

# **NTA and Population Aging Policies in Japan**

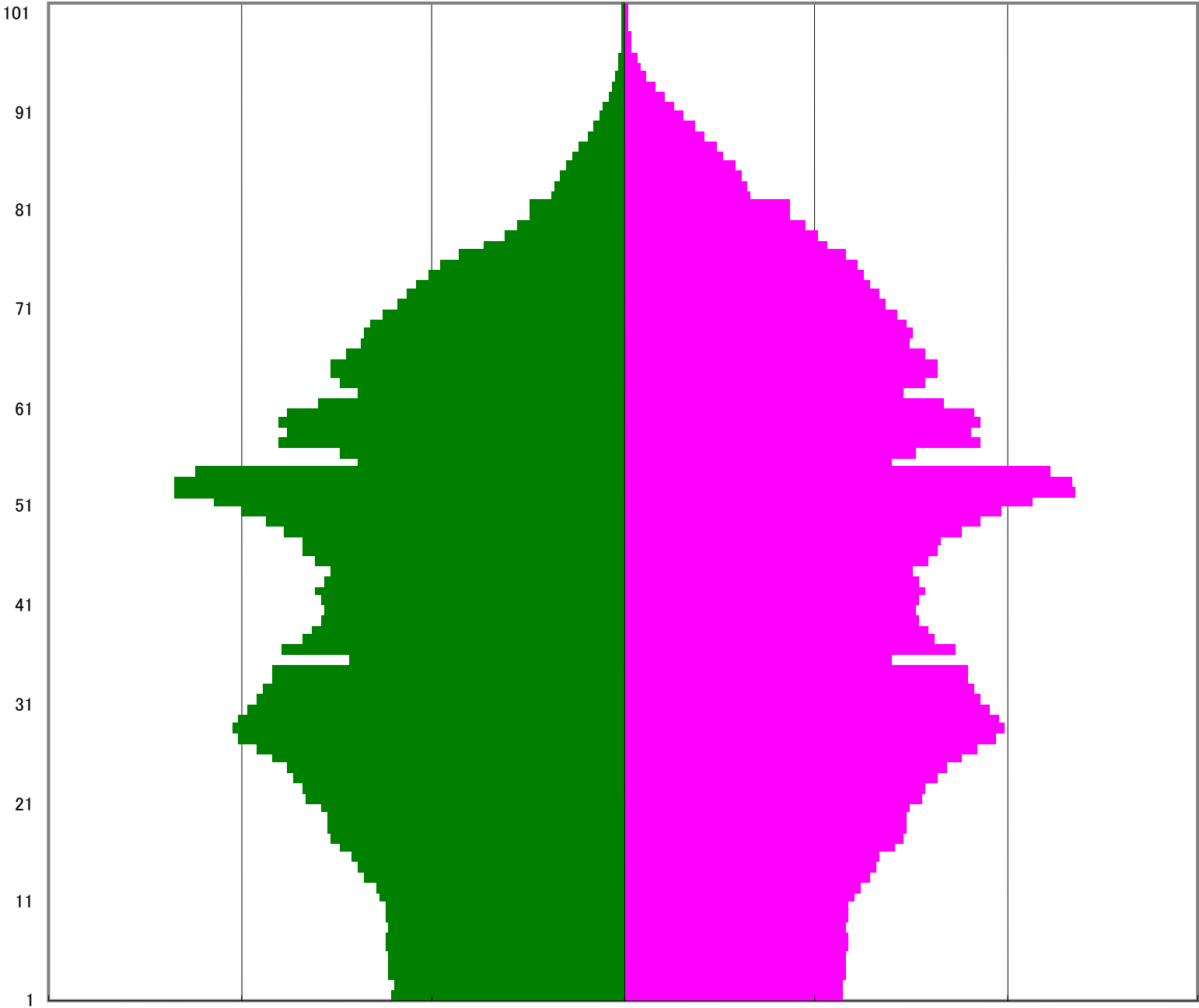
**Naohiro Ogawa, Maliki, Rikiya Matsukura,  
Kazuro Nemoto and Katsuya Akasaka**

**2<sup>nd</sup> NTA Workshop  
Tokyo, August 2006**

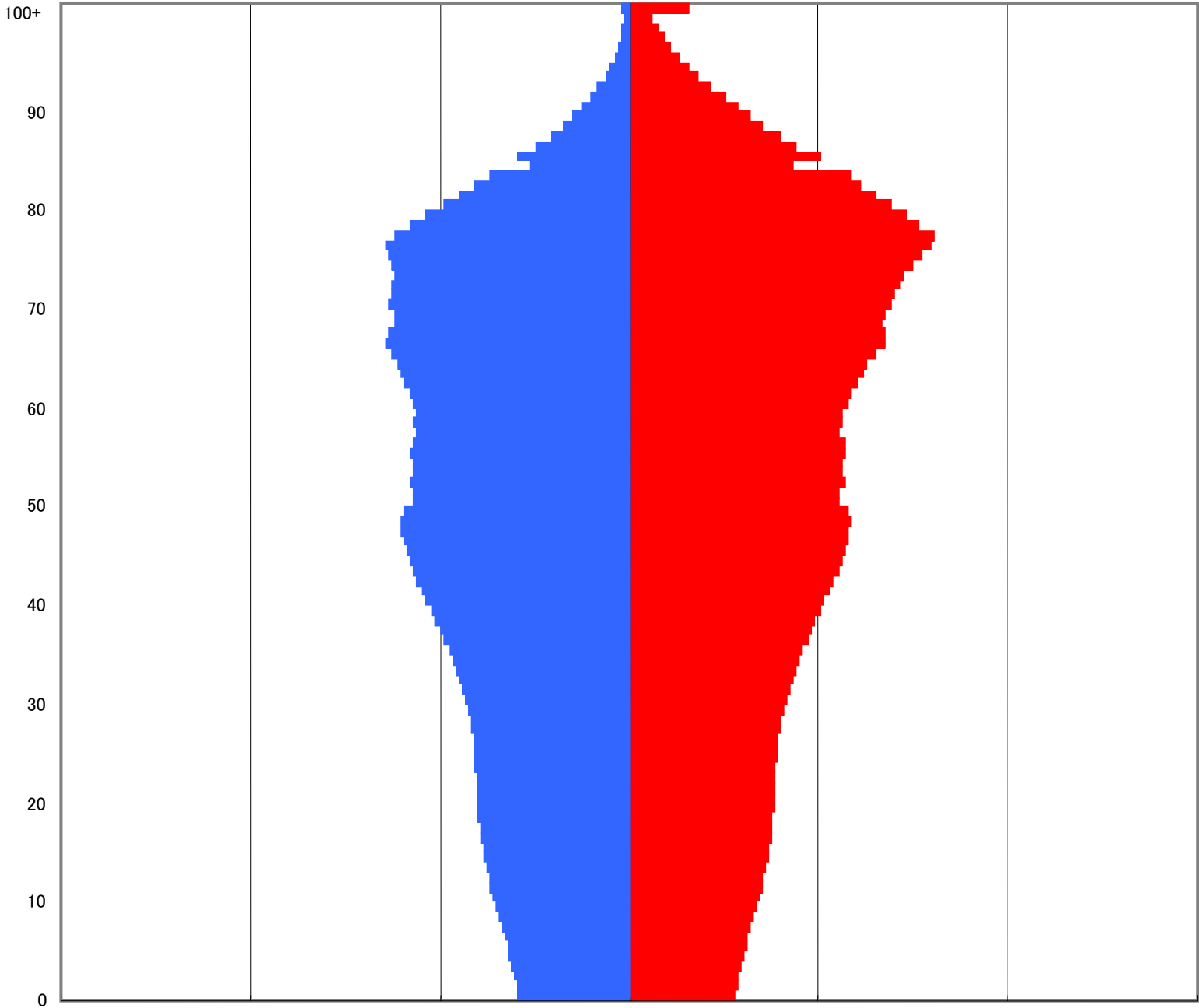
# Outline of this presentation

- **Japan's age structural change: unprecedented**
- **NTA for Japan: preliminary results and some problems**
- **Minister Inoguchi's favorite arguments (The proportion of social security benefits allocated to children is minuscule): Is she right?**
- **Japan NTA team's next steps**

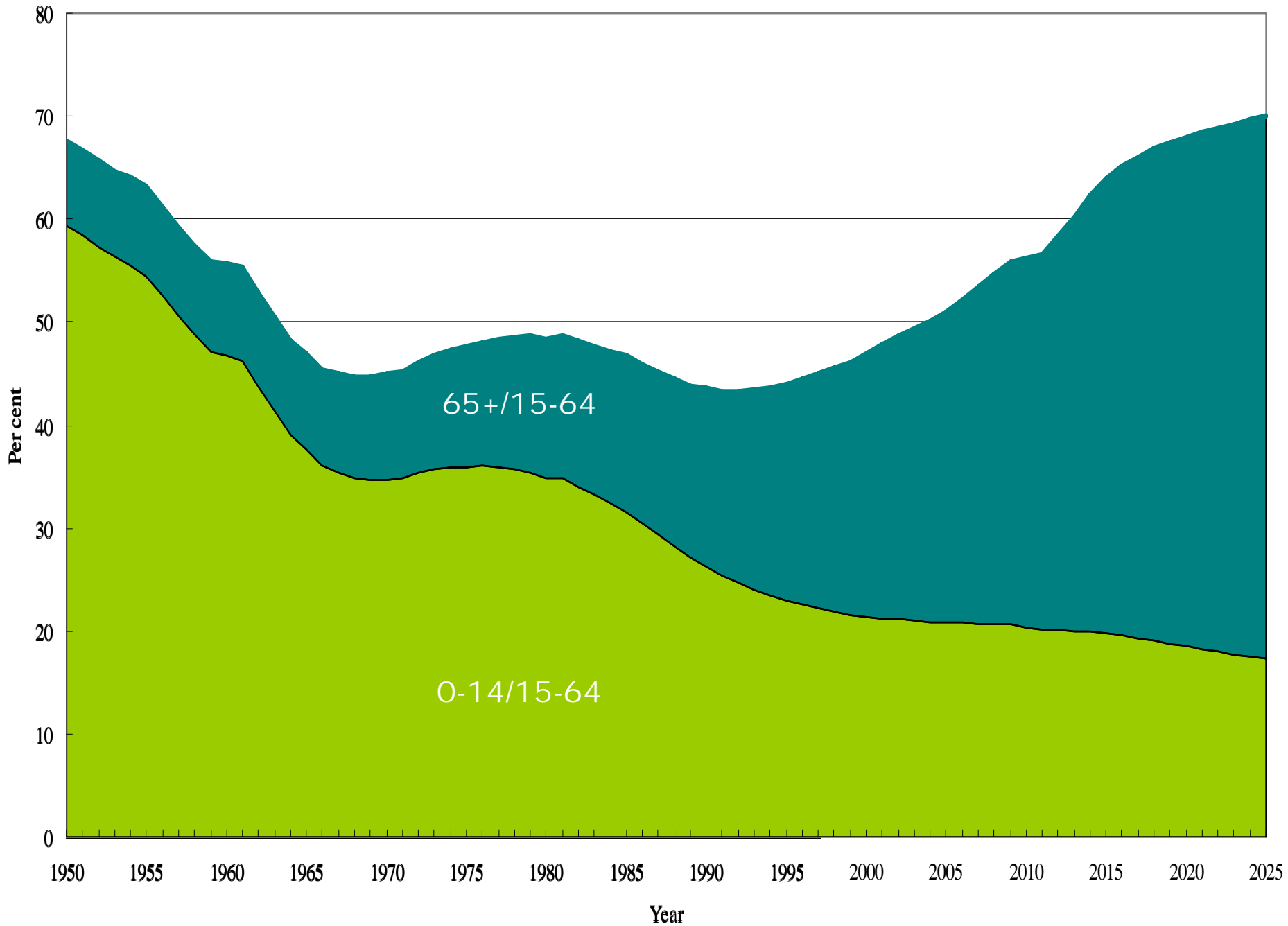
2000



2050



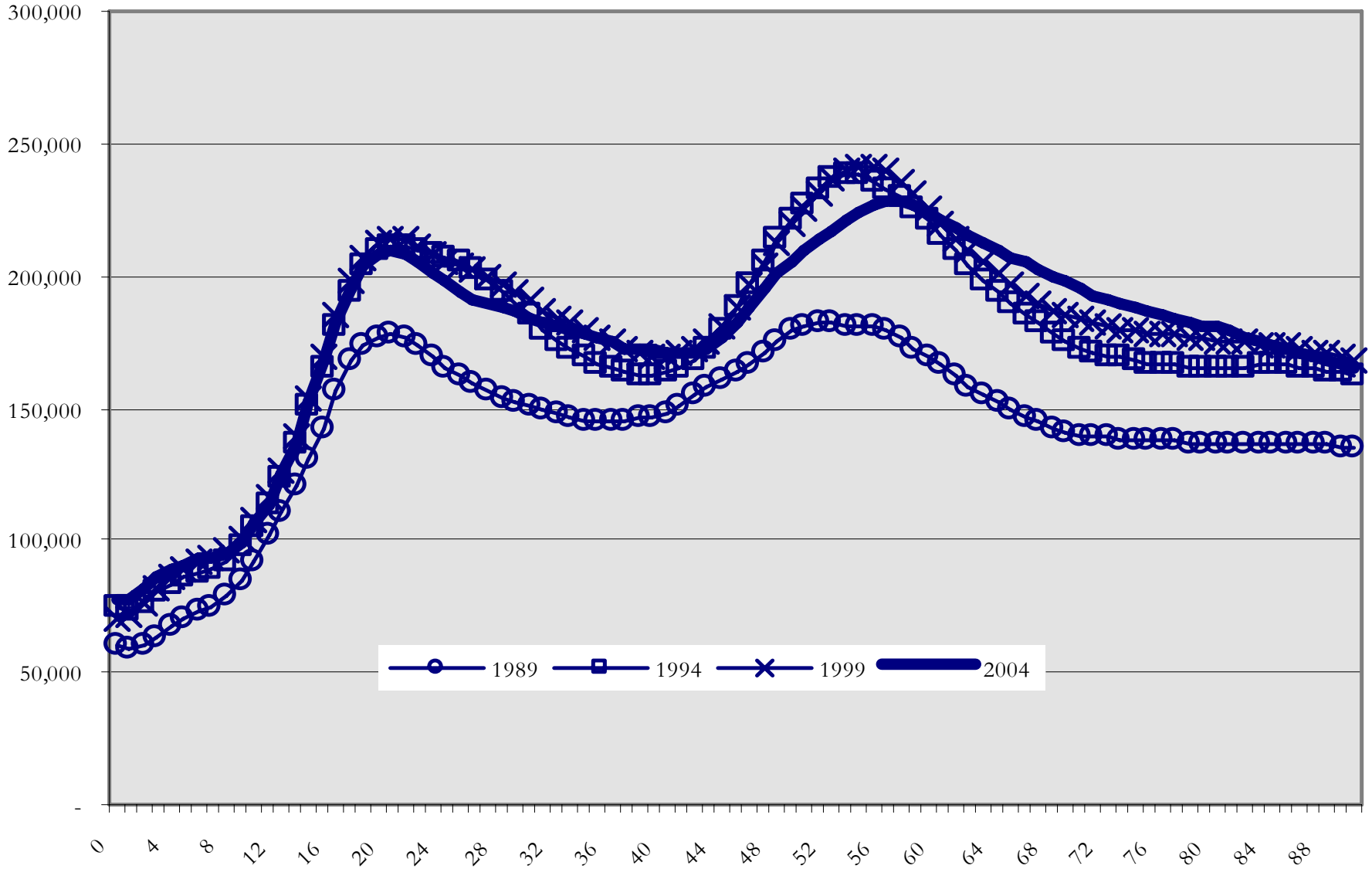
# Age structural change: 1950-2025



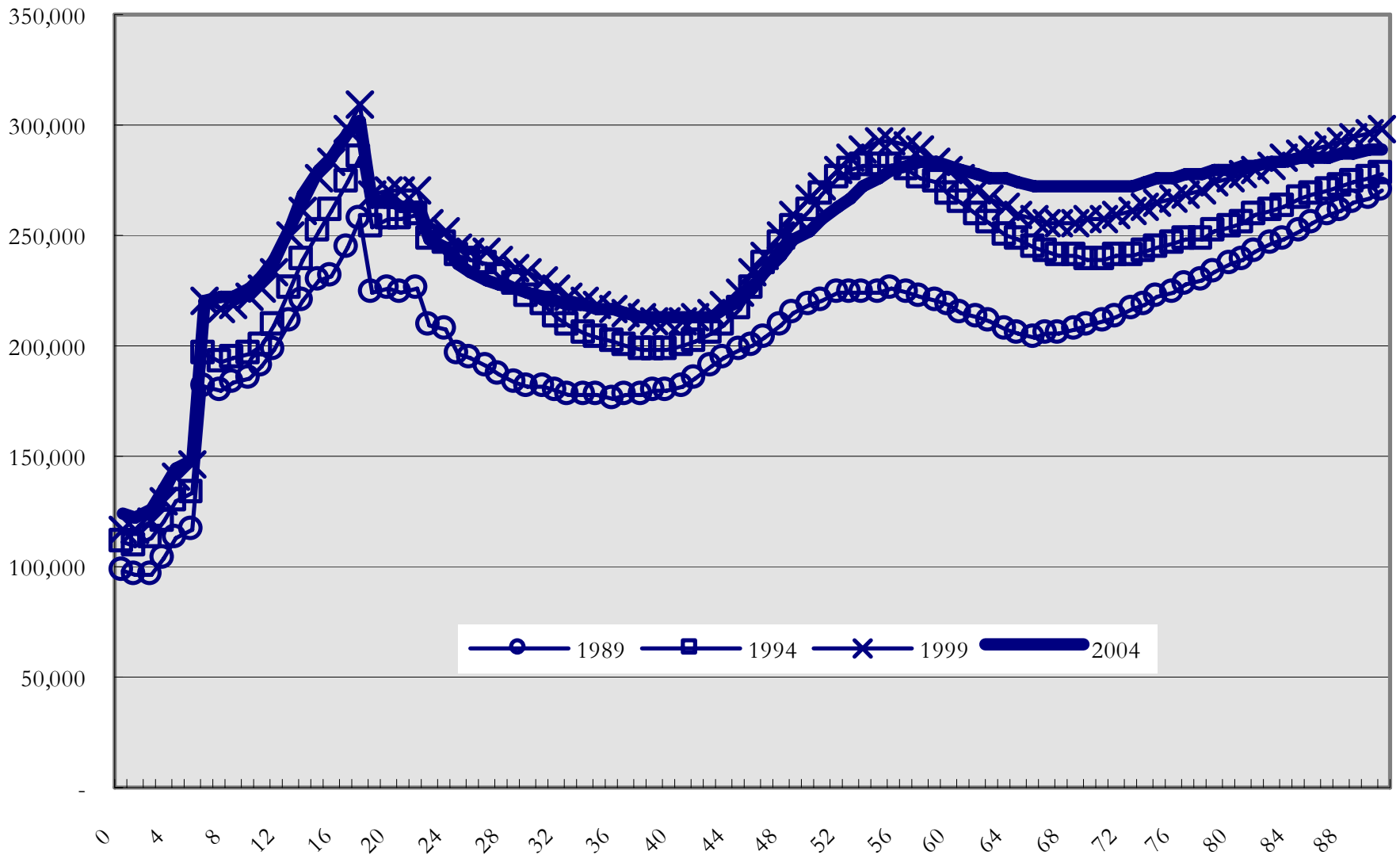
In 2005, Japan became No.1 in  
the world

in terms of  
the proportion 65 and over  
and  
the proportion 0-14

Per Capita **PRIVATE** Consumption, Nominal Yen, 1989, 1994, 1999, 2004

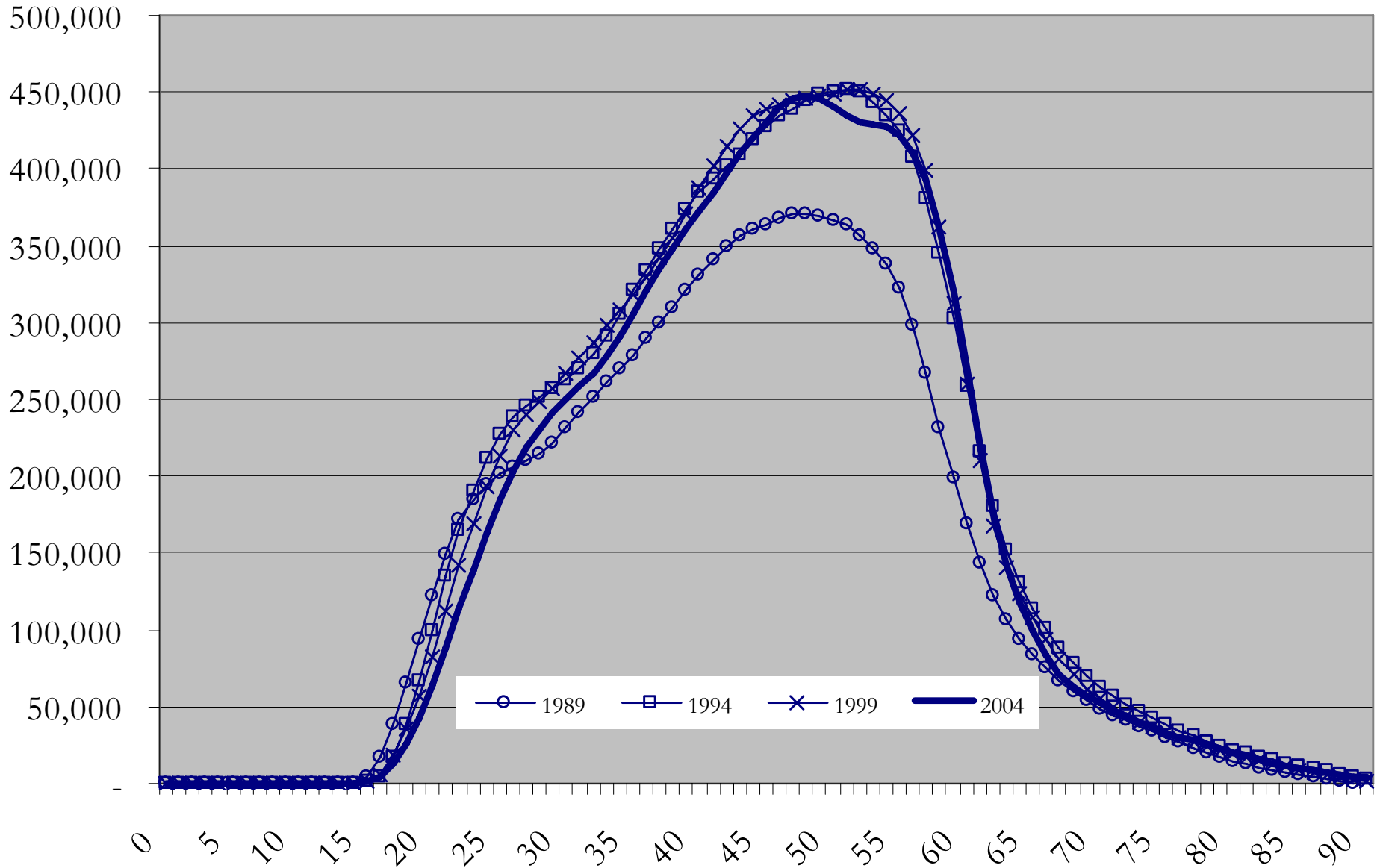


Per Capita **TOTAL** Consumption, Nominal Yen, 1989, 1994, 1999, 2004





Monthly Per Capita Production, Nominal Yen, 1989, 1994, 1999, 2004





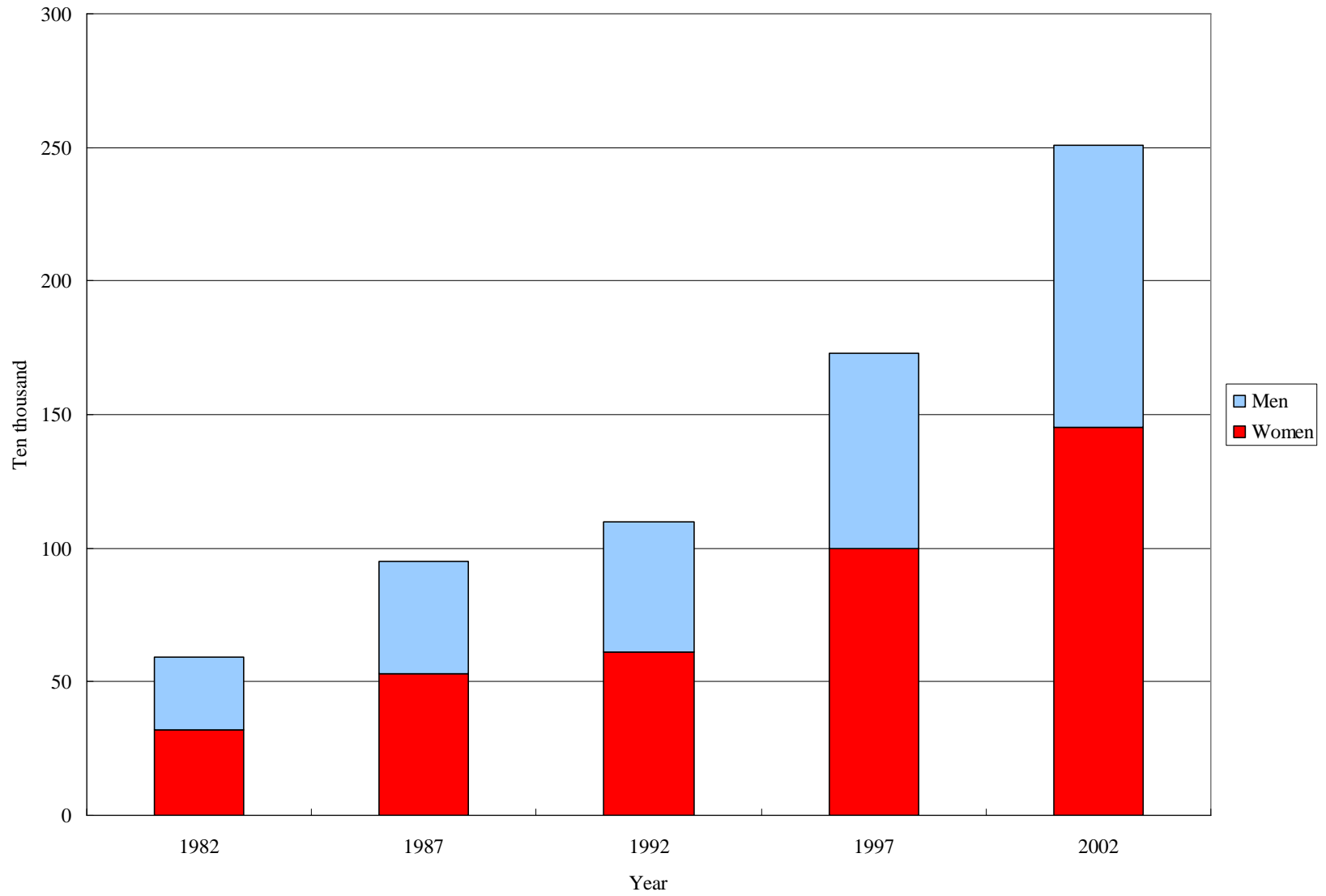
# Crossing Ages

Country	Crossing ages for consumption and labor income $Y(x) > C(x)$	
	Younger Age	Older Age
Japan (1989)	25	59
Japan (1994)	26	59
Japan (1999)	27	59
Japan (2004)	28	59
US (2000)	26	56
Taiwan (1998)	24	56
Indonesia (1996)	28	58
Thailand (1996)	26	59
Costa Rica (2004)	24	56

# Production dynamics

- Freeters and Neeters
- Changes in tenure over time
- Changes in average mandatory retirement

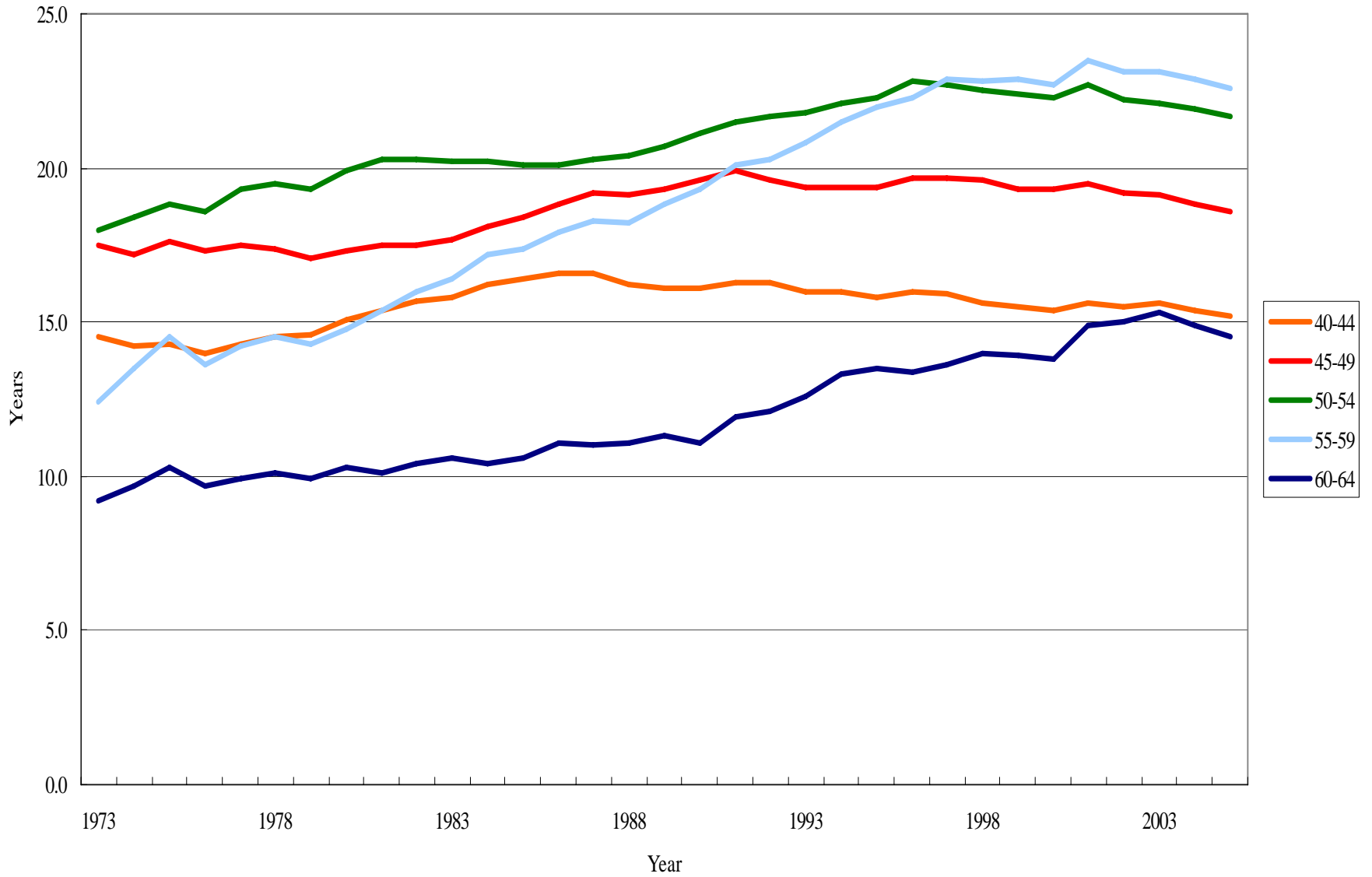
# Number of Freeter and Neets



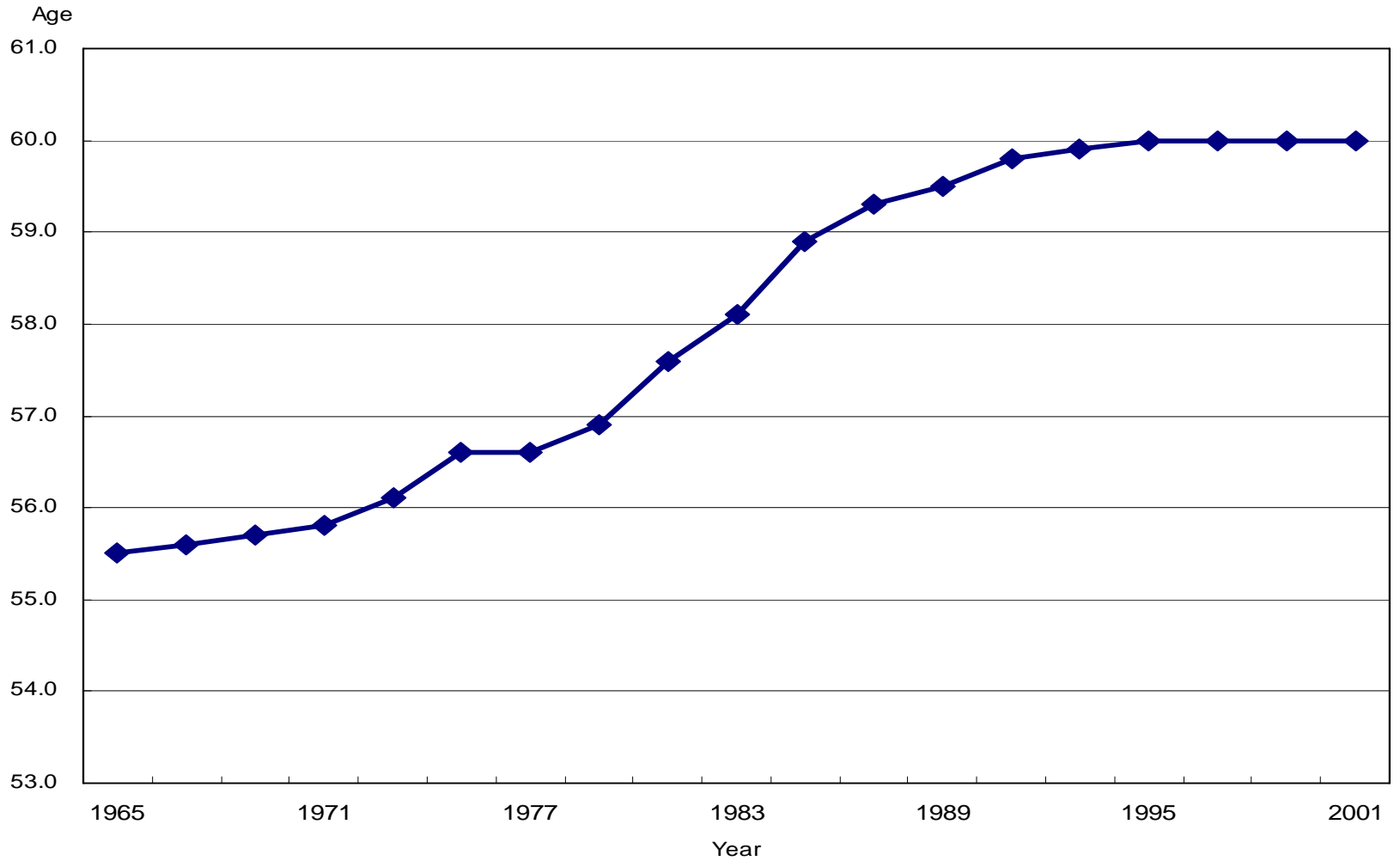
**30%, 50%, 70%**

**within 3 years after graduation**

Average tenure (Men)

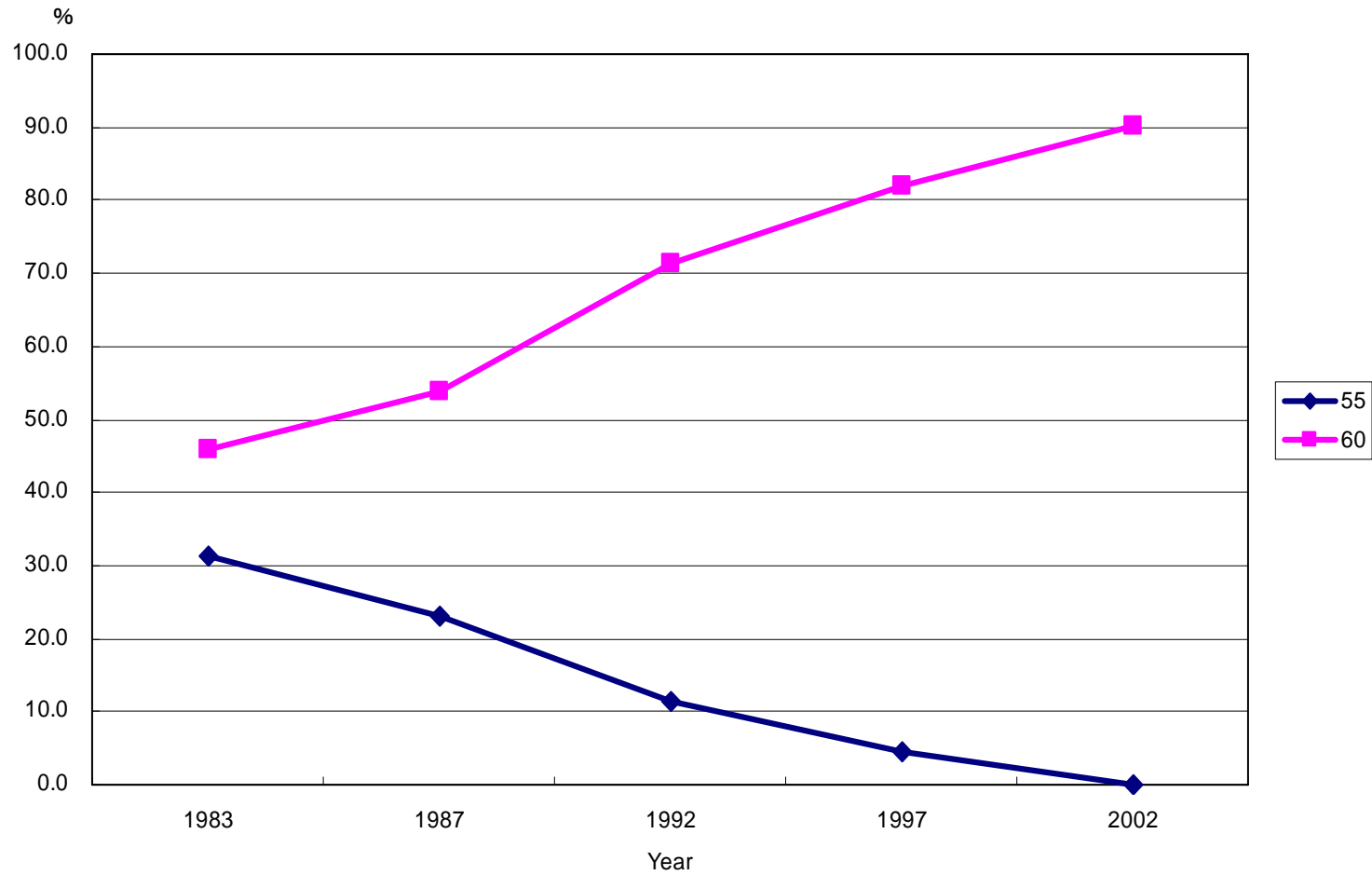


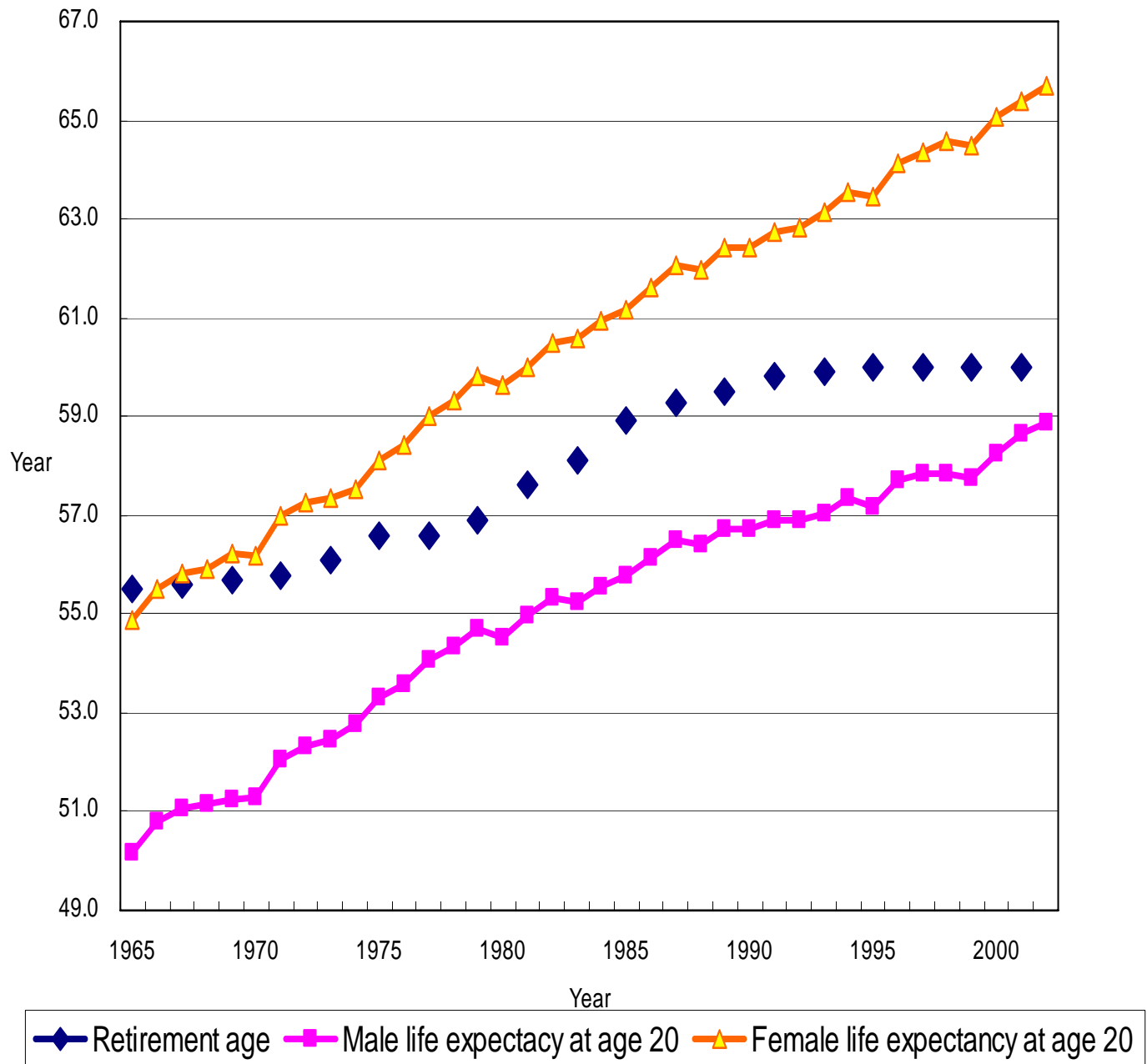
# Average age of mandatory retirement in large firms





# Percent of firms having mandatory retirement age





# **New Law in 2006**

**Retirement age raised to 65**

# Social Security System

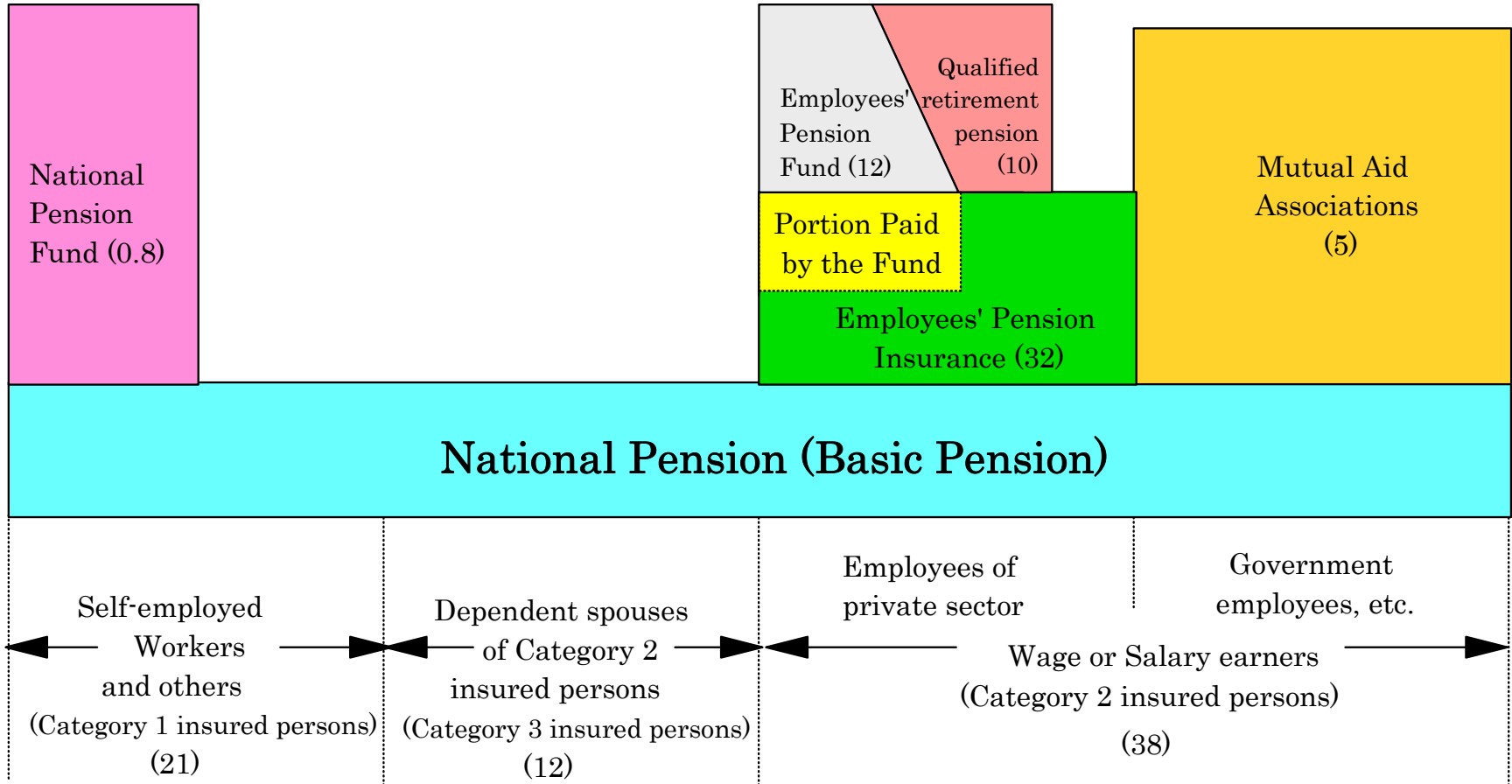
- Universal coverage in 1961
- Occupation-specific, fragmented.  
Integration problem
- Inter-scheme inequality

# Social Security System

- Pension Schemes (multi-tiered system)
  - Basic pension (BP) :Flat
    - Basic pension is universal coverage that is proportional with their years of contribution regardless of their income level.
  - Employees' pension insurance (EPI):
    - Employees' pension insurance (EPI) is a public pension system for employees in the private sector.
- Health Insurance Plans
- Long-term Care Insurance Scheme (2000)
- Employment Insurance Program

# Structure of Pension System (insured persons or members in million)

March 31, 2000



(Note) All residents in Japan from 20 to 59 years old are covered by National Pension. Persons who are neither salary earners nor their dependent spouses are Classified as Category 1 insured persons.

# Japan's two major crises in 2007

Baby boomers will be retiring.

Women's pension rights.

More than 5,000 insurers in  
Japan

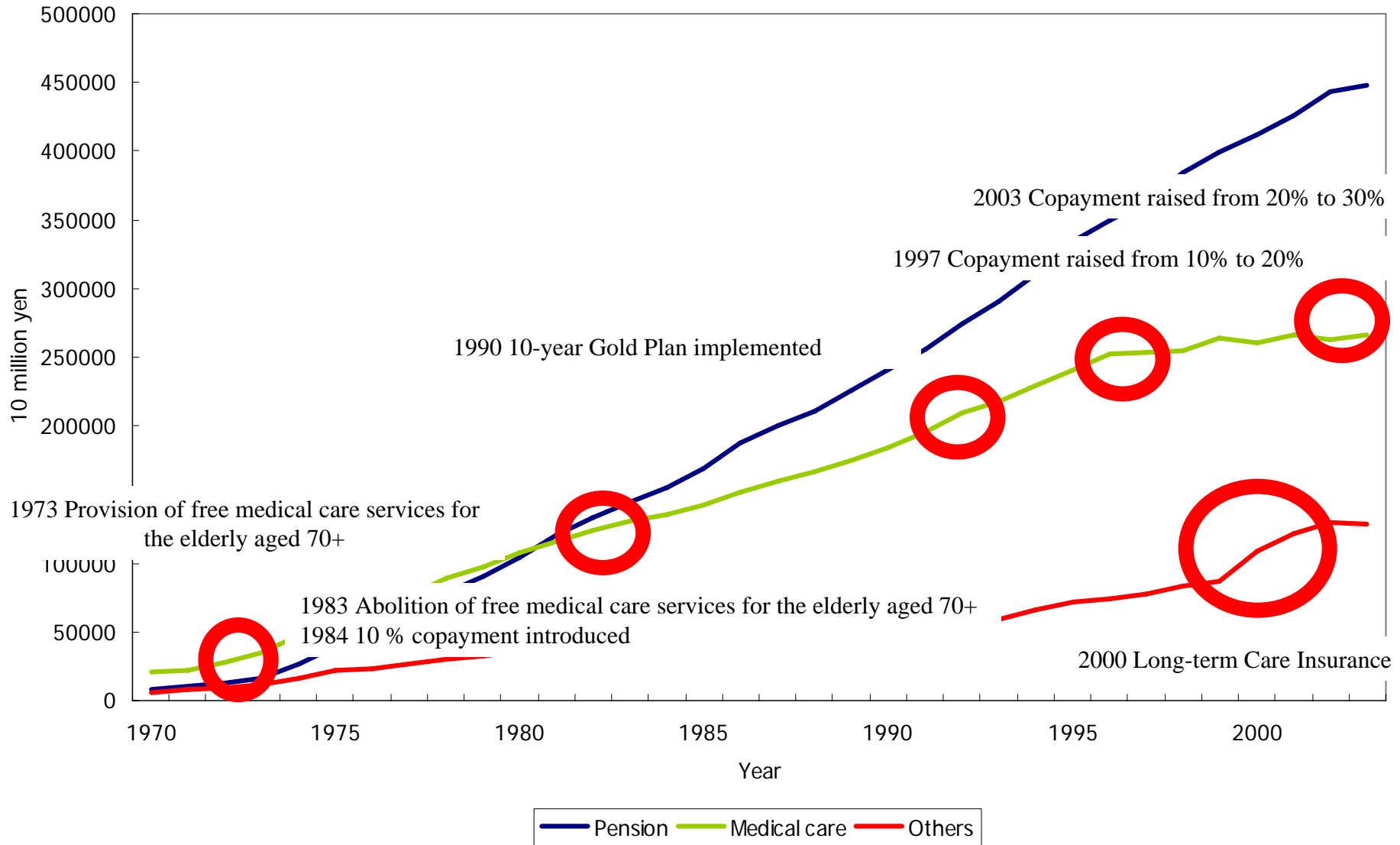
National Health Insurance Scheme,  
LTCI

Regional differences are substantial



Japan's social security policies  
have been very dynamic ...  
(in response to age structural shifts)

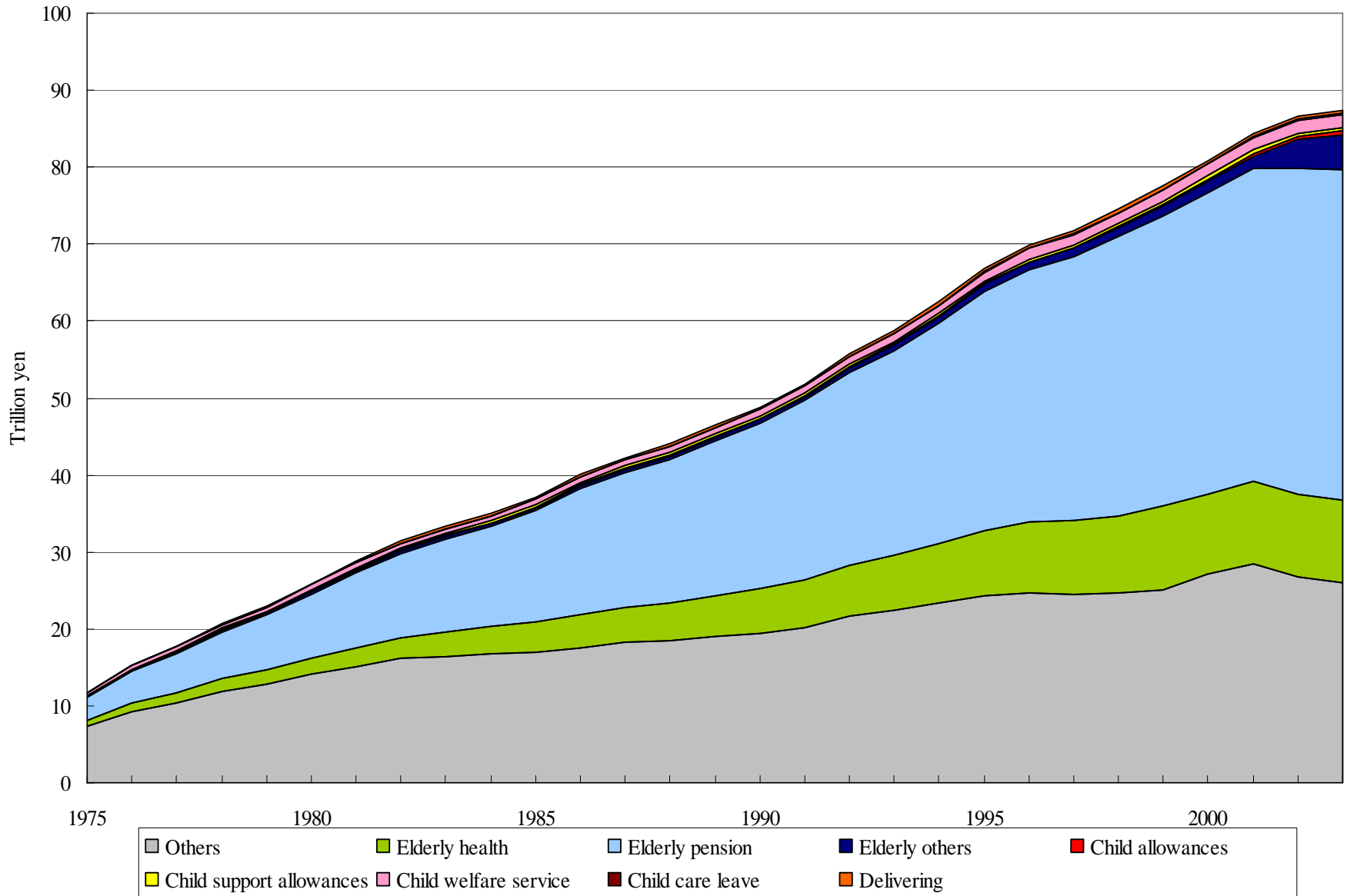
# Change in composition of the Japanese social security system



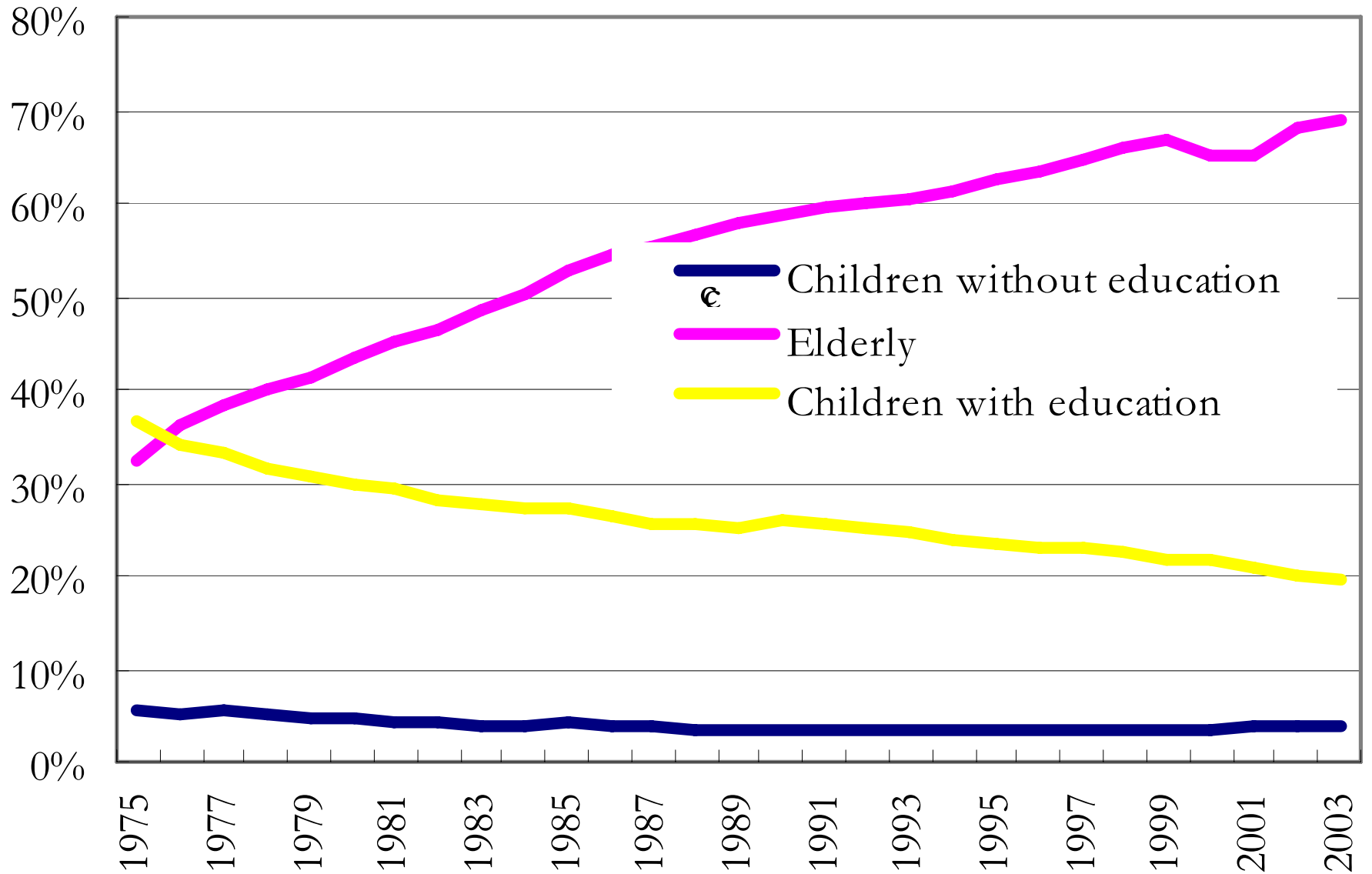
# Minister Inoguchi's favorite assertion:

- Only 3.6% of social security benefits is children-specific; while
- 70.4% of social security benefits is for the elderly (60+)

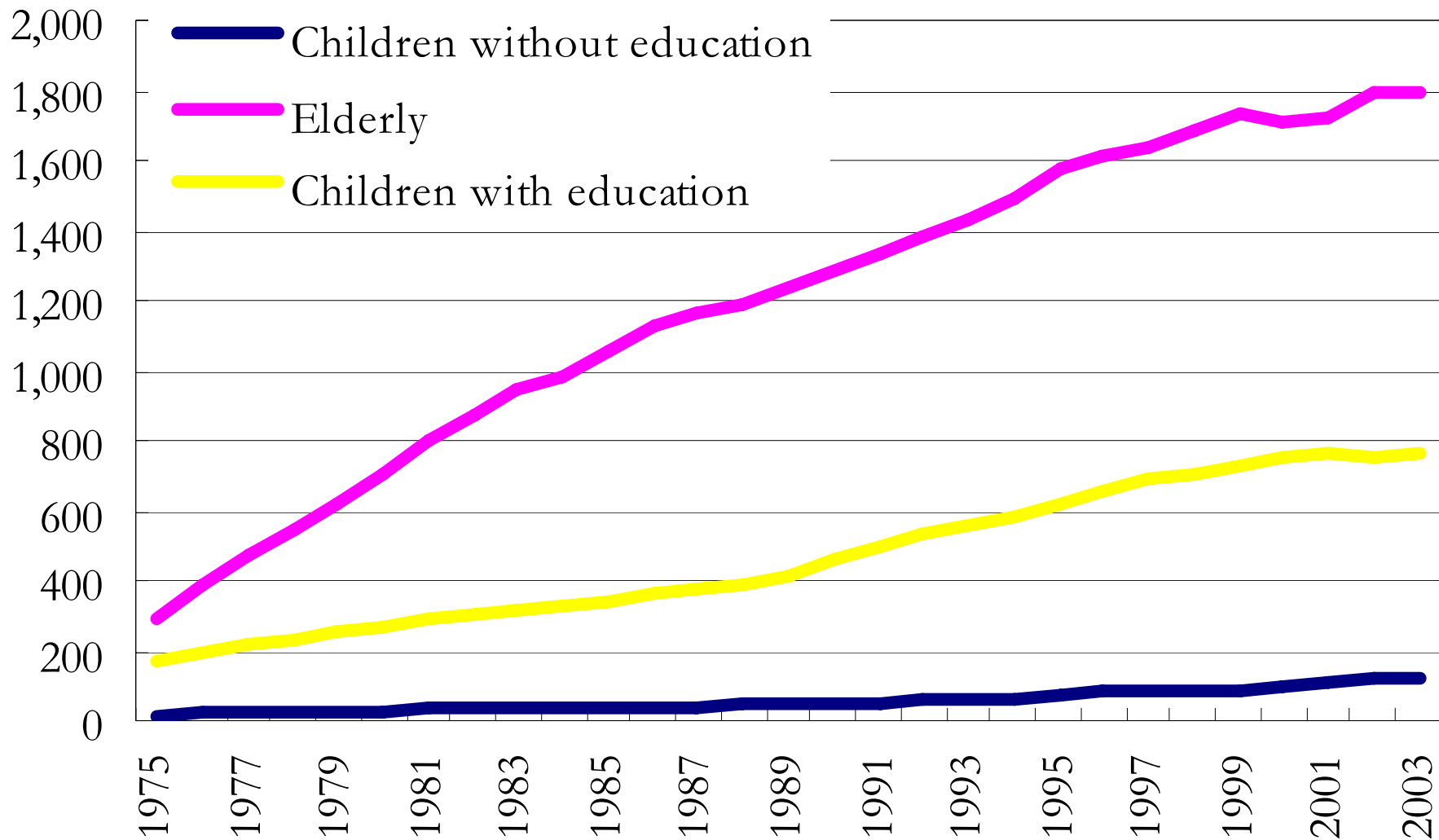
### Change in the social security benefit composition



# Percentage of Social Security Benefits for Children and Elderly



# Annual Per Capita Social Security Benefits (and Education) Paid Out (in Thousand Yen)



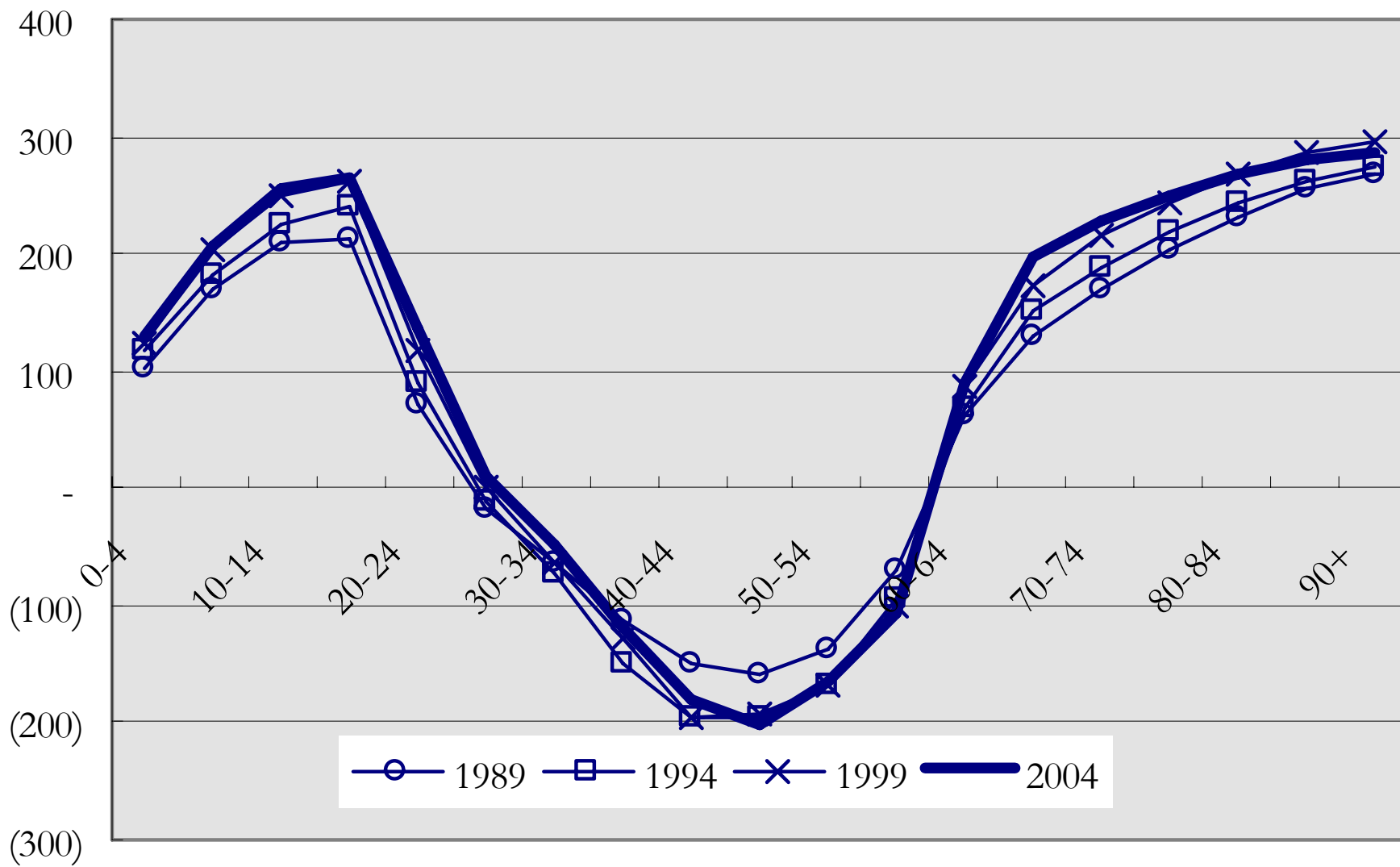
# Ratio of Transfers Received by Elderly/Children Based upon NTA

		1989	1994	1999	2004
Public transfers on health, education, and pension	Aggregates	0.96	1.55	2.07	2.92
	Percapita	1.62	1.95	2.01	2.27
Total transfers, both intervivos and public on health, education, and pension	Aggregates	0.7	1.16	1.55	2.23
	Percapita	1.18	1.46	1.51	1.73

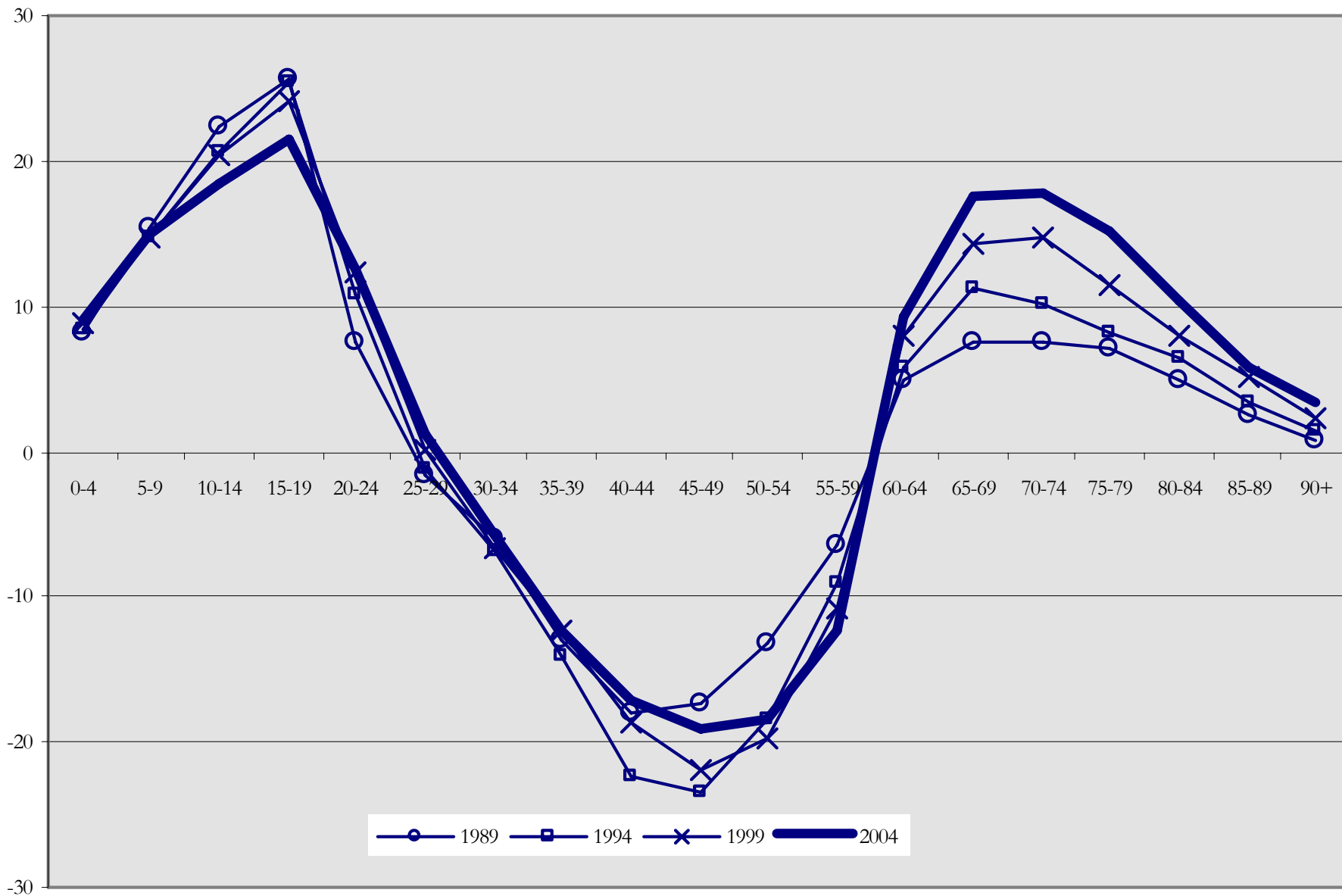
Looking at the issues from the NTA  
window



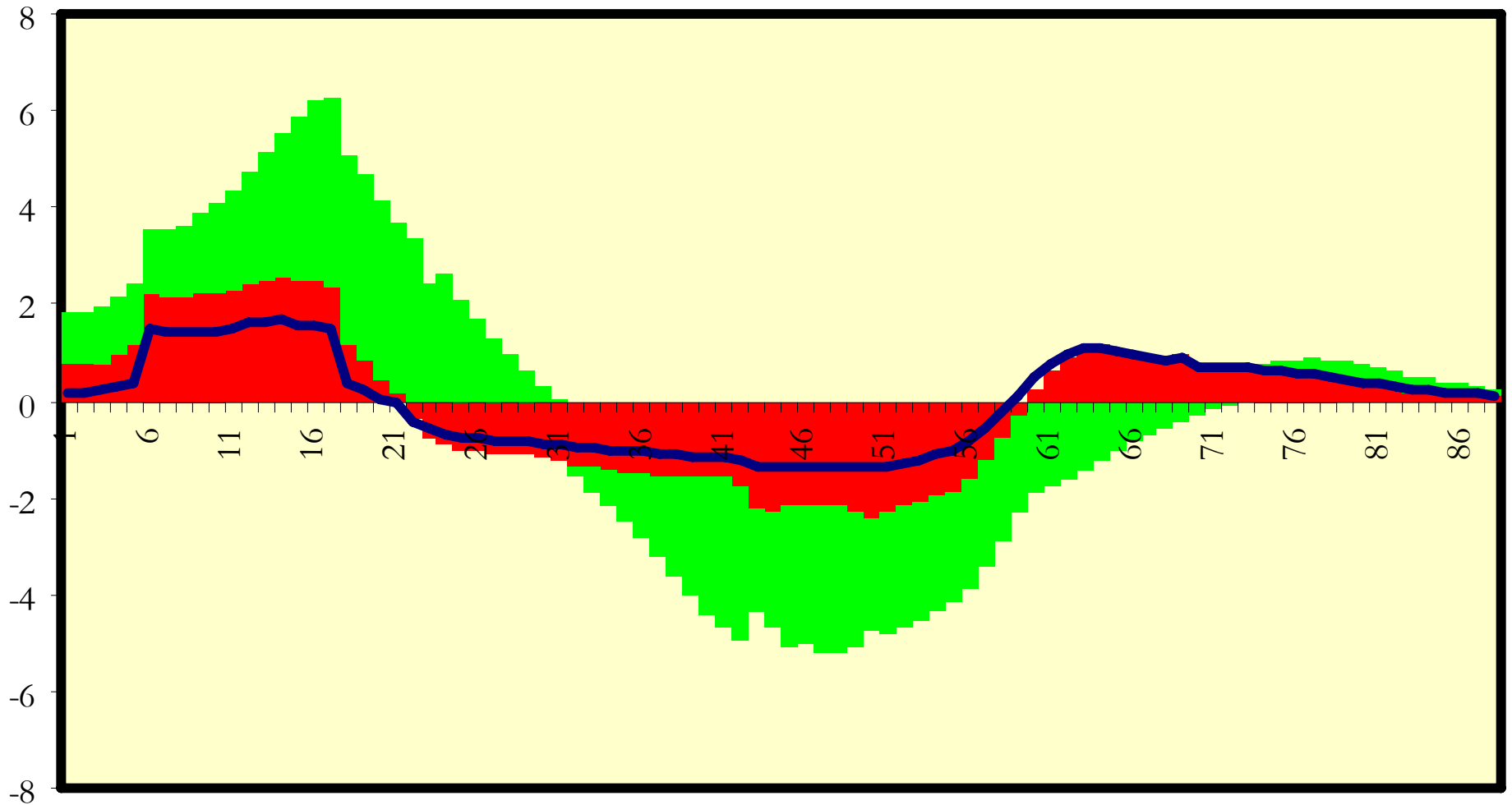
Per Capita Lifecycle Deficits, Nominal Thousand Yen



Population-weighted Lifecycle Deficits, Trillion Yen (Nominal Value)

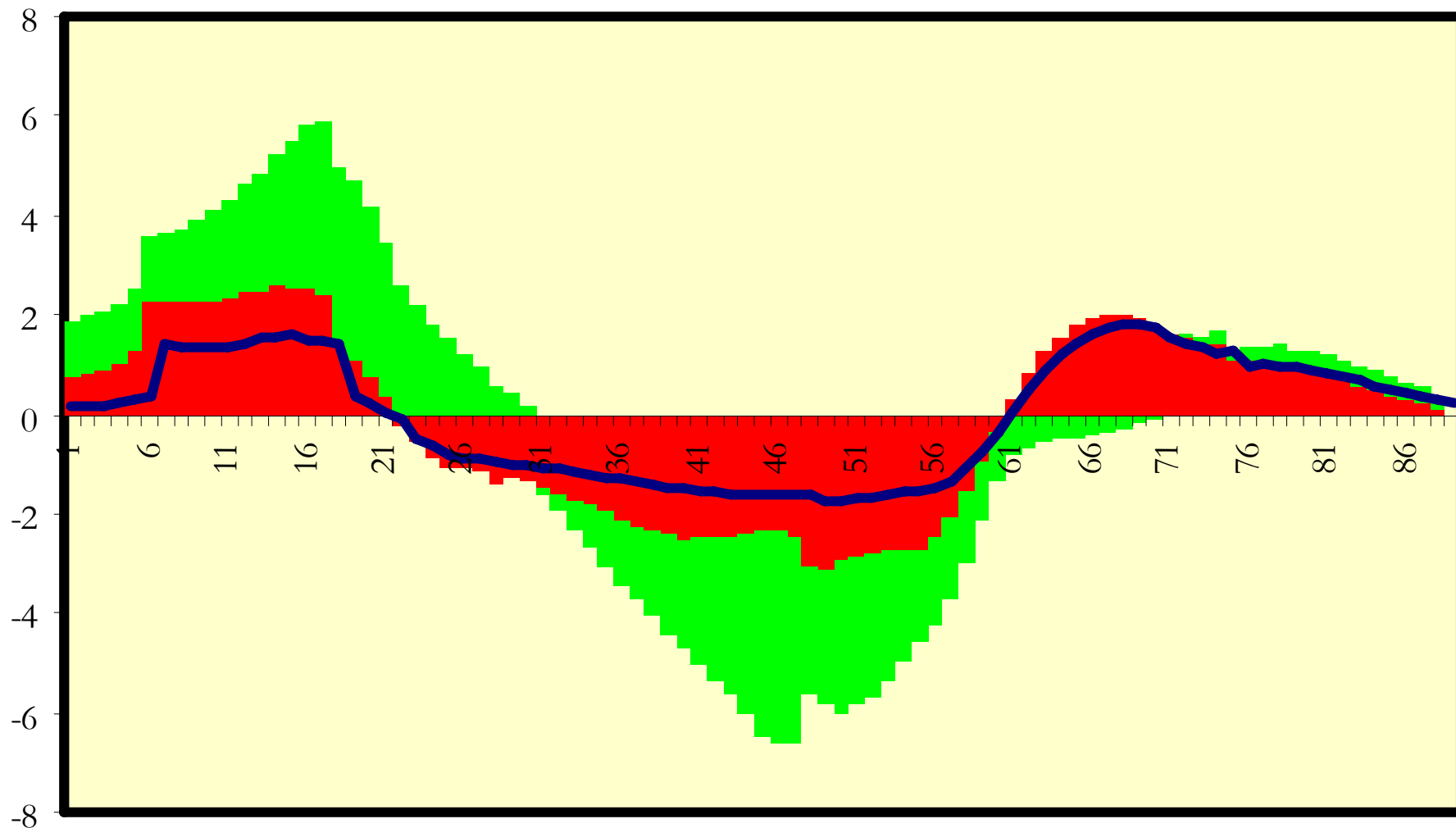


Population-weighted Net Transfers Flow in Trillion Yen, 1989



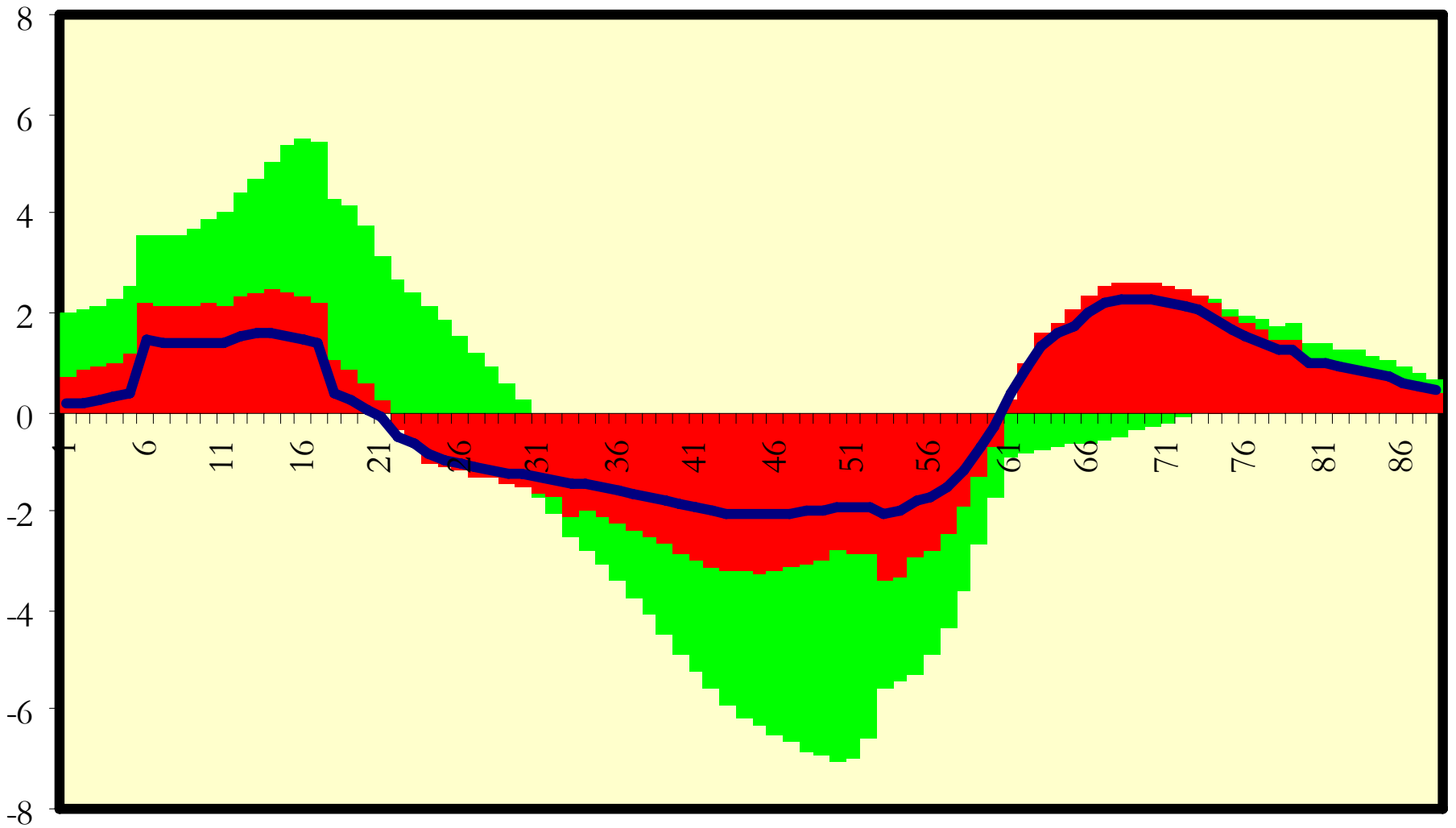
Public Transfers Private Transfers Public Education, Health, and Pension

Population-weighted Net Transfers Flow in Trillion Yen, 1994



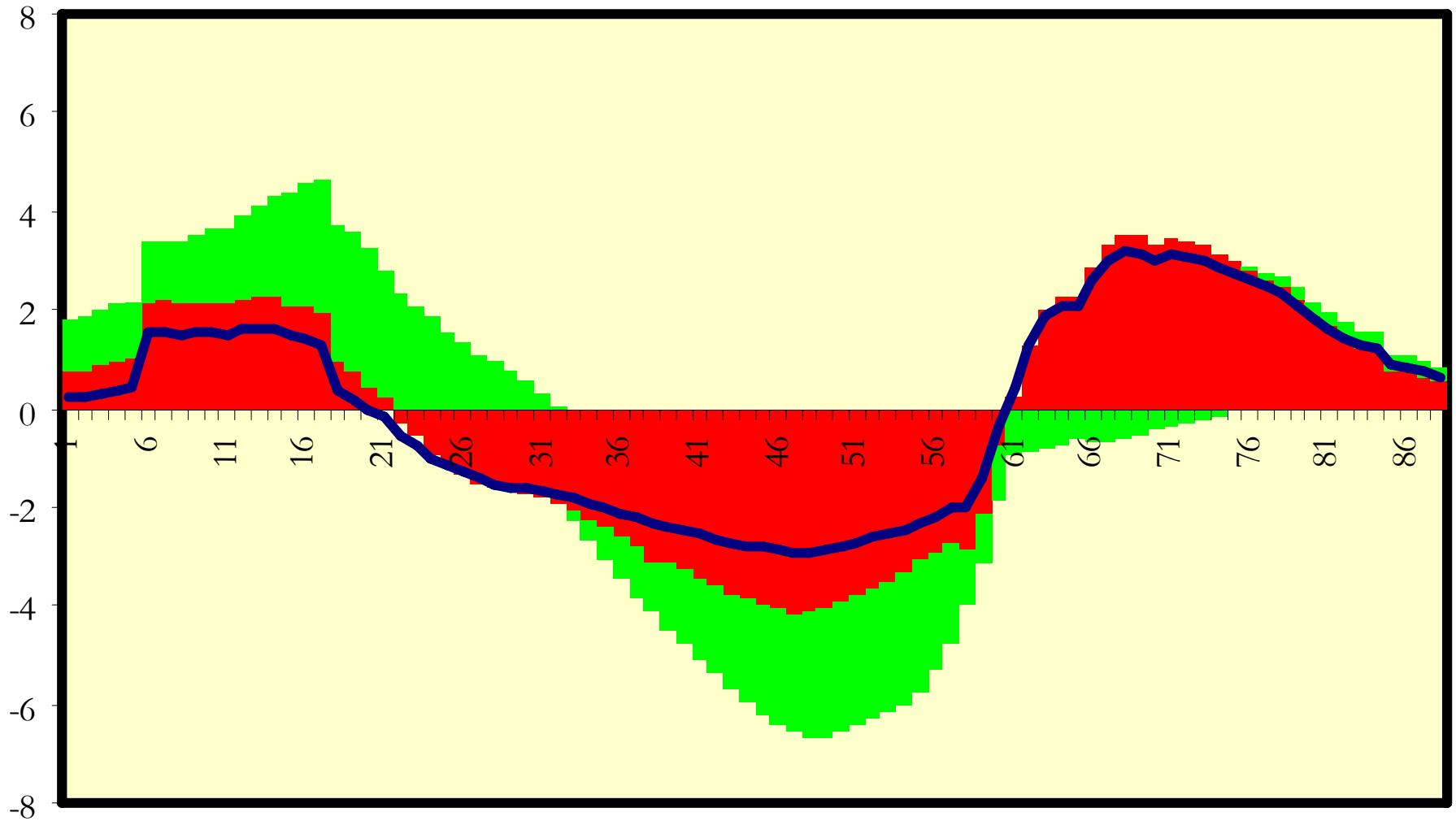
Public Transfers Private Transfers Public Education, Health, and Pension

Population-weighted Net Transfers Flow in Trillion Yen, 1999



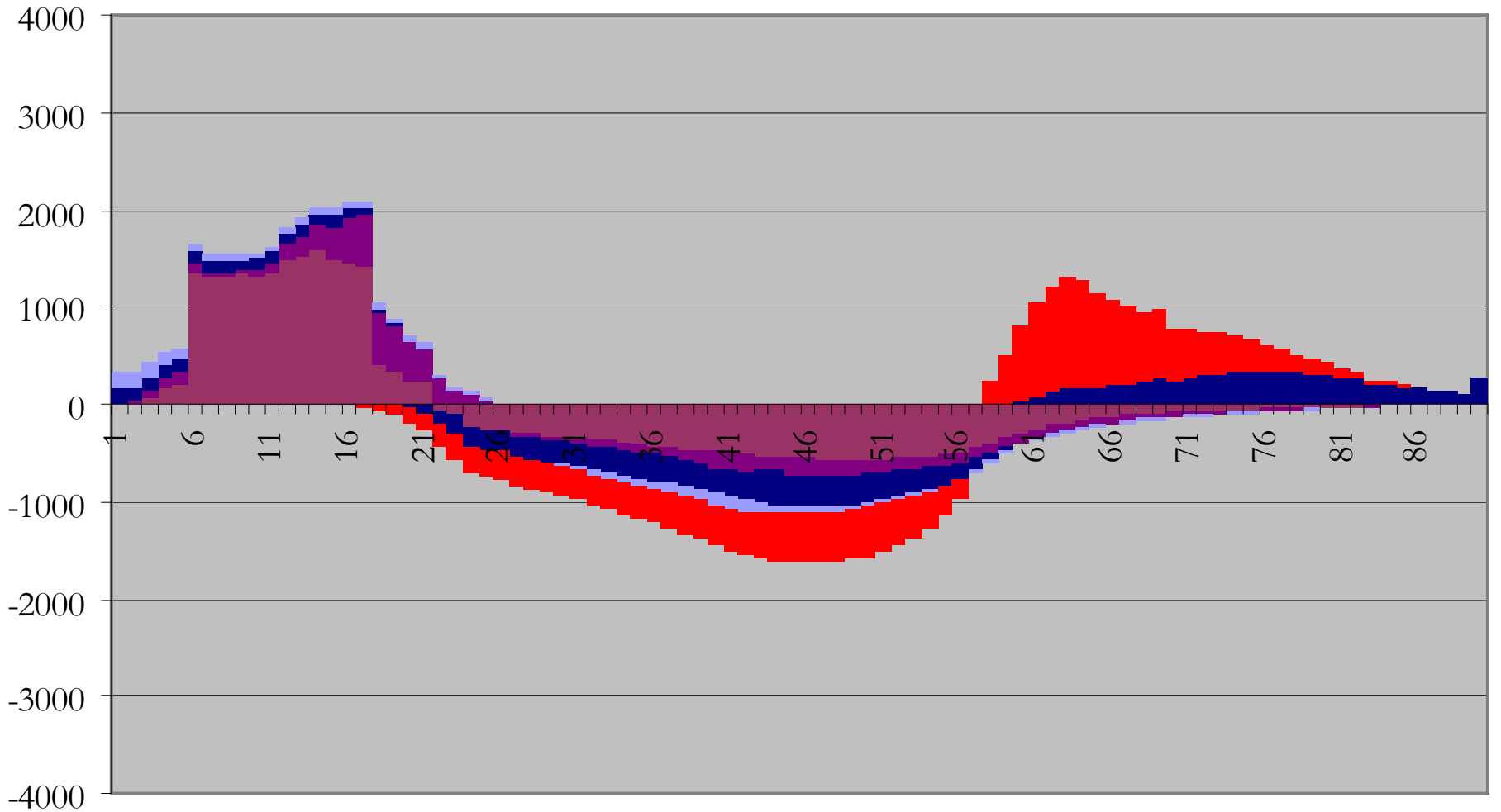
Public Transfers Private Transfers Public Education, Health, and Pension

Population-weighted Net Transfer Flow in Trillion Yen, 2004



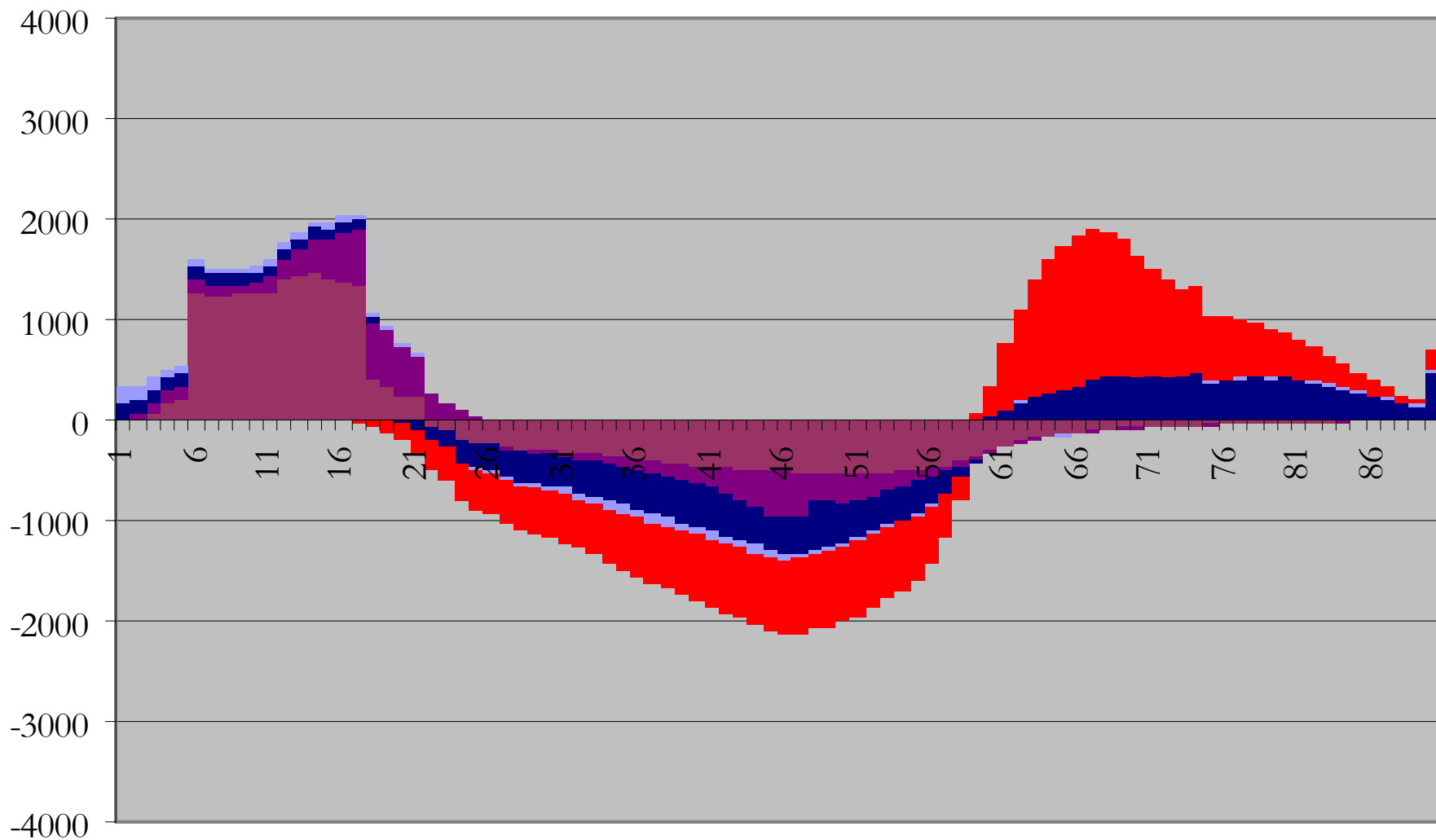
Public Transfers Private Transfers Public Education, Health, and Pension

Net Transfer Flow, by Sector, Trillion Yen, 1989



Public Education Private Education Public Health Private Health Public Pension

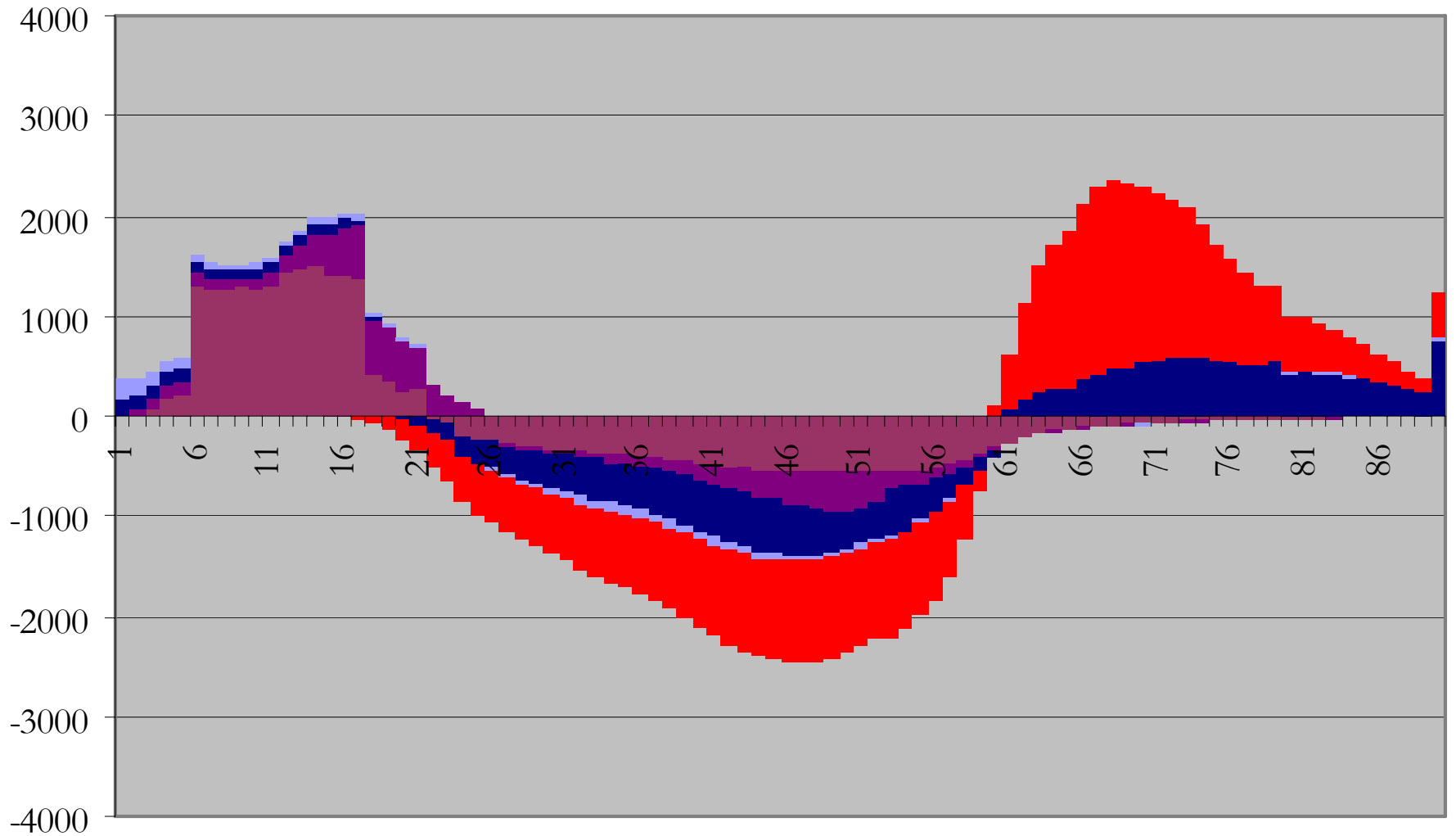
Net Transfer Flow, by Sector, Trillion Yen, 1994



Public Education Private Education Public Health Private Health Public Pension

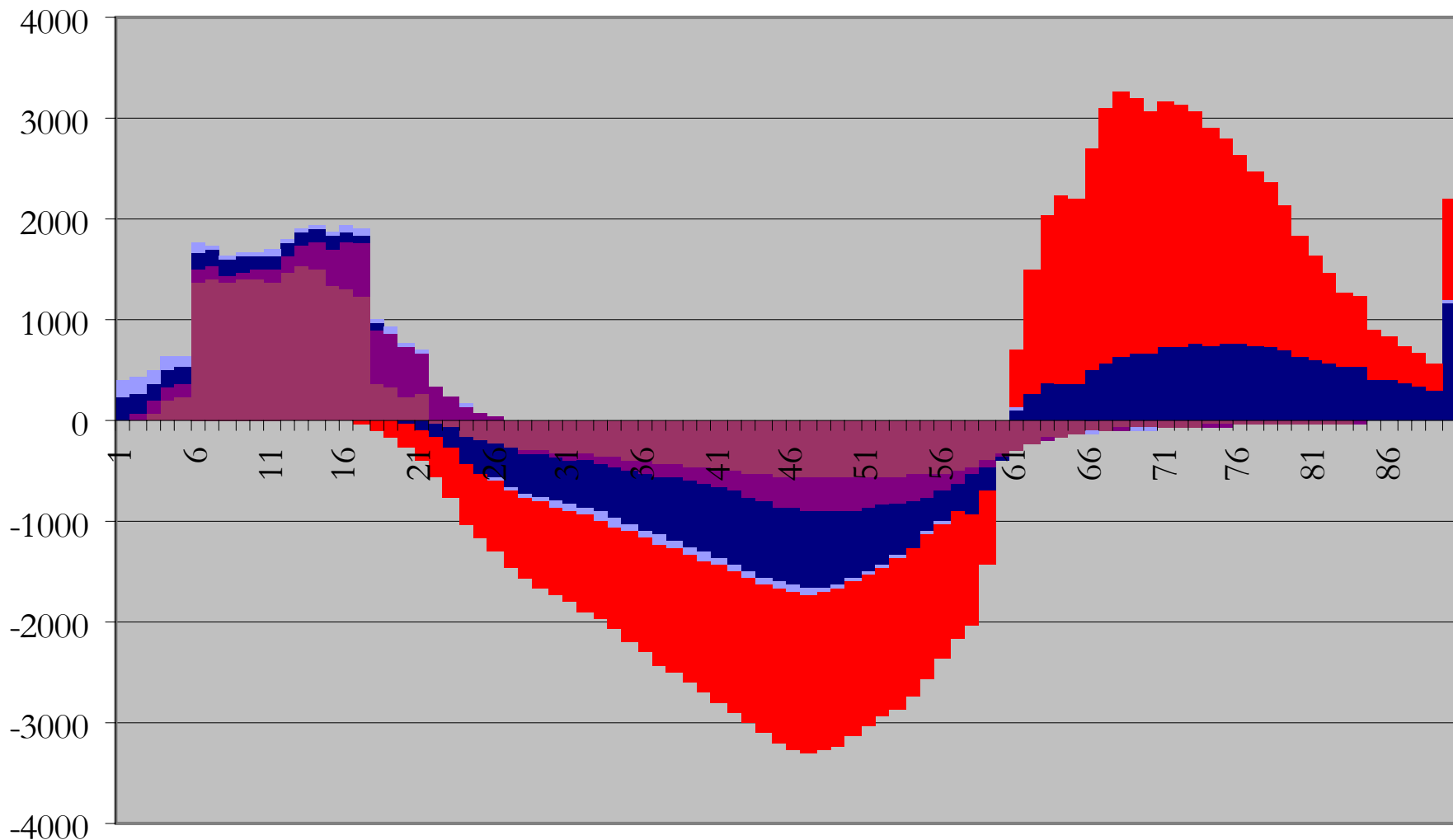


# Net Transfer Flow, by Sector, Trillion Yen, 1999

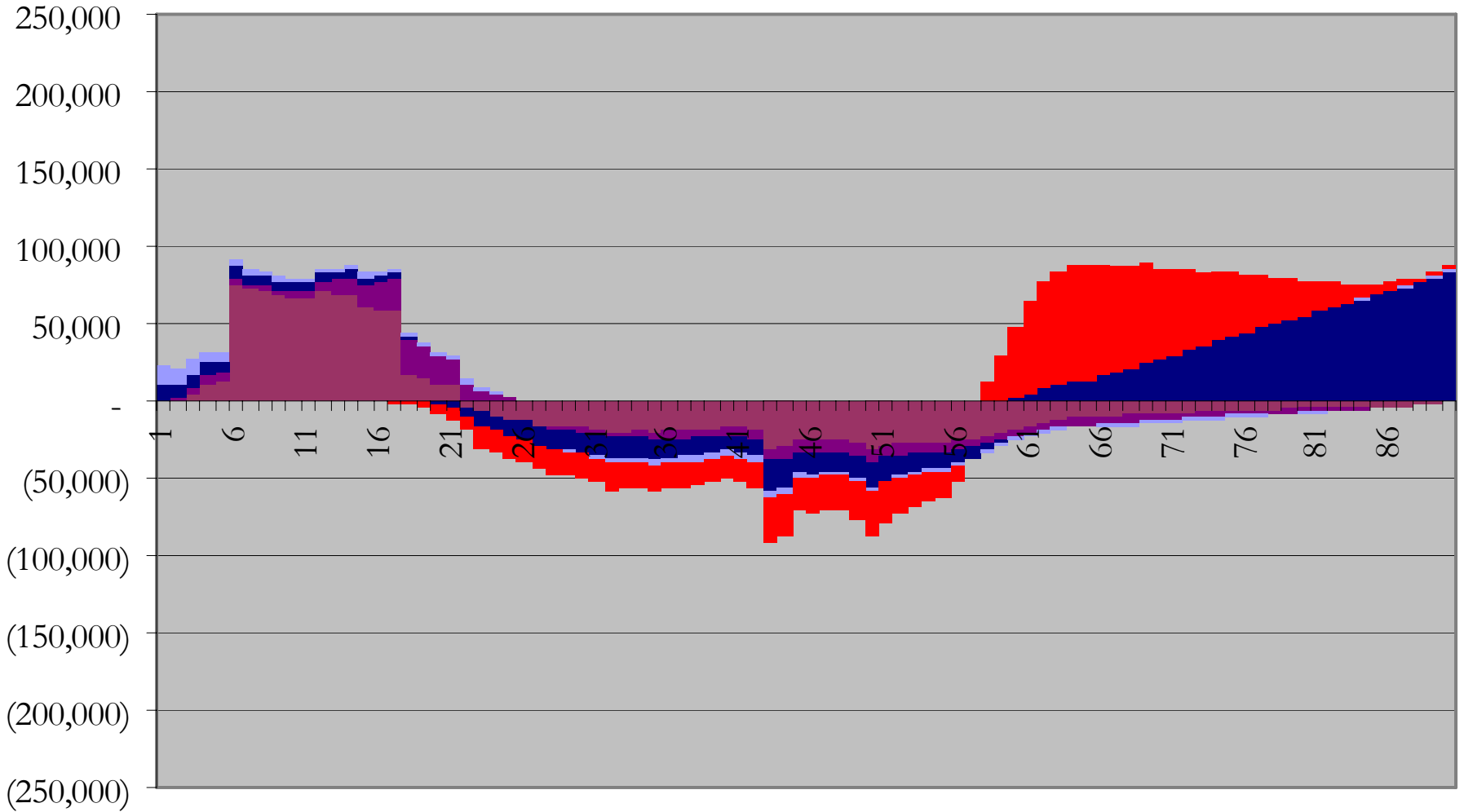


Public Education Private Education Public Health Private Health Public Pension

# Net Transfer Flow, by Sector, Trillion Yen, 2004

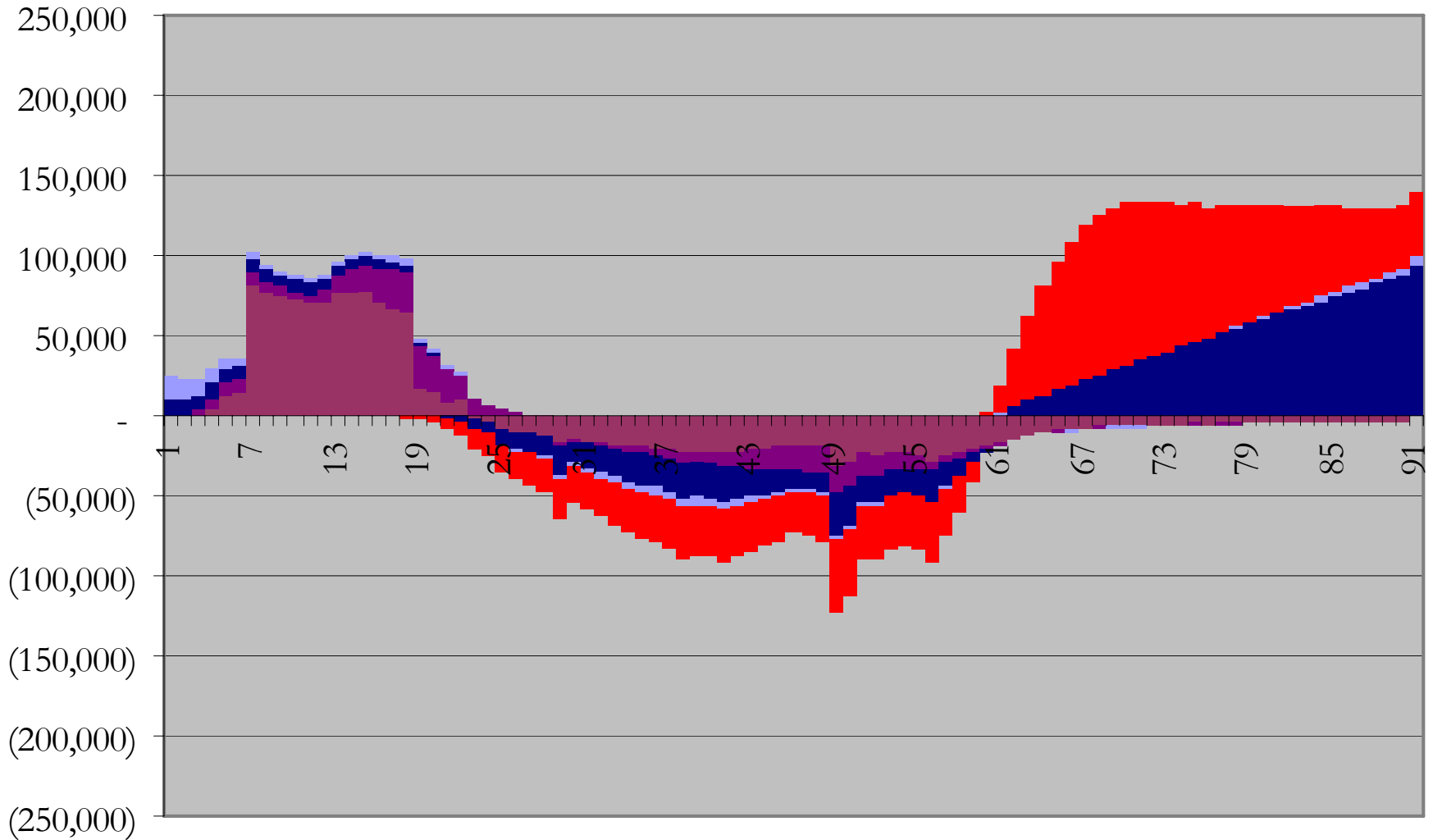


Per Capita Net Transfer Flow, by Sector, Yen, 1989



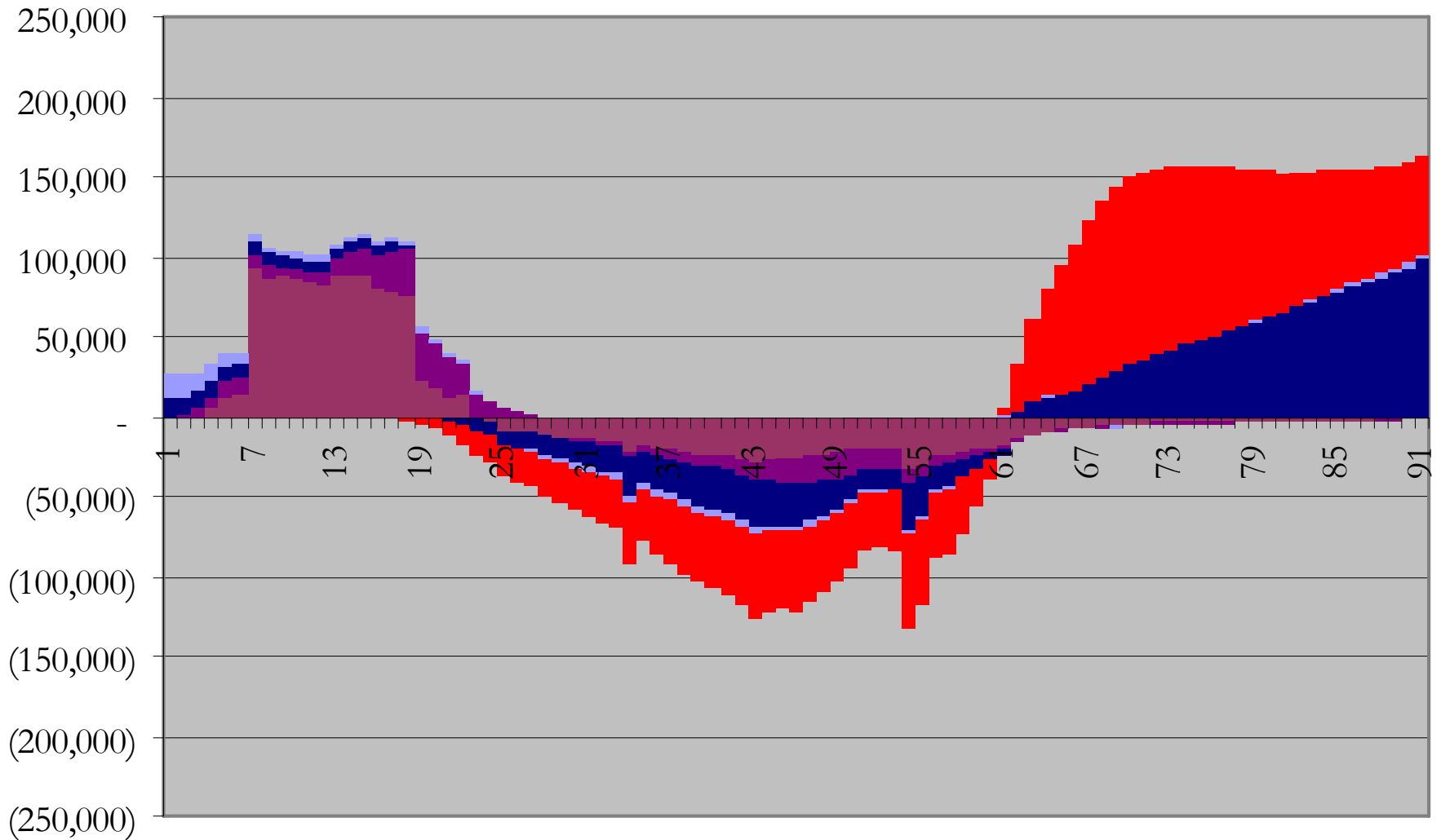
Public Education Private Education Public Health Private Health Public Pension

# Per Capita Net Transfer Flow, by Sector, Yen, 1994

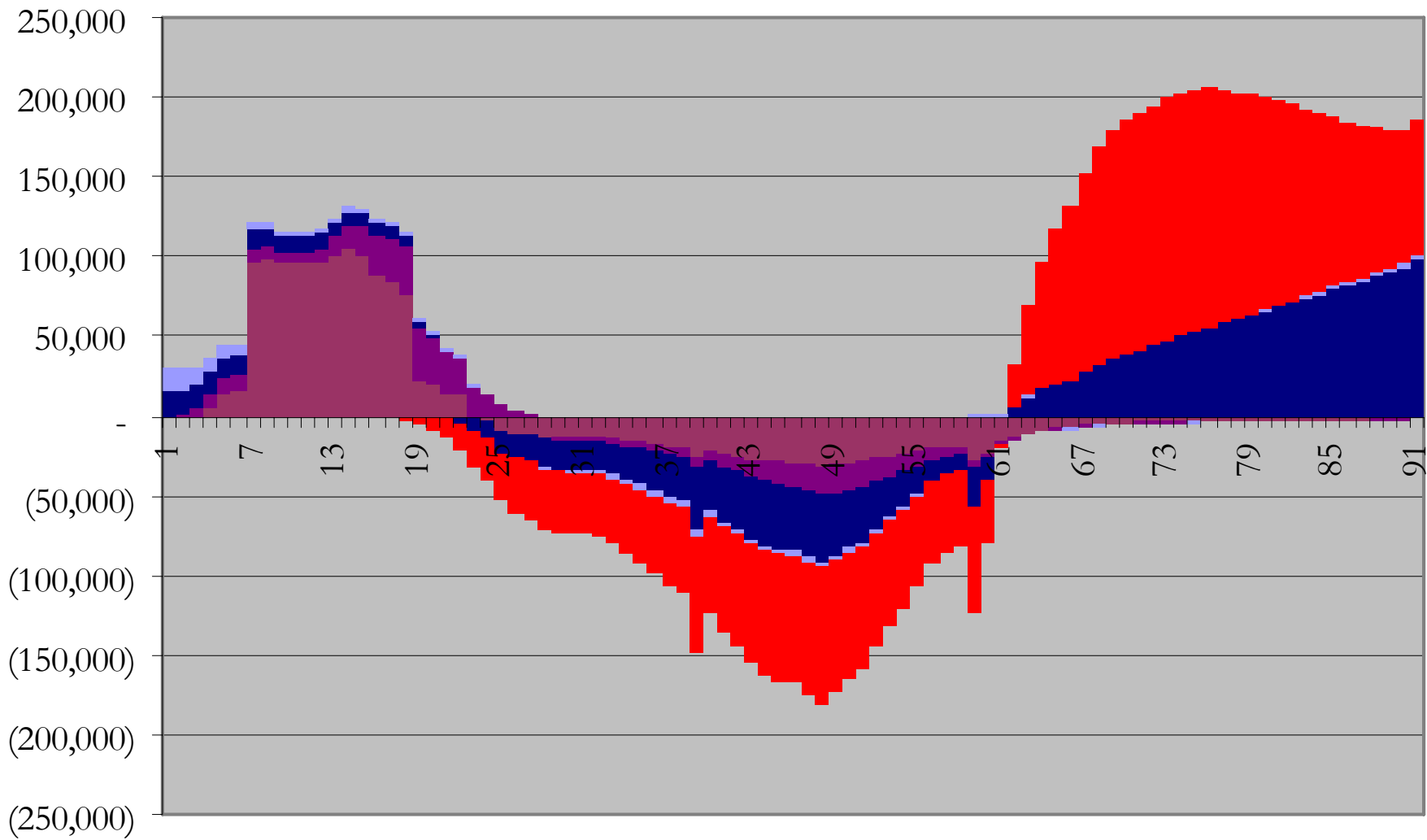


Public Education Private Education Public Health Private Health Public Pension

# Per Capita Net Transfer Flow, by Sector, Yen, 1999



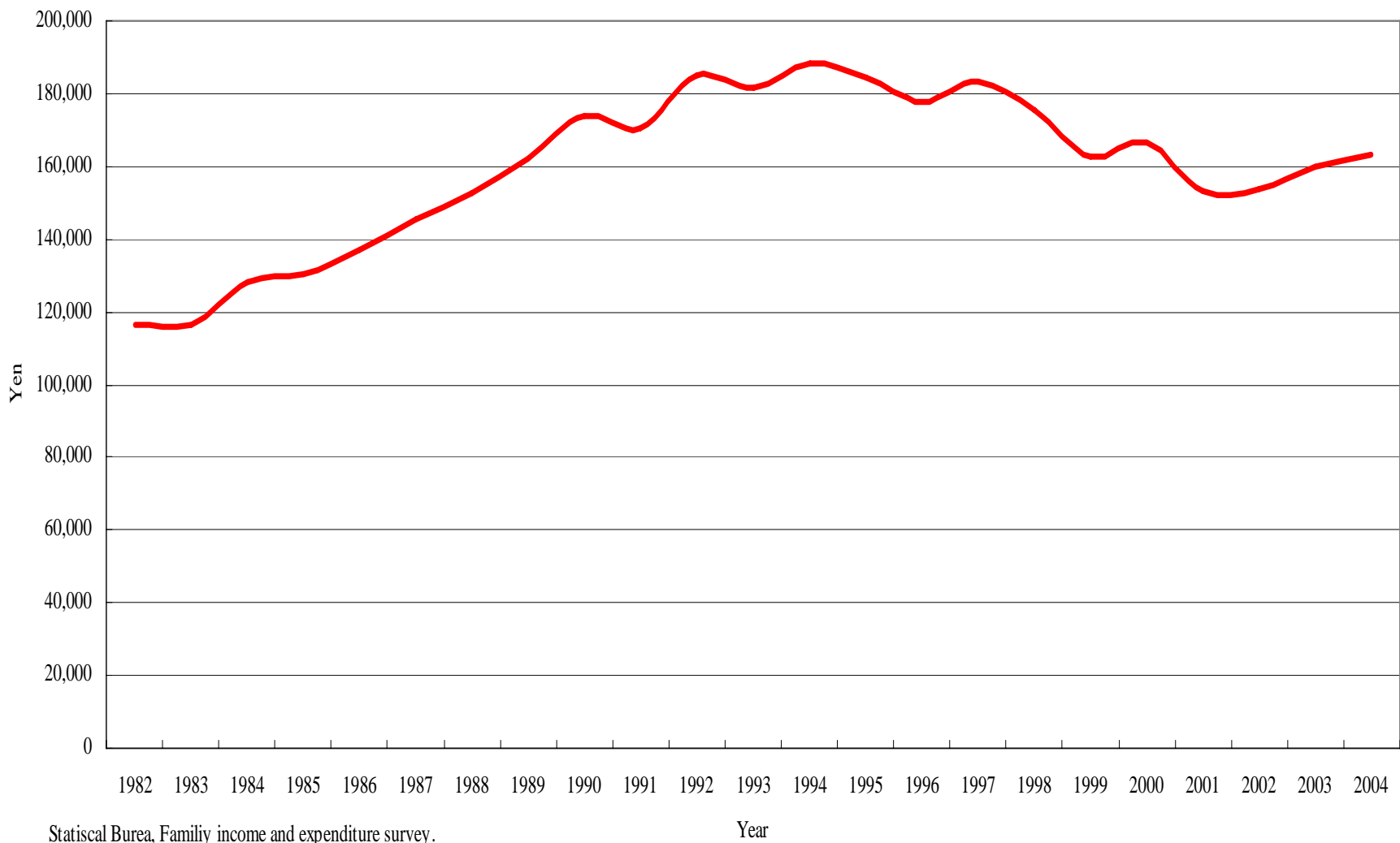
Per Capita Net Transfer Flow, by Sector, Yen, 2004



# Private Education Transfers

Underestimated?

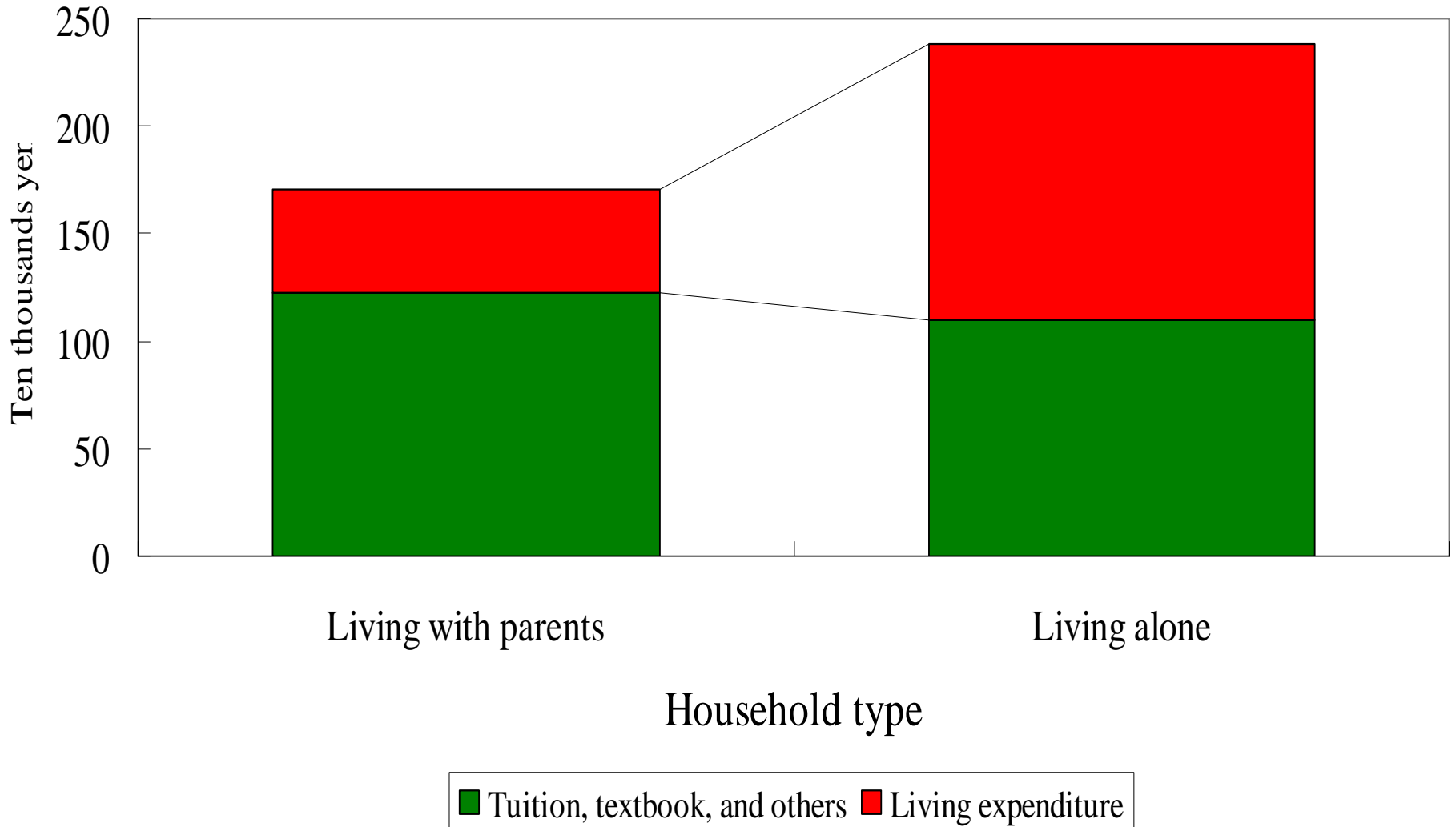
### Household education expenditure



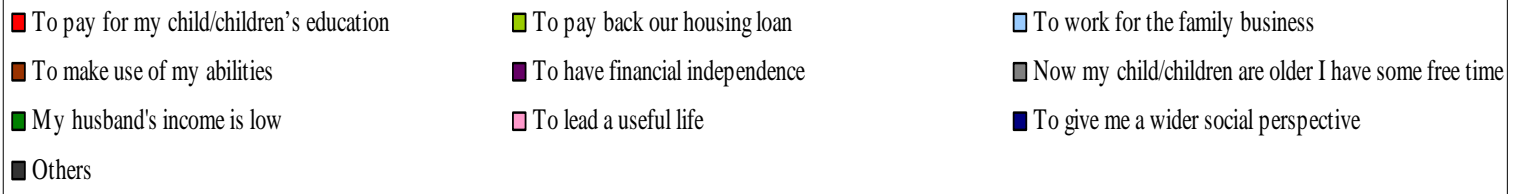
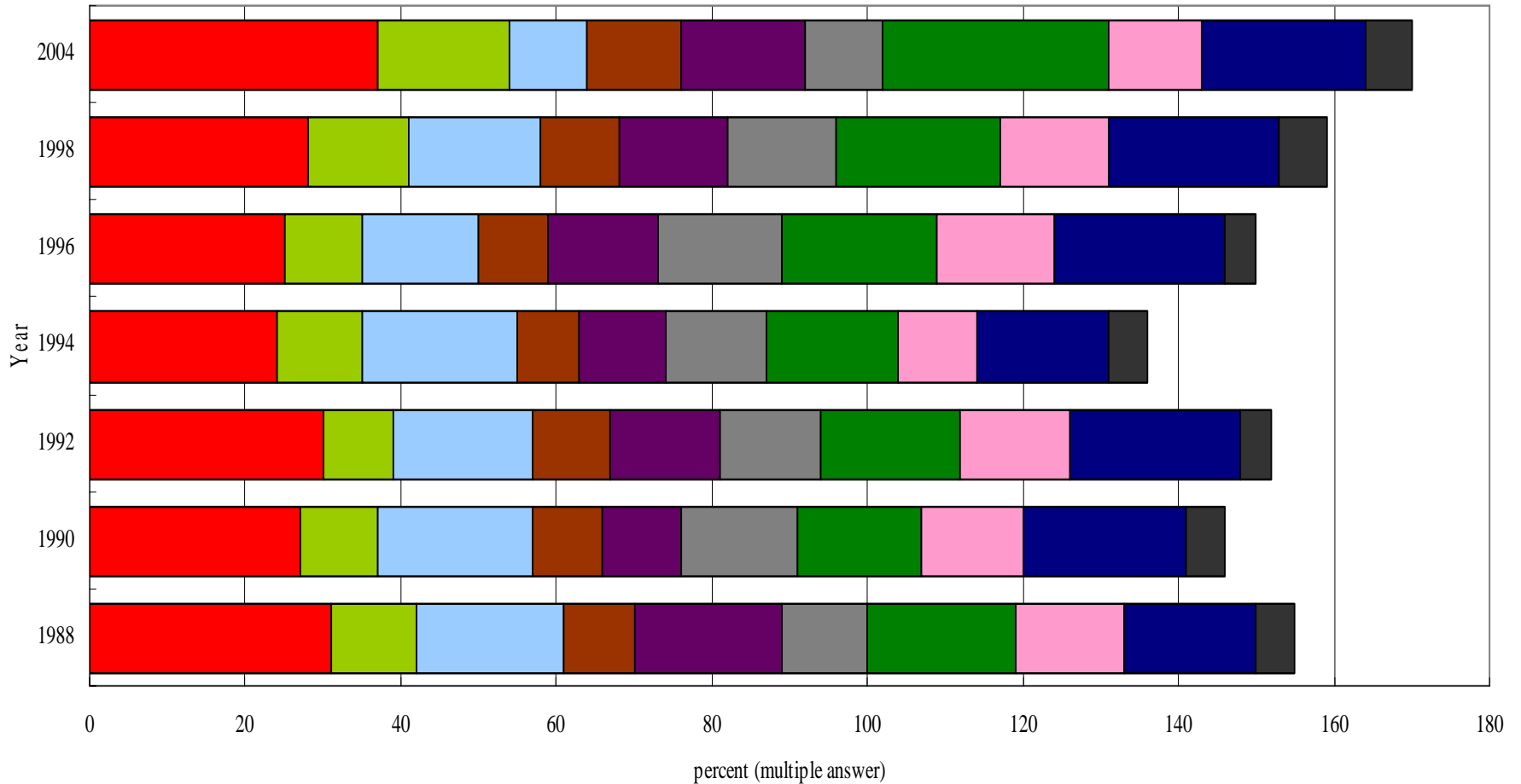
Statistical Bureau, Family income and expenditure survey.



# Living cost for university student by type of household, Japan, 2002.



# Reasons for working among married women aged 20-49, Japan, 1988-2004

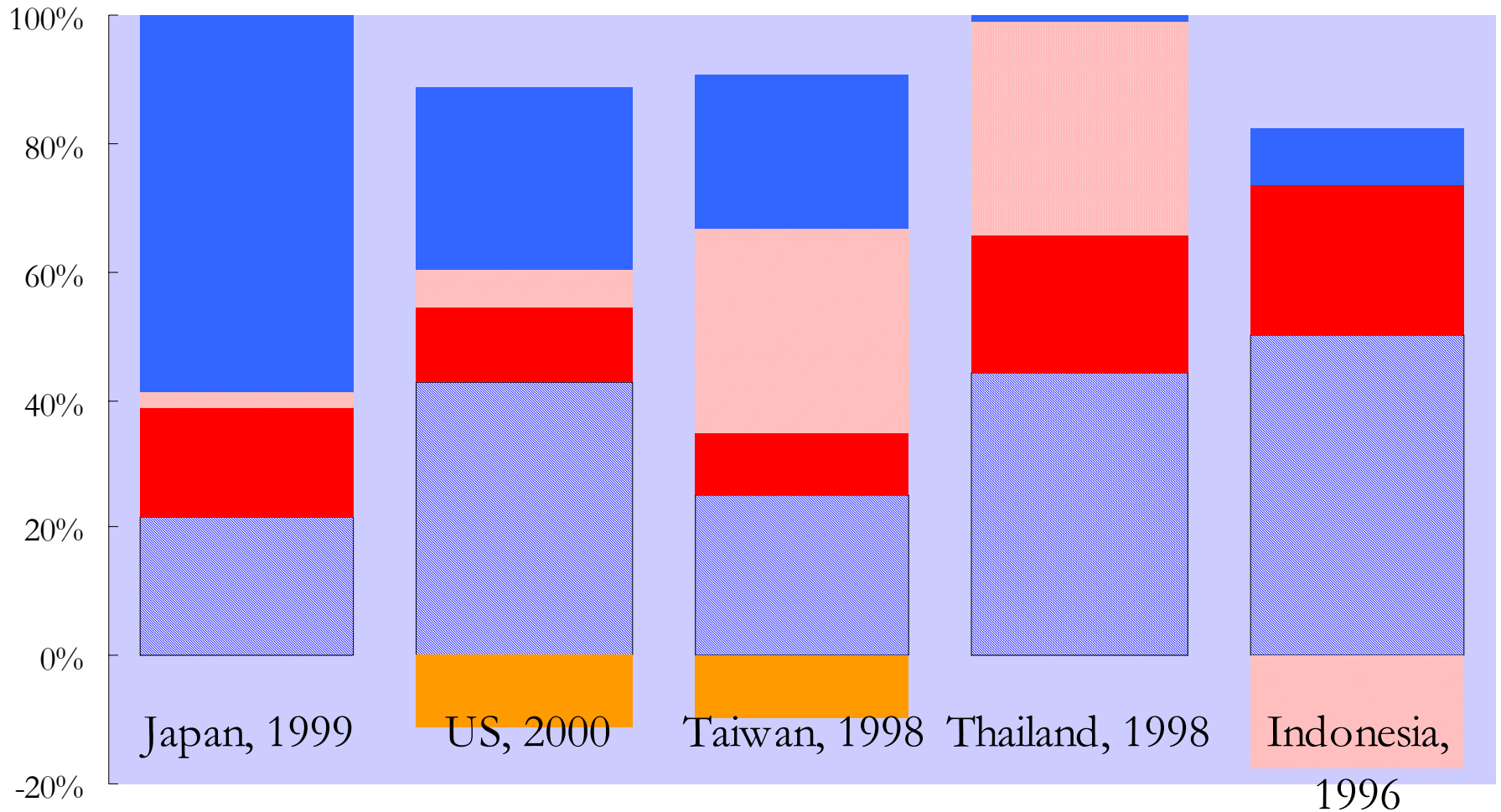


# **Rural Areas vs. Urban Areas**



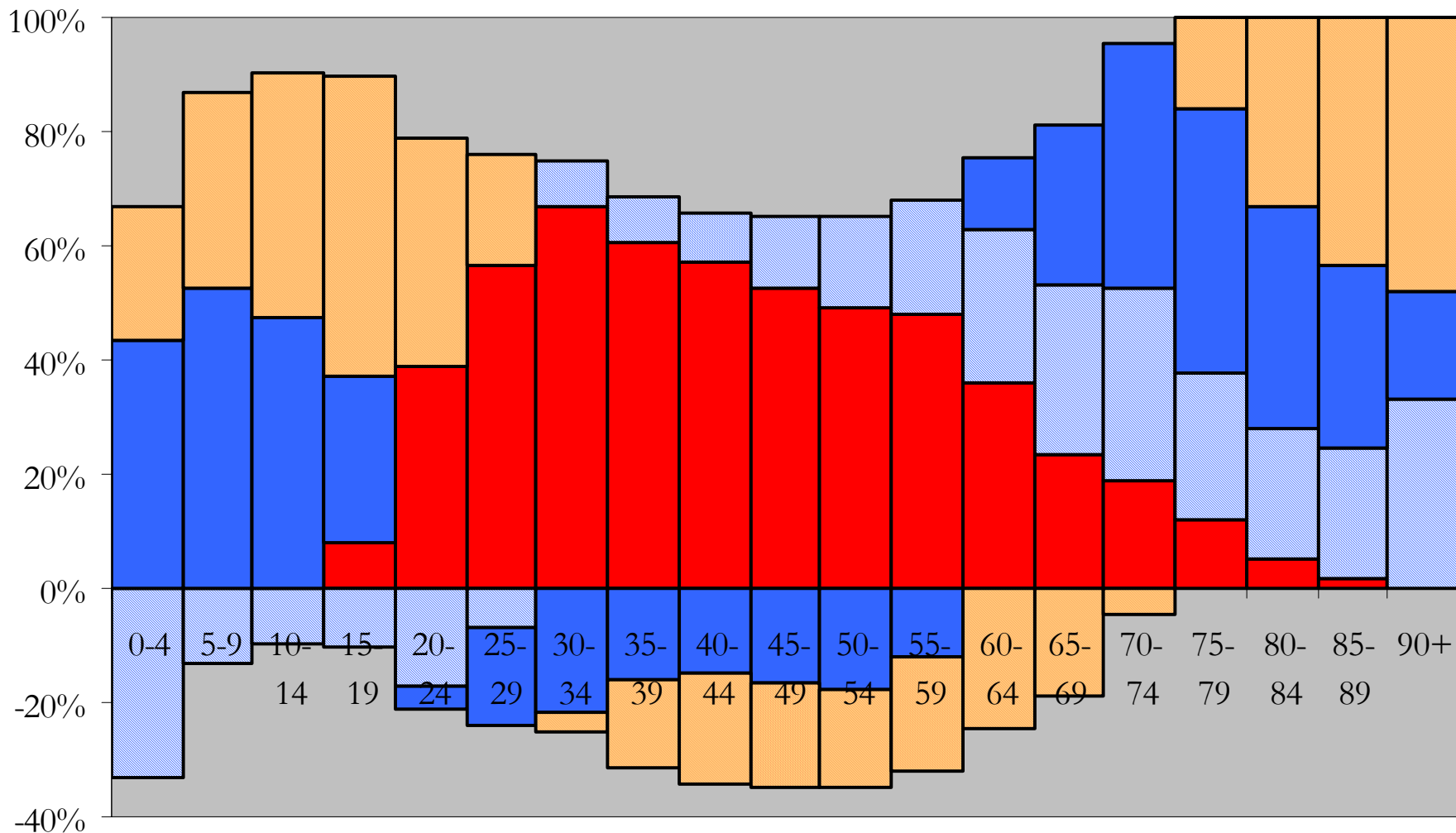
**Full-time vs. Part-time**

# Finance of consumption, old dependents (age 65+) of selected countries



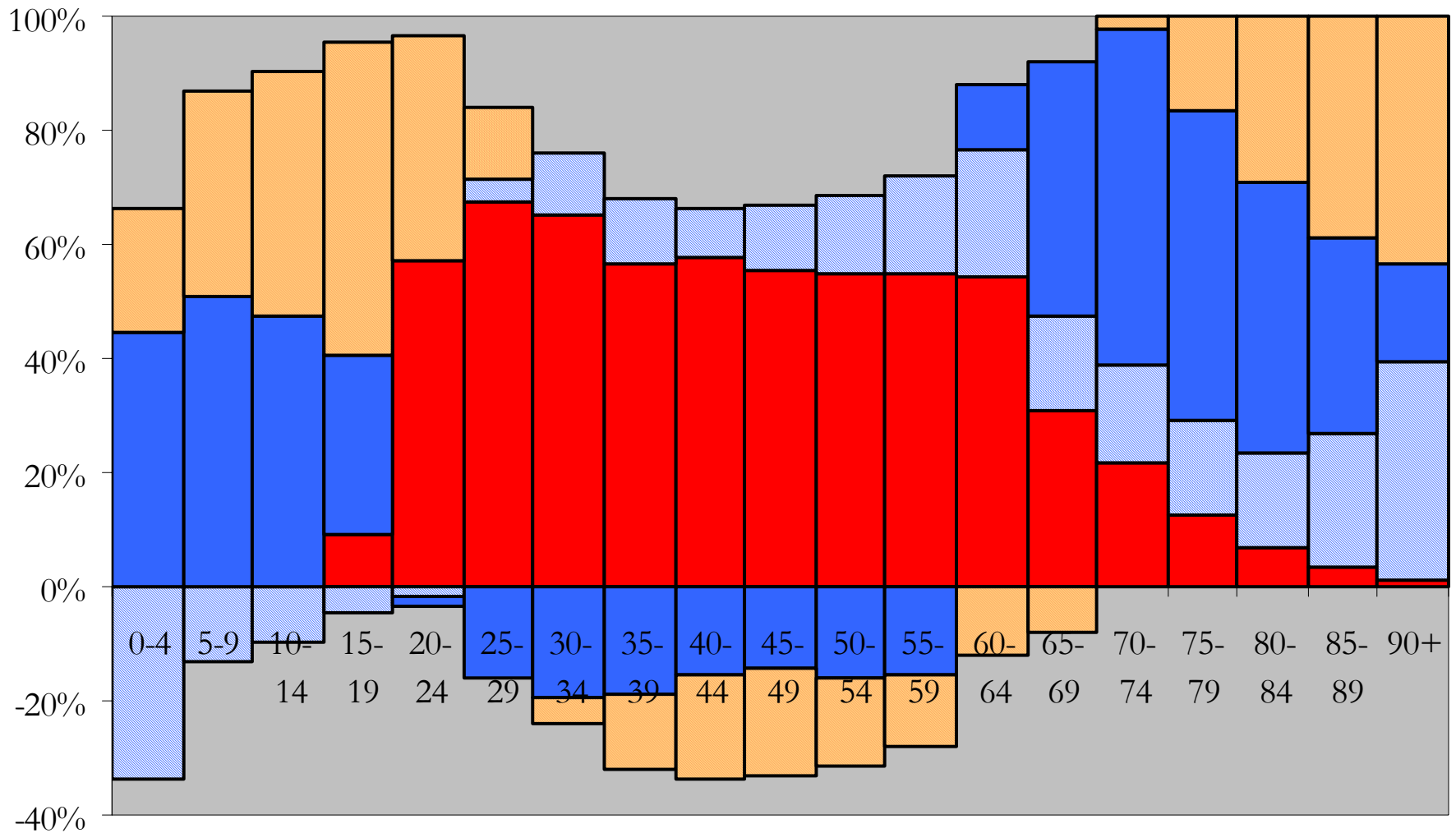
■ Asset Reallocation 
 ■ Work 
 ■ Intervivos 
 ■ Public 
 ■ Bequest

# Finance of Consumption 1989



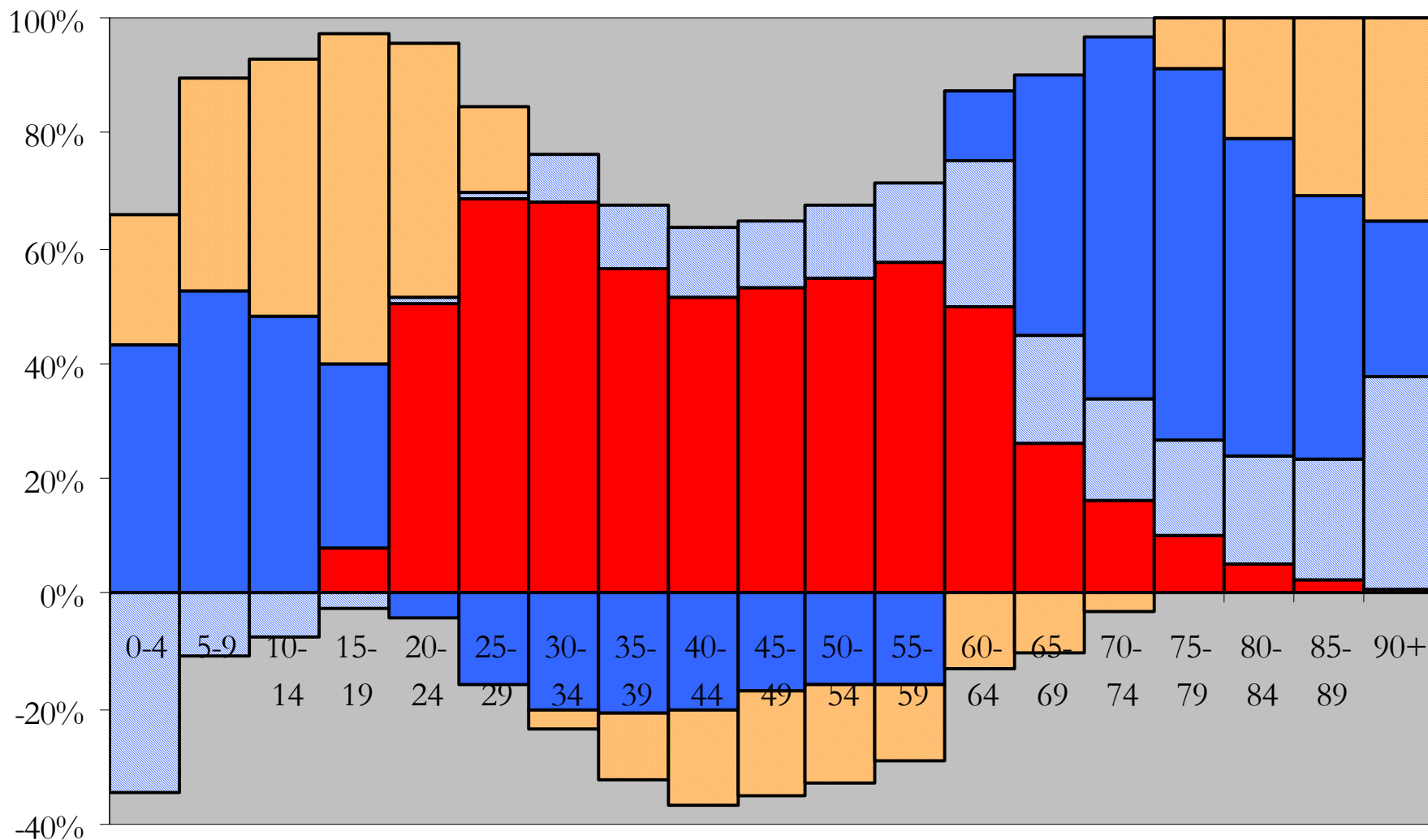
■ Labor Income   
 ■ Asset Reallocations   
 ■ Public Transfers   
 ■ Intervivos Transfers

# Finance of Consumption 1994



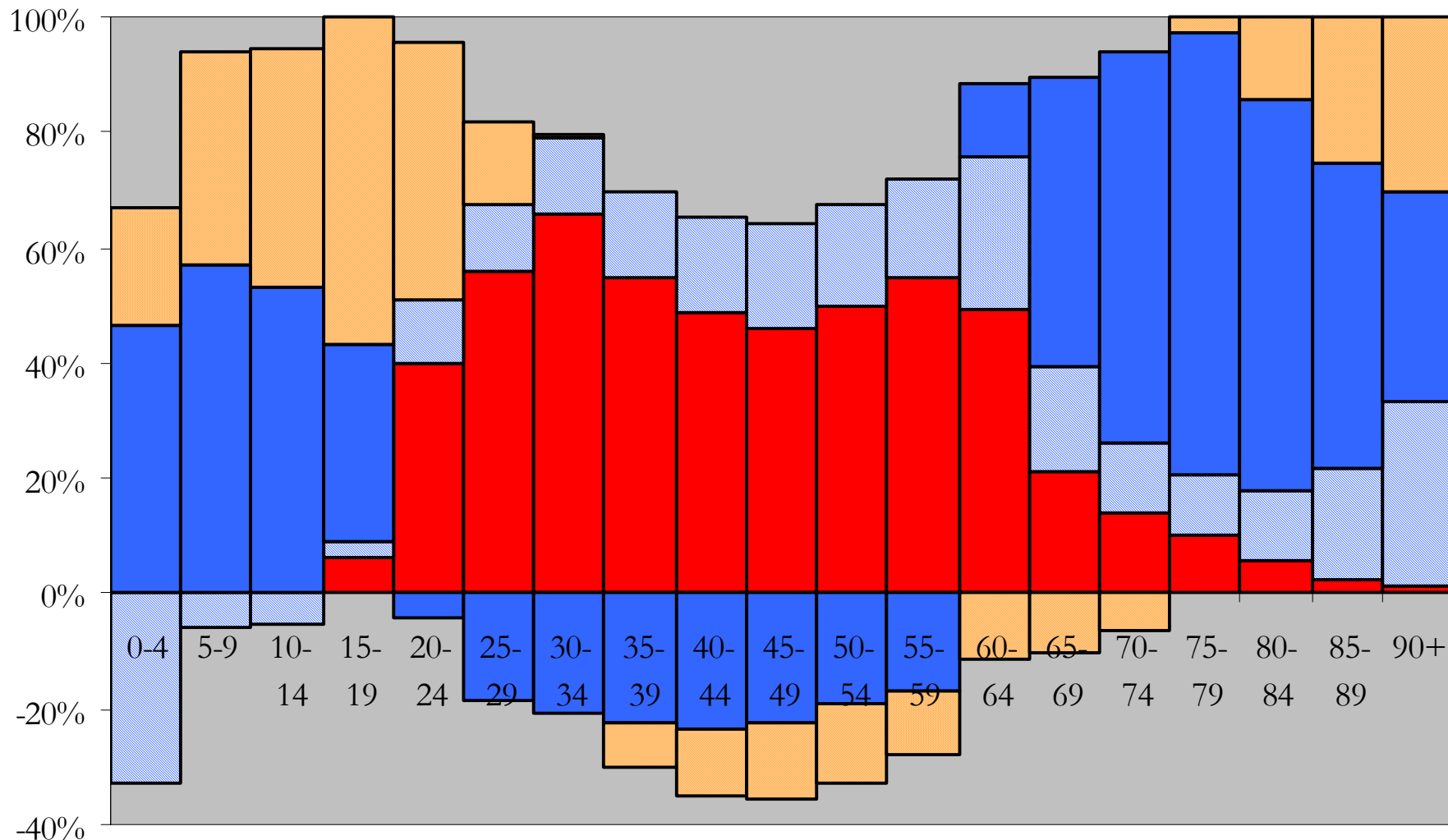
■ Labor Income 
 ■ Asset Reallocations 
 ■ Public Transfers 
 ■ Intervivos Transfers

# Finance of Consumption 1999



■ Labor Income 
 ■ Asset Reallocations 
 ■ Public Transfers 
 ■ Intervivos Transfers

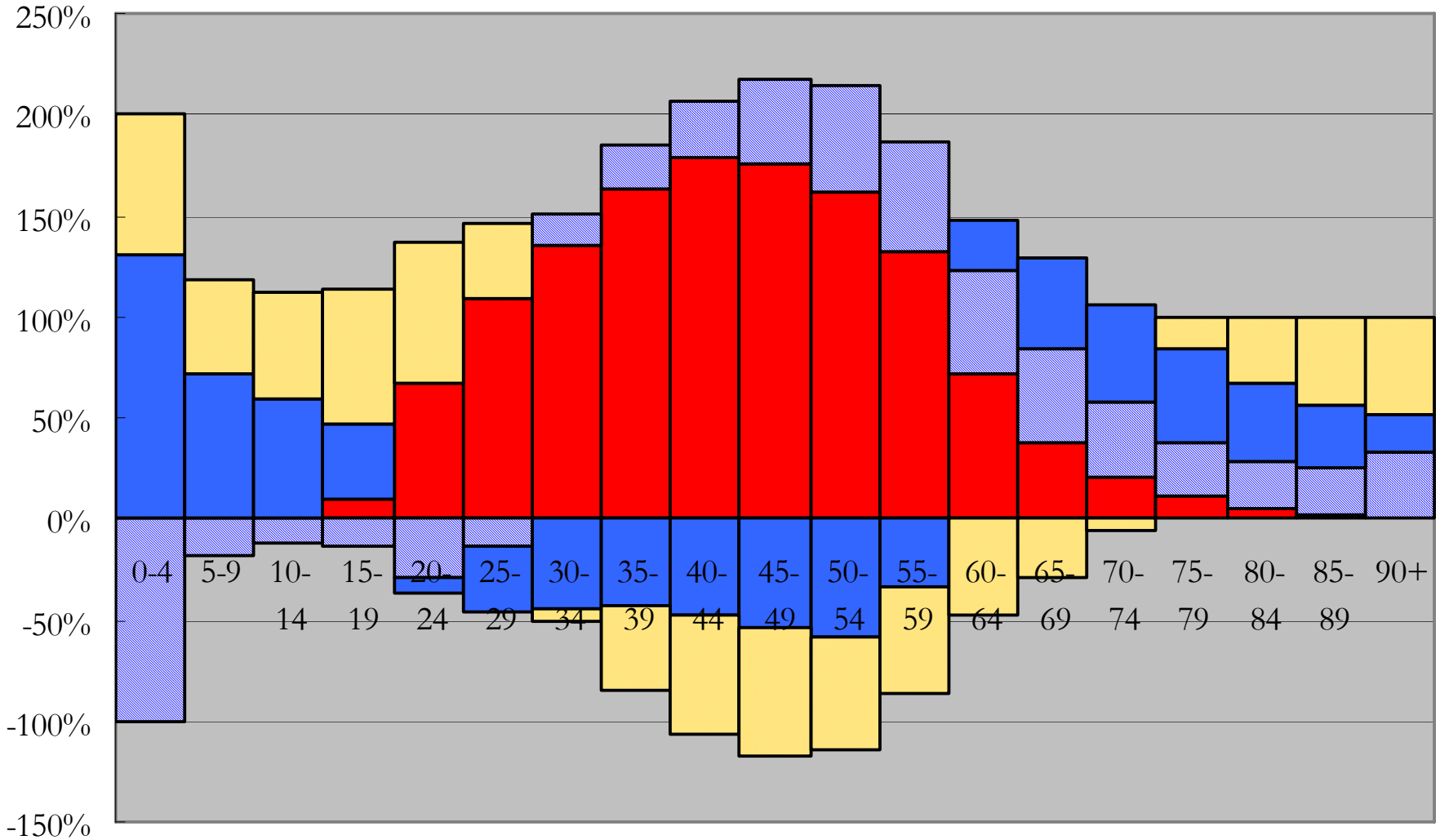
# Finance of Consumption 2004



■ Labor Income  
 ▨ Asset Reallocations  
 ■ Public Transfers  
 ■ Intervivos Transfers

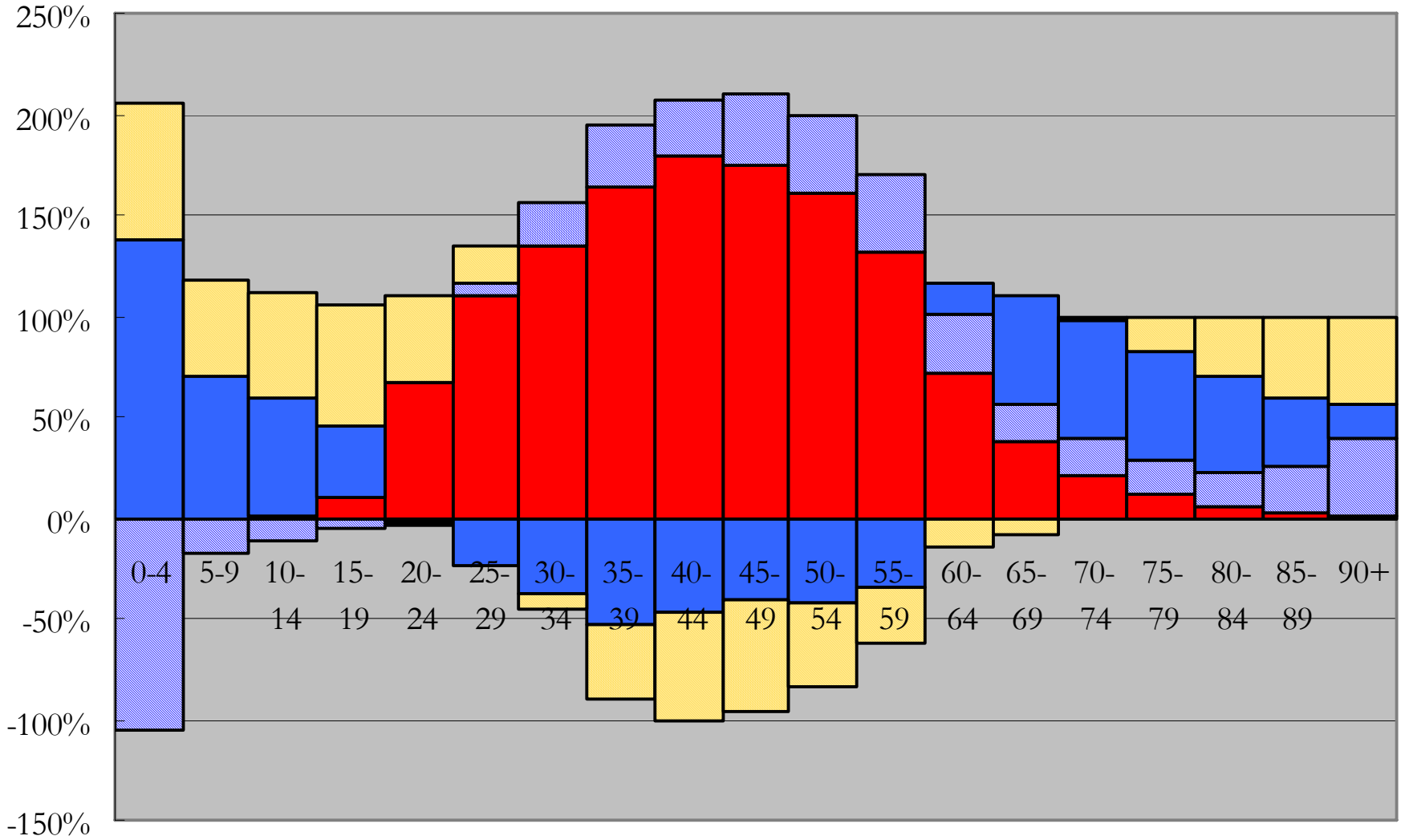


# Per Capita Finance of Consumption 1989



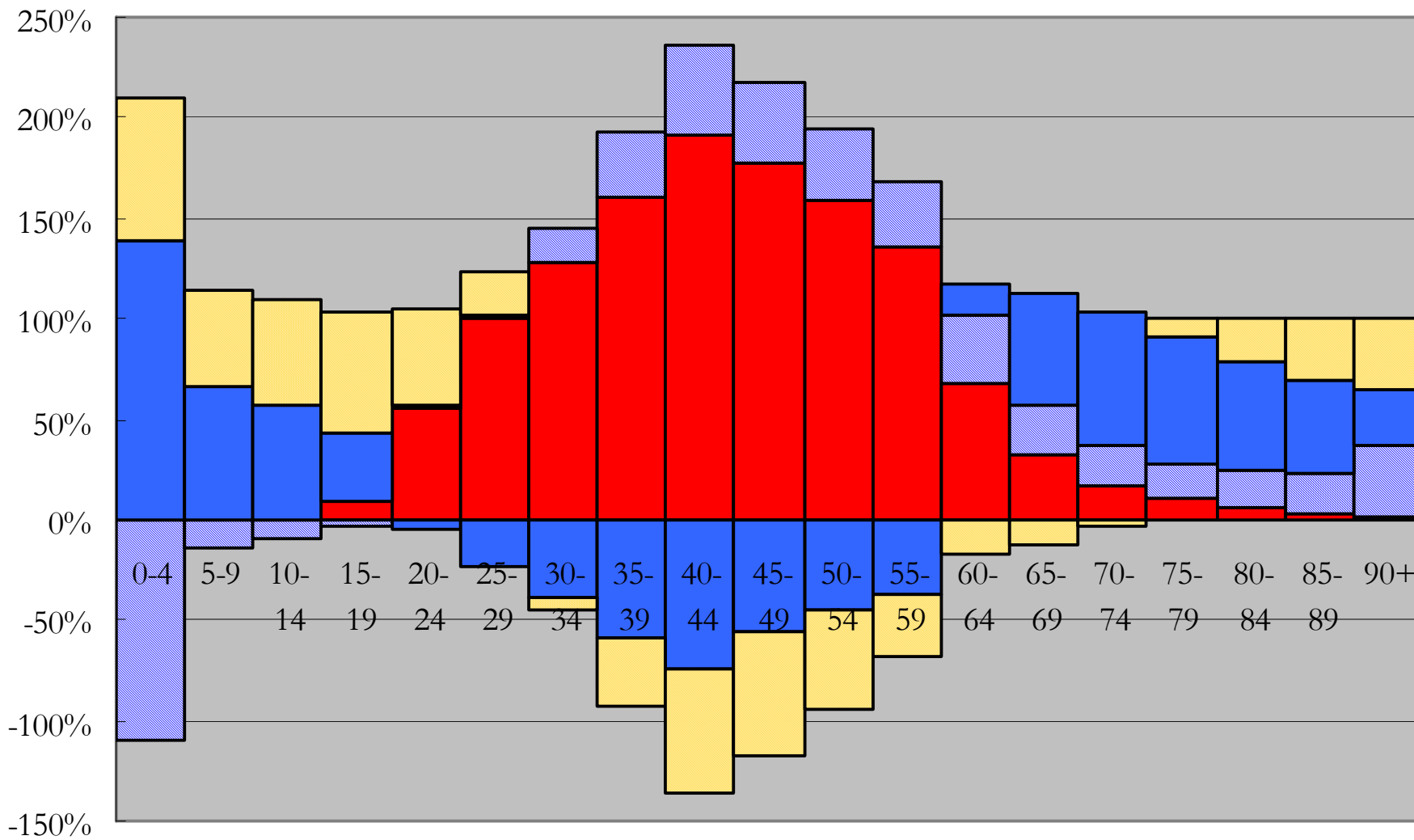
■ Labor Income  
 ■ Asset Reallocations  
 ■ Public Transfers  
 ■ Intervivos Transfers

# Per Capita Finance of Consumption 1994



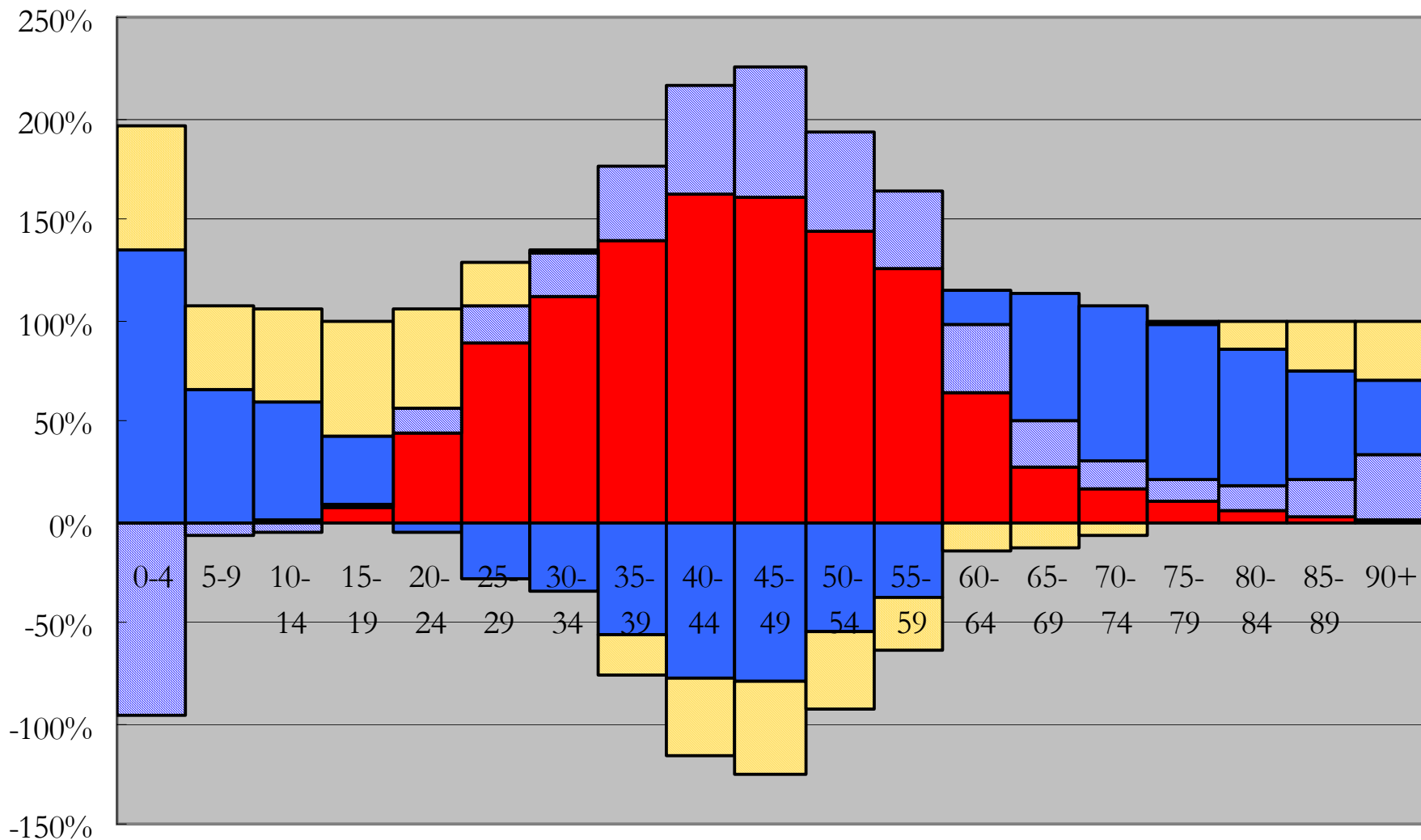
■ Labor Income
 ■ Asset Reallocations
 ■ Public Transfers
 ■ Intervivos Transfers

## Per Capita Finance of Consumption 1999



■ Labor Income   
   Asset Reallocations   
 ■ Public Transfers   
 ■ Intervivos Transfers

## Per Capita Finance of Consumption 2004



■ Labor Income   
 ▨ Asset Reallocations   
 ■ Public Transfers   
 ■ Intervivos Transfers

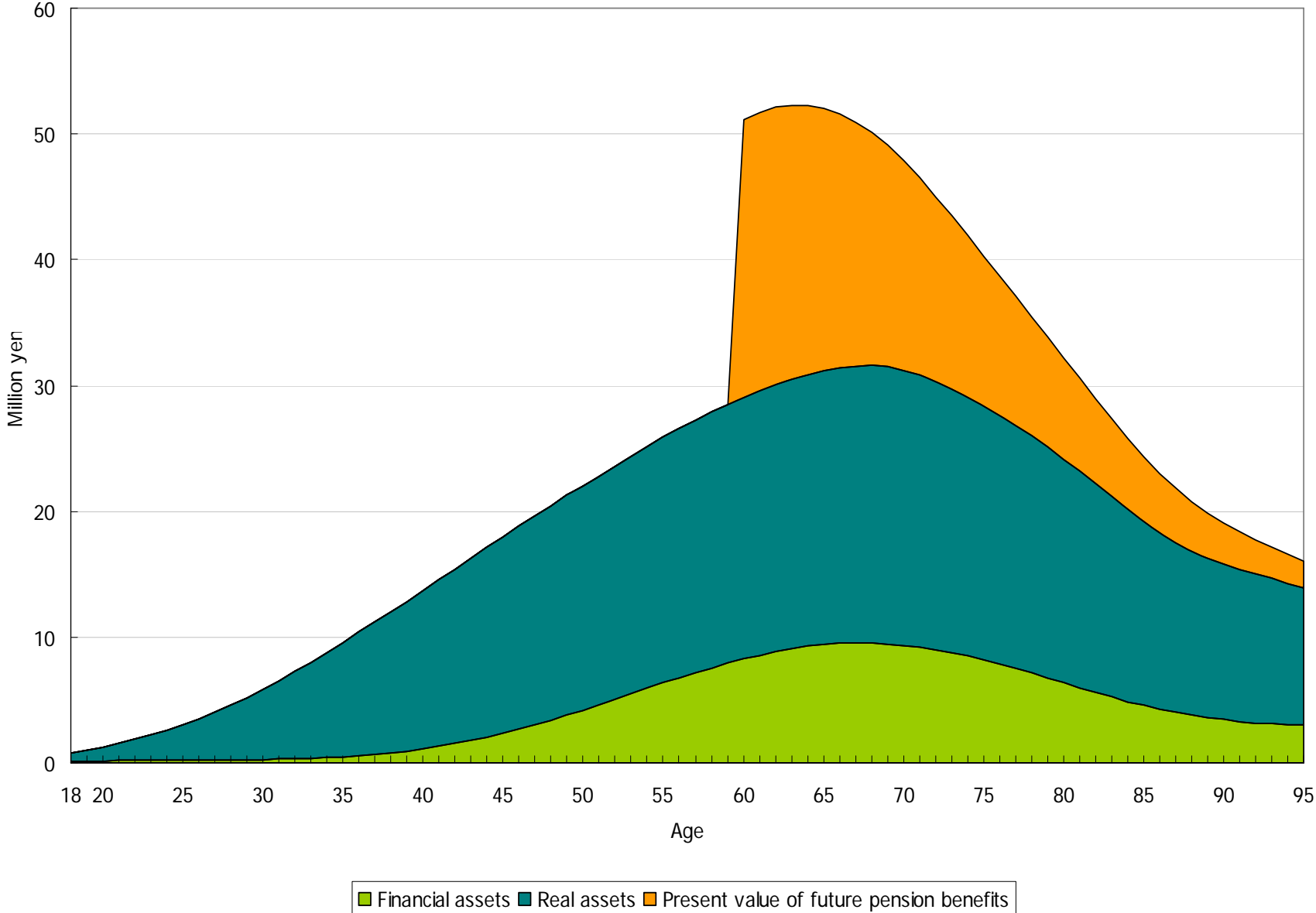
The Japanese Elderly have been  
increasingly public goods!

What will they be able to  
contribute to 21<sup>st</sup>-century  
Japan?

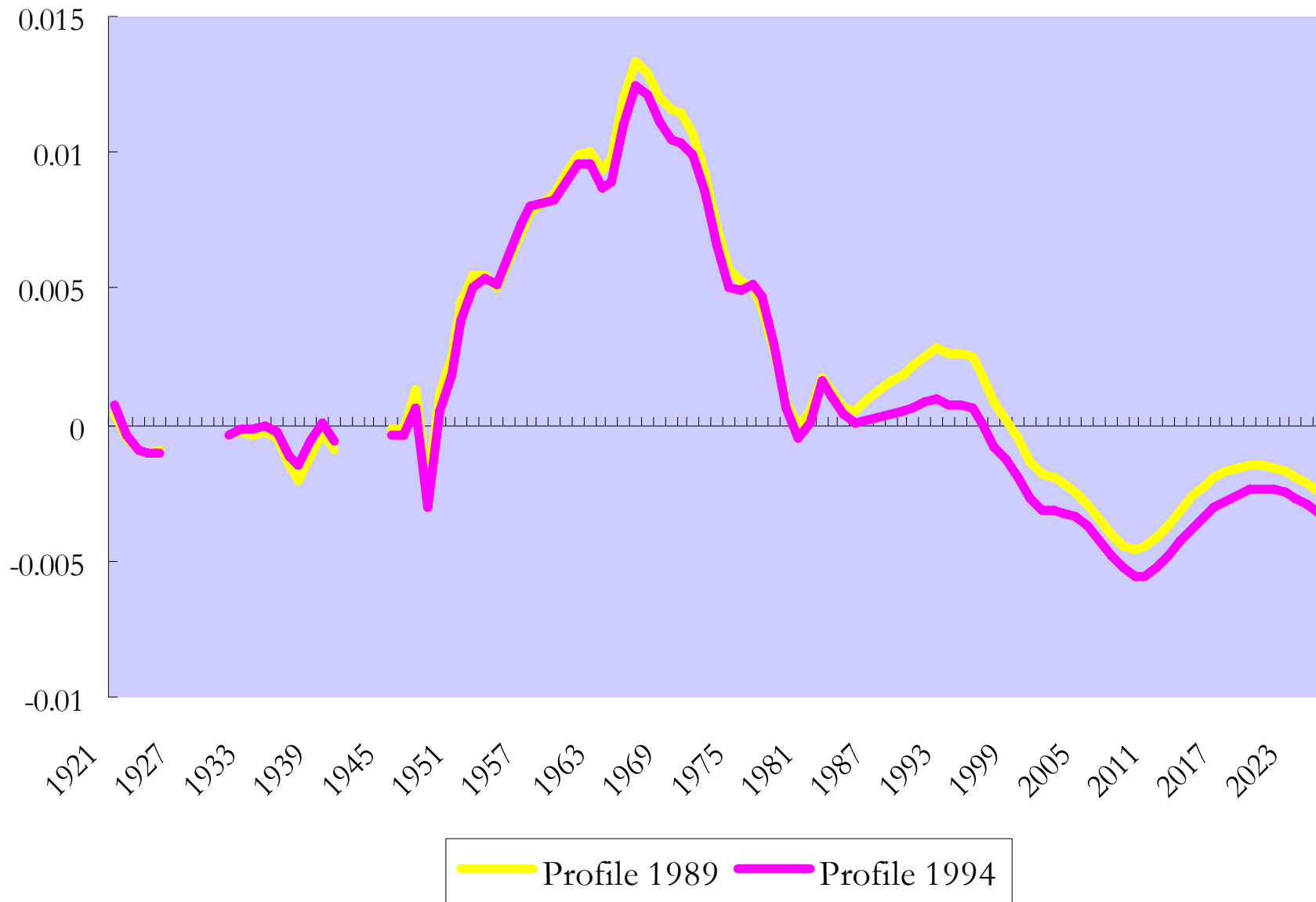
# Japan's Policy Options

- Raising fertility and facilitating higher labor force participation of women,
- Better utilization of aged workers and extension of the retirement age,
- Introduction of labor-saving technology and more efficient usage of young workers,
- International migration,
- Direct foreign investment,
- Social security reform and limits to family support,
- Effective utilization of the financial and non-financial wealth of the elderly (“Second Dividend”)

# Age profile of assets and pension wealth in Japan, 1999

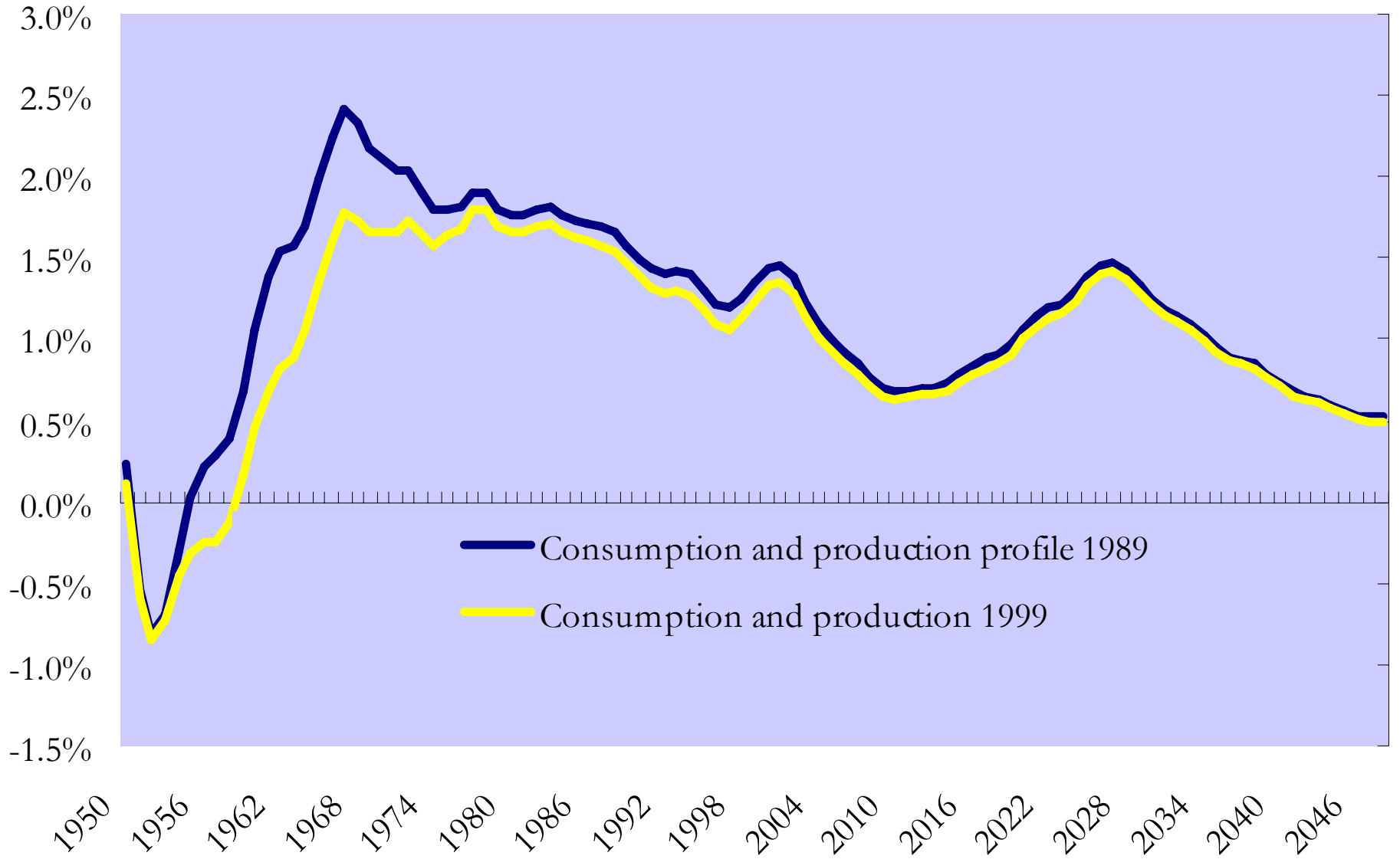


# Trend in First Dividend in Japan, 1920 - 2025





# The Second Dividend of Japan, 1950 - 2050



- Simulation approach
- Constant-fertility-and-mortality approach

# Next Step (another challenge!)

## Estimation on familial transfers in kind

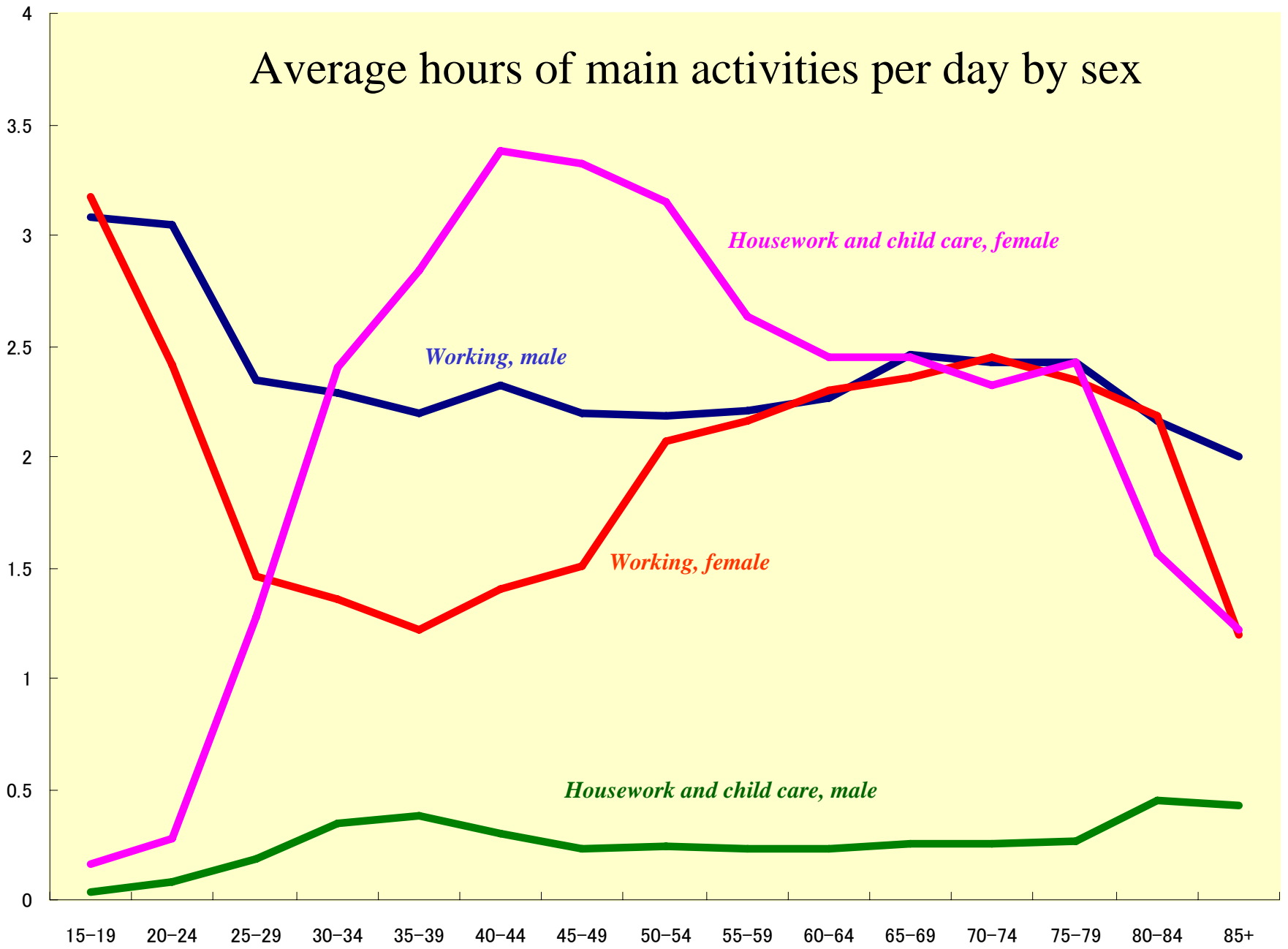
Data: *Survey on time use and leisure activities*

Available Variables: Age, Education, Marital status, Activity of caring, Place where own child lives, Normal economic activity, Employment Status, Size of firm, Occupation, Normal working hours per week, Normal commuting time (one-way), etc.

# Time Use

Activities: “sleep”, “eating”, “personal care”, “work (for pay or profit)”, “schoolwork”, “housework”, “caring or nursing”, “child care” and “shopping”, “study”, “time for hobbies and amusements”, “sports” and “volunteer and social activities” and etc.

# Average hours of main activities per day by sex



Calculate hours of in-kind transfers such as “housework”, “caring or nursing” and “child care”

Predict the opportunity cost, by using an hourly wage function estimated from the *Employment Status Survey* in Japan

- Forecasting, using NUPRI's long-term simulation model

- Backcasting, drawing upon historical data

**Thank you**