

A Gendered fiscal incidence analysis for Ethiopia: Evidence from individual level data

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Outline

1. Why a gendered fiscal incidence analysis?
2. Motivation for the Ethiopia case study
3. Methods
4. Data
5. Assumptions and Limitations
6. Results: Progressivity, Poverty, and, Inequality
7. Key Messages

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1. Why a gendered fiscal incidence analysis ?

Gender differences in access to and control over resources, roles and responsibilities in households, and markets, and organizations.

These differences can imply implicit biases against women in taxes and transfers (Stotsky 1997). These can be demonstrated in different ways.

- **Employment:** Gender differences in employment structure (paid vs. unpaid work, formal vs. informal) could affect the way women pay personal income taxes and their access to various rights and benefits that are tied to formal employment (Doorley & Keane 2020; Grown 2010).
- **Property rights and asset ownership:** Unequal control over resources between men and women → unequal benefit from the income generated from these resources. For example, in many parts of Africa and Asia men hold formal land titles (Grown 2010).
- **Consumption:** Consumption taxes (e.g., VAT and excises) could disproportionately affect women if they add burden on specific goods and services used by women, or if exemptions are not applied to essential products that are usually purchased by women (Grown 2010; Lahey 2018).
- **Education and health services:** Women and girls are more likely to have difficulty in accessing social services such as education due to low income or gender barriers (Enrique & Elson 2012).

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2. Motivation for the Ethiopia case study

- Possible gender-differentiated impacts of a fiscal policy due to:
 - Gender norms and land use fee and agricultural income tax (Komatsu et al 2021),
 - Differences in consumption patterns (EPHI 2016) and implications on taxes,
 - Differences in access to different government services such as education, health services (Bergen et al. 2019), agricultural extension services (Mogues 2013).
- The role of informal taxes in local public goods financing- payments for community development, social, political and religious activities, and informal social security institutions (Olken and Singhal 2011).
- Gender equity focused flagship government transfer- Productive Safety net Program and its implications on fiscal policy (Hirvonen, Mascagni, and Roelen 2018)
- Considers the recent fiscal reforms

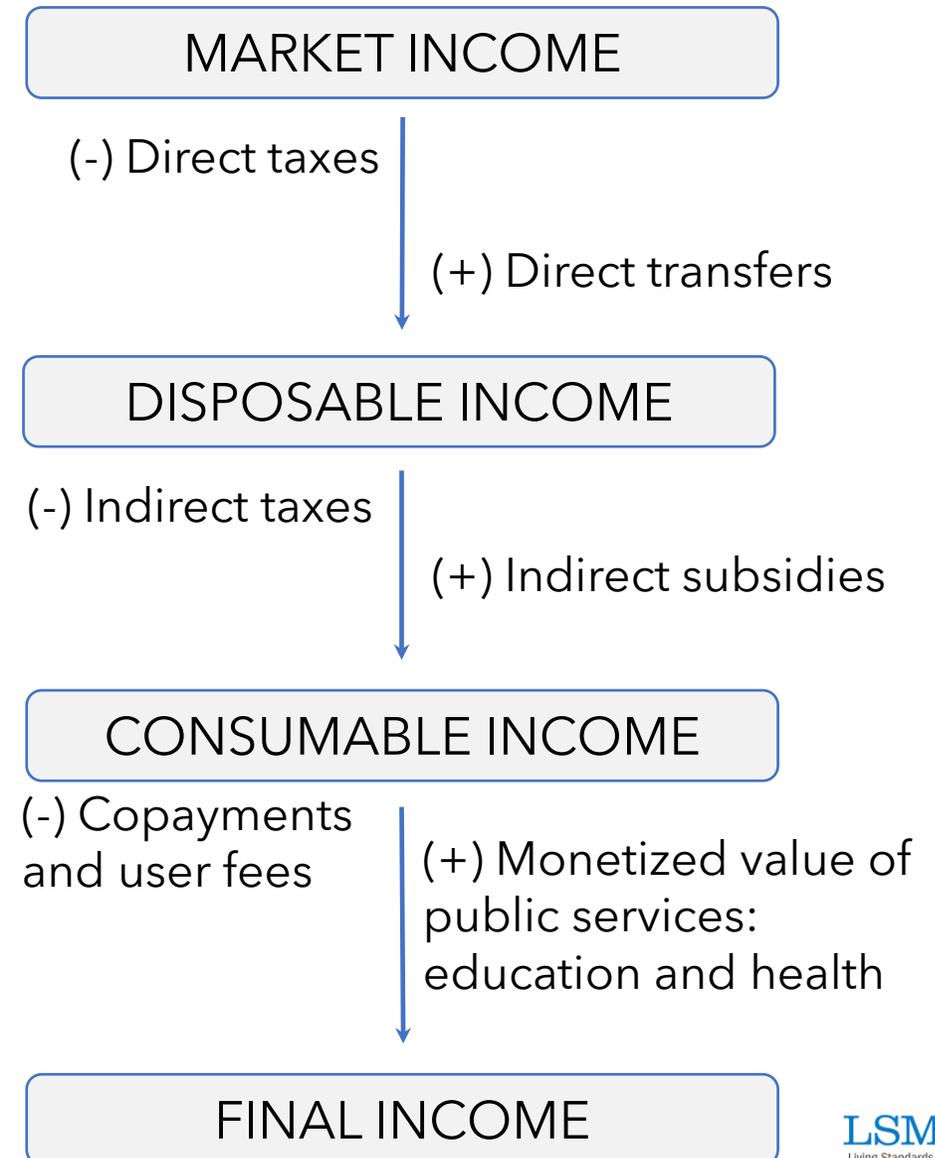
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3. Methods

The CEQ Framework

- Market Income
 - Direct Taxes: PIT, Informal Taxes, Other Income Tax, Agriculture Income Tax and Land Use Fee, Property Tax
 - + Direct Transfers: PSNP and Non-PSNP
- Disposable Income
 - Indirect Taxes: VAT and Excise
 - + Indirect Subsidies: Kerosene and Wheat Subsidies
- Consumable Income
 - Copayments and user fees
 - + Indirect Transfers: Education and health services (monetized value)
- Final Income



3. Methods

- Data Preparation: Intrahousehold allocation- Two-steps
 - First-step- **Assignable**- direct identification from the data or using consumption patterns (alcohol and tobacco), recipients of the services (education).
 - Second step (mostly consumption items or services to prepare consumption items): Adult equivalent scale weight.
- Analysis:
 - Incidence: The distribution of the share of taxes paid, or transfers received as a proportion of market income by gender.
 - Poverty and inequality: FGT poverty measures and Gini index at each income concept by gender. Theil index for inequality.
 - Progressivity, pro-poorness and marginal contributions: Concentration curves, conc coefficients and Kakwani indexes for each tax and transfer by gender.

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4. Data

- Micro data: Household and individual level information on taxes and transfers from the 2018/19 Ethiopia Socioeconomic Survey (ESS).
- Budget size: Budget figures disaggregated by tax and spending types by region from the Ministry of Finance.
- Administrative data:
 - Productive Safety Net Program (PSNP) from the Social Protection and Jobs (World Bank).
 - Wheat subsidy from Ethiopia Grain Trade Enterprise.
 - Kerosene subsidy from Ethiopian Petroleum Supply Enterprise.
 - Ministry of Education Annual Report - Education Statistics Annual Abstract.

4. Data

Direct tax	Direct transfer	Indirect tax	Indirect transfer	In-Kind transfer	Co-payment
Personal Income tax	PSNP	VAT	Wheat subsidy	Education	Education fee
Business tax	Other transfers	Excise tax	Kerosene subsidy	Health	Health fee
Agriculture income tax and land use fee					
Property tax (Housing tax)					
Other income tax					
Informal tax					

Outline

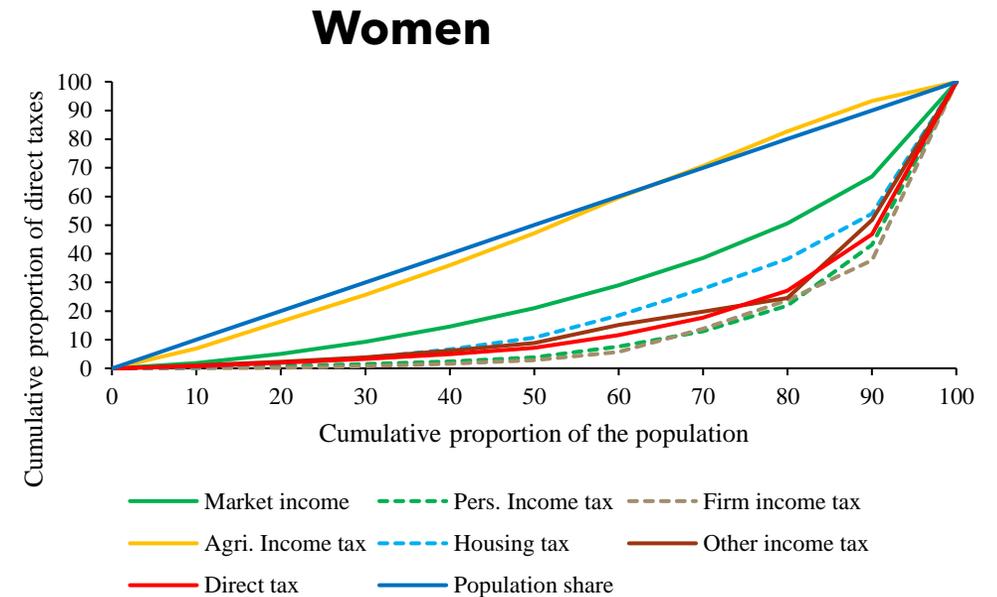
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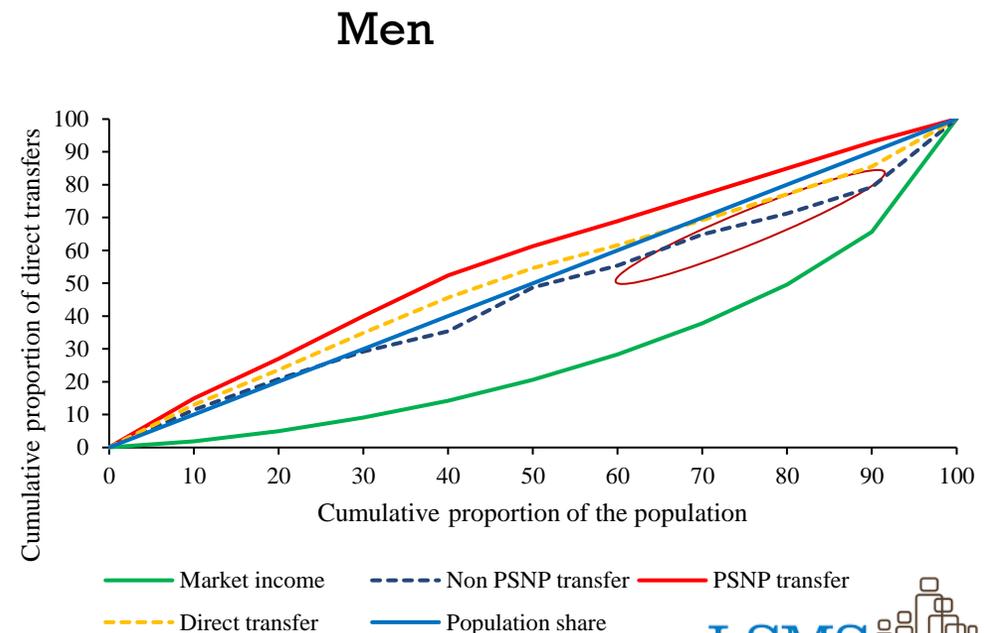
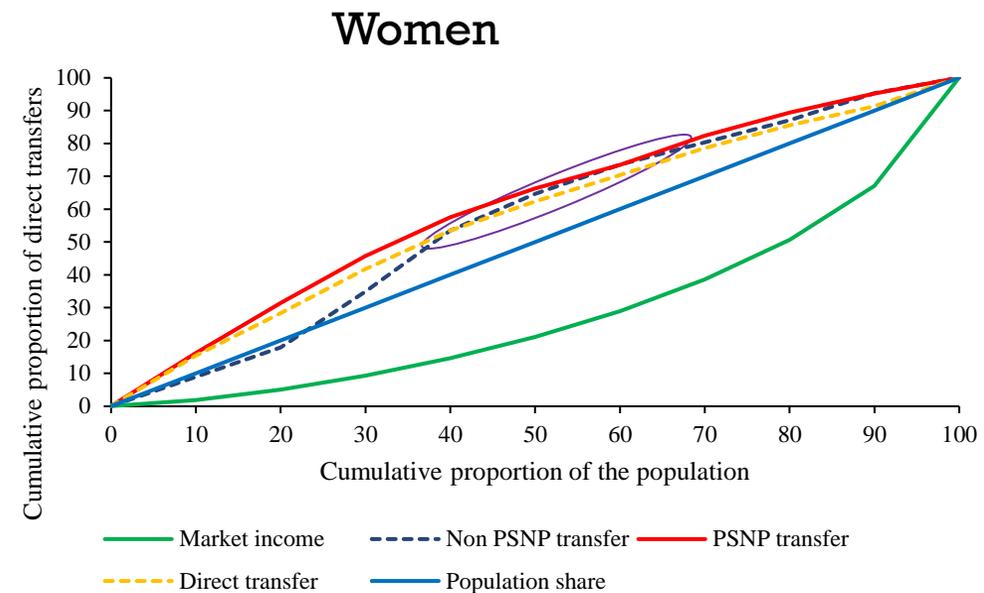
Direct taxes

- Direct taxes are progressive.
 - PIT are progressive.
 - Enterprise/business taxes are most progressive.
- Agri. income tax and land use fee are most regressive.
- Progressivity of direct taxes is similar for both men and women.



Direct transfers

- There is difference in the incidence and progressivity of direct transfers by gender.
- PSNP transfer is progressive in absolute terms (pro-poor) for women.
 - the bottom decile capture 16.2 percent of the PSNP transfer;
 - the top decile capture only 4.8 percent of the PSNP transfers
- For men, about 52 percent of the PSNP benefit goes to the bottom 40 percent
- Non PSNP transfers are not progressive in absolute terms (pro-poor).



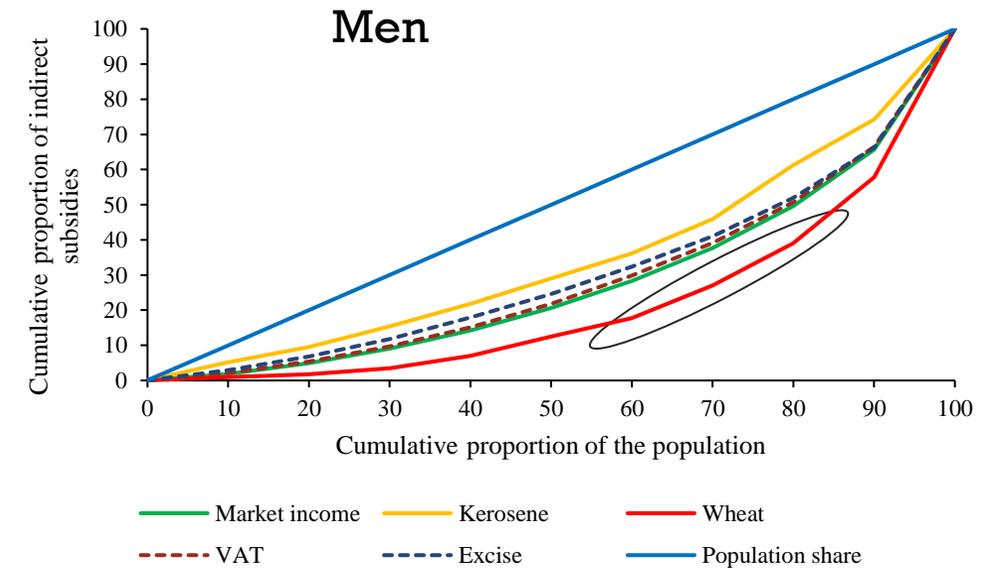
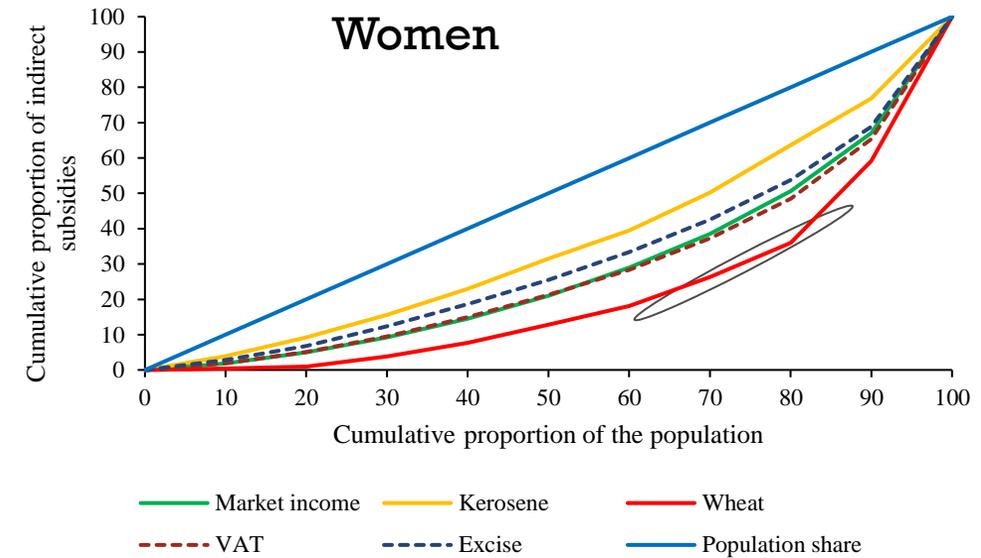
Indirect taxes & subsidies

- **Indirect taxes:**

- Excise taxes are (mildly) regressive for both genders
- VAT is ambiguously progressive

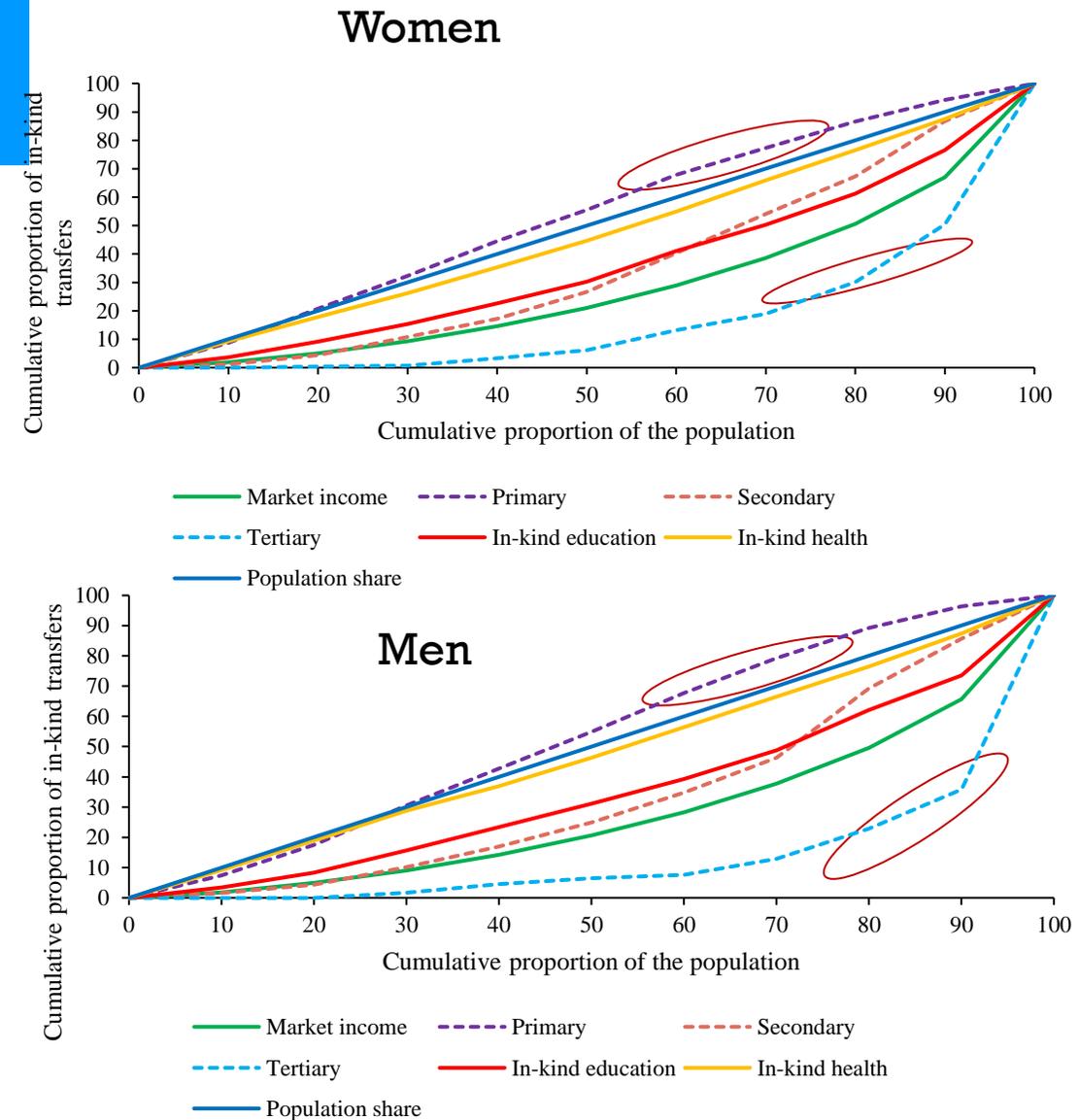
- **Indirect subsidies:**

- Regressive (driven by wheat subsidy)
- Wheat subsidy is regressive



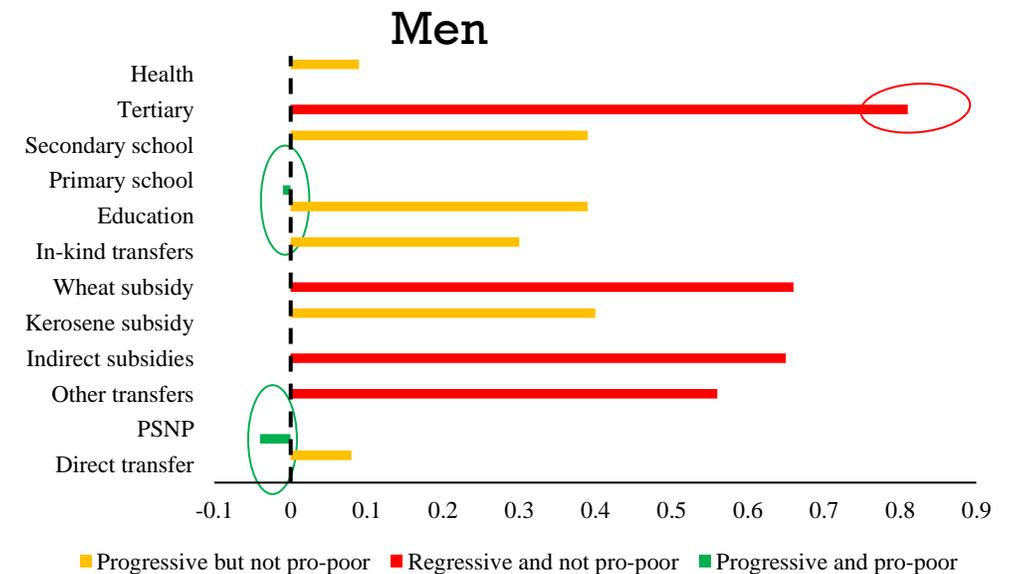
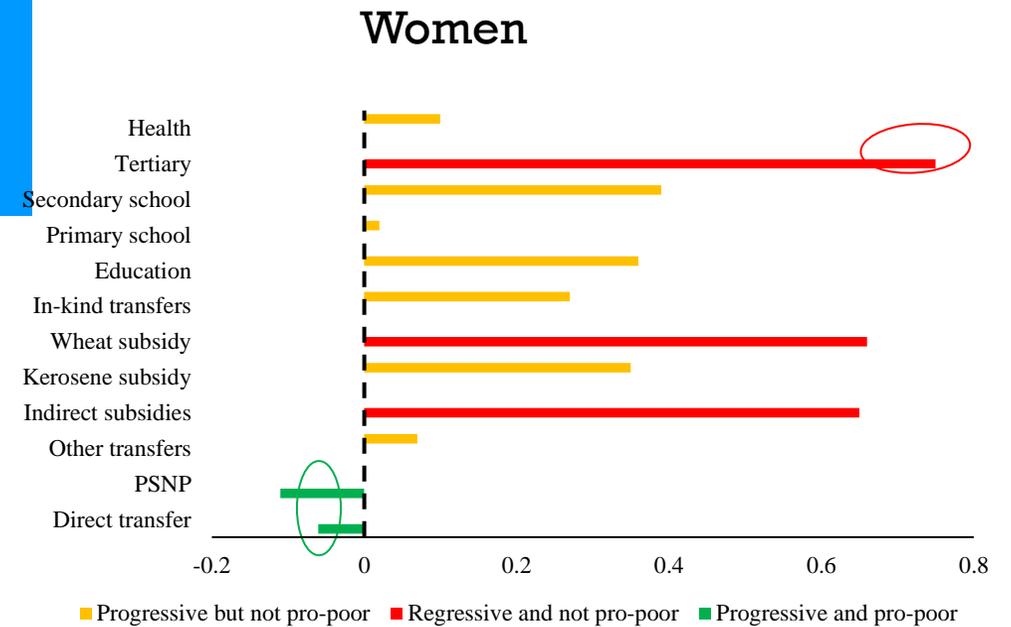
In-kind transfers

- Spending on education is progressive in relative terms
- Primary education spending is progressive and pro-poor (for men).
 - **Boys:** the share of spending in the poorest decile is 7.5 percent, and 3.7% for the richest deciles.
 - **Girls:** the poorest decile captures 8.7% of the spending and the richest decile takes up 5.8%.
- Spending on secondary education is progressive in relative terms.
- Tertiary education spending is regressive.
- Health spending is progressive for both genders.



Progressivity and pro-poorness of transfers

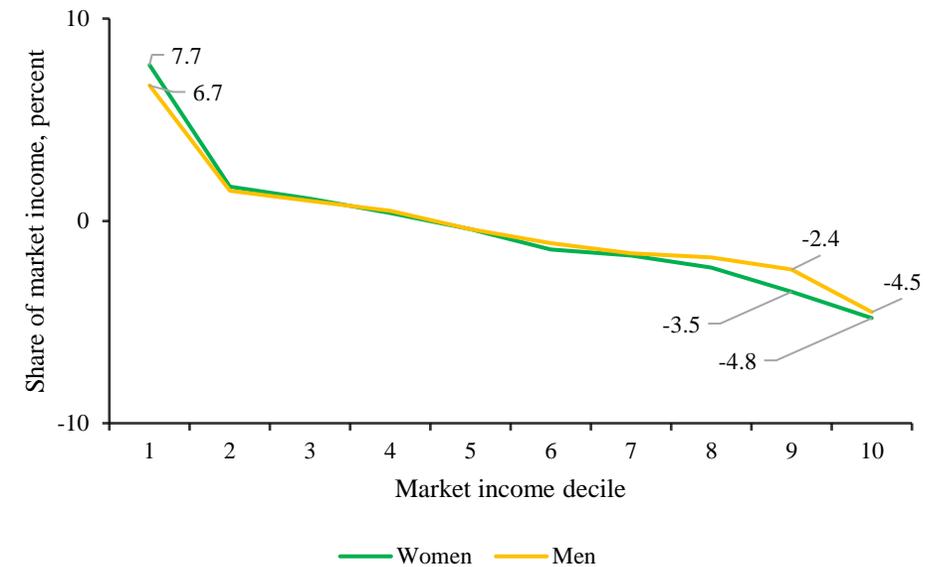
- Based on concentration coefficients and Market income Gini index
- **Progressive and pro-poor** (women)
 - Direct transfers in general
 - PSNP
- **Progressive and pro-poor** (men)
 - PSNP
 - Primary education spending
- **Regressive transfers** (both genders)
 - Tertiary education spending
 - Wheat subsidy
 - Indirect subsidy



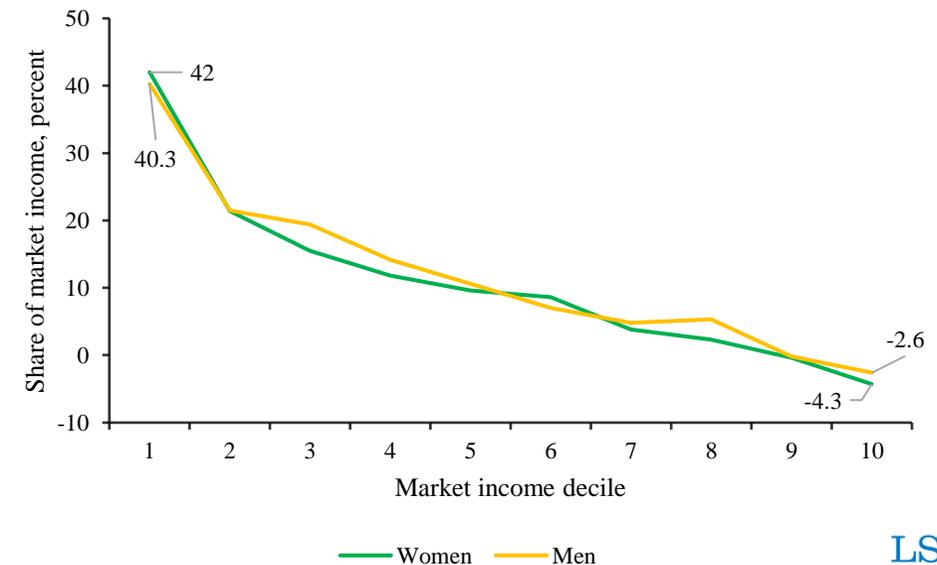
Incidence of taxes and transfers

- The top 20 percent are **paying more direct taxes** relative to their market income.
- The poorest 10 percent **gain more than they lost** from the fiscal system relative to their market income, **women benefited more**.
- The net impact of the fiscal policy is **progressive and equalizing** irrespective of gender.
 - All but the top 10 percent receive more benefits relative to their market incomes than the taxes they pay

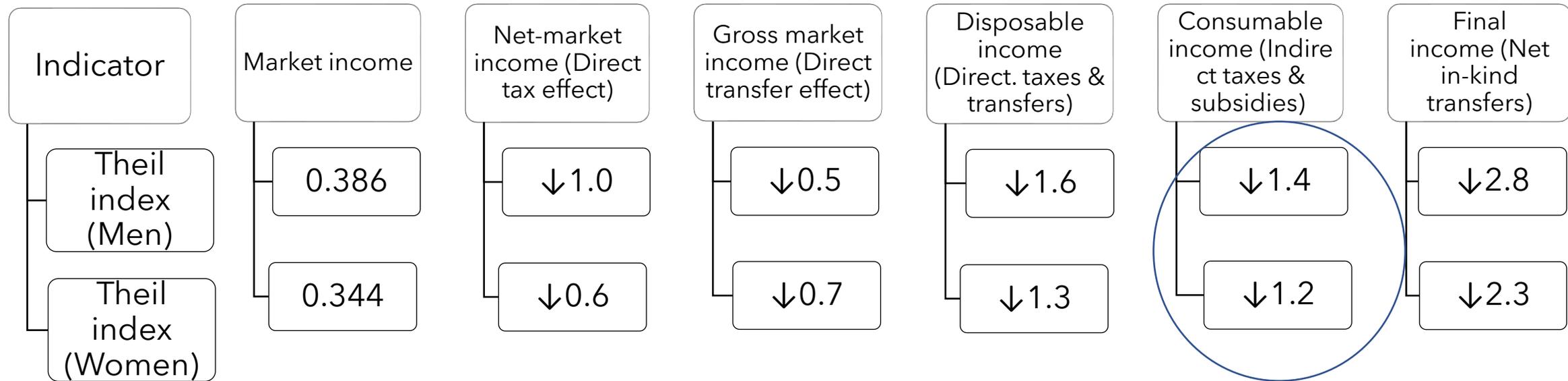
(a) Direct transfers net of direct taxes



(b) All transfers net of all taxes

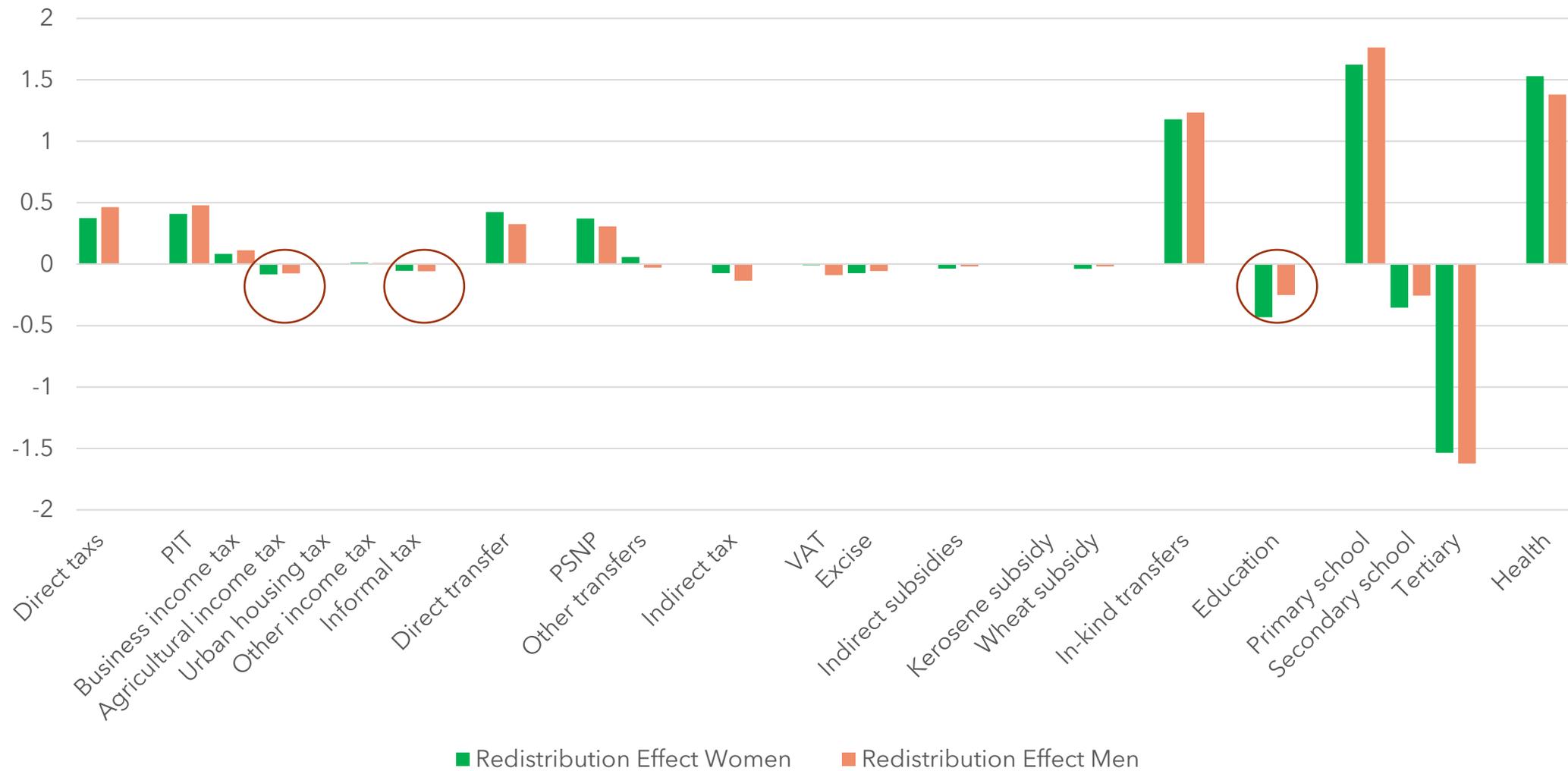


Effect on inequality

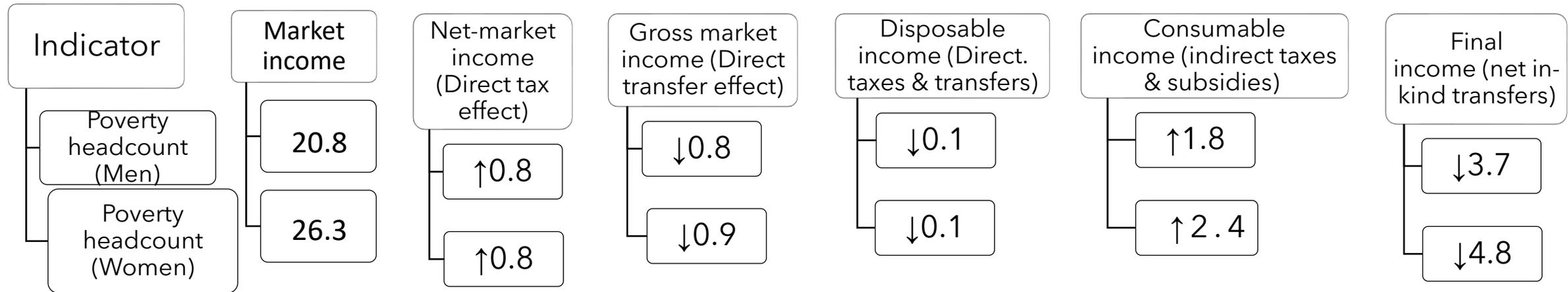


- Direct taxes and transfers are **equalizing** for both men and women (strong effect for men).
- The transition from consumable to final income - addition of monetized value of education and health - is **equalizing** for both women and men.
- **Between group inequality** is too small (0.04) and remains unaffected by the fiscal policy.

Marginal contributions to inequality



Effect on poverty

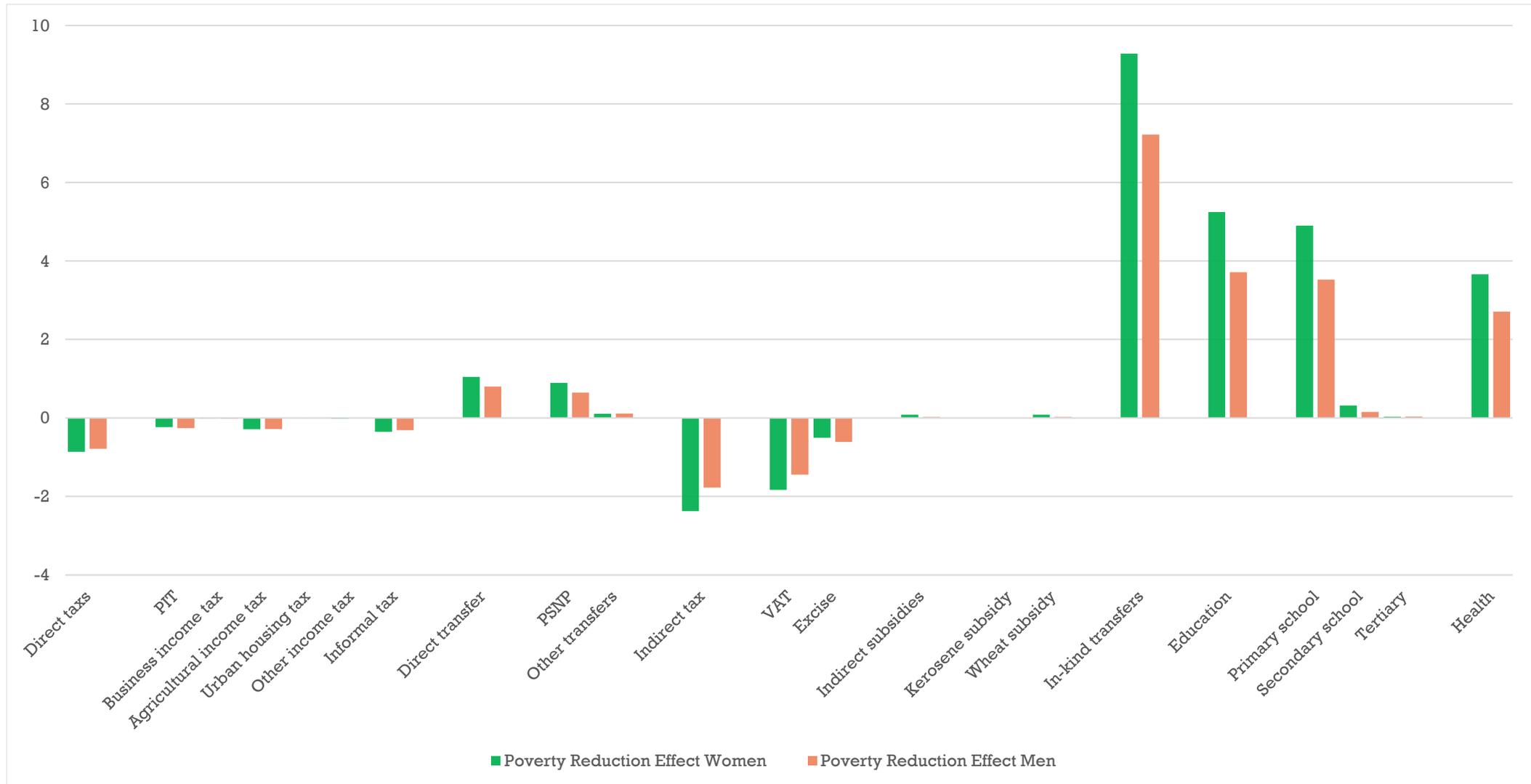


Absolute poverty line is calibrated to reproduce poverty estimates reported in other poverty assessment reports (see PDC, 2018 & World Bank, 2020)

Relative Poverty Line = $2/3$ of the median market income.

- Direct and indirect taxes are **poverty-inducing** for both men and women.
- Direct transfers are sufficient to **offset the poverty-inducing impact** of direct taxes, it is over offsetting for women.
- In-kind transfers **reduce poverty** and move individuals out of both relative and absolute poverty. The reduction is larger for **women**.

Marginal contributions to poverty



The impact of the net fiscal system:

- Redistributes income and equalizing for women and men
- Reduces poverty for both

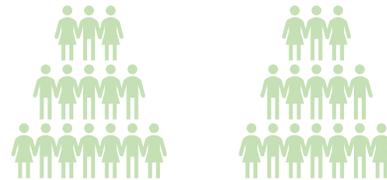
The impact is relatively weaker **among women** in terms of their relative distance from the absolute poverty line.



Not poor



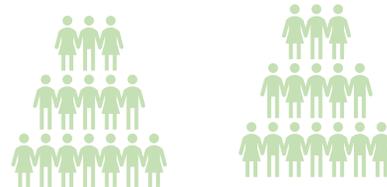
2.9 million women & 2.6 million men escaped relative poverty



Relatively poor



2.9 million women & 2.1 million men escaped absolute poverty



Absolutely poor

Income mobility matrices

Women									
Market income	Disposable income				Final income				% of population
	Y<5050	5050≤y<7290	7290≤y≤11053	Y>11053	Y<5050	5050≤y<7290	7290≤y≤11053	Y>11053	
Y<5050	96.9	2.9	0.2	0.1	75.8	20.2	2.9	1.2	26.3
5050≤y<7290	3.7	92	4.2	0.1	6.6	64.6	26.0	2.8	17.4
7290≤y≤11053	0.2	3.9	94.4	1.5	1.1	7.0	73.6	18.2	21.6
Y>11053	0.2	0.1	3.2	96.5	0.5	0.5	6.4	92.5	34.7

Men									
Market income	Disposable income				Final income				% of population
	Y<5050	5050≤y<7290	7290≤y≤11053	Y>11053	Y<5050	5050≤y<7290	7290≤y≤11053	Y>11053	
Y<5050	96.3	3.3	0.2	0.0	76.9	17.9	4.5	0.9	20.8
5050≤y<7290	3.6	91.4	4.8	0.1	5.5	63.4	27.7	3.6	15.4
7290≤y≤11053	0.2	2.8	95.5	1.5	0.6	5.7	74.7	19.0	21.0
Y>11053	0.2	0.3	2.1	97.4	0.5	0.3	5.3	93.9	42.9

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- **Poverty (reducing) effect**

- **Net effect:** reduces poverty, reduction larger for women.
- Direct transfers (mainly PSNP) reduce poverty for both women and men.
- In-kind transfers (primary education spending and health) have more poverty reducing effects (higher for women).
- Indirect taxes (mainly VAT) have huge poverty increasing effect (mainly for women).

- **Redistributive impact**

- **Net effect:** redistributes income and is equalizing, strong for men.
- In-kind transfers are the most redistributive/equalizing.
- Indirect taxes also have considerable inequality reducing effects.

- **Progressivity**

- **Net effect:** progressive.
- All direct taxes are progressive except agricultural income taxes and land use fee and informal tax.
- Indirect taxes (excise), indirect subsidies (wheat), and tertiary education spending are regressive.

Thanks!