İstanbul Bilgi University
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Lifecycle Deficit for Turkey

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Outline

- Motivation and Objectives
- Data and Methodology
- Structure
- Results
- Conclusion

Motivation

- Population

- Young and dynamic population with 74 627 384, end of the 2012

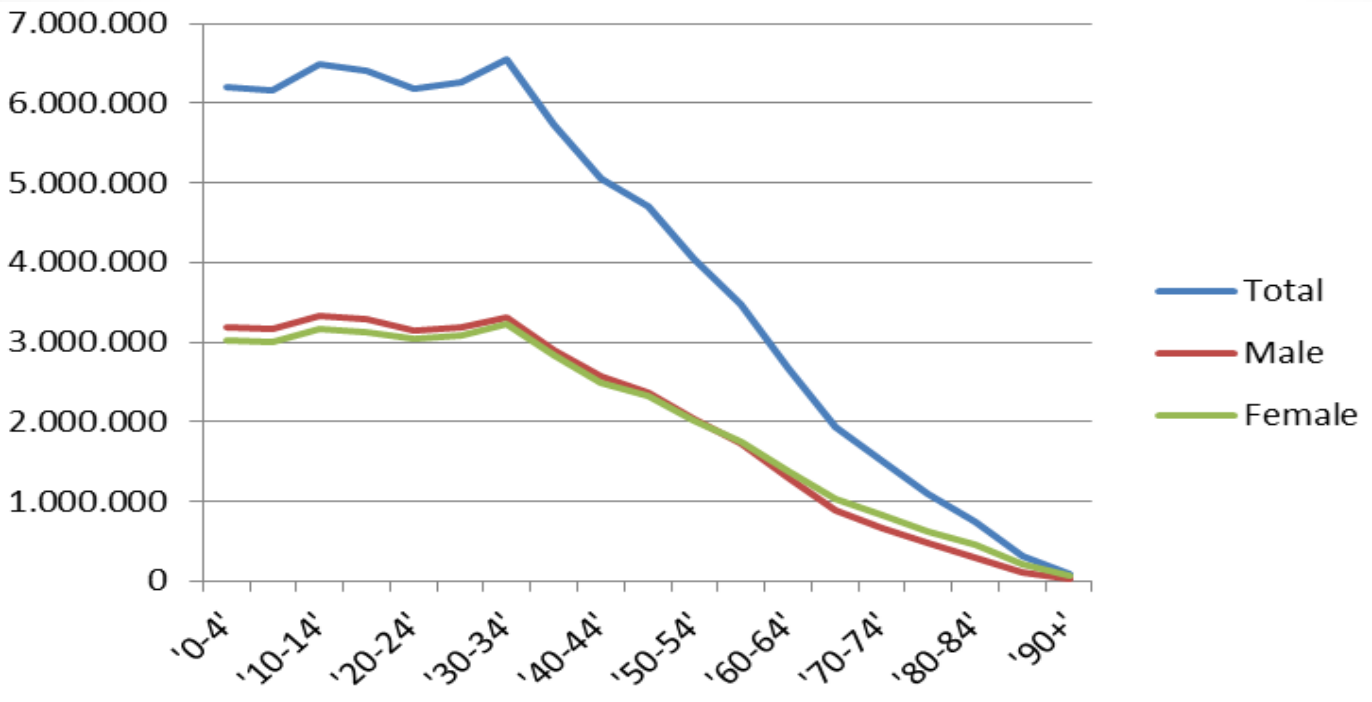


Fig 1: Distribution of population by age groups, 2012
Source: TURKSTAT

Motivation

- **Population in past, now and in the future:**

  1980-2000 share of young population in total population was %20

After 2000 , declining begins

	Young population rate
2012	16.6%
2023	15.1%
2050	11.7%
2075	10.1%

Source: TURKSTAT

Motivation

- Population Projections
- **Slower population growth and fertility rate**
- **According to the projections for 2050, population will be 94 585 million**
- **2045-2050, growth rate %0.2, fertility rate %1.8**

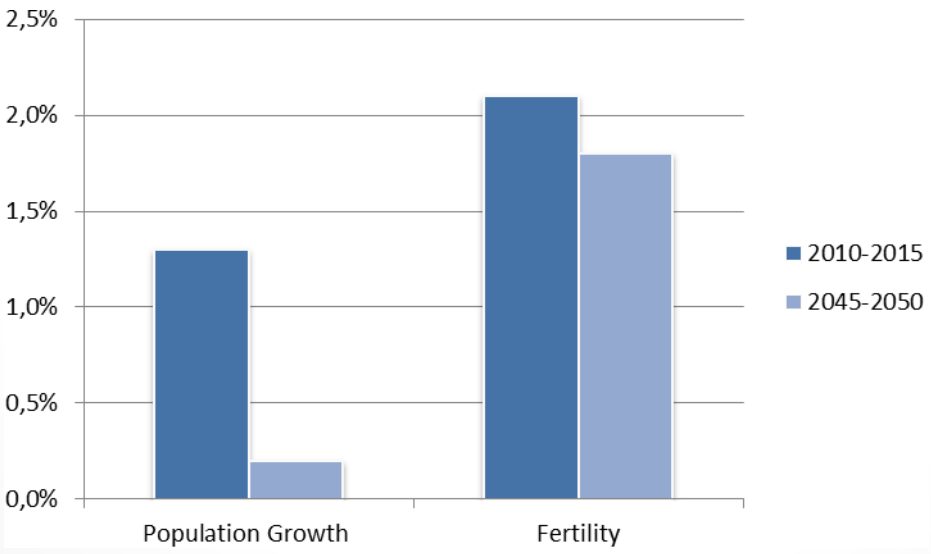


Fig 2: Population growth and fertility rates
Source: TURKSTAT

Motivation

- Population Aging

- In 2023, share of older people is expected to be much more higher than today in Turkey.

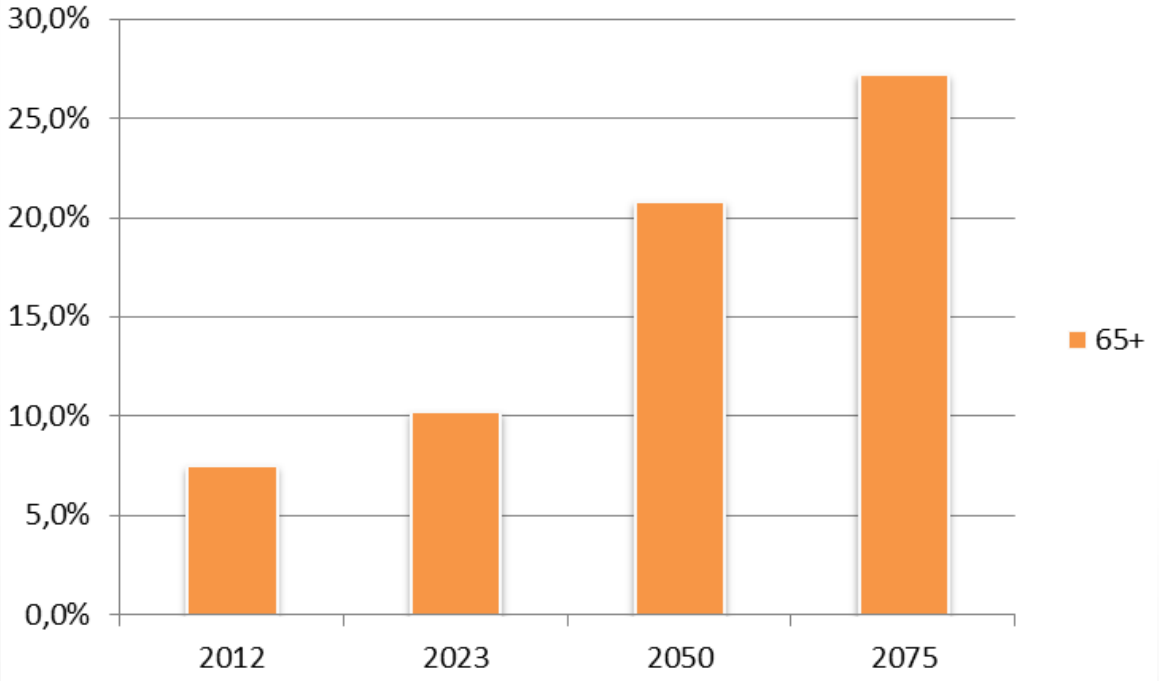


Fig 3 : Age 65+ rates by years
Source: TURKSTAT

Motivation

- Policies about population aging
- At least three children
- Turkish Prime Minister Recep Tayyip ERDOĞAN:

"***One or two children mean bankruptcy. Three children mean we are not improving but not receding either. So, I repeat, at least three children are necessary in each family, because our population risks aging. We are still on the good side, as we still own a young and dynamic population. But we are slowly aging. Presently, the whole western world is trying to cope with this problem. Please do not take our susceptibility lightly, this is a very serious issue,"***

Motivation

- Economic impacts

- Population aging causes;
  higher health expenditures,
  lower participation rate in labor market
- Not sufficient amount of studies adressing the impact of population aging on Turkish economy.

- National Transfer Accounts project methodology

- Measuring stocks and flows in an economy
- Generating an age-based database

Objective

- Building Lifecycle Deficit by using National Transfer Accounts Method
- By using demographic projections from UN obtaining aggregate LCDs from 1950-2050 for Turkey.

Data

- Sources

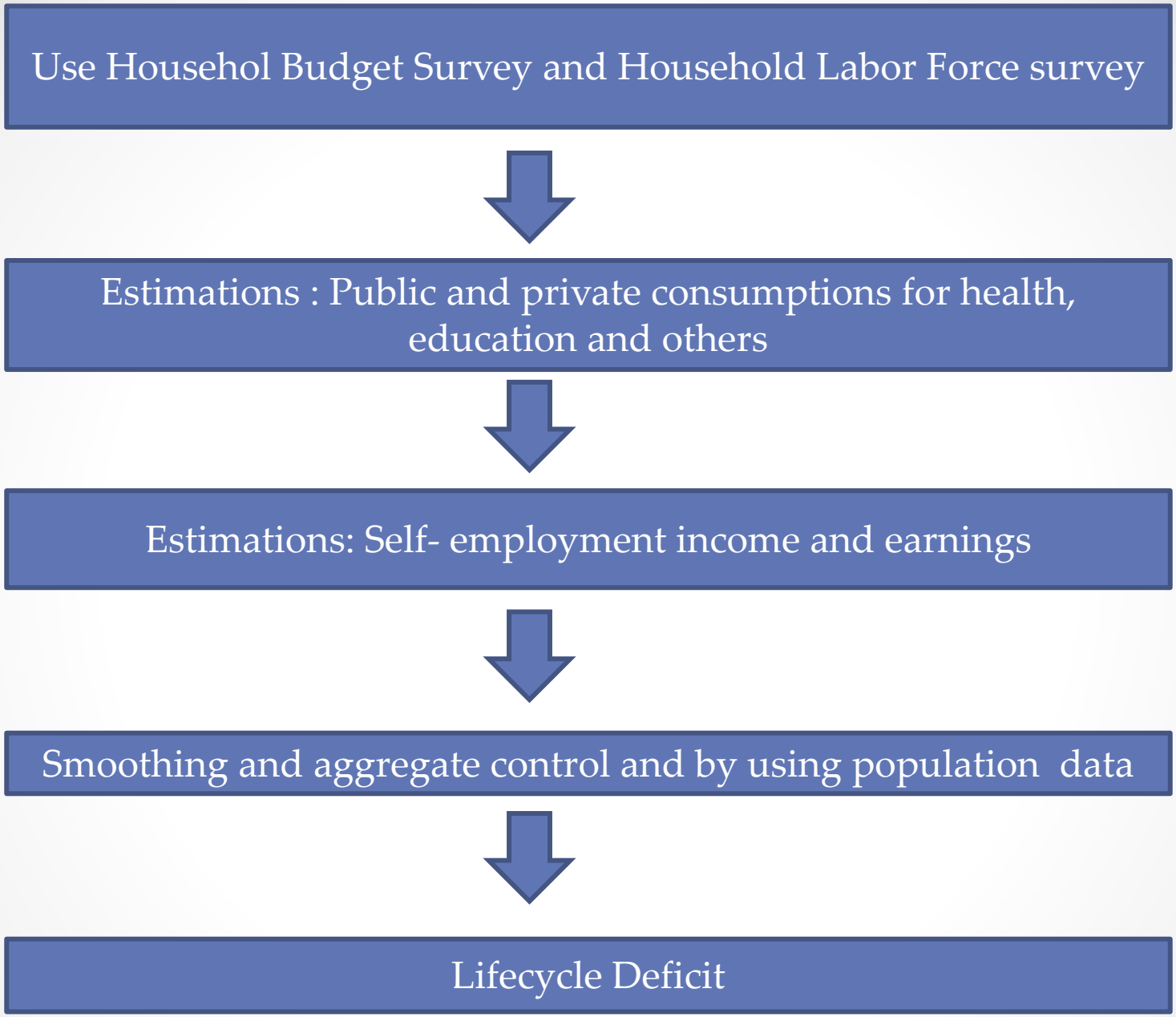
- Turkish Statistical Institute, Household Budget Survey, 2006
- Turkish Statistical Institute, Household Labor Force Survey, 2006
  8640 HH

- Data Problems

- Public consumption health and education

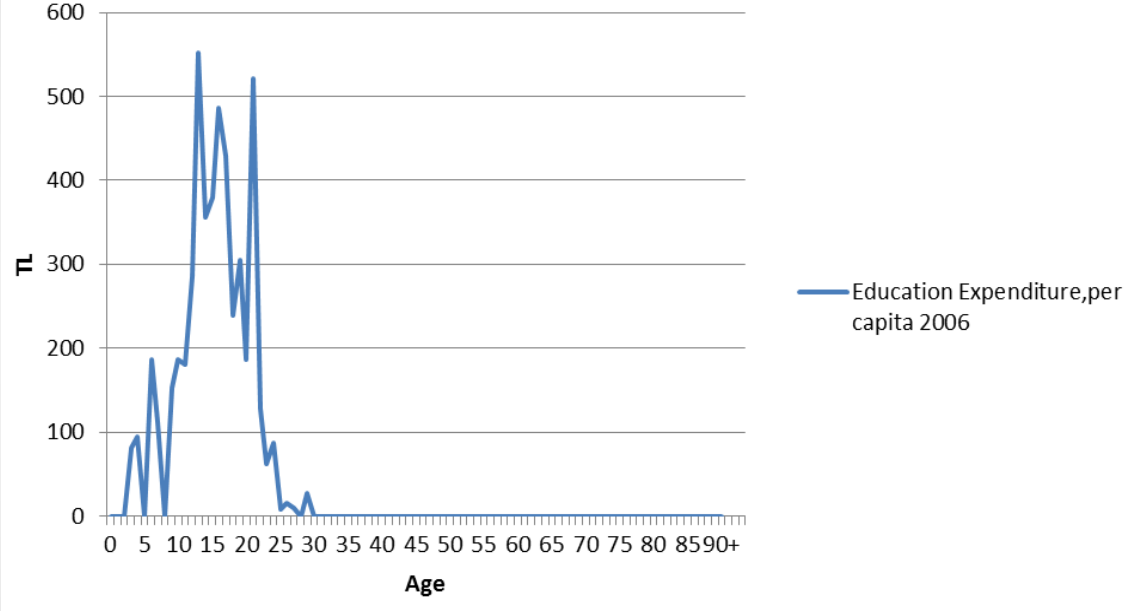
Structures

- Consumption age profiles
- Private consumption: Education, health and other private consumption
- Public consumption: Education, health and other public consumption
- Labor income age profiles
- Wages and salaries
- Self employment income
- Aggregate control and smoothing


Use Househol Budget Survey and Household Labor Force survey
Estimations : Public and private consumptions for health, education and others
Estimations: Self- employment income and earnings
Smoothing and aggregate control and by using population data
Lifecycle Deficit

Private Consumption Profiles

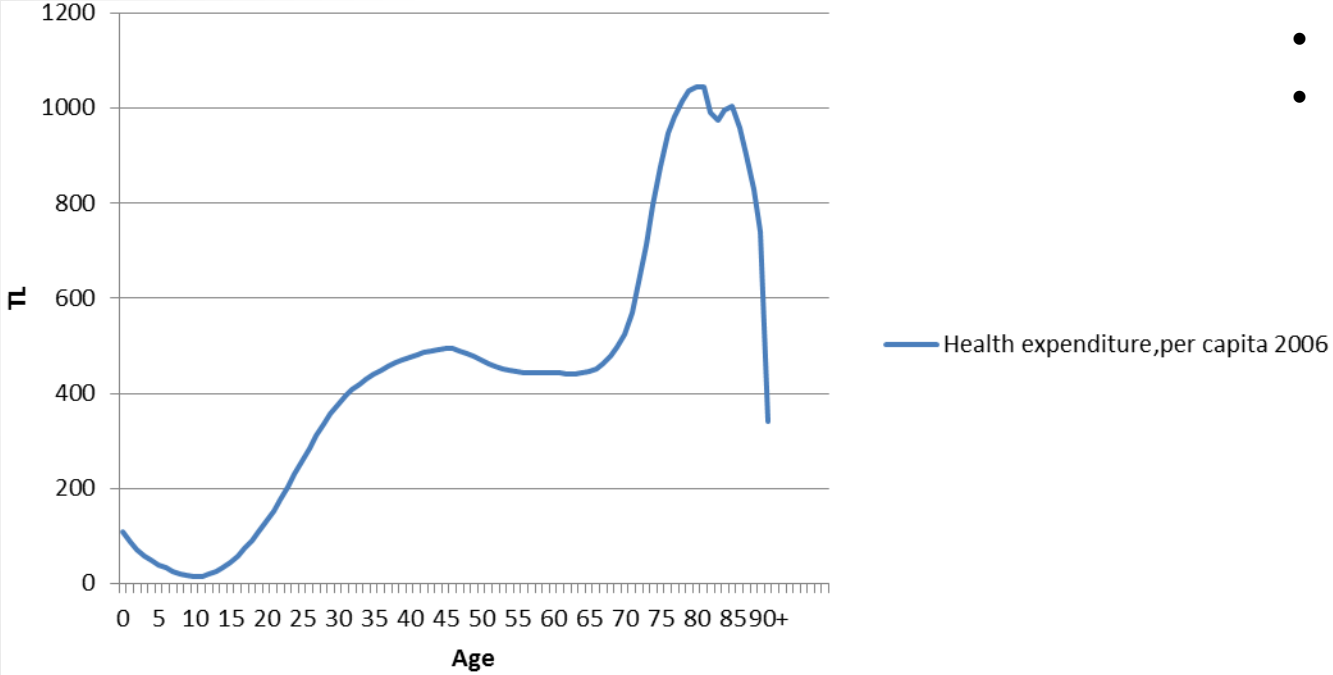
- Age profile of private consumption on education



- Begin at age 3
- Maximum at age 13 and 21
- Education expenditures dropping around age 22
- 0 after age 30

Private Consumption Profiles

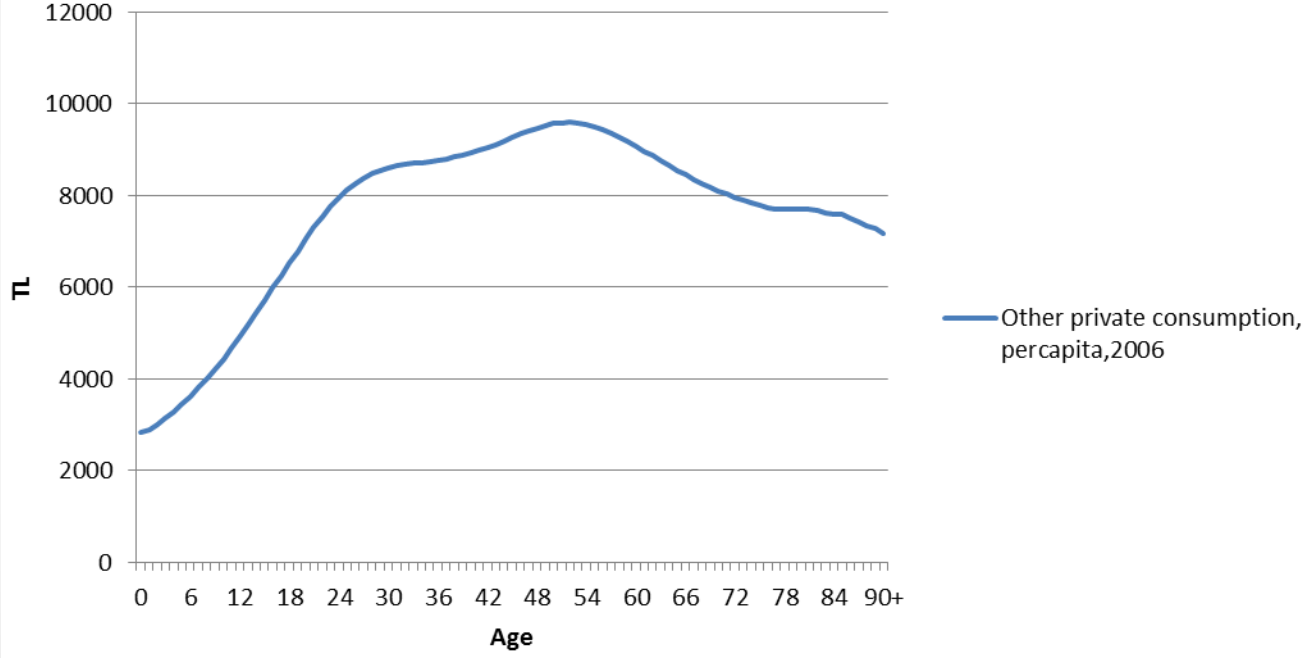
- Age profile of private consumption on health



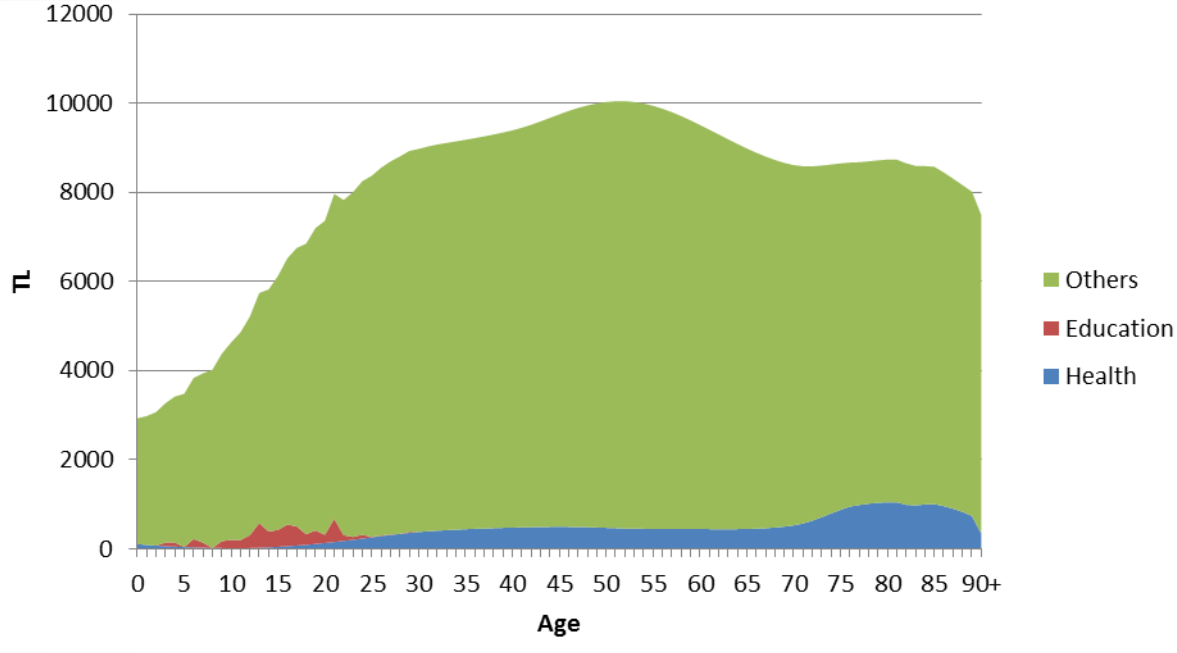
- Expenditures for babies
- Age 65+

Private Consumption Profiles

- Age profile of private consumption on others



Private Consumption by Sectors



Private consumption by sectors, per capita, Turkey, 2006

Public Consumption

- Data problems
  Public education ; 2002
  Public health; people having private health insurance are omitted from the survey
- Public education is estimated by dividing public spending by the number of students.(NTA draft)

Public Consumption Profiles

- Age profile of public consumption on education

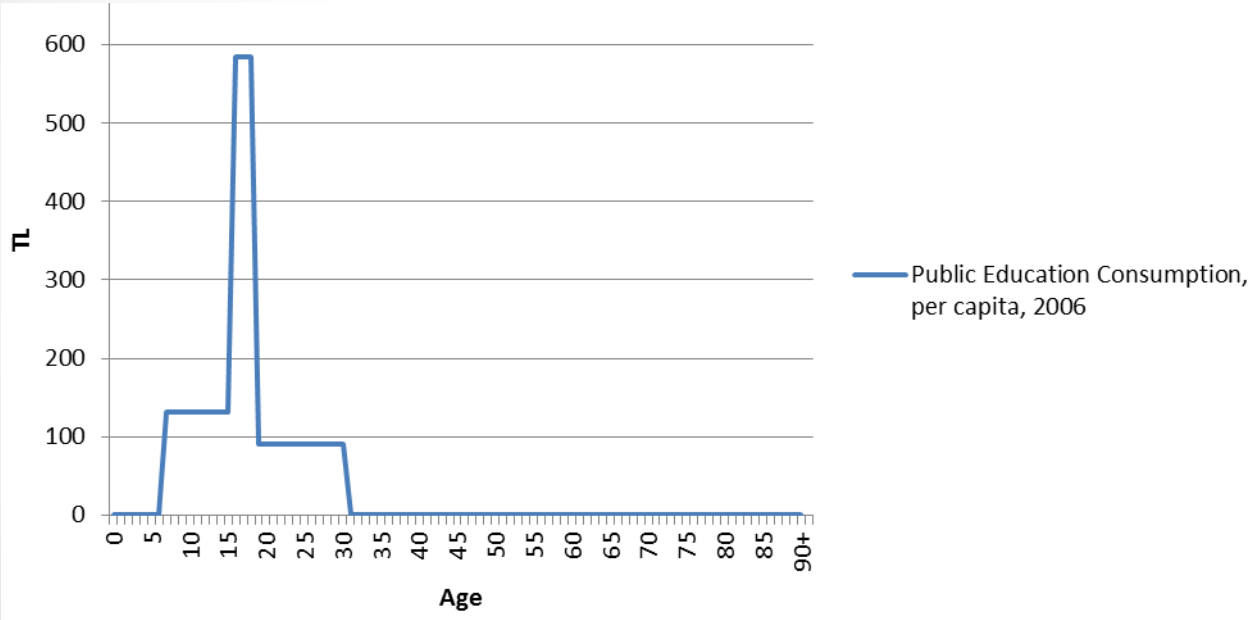
Use the amount of education expenditures per student by level of education variables

Methodology by NTA:
Public consumption education;

Where *l* is a school level, is unit cost per student at each level and is the number of students by age in each level.

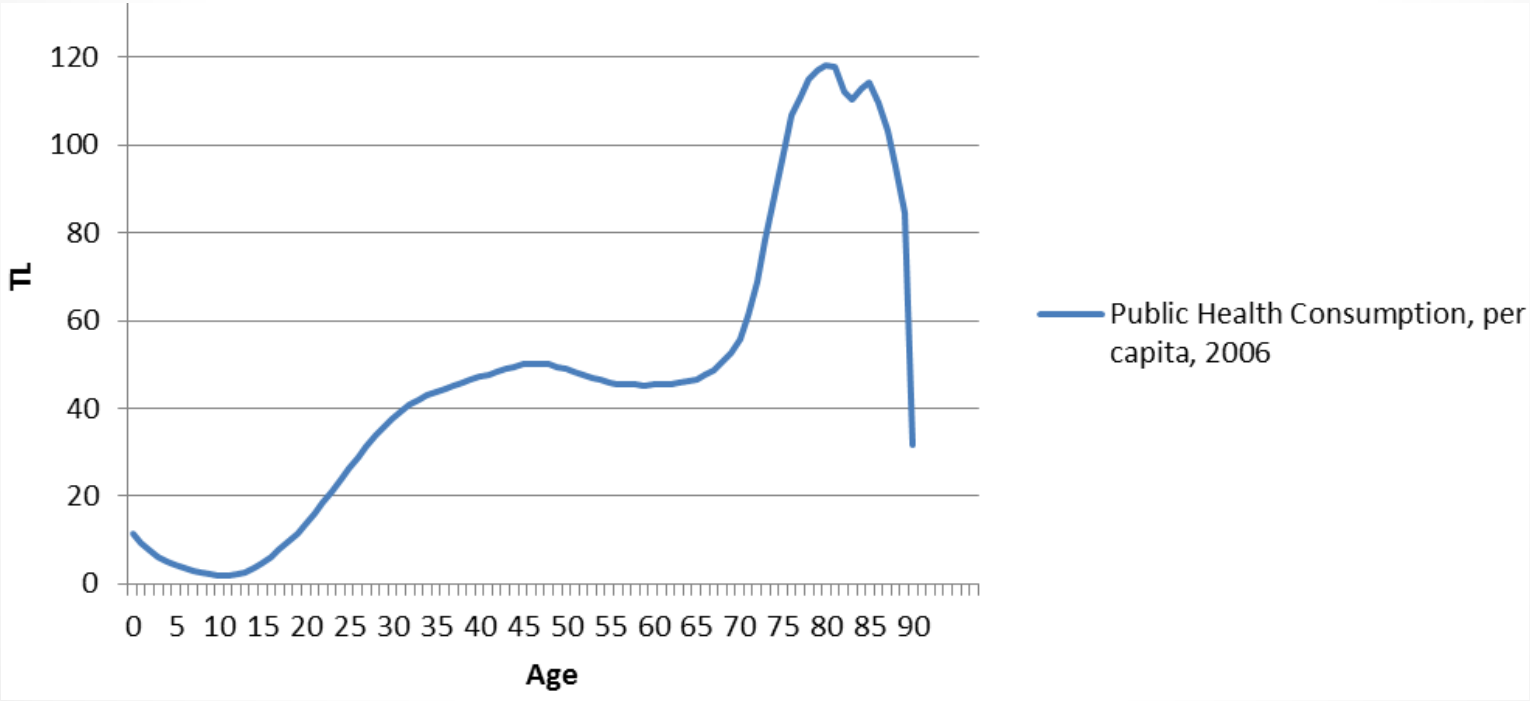
Public Consumption Profiles

- Age profile of public consumption on education



Public Consumption Profiles

- Age profile of public consumption on health



Other Public Consumption

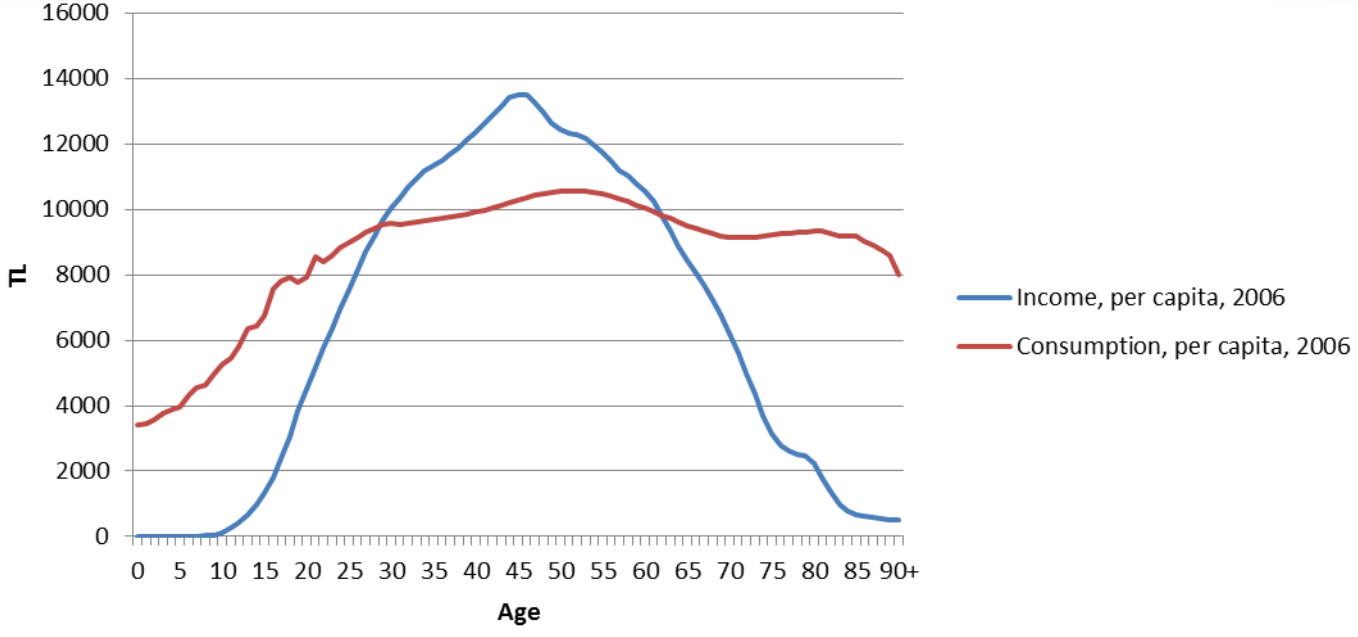
- Allocated equally to all population
- Total public consumption;
  $CG(a) = CGE(a) + CGH(a) + CGX(a)$
- Total consumption;
  $C(a) = CG(a) + CF(a)$

	Turkey(2006)
Consumption	%100
Private Consumption	92.91
• Education	1.10
• Health	3.57
• Other	88.91
Public Consumption	7.09
• Education	0.88
• Health	0.37
• Other	5.84

Labor Income

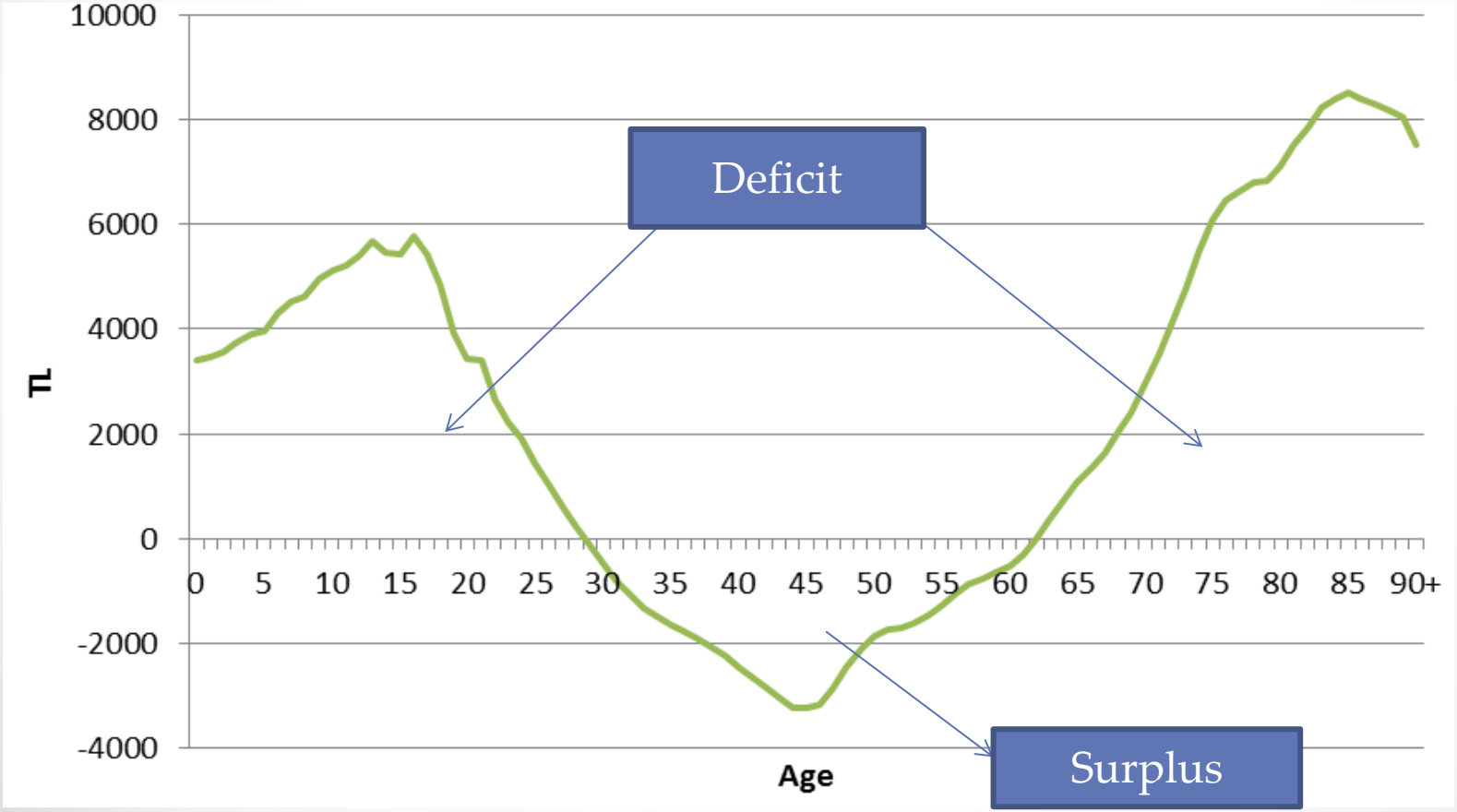
- Variables: wages and salaries, self employment income

Per capita Consumption and Labor income, Turkey, 2006

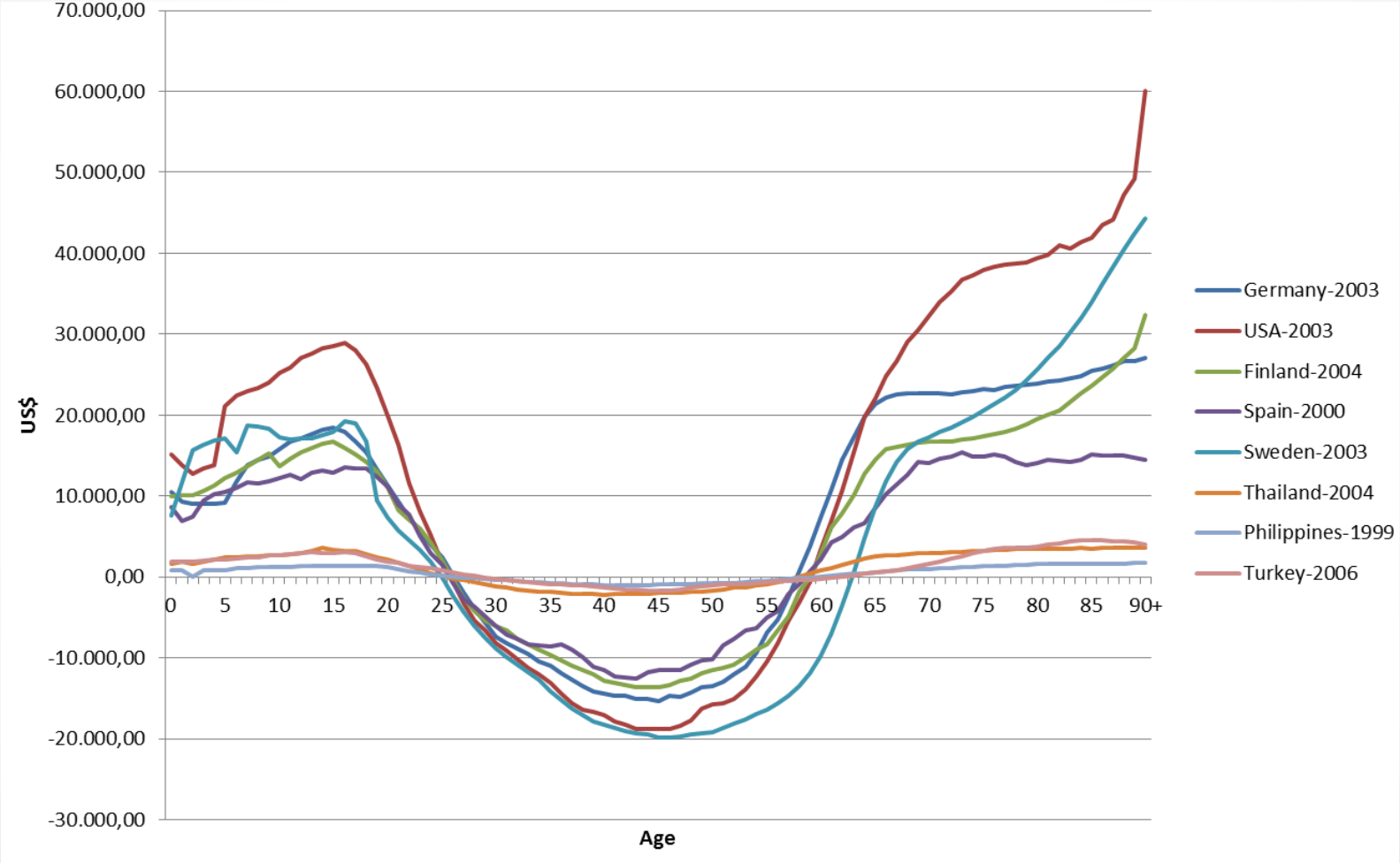


Lifecycle Deficit, per capita, 2006

LCD(a)= C(a)-Yl(a)

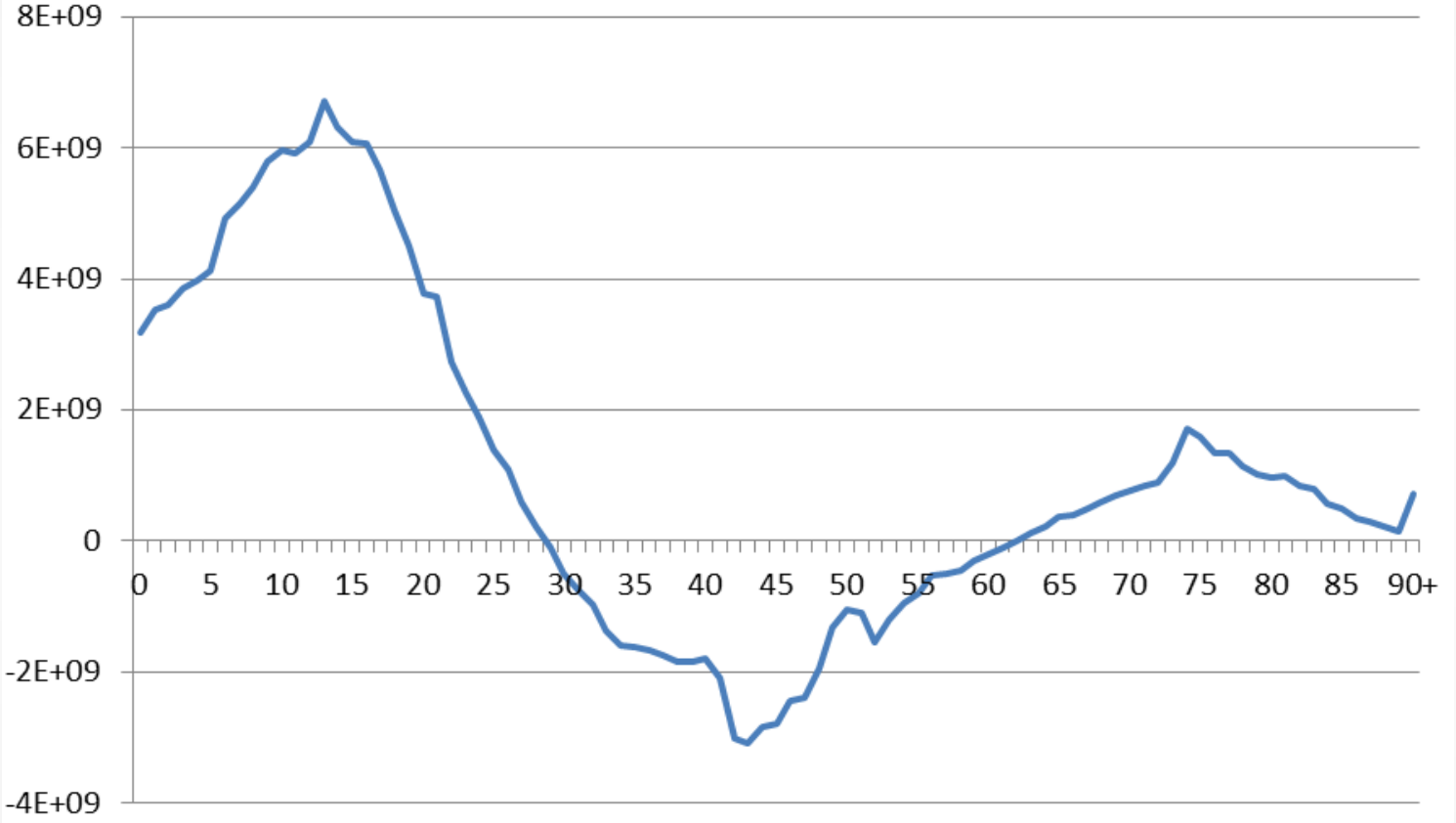


Comparison of LCD Per Capita



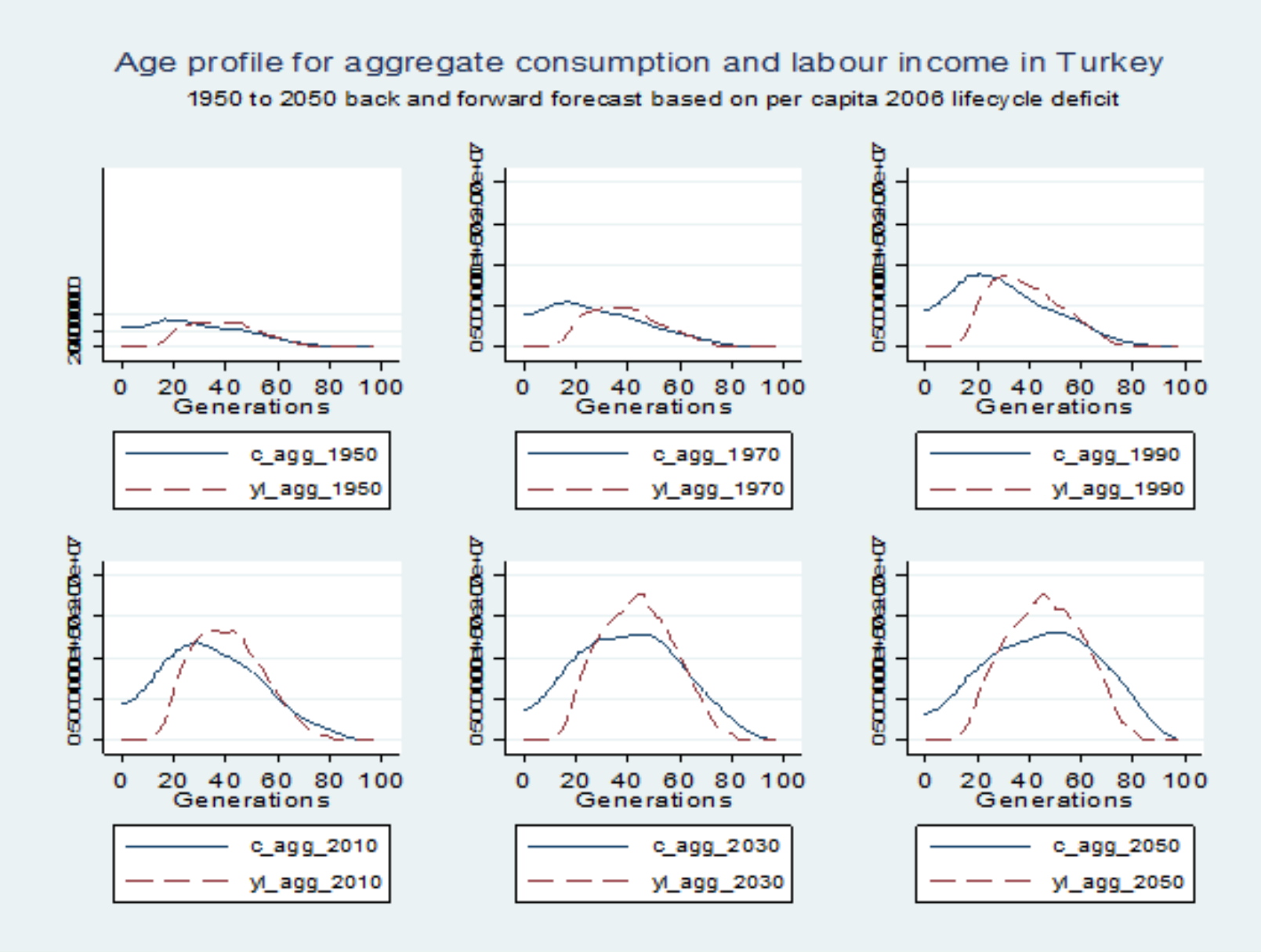
Source: National Transfer Accounts Database

Results of LCD, Turkey, 2006

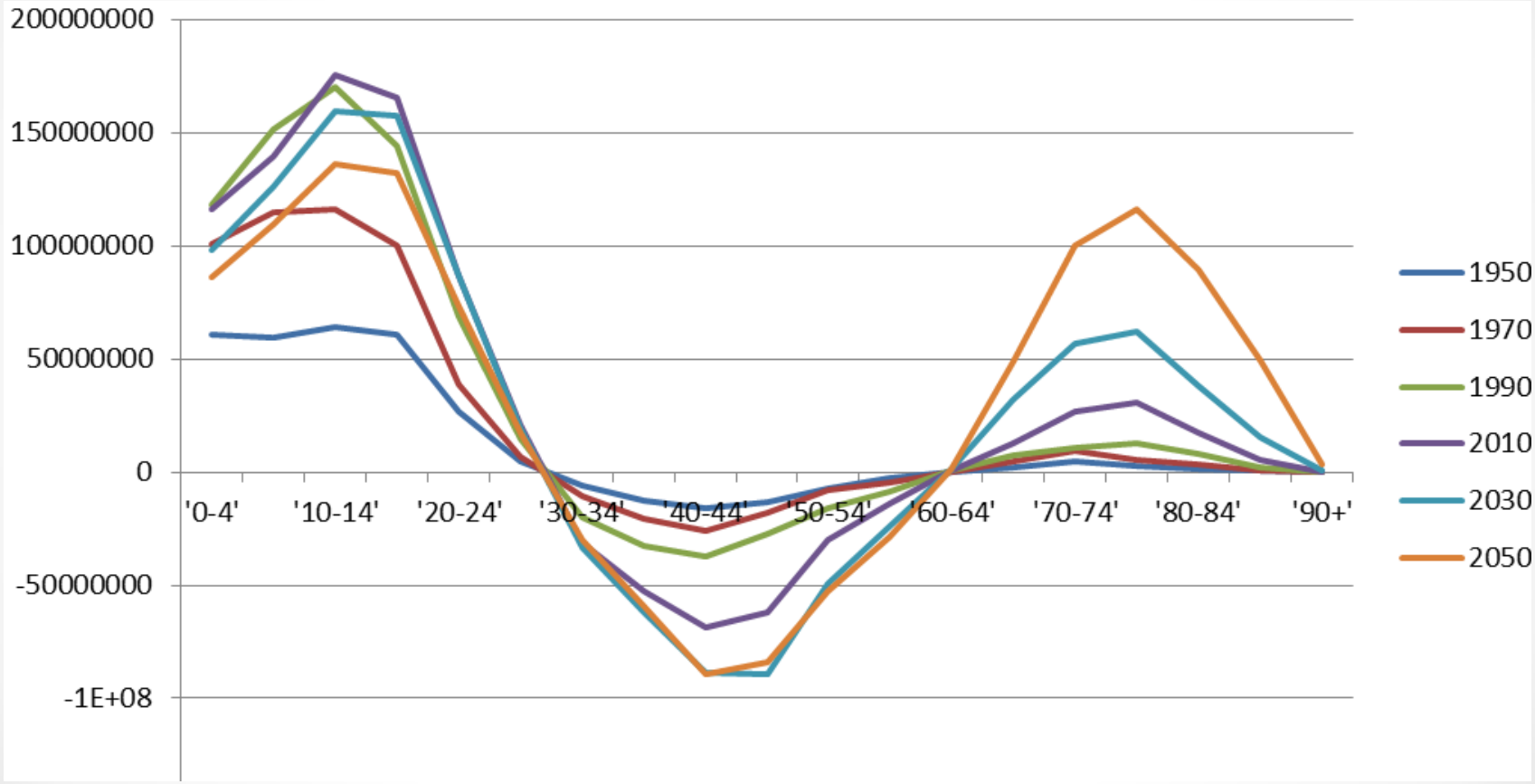


Aggregate LCD, 2006

Assumption: Consumption and labor income profiles will be similar in future



Projections of Aggregate LCD



Source: United Nations Population Projections

Conclusion

- Higher private consumption
- LCD>0 for ages 0-28 and 63+
- Demographic changes and LCD
- Aggregate LCD of old population looks similar with LCD of young population in 2050
- Future work:

  Public and private reallocations

THANK YOU!!

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