

Gender Implications of Rural Land Use Fee and Agricultural Income Tax in Ethiopia

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Land use fees and agricultural income tax in Ethiopia are levied on rural landholders according to the size of agricultural landholdings. Summarizing the evidence presented in our paper (Komatsu et al. 2021), based on new, nationally-representative data on taxation of households and individual landholdings and rights in the Fourth Ethiopian Socioeconomic Survey (ESS4, 2018–19), this brief discusses how area-based land taxes are regressive and the tax burdens for female-only households are larger than for dual-adult households. Social norms limiting women’s roles in agriculture and a gender agricultural productivity gap are likely to be a source of this gender bias. Lower tax rates for smallholders can reduce women’s tax burdens, but area-based land taxation would continue to be regressive.

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HOW DO RURAL LAND USE FEES AND AGRICULTURAL INCOME TAX AFFECT GENDER EQUITY?

Since the 1990s, the land certification and registration process has improved land tenure security for both women and men in Ethiopia (Deininger *et al.* 2008, Holden and Tilahun 2020). Women's rights to land were formalized by having their names on land certificates, although there is regional variation (Holden *et al.* 2011). Since the government owns the land, landholders do not have ownership rights but they do have some use rights (for example, the right to bequeath). However, landholders are not allowed to sell or mortgage land (Deininger *et al.* 2008).

Rural land use fees and agricultural income tax, which are assessed based on the area of the agricultural land, have to be paid by landholders. Such area-based land taxation is common where rural land markets are missing or do not function well (Franzsen and McCluskey 2017, Sah and Stiglitz 1985, Skinner 1991). Land taxes are also economically efficient because behavioral responses are not expected when land supply is fixed (Bird and Slack 2004). Yet area-based land taxation can be regressive because it is not always associated with productivity, agricultural income, or land values (Bird and Slack 2004, Norregaard 2013, Skinner 1991, Sah and Stiglitz 1985). Indeed, the tax burden of rural land use fees and agricultural income tax in Ethiopia has been found to fall disproportionately on poor households (Hill *et al.* 2017, Mesfin and Gao 2020).

Given the formalization of land rights for women and men and the regressivity of rural

land use fees and agricultural income tax in Ethiopia, what are the gender implications of these taxes? This brief summarizes the evidence presented by Komatsu, Ambel, Koolwal, and Yonis (2021), which examines this question by estimating the tax burdens by gender-disaggregated household typologies and by sex of the landholder. It uses newly available data on household tax payments and individual land ownership from the Fourth Ethiopian Socioeconomic Survey (ESS4) 2018/2019.

CONCEPTS ON GENDER AND TAXATION

Two principles used to measure the fairness of taxation are vertical and horizontal equity. *Vertical equity* is the principle that expects those with more resources to pay more taxes than those with less, and *horizontal equity* is the principle requiring equal treatment for those in the same circumstances (Martinez-Vasquez 2001). Yet in practice, it is difficult to define which taxpayers are in the same circumstances, and which are not (Grown 2010). Provisions in the laws and regulations of tax systems can result in gender-differentiated tax burdens due to gender norms, social and economic arrangements, and differences in consumption, employment, and ownership of property (Stotsky 1997). Stotsky (1997: p. 1913) coined the term an "implicit gender bias" to describe gender-differentiated impacts of taxation, which can be identified in the personal income tax, consumption taxes, informal taxes, and property taxes. In this brief, we discuss whether the rural land use fee and agricultural income tax are implicitly gender biased.

In Ethiopia, for example, the presence of a male adult in the household has implications for whether household members engage in agricultural work as well as women’s access to land because gender norms restrict women from working in agriculture (Ghebru and Holden 2015; Holden, Deininger, and Ghebru 2011; Teklu 2005) and older sons are given priority in inheriting land (Bezu and Holden 2014b, Kosec *et al.* 2016). For this reason, households are classified into two groups in our tax incidence analysis: (1) female-only with no male adults; and (2) dual male and female adults. Female-only households represent 57 percent of female-headed households. Individual tax incidence is imputed by estimating the individual’s tax liabilities as a proportion of the household land the respondent owns using self-reported individual landownership data.

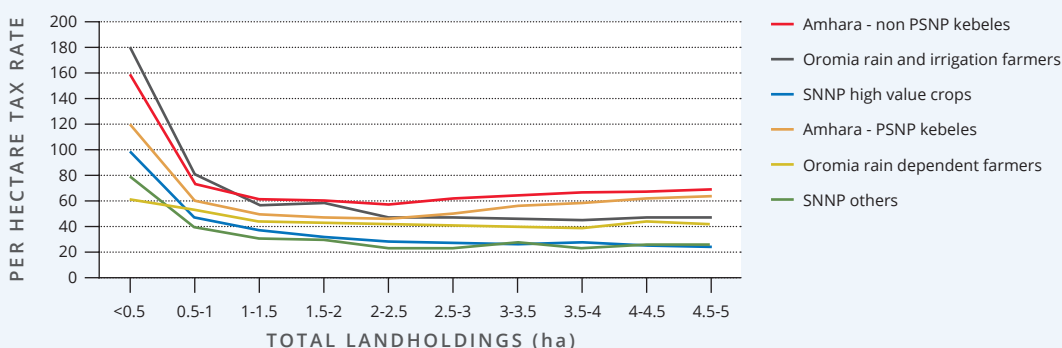
FEATURES OF RURAL LAND USE FEES AND AGRICULTURAL INCOME TAX

Each region sets its own tax rates, which are annual lump sum payments based on the area of the agricultural land held (Hill *et al.* 2017, World Bank 2012). There are also differences in tax rates in each region by whether irrigation was available (Oromia), whether specific high-value crops were cultivated (SNNP), and whether the *kebele* (ward) is designated for the Productive Safety Net Program (PSNP).

The average per hectare tax rates (Birr/ha) in Amhara, Oromia, and SNNP regions in **Figure 1** show that landholders with less than 0.5 hectare pay more in taxes per hectare than larger landholders, and the taxes are therefore regressive. Female-only households are more likely to pay higher rates because 65 percent of the land held by female-only households is less than 0.5 hectare compared to only 39 percent of dual-adult households (**Figure 2**).

Figure 1

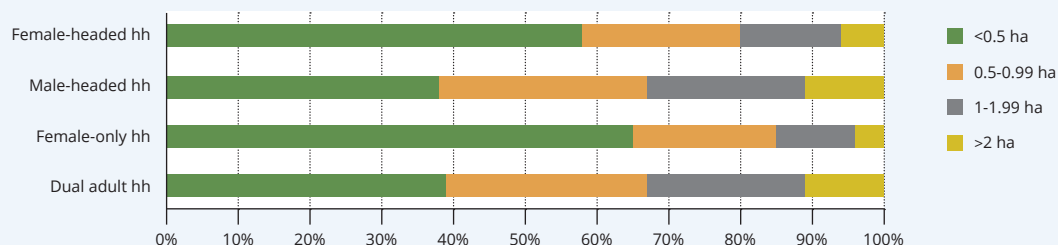
Average Per Hectare Tax Rates of Rural Land Use Fee and Agricultural Income Tax, Amhara, Oromia, and SNNP Regions



Note: This figure shows the per hectare tax rate, which is calculated by dividing the tax liabilities by the mid-point of the land area classes for each region.

Source: Komatsu *et al.* 2021.

Figure 2
Area of Agricultural Landholding by Household Type



Note: This figure presents the average area of land held by landholding household type.

Source: Komatsu *et al.* 2021.

GENDER DIFFERENCES IN TAX INCIDENCE OF RURAL LAND USE FEES AND AGRICULTURAL INCOME TAX

The ESS4 asks households how much they paid in rural land use fees and agricultural income tax in the previous 12 months (World Bank 2020). Household tax incidence is calculated by dividing household tax payment by annual household expenditure. It is assumed that landholders bear the full burden of tax—a reasonable assumption since (1) there is a shortage of rural land so the supply of land is fixed; and (2) landholders who choose to relocate risk losing their land rights (Bezu and Holden 2014b). Households are ranked by their position in quartiles of the adult equivalent expenditure distribution—a proxy for their ability to pay. Panel 1 in **Figure 3** shows the tax incidence of landholding female-only and dual-adult households. Individual tax incidence is estimated by imputing individual tax liabilities in proportion to the respondent’s share of household land, and by dividing the imputed

amount by per capita expenditure. Panel 2 in **Figure 3** presents the individual tax incidence by sex of the landholding respondent.

Corroborating previous research findings (Hill *et al.* 2017, Mesfin and Gao 2020), tax incidence of rural land use fees and agricultural income tax is regressive, with the poorest expenditure quartile bearing the largest tax burden. This is because most rural households have land rights and the average area of the land does not vary across the expenditure distribution (Komatsu *et al.* 2021, Mesfin and Gao 2020). The results show that female-only households face a higher tax burden than dual-adult households across the expenditure distribution, a violation of the horizontal equity principle of taxation. The tax incidence of female-only households is 37 percent larger than that of dual-adult households. Further, our analysis shows that there is a gender difference in individual tax incidence though the gap is smaller—the tax incidence of female landholder is 11 percent higher than that of male landholders—because the gender gap in land area among landholding respondents is small.

WHAT COULD BE THE REASONS FOR GENDER INEQUITY IN TAX INCIDENCE?

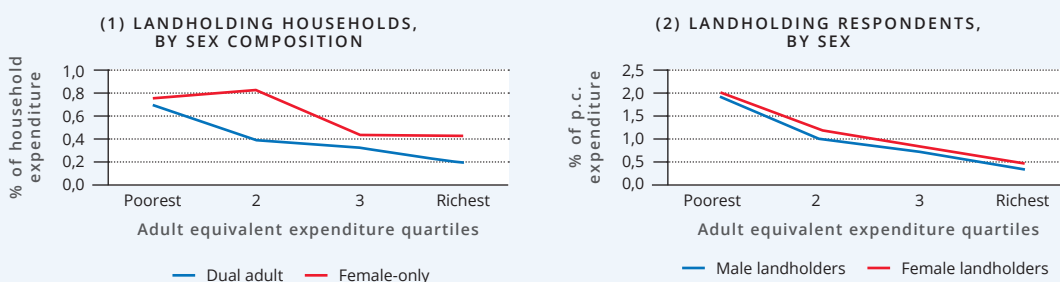
First, gender norms in agriculture and a gender productivity gap can have implications for the tax burdens of area-based land taxation. Two households with equal-sized farms have to pay the same amount in taxes, but the household with lower agricultural productivity and consumption would face a higher tax burden. In Ethiopia, there are social taboos against women engaging in agricultural work, especially ploughing with oxen (Bezabih *et al.* 2016, Ghebru and Holden 2015, Holden *et al.* 2011, Teklu 2005). When there are no male adults living in the household or male labor is not accessible, women often rent out land through sharecropping arrangements, which can take away half of the agricultural yield on the plots (Bezabih *et al.* 2016, Ghebru and Holden 2015, Teklu 2005). Indeed, our analysis finds that 21 percent of female-only households rent out land, compared to 11 percent of dual-adult households, and receive only 43 percent of the yield on the rented-out farms. Further, previous research found that the agricultural

productivity of female-headed household farms is lower than for male-headed household farms for both owner-operated and rented out plots (Aguilar *et. al.* 2015, Bezabih *et al.* 2016, Ghebru and Holden 2015). Where there are gender differences in agricultural productivity and consumption, area-based land taxation is likely to constitute an implicit gender bias because women would be faced with a higher tax burden than men.

Second, as mentioned above, the average area of land held by 65 of female-only households is less than 0.5 hectare compared to 39 percent of dual-adult households, and these smallholders pay the largest amounts in Birr per hectare.

The analysis so far uses self-reported taxes to calculate tax incidence. In our paper, we also calculate it by imputing tax liabilities using household and individual land size and tax schedules from Amhara, Oromia, and SNNP regions. The results show that tax incidence is much lower using the imputation method than when self-reported taxes are used, but the gender difference persists, with the tax burden on female-only households being 42 percent higher than that of dual-adult households.

Figure 3
Tax Incidence



Note: Households and individuals are ranked by their position by quartile in the adult equivalent expenditure distribution.

Source: Komatsu *et al.* 2021.

CAN RURAL LAND USE FEES AND AGRICULTURAL INCOME TAX BE HORIZONTALLY AND VERTICALLY EQUITABLE?

Given the regressive and horizontal inequity of rural land use fees and agricultural income tax, we simulate the tax incidence of a hypothetical tax schedule that (1) exempts landholders with less than 0.5 hectare of land from agricultural income tax; and (2) modifies the tax liabilities such that the average per hectare tax rate becomes progressive, increasing with land area. The hypothetical tax incidence is calculated by using the household and individual agricultural landholdings and the hypothetical tax schedule. The results are shown in **Figure 4**.

The gender difference in tax incidence is no longer significant with the hypothetical tax rates because the tax liabilities for smallholders are lower. In the second quartile, female-only households bear a larger tax burden than dual-adult households but the difference is smaller than in **Figure 3**. However, these land taxes are regressive because the average land size is constant across the expenditure distribution.

POLICY IMPLICATIONS

The results demonstrate that rural land use fees and agricultural income tax are regressive. These taxes also violate horizontal tax equity and are implicitly gender-biased because female-only households bear a larger tax burden than dual-adult households. Exempting smallholders with less than 0.5 hectare of land from paying agricultural income tax and increasing the progressivity of the average per hectare tax rates for larger farms can reduce the gender differences in tax burdens. Yet it is difficult for area-based land taxation to be vertically equitable when most poor households have land rights.

Property taxes have been given attention for their potential role in generating local government revenue and reducing inter-governmental fiscal transfers (Franzsen and McClosky 2017, Junquera-Varela *et al.* 2017). Further, area-based land taxation—which is one form of local property taxes—is economically efficient and is easier to administer where there are no rural land markets (Slack and Bird 2014). However, it is important to consider its gender and vertical equity implications.

Figure 4
Tax Incidence with Hypothetical Tax Rates



Note: Households and individuals are ranked by their position in the adult equivalent expenditure distribution into quartiles.

Source: Komatsu *et al.* 2021.

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