proportion of people living in poverty. Income inequality, however, rose sharply over the same period and has remained elevated through 2015. In recognition of the social stresses induced by income inequality, the Ugandan government has committed to continue to reduce both poverty and income inequality in its National Development planning. The Ugandan Commitment to Equity (CEQ) Assessment indicates that fiscal-year 2012/13 revenues collected via taxes together with social expenditures and subsidy spending in Uganda reduced inequality while on net these revenues and expenditures together were poverty-neutral. Fiscal policy therefore broadly supports Uganda's development goals.

While fiscal policy broadly supports poverty- and inequality-reduction goals, its impact in Uganda is muted while overall revenue and spending levels are low: the international CEQ database shows that Uganda revenue collections and total primary spending (as a share of GDP) are the lowest of 28 low- to middle-income countries from Latin America and the Caribbean, Central, East, and Southeast Asia, the Middle East, and Africa.

The proportion of primary public spending that goes to redistributive spending – cash or in-kind transfers received directly by individuals; expenditures on public education or healthcare services or other social services like public housing; and indirect subsidies – is approximately average internationally. Additionally, all of the expenditures analyzed in this CEQ Assessment contribute to poverty reduction in Uganda. Given the initial levels of income and inequality, then, fiscal policy's impact on inequality is below expectations In Uganda not because of its orientation but because of its magnitude.

Uganda's personal income tax does not burden poor or near-poor households. Indirect taxes – the Value-Added (VAT) and Excise Taxes – were paid by nearly everyone (poor or not), but they had an *equalizing* effect – that is, inequality would have been higher without the Value-Added and Excise Taxes – while *net* indirect taxes (indirect subsidies received minus indirect taxes paid) did not contribute to a significant increase in the poverty rate. The tax system was therefore also broadly supportive of Uganda's poverty- and inequality-reduction goals, which makes it unique among lower-income countries in Africa.

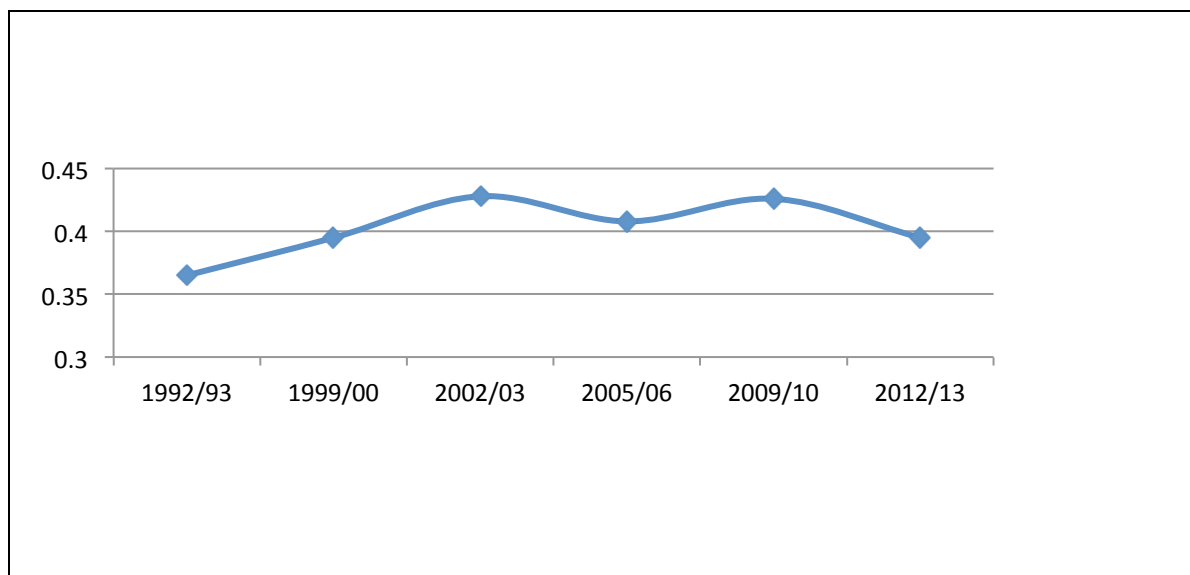
In the near-term, the Government is targeting a revenue share of 15 to 16 percent (of GDP) – a significant increase over 2012/13 – while it expects to continue making larger infrastructure investments and other capital outlays. This report indicates that infrastructure spending will be inequality-reducing if it is directed towards education- and healthcare-service infrastructure, supplying basic necessities like water and electricity, or if it is channelled through a Public Works programme.

Uganda has relied heavily on indirect taxes in revenue collections: these indirect taxes are neutral to inequality-reducing at least partially because many of the goods and services comprising the bulk of a vulnerable household's budget are exempt. Closing such exemptions or bringing a larger share of transactions under the formal indirect tax system would place a larger burden (from increased revenue generation) on such vulnerable households. Instead, lowering the personal income tax threshold and otherwise making the direct tax system more efficient could increase revenue generating capacity while protecting vulnerable households from further impoverishment.

## 1. Introduction and Country Context

Over the last 25 years Uganda has made great strides in reducing poverty: it is one of the few Sub-Saharan African countries that achieved the Millennium Development Goal of halving the proportion of people living in poverty between 1990 and 2015, and it reached this goal five years ahead of time (Duponchel, McKay et. al. 2015). Even so, Figure 1 indicates that high income inequality remains: as measured by the Gini coefficient – where a coefficient of 0 represents perfect equality and a coefficient of 1 perfect *inequality* – inequality has fluctuated around 0.4 since the beginning of this millennium (MoFPED, 2014). A growing body of international evidence suggests that high income inequality may slow growth (Berg and Ostry 2011, Ostry et al 2014) and can also have negative effects on socio-economic stability (Bardhan, 2015). In recognition of the negative effects of income inequality, the Ugandan government has repeatedly declared the reduction of income inequality a priority policy goal (see the Uganda National Development Plans I and II, for example).

**Figure 1 Gini Index of Inequality, Uganda, 1992-2013**



Source: MoFPED, 2014

However, the overall impact of fiscal policy on inequality in income, consumption, savings, and other outcomes is often poorly understood. This study provides policy makers with an assessment of the redistributive impact of fiscal policy – both its individual elements as well as the composite whole – in Uganda, using an internationally recognized methodology developed by the Commitment to Equity (CEQ) Institute. This study estimates the impact of fiscal revenue collections (taxes) and fiscal expenditures – direct cash and near-cash transfers, in-kind benefits, subsidies – on household-

level income inequality and poverty. By using an internationally consistent methodology, the results from the Uganda CEQ Assessment can be compared with results from other CEQ countries.

To our knowledge, fiscal incidence has so far not been studied systematically in Uganda. The assessment summarized in this report comes at a crucial time for Ugandan fiscal policy. On the revenue side, the government wants to raise the tax to GDP ratio from 13.9 percent in 2014/15 to 16.3 percent in 2020/21 (MOFPED, 2016), which implies new directions in tax policy and tax collection that may have negative impacts on poor and non-poor households alike, depending on which tax instrument the government intends to use to generate the bulk of the revenue increase. On the expenditure side, the government has committed to large infrastructure projects that will leave little fiscal space for other social spending, for targeted spending on social protection, or for introducing new initiatives to reduce income inequality. Gaining a clear understanding of the impact of the current fiscal system will be crucial in the design of a pro-poor fiscal system for the years to come.

## Recent History and Prospects

The Ugandan government's strategy to tackle poverty and income inequality over the last 25 years can be broken down in two periods. The first period was characterized by an expansion of the provision of in-kind education, healthcare, water and sanitation benefits. After a period of civil war and chaos, the new National Resistance Movement government's extensive liberalization agenda combined with disciplined monetary and fiscal policy reforms triggered a period of sustained economic growth and trade in the early 1990s. Alongside gains from increased economic activity, the establishment of the semi-autonomous Uganda Revenue Authority led to large improvements in domestic revenue collections. The tax-to-GDP ratio rose from 6 to 13 percent in between 1990 and 2000. With additional resources at hand, the government formulated a comprehensive Poverty Reduction Plan in 2007 that would increase service delivery drastically. The centrepiece of the plan was the introduction of Universal Primary Education. Delivery of many of these services was to be managed in a decentralized fashion, funded by transfers from central government. Donors aided these efforts with budget support (Williamson et al, 2009).

When the growth of taxes relative to GDP began to level off in the early 2000s, the government refocused. Infrastructure and investments in productive sectors were prioritized over further expenditure increases on service delivery transfers, arguably shifting fiscal policy away from the pro-poor, redistributive agenda that had been taken on in the 1990s to focus more directly on economic growth. This policy shift meant that in real terms service delivery transfers largely peaked around 2003, with later adjustments mainly covering increases in the wage bill (Aziz et al, 2016).

The second period was characterised by the introduction of targeted cash and in-kind benefits. Responding to chronic inequality among regions caused by political instability and conflict, the government shifted to smaller programmes specifically targeted to reduce regional imbalances in the

early 2000s. The first Northern Uganda Social Action fund was introduced in 2003 and was followed by the introduction of the Social Assistance Grants for Empowerment programmes in 2009 and the second Northern Uganda Social Action fund in 2010. These regionally-focussed programmes are still on-going, but given the large infrastructure investments the government is undertaking it is unclear whether there will be sufficient fiscal space to expand them from their current rather small size. Furthermore, first evaluations have raised concerns of these projects' effectiveness (Ssewanyana and Kasirye, 2014).

The Government foresees large infrastructure investments going forward. These commitments leave little space to expand targeted poverty-reduction or income-equality programmes and require intensified tax- and other revenue-collection effort. In this context the government is embarking on a reform to improve the efficiency of the service delivery transfer systems already in place. As part of these reforms the government is reformulating transfer amounts and spending regulations to achieve a more equitable transfer distribution among districts and a more efficient delivery of in-kind education, healthcare, water and sanitation benefits. The introduction of performance conditionality and transparency initiatives, it is hoped, will increase the accountability of decentralised government units.

Income inequality has a complex set of drivers including educational opportunities, access to healthcare, water and sanitation, availability of infrastructure, financial inclusion and gender inequality. Not all of these are influenced by fiscal policy, but the progressivity of taxes and government expenditures is undisputedly significant. It is important to note that the assessment summarized in this report aims to uncover only the extent of redistribution achieved by the fiscal system and remains silent on its dynamic and long-term effects on income inequality as well as their channels. These issues are beyond the scope of the study and the interested reader is referred to the 2015 issue of the IMF's Regional Economic Outlook for Sub-Saharan Africa for an overview. Furthermore, this study focuses solely on the fiscal year 2012/13, because this is the latest year in which the Uganda National Household Survey was carried out. Additional assessments of earlier or later periods are required to uncover trends, so further research is called for.

## Main Findings

The Ugandan CEQ Assessment demonstrates that fiscal policy in Uganda is equalizing and does not increase poverty. However, the redistributive impact is quite small, especially when compared with similar low-income countries such as Ethiopia and Tanzania and with the trend observed for 28 low- and middle-income countries (including Uganda).<sup>1</sup> The small effect is primarily driven by low social

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<sup>1</sup> 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 (Harker et al., 2016), Costa Rica (Sauma and Trejos, 2014), Dominican Republic (Aristy-Escuder et al., 2016), Ecuador (Llerena et al., 2015), El Salvador (Beneke, Lustig and Oliva, 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), Iran (Enami, Lustig, and Taqdiri, 2016), Jordan (Alam et al., 2016), Mexico (Scott, 2014), Nicaragua (Cabrera and Moran, 2015), Peru (Jaramillo, 2014), Russia (Lopez-Calva et al., 2016), South

spending (as a share of GDP), which in turn may be driven by low revenues from domestic collections and low revenues overall. Tax revenues in the year 2012/13 were just under 12 percent of GDP (provisional figures), lower than in Ethiopia and Tanzania, for example. At just over 12 percent, fiscal expenditures were also small (as a proportion of GDP), and the social expenditures that were executed at least partly to redistribute income accounted for approximately one-third of the total.

Within the social expenditures, education and health had the largest effect in reducing national income inequality, achieving a reduction of 1.6 Gini points (education and health make up a reduction of about 1.0 and 0.6 Gini points each individually). These in-kind transfers also constituted the largest proportion of social expenditure (at 2.4 and 1.6 percent of GDP, respectively). Direct transfers have provided meaningful income to the poor but geographical coverage of these transfers is very limited and thus they have led only to a modest reduction in income inequality of 0.1 Gini points. Indirect subsidies of water, electricity and agricultural inputs had a negligible but equalizing redistributive impact in the period studied, reducing inequality by only 0.05 Gini points. On the tax side, Value Added Taxes (VAT) and excise taxes are neutral to slightly equalizing in distributive terms, in part due to their exemption schedule. Income taxes, which do not affect the poorest 50 percent of the population, help reduce inequality in disposable income by 1.2 Gini points.

Uganda's fiscal system leaves the incidence of poverty virtually unchanged: when the impact of indirect taxes and indirect subsidies is taken into account, Uganda's "no change" is the third-best result in a seven-country comparator group (Bolivia, Ethiopia, Ghana, Honduras, Nicaragua, Tanzania, and Uganda). Furthermore, Uganda is the only low income country in Africa in which the poverty headcount *after* taking account the effect of indirect taxes and subsidies does not rise above the market income (or "pre-fiscal") poverty headcount. This remarkable outcome has as much to do with the value of non-market consumption (autoproduction, autoconsumption) in rural areas where the majority of the poor are located as with the set of indirect tax exemptions and indirect subsidies on the provision of water, electricity, and agricultural inputs. These results are relevant when considering options to increase domestic resource mobilization in Uganda. Whatever path is chosen, it is important to assess the impact of reforms on the tax and subsidy system on the poor.

The rest of this report is organized in the following manner: Section 2 will provide an overview of the main transfers and taxes in Uganda, Section 3 will explain the methodology behind the assessment and a description of the data sources, Section 4 will provide an overview of the main findings from the Uganda assessment together with international benchmark comparisons; and Section 5 will conclude and spell out the implications the results have for policy in Uganda.

## 2. Social Spending and Taxation in Uganda

### 2.1 Social Spending and Transfers

Social spending in Uganda can be divided in three categories: in-kind transfers, direct transfers and indirect subsidies. As outlined in the introduction, in-kind transfers were the government's main instrument to address income inequality until around 2003, and they remain today the largest *transfer* item (in terms of expenditure magnitudes) in the government's portfolio of expenditures. Beginning in the early 2000s, however, the government shifted focus and concentrated on more targeted direct transfers aimed at reducing regional inequalities as their main inequality reduction tool. Targeted, direct transfers may see their share of public expenditures decrease as the Government has declared that, going forward, it intends to focus on reducing poverty and inequality by boosting agricultural productivity and by increasing investment in other productive sectors (MoFPED 2016).

Table 1 provides a snapshot of expenditures in the fiscal year 2012/13. Social expenditures – social protection, education, health, and housing and urban spending – account for nearly two-fifths of total expenditures; infrastructure approximately one-third; defense spending one-tenth; and other sectors (for example, Energy and Mineral Development, Information and Communications Technology, Tourism, Trade, and Industry; these are not shown in Table 1) the remaining 17 percent. Table 1 also provides a snapshot of the fiscal expenditures covered by Uganda's CEQ Assessment. Defense spending ("Security" in Uganda budget report terminology) and Infrastructure are not covered while most of the Social Protection portfolio is incorporated. The only "in-kind" social spending that is not covered by this CEQ Assessment is "Housing/Urban" spending, of which there is very little in Uganda as a whole, and virtually none undertaken outside of the capital, Kampala.



**Table 1 Uganda Government Expenditures, 2012/13**

|                             | UgSh,<br>(billions) | % of GDP | Included? |
|-----------------------------|---------------------|----------|-----------|
| <b>Total Expenditure</b>    | 7,454               | 12.1%    | 4.8%      |
| Defense Spending            | 749                 | 1.2%     | No        |
| Social Spending             | 2,817               | 4.6%     | Yes       |
| Social Protection           | 344                 | 0.6%     |           |
| Social Assistance of which  | 84                  | 0.14%    | Yes       |
| Cash Transfers              | 84                  | 0.14%    | Yes       |
| Noncontributory Pensions    | --                  |          |           |
| Near Cash Transfers         | --                  |          |           |
| Other                       | --                  |          |           |
| Social Insurance            | 260                 | 0.4%     | Yes       |
| Education of which          | 1,504               | 2.4%     |           |
| Pre-school                  | --                  |          |           |
| Primary                     | 750                 | 1.2%     | Yes       |
| Secondary                   | 528                 | 0.9%     | Yes       |
| Post-secondary non-tertiary |                     |          |           |
| Tertiary                    | 202                 | 0.3%     | Yes       |
| Health of which             | 969                 | 1.6%     | Yes       |
| Contributory                |                     |          |           |
| Noncontributory             |                     |          |           |
| Housing & Urban             | 24                  | 0.04%    | No        |
| Subsidies of which          | 129                 | 0.21%    | Yes       |
| Energy of which             |                     |          |           |
| Electricity                 |                     |          |           |
| Fuel                        |                     |          |           |
| Food                        |                     |          |           |
| Inputs for Agriculture      | 18                  |          | Yes       |
| Water                       | 91                  |          | Yes       |
| Rural Electrification       | 9                   |          | Yes       |
| Infrastructure              | 2,595               | 4.21%    | No        |

Note: Expenditures (and revenues) included in Uganda's CEQ Assessment may not be fully allocated within the Uganda National Household Survey (UNHS) for various reasons – see Section 3 below for more detail on the allocative methods and assumptions.

Source: Uganda Annual Budget Performance Report 2012/13

### 2.1.1 In-kind Transfers

Education:

The main education expenditures is for capitation grants for primary and secondary school students, which are allocated to schools based on their current enrolment figures. At a primary level, schools

receive a grant of about 7,000 Ugandan Shillings (UGX) in 2012/13 (currently about \$US 2.11) per student per year. For secondary school the amount was about 41,000 UGX (currently about \$US 12.35) for Government Schools and 47,000 UGX for public private partnership schools (currently about \$US 14.16) per student per year enrolled in one of the identified schools under Uganda's Universal Secondary Education programme (Ministry of Education and Sports, 2014). At a tertiary level, the government allocates scholarships for study at public institutions.

Health:

Uganda abolished user fees in public health facilities in 2001 in support of the Government's overall aim of attaining universal health care coverage. Health transfers are made through grants to a district government level. These transfers include payments of wages for health workers at all district health facilities, funding for service delivery operations by the health departments, as well as a development grant for constructing and rehabilitating health facilities (MoFPED 2016).

## 2.1.2 Direct Transfers

Social Assistance Grants Transfer for Empowerment (SAGE):

This programme – which began as a pilot in 2011 and is targeted at the poorest and most vulnerable members of society with an aim of providing them a minimum level of income security – is currently being delivered in fourteen districts in Northern Uganda. As part of the SAGE programme, regular cash transfers are made to individuals or households under two separate schemes. The first is the *Senior Citizen Grant (SCG)* targeting individuals who are above 65 years of age (or in the case of the Karamoja region, above 60 years). The second is the *Vulnerable Family Support Grant (VFSG)* which targets households with low labour capacity as a result of age or physical disability and high dependency ratios, with district specific thresholds. The exact eligibility is determined through a targeting exercise that takes place every two to three years. Under both schemes, each individual or family receives about 25,000 UGX (approximately \$US 7.50) per month. This figure is revised on an annual basis to ensure it is in line with inflation.

Northern Uganda Social Action Fund (NUSAF):

The second round of this programme (NUSAF II) began in 2009 under the auspices of the Office of the Prime Minister. It was established to support communities in previously war-torn Northern Uganda, which remains one of the poorest regions of the country. Two programs under NUSAF are focused on transferring cash and assets to vulnerable individuals: The *Household Income Support Programme (HISP)* and the *Public Works Programme (PWP)*. HISP finances income-generating activities and supports livelihood and skills development initiatives that create further opportunities for self-employment. Under this programme, transfers of livestock or other productive assets are made to groups of up to 15 individuals. To be eligible, groups have to include the most vulnerable members of society, determined by a community participatory wealth ranking exercise, and they have to be

comprised of at least 50 percent women. The overall value of the transfer can be up to \$US 5000 per group. The government aims to target 8000 groups with these transfers.

*PWP* targets beneficiaries geographically based on a set of pre-determined poverty and socio-economic indicators. This programme supports labour intensive interventions to provide poor household with additional income support that can help them weather the impact of rising food prices. On average, each project employs up to 250 people for the period of one month. The maximum funding is \$US 20,000 per district and \$US 10,000 per project. The target under NUSAF II is to fund 1000 such projects, generating about five and a half million employment days, over a period of five years.

### 2.1.3 Indirect Subsidies

#### Water and Electricity:

In urban areas, heavy direct subsidies of water and electricity consumption had been phased out by the time of the Uganda National Household Survey (UNHS) 2012/13 (our primary source for micro-data; see below) but both utility sectors still receive indirect subsidies in the form of infrastructure investment contributions. In the case of water, tariffs in urban areas are set to cover operating and maintenance costs, so consumption of water in urban areas is only subsidised indirectly by lowering the investment cost component that would otherwise have to be recovered through higher tariffs. In rural areas, water supply is directly subsidised from the national budget, which funds part of the operating costs of water delivery.

The situation is slightly different in the case of electricity where some cross-subsidisation occurs: while serving rural customers is more expensive than serving urban customers, both pay the same tariff, and no direct government subsidies of operating costs are in place, not even in rural areas. This cross-subsidisation (enforced by government contracting, but not funded from government revenues directly) is not included in the Uganda CEQ Assessment. Similar to the water sector, the government also provides indirect subsidies of infrastructure to expand rural electrification; these expenditures are counted as indirect subsidies and are included in the Uganda CEQ Assessment.

#### National Agricultural Advisory Services (NAADS):

*NAADS* is a semi-autonomous public agency under the Ministry of Agriculture, Animal Industries, and Fisheries, which is responsible for the provision of extension services to farmers across the country. *NAADS* organizes the distribution of a range of agricultural inputs to support interventions along the value chain, for example seeds, seedlings and farming equipment such as hoes. The government is currently planning an expansion of *NAADS*, so it likely that the importance of indirect subsidies of agricultural inputs will increase in the years to come.

## 2.2 Revenues

Table 2 provides a snapshot of public revenue sources in the fiscal year 2012/13. Uganda's revenues come largely from indirect taxes like a Value-Added tax (VAT), Excise taxes (including on petroleum products), and Trade Taxes. Direct Taxes – the Pay as You Earn (PAYE) personal income tax and various Corporate Income Taxes (including on capital gains and a withholding tax) – make a contribution to public revenues that is approximately half as large as the contribution from indirect taxes.

The Uganda CEQ Assessment covers the majority of indirect taxes and the personal income tax (including the PAYE component, which is essentially personal income tax withholding). We do not have enough information to allocate Corporate Income tax burdens to UNHS households and we do not have enough administrative information to allocate Social Insurance contributions. The paragraphs below provide further detail on the taxes included in Uganda's CEQ Assessment.

**Table 2 Uganda Government Revenues, 2012/13**

|                                   | UgSh,<br>(billions) | % of GDP | Included? |
|-----------------------------------|---------------------|----------|-----------|
| <b>Total Revenue and Grants</b>   | 9,213               | 14.9%    | 8.2%      |
| Revenue                           | 8,277               | 13.4%    |           |
| Tax Revenue                       | 7,150               | 11.6%    |           |
| Direct taxes of which             | 2,407               | 3.9%     |           |
| Personal Income Tax               | 1,197               | 1.9%     | Yes       |
| Corporate Income Tax              | 598                 | 1.0%     | No        |
| Corporate Withholding Tax         | 389                 | 0.06%    | No        |
| Taxes on Property                 | --                  | --       |           |
| Contributions to Social Insurance | --                  | --       |           |
| Indirect Taxes of which           | 4,712               | 7.6%     |           |
| VAT                               | 2,353               | 3.8%     | Yes       |
| Sales Tax                         | --                  | --       |           |
| Excise Taxes                      | 1,466               | 2.4%     | Yes       |
| Customs Duties                    | 753                 | 1.2%     | No        |
| Taxes on Exports                  | 0                   | 0.0%     | No        |
| Nontax revenue                    | 191                 | 0.3%     | No        |
| Grants                            | 936                 | 1.5%     | Yes       |

Note: Revenue collections (and expenditures) included in Uganda's CEQ Assessment may not be fully allocated within the Uganda National Household Survey (UNHS) for various reasons – see Section 3 below for more detail on the allocative methods and assumptions.

Source: Uganda Annual Budget Performance Report 2012/13

## 2.2.1 Taxes

Uganda's tax to GDP ratio, provisionally at 11.6 percent of GDP<sup>2</sup> in the 2012/13 fiscal year, is one of the lowest in Sub-Saharan Africa. The tax compliance gap in Uganda is large and collections rest on a very small base. In light of this, the government has declared increasing its domestic revenue base as a policy priority. Under the National Budget Framework, the government declared the goal to raise the tax to GDP ratio at a rate of 0.5 percent per annum with the goal of achieving a ratio of 16.3 percent by the 2020/21 fiscal year. To achieve this goal, reforms targeted at improving efficiency (rather than increasing rates) are planned: increasing investment in revenue collection, saving on costs and modernizing systems, and integrating tax systems operating at different levels of government (*inter alia*).

The main domestic taxes in Uganda are the following:

- Income Tax:
  - The personal income tax (including Pay-As-You-Earn withholding); marginal rates range from 0 to 40 percent.<sup>3</sup>
  - Corporate Tax: the standard rate is 30 percent
  - Withholding Tax on corporate income: 6 percent
  - Presumptive Income Tax: 1.5 percent of gross turnover or a flat fee depending on the bracket
- Consumption Taxes:
  - Value Added Tax (VAT): 18 percent
  - Excise Duties (including on fuels)
  - Customs duties

Although the VAT has a uniform rate, there are various exemptions and zero-rated products. These are targeted at goods that have been identified to be consumed by the poor and represent an attempt to make the consumption tax less regressive. Examples of exempt goods are unprocessed foodstuffs and agricultural products (except for wheat grain) and supply of various agricultural inputs. Customs duties are applied at Common External Tariff (CET) rates specified in the East African Community (EAC) framework; the EAC-CET specifies zero percent rates for raw materials, capital goods, agricultural inputs, and medicines and medical equipment and lower rates (than the CET rate) for intermediate goods and other essential industrial inputs, and finished goods.

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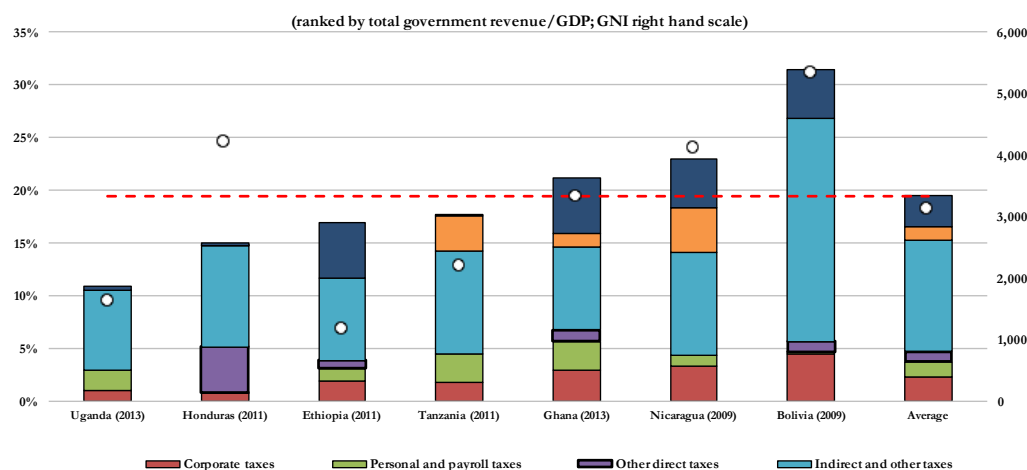
<sup>2</sup> Official government reports, for example the “Annual Economic Performance Report 2012-13”, indicate total domestic revenues from taxes at 12.9 percent of GDP while giving the same Ugandan Shilling figure as we report here for total revenues from taxes. Our measure of GDP comes from the World Bank’s database (<http://data.worldbank.org/>); we are unable to locate the GDP denominator used in these other reports. The GDP figure may have been rebased and/or revised after the publication of the AEPR 2012-13.

<sup>3</sup> Technically, the PAYE rate converges to 40 percent with income; the 40 percent marginal rate is only applied to income over 120m.

### 2.3 International Perspective on Fiscal Magnitudes and Composition

Based on Figures 1 and 2 below, it is clear that Uganda’s domestic revenue collections effort are below similar low-income countries such as Ethiopia and Tanzania (Figure 1) and the broader trend for 28 low- and middle-income countries (Figure 2). In fact, Uganda raises revenues below the trend on every revenue source except Personal Income and Payroll taxes (as shown in Figure 3).

**Figure 1 Composition of Total Government Revenues (as % of GDP): Bolivia, Ethiopia, Ghana, Honduras, Nicaragua, Tanzania, and Uganda (around 2010)**

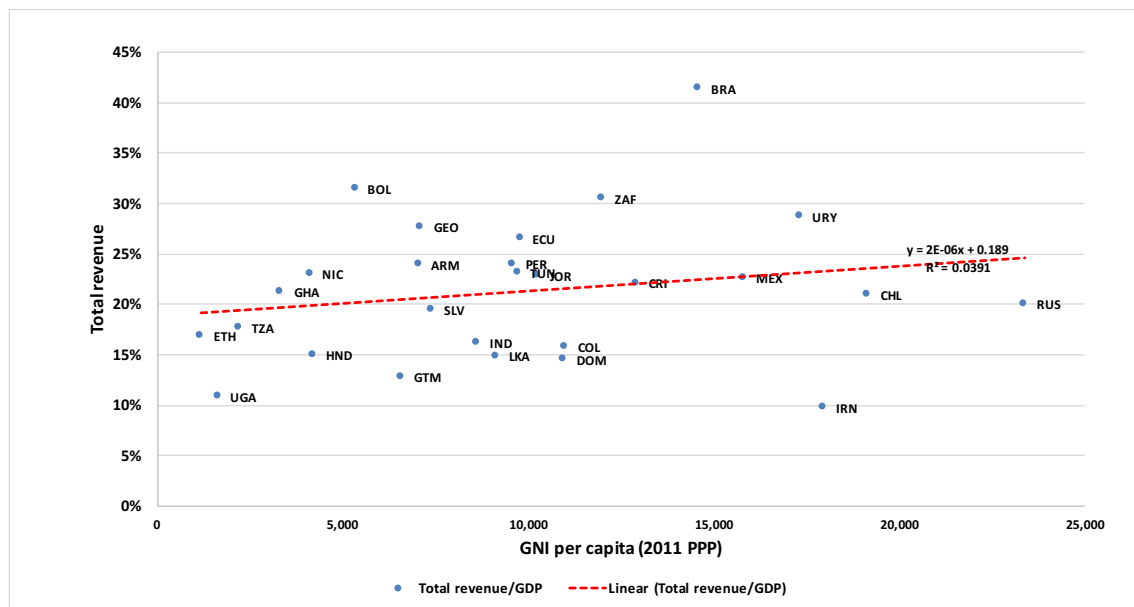


Notes

1. The year for which the analysis was conducted in parentheses.
2. Data shown here is administrative data as reported by the studies cited and the number not necessarily coincide with the IADB bases (or other multilateral organization).
3. Gross National Income per capita is in 2011 PPP from World Development Indicators, July 5th, 2016: <http://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD>

Source: CEQ Institute’s Data Center on Fiscal Redistribution. Based on Bolivia (Paz-Arauco et al., 2014), Brazil (Higgins and Pereira, 2014), Ethiopia (Hill et al., 2016), Ghana (Younger et al., 2015), Honduras (Castañeda and Espino, 2015), Nicaragua (Cabrera and Moran, 2015); and, Tanzania (Younger et al., 2016).

Figure 2. Total revenue/GDP vs. Gross National Income Per Capita (around 2010)



Notes

1. The dotted line is the slope obtained from a simple regression with total revenue as the dependent variable.

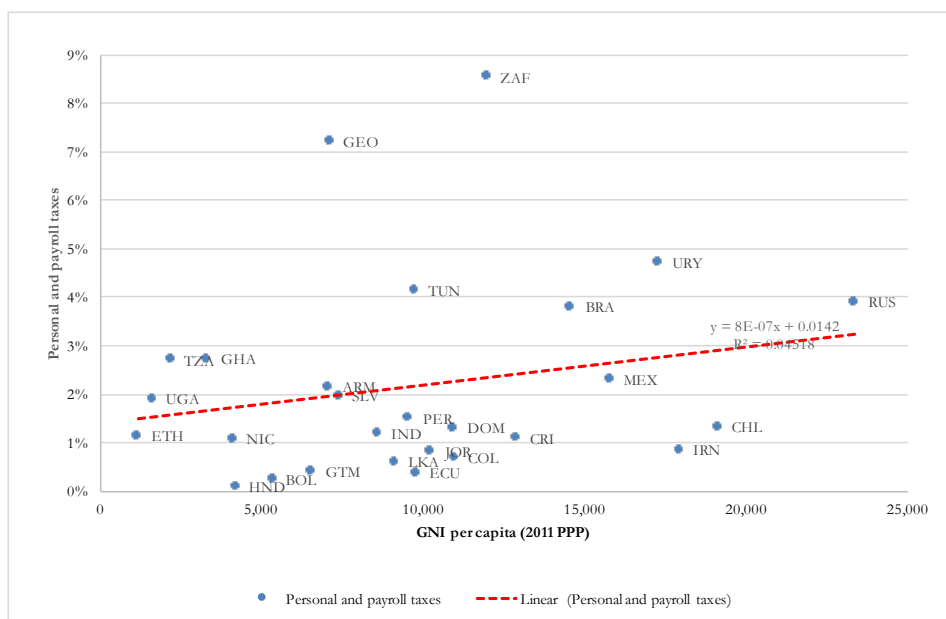
2. Gross National Income per capita is in 2011 PPP from World Development Indicators, July 5th, 2016: <http://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD>

3. t statistics in parentheses

\* p<0.1, \*\* p<0.05, \*\*\* p<0.01

Source: Lustig (forthcoming) and CEQ Institute’s Data Center on Fiscal Redistribution. 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 (Harker et al., 2016), Costa Rica (Sauma and Trejos, 2014), Dominican Republic (Aristy-Escuder et al., 2016), Ecuador (Llerena et al., 2015), El Salvador (Beneke, Lustig and Oliva, 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), Iran (Enami, Lustig, and Taqdiri, 2016), Jordan (Alam et al., 2016), Mexico (Scott, 2014), Nicaragua (Cabrera and Moran, 2015), 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), and Uruguay (Bucheli et al., 2014).

**Figure 3. Personal and Payroll Taxes vs. Gross National Income Per Capita (around 2010)**



Notes

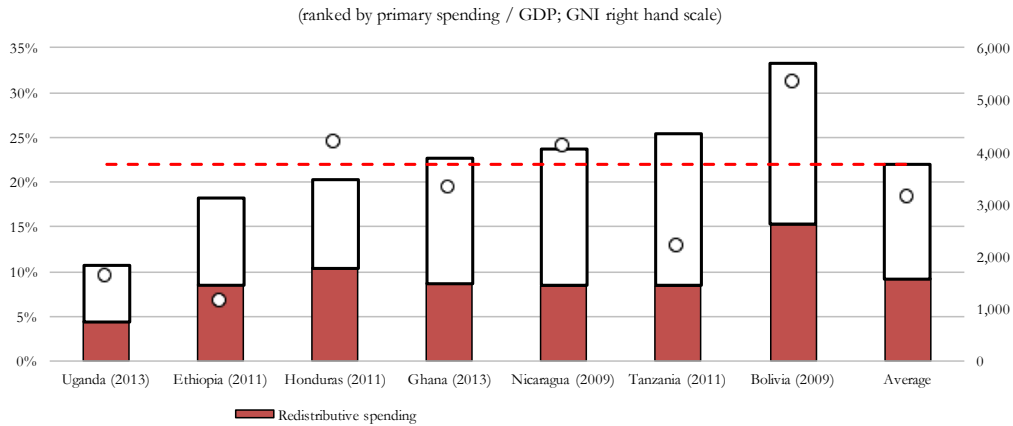
1. The dotted line is the slope obtained from a simple regression with direct taxes as the dependent variable.
  2. Gross National Income per capita is in 2011 PPP from World Development Indicators, July 5th, 2016: <http://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD>
  3. t statistics in parentheses
- \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

Source: Lustig (forthcoming) and CEQ Institute’s Data Center on Fiscal Redistribution. 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 (Harker et al., 2016), Costa Rica (Sauma and Trejos, 2014), Dominican Republic (Aristy-Escuder et al., 2016), Ecuador (Llerena et al., 2015), El Salvador (Beneke, Lustig and Oliva, 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), Iran (Enami, Lustig, and Taqdiri, 2016), Jordan (Alam et al., 2016), Mexico (Scott, 2014), Nicaragua (Cabrera and Moran, 2015), 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), and Uruguay (Bucheli et al., 2014).

Given comparatively low revenue collections, it is not surprising that Figures 4 and 5 (below) demonstrate that Uganda’s total spending and redistributive spending (spending on direct transfers, education, health, other social spending and indirect subsidies) is lower than that of Ethiopia and Tanzania, and significantly below the trend of 28 low- and middle-income countries. Ethiopia, though poorer, dedicates more fiscal resources to redistributive spending than Uganda. In terms of the composition of social spending (direct transfers, education, health, and other social spending), Uganda allocates a similar share of GDP to direct transfers as Ghana, Nicaragua, and Tanzania, but much less than Ethiopia (Figure 6). The same is true for education spending. For health, however, Uganda spends a share similar to Ghana and Tanzania, and a slightly higher share than Ethiopia.

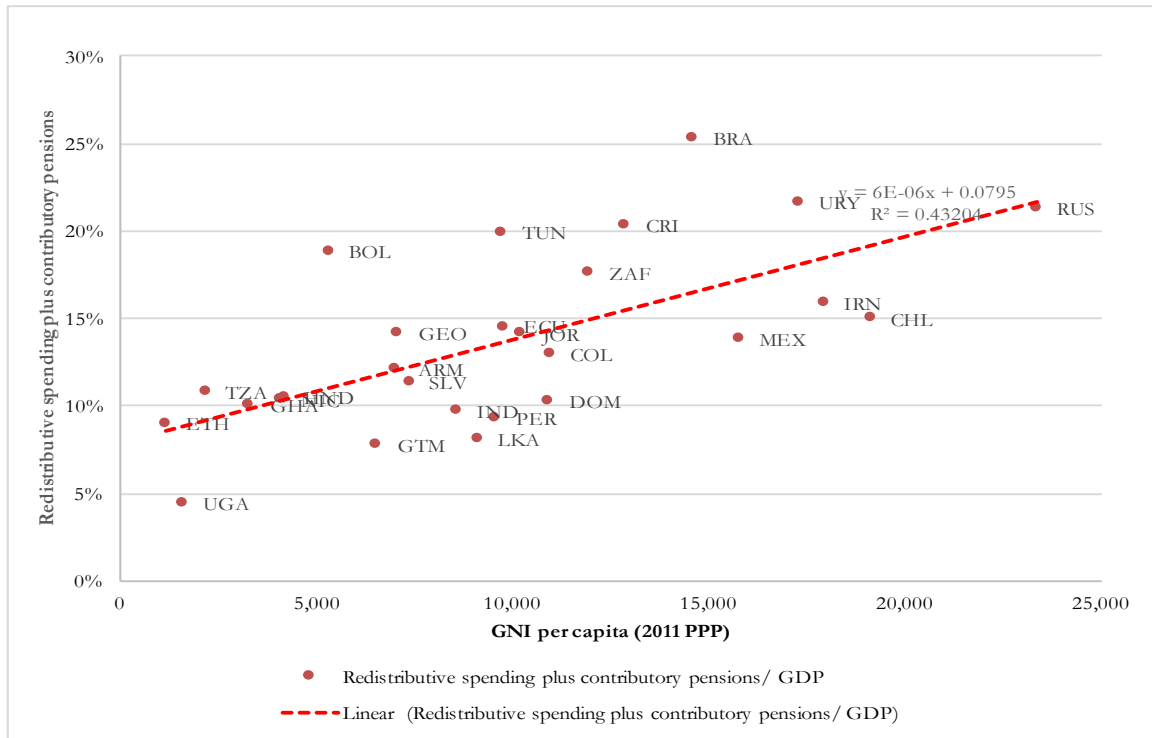


**Figure 4. Total Primary and Redistributive Spending (% of GDP): Bolivia, Ethiopia, Ghana, Honduras, Nicaragua, Tanzania, and Uganda (around 2010)**



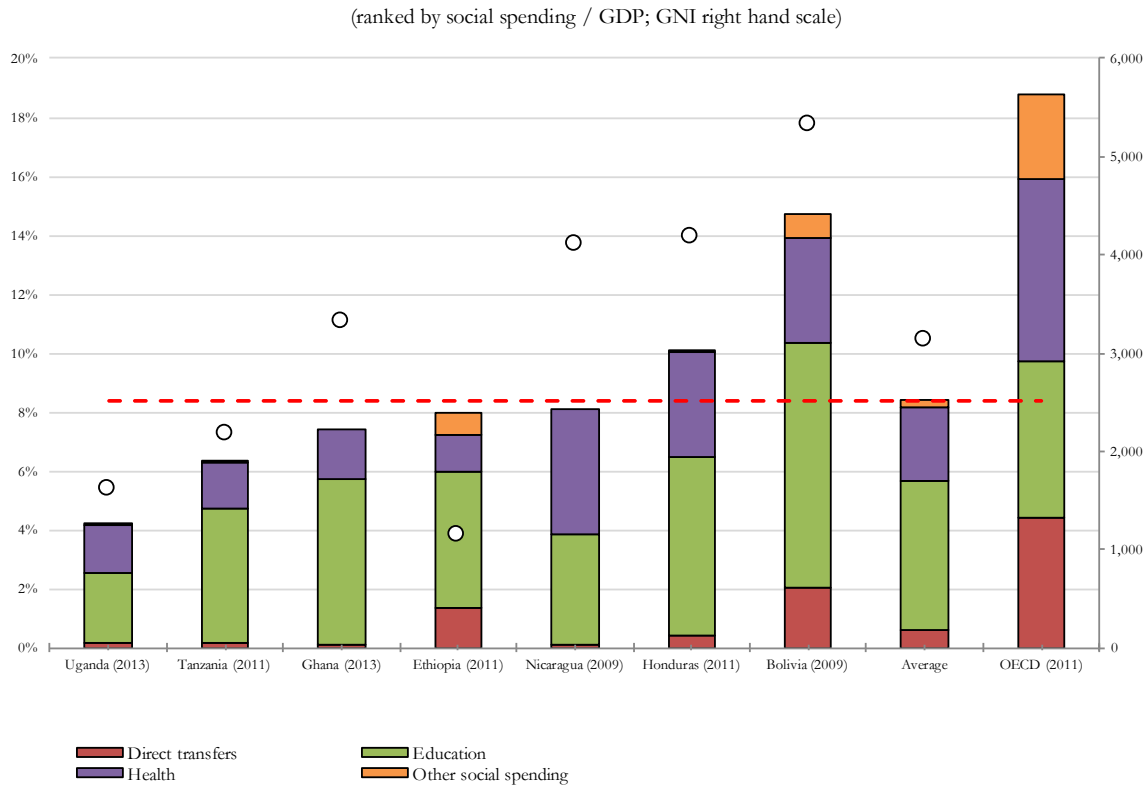
Source: CEQ Institute’s Data Center on Fiscal Redistribution. Based on Bolivia (Paz-Arauco et al., 2014), Brazil (Higgins and Pereira, 2014), Ethiopia (Hill et al., 2016), Ghana (Younger et al., 2015), Honduras (Castañeda and Espino, 2015), Nicaragua (Cabrera and Moran, 2015); and, Tanzania (Younger et al., 2016).

**Figure 5. Redistributive Spending vs. Gross National Income Per Capita (around 2010)**



Source: Lustig (forthcoming) and CEQ Institute’s Data Center on Fiscal Redistribution. 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 (Harker et al., 2016), Costa Rica (Sauma and Trejos, 2014), Dominican Republic (Aristy-Escuder et al., 2016), Ecuador (Llerena et al., 2015), El Salvador (Beneke, Lustig and Oliva, 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), Iran (Enami, Lustig, and Taqdiri, 2016), Jordan (Alam et al., 2016), Mexico (Scott, 2014), Nicaragua (Cabrera and Moran, 2015), 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), and Uruguay (Bucheli et al., 2014).

**Figure 6. Composition of Social Spending (% of GDP): Bolivia, Ethiopia, Ghana, Honduras, Nicaragua, Tanzania, and Uganda (around 2010)**



Source: CEQ Institute’s Data Center on Fiscal Redistribution. Based on Bolivia (Paz-Arauco et al., 2014), Brazil (Higgins and Pereira, 2014), Ethiopia (Hill et al., 2016), Ghana (Younger et al., 2015), Honduras (Castañeda and Espino, 2015), Nicaragua (Cabrera and Moran, 2015); and, Tanzania (Younger et al., 2016).

### 3 Methods and Data

#### 3.1 Methodological Summary

The CEQ Assessment takes specific fiscal policy elements, programs, expenditures, or revenue collections – such as those described above – and allocates them to individuals and households appearing in a micro-level socio-economic survey. Once the allocations have been made, the CEQ analytical program consists of calculating different measures of poverty and impoverishment, inequality and progressiveness, and the amount of redistribution accomplished (*inter alia*) on the measures of income – or “Income Concepts” – that exclude (“pre-fiscal”) and include (“post-fiscal”) these fiscal policy elements. Figure 7<sup>4</sup> below summarizes the construction of these income concepts.

<sup>4</sup> Figure 7 is adapted from the *Commitment to Equity Handbook: Estimating the Redistributive Impact of Fiscal Policy*, Nora Lustig, ed.; the

The Uganda CEQ Assessment incorporates every type of fiscal policy element listed in Figure 7 below. However, as the income module in the UNHS was judged to be unreliable and would likely lead to underreporting of income for those with little to no income from the sources listed in the UNHS as well as for those with very high incomes (from any source), we chose to use consumption expenditure as our measure of *primary* income.<sup>5</sup> We assumed total consumption expenditures – including the value of imputed rent for those living in owner-occupied housing as well as the implied value of any auto-production/auto-consumption – were equal to the CEQ Disposable Income concept (approximately in the middle of the flowchart in Figure 7) and work “backwards” and “forwards” from Disposable Income to other CEQ income concepts.<sup>6</sup>

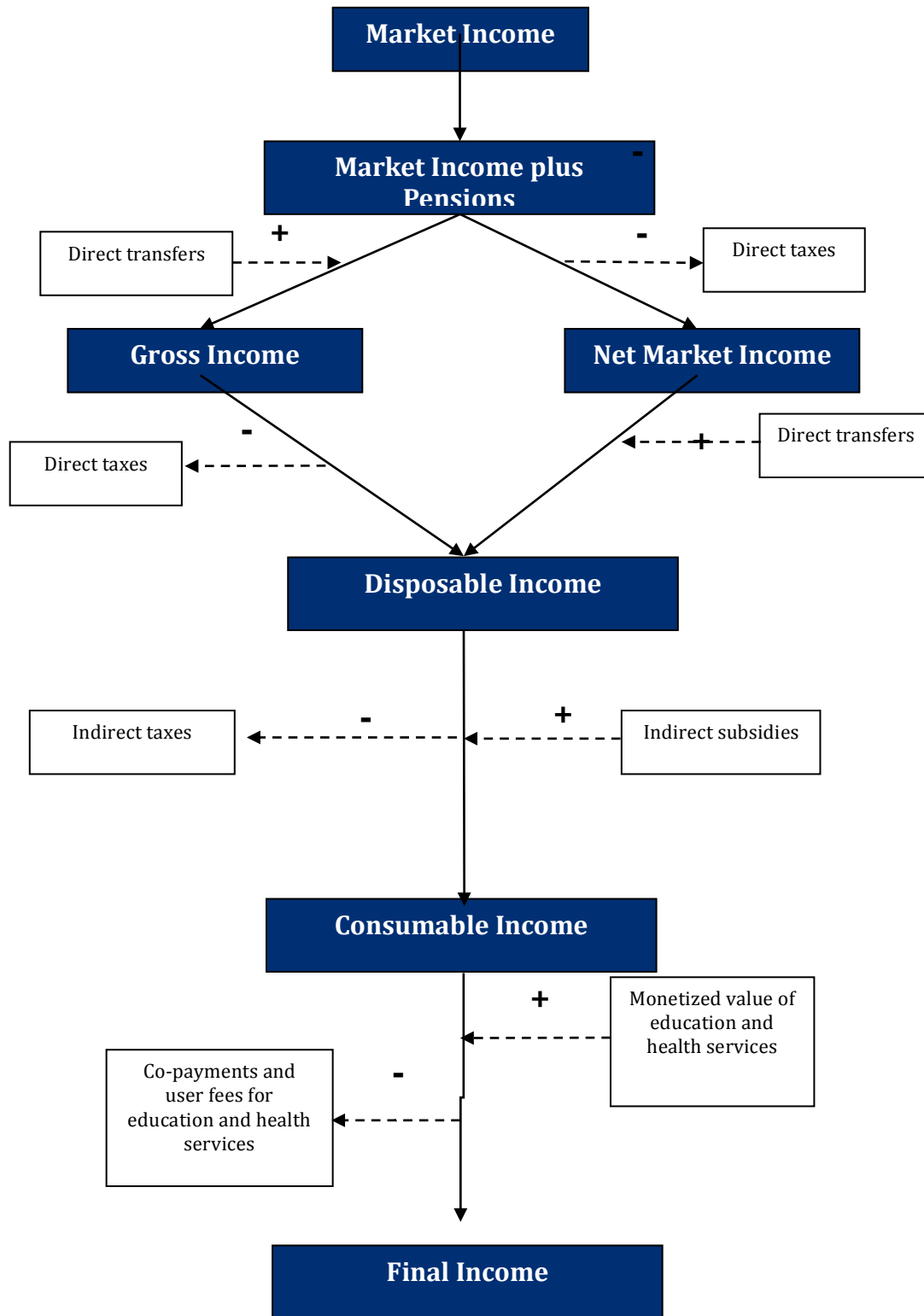
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Brookings Institution and CEQ Institute/Tulane University, in progress.

<sup>5</sup> See, for example, Bollinger and Hirsch (2013) or Bollinger and Hirsch (2007) for thorough treatments of the difficulties created by recall error and item non-response in socioeconomic survey income modules.

<sup>6</sup> As consumption expenditure is our primary income measure, and as all other income concepts including market income are derived from consumption expenditure, we do not create a Taxable Income concept; other CEQ Assessments do produce this income concept when relevant. Creating a Taxable Income concept requires knowledge of the composition of Market Income, a Ugandan household's expenditure profile (in the UNHS) cannot provide any information in the composition of income. Relatedly, we are unable to say anything about the savings or current asset profile UNHS households for the same reason: a current consumption expenditure profile does not provide any information on investment spending nor on the returns accruing to any households assets.

Figure 7. CEQ Income Concepts and Fiscal Policy elements



Source: Adapted from Lustig, Nora (ed.), forthcoming. Commitment to Equity Handbook. A Guide to Estimating the Impact of Fiscal Policy on Inequality and Poverty. Brookings Institution Press and Creative Commons.

### 3.2 Data Sources

The primary micro-level dataset providing the individual- and household-level information necessary to allocate fiscal policy elements<sup>7</sup> is the Uganda National Household Survey (UNHS) 2012/13. The Uganda Bureau of Statistics carries out two nationally representative surveys that cover consumption and income behavior on a regular basis, the Uganda National Panel Survey (UNPS) and the Uganda National Household Survey (UNHS). The UNHS has twice the sample size of the UNPS (6887 Households surveyed in the UNHS vs 3188 households in the UNPS) and provides better statistical power at sub-national levels, which is especially important for allocating direct transfers in Uganda (see below). The UNHS is conducted approximately every three years using a two-stage stratified sample design that allows for reliable estimation of key indicators at the national, rural-urban, regional and separately for the sub-regional level. Apart from coverage of in-kind transfers received, the survey contains detailed information about income sources and consumption levels that enable imputations of effective taxation, as well as the imputation of effective indirect transfers and subsidies.

The source for total revenues collected by the government from households – via the PAYE, VAT, and Excise taxes – is the Annual Budget Performance Report (ABPR) 2012/13 published by the Ministry of Finance, Planning and Economic Development. To impute “effective” or actually prevailing rates (which may differ from statutory rates), we first scale down the expected tax take from UNHS households so that the ratio of VAT (for example) revenues in the ABPR to Private Final Household Consumption Expenditure in Uganda National Accounts data is equivalent to the ratio of VAT collections from UNHS households to the value of cumulative UNHS household consumption expenditure. For VAT and the Excise taxes, the total revenue figure from the ABPR we use includes revenues via the application of those taxes (when applicable) to domestically-produced goods and services.<sup>8</sup>

Government expenditure on indirect subsidies for water and electricity, and in-kind transfers of healthcare and education services are also taken from the ABPR 2012/13. Expenditures on agricultural input subsidies (delivered by the NAADS agency – see above) were provided by the MoFPED and directly extracted from the government IFMIS. These subsidies and in-kind transfers are scaled in a manner equivalent to the scaling of taxes. The ABPR also provides aggregate expenditure information for the government agency responsible for the two programmes that feature direct transfers, NUSAF and SAGE (as explained in the previous section). We use operational reports, program characteristics, and rules to allocate uniform transfer magnitudes to all households who are imputed to be eligible (or to households deemed to host at least one eligible individual) for these programs. The total amount of direct transfer expenditure allocated, then, is not scaled in the way that the other fiscal policy elements described above are.

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<sup>7</sup> The allocations – including the assumptions and choices implicit in them – are described in the following section.

<sup>8</sup> While imported goods also attract VAT and Excise (potentially), we are unable to determine which UNHS household expenditures are for imported goods and which for domestic goods.

### 3.3 Allocation Assumptions

When and where possible, CEQ Assessments allocate fiscal policy elements to individuals or households based on direct observation. For example, when an individual queried in a socioeconomic survey is asked to recall how much she has paid in VAT on all her purchases in the last 7 days, or is asked to provide receipts detailing VAT payments, then we directly “observe” the total VAT collection from that individual. These VAT payments recorded by individuals are then assumed to be the same VAT revenues listed in the executive, administrative, and other budget reporting for the same year. In Uganda, however, very few fiscal policy elements could be allocated via direct observation; the subheadings below provide a summary of allocation assumptions and decisions for various fiscal policy elements.

#### 3.3.1 Personal Income Taxes

Pay as You Earn (PAYE) income tax collections allocated in the UNHS were scaled such that the ratio of total PAYE revenues in administrative records to National Accounts Household Final Consumption Expenditure was equivalent to the ratio of PAYE collected from UNHS households to total UNHS Consumption Expenditures. The PAYE rate schedule was adjusted so that the marginal change in PAYE rates between PAYE brackets remained intact while total PAYE collections remained equal to the amount described above. Taxpayer status was imputed based on a combination of (a) having recorded taxable income above the PAYE policy threshold, (b) the respondent indicating positively that he or she has made either PAYE payments or Social Security payments (or had them made on his or her behalf), and (c) the respondent having a higher score of two (2) or greater on a “formality of employment” scale if and when there were no determinate answers to the questions listed in (b). The “formality of employment” score was generated within the household survey and is additive across seven characteristics like the receipt of paid sick leave and vacation, the duration of the contract, and other benefits.

#### 3.3.2 Simulated Direct Transfers

Both of the umbrella programs under which Uganda’s direct transfers are executed – the Social Assistance Grants for Empowerment and the Northern Uganda Social Action Fund – operate in limited areas and there is no question in the UNHS that records receipts of any direct transfers. Instead, we use program reports (from the Uganda executing agency as well as multilateral development agencies) to understand eligibility, (annual) coverage, and (annual) benefit levels. We then parameterize eligibility and generate transfer-eligible populations within the household survey and randomly allocate program-specific benefits to program-specific eligible household pools until we reach (approximately) the average number of beneficiaries and benefits delivered yearly according to program reporting.

### 3.3.3 VAT, Excise, and Fuel Excise: *based on expenditure records*

We cannot directly identify VAT or excise tax amounts paid, so instead we back out, for each purchased item, the share of the item's value that is a VAT or excise charge. In order to determine this share, we first scale these taxes in two ways. The first scale factor involves selecting the proportion of the total tax collection we expect to be generated by household expenditure. For VAT, non-fuel Excise, and Fuel Excise, these first scale factors are 0.5, 1.0, and 0.1 (respectively).<sup>9</sup> When this first scale factor is less than 1, it indicates our assumption that the tax in question is not collected *exclusively* from households. For example, the 0.1 factor on the Fuel Excise indicates we assume 90 percent of the Fuel Excise collection total (listed in Table 1 above) is coming from the commercial/industrial/enterprise and government/NGO sectors. We do not assume the Fuel Excise collected from the non-household sectors does not create a burden for households (through higher prices of other goods and services consumed); however in this report we only allocate the *direct burden* of indirect taxes like VAT and the Excise tax.<sup>10</sup>

The second scale factor is generated in the following way: we calculate the ratio of revenues collected (per indirect tax) in the ABPR to Household Final Consumption Expenditure in the National Accounts and set it equal to the ratio of revenues collected from UNHS households (per tax) to cumulative UNHS consumption expenditure. We then create categories of goods in the UNHS consumption module which, according to tax statutes, attract the tax in question. For example, the only good listed in the UNHS consumption module which attracts the Fuel Excise tax is fuel itself; only UNHS households who record nonzero expenditure on fuel are allocated a Fuel Excise tax.<sup>11</sup> For the VAT, we created within the UNHS consumption expenditure records a measure of "VAT-able" consumption expenditure, and applied our imputed effective VAT rate to those expenditures only. We decided which items were "VAT-able" according to policy and statutes.

We then determine the share of the tax in the total expenditure value of the taxed good (or good category). From this share we determine what "effective" rate of taxation would, when applied to

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<sup>9</sup> These first factors are not chosen arbitrarily. For VAT we had a preview of estimates (generated by the Uganda Revenue Authority) of sector-level VAT collections: over 80 percent of VAT collections (in the 2012/13 fiscal year) were generated from just two sectors: manufacturing and electricity/gas/steam and air-conditioning supply. As final consumers in these sectors need not be exclusively households or private citizens, we guessed that less than 100 percent of VAT collections were coming from direct purchases by households. We then chose a proportion of VAT to allocate to households based on the effective rate that it implied (14.6 percent) compared with the statutory rate (18 percent). For the Fuel Excise, we knew that only 6 percent of UNHS households recorded positive fuel purchases. As for VAT, we chose the first Fuel Excise factor, 0.1, based on the effective rate of taxation (on fuel) that it implied (217 percent) compared to the statutory rate (217 percent). The non-fuel excise is collected primarily from alcoholic beverages, tobacco, chewing gum, sweets, chocolate and other comestibles as well as from furniture, cosmetics and perfumes, banking fees and money transfers, and cement. All of these items (save for cement) are plausibly purchased by households.

<sup>10</sup> Chapter 4 in the CEQ Handbook (Lustig and Higgins, 2016) provides a theoretical model and estimation tools and procedures for estimating the *indirect effects* of indirect taxes within the CEQ Assessment framework.

<sup>11</sup> We do not have access to the sales value of the VAT-able base by sector or good/service category, so we instead assume that VAT was collected at the same rate (proportional to net-of-VAT price) over all goods that attract the VAT. Uganda's excise tax applies to sugar, alcoholic beverages, tobacco, cell phone minutes, cement, cosmetics, and the statutory excise rates occupy a range, but because excise collections are not available by sector, the total excise collection from UNHS households is accomplished in a manner similar to that for VAT; that is, we assume that excise is collected at the same rate (proportional to net-of-excise price) over all goods attracting the excise.

the value of the good *net of the indirect tax paid*, give us back the actual sales value of the good as recorded by households in the UNHS.

The “effective” rate, or the on-average actual rate, so calculated allows us to take care not to allocate indirect taxes to purchases of goods or services which are exempt from the tax. We also implicitly exclude any informal purchases that are not included in the sales over which an indirect tax is collected. However, because we do not directly observe informal purchases, the reduction in taxes collected (and therefore the reduction in taxes allocated to UNHS households) due to informal purchases or weak tax administration is allocated to all households purchasing the good (or category of goods) which is taxed.

### 3.3.4 Electricity and Water Subsidies

As the previous section indicates, water and electricity tariffs are not directly subsidized, but the Rural and Urban Water Supply programs and the Rural Electrification program provide (to the utility operators) a fixed, on-budget sum annually that is meant to cover network maintenance, investment, and upgrading costs. In other words, without this budget support, utility operators would raise prices so that total revenues collected privately covered these costs as well. For these programs, we divide the total (scaled) expenditure on these programs by the total number of eligible users in the UNHS to get a per-user subsidy. We are allocating to eligible households an amount that would cover, for example, a fixed “connection charge”; this in turn means more intensive utility users receive the same total subsidy as less intensive users.

### 3.3.5 Agricultural Input Subsidy

The NAADS Agricultural Input Subsidy provides beneficiaries with (some) free agricultural inputs. The UNHS does not record the source of the purchase for those individuals who purchase agricultural inputs. We turn to Uganda’s National Service Delivery Survey (NSDS) to generate a propensity score (at the household level) for acquiring NAADS-subsidized inputs (conditional on having purchased any agricultural inputs). We then generate that propensity score (again at the household level) for UNHS households and select households with the highest propensity scores until the number of NAADS-subsidy beneficiaries in the UNHS (as a percent of the agricultural-input-purchasing pool of households in the UNHS) matches the number of NAADS-subsidy beneficiaries in the NSDS (as a percent of agricultural-input-purchasing pool of households in the NSDS). Given the technique we use to allocate NAADS expenditures, this allocation can be described as the *expected* allocation of *expected* benefits available under the NAADS program.



### 3.3.7 In-kind transfers

Uganda’s expenditures on education and health are allocated to those UNHS households where at least one member utilizes the public education or public healthcare service system (respectively). As for the water and electricity subsidies, scaled in-kind spending is divided by the total number of UNHS users in order to get a “per student” or “per patient” subsidy; this uniform subsidy amount is then allocated to all directly-identified users. So a single household with an enrolled primary school student, an enrolled secondary school student, one visit to a (public) hospital, and two visits to the (public) outpatient clinic, would receive five different in-kind subsidies for the five service types utilized.

## 4. Results

### 4.1 Does Fiscal Policy have an impact on Inequality and Poverty?

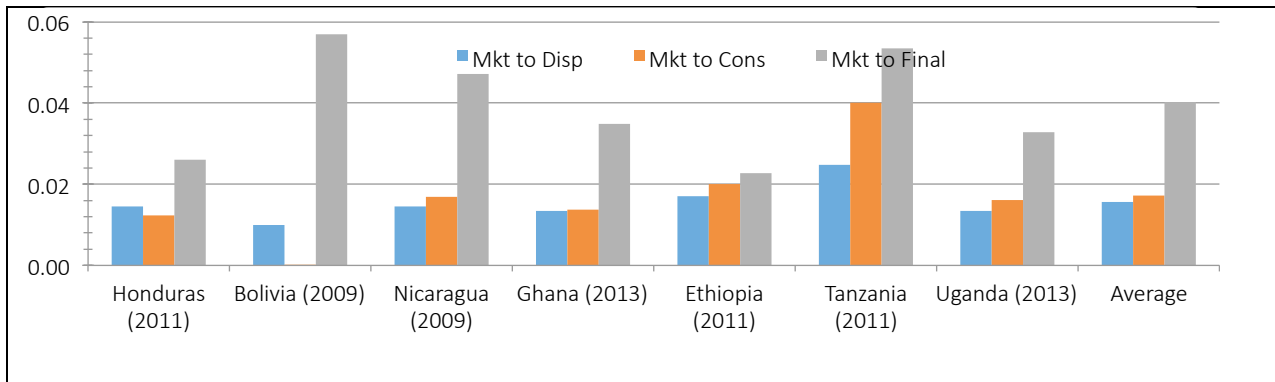
Overall, inequality would be higher in Uganda if the fiscal policy elements covered here (see Tables 1 and 2 above) were eliminated; in other words, **Uganda fiscal policy does reduce inequality**. For example, Table 3 below demonstrates that the Gini coefficient estimated over incomes that *do not* include direct taxes, pension benefits and contributions, and other direct transfers (Market Income in CEQ nomenclature) is 0.413, or 1.3 Gini points higher than the Gini coefficient of 0.400 estimated over incomes that include those elements (Disposable Income). The Gini coefficient measured at Final Income - which includes indirect taxes, subsidies, and in-kind benefits in addition to the fiscal policy elements included in Disposable Income - is 0.381; therefore the total impact of fiscal policy on inequality is a reduction of approximately 3 Gini points, from 0.413 to 0.381.

**Table 3. Inequality and Poverty before and after fiscal policy**

| <i>Income Concept</i>    | Gini Coefficient | Poverty Headcount |
|--------------------------|------------------|-------------------|
| Market Income            | 0.413            | 19.9%             |
| Market Income + Pensions | 0.414            | 19.8%             |
| Net Market Income        | 0.401            | 19.8%             |
| Disposable Income        | 0.400            | 19.7%             |
| Consumable Income        | 0.398            | 19.9%             |
| Final Income             | 0.381            | --                |

Source: Data from authors’ own calculation

**Figure 8 Redistributive Effects: Bolivia, Ethiopia, Ghana, Honduras, Nicaragua, Tanzania, and Uganda circa-2010 (change in Gini in absolute terms)**



1. Scenario in which contributory pensions are treated as deferred income.  
 2. Redistributive Effect is measured in absolute changes of Gini for market income less Gini of final income.  
 Source: CEQ Institute's Data Center on Fiscal Redistribution. Based on Bolivia (Paz-Arauco et al., 2014), Brazil (Higgins and Pereira, 2014), Ethiopia (Hill et al., 2016), Ghana (Younger et al., 2015), Honduras (Castañeda and Espino, 2015), Nicaragua (Cabrera and Moran, 2015); and, Tanzania (Younger et al., 2016).

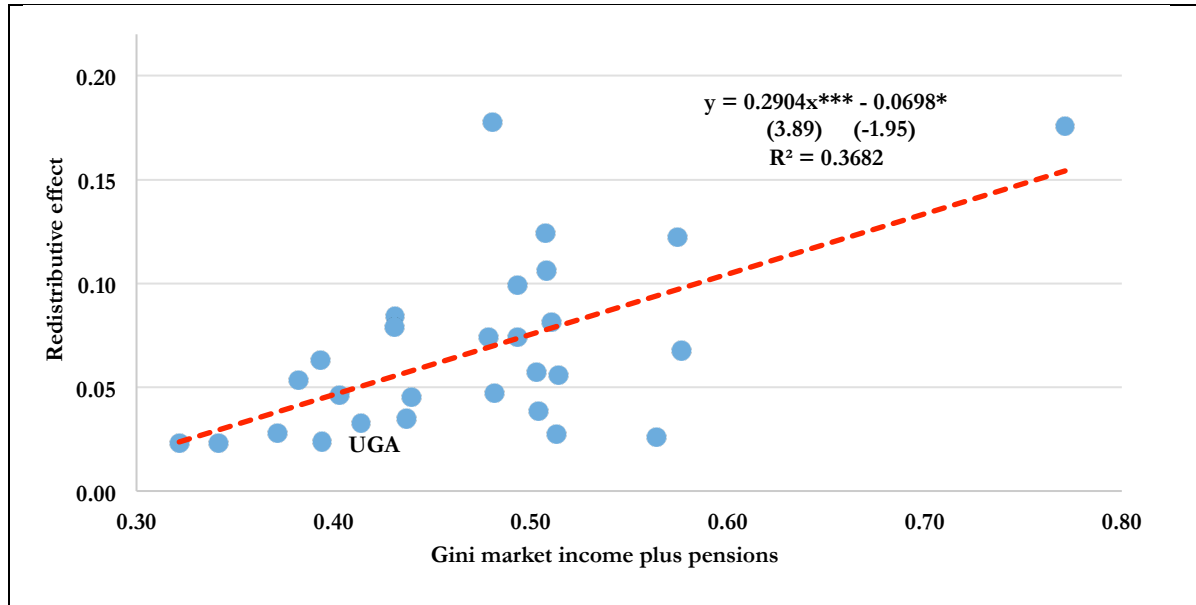
**Fiscal policy does not increase poverty rates** significantly (nor do the poverty gap or squared poverty gap change). For example, the poverty headcount rate at the national poverty line stays at approximately 20 percent when moving from Market Income to Consumable Income (which includes pensions, all taxes, direct transfers, and subsidies<sup>12</sup>). Likewise, at the \$1.25 PPP (2005) international poverty line, the poverty headcount hovers right at 18 percent in between Market Income and Consumable Income.

**Fiscal policy is therefore modestly inequality-reducing**, while there is essentially no change in poverty (due to fiscal policy). Among the set of countries with low fiscal expenditures, the estimated impact of Uganda fiscal policy on inequality is approximately average. As seen in Figure 8, the redistributive effect (measured as the absolute difference between the Gini for market income and the Gini for final income) in Uganda is larger than in Ethiopia and Honduras, but noticeably smaller than Bolivia, Nicaragua, and Tanzania. In Figure 9, one can observe that, although starting from a higher market income (pre-fiscal) inequality level, Uganda's redistributive effect is below the trend. In contrast, while Ethiopia and Tanzania start from a lower market income inequality, their corresponding redistributive effect is practically on trend. Figure 10 demonstrates that Uganda's redistributive effect is slightly above trend given the share of social spending to GDP: therefore, the

<sup>12</sup> Consumable Income does not include in-kind transfers; in-kind transfers are to value appropriately in terms of household purchasing power.

modest redistributive effect is associated with low overall tax collections and social spending, rather than ineffective social spending in particular.

Figure 9 Initial Inequality and Redistributive Effect (around 2010)



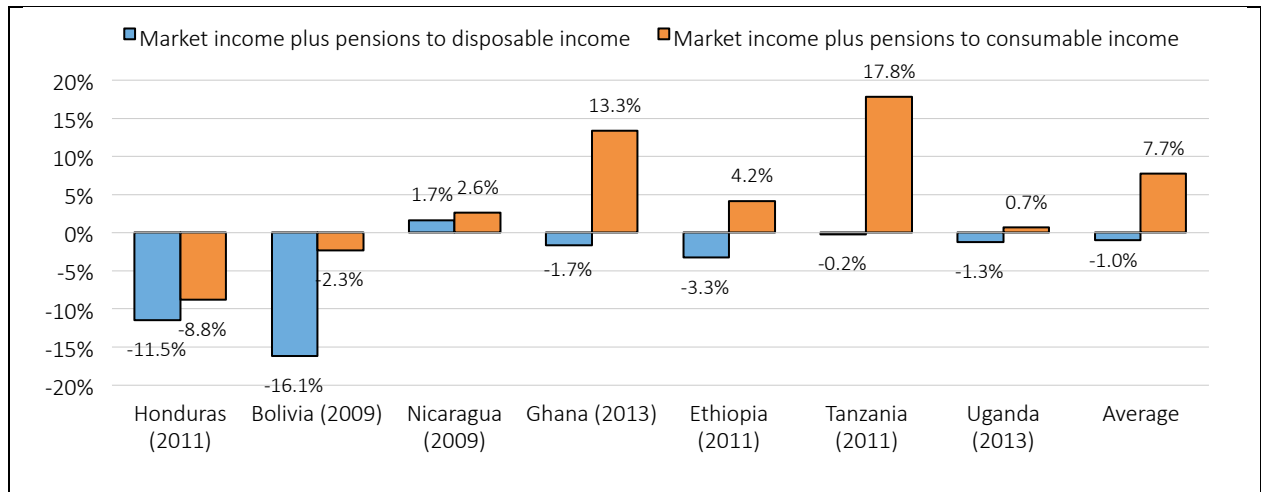
1. The dotted line in red is the slope obtained from a simple regression with the redistributive effect as a dependent variable.
2. t statistics in parentheses; \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$
3. Contributory pensions are treated as deferred income.
4. Redistributive Effect is measured in absolute changes of Gini for market income less Gini of final income.

Source: Lustig (forthcoming) and CEQ Institute's Data Center on Fiscal Redistribution. 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 (Harker et al., 2016), Costa Rica (Sauma and Trejos, 2014), Dominican Republic (Aristy-Escuder et al., 2016), Ecuador (Llerena et al., 2015), El Salvador (Beneke, Lustig and Oliva, 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), Iran (Enami, Lustig, and Taqdiri, 2016), Jordan (Alam et al., 2016), Mexico (Scott, 2014), Nicaragua (Cabrera and Moran, 2015), 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), and Uruguay (Bucheli et al., 2014).

The redistribution Uganda achieves through fiscal policy has virtually no effect on poverty. However, compared with other low income countries such as Ethiopia and Tanzania, the impact of Ugandan fiscal policy on poverty reduction looks more significant. Figure 11 indicates that when the impact of indirect taxes and indirect subsidies is taken into account, Uganda's "no change" in the poverty headcount is actually the third best in this group of African and Central American low to low-middle income countries. Among African countries (in Figure 11), Uganda is the only one of the four in which consumable income poverty does not rise (noticeably) above market income (pre-fiscal) poverty. This is a remarkable outcome and possibly a consequence of the low indirect tax

burden on the poor as a result of exemptions and the fact that, although subsidies also benefit the nonpoor, the poor are benefitting from subsidies disproportionately.

**Figure 11 Percent change, Poverty Headcount): Bolivia, Ethiopia, Ghana, Honduras, Nicaragua, Tanzania, and Uganda circa-2010**



Source: CEQ Institute’s Data Center on Fiscal Redistribution. Based on Bolivia (Paz-Arauco et al., 2014), Brazil (Higgins and Pereira, 2014), Ethiopia (Hill et al., 2016), Ghana (Younger et al., 2015), Honduras (Castañeda and Espino, 2015), Nicaragua (Cabrera and Moran, 2015); and, Tanzania (Younger et al., 2016).

#### 4.2 How many Ugandans are Impoverished by Taxes, Transfers, and Subsidies?

Calculating the poverty headcount before and after fiscal policy elements are applied gives us a broad indication of the advantage or disadvantage created by that policy: if the poverty headcount is higher after the policy is allocated, then the policy has disadvantaged some individuals. However, anyone receiving (as benefits) a fiscal expenditure sees their income increase; and anyone paying a tax (or other revenue collection) sees their income decrease. We can summarize those individual losses and gains through the Fiscal Impoverishment (FI) and Fiscal Gains to the Poor (FGP) indices (first proposed by Higgins and Lustig, 2016).

The Fiscal Impoverishment (FI) Index “tracks” each individual who *becomes poor* upon the execution of a fiscal policy (or a collection of fiscal policies) to determine how much their income decreased and therefore by how much they were impoverished. Table 4 below shows that in Uganda, the net position of all households after the addition of the PAYE income tax, Direct Transfers, the indirect VAT, Excise, and Fuel Excise taxes, and the water, electricity, and agricultural input subsidies to Market Income is such that 12 percent of the population is impoverished (column 4) if poverty is measured using the \$1.25 PPP [2005] line. In other words, 12 percent of the population would not

have become impoverished (on net) had there been no net fiscal-policy adjustment to their market incomes.<sup>13</sup>

Table 4 indicates that Uganda’s FI index (for poverty measured at the \$1.25 PPP [2005] line) puts it in the middle of the distribution of FI performance in lower-middle income countries. Sri Lanka and the Dominican Republic generate significantly less FI through their fiscal systems while Ghana and Ethiopia generate significantly more; Armenia, Bolivia, and Guatemala all have somewhat lower levels of FI. FI through their fiscal systems. Column 5, which presents FI among the individuals who are poor (rather than in the population at large), shows that even in Sri Lanka, where FI is negligible when measured as a percent of the total population, about one-third of the consumable-income poor have been impoverished by the (net) fiscal system.

**Table 4. Fiscal Impoverishment (circa 2010)**

| <b>Country (survey year)</b> | (1)<br>Market<br>income<br>plus<br>contributor<br>y pensions<br>Poverty<br>headcount<br>(%) | (2)<br>Change in<br>poverty<br>headcount<br>(percentage<br>points) | (3)<br>Market<br>income<br>plus<br>contributor<br>y pensions<br>inequality<br>( Gini) | (4)<br>Fiscally<br>impoverishe<br>d as % of<br>population | (5)<br>Fiscally<br>Impoverishe<br>d as % of<br>consumable<br>income poor |
|------------------------------|---|--|---|---|--|
| Armenia (2011)               | 12.8  | -1.0   | 40.3  | 6.2   | 52.3   |
| Bolivia (2009)               | 10.0  | -0.2   | 50.3  | 6.6   | 63.2   |
| Dominican Republic<br>(2013) | 5.7<br>17.9   | -0.8<br>0.1  | 51.4<br>41.3  | 1.0<br>12.2   | 16.3<br>67.7   |
| Uganda (2012/13)             | 31.9  | 1.3  | 32.2  | 28.5  | 83.2   |
| Ethiopia (2011)              | 6.0   | 0.8  | 43.7  | 5.1   | 76.6   |
| Ghana (2013)                 | 5.6   | 0.1  | 51.3  | 7.0   | 62.2   |
| Guatemala (2010)             | 12.1  | -1.5   | 39.4  | 4.1   | 39.2   |
| Indonesia (2012)             | 5.0   | -0.7   | 37.1  | 1.6   | 36.4   |
| Sri Lanka (2010)             |   |  |   |   |  |
| Tanzania (2011)              | 43.7  | 7.8  | 38.2  | 50.9  | 98.6   |

Source: Higgins and Lustig, 2016. Uganda data from authors’ own calculations.

### 4.3 How many poor Ugandans experience income gains via Fiscal Expenditures?

The FGP index is the mirror of FI: it tracks *pre-fisc* poor households receiving (net) benefits to determine by how much their incomes are increased from this receipt. At Consumable Income, and using the same \$1.25 PPP [2005] poverty line as in Table 4, 28.4 percent of the *pre-fisc* poor – those whose market income (including pensions) is below the poverty line – receive (net) benefits from the Ugandan fiscal policy. The fiscal system adds about 8 percent (on average) to pre-fisc-income among the poor individuals who receive net transfers.

<sup>13</sup> That additional 12 percent of the Ugandan population represents approximately 68 percent of the Consumable-Income-Poor.

Overall, then, the fiscal system adds more income to fewer of the pre-fisc poor and takes away less income from more of the post-fisc poor. The result is by now familiar: on net, the poverty headcount is basically unchanged in between Market Income plus Pensions and Consumable Income.

#### 4.4 Market to Disposable Income: Pensions, Personal Income Taxes, and Direct Transfers

The addition of pensions, personal income taxes, and direct transfers to Market Income creates Disposable Income (see Figure 1 above).<sup>14</sup> Table 5, which presents the marginal impact of fiscal policy elements on inequality and poverty, demonstrates that pensions reduce inequality and poverty slightly, indicating that some pension benefits are received by poorer households.<sup>15</sup>

Uganda's PAYE personal income tax also reduces inequality slightly while leaving the poverty headcount unchanged. As any tax collection from an individual necessarily reduces that individual's purchasing power over all other goods and services, then a tax (whether direct or indirect) considered individually will always *at best* leave the poverty headcount unchanged (relative to pre-tax poverty headcount), so the Uganda PAYE result could not be any better. The lack of an impact on poverty is likely a result of the decision to impute taxpayer status by developing a "formality" scale for contracted labor and allocating simulated tax amounts only to those who claim to have paid PAYE (or to have had it deducted) or who score high on the formality scale; and have reported taxable income above the tax threshold. There are very few poor or near-poor households who are either formally employed or who claim to have paid PAYE with taxable income greater than the tax threshold.<sup>16</sup>

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<sup>14</sup> Pension contributions are not allocated in this Uganda CEQ Assessment because of a lack of data on both the household side and the budget and administrative side.

<sup>15</sup> In the UNHS, we find one poor household who records receipt of pension income.

<sup>16</sup> Our imputation gave us only two observations where a household was poor and paid PAYE; they were both rural households and they were imputed to be in the lowest tax bracket, where the effective marginal rate was determined to be about 8.5 percent. Both these households are also estimated to be poor households at Market income and Market Income + Pensions income concepts, meaning they would have been poor whether or not there was a PAYE system and whether or not they *actually* contributed to PAYE revenues.

**Table 5. Marginal Impacts on Inequality and Poverty (at Final Income)**

|   | <i>Inequality</i> | <i>Poverty</i> |
|---|-------------------|----------------|
| <b>Market Income</b>                                  |                   |                |
| Contributions to Pensions                             | --                | --             |
| Contributory Pensions                                 | -0.0001           | -0.001         |
| PAYE Personal Income Taxes (imputed)                  | -0.013            | 0.000          |
| <b>Net Market Income</b>                              |                   |                |
| <b>All Direct Transfers</b> (excl. contrib. pensions) | -0.001            | 0.001          |
| PWP   | 0.000             | 0.000          |
| HISP  | 0.000             | 0.000          |
| SCG   | 0.000             | 0.000          |
| VFSG  | 0.000             | 0.000          |
| <b>Disposable Income</b>                              |                   |                |

Source: Data from authors' own calculations.

Direct Transfers in Uganda are minimal and thinly spread. The direct transfers covered here – the Household Income Support Program (HISP) and the Public Works Program (PWP), both delivered under the Northern Uganda Social Action Fund (NUSAF), and the Senior Citizen’s Grant (SCG) and the Vulnerable Family Support Grant (VFSG) under the Social Assistance Grants for Empowerment (SAGE) – cover few individuals or households. The cumulative value of these transfers is approximately 0.1 percent of cumulative Market Income. NUSAF is, as its name implies, targeted to a specific region while the SAGE program was still a pilot program in 2012. As a result, there is no significant impact of any one of these programs on either poverty or inequality (Table 5); their joint impact is to reduce both poverty and inequality but by very small amounts.

The bottom two deciles are estimated to receive over 50 percent of the transfers available; transfers received represent about 7 percent of the pre-fisc income of transfer beneficiaries or 9.5 percent of the pre-fisc income of *poor* beneficiaries. In other words, direct transfers in Uganda are well targeted and make a significant difference to those who receive them, but overall less than 3 percent of Ugandan households receive these transfers (in a given year). The nationwide distribution of income is largely unchanged even after these programs are executed, meaning that though they do reduce poverty and inequality their impact on nationwide indicators is minimal.

#### 4.5 Disposable to Final Income: Indirect Taxes and Subsidies; In-kind Health and Education Expenditures

Inequality *decreases* slightly from Disposable to Consumable Income, meaning that once we add income received as indirect subsidies and subtract income that represents indirect taxes paid, the resulting distribution is more equal.<sup>17</sup> The indirect taxes included here are the Value-Added Tax (VAT) and the Excise tax (including the fuel excise); the revenue collections allocated under these taxes are equivalent to approximately 2.0 percent of cumulative Market Income plus Pensions. VAT, the non-fuel Excise, and the Fuel Excise account for approximately 52, 45, and 3 percent of the total indirect taxes allocated.<sup>18</sup> The Indirect Subsidies included here are the Rural Electrification program, the Water Supply program, and the Agricultural Input subsidies program; these three subsidies together provide benefits equal to approximately 0.2 percent of cumulative Market Income. The Water Supply program is the largest indirect subsidy (in terms of expenditure) while the Rural Electrification program and the Agricultural Input subsidy program transfer approximately the same benefit totals. Table 6 below provides the marginal impacts of these fiscal policy instruments on inequality and poverty (at Final Income).

Most households pay more in indirect taxes than they receive in indirect subsidies, but enough poor households receive enough subsidies such that the poverty rate actually stays constant when indirect taxes and subsidies are allocated. Rural households, primarily, may be lifted out of poverty when the government spends to deliver goods and services (water, electricity, and agricultural inputs) at below market prices (Table 6). Among poor households only, total subsidies received represent about 0.8 percent of their (cumulative) Disposable Income, but the share of total subsidies received rises with income. Subsidies can have a poverty-reduction impact, but relative to direct transfers they are an inefficient way to assist poor and vulnerable households as subsidies are targeted towards higher-volume users *by design*.

In the CEQ framework, only those who utilize the public service provision system can benefit from publicly-financed outputs in Health and Education. Even so, in Uganda, these “in-kind” services make the largest impact on inequality: the Gini index of inequality drops by 1.7 points in between Consumable and Final Income, and the marginal contribution of in-kind spending is approximately double that of the fiscal policy element with the next largest marginal contribution (personal income taxes). Education makes a larger marginal contribution to inequality reduction – see the international comparisons directly below – but there are higher total expenditures in the Public Education system.

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<sup>17</sup> The Disposable Income concept, based on consumption expenditures valued at prevailing prices, does not explicitly contain the expenditure done by the government on behalf of the consumer (in the form of a subsidy) nor does it explicitly ignore expenditure done by the consumer on behalf of the government (in the form of indirect taxes paid).

<sup>18</sup> We generate “effective” rates of taxation within the UNHS of 14.6, 20.2, and 245 percent for the VAT, non-fuel Excise, and Excise taxes. The statutory VAT rate is 18 percent; the statutory non-fuel excise rate varies; and the statutory fuel excise is a fixed nominal amount per liter.



**Table 6 Marginal Impacts on Inequality and Poverty (at Final Income)**

|                           | <i>Inequality</i> | <i>Poverty</i> |
|---------------------------|-------------------|----------------|
| <b>Disposable Income</b>  |                   |                |
| <b>Indirect Subsidies</b> | -0.0005           | -0.002         |
| Water                     | -0.0003           | -0.001         |
| Electricity               | 0.0000            | 0.000          |
| NAADS – Ag. Inputs        | -0.0002           | 0.000          |
| <b>Indirect Taxes</b>     |                   |                |
| VAT                       | -0.0013           | 0.0032         |
| Excise                    | -0.0007           | 0.0025         |
| Fuel Excise               | -0.0003           | 0.0000         |
| <b>Consumable Income</b>  |                   |                |
| <b>In-kind spending</b>   | -0.017            | --             |
| Education                 | -0.010            | --             |
| Primary School            | -0.010            | --             |
| Secondary                 | -0.002            | --             |
| Tertiary                  | 0.002             | --             |
| Health                    | -0.006            | --             |
| Clinic-based care         | -0.005            | --             |
| Hospital-based care       | -0.001            | --             |
| <b>Final Income</b>       |                   |                |

Source: Data from authors' own calculations.

The impact of public education expenditures depends on rates of enrolment – is enrolment higher among poorer or richer households, and does the difference vary across schooling levels? The impact of public education expenditure also depends on the generosity of the benefits provided – typically, the education benefit level rises with the level of schooling, such that public university enrollees will receive an in-kind transfer with a larger monetary value than will primary school enrollees. In Uganda, education benefits do rise with education levels: the capitation grant (alone) is 5 to 6 times as large for secondary school students as for primary school students, for example (see Section 2 above).<sup>19</sup> However, poorer household enrolment is weighted heavily toward primary school, so poorer households have a larger share of the available primary school benefits but smaller shares of the available secondary and tertiary school benefits. Overall, the public education benefit share of the poorest decile (ranked by Market Income) is roughly 7.5 percent while the same share for the middle and richest deciles are 9.5 and 15.5 percent (respectively). Compare this to health

<sup>19</sup> Encouragingly, we find that total education expenditures – including capital spending and other supplies, administrative costs, teacher salaries, and others – per pupil are approximately 5 times as large for a secondary school student as for a primary school student, and approximately 3 times as large for a tertiary school student as for a secondary school student. In the Uganda CEQ Assessment, we allocate to each household with one or more publicly-enrolled students a uniform benefit equal to Total Education Expenditure (by schooling level) per enrolled student (at that level).

benefits, where the poorest decile has a 10.5 percent share of the total public health benefits available, the middle decile a 9.7 percent share, and the top decile a 10.3 percent share.

However, the education benefits received by the poorest decile represent 6.7 percent of market income in that group while the education benefits received by the richest decile represent 1.1 percent of market income in that group. For Health benefits the analogous numbers are 6.5 percent (for the poorest decile) and 0.5 percent (for the richest decile). Even though shares of total public health spending are more equitably distributed (than education benefits), nonetheless public health benefits are of smaller magnitude (than education benefits) and the total impact on inequality from public health is less than that from public education spending.

As can be seen from Table 7 below, the profile of impacts from in-kind spending in Uganda is slightly better than average: both primary and secondary education and health are pro-poor in that per-capita amounts spent *fall* as income rises. Only tertiary education is unequalizing (benefits as a share of market income *rise* as income rises) in Uganda, but that is true in Ethiopia, Ghana, and Tanzania as well.

**Table 7 Inequality-reduction profile of in-kind spending, by country (around 2010)**

|                           | Education Total |   |   | Pre-school |   |   | Primary |    |   | Secondary |    |    | Tertiary |   |   |   | Health |   |   |   |
|---------------------------|-----------------|---|---|------------|---|---|---------|----|---|-----------|----|----|----------|---|---|---|--------|---|---|---|
|                           | A               | B | C | A          | B | C | A       | B  | C | A         | B  | C  | A        | B | C | D | A      | B | C | D |
| Argentina (2012)          | +               |   |   | +          |   |   | --      |    |   | --        |    |    |          |   | + |   | +      |   |   |   |
| Armenia (2011)            | +               |   |   | +          |   |   | +       |    |   |           |    |    |          |   | + |   |        | + |   |   |
| Bolivia (2009)            |                 | + |   | +          |   |   | +       |    |   | +         |    |    |          |   | + |   |        | + |   |   |
| Brazil (2009)             | +               |   |   | +          |   |   | +       |    |   | +         |    |    |          |   | + |   | +      |   |   |   |
| Chile (2013)              | +               |   |   | +          |   |   | +       |    |   | +         |    |    |          |   | + |   | +      |   |   |   |
| Colombia (2010)           | --              |   |   | +          |   |   | +       |    |   | +         |    |    |          |   | + |   | --     |   |   |   |
| Costa Rica (2010)         | --              |   |   | +          |   |   | +       |    |   | +         |    |    |          |   | + |   | --     |   |   |   |
| Dominican Republic (2013) | +               |   |   | +          |   |   | +       |    |   |           |    |    |          |   | + |   | +      |   |   |   |
| Ecuador (2011)            | +               |   |   | --         |   |   | +       |    |   |           | +  | -- |          |   |   |   | +      |   |   |   |
| El Salvador (2011)        | +               |   |   | +          |   |   | +       |    |   | +         |    |    |          |   | + |   |        |   | + |   |
| Ethiopia (2011)           |                 |   | + | --         |   |   |         | +  |   |           | +  |    |          |   | + |   |        |   | + |   |
| Georgia (2013)            |                 | + |   |            | + |   | --      |    |   | --        |    |    |          |   | + |   | +      |   |   |   |
| Ghana (2013)              | --              |   |   | +          |   |   | +       |    |   | +         |    |    |          |   | + |   | +      |   |   |   |
| Guatemala (2011)          |                 | + |   | +          |   |   | +       |    |   | +         |    |    |          |   | + |   |        |   | + |   |
| Honduras (2011)           |                 | + |   | +          |   |   | +       |    |   | +         |    |    |          |   | + |   |        |   | + |   |
| Indonesia (2012)          |                 | + |   |            |   |   | +       |    |   | +         |    |    |          |   | + |   |        |   | + |   |
| Jordan (2010)             | +               |   |   | +          |   |   | +       |    |   | +         |    |    |          |   | + |   |        |   |   | + |
| Mexico (2010)             | +               |   |   | +          |   |   | +       |    |   | +         |    |    |          |   | + |   |        |   | + |   |
| Peru (2009)               | +               |   |   | +          |   |   | +       |    |   | +         |    |    |          |   | + |   |        |   | + |   |
| Russia (2010)             | --              |   |   | --         |   |   | --      |    |   | --        |    |    | --       |   |   |   | --     |   |   |   |
| South Africa (2010)       |                 | + |   | +          |   |   | +       |    |   | +         |    |    |          |   | + |   | +      |   |   |   |
| Sri Lanka (2010)          |                 | + |   | --         |   |   |         | -- |   |           | -- |    |          |   | + |   |        | + |   |   |
| Tanzania (2011)           | --              |   |   | +          |   |   | +       |    |   | +         |    |    |          |   | + |   |        |   | + |   |
| Tunisia (2010)            |                 | + |   | --         |   |   | --      |    |   | --        |    |    |          |   | + |   |        | + |   |   |
| Uruguay (2009)            | +               |   |   | +          |   |   | +       |    |   | +         |    |    |          |   | + |   | +      |   |   |   |
| Uganda (2012/13)          | +               |   |   | --         |   |   | +       |    |   | +         |    |    |          |   | + | + |        |   |   |   |

Legend:

|          |  |
|----------|--|
| <b>A</b> | Pro-poor and equalizing, per capita spending declines with income                        |
| <b>B</b> | Neutral in absolute terms and equalizing, same p.c. spending for all                     |
| <b>C</b> | Equalizing, not pro-poor, p.c. spending as a share of market income declines with income |
| <b>D</b> | Unequalizing, per capita spending as a share of market income increases with income      |

Source: Lustig (forthcoming) and CEQ Institute’s Data Center on Fiscal Redistribution. 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 (Harker et al., 2016), Costa Rica (Sauma and Trejos, 2014), Dominican Republic (Aristy-Escuder et al., 2016), Ecuador (Llerena et al., 2015), El Salvador (Beneke, Lustig and Oliva, 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), and Uruguay (Bucheli et al., 2014).

#### 4.6 Redistribution, Reranking, and the Total Impact on Inequality

Not all redistribution is created equal. Imagine two different fiscal scenarios in a 2-person economy with one poor individual having \$48 and one rich individual with \$52 in income (so that total income in this economy is \$100). In the first scenario, fiscal policy taxes all income from non-poor individuals at 3.85 percent and then executes an omnibus transfer to poor households such that the rich individual has a final income of \$50.01 and the poor individual a final income of \$49.99 (and the government funds its operations with external aid). In this scenario, redistribution is limited but the impact on inequality is large. In the second scenario, fiscal policy (overall) taxes all income from any individual at 100 percent and then executes transfers such that the (formerly) rich individual ends up with \$48 and the (formerly) poor individual ends up with \$52 (and again the government receives external aid to fund its operations). In this scenario, redistribution is extensive but there is essentially zero impact on inequality.

The Reranking (RR) index summarizes – for any pre- and post-fiscal distribution of income – the impact that any redistributive program has on “horizontal” equity due to re-ranking (as described intuitively above). Horizontal equity here captures the degree to which households who are “near” each other (in terms of their ranking in the income distribution) are treated equally. In the first scenario above, horizontal equity was complete, in that the first- and second-ranked individuals remained the first and second-ranked individuals *after* the government had completed its fiscal policy. In the second scenario, horizontal equity was incomplete as top-ranked individual fell to the bottom rank in the post-fiscal income distribution. In lay terms, the RR index summarizes how much “place swapping” there is for any amount of redistribution of income.

Uganda’s RR index is quite small absolutely as well as when measured relative to the total amount of redistribution accomplished by fiscal policy. For example, total redistribution (or the Vertical Equity component) from Market Income to Final Income is 3.2 Gini points while 0.3 points of that redistribution contributed to place-swapping. In other words, approximately 8 percent of the total redistribution that occurred (and is attributable to fiscal policy) had no impact on inequality. From Market Income to Disposable Income, approximately 7 percent of the total redistribution that occurred and is attributable to the execution of fiscal policy had no impact on inequality.

#### 5. Conclusions for Policy

Fiscal policy – including many of constituent elements – is inequality-reducing in Uganda. For example, inequality including personal income tax is lower than inequality would be if there were no personal income tax. Likewise, inequality is reduced when the SAGE and NUSAF direct transfers are received, and inequality is reduced after public healthcare services are accessed. The only fiscal policy element in Uganda (among those included in Uganda’s CEQ Assessment) that increases inequality is tertiary education spending, but this result, too, would be overturned if there were a greater number of students from poor households in upper education levels.

However, the impact of fiscal policy on current-year inequality are modest: fiscal policy achieves a reduction of approximately three Gini points in Uganda. The impact magnitude is tied to low levels of spending in Uganda generally. For example, Ethiopia<sup>20</sup>, a country with a similar per-capita income level, spends approximately twice as much as Uganda does overall; twice as much on redistributive spending (so that Ethiopia's redistributive spending as a share of total spending is approximately equal to Uganda's); and approximately twice as much on direct transfers as well as education (relative to GDP). The impact of fiscal policy in Ethiopia (relative to pre-fisc inequality levels) is approximately average, while in Uganda the impact of fiscal policy (relative to pre-fisc inequality levels) is below average. In other words, the redistributive spending that Uganda executes, and the targeting of both social expenditures as well as the revenue collections that support them, help reduce inequality; the small impact is due to low revenue collection and spending overall.

The impact of fiscal policy on poverty is negligible. While an insignificant number of poor or near-poor households are burdened by the personal income tax, it is also true that very few households receive any of the direct transfers available under the SAGE or NUSAF programs. The net income position of most households after indirect taxes are paid and indirect subsidies are received is slightly lower than before those fiscal policy elements are allocated. However, the poor households who do receive net additions to their incomes receive more (as a percent of their pre-fiscal income) than the poor households who become net payers into the fiscal system.

Poverty-neutral fiscal policy looks very good relative to African countries with similar income levels. The execution of fiscal policy in Ethiopia, Ghana, and Tanzania (for example) leaves the post-fiscal poverty rate higher than the pre-fiscal poverty rate.

Recent directions in fiscal policy have focused on increasing revenues without concurrent social spending increases. For example, the tax-to-GDP ratio has risen since the 2012/13 fiscal year, but total direct and indirect benefit expenditure has increased at a slower rate during the same period. Since 2012/13-era personal income tax thresholds were high enough to protect poor households, if the increased revenues have come primarily from more efficient personal income tax collection, then it is likely that poor households are no worse off in 2015/16 than in 2012/13.

On the other hand, in 2012/13, Uganda's tax collections came primarily from VAT, Excise, and Customs duties. If the increase in revenues (from taxes) since 2012/13 has proceeded proportionally to 2012/13 tax instrument shares – if in other words most of the increase to 2015/16 is coming from the indirect tax instruments mentioned above – then it is likely the case that poor and near-poor households face greater disadvantage today. The VAT and Excise taxes were widespread – over 95 percent of households paid at least one of the indirect taxes and the burden they create is approximately neutral with respect to consumption expenditure. So if the increase in revenues has been achieved by closing exemptions for particular goods – unprocessed agricultural goods, for example, or health and education services – then poor households will face a proportionally-greater burden in 2015/16 than in 2012/13.

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<sup>20</sup> 2011 Ethiopia (Uganda) GNI per-capita (2011 PPP factor): \$1160 (\$1620)

If in the future indirect taxes on “luxury goods” – or a set of products and services which are primarily consumed by non-poor households – can contribute the bulk of marginal revenues from indirect taxes, then poor households may remain (marginally) unaffected by the drive to increase revenues. For example, the fuel excise does not create a direct burden for poor or near-poor households – and therefore does not contribute to an increase in the poverty headcount – because lower-income households in Uganda purchase no fuel directly. Targeting marginal revenue increases from indirect taxes to “luxury” good purchases would similarly protect poor households and unlike fuel would not create an indirect burden for households as long as the luxury goods targeted are not themselves important inputs for the production of other goods and services.

Recent budgets have allocated more resources towards investment in the productive sectors and infrastructure. If this focus on infrastructure were broadened to include human-capital-enhancing infrastructure like schools, health facilities, and low-cost, high-quality housing, the impact on inequality of fiscal policy would likely be enhanced. As the Uganda CEQ Assessment has demonstrated, the equalization of access to public education and healthcare services provides over half of the reduction in inequality from fiscal policy overall.

However, public services alone cannot create a more equal future for Ugandans: despite relatively high enrolment numbers, Uganda’s results in standardized assessments of education performance are below average. In addition, tertiary education appears to be out of the reach of most low- and middle-income households in Uganda. Likewise, current investments in electricity should continue increasing the rate of access among poor and disadvantaged households, but the impact of this access on inequality will depend on the (regulated) tariff-setting procedures that the government decides. Increasing public service provision reduces inequality in the short-term, but longer-term impacts will depend also on how the public service delivery and public capital investment is managed.

Capital spending (or other infrastructure investment) may also have a salutary effect on poverty and inequality in the short-term when it is channelled through a broad-coverage public works program like the Productive Safety Net Program in Ethiopia, the Vision 2020 Umurenge Program in Rwanda, or the PNPM community-driven Development Program in Indonesia. These programs allocate public expenditures for infrastructure investment at least partially to poor or vulnerable households through the payment of wages for labor contributions on the infrastructure projects themselves. While in the longer-term the areas receiving infrastructure and other physical capital may benefit more generally, in the short-term poor and vulnerable individuals benefit directly from paid employment for labor contributed. Uganda already has experience with such a program – the community-based Public Works Program in NUSAF II – and could adapt operational lessons learned to a national, broad-coverage PWP program.

These recent fiscal policy developments – increased revenue collections and an emphasis on infrastructure spending – are general in that they affect nearly all Ugandans. Specifically-disadvantaged populations (the elderly poor; the jobless or under-employed poor) may require specifically-targeted programs, and Uganda already has in place a few such instruments. The

planned increases in the SAGE program – for example – will likely further reduce inequality as well as the poverty headcount. However, as SAGE was previously donor-financed, any increase in SAGE expenditures will require a concurrent increase in revenue collections (at least in present-value terms), and the source of these additional revenues will determine whether on net the fiscal system is poverty- and inequality-reducing.

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