Household Production and Consumption over the Life Cycle in Japan:
NTA and NTTA summaries by gender from 1999 to 2014

Setsuya FUKUDA / Itaru SATO
(National Institute of Population and Social Security Research)
Kazuyuki TERADA / Takahiro TORIYABE / Hidehiko ICHIMURA / Naohiro OGAWA
(The University of Tokyo)
Rikiya Matsukura (Nihon University)
1. Aim of the paper

1. Updating Japanese NTA in terms of data and method

2. Providing descriptive figures of generational economy in comparison with gender during the 2000s in Japan

3. Assessing various policy reform using the NTA / NTTA life cycle accounts
2. Background
2-1. Population aging and decline

2-2. Prospects of population aging

2-3. Population aging and social expenditure

Social Expenditure in % of GDP

% of pop. age 65+

2-4. Social security expenditure in Japan

3. Policy Reforms during the 2000s

- (Formal childcare: Creating more slots in big cities, but no time-series data)

- **Formal education (High school)**

- **Female employment**

  - (Long work hours / Dependent spouse privileges in tax, pension and health care: stalled...)

- **Elderly care**

  - (Medical care: various adjustments on the price of medical services)

  - (Pension: Increases in pension age and contribution fee)
4. Focus

• Focus 1: 1999 vs 2004

Introduction of the new social insurance for elderly care (2000.4)
- Changes in monetary and physical costs of elderly care in the households and government

• Focus 2: 2009 vs 2014

Introduction of free tuition fee for high school + child allowances (2010.4)
- Changes in monetary costs of education in the household

• Focus 3: 1999 vs 2014

Gradual expansion of policy support for female employment (1999.4 -)
- Changes in gender gaps in paid and unpaid work during the 2000s
## 5. Data

<table>
<thead>
<tr>
<th>NTA</th>
<th>Data and Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Private sector</td>
<td>Family Income and Expenditure Survey (1999, 2004, 2009, 2014)</td>
<td>Around <strong>60,000</strong> households and <strong>170,000</strong> individuals</td>
</tr>
<tr>
<td>• Public sector</td>
<td>Education</td>
<td>Statistics from the government reports</td>
</tr>
<tr>
<td></td>
<td>- Statistical abstract on education, culture, sports, science and technology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Health</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Survey of medical care benefit expenditures,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Estimates of National Medical Care Expenditure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Elderly care</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Annual report on the long-term care insurance</td>
<td></td>
</tr>
<tr>
<td>• Macro controls</td>
<td>SNA2008</td>
<td>The specialist replacement method</td>
</tr>
<tr>
<td>NTTA</td>
<td>Survey on Time Use and Leisure Activities (1996, 2001, 2006, 2011)</td>
<td>Over <strong>70,000</strong> households and <strong>170,000</strong> individuals</td>
</tr>
</tbody>
</table>
6. Limitation

- Only life cycle accounts
- Ignoring institutionalized population
- Ignoring heterogeneity other than age and sex
- Not final values
7. NTA / NTTA overview for 2014
7-1. Economic Life Cycle in 2014

Per Capita value
7-2. Economic Life Cycle in 2014 by Sex

Male

Female

Japanese Yen in 10,000

Age

Japanese Yen in 10,000

Age

LI C

LI C
7-3. NTTA in 2014 by Sex

Male

Female

Japanese Yen in 10,000

Age

NTTA Prod  NTTA Cons

NTTA Prod  NTTA Cons
7-4. NTA + NTTA in 2014 by Sex

Male

Female

LI + NTTA prod  C + NTTA cons
7-5. NTA+NTTA: Production in 2014 by Sex

2014

Male

Female

Japanese Yen in 10,000

Age

NTTA  NTA

NTA  NTA
7-6. NTA+NTTA: Consumption in 2014 by Sex

2014

![Chart](chart.png)
7-7. Life Cycle Deficit in 2014

1. Per Capita

2. Population Aggregate
8. Examination of the Focus Points
8-1. Introduction of “the long-term care insurance” (2000.4)
8-2. NTA differences before and after the LT care insurance


Male

Female

Japanese Yen in 10,000

Age

65 70 75 80 85 90

65 70 75 80 85 90

Public: Elderly care - NTTA Care
Public: Medical care - Private: Health

Public: Elderly care - NTTA Care
Public: Medical care - Private: Health

8-3. NTTA differences before and after the LT care insurance

8-4. Introduction of “free tuition fee for high school” + “child allowances” (2010.4)

Private Coonsumption for Education in 2009 and 2014
8-5. Introduction of “free tuition fee for high school” + “child allowances” (2010.4)

Private Consumption for Education: 1999 vs 2004
8-6. Gradual expansion of policy support for female employment (1999.4 -)

Hours Spent for Paid and Unpaid Work by Sex

Male

Female
8-7. Period differences in time use for paid and unpaid work by sex: 1999-2014

Time Differences from 1999 by Sex

- **Male**
  - Paid 2004
  - Paid 2009
  - Paid 2014
  - Unpaid 2004
  - Unpaid 2009
  - Unpaid 2014

- **Female**
  - Paid 2004
  - Paid 2009
  - Paid 2014
  - Unpaid 2004
  - Unpaid 2009
  - Unpaid 2014
8-8. Gender differences in time use for paid and unpaid work 1999 vs 2014

Time Use, Female - Male Differences
8-9. Gender comparison of total production time

NTA+NTTA Production Hours by Sex

- 1999
- 2004
- 2009
- 2014
8-10. Gender differences in labor income in 1999 and 2014

Labor Income by Sex: 1999 vs 2014
8-11. Gender differences in unpaid work wages in 1999 and 2014

Unpaid work wage by Sex: 1999 vs 2014

[Graph showing the comparison of unpaid work wages by age for males and females in 1999 and 2014.]
9. Conclusion

- NTA/NTTA as a necessary tool for Japan to monitor & analyze the aging society!

- Focus 1: Socializing elderly care increased total public costs for elderlies, but reduced both medical costs and disabled elderlies

- Focus 2: Free high school tuition and child allowances decreased household education costs for secondary education, while those of post-secondary education increased

- Focus 3: a. There is a large gender gap in paid and unpaid work in Japan both in time and monetary basis.
  b. The gender gaps narrow a bit in both paid and unpaid work by age of 40.
10. Future work

• Examination of the shifts or changes in focused points

- Running regression models to control for demographic and socio-economic components behind the age and sex
Thank you!

📧📧

✉️: fukuda-setsuya@ipss.go.jp