The impact of intergovernmental transfers on income inequality in Brazil

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Introduction

• Inequality income in Brazil has decreased in the last years (from 0.57 to 0.54 between 2005 and 2009, according to IPEA).
• Brazil has one of the highest Gini index of the world (0.55). – China (0.42), Philippines (0.43), Argentina (0.46), Peru (0.49), according to World Bank for 2009.
• FPM is a transfers from federal to municipal governments which is the most important source of municipal revenues (on average, 40%).
• It was established by the Federal Constitution of Brazil.
• One of the objectives of this transfer is decrease regional inequality.

Question: Has FPM impact on inequality income in Brazilian municipalities?

Method

• Fuzzy Regression Discontinuity Design
• Data: Census and Brazilian National Treasure, both for 2010.
• I used only mun<50,000 inahab.

I estimate the causal effect of FPM by the following model via two-stage least squares (2SLS):

\[ GINI_{i} = \beta_{0} + \beta_{1} FPM_{i} + \nu_{i} + \mu_{i} \]

Preliminary Results

• To facilitate the interpretation of the results, I divided the amount of FPM for R$10,000,000.

<table>
<thead>
<tr>
<th>Cutoff</th>
<th>Cutoff 2</th>
<th>Cutoff 3</th>
<th>Cutoff 4</th>
<th>Cutoff 5</th>
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<tbody>
<tr>
<td>FPM</td>
<td>(0.070)</td>
<td>(0.079)</td>
<td>(0.088)</td>
<td>(0.112)</td>
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<tr>
<td>Observations</td>
<td>5043</td>
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</tbody>
</table>

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001

• All of the first five cut-offs were positive and statistically significant.
• Municipalities just above the first cut-off receive, on average, R$5,730,000 more.

<table>
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• For small municipalities, an increase of R$10,000,000 raise the Gini index in 0.023.
• An increase in FPM transferred to the municipalities close to 4th and 5th cut-off don’t have effect on their Gini index.

Conclusion

• In fact, the greater the amount of FPM transferred, greater is the inequality income of the municipality.

Next Steps

• Controlling for other variables (for example, proportion of male, education, income per capita, race and family size)
• Estimate to the others cut-offs
• Estimate to entire sample to see the general effect.