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THE IMPACTS OF A NEGATIVE INCOME TAX IN BRAZIL

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- ▶ It was higher than 40% in 1980 and now the last numbers from 2015 showed that it was lower than ever before, with less than 10% of people living on extreme poverty;
- ▶ Following the world trend, Brazil also has made important advances in reducing extreme poverty, going from shares larger than 20% in the 1980s to less than 3% in 2014, also a historical record;
- ▶ Despite these advances, extreme poverty has increased 2 p.p. from 2014 to 2017 in Brazil, leaving doubts if the goal to eliminate extreme poverty by 2030 will be achieved, and increasing the debate if the correct tools to fight poverty are being used;

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- ▶ Due to different results related to income distribution, poverty alleviation and labor supply from different aid programs, as CCT (Conditional Cash Transfer), UCT (Unconditional Cash Transfer) and NIT (Negative Income Tax), this paper aim to analyse the impact of a NIT approach on families welfare and factor prices in the Brazilian regions;

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The basic idea of NIT is to give people a percentage of the difference between their income and a reference income level. People below the reference level will receive money (a negative tax) provided by people above the reference level (a positive tax);

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Thus, policies that increase the labor price increase the welfare of the poorest families;

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- ▶ The PAEG database is compatible with the GTAP 9.0 database and regionalized for the Brazilian economy (base year 2011);
- ▶ 12 countries/regions, including the 5 Brazilian regions and 19 sectors;
- ▶ Presents Brazilian households disaggregated into 10 income classes in each region (Brazil);

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- ▶ The households income includes: primary factors (labor and capital), transfers from government to the families, savings and, for this study, **the net amount of income tax paid (and refunded) by each family** - disaggregated from “other transfers”;

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- ▶ Therefore, it is possible to simulate policies related to changes in income tax and social programs, once we calculate the amount of these resources in the total of transfers between government and families;

PAEG - REGIONS AND SECTORS

Regions	Sectors
Rice (pdr)	Brazil - North Region
Corn and other cereals (gro)	Brazil - Northeast Region
Soybeans and other oilseeds (osd)	Brazil - Midwest Region
Sugar cane, beet, sugar industry (c_b)	Brazil - Southeast Region
Meat and live animals (oap)	Brazil - South Region
Milk and dairy products (rmk)	Rest of Mercosur (RMS)
Other agricultural products (agr)	United States (USA)
Food products (foo)	Rest of NAFTA (RNF)
Textile industry (tex)	Rest of America (ROA)
Clothing and footwear (wap)	Europe (EUR)
Wood and furnishings (lum)	China (CHN)
Paper, pulp and paper industry (ppp)	Rest of the World (ROW)
Chemicals, rubber and plastic industry (crp)	
Munufactured (man)	
Electricity, gas, water distribution (siu)	
Construction (cns)	
Trade (trd)	
Transportation (otp)	
Services and public administration (adm)	

PAEG - INCOME CLASSES

- ▶ Household consumption and income are based on data from IBGE Household Budget Survey (POF 2008-2009):
 - Class 1 - up to US\$ 239.52;
 - Class 2 - more than US\$ 239.52 up to US\$ 359.28;
 - Class 3 - more than US\$ 359.28 up to US\$ 598.80;
 - Class 4 - more than US\$ 598.80 up to US\$ 718.56;
 - Class 5 - more than US\$ 718.56 up to US\$ 958.08;
 - Class 6 - more than US\$ 958.08 up to US\$ 1197.60;
 - Class 7 - more than US\$1197.60 up to US\$ 1796.41;
 - Class 8 - more than US\$ 1796.41 up to US\$ 2395.21;
 - Class 9 - more than US\$ 2395.21 up to US\$ 3592.81;
 - Class 10 - over US\$ 3592.81

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- ▶ The present study considers non existent mobility between regions;
- ▶ Investments and capital flows are kept fixed, as well as the balance of payments - changes in the real exchange rate must occur to accommodate changes in export and import flows aftershocks;
- ▶ Govt consumption may change with changes in the goods prices, just as revenue from taxes will be subject to changes in the level of activity and consumption;

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As a consequence, these families depend more on the Bolsa Familia Program than the other classes, as such, it is considerate in this study as the reference class.

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As a consequence, these families depend more on the Bolsa Familia Program than the other classes, as such, it is considerate in this study as the reference class.

Thus, the income class 6 (net total income from **US\$ 958.08 until US\$ 1197.60**) is the neutral class;

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A. An **unique tax of 25%** on total households income, both negative (classes 1,2,3,4 and 5) and positive (classes 7,8,9 and 10)

- The positive tax (household income more than US\$1197.60):

$$PT = [(F \text{ amilyIncome} - 1197.60).0.25]$$

- The negative tax (household income below than US\$958.08):

$$NT = [(958.08 - F \text{ amilyIncome}).0.25]$$

* The Negative Tax is the household benefit.

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 - The minimum rate is 7.5%, charged on incomes from US\$ 931.73 until US\$ 1405.89;

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- ▶ The Second Scenario considers the current Brazilian Income Tax collection:
- ▶ The taxation is gradual, rising according to the income:
 - The minimum rate is 7.5%, charged on incomes from US\$ 931.73 until US\$ 1405.89;
 - 15% on incomes above US\$ 1405.89 to US\$ 1874.56;

2.1 - DATA TREATMENT - SIMULATING THE NIT

- ▶ The Second Scenario considers the current Brazilian Income Tax collection:
- ▶ The taxation is gradual, rising according to the income:
 - The minimum rate is 7.5%, charged on incomes from US\$ 931.73 until US\$ 1405.89;
 - 15% on incomes above US\$ 1405.89 to US\$ 1874.56;
 - 22.5% is charged on incomes above US\$ 1874.56 to US\$ 2342.29;
 - and, 27.5% is charged on income above US\$1874.56.

2.1 - DATA TREATMENT - SIMULATING THE NIT

B. This scenario combines the actual tax rates with the model income classes. So, it is possible to create a **Gradual Negative Income Tax**:

- Income above US\$3592.91 (household class 10):

$$PT = [(FamilyIncome - 1197.60).0.275]$$

- Income above US\$2395.20 to US\$3592.91 (class 9):

$$PT = [(FamilyIncome - 1197.60).0.225]$$

- Income above US\$1796.40 to US\$2395.20 (class 8):

$$PT = [(FamilyIncome - 1197.60).0.15]$$

- Income above US\$1197.60 to US\$1796.40 (class 7):

$$PT = [(FamilyIncome - 1197.60).0.055]$$

2.1 - DATA TREATMENT - SIMULATING THE NIT

- Income above US\$239.52 (household class 1):

$$NT = [(718.56 - \text{FamilyIncome}).0.275]$$

- Income from US\$239.52 until US\$359.28 (household class 2):

$$NT = [(718.56 - \text{FamilyIncome}).0.225]$$

- Income from US\$359.28 until US\$598.80 (household class 3)

$$NT = [(718.56 - \text{FamilyIncome}).0.15]$$

- Income from US\$598.80 until US\$718.56 (household class 4):

$$NT = [(718.56 - \text{FamilyIncome}).0.075]$$

- Income from US\$598.80 until US\$718.56 (household class 4):

$$NT = [(718.56 - \text{FamilyIncome}).0.055]$$

CONCLUSION

- ▶ A policy with the gradual NIT characteristics, with a guaranteed minimum income of US\$ 715.56 and a boundary income of US\$ 1197.60 (tax should be charged/received gradually) has a positive and better impact comparing to current income transfer programs in lower-income families, in poorest families consumption, especially in regions where families are more dependent on government transfers. However middle-class families, classes 6 and 7, deserve special care because they suffer a significant reduction in their welfare;

CONCLUSION (CONT.)

- ▶ The price of labor factor rises in all regions. Since this factor is the poorest families' main income source, this fact is essential for the maintenance of the positive effects of the new policy, i.e guarantees the maintenance of the welfare gains of the families poorer since there is a possibility of better incomes in the labor market. In addition to this, income from the capital factor, the main source of income of the richest families, is reduced, which forces a reduction of income inequality in the long term, without, therefore, representing a relevant lost on the welfare of the richest families.

CONCLUSION (CONT.)

- ▶ The hypothesis that Negative Income Tax is more effective than the current Social Cash Transfer Programs regarded as elementary to social assistance and income redistribution is partially accepted, because of the adverse impacts on middle-income classes;
- ▶ Another important result that must be considered is that the new policy reduces the size of government in the economy, but the impact on GDP is positive in all regions;
 - So, although the government has reduced its consumption, this positive impact on GDP is sustained by internal regional consumption

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