Assessing the effect of closing the gender income gap on fiscal revenues in Latin America

- H. Xavier Jara- *ISER, University of Essex*
- Maria Cecilia Deza- *Inter-American Development Bank*
- Mariana Dondo- *Universidad Nacional de Río Negro*
- Javier Torres- *Universidad del Pacífico*
- David Rodriguez- *Universidad Externado de Colombia*

GDLab Seminar
4th -5th May 2021

Motivation & relevance (I)

- Tax revenues in LAC are characterised by a reduced size and a strong dependence on indirect taxation.
  - Average tax-to-GDP ratio: 22.9% in LAC region, 33.1% in the OECD (OECD 2021)
- The modest contribution of personal income tax has often been attributed to
  - high levels of informality
  - the generosity of exempted tax thresholds
  - the presence of generous tax deductions (IDB 2013).

Motivation & relevance (II)

- Low fiscal revenue might also be related to profound gender disparities in the labor market:
  - Gender gap in participation rates was 21.6 percentage points in 2019 (Güezmes 2021).
  - Informal employment remains more prevalent among female workers in the region (ILO 2022).
  - Women's pay in the region is on average 26% lower than the salary of men (Vaca 2019).

- The economic gains (e.g., fiscal revenue) of closing the gender gap in participation and earnings remain understudied in Latin America.

Objective

- Assess the extent to which fiscal revenue could be strengthened in eight countries in Latin America (Argentina, Bolivia, Chile, Colombia, Ecuador, Mexico, Peru, and Uruguay) by closing the gender gap in employment.
  - Quantify the role of public policies in reducing gender disparities, before and during the pandemic
  - Asses the implications of reductions in the gender gap in employment in terms of government revenue

Research questions

- To what extent taxes and benefits contributed to reduce the gender income gap in Latin America prior to the pandemic?
- Have COVID emergency policies contributed to reduce the gender income gap during the pandemic?
- By how much could fiscal revenue increase if the gender gap in employment was reduced (i.e., by increased female labor force participation) in Latin America?

Innovation

- We will make use of a novel set of tax-benefit microsimulation models for Latin American countries
  - Modify household surveys by moving into employment (either formal or informal) a fraction of the female population currently out of work
  - Calculate the taxes paid upon entry to employment and aggregate tax revenue
- Our study will bring together two streams of research which are extremely relevant for the region:
  - the study of drivers of gender income gaps
  - the analysis of factors allowing to increase fiscal capacity

Data (I)

- We use nationally representative household surveys collected by national statistical institutes before and during the pandemic

Table 1. Data Sources and Microsimulation Models

Country	Microsimulation model	Data sources used as input in the models	Years of data collection
Argentina	LATINMOD-Argentina	Encuesta Permanente de Hogares (EPH)	2019, 2020
Bolivia	BOLMOD	Encuesta de Hogares (EH)	2019, 2020
Chile	CHILMOD	Encuesta de Caracterización Socioeconómica Nacional (CASEN)	2017, 2020
Colombia	COLMOD	Gran Encuesta Integrada de Hogares (GEIH)	2019, 2020
Ecuador	ECUAMOD	Encuesta Nacional de Empleo, Desempleo y Subempleo de Hogares Urbanos y Rurales (ENEMDU)	2019, 2020
Mexico	MEXMOD	Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH) survey of 2020	2018, 2020
Peru	PERUMOD	Encuesta Nacional de Hogares (ENAHO)	2019, 2020
Uruguay	LATINMOD-Uruguay	Encuesta Continua de Hogares (ECH)	2019, 2020

Data (II)

- Countries under study represent a wide range of cases
  - Female labour force participation: ranges between 46% in Mexico to 71% in Peru (ILO 2022)
  - Gender wage gaps: women earn on average between 29% (Mexico) and 14% (Colombia) less than men per month (SEDLAC 2022)
  - Redistributive role of tax-benefit systems: system reduces income inequality by 2.4 points in Bolivia and up to 9 points in Uruguay (Arancibia et al. 2019)

Methodology (I)

The effect of taxes and cash transfers on the gender income gap

- We compare differences in market income (before taxes and transfers) and disposable income (after taxes and transfers) between men and women
  - Gender gap in earnings: $\Delta_w = \bar{w}_m - \bar{w}_f$
  - Gender gap in disposable income: $\Delta_y = \bar{y}_m - \bar{y}_f$
  - Effect of taxes and benefits: $C = \Delta_w - \Delta_y$
- We compare the effect of taxes and benefits before and after the pandemic.

Methodology (II)

The effect of closing the gender income gap on fiscal revenues

- We simulate an increase female labor force participation
  - Econometric estimations to rank women out of work based on their probability of entering employment (formal or informal)
- We use tax-benefit simulations to calculate the increase in tax revenue following the increase in female participation
- We compare the baseline and counterfactual income distributions in terms of gender inequality.

Expected results (I)

The effect of taxes and cash transfers on the gender income gap

- In a number of Latin American countries, social assistance benefits related to children are allocated by law to mothers.
  - We would expect that in these countries, social assistance reduces (at least to some extent) the gender gap in incomes
- Men have higher earnings than women on average and are more present in top income groups
  - We would expect that personal income tax reduces (at least to some extent) the gender gap in earnings
- Gender disparities, as well as the effect of taxes and benefits must have changed as a result of the pandemic.

Expected results (II)

The effect of closing the gender income gap on fiscal revenues

- Reducing the gender gap in employment should have a positive effect on fiscal revenues.
- The effect would depend on:
  - The design of personal income tax (progressivity, deductions, etc.)
  - The share of women who would enter formal employment compared to informal employment.
- Reducing the gender gap in employment should reduce the gender income gap.

Advisors' comments (I)

1. How would different sources of income be allocated between men and women for the analysis?

	Upper bound	Lower bound
Earnings	Assign each member of the household their own earnings	Full income sharing: assume household members pool all their income sources
Personal income tax	Assign to each person: assessed at the individual level according to the legislation	
Social insurance contributions	Assign to each person: assessed at the individual level according to the legislation	
Cash transfers	*Assign cash transfers to the mother in countries where the legislation stipulates such allocation *Assume equal sharing of family benefits in other countries	

Advisors' comments (II)

2. How are taxes treated? Is subsidised childcare left out? What would we learn based on the assumptions of the models?

- Focus on comparison between market and disposable income
  - Indirect taxes and subsidies are nor considered.
  - Subsidised childcare not considered as part of disposable income.
  - However, estimation of the probability of entering the labor market will consider childcare costs related to mothers moving into work
- Simulations are static and aimed at isolating the direct and immediate effect of tax-benefit policies.
- Limitations of the analysis will be explicitly discussed in the interpretation of results.

Advisors' comments (III)

3. Given the specificity of the tax code in each country, it is unclear whether results are easily extrapolable.

- Microsimulation models used follow common protocols
  - Ensure comparability of results across countries
- Tax-benefit code is specific to each country, but country selection provides a wide range of cases to draw conclusions for other countries with similar policies
- We will group countries based on the design of their tax-benefit policies (e.g., progressivity of personal income tax or coverage and generosity of cash transfers).
  - To extrapolate results to other countries not included in the analysis
- Models used are publicly available and could be developed for other countries.

Thank you!