

# Cumulative Disadvantage Process in Japan

## Does Employment and Marital History Affect Income and Wealth Inequality among Elderly People?

Ryota Mugiyama (mugiyama@i.u-tokyo.ac.jp)

Ph.D. Student in Department of Sociology, Graduate School of Humanities and Sociology, The University of Tokyo

### Background

Cumulative disadvantage (Crystal and Shea 1990; O'Rand 1996; Dannefer 2003)

**Situations in Youth** → **Cumulative disadvantage** → **Inequality in later life**

Employment stability Pension eligibility Income  
Marital stability Savings, Asset investment Wealth

Many empirical studies suggested that employment history (Henretta and Campbell 1976; McLaughlin 2000) and marital history (Wilmoth and Koso 2002) are important to determine later economic well-being.

But in Japan, little is known about the relationship between employment and marital history and economic inequality among elderly people (Hiraoka et al. (2001) and Kimura (2002) are few exceptions).

### Research Questions

1. Does **employment instability** (specifically, first job after leaving education) negatively affect income and wealth in later life?
2. Does **marital instability** (specifically, not keeping first marriage) negatively affect income and wealth in later life?
3. How different are these effects by **gender**?

### Methods

#### Data

Social Stratification and Mobility (SSM) Survey in Japan, 2015.

Sampling: Two-stage stratified random sample of 16,000 persons ranging in age from 20 to 79, 7,817 persons were completed, response rate is 50.1%.

#### Analytic sample

Persons at the age of 60 to 79 with 1,490 men and 1,547 women, but persons with some missing values are list-wise deleted for each analyses. \*Persons who have never worked and got first job after first marriage are deleted.

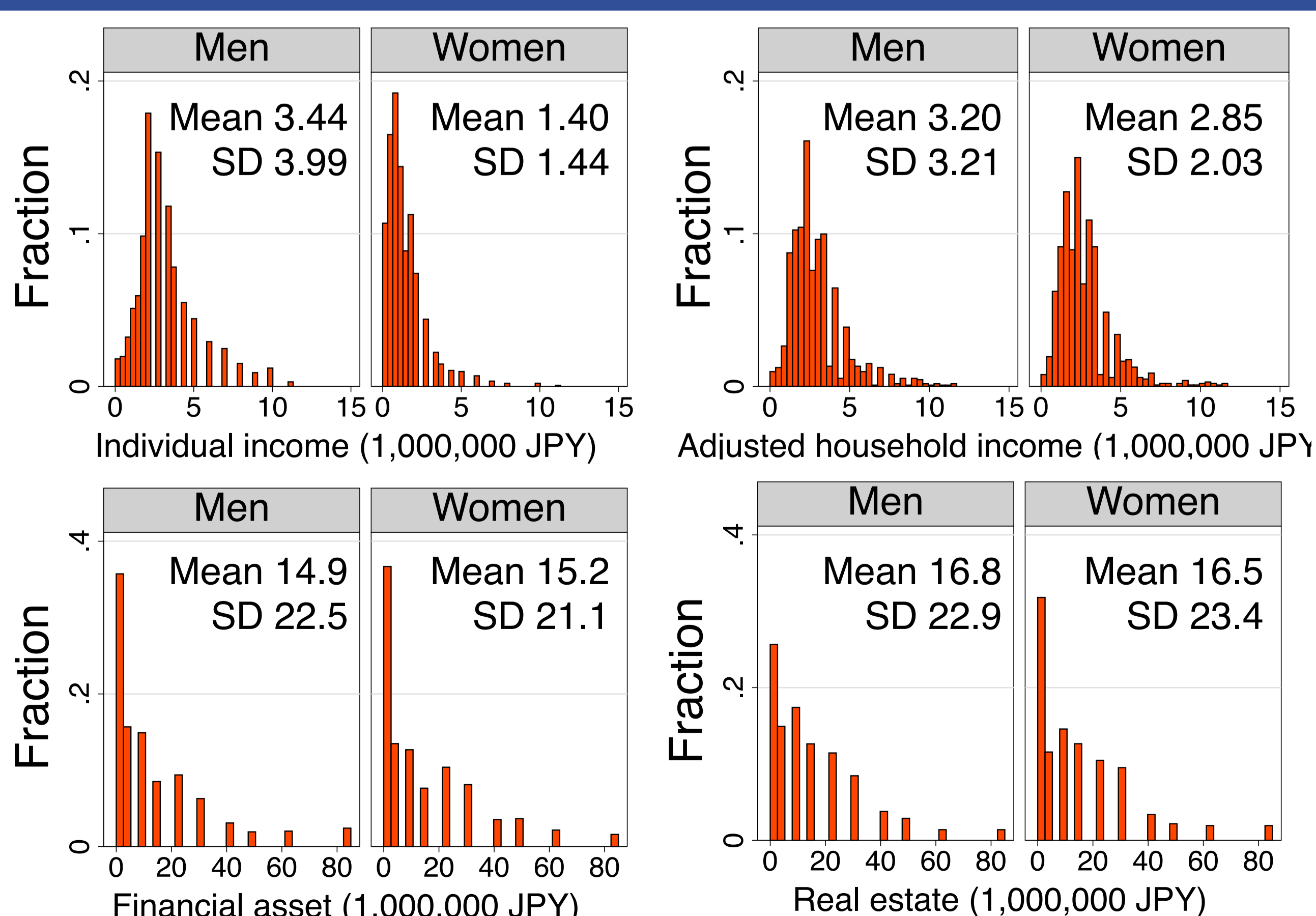
#### Dependent variables

1. **Individual income (log)**: Use midpoints of the 30 categories listed in the survey.
2. **Adjusted household income (log)**: divided by square root of number of people per household. Use midpoints of the 30 categories listed.
3. **Savings and financial asset (actual value)**: Values are divided by 1,000,000 JPY (≅ 9,634 US dollars). Use midpoints of the 12 categories listed in the survey.
4. **Real estate**: Same as financial assets.

#### Statistical models

- OLS regression model for individual income and adjusted household income
- Tobit model for savings and financial asset, and real estate

### Descriptive Statistics



#### Acknowledgement

This research is supported by JSPS Grant-in-Aid for Specially Promoted Research (Grant number 25000001), and I thank the 2015 SSM Survey Management Committee for allowing me to use the SSM data.

### Results

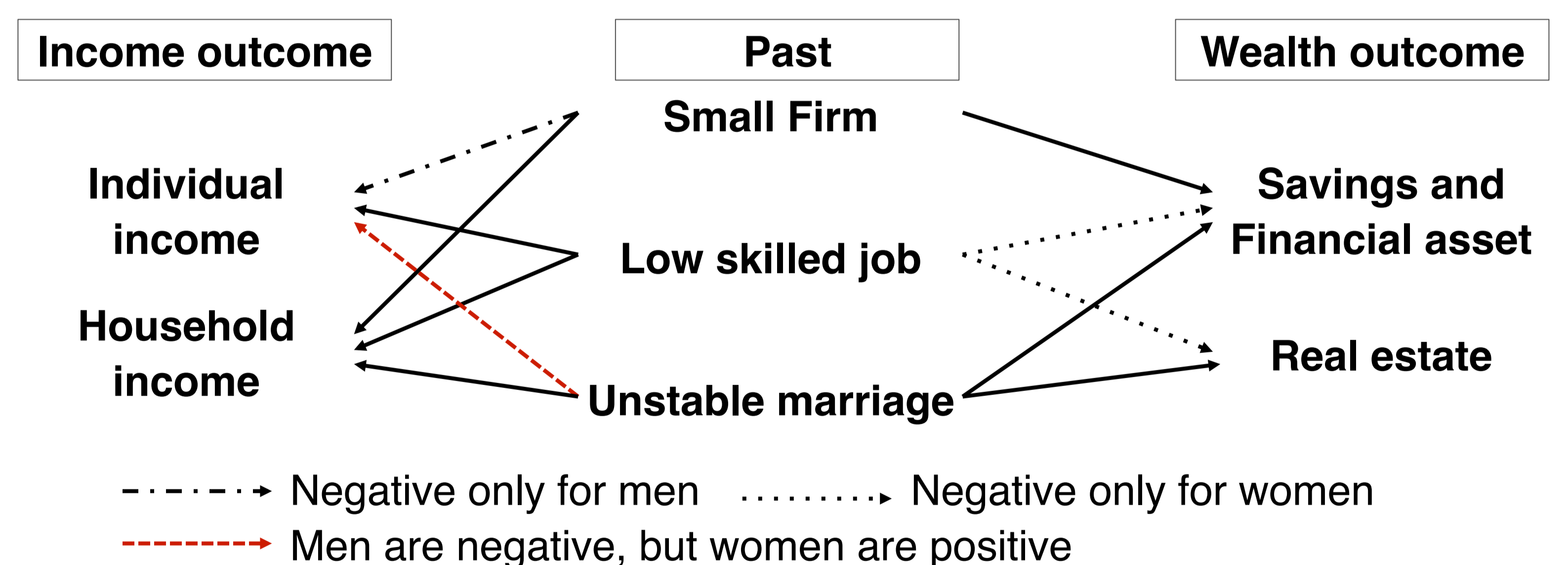
**Table: Coefficients of first job and marital status on economic condition among people over 60**

	OLS				Tobit			
	Log of Individual income		Log of adjusted household income		Savings and Financial asset		Real estate	
	Men	Women	Men	Women	Men	Women	Men	Women
Employment status at first job (ref: Regular employment)								
Non-regular employment	-0.09 (0.10)	-0.27 (0.14)	-0.01 (0.07)	-0.16 (0.11)	-3.04 (2.30)	-5.02* (2.43)	1.13 (2.47)	-1.50 (2.95)
Self employed	-0.10 (0.13)	-0.02 (0.14)	-0.05 (0.13)	0.02 (0.09)	4.37 (3.77)	1.04 (4.06)	-2.99 (3.65)	5.89 (5.11)
Firm size at first job (ref: ≥1000 employees)								
<99 employees	-0.30*** (0.07)	-0.06 (0.10)	-0.25*** (0.05)	-0.13** (0.05)	-6.79** (2.13)	-5.90* (2.29)	-2.80 (1.87)	-2.65 (2.43)
100~999 employees	-0.13 (0.07)	0.00 (0.10)	-0.09 (0.05)	-0.11 (0.06)	-0.33 (2.50)	-2.70 (2.74)	1.09 (2.24)	-1.01 (2.46)
Government office	-0.20* (0.08)	0.30 (0.16)	-0.15 (0.08)	-0.13 (0.09)	-1.84 (3.11)	4.08 (4.54)	-3.11 (2.56)	-0.76 (3.70)
Occupation at first job (ref: Professional/managerial)								
Clark	-0.15 (0.08)	-0.22 (0.14)	-0.09 (0.07)	-0.04 (0.07)	0.00 (3.37)	-3.44 (3.08)	1.01 (3.02)	-6.82 (3.58)
Sales	-0.20* (0.08)	-0.41* (0.17)	-0.14 (0.08)	-0.15 (0.09)	-1.80 (3.60)	-4.21 (4.14)	0.15 (3.13)	-13.79*** (4.10)
Skilled manual	-0.16 (0.09)	-0.34* (0.17)	-0.16* (0.08)	-0.26* (0.11)	-1.27 (3.28)	-7.37* (3.65)	-0.02 (3.27)	-8.20 (4.50)
Semi-skilled manual	-0.32** (0.10)	-0.34* (0.15)	-0.19* (0.08)	-0.14 (0.08)	-0.64 (3.44)	-6.46 (3.48)	-0.13 (3.24)	-9.17* (4.07)
Farmer	-0.17 (0.14)	-0.32 (0.21)	-0.11 (0.12)	-0.15 (0.17)	-4.87 (4.85)	-10.31 (5.98)	3.27 (4.52)	-11.84 (9.07)
Marital status (ref: First marriage)								
Unmarried	-0.66*** (0.18)	0.69*** (0.20)	-0.36** (0.13)	-0.32* (0.14)	-5.83 (4.47)	-6.72 (6.93)	-11.86*** (3.17)	-8.44* (4.25)
Remarriage	-0.01 (0.22)	-0.24 (0.24)	0.09 (0.15)	-0.06 (0.14)	-1.59 (5.36)	-18.36*** (4.05)	-12.09* (4.81)	-7.62 (6.02)
Divorced	-0.59** (0.18)	0.60*** (0.08)	-0.35 (0.18)	-0.35*** (0.07)	-15.33** (5.33)	-13.23*** (2.77)	-15.18*** (4.34)	-23.36*** (4.18)
Widowed	-0.27* (0.12)	0.51*** (0.07)	-0.15 (0.12)	-0.35*** (0.06)	-4.21 (3.59)	-6.99** (2.29)	-6.67* (3.24)	-7.68*** (2.27)
σ					23.2*** (1.33)	21.7*** (1.41)	21.0*** (1.30)	22.0*** (1.57)
N	1297	1279	1095	942	992	797	974	762
N of censored					144	116	147	165
R <sup>2</sup>	0.24	0.27	0.20	0.20	0.13	0.15	0.33	0.36

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$  (Two-tailed tests)

Note: Robust standard errors are in parentheses. Other control variables are age, age square, employment status at survey, living with unmarried children, living with married children, inheritance from parents (only in models for financial asset and real estate).  $R^2$  in tobit models are squared correlations between observed values and predicted values of dependent variables.

### Summary of results: significant negative effect on income and wealth outcome



### Conclusion

**Cumulative disadvantage process is found in Japan: Employment and marital instability strongly affect later economic inequality both for men and women.**

#### Speculation

- The effect of firm size on income would be explained by **company pension plan**.
- Much wealth are lost by divorce or remarriage, probably because of stock division.

#### Future tasks

1. Deal with missing values using some methods (e.g. multiple imputation).
2. Use more detail information of employment history (data cleaning and editing are in progress).
3. Separate the components of individual income into earnings and pensions.

### References

1. Crystal, Stephen, and Dennis Shea. 1990. "Cumulative advantage, cumulative disadvantage, and inequality among elderly people." *Gerontologist* 30(4): 437-443.
2. Dannefer, Dale. 2003. "Cumulative Advantage/disadvantage and the Life Course: Cross-Fertilizing Age and Social Science Theory." *Journal of gerontology* 58(6): S327-37.
3. Henretta, John C. and Richard T. Campbell. 1976. "Status Attainment and Status Maintenance: A Study of Stratification in Old Age." *American Sociological Review* 41(6): 981-92.
4. Hiraoka, Koichi eds. 2000. *Social Inequalities among Elderly People in Japan*. University of Tokyo Press. (in Japanese)
5. Kimura, Yoshimi. 2002. "Does the Longest-Held Occupation Have Any Effects upon the Income of Elderly People?" *Sociological Theory and Methods* 17(2): 151-165. (in Japanese)
6. McLaughlin, D. K. and Leif Jensen. 2000. "Work History and U.S. Elders' Transitions into Poverty." *Gerontologist* 40(4):469-79.
7. O'Rand, Angela M. 1996. "The Precious and the Precocious: Understanding Cumulative Disadvantage and Cumulative Advantage over the Life Course." *Gerontologist* 36(2): 230-38.
8. Wilmoth, Janet and Gregor Koso. 2002. "Does Marital History Matter? Marital Status and Wealth Outcomes Among Preretirement Adults." *Journal of Marriage and Family* 64(1): 254-68.