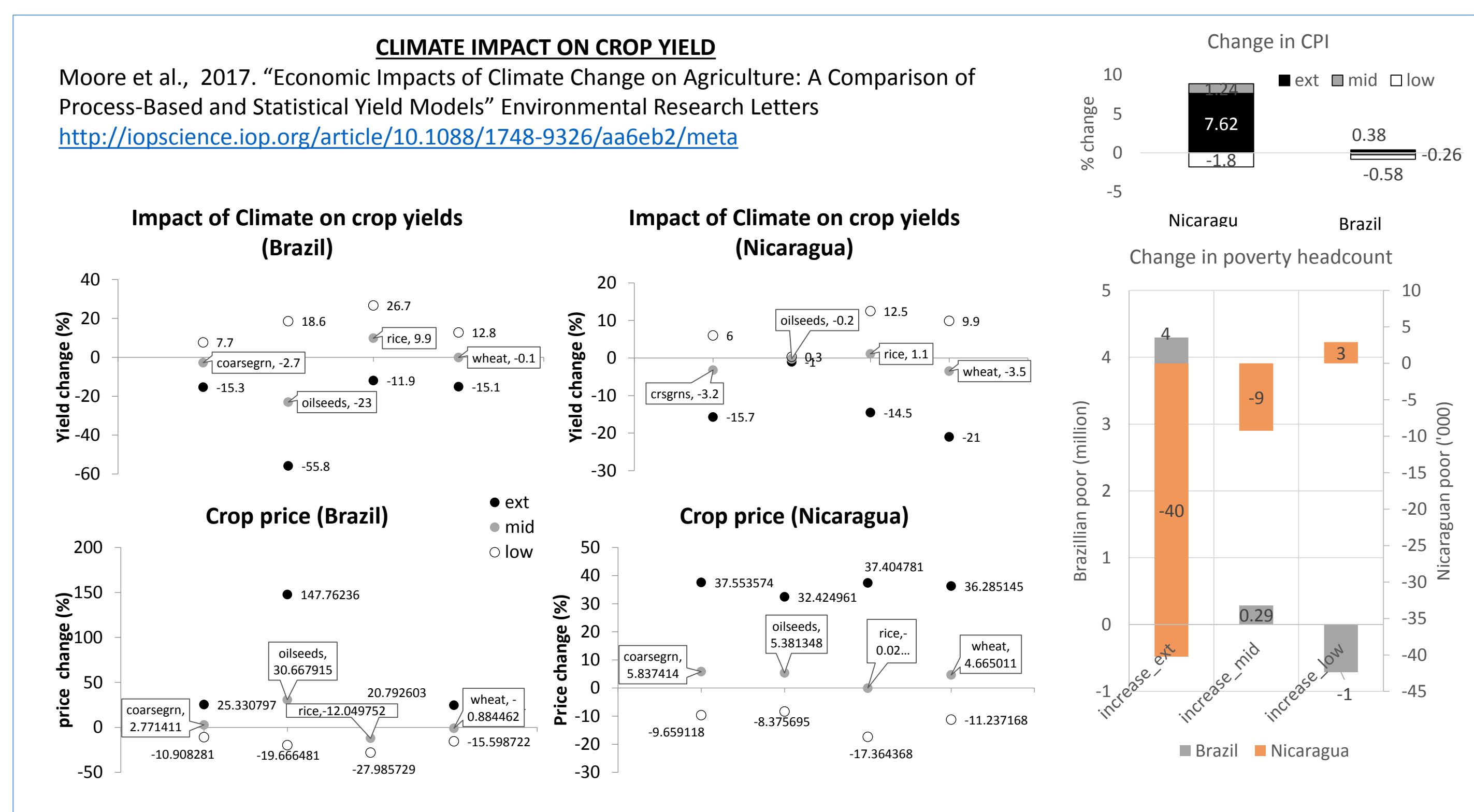
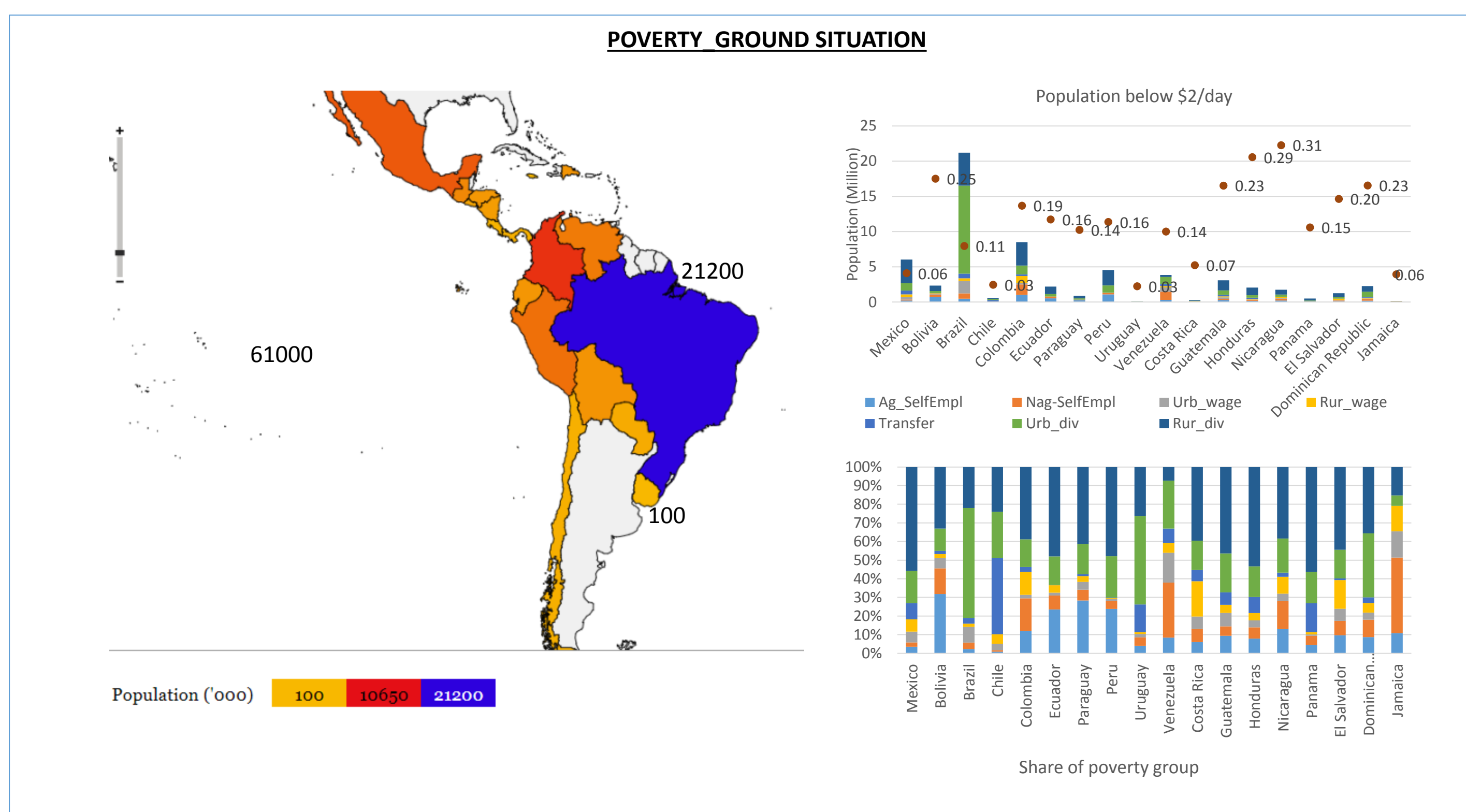


Counting the economic costs of climate change (P.C14) Assessing the Poverty Impacts of Climate Change across Latin America

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POVERTY GROUP	MAJOR EARNING FACTORS
Ag-SelfEmpl	1. Agriculturally Self-employed Skilled Labor 2. Agriculturally Self-employed Unskilled Labor 3. Agricultural Capital 4. Land
Nag-SelfEmpl	1. Non-agriculturally Self-employed Skilled Labor 2. Non-agriculturally Self-employed Unskilled Labor 3. Non-agricultural Capital
Urb_wage	1. Skilled Wage Labor 2. Unskilled Wage Labor
Rur_wage	1. Skilled Wage Labor 2. Unskilled Wage Labor
Transfer	1. Transfers
Urb_div*	-
Rur_div*	-

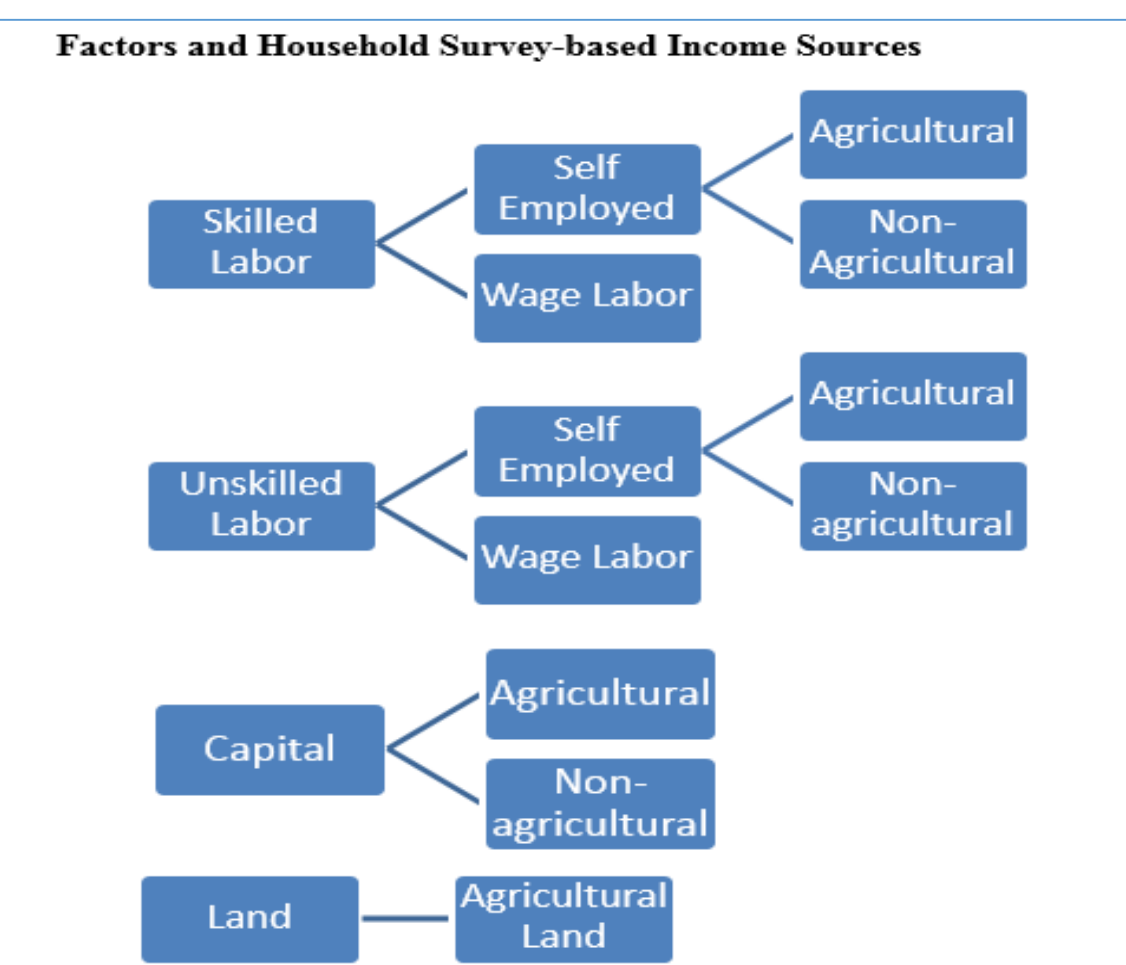
* by definition being diversified means that neither wage labor nor business income or transfers account for more than 95 percent of reported income of the household belonging to these strata.

$$GTAP-POV: \hat{H}_r = - \sum_s \beta_{rs} \cdot \epsilon_{rs} \cdot \sum_j \alpha_{rsj}^p (\hat{W}_{rj}^m - \hat{y}_r) + \sum_s \beta_{rs} \cdot \epsilon_{rs} \cdot (\hat{C}_r^p - \hat{y}_r)$$

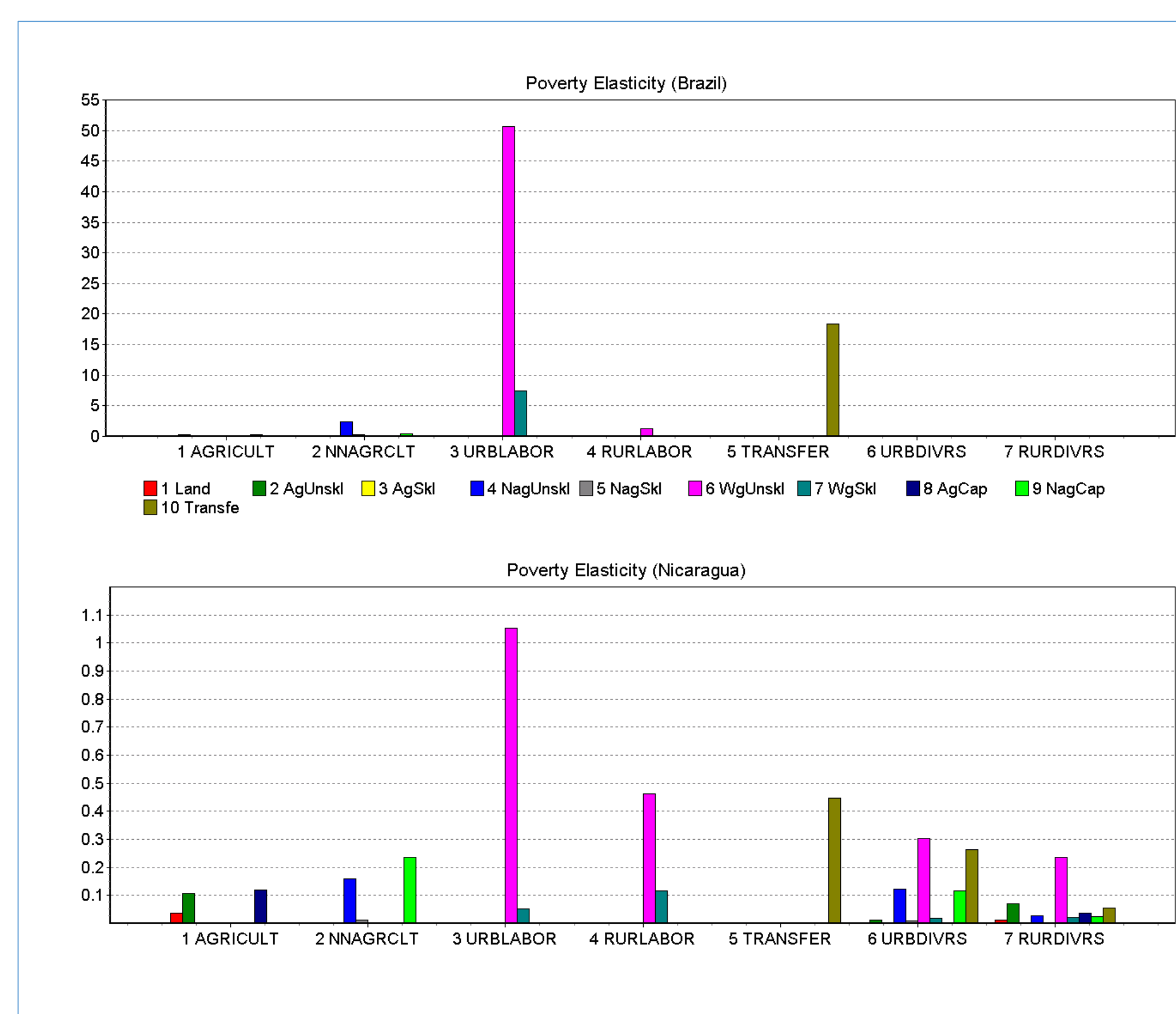
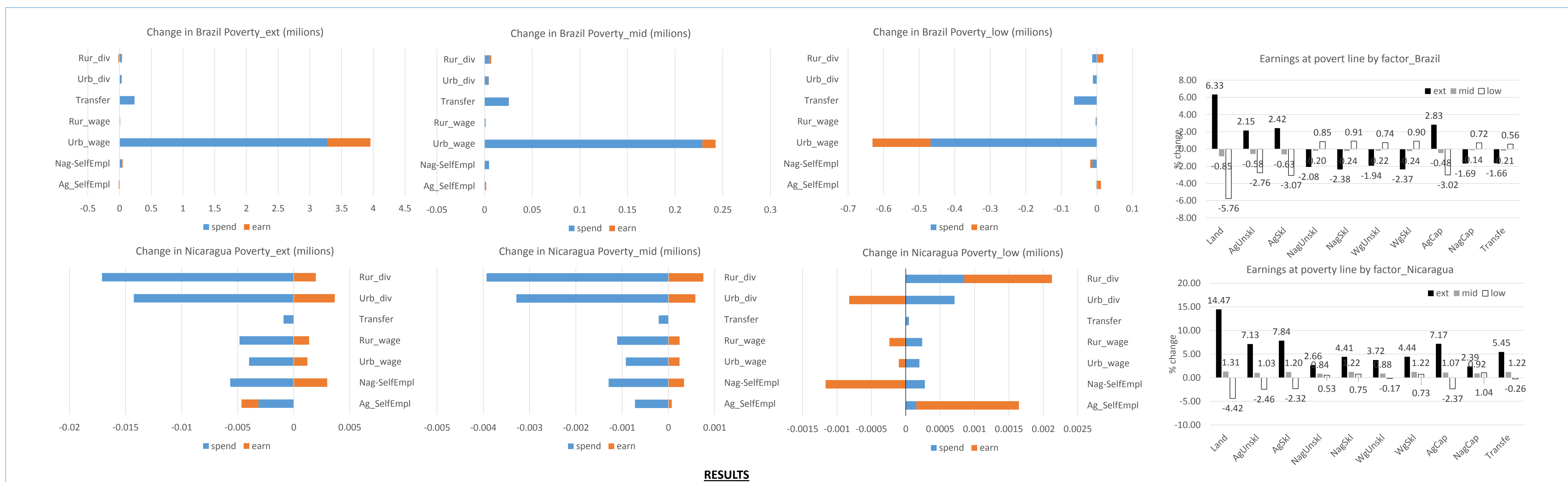
r : country; s : poverty group; j : factor endowment

Earning Effect: change in earnings relative to national income
 -Share of poverty groups
 -Responsiveness of poverty headcount to income
 -Source and rate of earnings (endowments/factors owned)

Spending Effect: change in cost of living at poverty line relative to national income
 -Share of poverty groups
 -Responsiveness of poverty headcount to income
 -Relative cost of living at poverty line



POVERTY DYNAMICS
 Hertel et al. 2011. GTAP-POV: A Framework for Assessing the National Poverty Impacts of Global Economic and Environmental Policies. GTAP Technical Paper No. 31. <https://www.gtap.agecon.purdue.edu/resources/download/7760.pdf>



CONCLUSIONS

- Just prices for measuring impact on poor (food security, access etc.) is not enough. CPI higher in Nicaragua but biggest poverty changes seen in Brazil.
- Poverty impacts depend on –
 - Where are the poor? Share of different poverty groups in poor population, and their main sources of income.
 - How poor are they? The farther away from poverty line the bigger the shocks required to push the poor across poverty line. As measured by poverty elasticity of income.
 - Relativity Despite extreme climate impacts, cost of living for poor rises slower in comparison to income, yielding reduction in poverty headcount in Nicaragua despite increase in prices.
- Uncertainty in climate and associated adaptation options offers enough room to change the nature of results, therefore need to move beyond average yield impacts.
- Similarly economic parameters like poverty elasticity of income play a very important role in determining response to such changes and need more attention.
- Climate can affect and therefore change inequality within populations.

