Changing the tax structure to reduce income inequality in Colombia: A microsimulation model.

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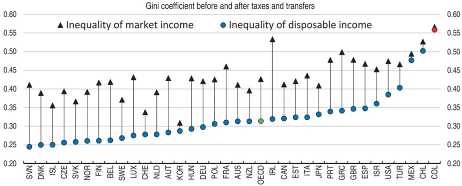
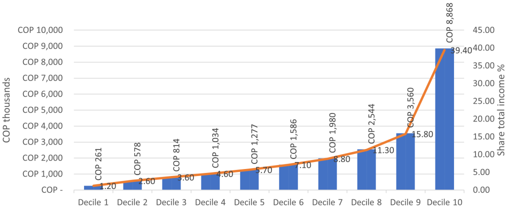
Motivation

1. Colombia is considered one of the most unequal countries in terms of income concentration in the world
2. In OECD countries, the combination of tax collection and transfer reduces inequality, by an average of 25 percent. In Colombia when the tax-benefit system is applied, the Gini indicator remains virtually unchanged.

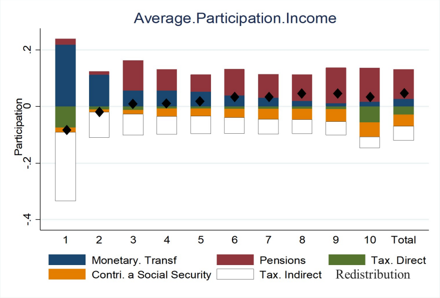


Source: OECD Income Distribution Database and OECD (2016a).



Motivation

- Understand and evaluate the Colombian tax system, which is particularly complex. graph "Share of tax-transfer on disposable income by decile and total redistributive effect by decile COLMOD 2019".



Source: Own elaboration COLMOD Model results.

Objective

The objective of this Paper is to evaluate the effect of a new tax structure, aimed to reducing inequality in Colombia. I chose to apply the Dutch tax structure in place of the existing Colombian tax structure for two reasons.

1. Netherlands in the middle of the OECD countries in terms of the reduction in income inequality
2. high tax rates (personal income tax and social insurance contributions)

To implement this policy change, I use a microsimulation model of taxes and transfers called COLMOD, which is based on the methodology and software of EUROMOD (for more details on COLMOD, see Rodriguez 2017)

previous work and aspects

- little literature and studies that make use of microsimulation tools for Colombia
- That way normative analytical studies were recurrent
- standard disposable income concept to see the variation and the improvements
- counterfactual . i) the benefits and losses accumulated during the transition, and ii) the discount effect.

methodology and data

- tax-benefit microsimulation model for Colombia COLMOD based on EUROMOD2
- general difficulty of having all the information of a Population information is costly and difficult to identify
- information Survey (ENCV) (Encuesta Nacional de Calidad de Vida)
- Information from 20.141 households and 67.331 individuals conducted by DANE

what I am doing

I would like to reduce inequality by 25 per cent (or 11 Gini points), equivalent to the average of OECD32

1. modification on the marginal tax earner incomes rates from 33 to 49 per cent (PIT)
2. increase of social insurance security (SIC) from 28 to 53 per cent as establishes Netherlands (SIC) an increase of almost 85 per cent.
3. modification of the pension exemption
4. establish different values of Threshold (Tax Burden Interval) for two schedular systems, Pensions income, and earner income

Inequality							
Indicator	Baseline Disposable Income	(A) decrease in pension exemption (DP)	(B) Modification of tax Burden Interval Pension income and Earned Income (DP)	(C) increase Marginal Tax Rate Pension income and Earned Income. (DP)	**(D) sum of the preceding policies (A+B+C) (DP)**	(E) increase of social insurance contribution (DP)	**(F) sum of the preceding policies (A+B+C+E) (DP)**
Gini	55.02	54.96	54.89	54.67	**54.57**	54.75	**54.33**
Atkinson 0.5	25.51	25.45	25.38	25.10	**25.00**	25.32	**24.83**
Atkinson 1	43.01	42.95	42.87	42.60	**42.48**	42.60	**42.10**
Atkinson 2	72.68	72.65	72.60	72.46	**72.39**	72.22	**71.95**
P90/P10	12.43	12.43	12.43	12.43	**12.43**	11.97	**11.96**
P90/P50	3.49	3.49	3.49	3.49	**3.49**	3.43	**3.42**
P50/P10	3.56	3.56	3.56	3.56	**3.56**	3.49	**3.49**
P75/P25	3.47	3.47	3.47	3.47	**3.47**	3.44	**3.44**

1. marginal income tax rates are multiplied by 1.5 (scenario C), the Gini index of disposable income decreases from 0.550 to 0.546, interdecile ratio (P90/P10) remains unchanged at 12.43.
2. social insurance contributions are increased by a factor of 1.9 (scenario E), the Gini index decreases from 0.550 to 0.547 and the interdecile ratio (P90/P10) falls significantly to 11.97

Result

1. Romero et al. (2019) obtained a reduction in 0.14 Extra Gini points of inequality reduction after implement the Uruguayan system, this paper obtains a reduction of 0.69 extra Gini points of inequality reduction once the Netherlands system is implemented.(disposable income Gini.)
2. Lustig (2016) show for Latin America reduction in 2.7 Gini points in average once each country applies its own tax system. Rodriguez (2019) evaluate the tax system in 2014 for Colombia, once this is applied 2.6 Gini points is obtained, this paper shows a reduction in 3.97 Gini points for Colombia(market income-disposable income)
3. Redistribution paradox, Korpi and Palme, (1998)

Final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Colombia: protestas por la reforma tributaria

Thanks-Merci-Gracias

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