The Distributional Impacts of Public Expenditure in Ethiopia: A Gender-Lens Analysis

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By

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Abstract

This study investigates the gendered distributional impacts of public expenditure policy using survey and administrative data from Ethiopia. It specifically assesses the progressivity and pro-poorness and poverty, and inequality impact of cash and in-kind transfers, through a gender-lens analysis. The study employs an expenditure incidence analysis approach based on the Commitment to Equity (CEQ) methodology to determine whether government expenditures redistribute resources to the poor. The findings of the study provide evidence that government social spending has significant welfare impacts, although some of the social services are poorly targeted. Among the public spending instruments studied, primary education spending and productive safety net programme (PSNP) transfers tend to be the most progressive, and tertiary education spending appears to be the least progressive. The benefits associated with public health spending are also less progressive. The results have important policy implications for public spending policy reforms, poverty reduction and income redistribution.

Keywords: transfers; poverty; income inequality; income redistribution; fiscal incidence analysis; gender; CEQ; Ethiopia

JEL codes: E62, H31, H22, H20

1. Introduction

Governments often influence the distribution of income in an economy and foster social and economic development using fiscal policy instruments that include taxes and transfers (Enríquez & Elson, 2012; Lustig, 2019). More recently, attention has shifted from tax incidence to benefit incidence, especially in developing countries (Glick, Saha, & Younger, 2004). Public expenditures or transfers are common fiscal interventions through which governments subsidise social services that the market will not sufficiently provide due to efficiency and equity reasons (Demery & Gaddis, 2009). Different fiscal interventions (taxes or transfers) could have differential welfare impacts on separate groups of individuals in the society. Analysis of the distributional impacts of fiscal interventions has interested economists, at least since David Ricardo, who analysed the incidence of the taxes imposed by the Corn Laws.[1] The question of whether the benefits of public expenditure in developing countries are equitably distributed by gender and how existing fiscal systems mitigate or exacerbate gender inequities has been gaining attention in recent years among development scholars and policymakers (Austen, Costa, Sharp, & Elson, 2013; Aziz, Gemmell, & Laws, 2016; Enríquez & Elson, 2012; Glick et al., 2004; Sahn & Younger, 2000).

While there is a growing body of evidence that documents the distributional impacts of fiscal policies in both developed and developing countries (e.g., Greenspun & Lustig, 2013; Grown, 2010; Inchauste & Lustig, 2016; Lahey, 2018), only a few studies address the gender dimension (Greenspun & Lustig, 2013). The existing literature on gender-focused fiscal incidence analysis in low and middle-income countries mostly focuses on a few components of the fiscal system, such as personal income taxes (e.g., Grown, 2010; Joshi, Kangave, & Van Den Boogaard, 2020; Lahey, 2018; Stotsky, 1996). While there are studies that assess the differential benefits of public expenditure in developed and developing countries by gender, most of these studies focus on the education and health sectors (Demery, Chao, Bernier, & Mehra, 1995; Demery, Dayton, & Mehra, 1996; Demery & Gaddis, 2009), and a few address other social sector expenditures such as agricultural extension and food security (e.g., Austen et al., 2013; Glick et al., 2004; Mogues, 2013; Mogues, Petracco, & Randriamamonjy, 2011). There are also a few studies that show how public spending affects gender by income groups (Glick et al., 2004; Sahn & Younger, 2000). A recent study looks at the impact of a cash transfer programme (PSNP) on poverty and inequality using data from Ethiopia (Hirvonen, Mascagni, & Roelen, 2018). However, it does not include a

gender-disaggregated analysis. There are a few studies that assess the poverty and inequality impacts of fiscal policies by gender (Fabrizio, Fruttero, Gurara, Kolovich, Malta, Tavares, et al., 2020; Jain-Chandra, Kochhar, Newiak, Yang, & Zoli, 2018; Minasyan, Zenker, Klasen, & Vollmer, 2019). Overall, the evidence on the gendered distributional effects of public spending that includes a combination of cash and in-kind transfers in low-income countries remains sparse.

Against this background, the current study seeks to explore the gender impacts of public expenditure using data from a low-income country to fill in an important knowledge and research gap. To this purpose, the current study considers the differential benefits of public spending by gender across the income distribution, and allows describing how the gender gap varies across the income distribution.[2] It specifically shows the differential impacts of expenditure on inequality and poverty between men and women. Although there is expanding acknowledgement of the importance of joint assessments of taxes and spending to understand the overall progressivity and equity impacts of public policies (Hirvonen et al., 2018; Lustig, 2018), this study focuses on assessing the distributional impacts of government spending in the form of cash (social protection) and in-kind transfers (education and health) on gender. The primary reason for focusing on expenditures is that gender equality, human development, income redistribution, and poverty reduction are important national goals of governments. Another important reason is that public expenditures offer a higher potential to address gender inequality through opportunities and the advancement of women in areas such as education, health, and economic empowerment (Budlender, Elson, & Hewitt, 2002; Kolovich, 2018; Stewart, 2017).

The study answers the following questions: (i) What is the impact of government transfers on inequality and poverty by gender? (ii) How are public expenditures distributed among men and women? and (iii) Does a particular public expenditure contribute to closing or widening gender gaps in a sector? By providing answers to the research questions, the study will make contributions to the literature in various aspects. First, it will contribute to the emerging fiscal incidence literature that encompasses the gender dimension (Greenspun & Lustig, 2013). Adding the gender dimension to fiscal incidence analyses can shed light on how the fiscal system affects gender equity and enhances the impact of such policies on poverty reduction and growth. Second, it will contribute to the development economics literature that establishes the welfare impacts of anti-poverty policies focusing on direct transfers and other public spending, and using micro evidence (Gilligan, Hoddinott, & Taffesse, 2009; Higgins & Lustig, 2016; Hirvonen et al., 2018). In this regard, the study assesses the poverty and income inequality impacts of the different public expenditure instruments among men and women by showing the effects on the gender gap. From policy perspectives, the results of the study will provide insights for designing effective and sustainable gender-responsive spending policies that could help enhance the status of women in the economic sphere (Fabrizio, Fruttero, Gurara, Kolovich, Malta, Tavares, et al., 2020; Joshi et al., 2020). The findings can also be used to inform decision-makers as to which areas of fiscal policy may need reform to improve gender equity (Greenspun & Lustig, 2013) and support transformative expenditure policies that would empower

women (Joshi et al., 2020). Overall, the results of the study could be useful in improving the targeting of policies and the allocation of public resources to fight poverty and foster growth, while addressing gender equality (Abril & Ofosu-amaah, 2009).

The study focuses on Ethiopia, a low-income country that offers an interesting case study. First, despite significant economic growth in the country in recent years, women continue to face high rates of unemployment and precarious employment, are disproportionately represented in the unpaid economy, and lack opportunities in education and health (World Bank, 2019). These are mainly related to gender norms that delegate to women and girls much of the domestic work, including child rearing, cleaning, wood and water collection, food preparation, and food production. There are also substantial gender gaps in agriculture, mainly because of differences in access to and control over assets, productive inputs, and services, with women having limited access. As a result of these pervasive gender gaps, women tend to have low labour market outcomes related to paid employment and operating businesses, agricultural productivity, human development outcomes, and poor livelihoods (World Bank, 2019). Second, there are recent fiscal policy reforms such as the expansions in gender equity-focused interventions that include a large government transfer programme —Productive Safety Net Programme (PSNP) and expansions in education and health services. The study focuses on education, health, and social protection sectors because these are the dominant and important in the social sector budgets of poor developing countries including Ethiopia. This is evident from the fact that the Ethiopian government devotes a significant proportion (more than a third of the government budget) of its resources to investments in these social sectors alone (Table A.2 and Figure A.1 in the Appendix). Therefore, analysing the gendered impacts of such fiscal interventions would provide important insights regarding the contribution of such interventions to alleviating existing gender gaps and improving education and health outcomes and the well-being of women.

The study combines survey data from the 2018/19 Ethiopian Socio-economic Survey (ESS) and administrative data, and utilises a gender-disaggregated benefit incidence analysis along with the Commitment to Equity (CEQ) framework. The results of the study show that PSNP transfers, primary and secondary education spending, and health spending are progressive with no considerable gender-differentiated effects. The country's flagship Productive Safety Net Programme (PSNP) is pro-poor among women and men. Spending on tertiary education is regressive. PSNP transfers contribute to poverty reduction among women and men. However, other direct transfers appear to be unequalizing for men. Public spending on education and health is equalizing and poverty-reducing for both women and men. Education transfers have heterogeneous poverty-reducing effects on girls and boys. They are more poverty-reducing for girls. While spending on primary education is the most equalising and poverty-reducing for both genders, spending on tertiary education is unequalising but poverty-reducing. Public spending on health is also unequalising and poverty-reducing, and the impact is stronger for women.

2. Literature review

The study looks at the incidence and distributional (equity) impacts of public expenditure—cash and in-kind transfers—by gender. Previous studies in this area can be grouped into two: (i) those that focused on both taxes and spending, and (ii) those that focused only on expenditure (Greenspun & Lustig, 2013). Because the current study takes a comprehensive analysis of cash and in-kind transfers, it will speak to the second strand of the literature that focuses on public spending. Therefore, this section presents a review of those studies that encompass the gender dimension in public expenditure incidence and impact analysis. One strand of the literature in this vein classifies the population directly by the gender of the individual and applies this definition to education and health benefit incidence analysis (Demery et al., 1995, 1996; Demery & Gaddis, 2009). Some studies looked at gendered indicators of access to/use of public services (Austen et al., 2013; Demery et al., 1995, 1996; Demery & Gaddis, 2009; Glick et al., 2004; Mogues, 2013; Mogues et al., 2011).

Among the earlier studies that looked at the incidence of public expenditure by gender are those that focus on education and health benefits. Demery et al. (1995, 1996) is among the first ones that investigate the incidence of public spending on education and health by gender in Ghana and Cote d'Ivoire. Demery et al. (1995) demonstrate the persistence of gender inequality on education expenditures almost at every level in Ghana. The study also shows that women received more of the overall public spending on health. However, the poorest women do not benefit from health services. Demery et al. (1996) find that about one-third of the total education subsidies are captured by females, and boys have higher average per capita education subsidies than girls. Their study also shows that the per capita health subsidy was slightly higher for women than men.

Demery & Gaddis (2009) studied the incidence of public spending on education at all levels and spending on health by level of care in Kenya. They find that primary education spending was progressive, slightly favouring boys over girls. However, secondary and tertiary education level spending was regressive, and boys received more subsidies than girls. On the health spending side, they find that women received more healthcare spending than men, although poor women did not fare well compared to richer women. The results from their marginal incidence analysis showed that increased primary healthcare spending would have benefited poor females more than increased hospital-based care spending.

Other studies in the vein include that of Castro-Leal (1996), who assessed the incidence of education spending by gender in Malawi. The study demonstrates the existence of gender disparities in gross education enrolment rates in Malawi between 1990/91 and 1994/95, with girls in the poorest quintile having the lowest enrolment rates. Rashid, Dorabawila, & Adams (2001), using data from Albania (outside the Tirana region), showed that government spending on basic education was pro-poor for boys and girls in the lowest income quintile. Their study further showed that public spending on secondary and tertiary education levels favoured the third and top quintiles as well as richer males. Austen et al. (2013) found that total public expenditure on education in Timor-Leste favoured boys. However, their study did not analyse incidence across different income groups.

Glick et al. (2004) is among the studies that utilised robust methodologies to do a benefit incidence analysis of public spending on education and health by gender in nine countries. Their approach was a gendered differentiated demand-response analysis associated with a reduction in the cost of education and health services (Greenspun & Lustig, 2013). Their study is an improvement over the other benefit incidence analysis studies because it considers differences in the quality of education and health services in Madagascar and Uganda. They found no consistent correlations between gender gaps and per capita expenditures in the countries they studied. The gender differential demand analysis of education and health services in Madagascar and Uganda did not show gender differences in either country in the impact of quality related indicators or provider cost indicators.

Mogues, Petracco, & Randriamamonjy (2011) investigate the incidence and impact of a comprehensive programme of support to agriculture and rural areas in Ethiopia that includes direct transfers (selected components of a Food Security Programme (FSP)), drinking water supply, and agricultural extension services. Using a public expenditure benefit incidence analysis with the aid of indicators such as concentration shares and concentration curve by gender, welfare quintile, and type of household, they found that: (i) women in rural Ethiopia received half the amount of agricultural extension services as men, (ii) male-headed households were favoured by the public works components of the FSP but female-headed households were favoured by the direct support component, and (iii) female-headed households were more likely to travel further to their main source of water and to access safe water than male-headed households.

The effectiveness of direct cash transfers, mainly PSNP, is studied in Ethiopia using impact evaluation methods (Coll-Black et al., 2013; Gilligan et al., 2009) and incidence analysis (Hill, Inchauste, Lustig, Tsehaye, & Woldehanna, 2016; Hirvonen et al., 2018; World Bank, 2020). Overall, the existing studies on the redistributive impacts of PSNP show that its transfers are generally received by poor households, and that it has increased household expenditures (Coll-Black et al., 2013; Guush et al., 2013). Hill & Tsehaye (2018), using census data and multiple rounds of nationally representative household data and panel data estimation techniques, find that PSNP has reduced poverty by 0.5 percentage points each year since its implementation in 2005. Hirvonen

et al. (2018) look at the impacts of PSNP on poverty and inequality in Ethiopia using incidence analysis and microsimulation, and find that it contributes to poverty reduction, but does not achieve a sizeable inequality-reducing effect. However, the study does not involve a gender-disaggregated analysis.

There is a literature that includes empirical studies that show the inequality and poverty impacts of fiscal policies in low-income countries. Spending on education (to close the gender gaps in years of education between women and men) and increasing spending on infrastructure (e.g., electricity, roads, water and sanitation) are found to improve labour market participation, increase income, and reduce income inequality and poverty (Cubas, 2016; Dinkelman, 2011; Fabrizio, Fruttero, Gurara, Kolovich, Malta, Tavares, et al., 2020; Ilahi & Grimard, 2000; Jain-Chandra, Kochhar, Newiak, Yang, & Zoli, 2018; Lei, Desai, & Vanneman, 2019; Minasyan, Zenker, Klasen, & Vollmer, 2019). The poverty reduction is achieved because the poorer and less educated women gain relatively more years of education. Income inequality is reduced because the income gap between the top 10 percent of the income distribution and the bottom 10 percent shrinks as a result of the fiscal interventions (Fabrizio, Fruttero, Gurara, Kolovich, Malta, Tavares, et al., 2020). Cash transfers provided to poor women are also shown to have a positive effect on female labour force participation, with immediate positive impacts on poverty and inequality (Salehi-Isfahani & Mostafavi, 2018).

In sum, existing studies that rely on a comprehensive incidence and impact analysis of public spending to assess the distributional (equity) impacts of fiscal instruments on gender remain very important. However, the empirical evidence with a gender dimension in the analysis of the distributional impacts of public expenditure that combines cash and in-kind transfers is very limited. Most importantly, there are a few studies that looked at the inequality and poverty impact of public expenditure policy through a gender lens. Therefore, there is a need to undertake a comprehensive analysis of public expenditure to provide a broader picture of the equity impacts of public spending policies by gender. In the meantime, such analysis demands sex-disaggregated data on cash transfers and public spending on education and health to apply more rigorous incidence analysis. This study takes advantage of recent data that allows the use of sex-disaggregated information for such analysis.

3. Data and methods

Methodology

This study aims to capture the impact of government expenditures—cash and in-kind transfers—on poverty and inequality by gender.[3] To this end, the study utilises the Commitment to Equity (CEQ) methodology (Lustig & Higgins, 2012 & 2018), which stipulates various methods of assigning transfers or benefits to individuals to analyse their distributional impacts. The fiscal incidence analysis follows standard practice and uses market income or pre-transfer income as the benchmark against which changes in welfare (poverty or income inequality in this case) due to the public expenditure instruments are compared. The study specifically uses a public expenditure incidence analysis to shed light on the gender implications of public expenditure (Budlender et al., 2002). The public expenditure incidence analysis provides one way of assessing how gender-inclusive such expenditures are by comparing the distribution of spending between men and women, and boys and girls. The study also focuses on the intersection of welfare (income) distribution and gender that allows not only the analysis of the differential benefits of public expenditure by gender and across the income distribution, but also the description of how the gender gap varies across the income distribution.

The CEQ income concepts

At the core of the CEQ method is the calculation of different income concepts. Our analysis uses three income concepts in framing the redistributive effects of government spending: market income, disposable income, and final income. Market income refers to wages and salaries, and earnings from investments, self-employment, and other forms of taxable proceeds gained by private means. It is viewed as the "pre-fiscal" income (income before any transfers or taxes of any kind have been added) because it refers to earnings before the government has any influence on the income distribution through its tax and spending policies. Disposable income is a cash income available after the government has taken away direct taxes (such as personal income tax) and has distributed direct transfers (such as safety net and "near cash" transfers). Governments also affect the income distribution of households or individuals through the provision of free

or subsidised services such as health and education. Final income is calculated as disposable income plus the value of these in-kind benefits, less any co-payments, user fees and participation costs for those services. It reflects a more comprehensive measure of the economic resources available to a household or an individual than does market or disposable income.

The three income concepts discussed above are computed using the following formula:

$$\boldsymbol{Y_i = I_i - \sum_j T_j S_{ji} + \sum_k B_k S_{ki}}$$

where Y_i is individual i's income after taxes and transfers (disposable income or final income); I_i is individual i's market income (income before taxes and transfers); and S_{ji} is the share of tax (T) j paid by the individual i. S_{ki} is the share of transfer (B) k received by individual i.[4] Market income is computed from the household's income from agriculture activity, employment income, non-farm enterprise income, and other incomes. The values of the transfers are calculated using both administrative and survey data.

The main data source of the study, the Ethiopian Socio-economic Survey (ESS), captured cash transfers (e.g., PSNP and non-PSNP transfers) data at the individual level. However, the values of in-kind transfers on education and health are not available from the ESS. The per-user benefits from the in-kind transfers are calculated using administrative data from the federal and regional levels and the number of users of the services from the ESS. A "government cost" approach is used to allocate the public expenditure values to users for both health and education expenditure items.[5] The monetised value of education spending is allocated to students enrolled at a public school. The per-student education benefit is calculated by dividing total spending by the number of students enrolled. Most spending on tertiary education is capital spending, notably investments in infrastructure. Given that their benefit is expected to accrue over several years, the analysis considers 10 per cent of the capital expenditure in tertiary education, aiming at accounting for the benefit current students are receiving (Hill et al., 2016). For health spending, total health expenditure is divided by the total number of medical service beneficiaries at a government or public service centre. Such an approach is also a common method in benefit incidence analysis studies (Glick et al., 2004). Whenever applicable, user fees or co-payments are deducted to get the net benefits.

Inequality and poverty measures

After computing the CEQ income concepts by gender, inequality indices are calculated at each income concept to assess the redistributive effect of transfers. Inequality is measured using the Gini index, a widely used measure of income

inequality. We can trace how inequality evolves as different transfers are added to income by comparing inequality at different income concepts. For instance, comparing inequality at the market and disposable incomes shows how much redistribution is achieved by direct transfers. Comparing inequality at the disposable and final incomes provides evidence regarding how much redistribution is achieved by in-kind transfers such as spending on health and education (Enami et al., 2018; Lustig and Higgins, 2018).

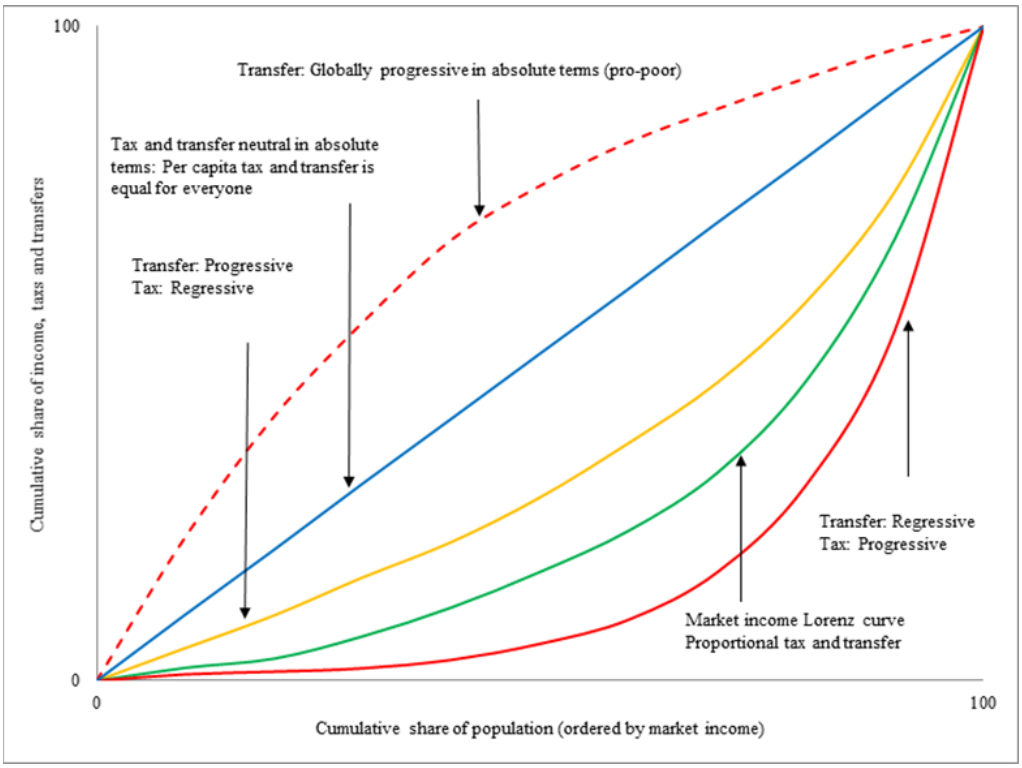
The impact of public spending on poverty is assessed by tracing the changes in poverty headcount across the different income concepts by gender. The calculation of poverty indices is based on the popular Foster– Greer–Thorbecke (FGT) class of poverty measures (Foster, Greer, & Thorbecke, 1984). The main indicator for poverty is the headcount index, which is a measure of the proportion of the population that is poor.

Measures of progressivity and pro-poorness

The progressivity of transfers is assessed using the transfer redistribution approach that compares the cumulative distribution (cumulative concentration shares represented as a concentration curve) of the benefit with the cumulative distribution of market income (represented by a market income Lorenz curve) and the cumulative share of the total population ranked by market income (Duclos & Araar, 2006). Lorenz curves map the cumulative share of market income (or any income of interest) on the vertical axis, against the cumulative share of the population, ordered by market (sometimes called 'benchmark or 'reference') income on the horizontal axis (Enami et al., 2018; Lustig and Higgins, 2018). Concentration curves (sometimes called "quasi–Lorenz curves") map the cumulative share of benefits received from a particular category of transfers on the vertical axis, against the cumulative share of the population, ordered by pre-fiscal income, on the horizontal axis (Duclos & Araar, 2006).

Aggregate indices of progressivity are obtained by computing concentration indices. They also help to decompose the inequality at a given income concept into a sum of the concentration of the components of that income (Duclos & Araar, 2006).[6] Another standard measure of the progressivity of a particular fiscal intervention is the Kakwani coefficient. The Kakwani coefficient is defined as the difference between the market-income Gini and the concentration coefficient of the transfer of interest (Higgins & Lustig, 2016; Kakwani, 1977). It can be calculated as $\Pi_{bi}^{K} = G_x - C_{bi}^{x}$, where b is transfer, Π_i^K is Kakwani coefficient of transfer i, C_i^x is concentration coefficient of transfer i, and G_x is the Gini coefficient of market income (Lustig, 2018). Figure 1 illustrates the concepts of progressivity, regressivity or neutrality of transfers (Lustig, 2018).

Figure 1: Progressivity of transfers: Diagrammatic representation



Source: Enami et al. (2018), Higgins & Lustig (2016); Lustig & Higgins (2018)

A transfer is globally (everywhere) progressive if the proportion received in relation to market income decreases as income rises, or when its concentration curve lies everywhere above the market income Lorenz curve (Higgins & Lustig, 2016; Lustig, 2018). A transfer will be progressive in absolute terms ("pro-poor") if the amount received increases as income rises, i.e., its concentration curve lies everywhere above the 45-degree line (the blue line in Figure 1). A necessary but not sufficient condition for this is that the concentration coefficient of the transfer is negative, or equivalently that the Kakwani index is positive and higher than the market income Gini. A transfer will be progressive in relative terms if the proportion received in relation to market income decreases as income rises but not so the amount of the transfer, or equivalently when its concentration curve lies everywhere between the market income Lorenz curve and the 45-degree line.

A transfer is globally regressive if the proportion received in relation to market income increases as income rises, i.e., when its concentration curve lies everywhere below the market income Lorenz curve (Lustig, 2018). A necessary but not sufficient condition for this is that the concentration coefficient of the transfer is positive and greater than the market income Gini, or equivalently that the Kakwani index is negative. If the concentration curve of a transfer crosses the market income Lorenz curve (from above or from below and for any number of times), the transfer will be

ambiguous (i.e., neither progressive nor regressive). A transfer will be neutral (in relative terms) if its distribution (its concentration curve) coincides with the market income distribution (market income Lorenz curve).

Marginal contributions to poverty and inequality

To gauge whether a particular transfer is equalising or unequalising (its redistributive effect), the study uses the "marginal contribution" of that transfer to inequality. The marginal contribution equals the difference between the market income Gini coefficient (inequality without the transfer of interest but including all the other components of the fiscal system in place) and the Gini index at the relevant ending income concept (the inequality with all the components including the one whose effect we are considering). The marginal contribution of a transfer is derived as follows. Let Y and $Y\backslash B_1$ be the income concepts with $(Y = I - \sum_{j=1}^{n} T_j + \sum_{m=1}^{n} B_m)$ and without Benefit1 $(Y\backslash T_B = I - \sum_{j=2}^{n} T_j + \sum_{m=1}^{n} B_m)$. Without loss of generality, the marginal contribution of Benefit 1 for the change in Gini is $M_{B_1} = G_{Y\backslash B} - G_Y$ (Lustig, 2018). Adding and subtracting the market income Gini index and rearranging, we will get: $M_{B_1} = (G_x - G_Y) - (G_x - G_{Y\backslash B_1})$. This implies that the marginal contribution of Benefit 1 is the change in Gini index when Benefit 1 is included in the system along with all other taxes and transfers. A transfer is equalising if inequality is higher without the transfer of interest than with it, i.e., the difference is positive (Lustig, 2018). If inequality with the transfer of interest is higher than inequality without it, the transfer is unequalising. A transfer is poverty reducing if its marginal contribution to poverty reduction — its "poverty-reducing effect" calculated as the difference in the poverty headcount for the income concept with and without the intervention – is positive. If the difference equals zero, the transfer is "neutral", suggesting no effect on inequality or poverty.

Data and descriptive statistics

Data

The main data source for the proposed study is the 2018/19 Ethiopian Socio-economic Survey (ESS), which is a collaborative project of the Living Standards Measurement Study-Integrated Surveys on Agriculture (LSMS-ISA) of the World Bank and Central Statistics Agency (CSA) of Ethiopia. The survey data include detailed information on households' and individuals' incomes, taxes, transfers, expenditures, utilisation of education and health facilities, etc., and personal characteristics such as age and gender. Data from the ESS are combined with public revenue and expenditures data corresponding to the 2018/19 survey year from the national income and public finance accounts obtained from the

Ministry of Finance (MoF). While the public accounts data from MoF contains public expenditure on the services funded by the government, the ESS provides data on the use of these services by the people.

Because the unit of analysis for the study is individual (men and women), the data need to be disaggregated at the individual level. For data that are available only at the household level (e.g., consumption expenditure), different intra-household sharing and assigning rules are applied to allocate expenditure to individuals within the household. This is mainly undertaken by classifying the consumption expenditure items into assignable (e.g., expenditures on clothes and footwear, education, alcohol drinks and stimulants) and non-assignable (e.g., food) goods. The ratio of assignable goods to non-assignable goods for men and women is 17.9 and 12.1, respectively. Allocation of assignable goods is straightforward, but for non-assignable goods, adult equivalent scales are used. Previous studies also applied the per capita or per adult equivalent scale method (Aziz et al., 2016; Glick et al., 2004). However, this approach is not without a limitation.

Descriptive statistics

Gender differences in key characteristics

The data show the presence of considerable gender differences in welfare, public expenditure benefits, education level, and labour-market outcomes (Table A.1 in the Appendix). Women are at a significant disadvantage in Ethiopia's labour market. The female unemployment rate is almost three times the rate among men. There are also large differences in labour-force participation and employment between men and women. Compared to men, women tend to be overrepresented in non-wage employment (e.g., agriculture) and underrepresented in wage or paid employment. Women also earn substantially less than men. Total wage earnings for women are on average one third lower than wages for men. Existing wage or earnings gaps between men and women can partly be explained by the fact that women tend to work in low-paying sectors, do most of the household's care work, subsistence production (food, clothing) or unpaid work in the family business (Theunissen et al., 2019). Such differences would explain possible gender-differentiated effects, if any, of public spending policy in the country.

Public expenditure and gender

Table A.2 presents the government expenditure structure between 2010/11 and 2018/19. Government spending on PSNP, education and health accounts for 36 per cent of its total expenditure in 2018/19. The ratio of social sector spending, which includes health, education, labour, and social welfare to GDP, increased from 5.1 per cent in 2010/11 to 8.1 per cent in 2018/19. Out of the total spending on the social sector, the health sector accounted for 21 per cent in 2010/11, and it increased to 24 per cent in 2018/19. Spending on health increased while spending on education has been higher over the years (see Figure A.2).

The results from descriptive statistics show the presence of gender differences in the per capita PSNP and non-PSNP transfers where men receive slightly higher benefits than women (Table A.1). One pattern that emerges from our data is that girls are likely to be out of school or have no education, compared to boys. There are also gender differences at all levels of education where the share of boys attending schools tends to be higher than that of girls. The average in-kind education transfer (benefit) for boys is also slightly higher than that of girls. Based on this information, one can expect public spending on education to favour boys than girls. The average health transfer benefit is relatively higher for women than men. The following section delves into the discussion of the distribution of benefits by income deciles and gender, with a focus on progressivity and pro-poorness, and impacts on poverty and inequality.

4. Results

This section presents the key findings of the study. It is structured into three sub-sections. The first sub-section discusses the distribution of public spending benefits by income group and gender for each expenditure item. The second sub-section discusses the progressivity and pro-poorness of the different public expenditure items. The last sub-section discusses the marginal contributions to poverty and inequality, of the different expenditure items considered in this study.

Incidence and benefit distribution

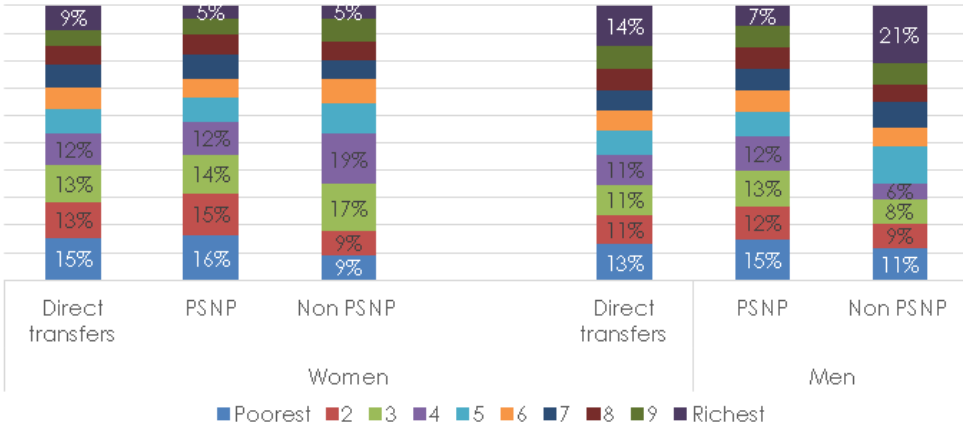
The distribution of benefits from the different public expenditure interventions is presented by income deciles and gender. To ascertain the differential benefits that different genders receive, the benefit incidence shares of the income deciles are compared with one another (Mogues, 2013).

Direct transfers

The direct cash transfer programmes that are considered in this study are the Productive Safety Net Programme (PSNP) and other cash transfers that include food assistance. Figure 2 shows the distribution of direct transfers by market income deciles and gender. The data show that women in the bottom 40 per cent received about 53 per cent (in contrast to 46 per cent for men) of direct transfers. They capture about 57 per cent of the PSNP transfers, while men capture 52 per cent.

Regarding gender gaps at different levels of the income distribution, 15 per cent of the direct transfer benefit is captured by the poorest women (the bottom 10 per cent) while the poorest men capture 13 per cent. There is no considerable difference in the share of total PSNP transfer captured by the poorest women and men (the bottom 10 per cent). Turning into the top income decile, more men appear to receive a higher share of the benefit (14 per cent) than women in the richest income decile (9 per cent) related to direct transfers.

Figure 2: The distribution of direct transfers by income decile and gender

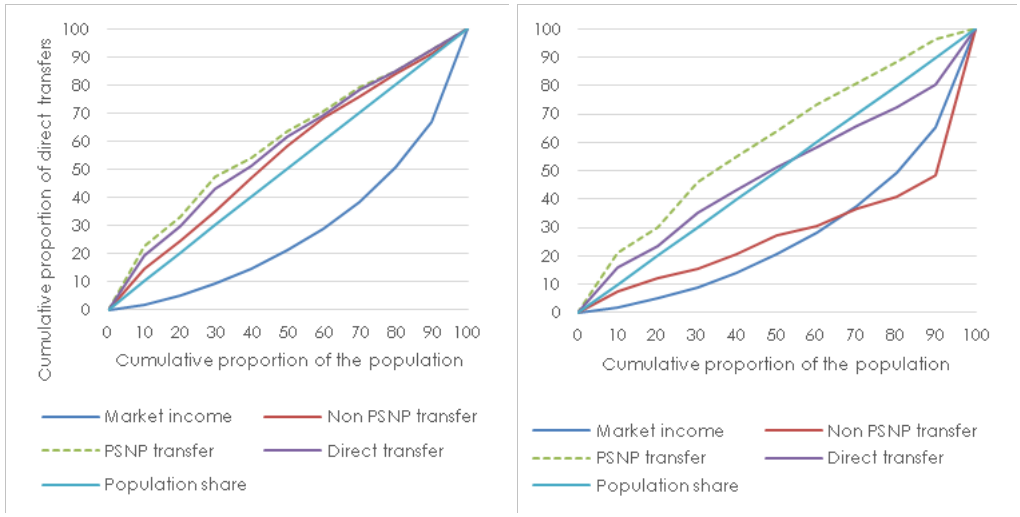


Source: Author, based on ESS 2018/19

Striking evidence is found regarding the distribution of non-PSNP cash transfers across income groups and gender. While the benefits from non-PSNP cash transfers seem to be captured mainly by women in the lowest income group, there is a different story for men. More than 20 per cent of the non-PSNP cash transfers are captured by only men in the top 10 per cent. This implies that non-PNP cash transfers are likely to be regressive for this group of individuals.

The incidence of direct transfers (PSNP and non-PSNP) provides evidence regarding their progressivity, and poverty and inequality-reducing effects. Since a larger share of the PSNP benefit is received by women and men in the bottom income distribution, PSNP is likely to be progressive and to have both inequality and poverty-reducing effects. Concentration curves for PSNP and other (non-PSNP) transfers are provided in Figure 3 below.

Figure 3: Concentration Curves for Direct Transfers by Gender
(a) Women (b) Men



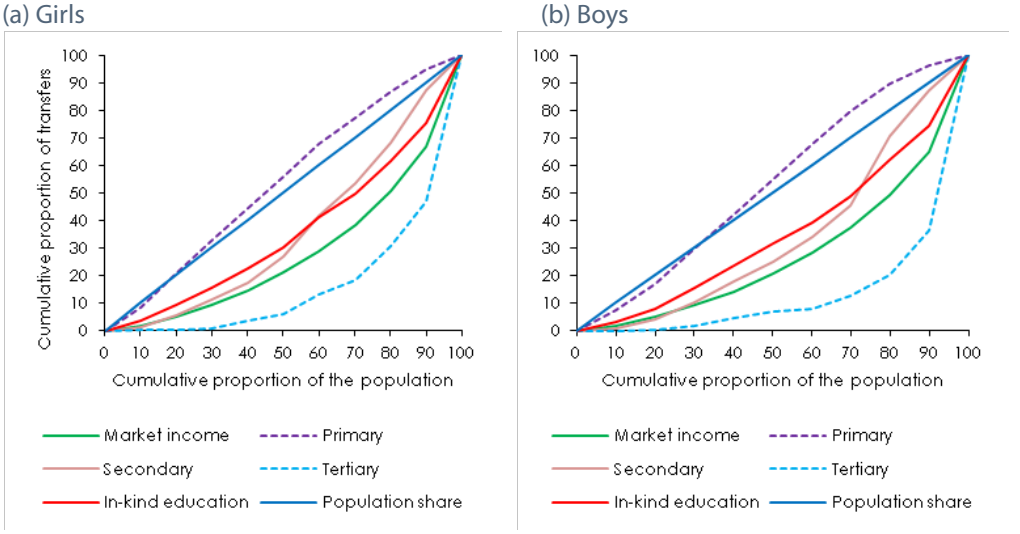
Source: Author, based on ESS 2018/19

In-kind education transfers

The shares of public education expenditure (in-kind education transfers) by level of schooling and gender are presented in Figure 4 below. The results show that the aggregate education spending is concentrated in the top income deciles (about 25 per cent) for both genders. A striking fact is that the top income decile for both genders captures a higher share of the total education spending than the bottom 40 per cent. However, the pattern appears to be different when we see the distribution by education level.

The share of public spending on primary education is 7.4 per cent for boys in the poorest income decile and 3.5 per cent for boys in the richest deciles. For girls, the poorest income decile captures 8.4 per cent of the primary education spending whereas the richest decile takes up 5.3 per cent of the spending. Spending on primary education as a proportion of market income is very high for those in the bottom decile. The value of primary education benefits received by girls and boys in the poorest income decile is 17 per cent of the market income compared with about 1 per cent for those in the top income decile. The higher share of primary school spending for the poorest could be because richer children are often enrolled in private schools. As shown in Figure 5, the share of boys and girls that enrol in primary education at public schools decreases with income levels.

Figure 4: Concentration Curves for Education Spending by Gender

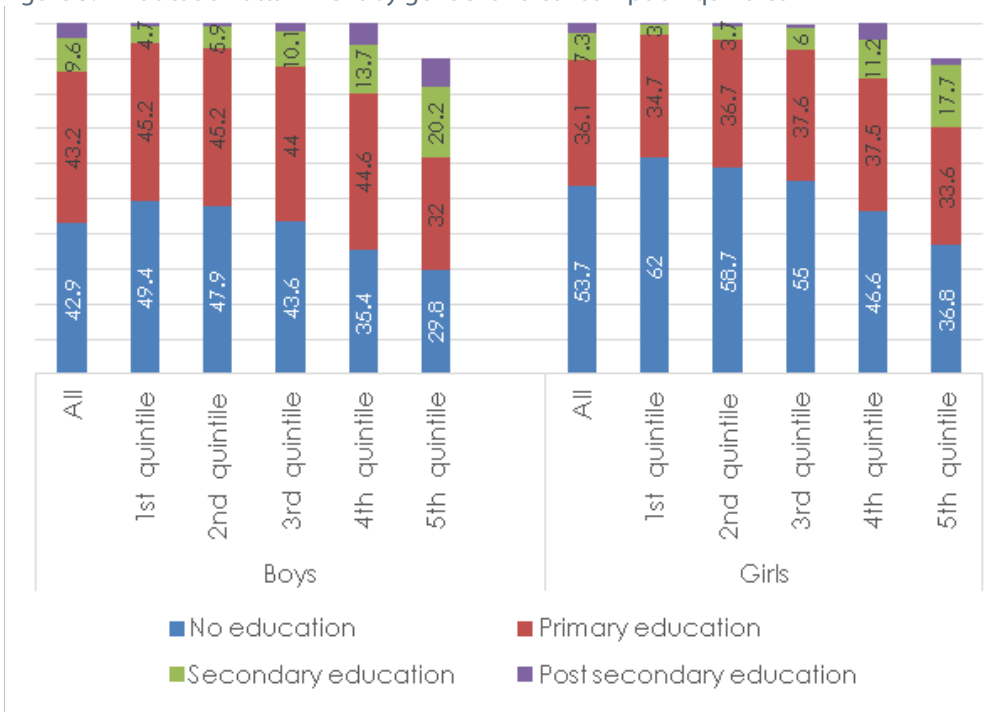


Source: Author, based on ESS 2018/19

Both secondary and tertiary education spending appear to benefit those in the top income distribution regardless of gender. Of the total public spending on secondary education benefits, only about 1 per cent is captured by boys and girls in the poorest

decile, while boys and girls in the richest decile take up about 13 per cent. The poorest decile received less than 1 per cent of the spending on tertiary education, while the top 10 per cent captures a substantial amount, which is about 53 per cent for girls and 63 percent for boys. This could also be because public schools have lower education outcomes than private schools.

Figure 5: Education attainment by gender and consumption quintiles



Source: Author, based on ESS 2018/19

Public health spending

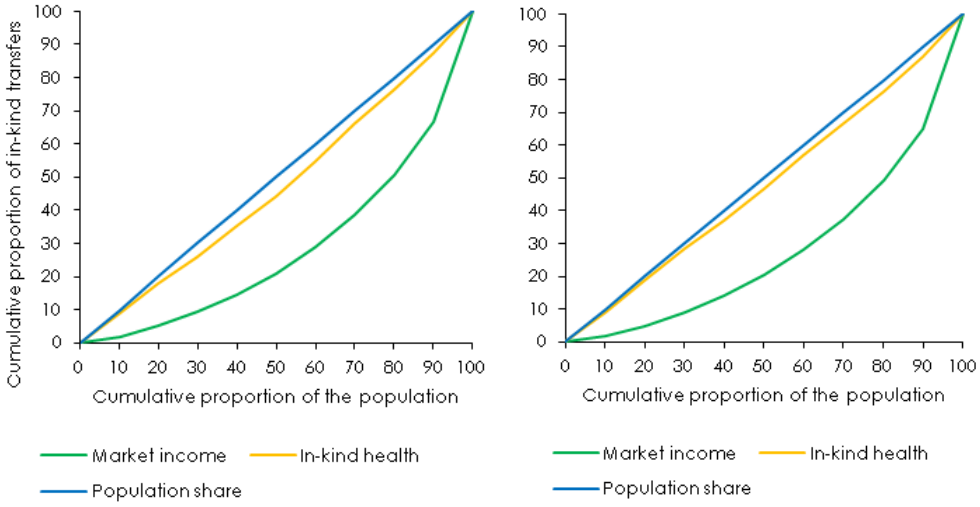
There is no clear difference in the pattern of the distribution of benefits from health spending by gender (Figure 6). Overall, health benefits received by the poorest women and men are relatively high as a share of their market incomes.

Our data show that about 9 per cent of the total health spending is concentrated in the poorest decile, whereas 13 per cent is concentrated in the richest decile for men. For women, about 9 per cent of the total health spending is captured by the poorest decile, while the top decile takes up 12 per cent. The results indicate that the poorest men and women do not fare better from the health spending compared to the richest. With such a pattern, one would not expect public health spending to be pro-poor.

Using the distribution of benefits by income deciles and gender, and with the aid of concentration curves (Figures 3 and 4), one can gauge the progressivity of the transfers. Such an approach also helps assess if the interventions are well targeted. Accordingly, public spending on primary education appears to be well targeted for

both genders, since the poorest 20 per cent received more subsidies than the richest 20 per cent. Moreover, PSNP transfers are well targeted for both men and women. However, spending on secondary and tertiary education is not well targeted. Another striking result is that public health expenditure is not well targeted for both men and women.

Figure 6: Health Spending Concentration by Income Decile and Gender
(a) Women (b) Men



Source: Author, based on ESS 2018/19

Progressivity and pro-poorness

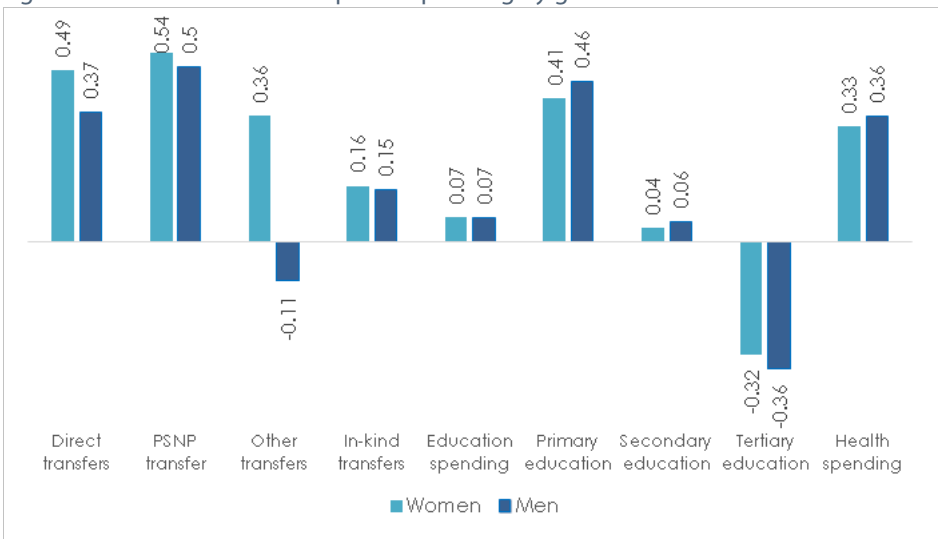
As discussed in the methodology section, the progressivity of public expenditure is assessed using various methods. One of the common approaches is observing the distribution of benefits relative to the market income across income deciles. This can also be combined with assessing the concentration curves of the benefit distributions. A transfer is considered progressive if the poorest 20 per cent receive more than the richest 20 per cent relative to their market income. According to this criterion, primary education spending and PSNP are progressive for both men and women. Public spending on secondary and tertiary education and health is not progressive. These findings are also evident from the concentration curves presented in Figure 4 (for education spending) and Figure 6 (for health spending) which show the distribution of the benefits of public spending by gender.

The concentration curves of PSNP transfers lie above the 45-degree line for both men and women (Figure 3). This indicates that PSNP transfers benefit the poorer segments of the population at the lower income distribution more than the less poor households. The concentration curves for non-PSNP transfers, and direct transfers are predominantly above the perfect equality line (the 45-degree line) for women, showing that less wealthy women are more likely to have access to direct transfer

services than better-off women. However, the concentration curves for men are either below the 45-degree line (for non-PSNP transfers) or intersect the 45-degree line (for direct transfers). This implies that relatively poor men do not necessarily benefit from non-PSNP cash transfers compared to the better-off. Examining the concentration curves of education spending by education level, we find evidence that primary education spending is progressive for men. The concentration curves for the other in-kind spending items are not predominantly above the 45-degree line. This suggests that such expenditures are not progressive in absolute terms.

Figure 7 presents the progressivity of the different transfers assessed using Kakwani coefficients. As discussed in Section 3, the Kakwani coefficient is computed as the difference between the market-income Gini coefficient and the concentration coefficient of the transfer of interest. A positive Kakwani coefficient indicates that the transfer is progressive, whereas a negative coefficient suggests that the transfer is regressive. Accordingly, public spending on tertiary education is regressive for both men and women, and other cash transfers are regressive for men.

Figure 7: Kakwani indices of public spending by gender

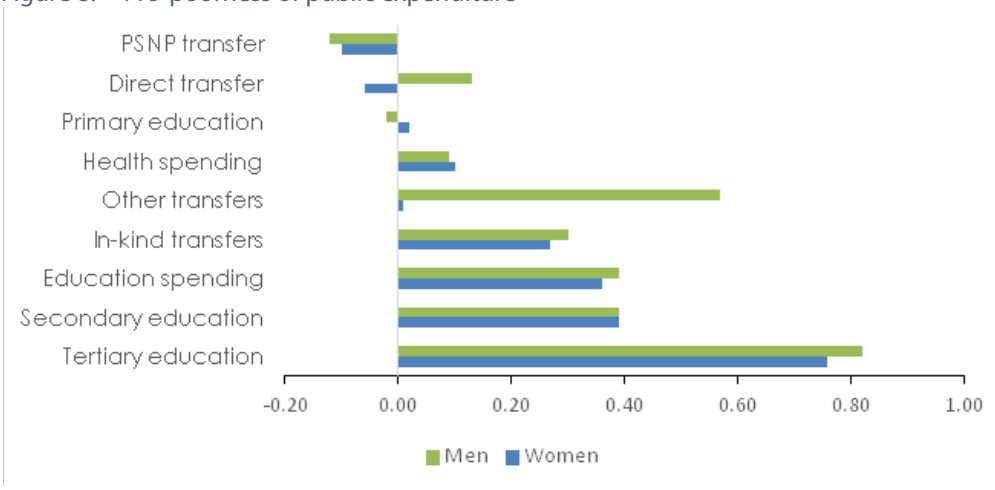


Source: Author, based on ESS 2018/19

The progressivity and pro-poorness of the different public expenditure interventions considered in this study are assessed using concentration indices. Specifically, the concentration indices are compared with the market income Gini index to classify the expenditure items into (i) progressive and pro-poor if the concentration index is negative, (ii) progressive but not pro-poor, and (iii) regressive if the concentration index is greater than the Gini index. Figure 8 summarises the progressivity and pro-

poorness of the different public expenditure items by gender.

Figure 8: Pro-poorness of public expenditure



Source: Author, based on ESS 2018/19

The results show that only PSNP transfers are pro-poor for both men and women. Other transfers are progressive for women but regressive for men. As a result, direct transfers (PSNP and non-PSNSP transfers) are pro-poor for women but not for men. Public spending on primary education also appears to be pro-poor for men (boys). However, it is progressive but not pro-poor for girls.

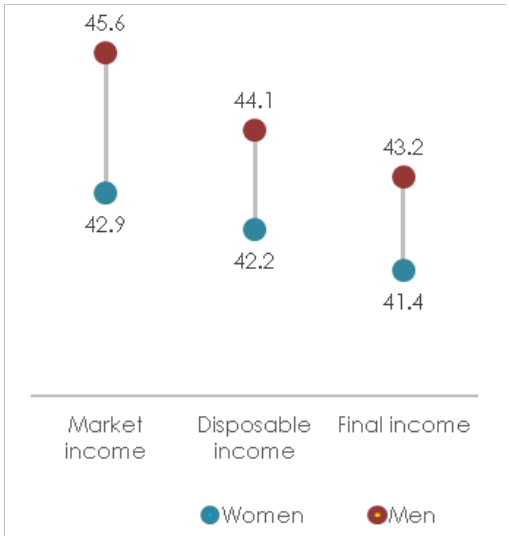
Tertiary education appears to be regressive. This would also be associated with high dropout rates and low completion rates in primary schools and secondary schools which might have contributed to the low enrolment rate in tertiary education (Hill et al., 2016). This could be more important for girls and children from poor households for whom progression to above primary education has been difficult. The findings are consistent with that of Demery & Gaddis (2009), who found primary education spending to be progressive, slightly favouring boys over girls, while secondary and tertiary education level spending were regressive, and boys received more subsidies than girls in Kenya. Rashid, Dorabawila, & Adams (2001) showed that, in Albania, public spending on secondary and tertiary education levels favoured the third and top quintiles as well as richer males.

Impacts on inequality and poverty

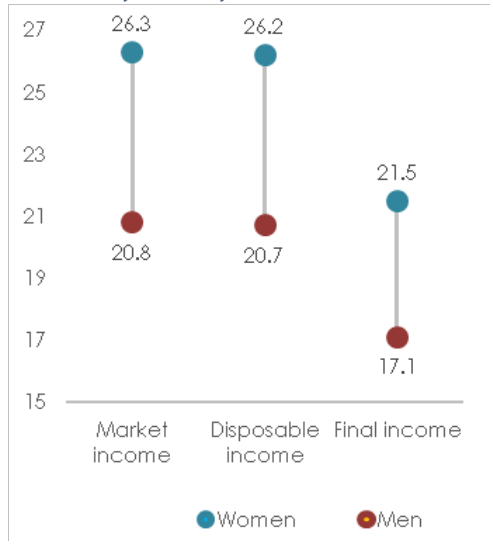
The distributional impacts of public expenditure are assessed using changes in income inequality and poverty across the different income concepts and by gender. Figure 9 depicts poverty and inequality by three income concepts and gender. Table A.3 in the appendix provides a more complete result. Income inequality as measured by the Gini coefficient is overall higher for men than women at all income concepts (Figure 9a). This suggests that welfare is more equally distributed among women than men. The poverty headcount rate tends to be higher for women than men at all income concepts, implying that women are poorer than men (Figure 9b).

Figure 9: Inequality and poverty by income concept and gender

(a) Inequality: Gini coefficient



(b) Poverty: Poverty headcount



Source: Author, based on ESS 2018/19

At the market income level, the Gini coefficient is 42.9 and 45.6 for women and men (with a gap of 2.7 percentage points), respectively (Figure 9a). Moving from market income to disposable income, the Gini coefficient for women dropped to 42.2 (by 0.7 percentage points) and that of men sharply dropped to 44.1 (by 1.7 percentage points). This result suggests that direct transfers have contributed to inequality reduction, possibly complementing direct taxes that are primary tools for income redistribution and inequality reduction. Moving further from disposable income to final income, there is a significant drop in income inequality among men and women, narrowing the gender gap further. The result suggests that monetised in-kind transfers for education and health services have important redistributive effects.

The poverty headcount rate for men and women does not significantly change as we move from market income to disposable income. This could be because of the effect of direct taxes to offset the potential poverty-reducing impacts of direct transfers. This could also imply that direct transfers were not large enough to offset the poverty-inducing effects of direct taxes. Moving from disposable income to final income, there is a significant drop in the poverty headcount rate among men (by 3.6 percentage points) and women (by 4.7 percentage points), also narrowing the gender gap in poverty. This provides evidence of significant poverty-reducing impacts of monetised in-kind transfers for education and health services. The poverty reduction effect of these transfers is higher among women than men. One of the channels through which these transfers would improve welfare among the poor would be through cushioning individuals from the welfare-reducing effects of indirect or consumption taxes.

Table 1 presents the marginal contribution of the different transfers to inequality and poverty. The marginal contributions — redistributive effect and poverty reduction effect — are in percentage points. A positive marginal contribution implies that the fiscal instrument is inequality/poverty reducing, and a negative marginal contribution implies that the transfer is inequality/poverty increasing.

Table 1: Marginal contributions of transfers to inequality and poverty reduction

Public spending/interventions	Redistributive effect		Poverty effect	
	Women	Men	Women	Men
Direct transfers	0.43	0.33	1.04	0.79
PSNP transfers	0.37	0.31	0.89	0.64
Other transfers	0.06	–0.03	0.11	0.11
In-kind transfers	1.18	1.23	9.28	7.22
Education spending	–0.43	–0.25	5.25	3.71
Primary education spending	1.62	1.76	4.90	3.52
Secondary education spending	-0.35	-0.26	0.32	0.15
Tertiary education spending	-1.54	-1.62	0.03	0.03
Health spending	1.53	1.38	3.66	2.71

Source: Author, based on ESS 2018/19

Direct transfers reduce income inequality by about 0.43 percentage points among women and by 0.33 percentage points for men. PSNP transfers are more inequality-reducing among women (0.37) than men (0.31). Other cash transfers appear to be inequality increasing (unequalising) among men and inequality reducing among women. In-kind transfers are overall inequality and poverty-reducing, mainly for women. Among the in-kind transfers, public spending on education is not equalising irrespective of gender. While public spending on primary education has a relatively higher redistributive effect for men and women, spending on secondary and tertiary education is unequalising for both genders. Public health spending appears to be more equalising for women than men. This could be due to the recent expansion of rural health services through the government's health extension service that targets women.

Direct transfers reduce poverty by about 1.04 percentage points for women and 0.79 percentage points for men. While PSNP transfers are more poverty-reducing among women (0.89 percentage points) than men (0.64 percentage points), other cash transfers seem to show no gender-differentiated poverty effects. Public spending on education is poverty-reducing, but the effects are pronounced more among women. The poverty-reducing effects of public spending on primary and secondary education are also higher for women than men. Public health spending also appears to be more poverty-reducing for women than men. Overall, the results show that investing in education and providing cash transfers would be a highly effective policy to boost women's human capital and, in turn, shape future total labour productivity (Salehi-Isfahani & Mostafavi, 2018).

The observed gender-differentiated effects of public spending or transfers on gender could be explained by gender differences in economic activities (Barnett and Grown, 2004) that include: (i) labour market participation or employment (including formal/informal employment, paid/unpaid work, and wages); (ii) consumption composition and expenditure; and (iii) property rights and asset ownership. Such differences would affect the way women access various benefits (e.g., health and education services), and how they would be impacted by user payments for accessing such services (Doorley & Keane, 2020; Grown, 2010; Lahey, 2018; Theunissen, Kuijper, & Alencar, 2019). Other factors that could explain gender-differentiated impacts of public expenditure include gender inequalities in decision-making power, access to and control over resources, and roles and responsibilities in households (Theunissen et al., 2019). Such gender inequalities could arise due to explicit or implicit biases (Stotsky, 1996). For example, if girls receive less education transfers because household dynamics make them drop out of school at earlier ages, spending more on education will not necessarily correct this inequity. Expenditure cuts in the public health sector are likely to increase women's domestic burden. This is particularly true for poor women who often shoulder part of the health care of the household (Budlender et al., 2002). Cash transfers that target girls are likely to increase school attendance by girls (Greenspun & Lustig, 2013). The fact that women bear a disproportionate share of unpaid work also affects the way they benefit from public spending (Birchall & Fontana, 2015). Governments should properly supply public services through using policies that could help reduce biases against women (e.g., girls enrolment in school) and by not raising revenue through user fees (Joshi et al., 2020).

5. Conclusion

This study investigate the gender-differentiated welfare impacts of public expenditures in Ethiopia using household survey data from the 2018/19 Ethiopia Socio-economic Survey (ESS) combined with administrative public accounts data. Data analysis was supported using a benefit incidence analysis along with the CEQ methodology. The study has shown that government social spending in Ethiopia benefits individuals. However, the benefits are heterogeneous by the type of spending intervention and gender. The country's flagship Productive Safety Net Programme (PSNP) is progressive and pro-poor, and contributes to poverty reduction among women and men. The effectiveness of PSNP could be associated with targeting performance so that a large fraction of the benefits is captured by the poor. However, other direct transfers appear to be regressive and unequalising for men. Public spending on education and health is progressive and poverty-reducing for both women and men. Education spending is unequalising for both girls and boys, but more poverty-reducing for girls. The unequalising effect is driven primarily by spending on tertiary education. The regressivity of tertiary education spending is mainly due to low tertiary education enrolment among the poor. While spending on primary education is the most progressive, equalising and poverty-reducing for both genders, it is pro-poor only for boys. Public spending on health is also progressive, unequalising, and poverty-reducing. The impact is stronger for women than men.

The results show that PSNP transfers and spending on primary education generate higher benefits for the poorest groups. Overall, the poor gain a larger share of the benefits of public spending on primary education than they do of secondary and, in turn, more from secondary than tertiary. This implies that the poor would benefit if the government improved public primary education and increased primary education completion. Providing greater educational opportunities to women is a key policy option to improve their welfare through boosting female labour market participation. In low-income countries such as Ethiopia, investing in female education would have the largest economic and social payoffs while boosting female labour productivity, which would in turn reduce income inequality and poverty. This is because gender inequality in economic opportunities is often associated with a more unequal overall income distribution. Providing cash transfers to poor women could also improve their participation in the labour force and help reduce poverty in the meantime.

From a policy perspective, the government can better target its resources to the poor and disadvantaged groups by focusing on areas where the poor derive significant benefits. This includes investments in direct social protection transfers and indirect in-kind spending on primary education and health services that would promote gender equality. The government needs also to increase focus and improve the targeting of resources in areas where the poor do not currently benefit, such as post-primary education and health. Most importantly, the government needs to shape its fiscal policy interventions to improve gender equality. This in turn needs adopting a gender-responsive budgeting approach that would help address gender inequality and empowerment of women in education, health, and the economic sphere (Fabrizio, Fruttero, Gurara, Kolovich, Malta, Tavares, et al., 2020).

The limitations of the study are also important. This study focuses on demonstrating how income distribution would change if we included cash and in-kind transfers individuals obtain from using government services. However, spending on many services, especially in the social sectors, goes beyond redistributing incomes and often seeks to raise the capabilities of the population to improve health and education outcomes. Therefore, future benefit incidence analysis needs to consider the needs of different groups. Another area of focus for future studies would be to include public spending on infrastructure (e.g., roads, water and sanitation) and other social sectors and subsidies in the analysis.

Notes

1. The Corn Laws were tariffs and other trade restrictions on corn and imported food levied in the UK between 1815 and 1846. Their main purpose was to keep corn prices high to favour domestic producers.

2. The study is based on different income concepts discussed in the Data and Methods section.

3. The cash transfers could be considered as benefits that are excludable (assigned to beneficiaries) and in-kind transfers that are not excludable, i.e. public goods.

4. The different taxes need to be included along with transfers in the calculation of the different income concepts. This helps to get a more precise measure of the income concepts and enables estimation of the effect of the transfers to mitigate the negative impact (if any) of the taxes on poverty and inequality. Since the focus of this study is on transfers, the methods used for calculation of taxes are not included.

5. This is a common approach used in most incidence analysis studies. However, the approach is not without caveats. The method implicitly assumes that the cost of production equals the value of consumption. It also assumes that the value of the service is constant across users. Such assumptions will almost always result in an overestimation of the effect of public education expenditures on economic welfare.

6. Concentration index is twice the area between the concentration curve and the diagonal line, and it is defined using a covariance formula as $C_i^x = cov\big(i, F(x)\big)\frac{2}{\mu_i}$, where C_i^x is concentration coefficient of fiscal component i with respect to market income x, F(x) is cumulative distribution of the market income, and μ_i is the average value of component i.

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Appendix

Table A.1. Descriptive statistics by gender

	Men	Women
Welfare:		
Market income	13,951	11,388
Consumption expenditure	13,468	11,226
Final income		
Public expenditure (per capita):		
Cash transfers:		
PSNP transfers	945	904
Other cash transfers	365	295
In-kind transfers:		
Education (all levels)	5,308	5,019
Health	514	526
Education level (%):		
No education	42.9	53.7
Primary	43.2	36.1
Secondary	9.6	7.3
Post-secondary	4.3	3.0
Labour market (employment):		
Working age population	52.2	55.0
Labour force participation rate (LFPR)	84.3	61.8
Unemployment rate	5.2	14.2
Agriculture employment	70.8	77.9
Non-agricultural household business	8.7	11.5
Casual, part-time, or temporary labour	2.4	1.3
Wage employment (excluding temporary)	11.1	8.3
Agricultural employment	70.8	77.9
Monthly wage earnings (ETB)	3,407	2,182

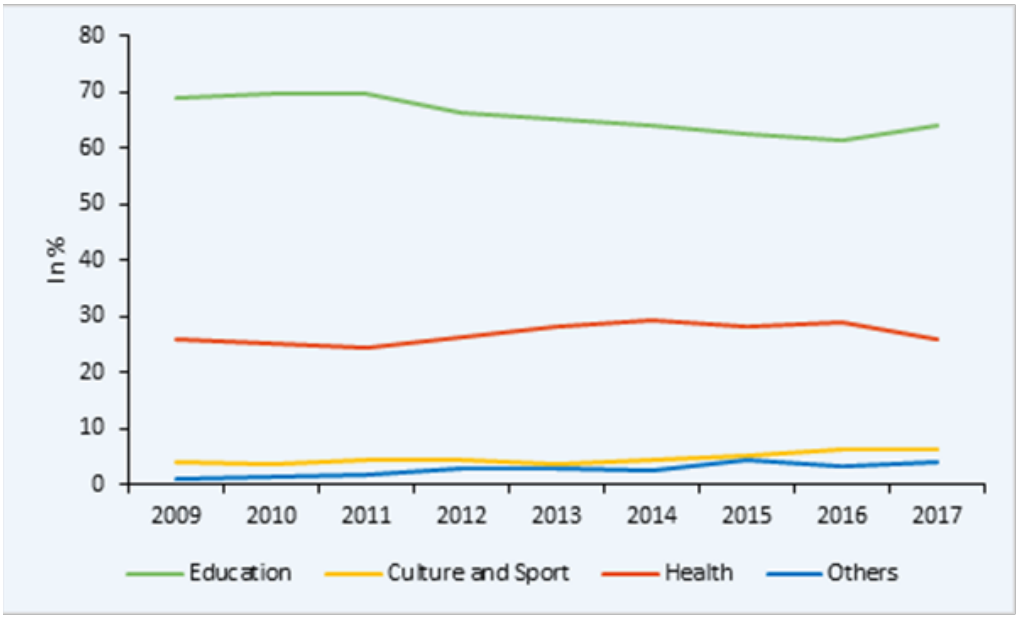
Source: Author, based on ESS 2018/19

Table A.2. Government spending structure of Ethiopia

Spending category	2010/11			2018/19		
	Br, millions	Share of government spending (%)	Share of GDP (%)	Br, millions	Share of government spending (%)	Share of GDP (%)
Total government spending	93,831	100	18.2	413,106	100	20.8
General services	15,655	16.7	3.0	74,660	18.1	3.8
Economic development	41,184	43.9	8.0	137,751	33.3	6.9
Agriculture	14,183	15.1	2.8	62,975	15.2	3.2
PSNP	5,293	5.6	1.0	5,657	1.4	0.3
Food security	1,510	1.6	0.3	2,553	0.6	0.1
Urban development and construction	2,762	2.9	0.5	16,094	3.9	0.8
Road	18,318	19.5	3.6	41,318	10.0	2.1
Other	3,159	3.4	0.6	17,364	4.2	0.9
Social development	30,174	32.2	5.9	160,407	38.8	8.1
Education	23,345	24.9	4.5	102,816	24.9	5.2
Health	6,307	6.7	1.2	38,382	9.3	1.9
Labour and social welfare	179	0.2	0.0	3,821	0.9	0.2
Other	343	0.4	0.1	15,388	3.7	0.8
Other	6,818	7.3	1.3	40,288	9.8	2.0

Source: Ministry of Finance (MoF)
Note: The actual budget values for the in-kind transfers are from the 2017/18 year. Br refers to Ethiopian Birr

Figure A.1: Spending share on health and education, 2009-2016



Source: Author, based on MoF

Table A.3. Inequality and Poverty by CEQ income concept and gender

	Market Income		Disposable Income		Final Income	
	Women	Men	Women	Men	Women	Men
Inequality:						
Gini index	0.429	0.456	0.422	0.441	0.414	0.432
Theil	0.342	0.398	0.331	0.370	0.321	0.358
Poverty (%):						
Poverty headcount	26.3	20.6	26.2	20.6	21.5	17.0
Poverty gap	8.4	6.9	8.3	6.7	6.9	5.9
Poverty severity	3.8	3.3	3.7	3.1	6.3	9.6

Source: Author, based on ESS 2018/19

Table A.4. Assignable and non-assignable goods by gender

	Assignable	Non-assignable	Relative proportion*
National	1,247.5	10,811.8	14.9
Female	917.5	10,088.6	12.1
Male	1,595.2	11,573.7	17.9

Source: Author, based on ESS 2018/19
Note: The relative proportion is calculated as the ratio of the value of non-assignable items to that of assignable items.

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