Social Security and Retirement in Brazil: relation to youth employment and health trends *

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*work in progress
Overview of presentation

• 1) Introduction
• 2) Population aging and public transfers in Brazil
• 3) Social Security and retirement
• 4) Two possible explanations
• 5) Data and results
• 6) Discussion
Population Age Structure (UN, 2010)
Public Expenditures in Brazil, 1933 to 2001 (Araujo, Turra e Queiroz, 2010)
Distribution of the public transfers in Brazil (as % of total consumption) – Turra, 2009
Labor Force Participation, Males
LFPR – Brazil and other countries
Males, aged 60-64

[Graph showing the trend of LFPR (Labour Force Participation Rate) for males aged 60-64 from 1950 to 2000 across various countries including Argentina, Brazil, Chile, Germany, Italy, Japan, and the United States.]
Social Security and retirement in Brazil

• Queiroz (2006, 2007, 2008) shows declining trend in labor force participation at older ages in Brazil;
• Carvalho-Filho (2008) shows how reform of rural pension was important driver of a reduction in the retirement age;
• Soares (2010) argues that the current social gives strong incentives for early retirement in Brazil.
• Gruber and Wise (eds) -> a lot of research on social security and retirement in developed countries. It is the inspiration of this presentation.
Alternative views

• 1) early retirement creates jobs for young workers;
  – Views labor market as a closed box;
  – Elderly in labor force would crowd-out the youth
• 2) people leave labor force early because of health related issues
  – Question is how labor force at older ages is affected by changes in health.
Data

1) Labor force participation and unemployment rates for PNAD (household survey) from early 80s to 2009;

2) Labor force participation from census data (IPUMS, 1960 to 2000)

3) Mortality data: IBGE and Celade life-tables. We use mortality as an indicator of health status that is compared over time and across countries.
Relation to elderly employment and youth unemployment, Brazil, 1985-2009

LFPR, 55-64

Unemployment 15-24

emp unem
Regression Analysis

• Simple regression model on the relation of youth unemployment and elderly employment. We also include controls for GDP growth, school attendance and prime-age employment;

• We tested different specifications: on levels, and 1 year lag on elderly employment;

• ABSENCE OF ANY INDICATION THAT THE LABOR MARKET BEHAVIOR OF THE ELDERLY HAD A NEGATIVE IMPACT ON THE EMPLOYMENT OF THE YOUTH.
## Regression Analysis

<table>
<thead>
<tr>
<th>Model</th>
<th>Unemployment (full sample)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No controls</td>
<td>0.068 (1.14)</td>
</tr>
<tr>
<td>Controls</td>
<td>-0.098 (1.02)</td>
</tr>
<tr>
<td>1 year lag</td>
<td>0.366 (1.11)</td>
</tr>
<tr>
<td>1 year lag + controls</td>
<td>0.367 (1.12)</td>
</tr>
</tbody>
</table>

Results hold for male sample and different age groups.
Labor Force and Health
Age Specific Mortality Rates, ages 60, 65 and 70, Brazil, 1950-2010
Probabilities of Dying, Brazil, 1950-2010
How old should you be to feel like a 65 (60) year old in 1950?
Labor Force Participation Rates
Males, 49-79, 1960 and 2000
LFPR and mortality, males, 1960 and 2000

Labor force participation rates vs. Mortality rate

- 1960 (blue line)
- 2000 (red line)


Mortality rate range: 0 to 0.1

Labor force participation rates range: 0.4 to 1.0
Discussion

• We do not find evidence that movements in elderly employment are negative related to youth unemployment;

• This is evidence for one developing country, need more evidence from other LAC countries to draw stronger conclusions, but there are evidence for more developed economies (Gruber and Wise, 2010);
Discussion

• We find evidence of mortality decline at older ages (as shown by others) in recent decades;
• Mortality rates of someone aged 65 in 1950 is similar to the ones observed by an 74 year old today (9 years difference!!);
• 50% of the elderly are out of the labor force in 2000 at a mortality rate about 20% lower than observed in 1960;
• over time, as mortality decline, LFPR also declined. Healthier individuals are working less time than worse-off individuals in the past.
Discussion

• Hope to raise some important issues about the brazilian pension system and its incentives for early retirement;

• Still needs more evidence and tests, better way to work with health measure;

• Important to analyze experience of other developing countries.
Thank you!

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