

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

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Cedeplar/UFMG

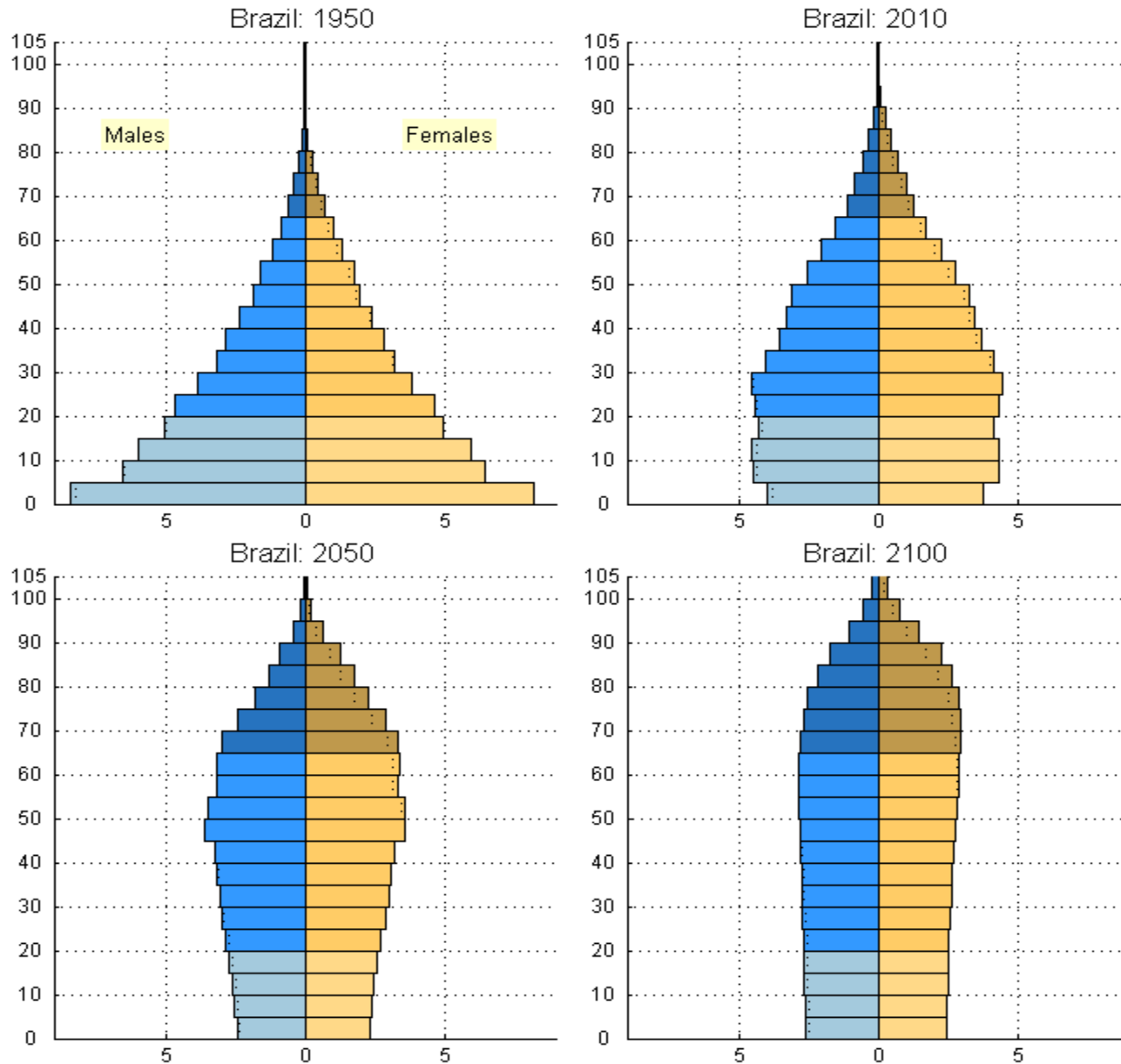
Belo Horizonte, Dec 9<sup>th</sup>, 2011

\*work in progress

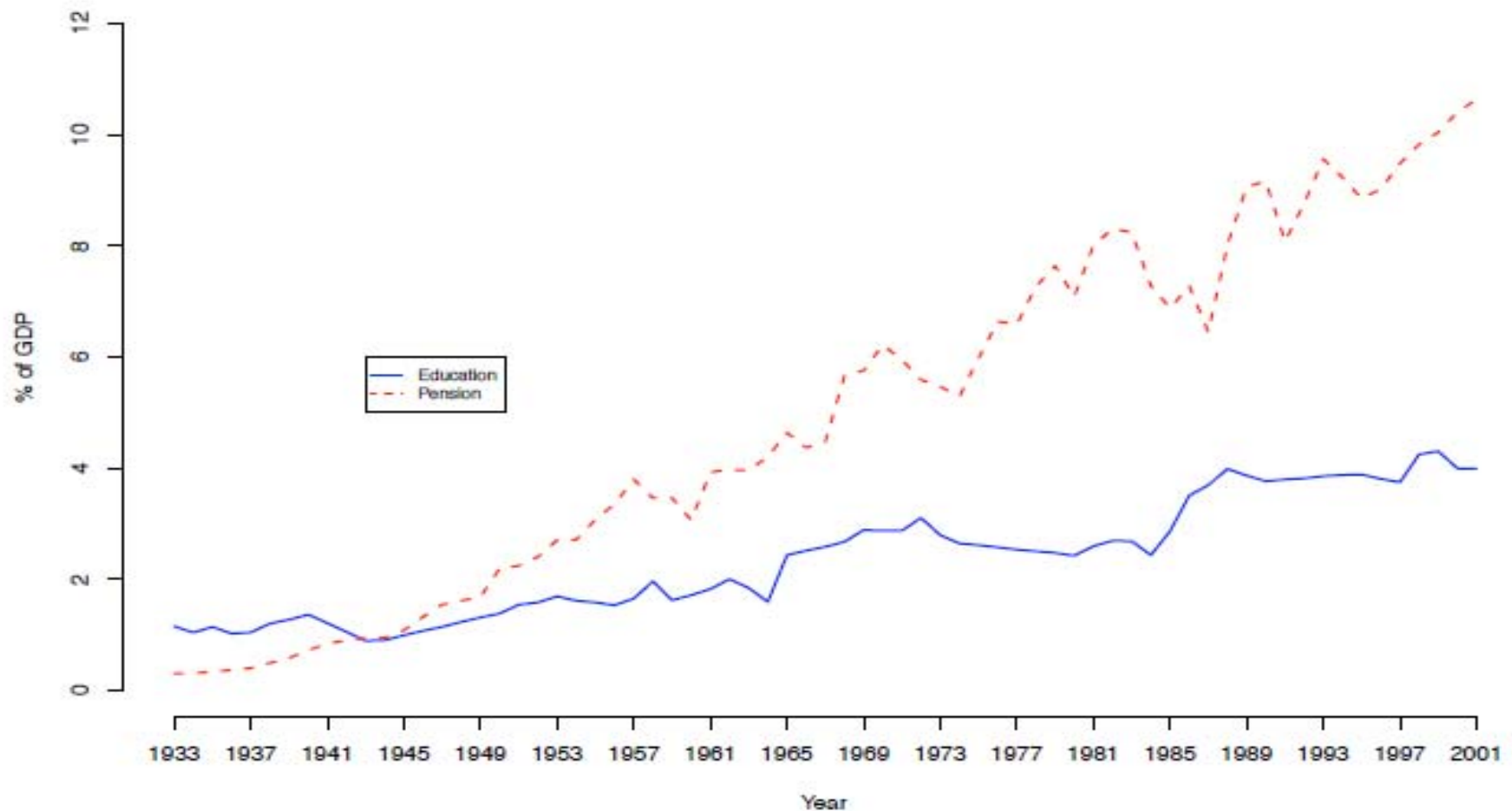
# Overview of presentation

- 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

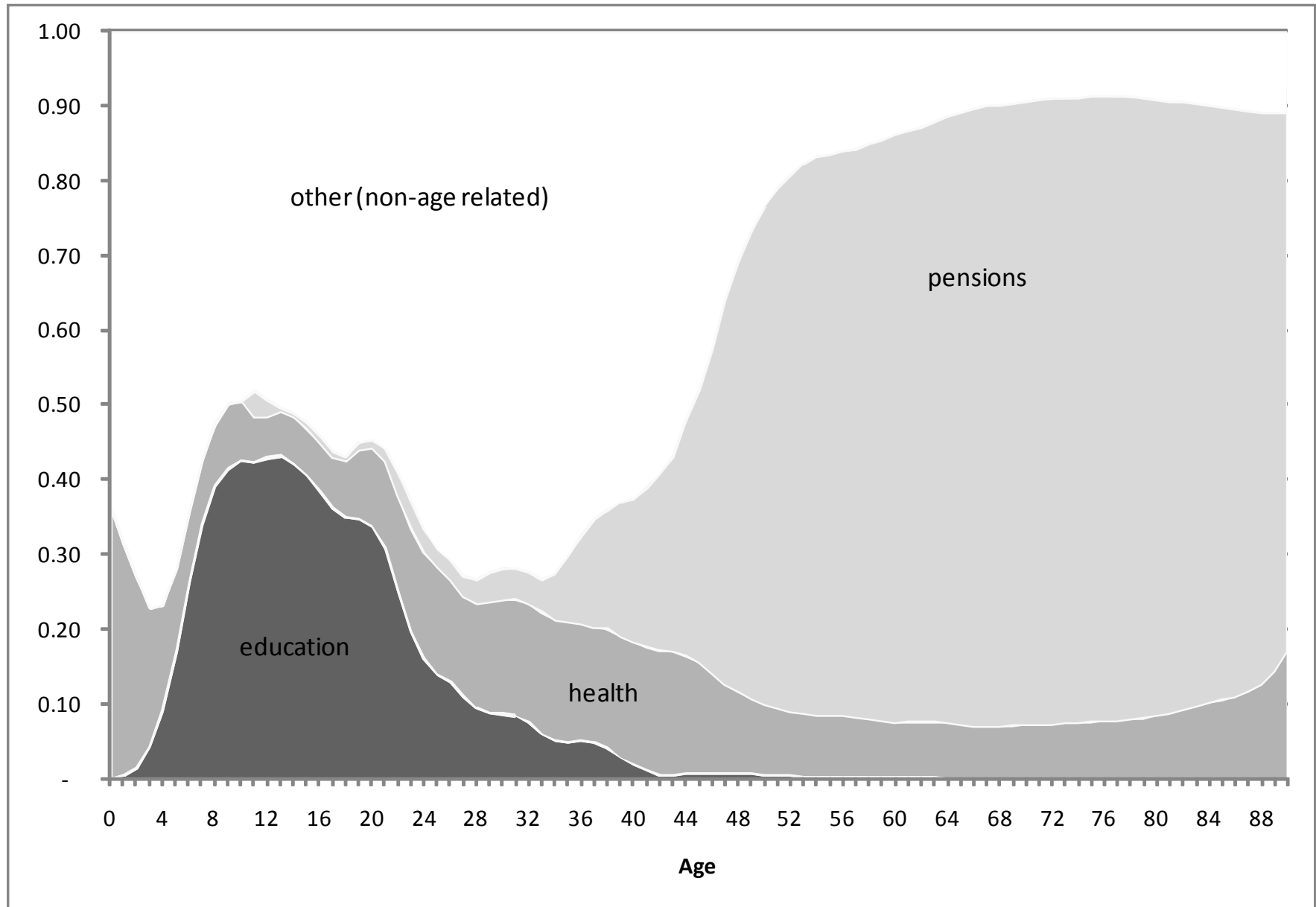
# Population Age Structure (UN, 2010)



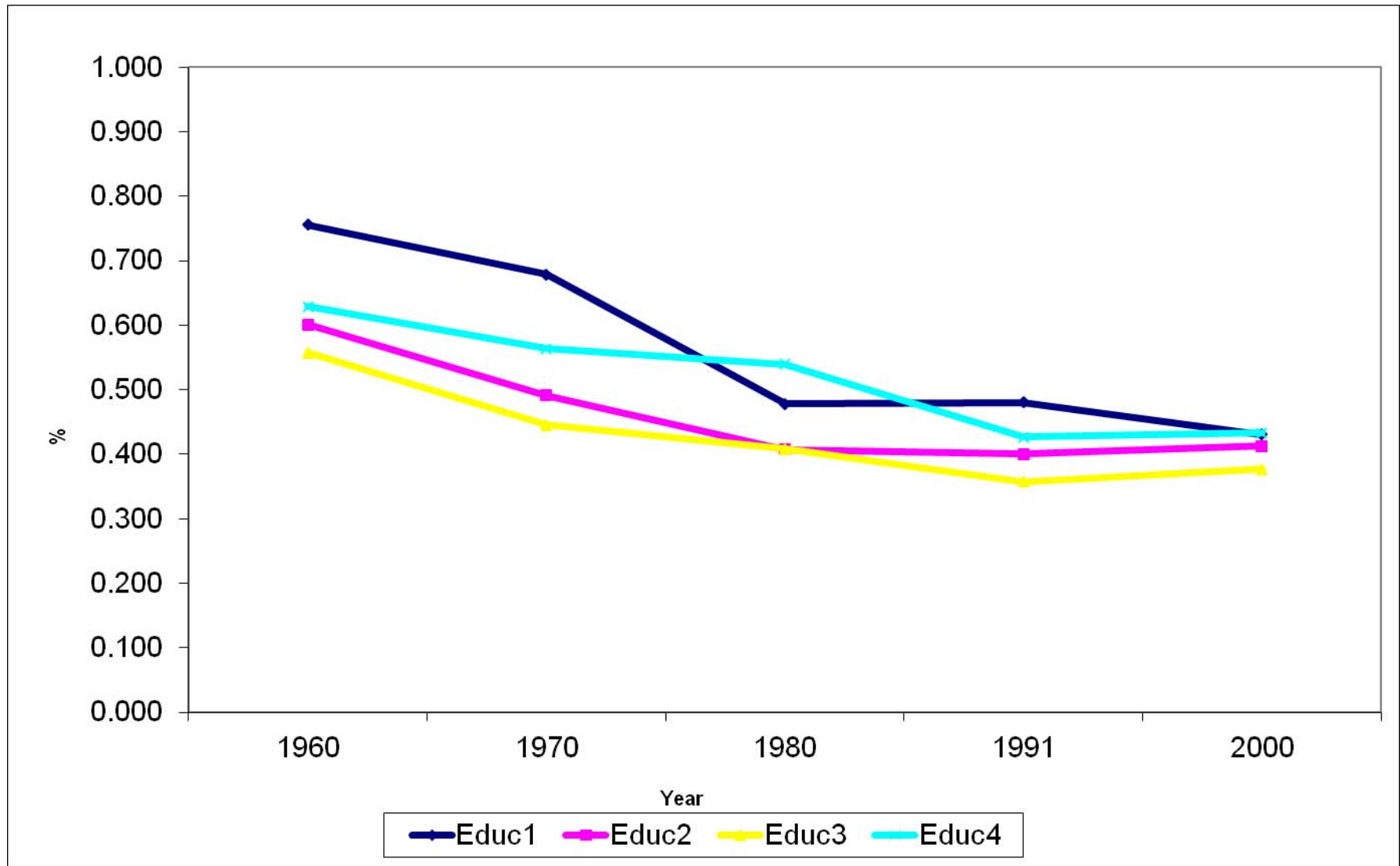
# Public Expenditures in Brazil, 1933 to 2001 (Araujo, Turra e Queiroz, 2010)



# Distribution of the public transfers in Brazil (as % of total consumption) – Turra, 2009

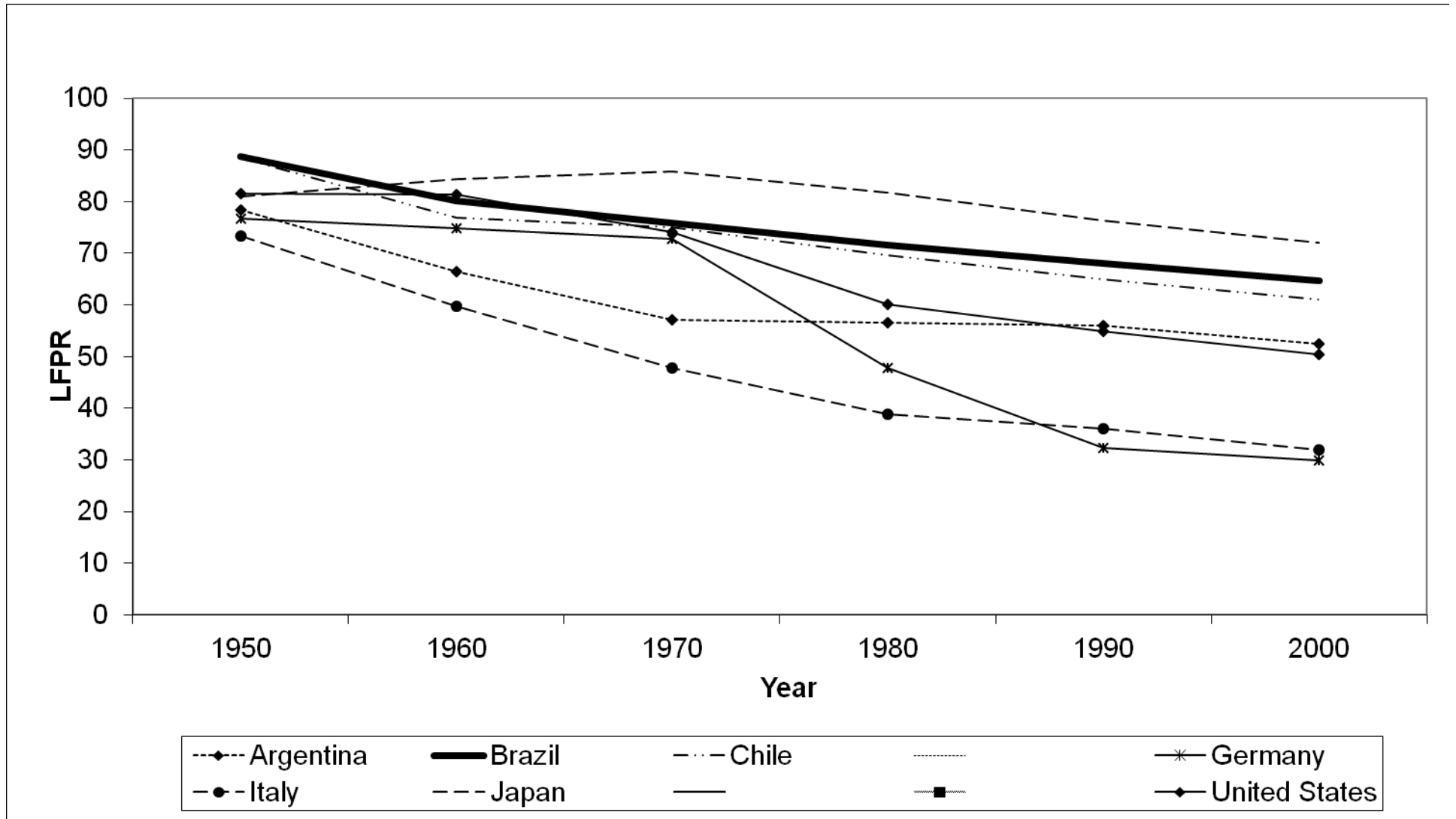


# Labor Force Participation, Males



# LFPR – Brazil and other countries

## Males, aged 60-64



# 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.

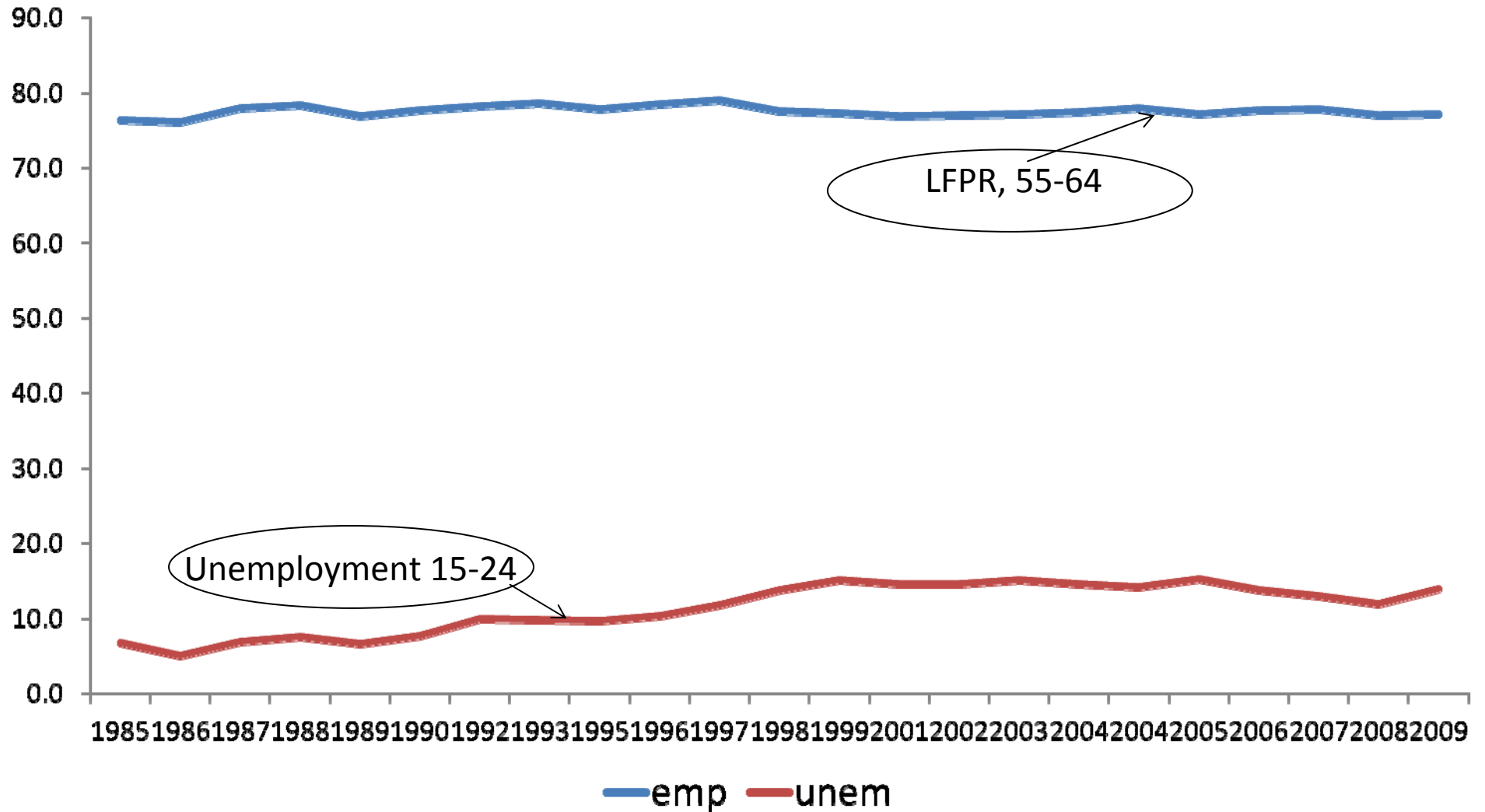
# Alternative views

- 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



# 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.**

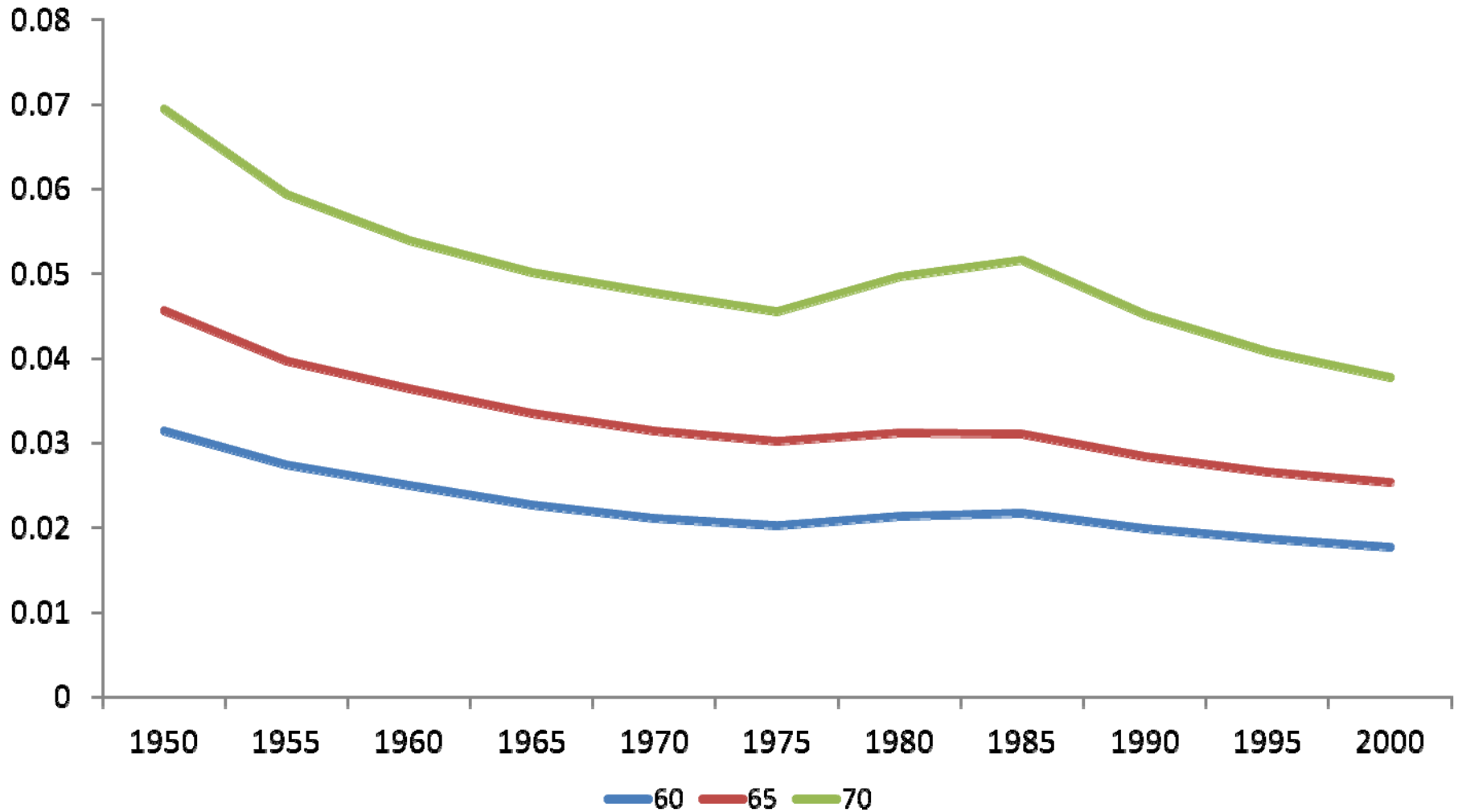
# Regression Analysis

Model	Unemployment (full sample)
No controls	0.068 (1.14)
Controls	- 0.098 (1.02)
1 year lag	0.366 (1.11)
1 year lag + controls	0.367 (1.12)

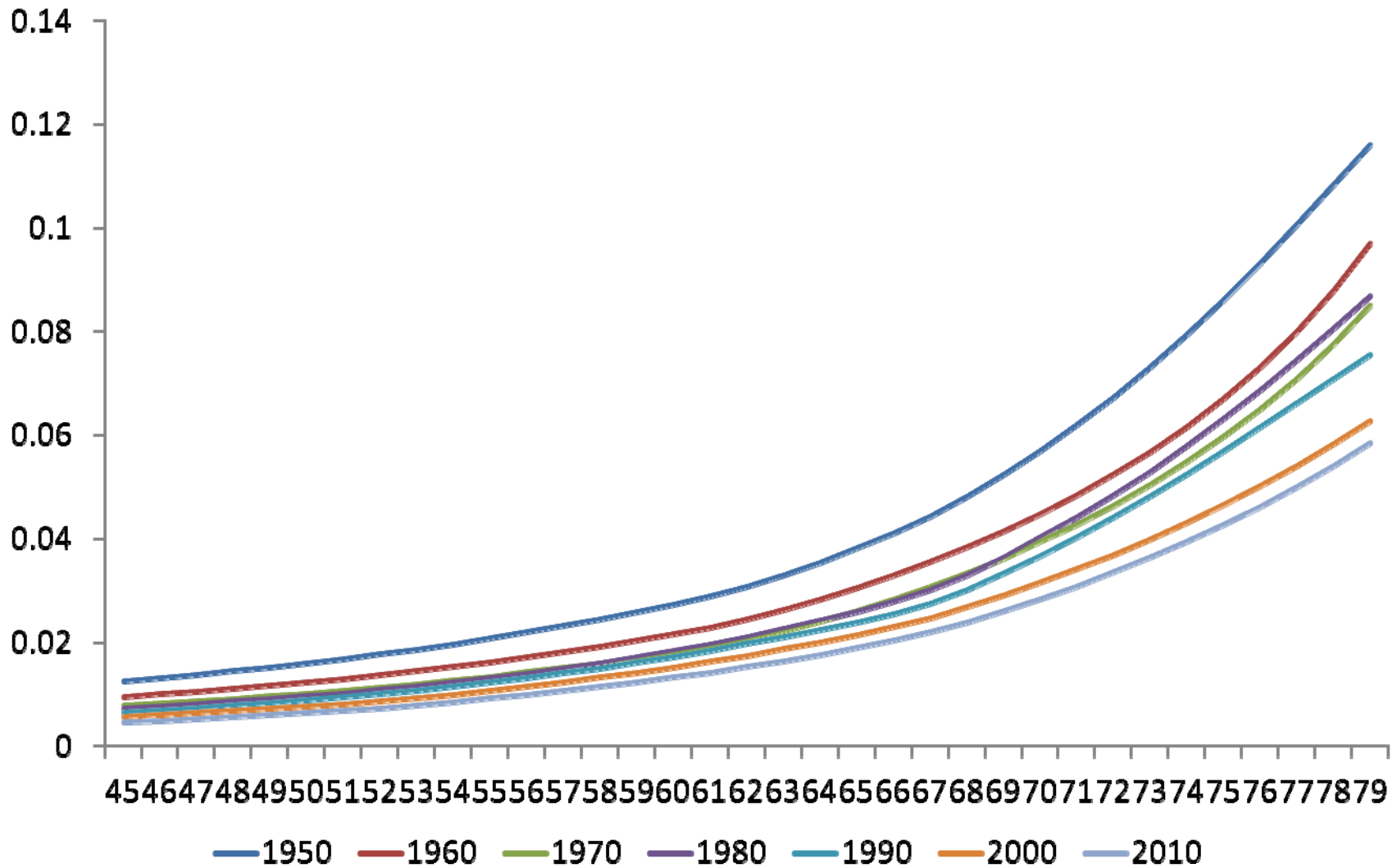
Results hold for male sample and different age groups.

# Labor Force and Health

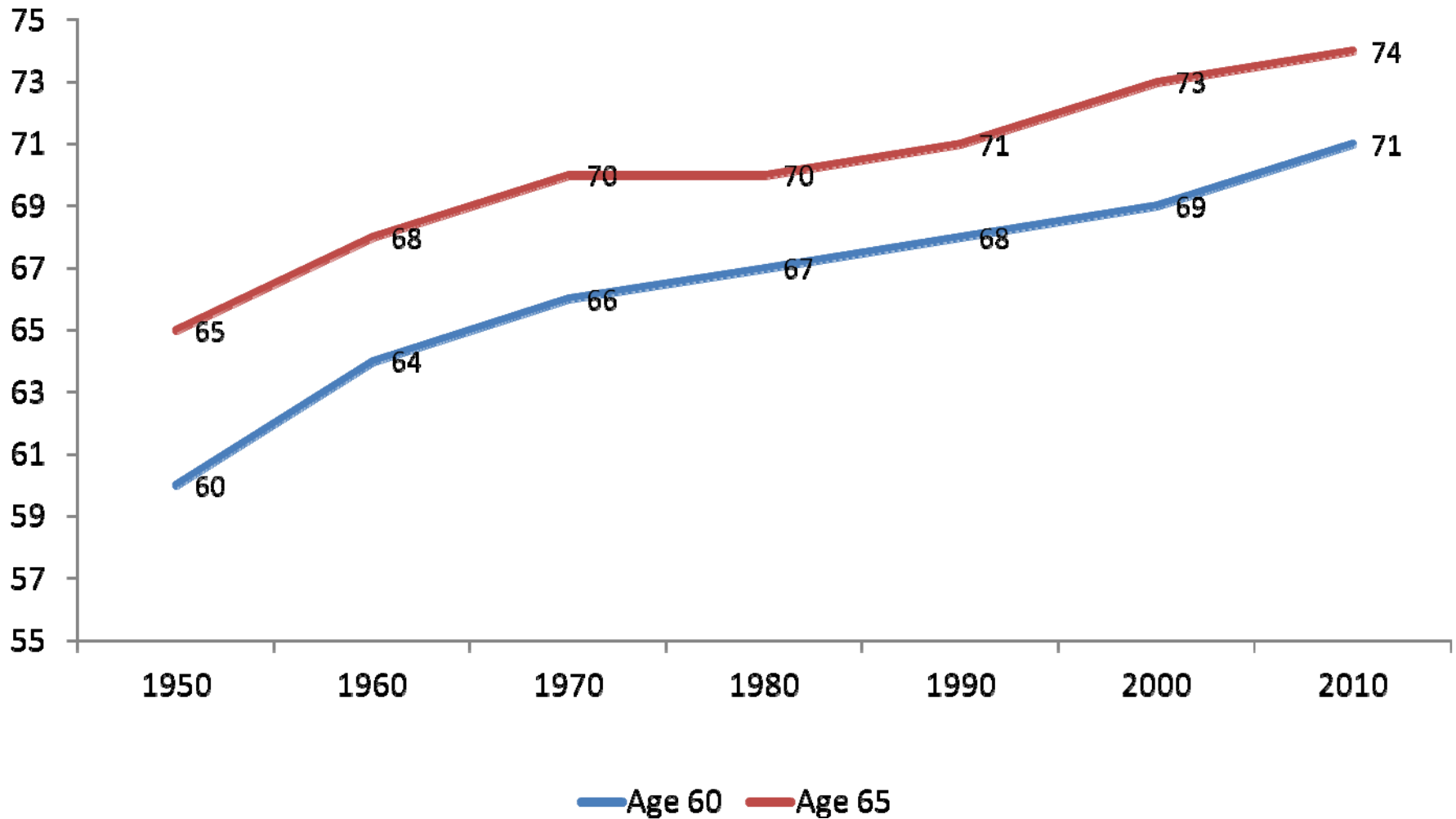
# Age Specific Mortality Rates, ages 60, 65 and 70, Brazil, 1950-2010



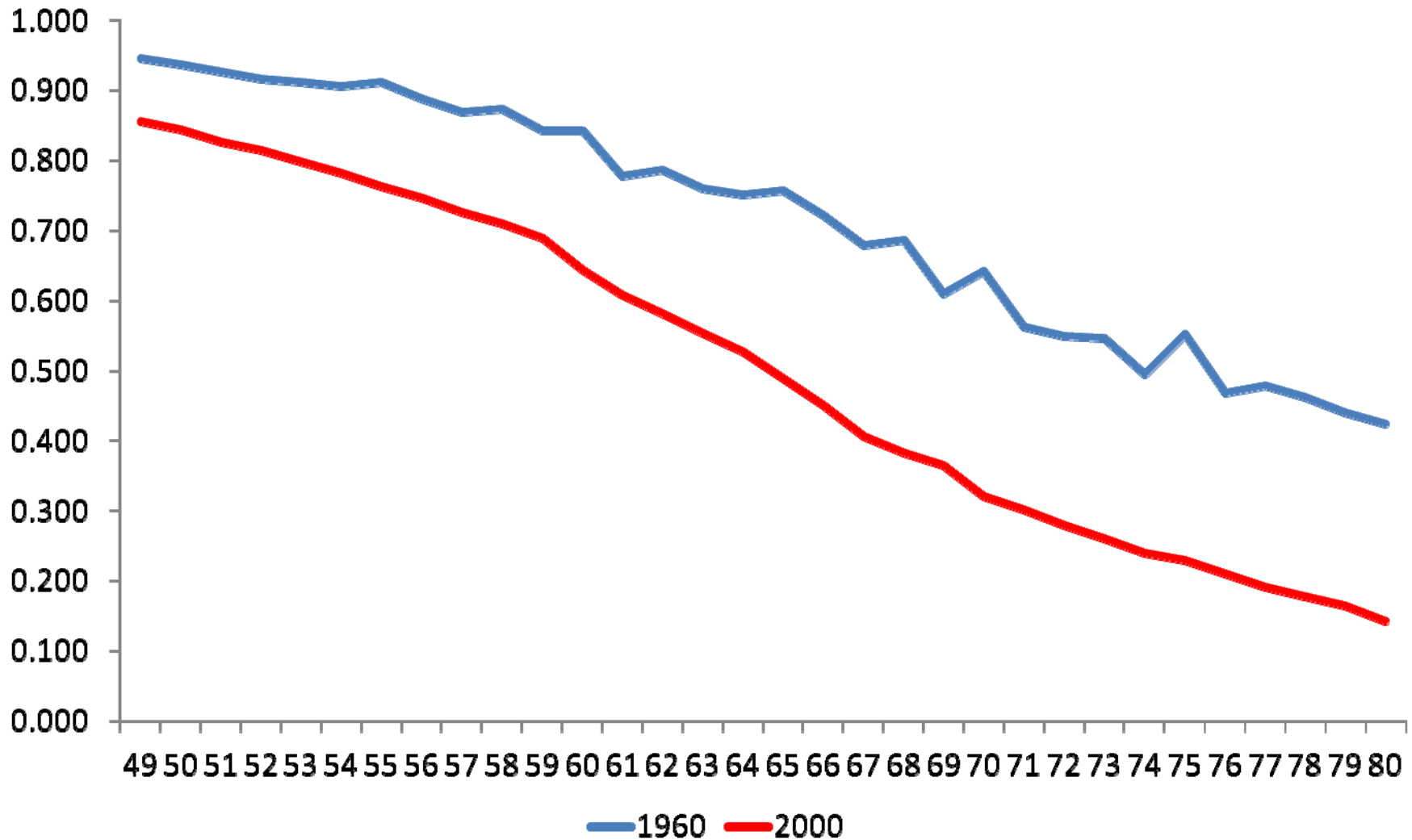
# Probabilities of Dying, Brazil, 1950-2010



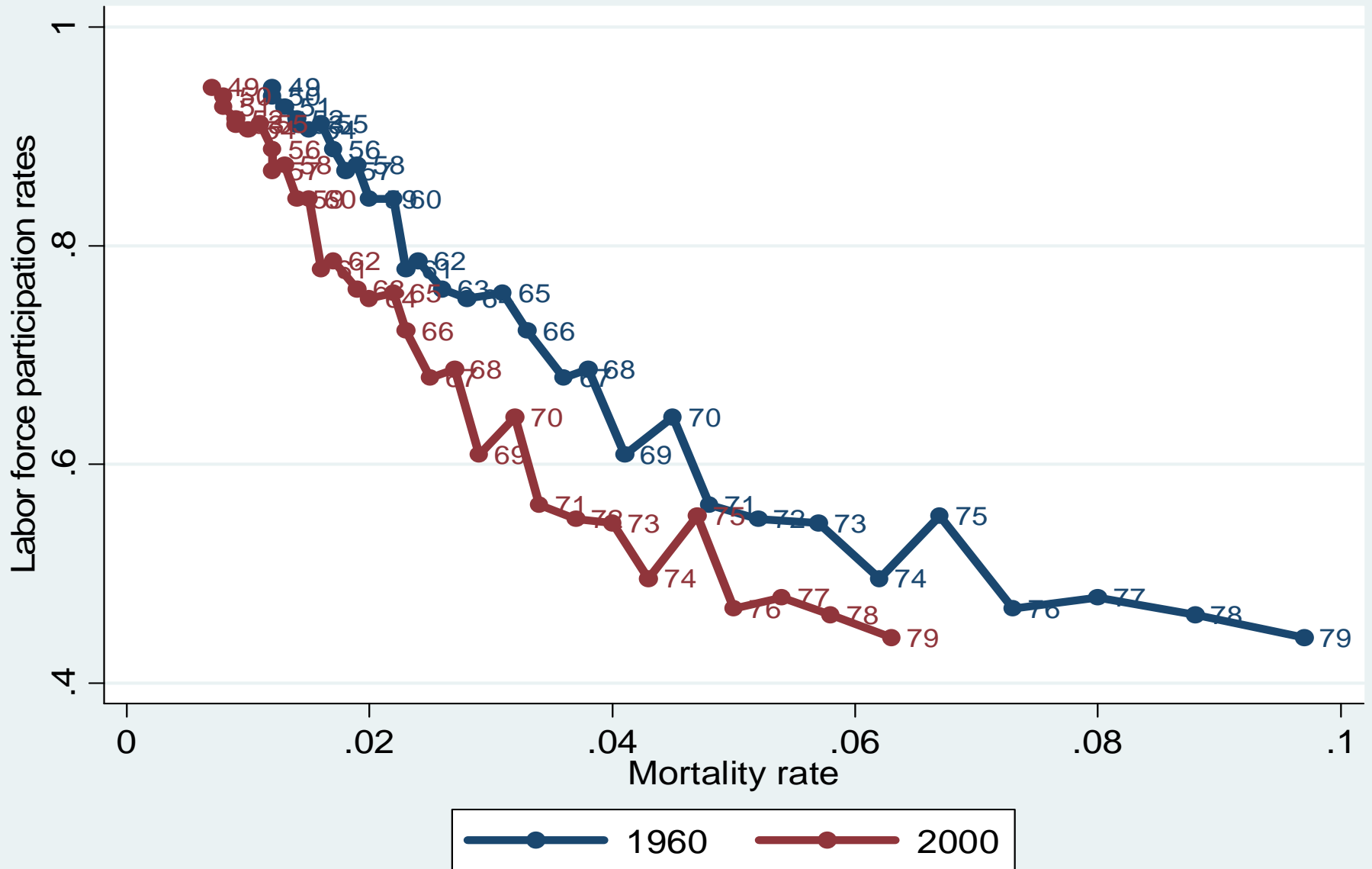
# How old should you be to feel like a 65 (60) year old in 1950?



# Labor Force Participation Rates Males, 49-79, 1960 and 2000



# LFPR and mortality, males, 1960 and 2000



# 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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