

Does a Bad Start Lead to a Bad Finish in Japan?

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Outline

- **Data: the 2011 LOSEF, an Internet version**
- **Have “bad starts” been increasing?**
- **Changes in career history by cohort**
- **Differences in current living conditions by different career starts**
- **What factors dominate a bad start?**
- **What factors can influence the shift to a typical working career?**
- **How likely is a bad start to cause a bad finish?**
- **Cumulative Hazard Estimates: TY \rightarrow AY**

Data: The 2011 Longitudinal Survey on Employment and Fertility (LOSEF), an Internet Version

The data set is composed of 3 elements undertaken simultaneously: **1)** a panel data set from transcription of administrative data (history of pension enrolment, salary history, etc.) contained in Social Security Statements; **2)** a retrospective panel survey based on the items contained therein (such as career changes, marriage, childbirth, whether or not residing with parents, etc.); and **3)** a survey on many other questions relating to current living and working circumstances, family background educational attainment, and well-being of the respondents including some future prospects. It represents the collection at a single stroke of almost perfect panel data spanning 45 years at maximum. Acquisition of this sort of long-term, almost flawless panel data is unprecedented in Japan.

Social Security Statement in Japan

The Social Security Statement is an administrative (governmental) document which contains information on past enrolment in social security pension schemes, records of national pension contribution payments, KNH (Kosei-Nenkin-Hoken, employees' pension) employment records, the amounts of standard monthly compensation (pensionable remuneration), the amount of expected pension benefits, etc., and is issued annually to all residents of Japan. In 2009 all members and pension recipients of the KNH or the national pension scheme received the detailed version, containing long-term pension records starting from age 15 (or age 20 for those enrolled in the national pension scheme) to the present day.

Accordingly, by utilizing transcriptions of the records contained in this administrative document, long-term and almost flawless panel data were obtained.

Social Security Statement in Japan (continued)

The 2009 Social Security Statement was originally sent out to confirm all the contents of individuals' detailed records; however, even after this confirmation was complete, many people kept it. This was because the Social Security Statement was not only a simple summary of past employment history, enabling people to look back over their own life history so far, but also it indicated their estimated amount of old-age pension benefits: essential in planning for life after retirement.

The 2011 Internet Survey: Survey Respondents

Respondents were selected among persons holding 2009 Social Security Statements who registered as monitors at an Internet survey company, in the following age ranges:

Persons born from 1st November 1971 to 31st October 1981 (“those in their 30s” below)

Persons born from 1st November 1961 to 31st October 1971 (“those in their 40s” below)

Persons born from 1st April 1951 to 31st March 1960 (“those in their 50s” below)

1000 male and 1000 female respondents were selected at each age range, making a total sample of around 6000 respondents.

Response Count and Validity of Responses

Current Age (Sex)	Response Count	No. of Valid Responses	Valid Response Rate
Total	6,177	5,953	96.4%
30s (Male)	1,030	999	97.0%
30s (Female)	1,027	975	94.9%
40s (Male)	1,030	995	96.6%
40s (Female)	1,030	924	89.7%
50s A (Male)	301	301	100.0%
50s A (Female)	251	251	100.0%
50s B (Male)	833	833	100.0%
50s B (Female)	675	675	100.0%

The 2011 Internet Survey: Survey Items (1)

Items transcribed from Social Security Statements (past administrative records)

Date of last update for enrolment records

Covered months of pension membership up to present (for each program)

The estimated amount of old-age pension benefits (only for those in their 50s)

Amounts of contributions paid up to present

Standard monthly compensations in April of each year for KNH

Contribution exemptions in April of each year for national pension

The names of employed companies (employment history, job change history, & job leaving history), type of industries and size of companies

The 2011 Internet Survey: Survey Items (2)

Employment history related questions, answered by each respondent based on transcript information (retrospective panel data section)

History of employment status, terms of employment contract, reasons for job change or job leaving

Changes in marital status, number of children, whether residing with parents or not

Changes in the area of residence

Changes in employment status of his/her spouse

The 2011 Internet Survey: Survey Items (3)

Survey items regarding living conditions and well-being at the time of survey

Respondent's sex, date of birth, current marital status, current number of children, final level of educational attainment, current employment status, yearly personal income

Number of members in his/her household, relationship with family in his/her household, etc.

Spouse's info on current age, final level of educational attainment, employment status, yearly personal income

Items relating to subjective wellbeing, future plans to work, upbringing, parents, and old age

See the website below for more details:

http://takayama-online.net/pie/stage3/Japanese/d_p/dp2011/dp546/text.pdf

Sample Sizes by Sex and Age Range as a Panel Data Set ¹¹

Age	Total	Male	Female	Age	Total	Male	Female	Age	Total	Male	Female
Total	182,137	97,302	84,835	31	5,887	3,093	2,794	47	2,594	1,439	1,155
16	5,953	3,128	2,825	32	5,757	3,037	2,720	48	2,424	1,343	1,081
17	5,953	3,128	2,825	33	5,608	2,978	2,630	49	2,264	1,256	1,008
18	5,953	3,128	2,825	34	5,459	2,914	2,545	50	2,121	1,174	947
19	5,953	3,128	2,825	35	5,278	2,822	2,456	51	2,060	1,134	926
20	5,953	3,128	2,825	36	4,987	2,670	2,317	52	2,060	1,134	926
21	5,953	3,128	2,825	37	4,727	2,529	2,198	53	1,820	1,018	802
22	5,953	3,128	2,825	38	4,495	2,414	2,081	54	1,553	877	676
23	5,953	3,128	2,825	39	4,283	2,303	1,980	55	1,335	753	582
24	5,953	3,128	2,825	40	4,060	2,177	1,883	56	1,141	648	493
25	5,953	3,128	2,825	41	3,863	2,077	1,786	57	944	556	388
26	5,953	3,128	2,825	42	3,655	1,975	1,680	58	767	460	307
27	5,953	3,128	2,825	43	3,444	1,867	1,577	59	574	355	219
28	5,953	3,128	2,825	44	3,256	1,780	1,476	60	351	232	119
29	5,953	3,128	2,825	45	3,064	1,686	1,378	61	180	120	60
30	5,953	3,128	2,825	46	2,831	1,561	1,270				

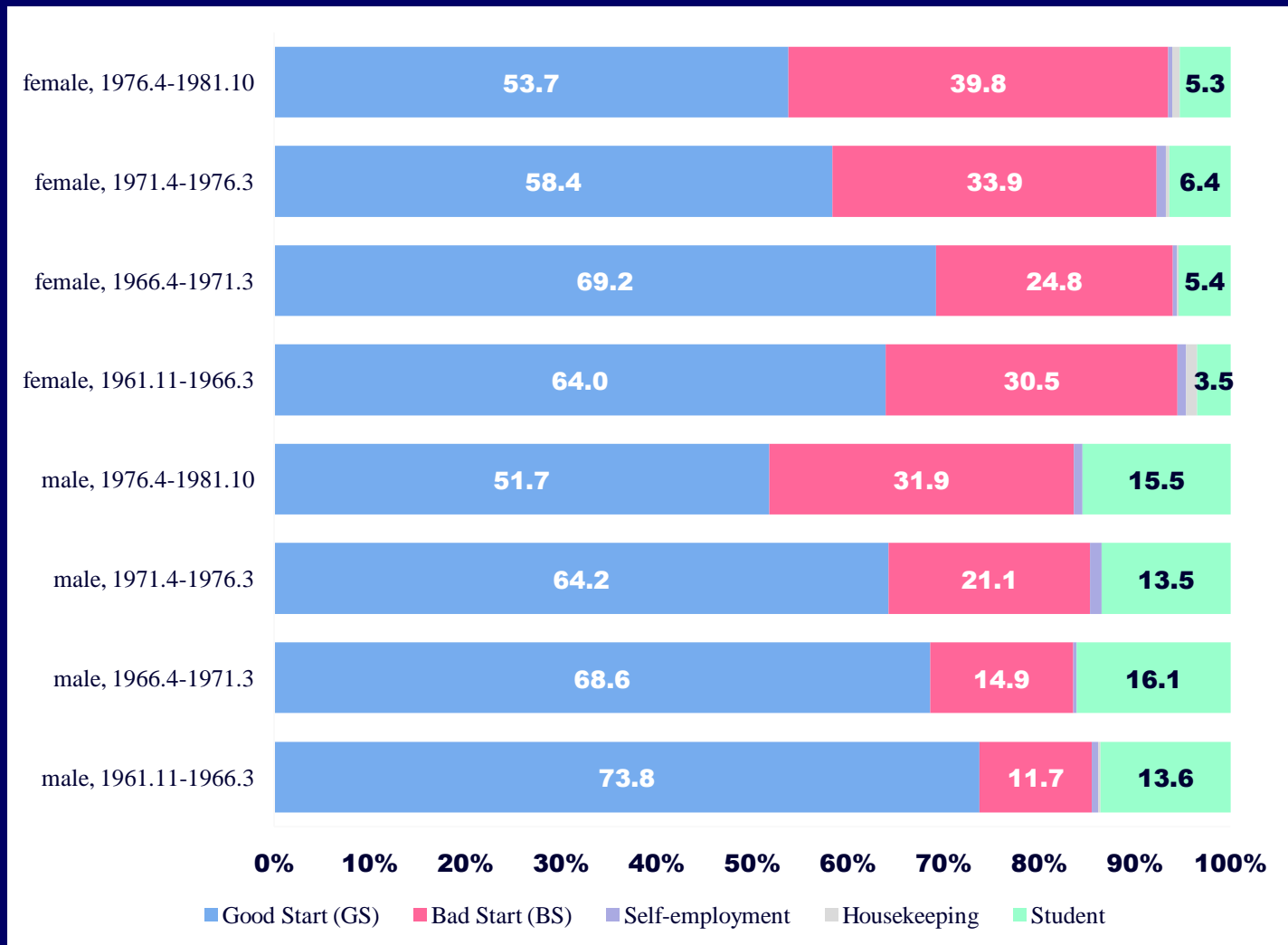
Definition of a Bad Start

Five employment categories

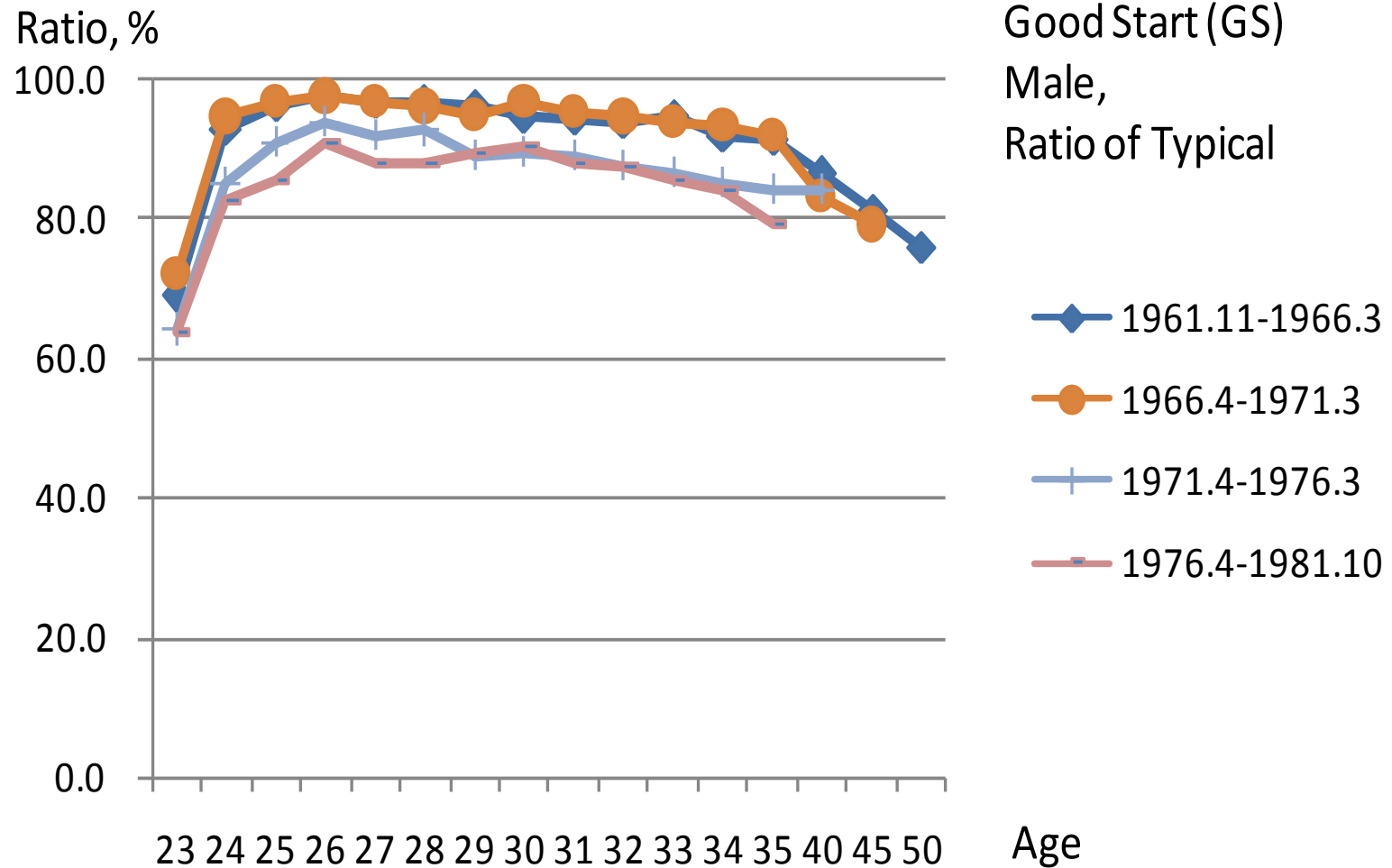
1. Typical salaried workers (TY)
2. Atypical salaried workers (AT)
3. Self-employed & professional (SE/Professional)
4. Full-time housewives (FTHW)
5. Students

The bad start: A group of persons with any AT experiences under age 25

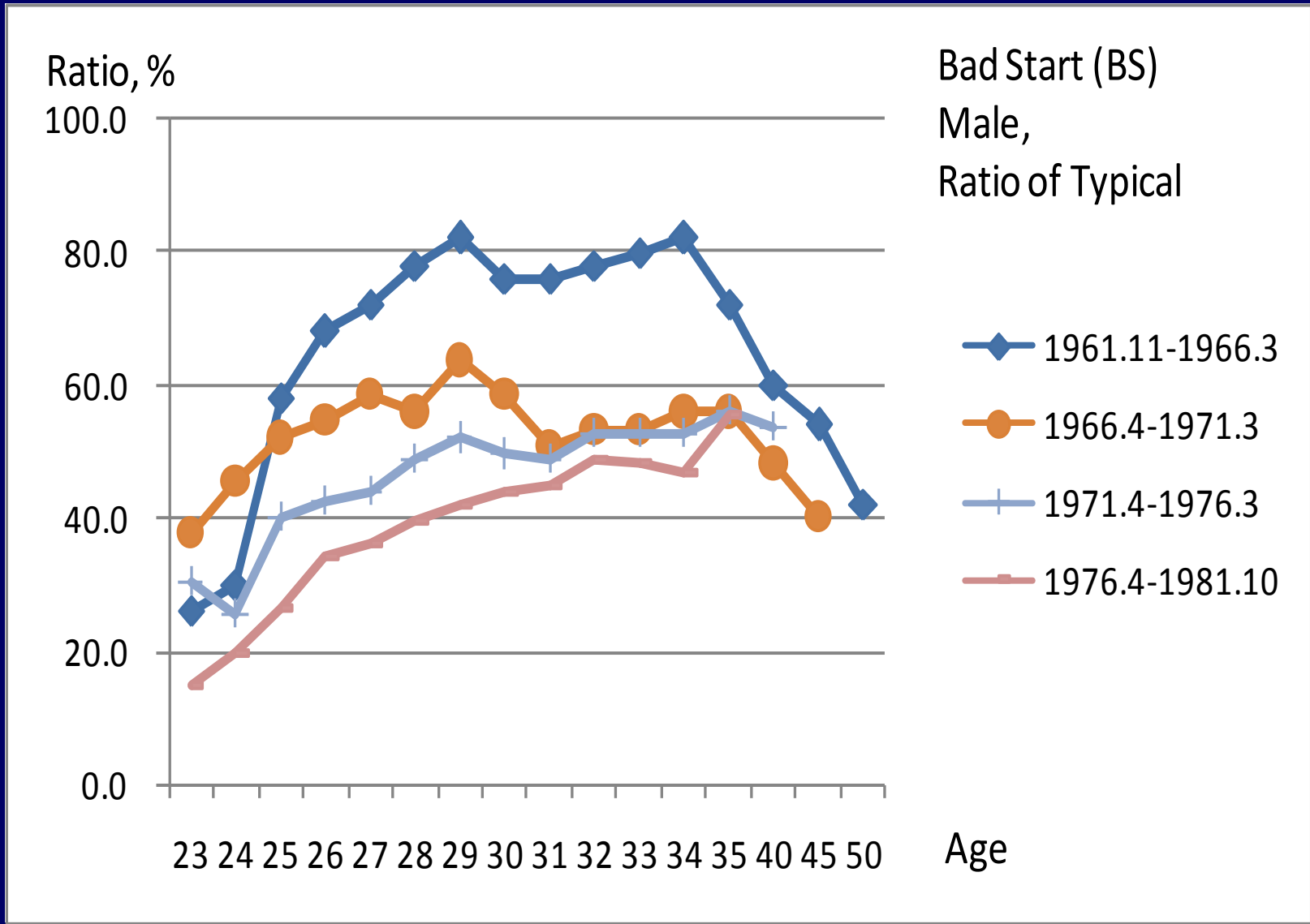
Proportions of BS and GS by Sex & by Cohort



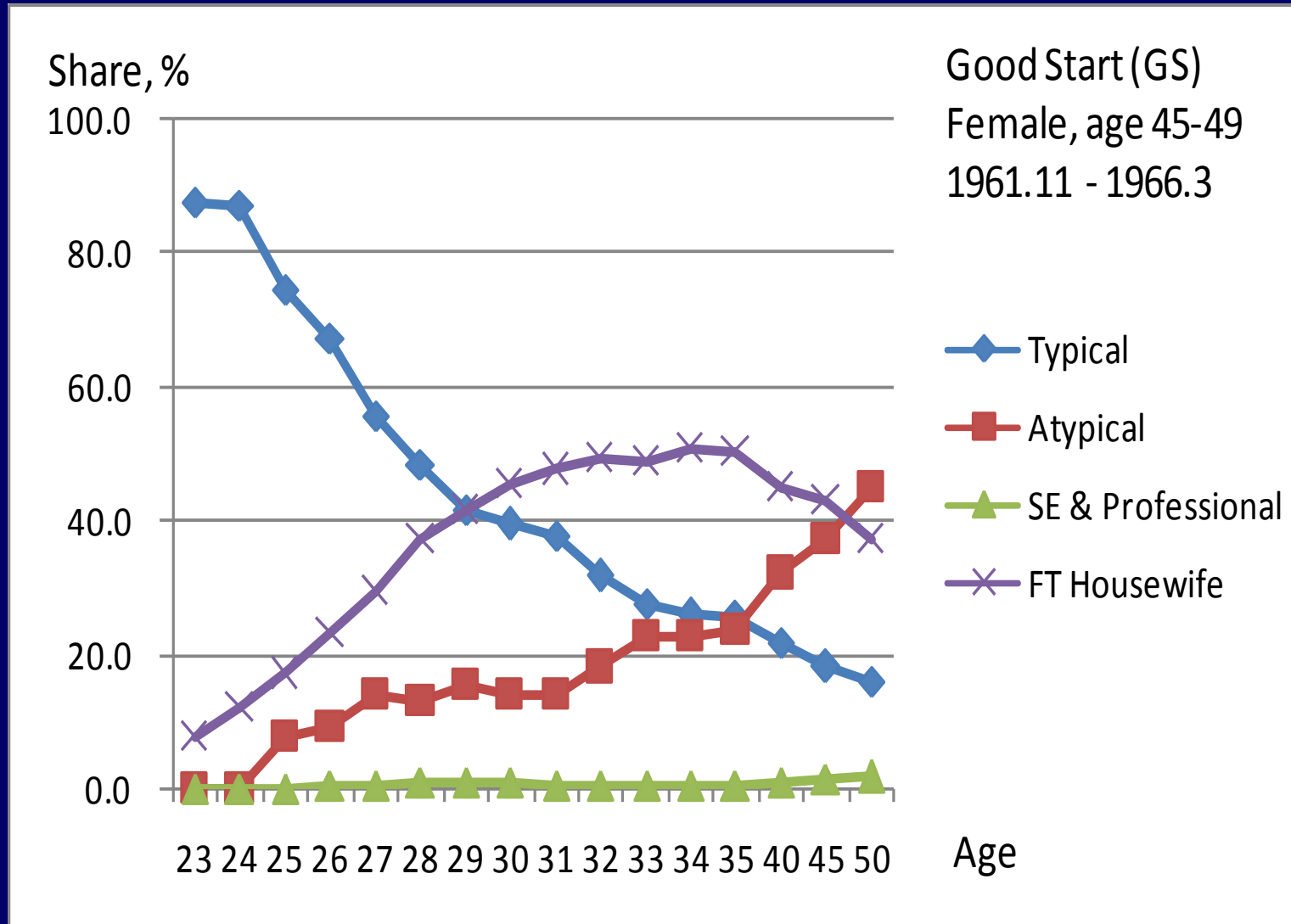
Employment History (Survival Rate of Typical Employees for GS Males)



Employment History (Proportions of Switch to Typical Employees for BS Males)



Employment History (GS Females, Age 45-49)



Employment History (BS Females, Age 45-49)

Share, %

100.0

80.0

60.0

40.0

20.0

0.0

23 24 25 26 27 28 29 30 31 32 33 34 35 40 45 50

Bad Start (BS)

Female, age 45-49

1961.11 - 1966.3

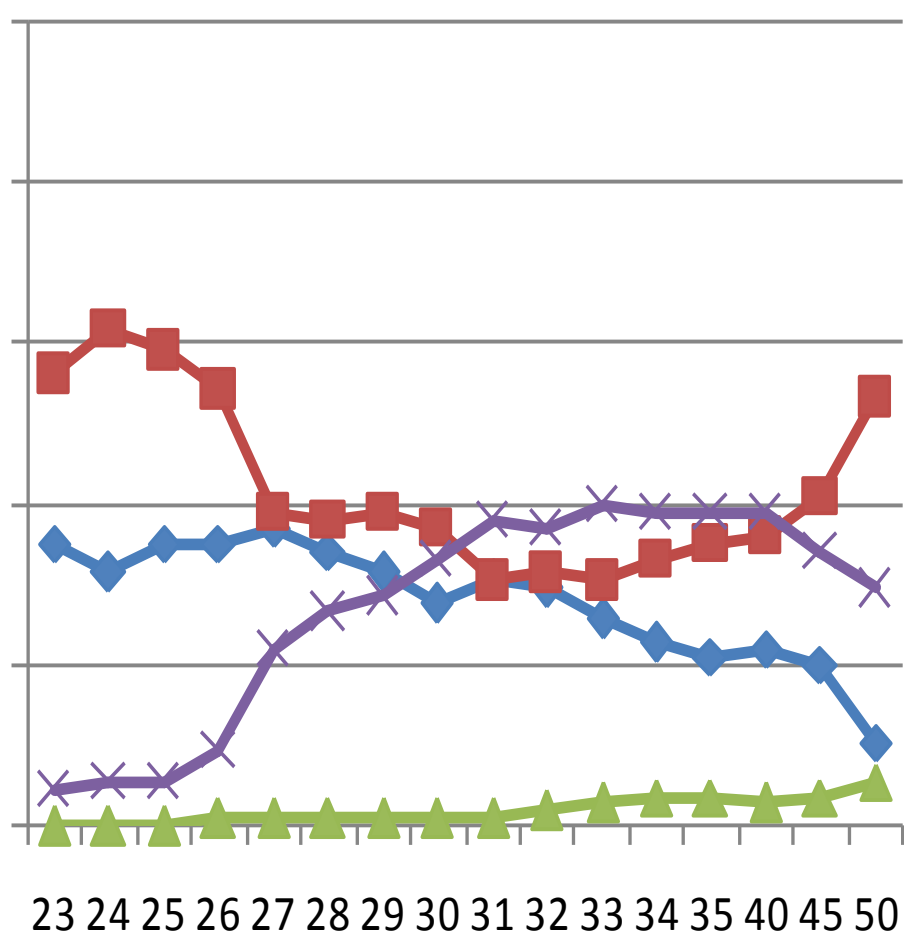
◆ Typical

■ Atypical

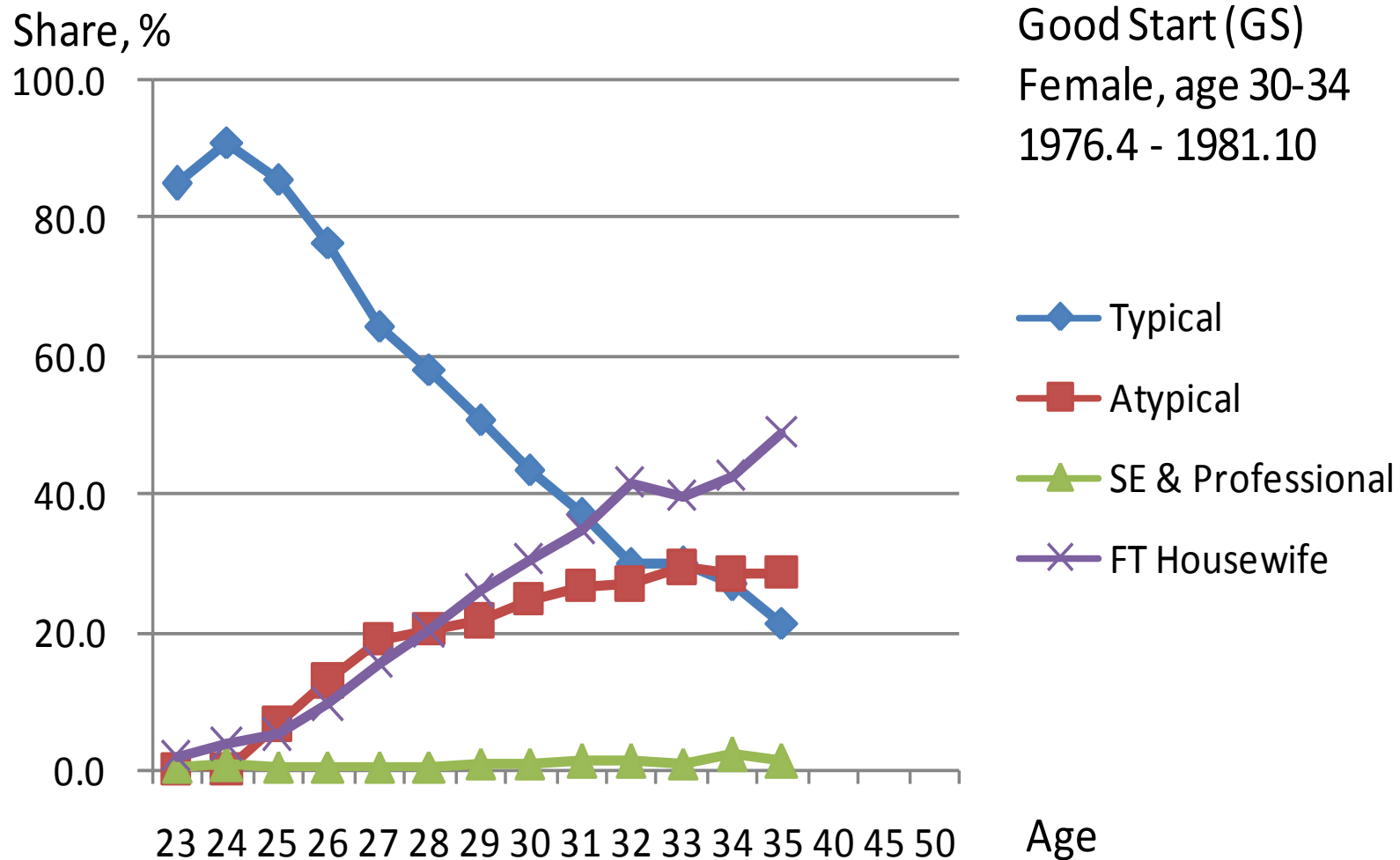
▲ SE & Professional

× FT Housewife

Age



Employment History (GS Females, Age 30-34)



Employment History (BS Females, Age 30-34)

Share, %

100.0

80.0

60.0

40.0

20.0

0.0

23 24 25 26 27 28 29 30 31 32 33 34 35 40 45 50

Bad Start (BS)

Female, age 30-34

1976.4 - 1981.10

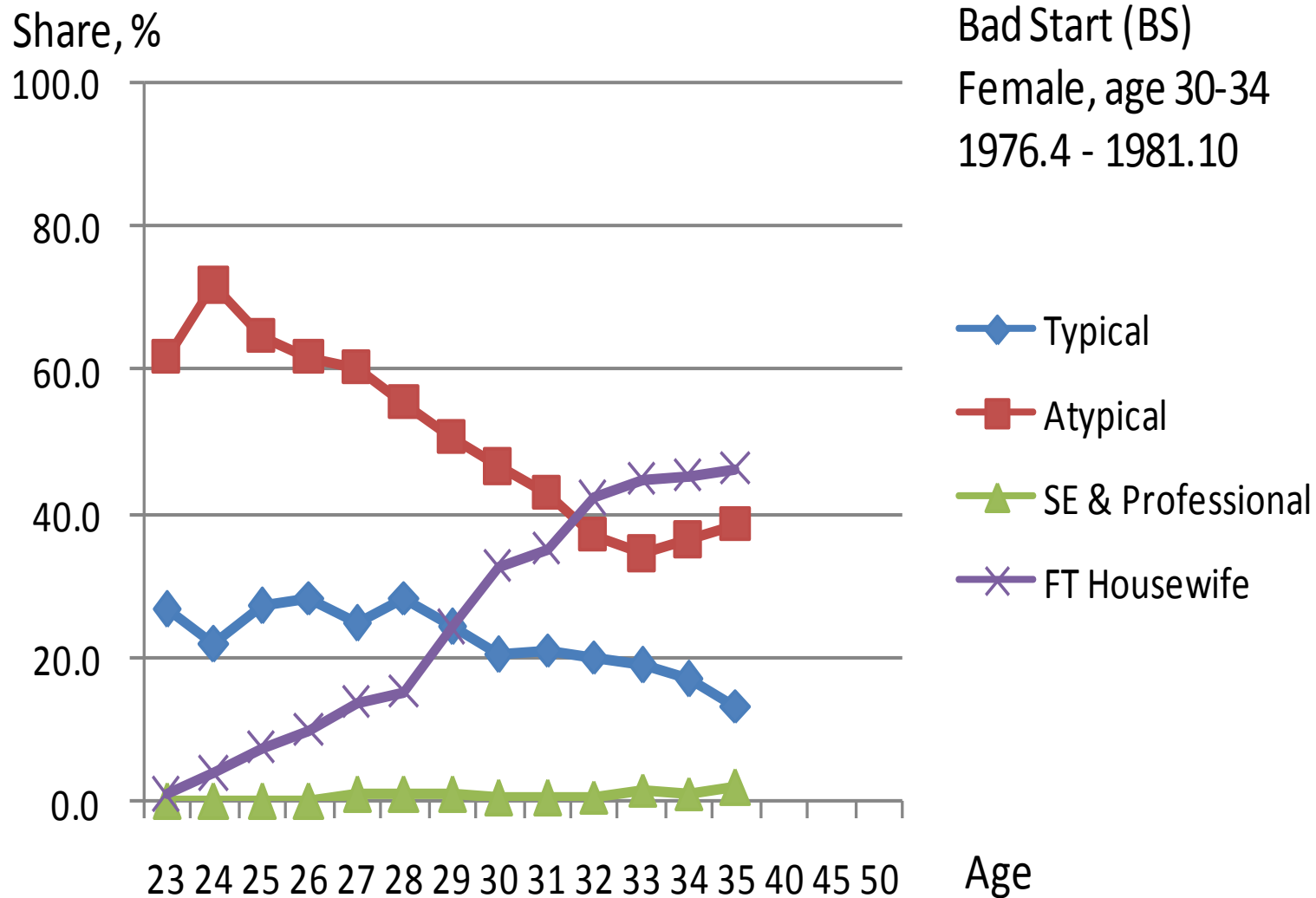
◆ Typical

■ Atypical

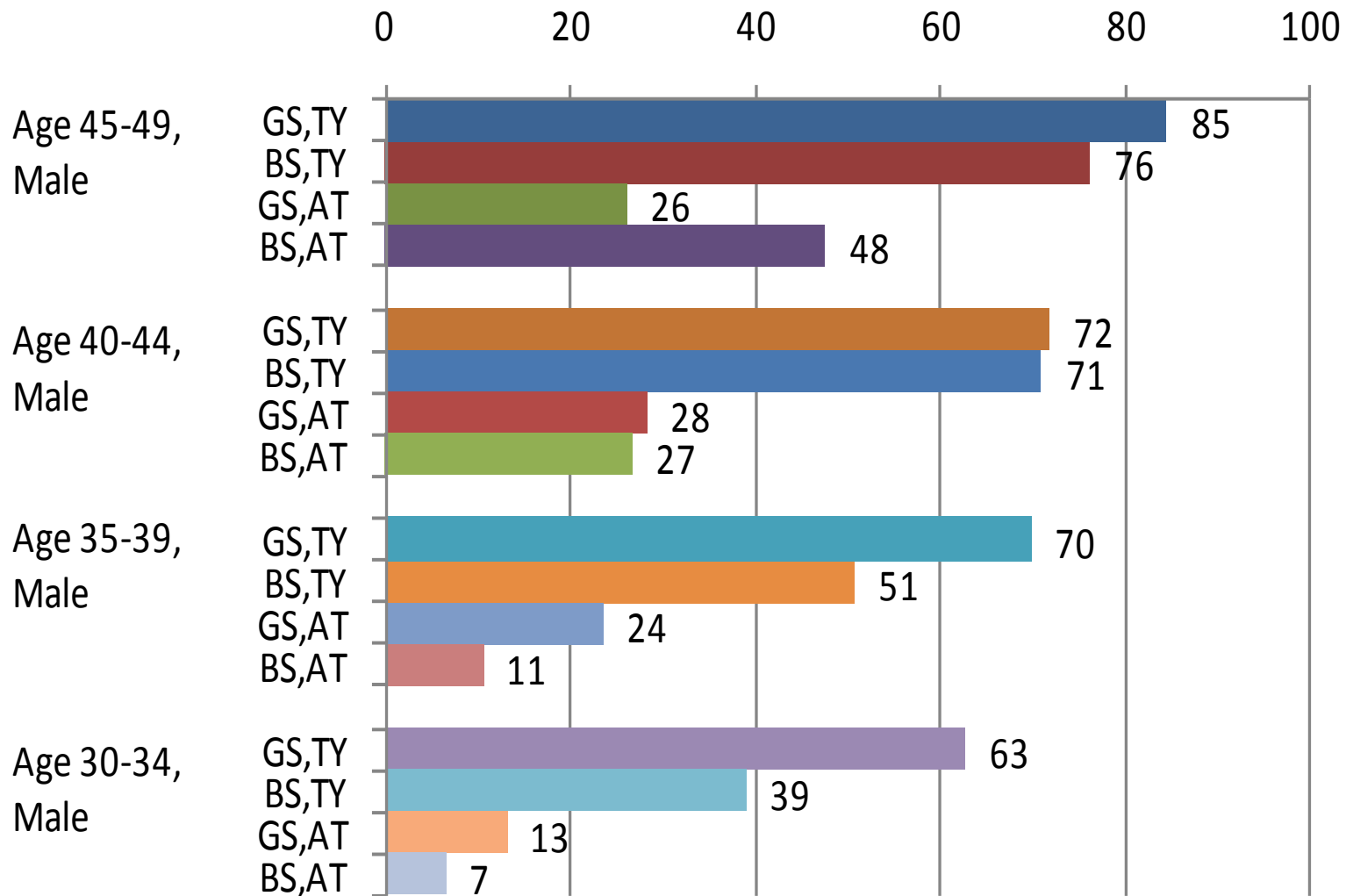
▲ SE & Professional

× FT Housewife

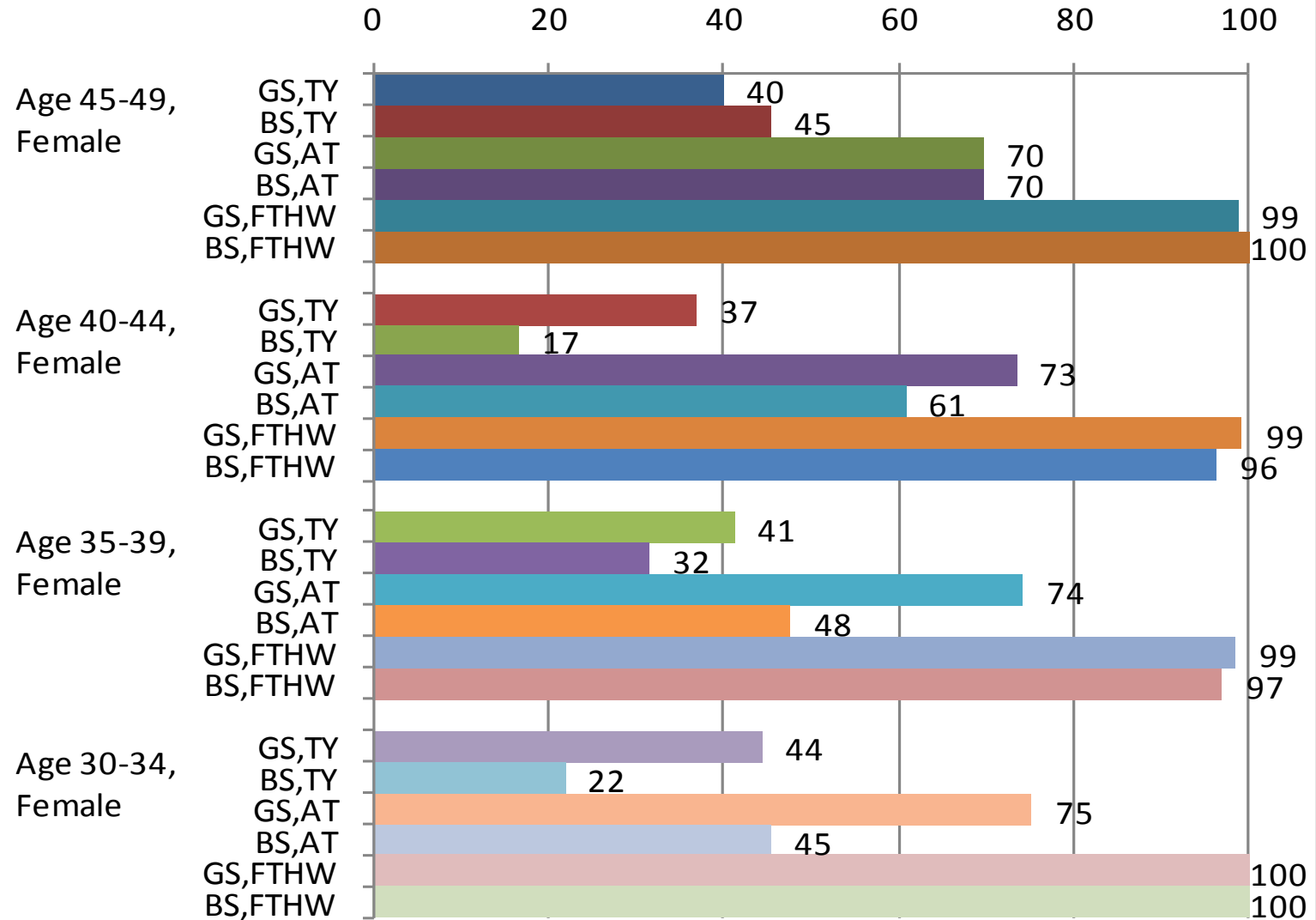
Age



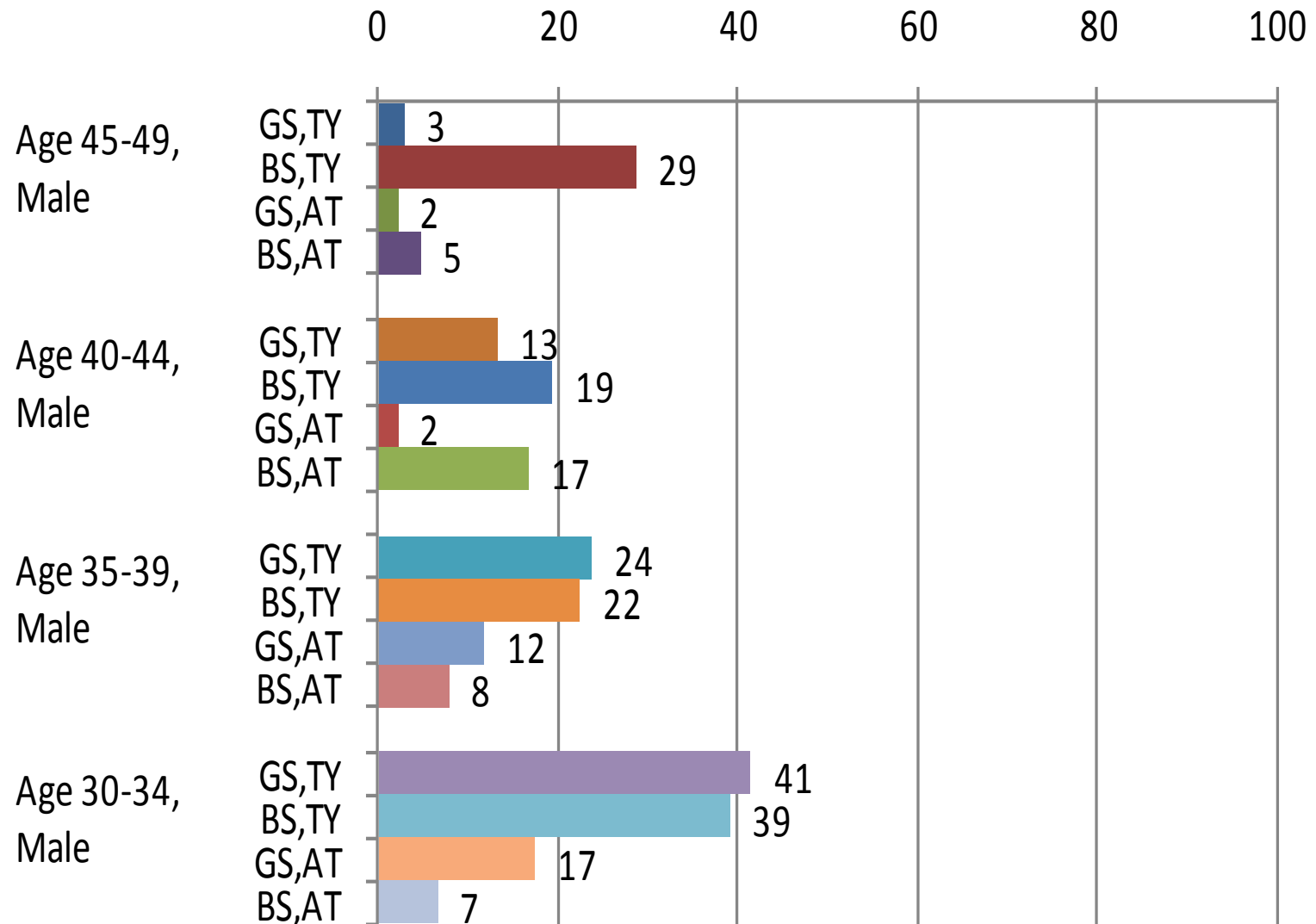
Marriage Rate of Surveyed Males



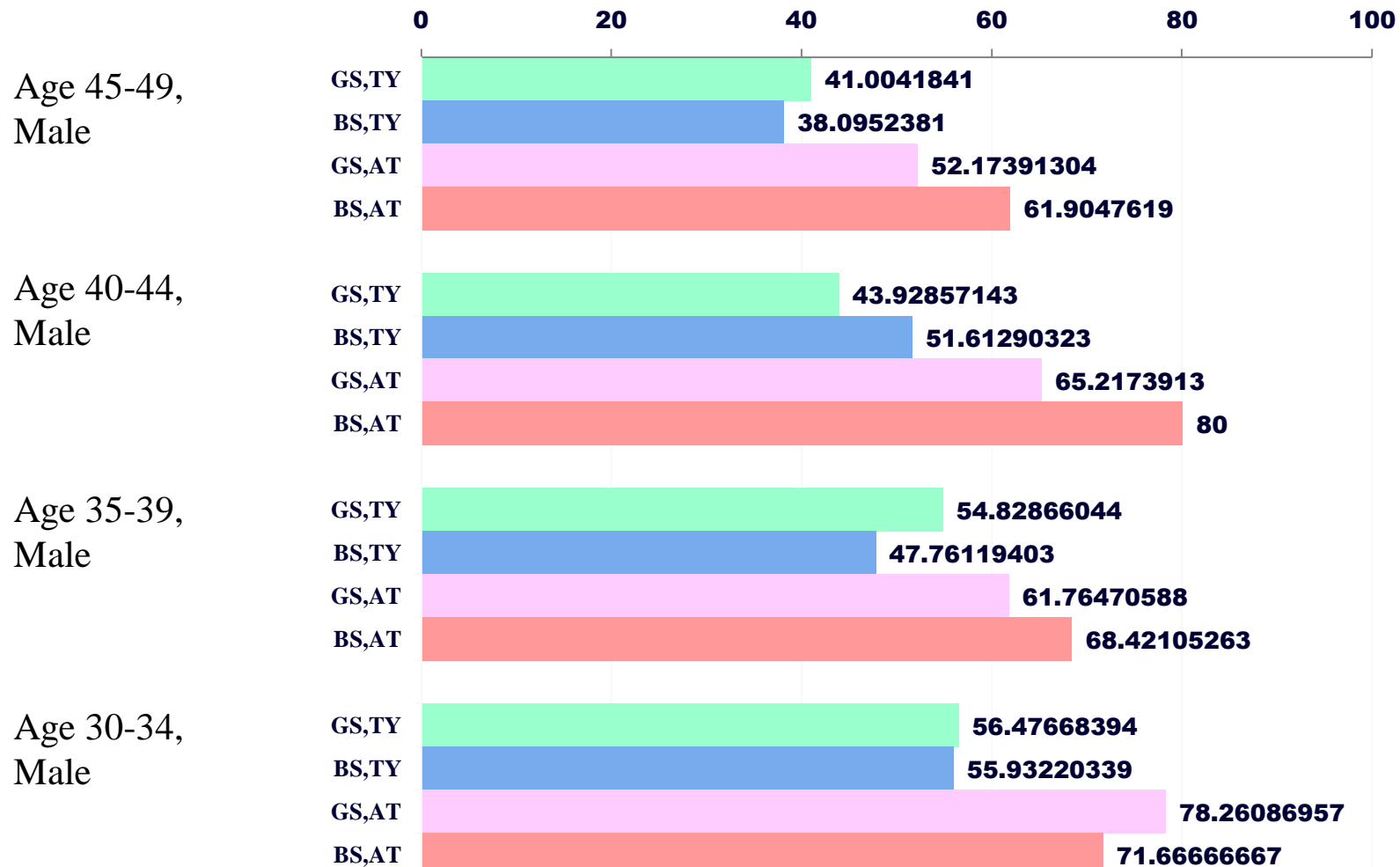
Marriage Rate of Surveyed Females



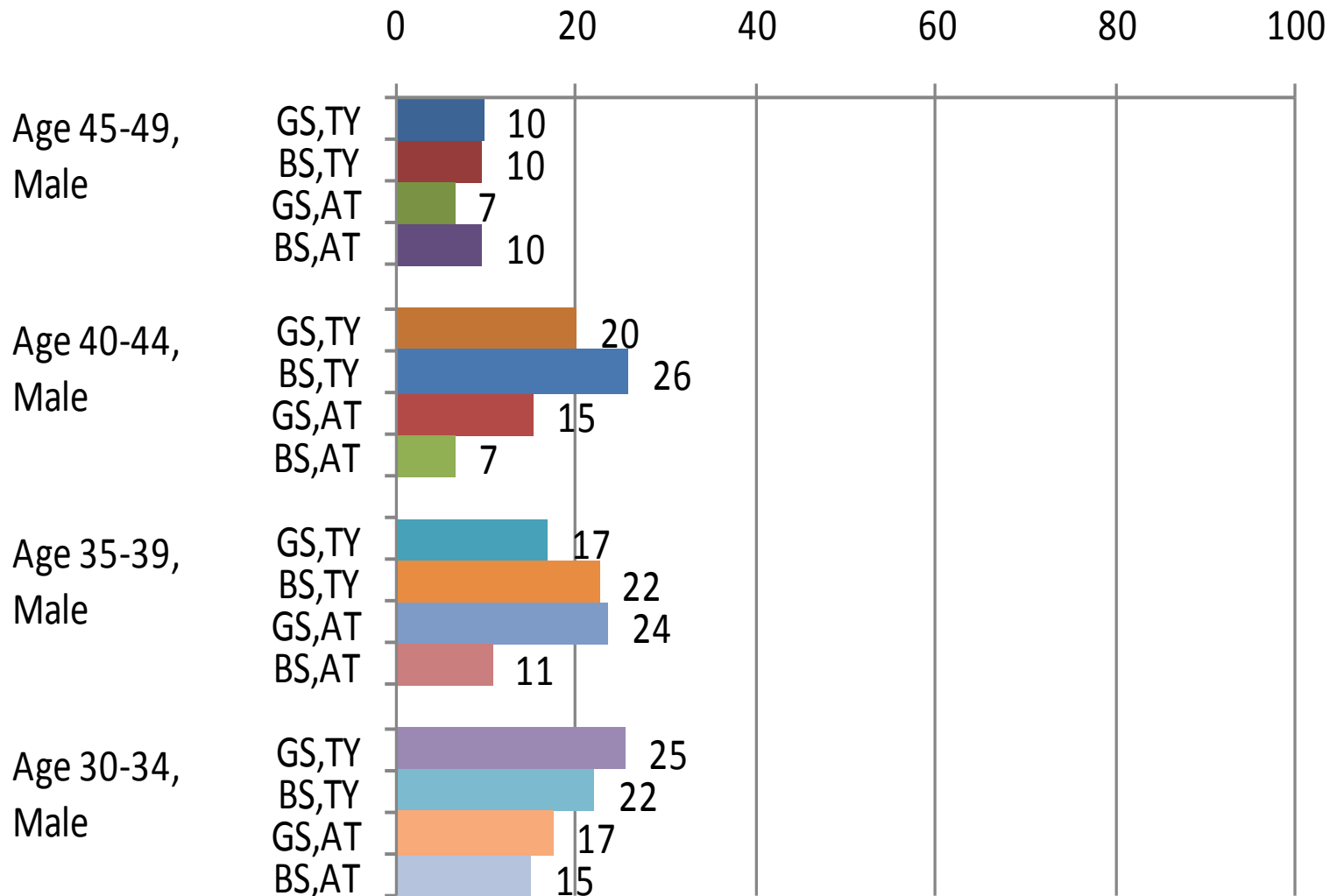
Proportion of Current Procreation or Planned Procreation within 5 Years (Males)



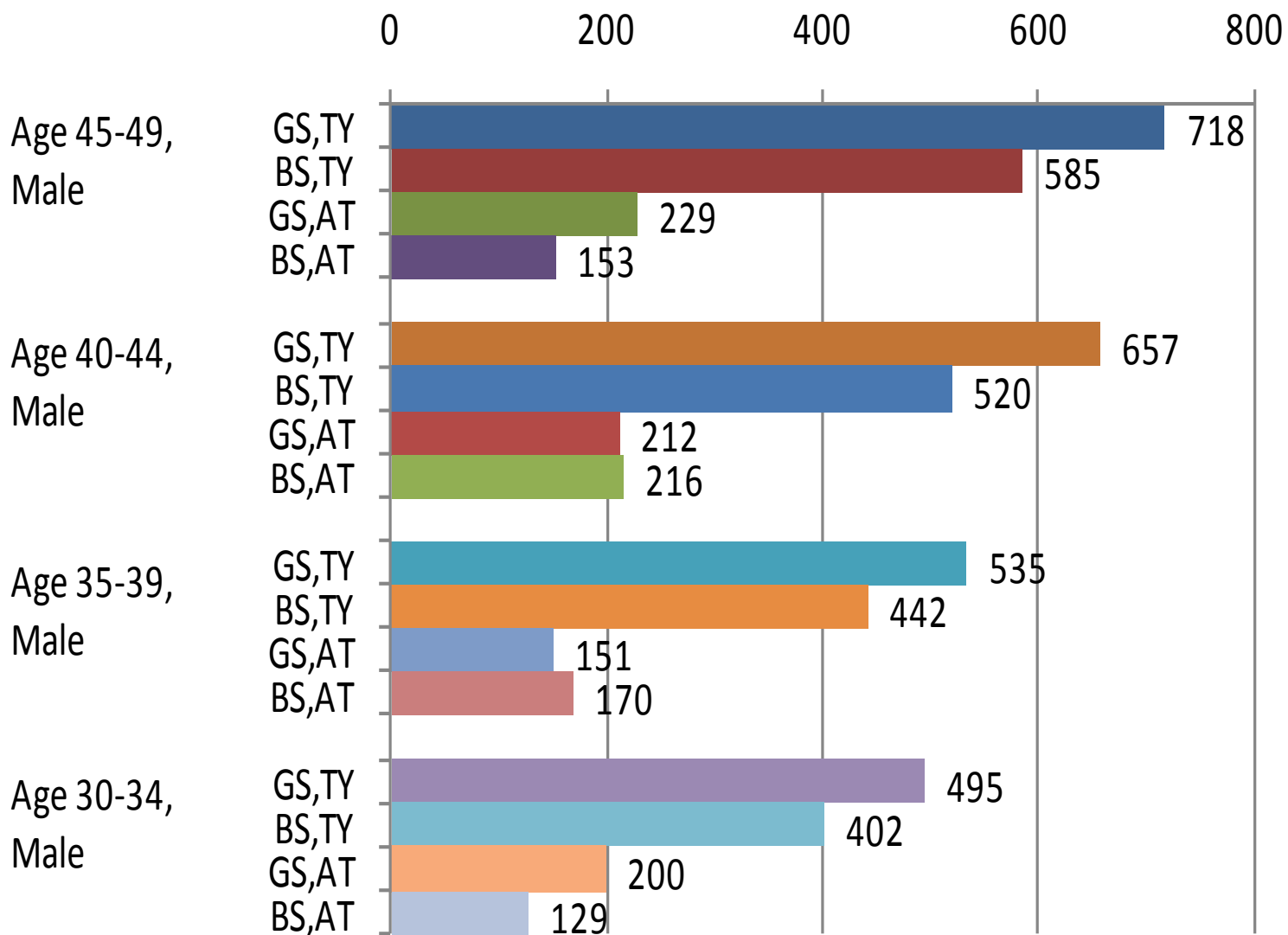
Proportion of Those Not Expecting to be Better-off than Their Parents (Males)



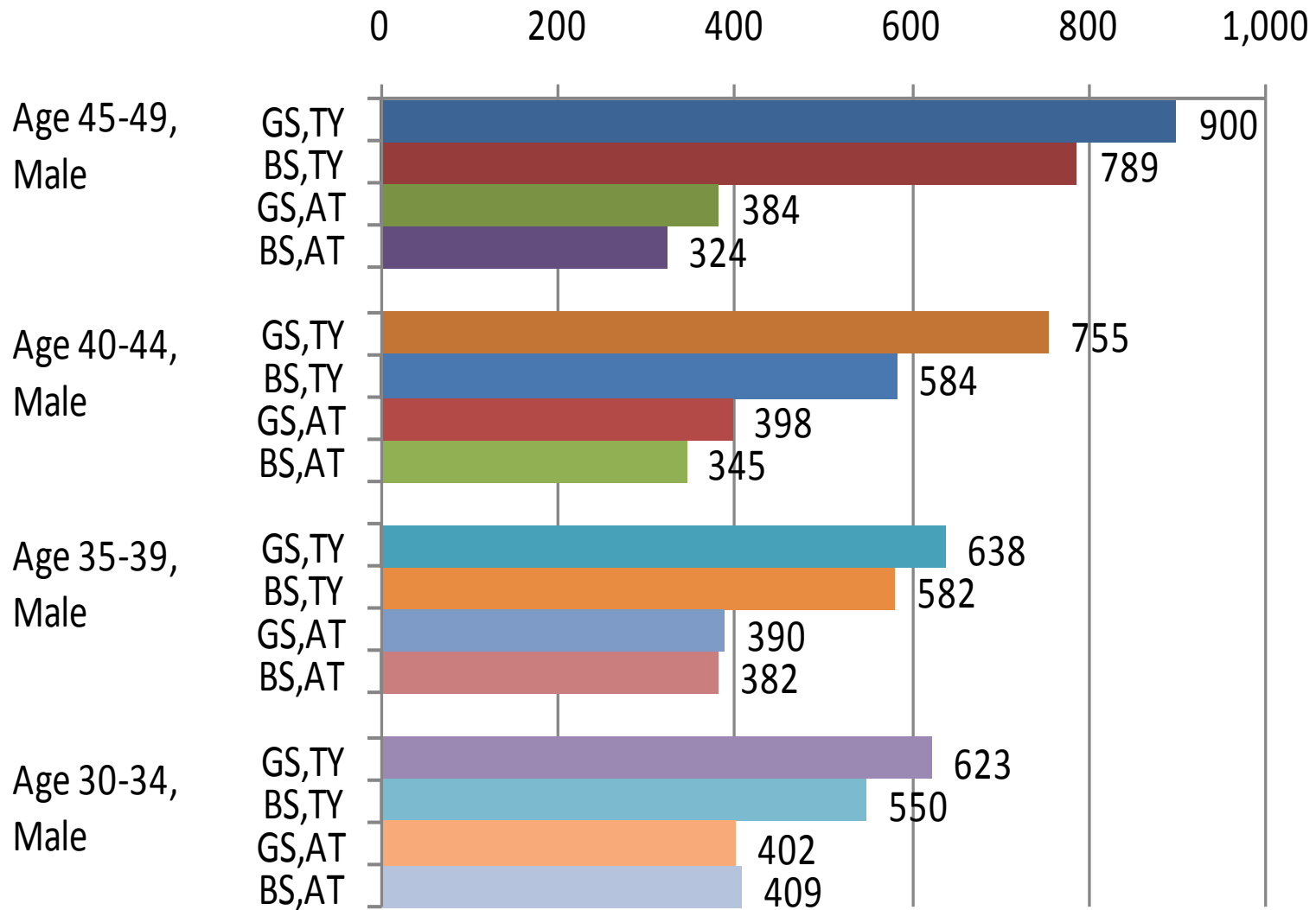
Proportion of Those Expecting An Improved Living Standard In The Next 10 Years (Males)



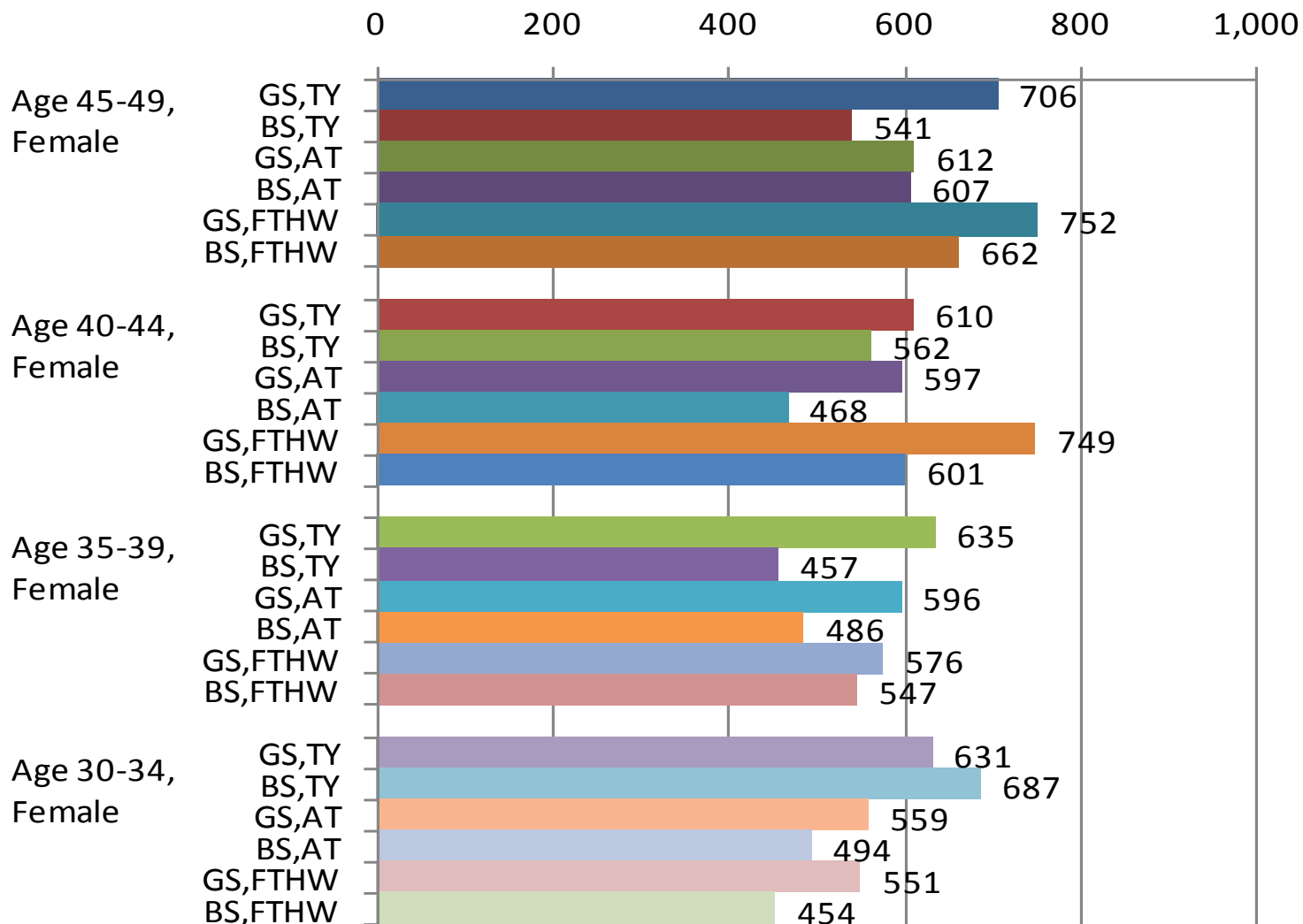
Current Average Annual Income on an Individual Basis (Males; 10,000 yen)



Average Household Annual Income (Males; 10,000 yen)



Average Household Annual Income (Females; 10,000 yen)



What Factors Dominate a Bad Start?

- **The cohort effect and family background remain decisive after we controlled for factors of personal abilities and sociability.**
 - **requiring a different set of policy measures for reducing the number of BS persons**
- **The mother effect operated in the opposite direction between males and females.**

Estimation Results (Males)

Independent Variables	Log (P_{BS}/P_{GS})		
	Model 1	Model 2	Model 3
Constant	-1.84 (-12.09)	-1.83 (-8.20)	-1.03 (-4.28)
Dummies of cohort			
April 1966- March 1971	0.315 (1.60)	0.332 (1.66)	0.381 (1.81)
April 1971- March 1976	0.726 (3.95)	0.768 (4.12)	0.827 (4.29)
April 1976- March 1981	1.36 (7.33)	1.38 (7.37)	1.57 (8.04)
Mother dummy		-0.440 (-1.84)	-0.347 (-1.38)
Dummy of parental affection		-0.315 (-1.90)	-0.123 (-0.71)
Dummy of parents' relationship		0.436 (2.89)	-0.340 (2.15)
Dummies of no family-mentors			
No mentors		0.411 (2.86)	0.402 (2.65)
No other family-members		0.674 (3.59)	0.544 (2.64)
Dummy of educational qualif.			
Vocational school			-0.679 (-3.44)
College			-1.381 (-3.65)
Undergraduate			-1.544 (-10.5)
Graduate			-2.248 (-7.53)
Dummy of no friends			-0.698 (2.38)
Log L	-1744.76	-1724.41	-1639.40

Note: a sample of 1,994 individuals. Figures in () are t-values.

Estimation Results (Females)

Independent Variables	Log (P_{BS}/P_{GS})		
	Model 1	Model 2	Model 3
Constant	-0.740 (-6.24)	-0.530 (-2.70)	-0.161 (-0.76)
Dummies of cohort			
April 1966- March 1971	-0.286 (1.82)	-0.299 (-1.88)	-0.259 (-1.59)
April 1971- March 1976	0.196 (1.30)	0.207 (1.35)	0.345 (2.20)
April 1976- March 1981	0.438 (2.91)	0.474 (3.09)	0.716 (4.43)
Mother dummy		0.450 (2.54)	0.537 (2.90)
Dummy of parental affection		-0.400 (-2.53)	-0.281 (-1.69)
Dummy of parents' relationship		0.195 (1.46)	0.156 (1.15)
Dummy of no family-mentors			
No mentors		0.062 (0.40)	0.0160 (0.102)
No other family-members		0.611 (3.12)	0.637 (3.17)
Dummies of educational qualif.			
Vocational school			-0.303 (-1.77)
College			-0.733 (-5.19)
Undergraduate			-1.136 (-8.21)
Graduate			-1.313 (-2.72)
Dummy of no friends			0.348 (0.883)
Log L	-1587.72	-1567.91	-1511.91

Note: a sample of 1,899 individuals. Figures in () are t-values.

What Factors can Influence the Shift to a Typical Working Career?

- **With or without the restrictions of term of working years in the first job**
- **2 or more consecutive years working experience at a single company/institution**
- **Years of working experience**
- **Job training experience at public institutions**
→ **negative!**

Estimation Results (Males)

Independent variables	P_{BS-A} Coefficient (t-value)	
Constant	-3.877	(-2.64)
Dummies of cohort (birth year and month)		
1966.4-1971.3	0.761	(0.94)
1971.4-1976.3	0.00154	(0.0021)
1976.4-1981.10	-0.0413	(-0.06)
Dummy of intimate friends	0.848	(1.83)
Dummy of non-manufacturing industry	0.937	(1.54)
Dummies of the first job		
White collar	1.150	(1.89)
Blue collar	-0.409	(-0.68)
Dummies of term-conditions		
No restriction	2.933	(3.88)
1 to 12 months	0.556	(0.69)
Dummy of job training	-1.878	(-3.60)
Dummy of 2+ consecutive years working experience	1.318	(2.16)
Years of working experience	0.214	(2.88)
Dummy of mother's working status	-0.381	(-1.00)
Likelihood Ratio	218.6	

Note: a sample of 398 individuals.

Estimation Results (Females)

Independent variables	P_{BS-A} Coefficient (t-value)	
Constant	-1.661	(-2.56)
Dummies of cohort (birth year and month)		
1966.4-1971.3	-0.0200	(-0.06)
1971.4-1976.3	-0.4898	(-1.51)
1976.4-1981.10	-0.7908	(-2.49)
Dummy of non-manufacturing industry	-0.6708	(-1.81)
Dummies of the first job		
White collar	-0.1662	(-0.60)
Blue collar	-1.025	(-1.62)
Dummies of term-conditions		
No restriction	1.798	(4.19)
1 to 12 months	-0.2614	(-0.40)
Dummy of job training	-0.9940	(-3.39)
Dummy of 2+ consec. yrs working exp.	-0.4136	(-1.25)
Years of working experience	0.7525	(6.53)
Likelihood Ratio	287.4	

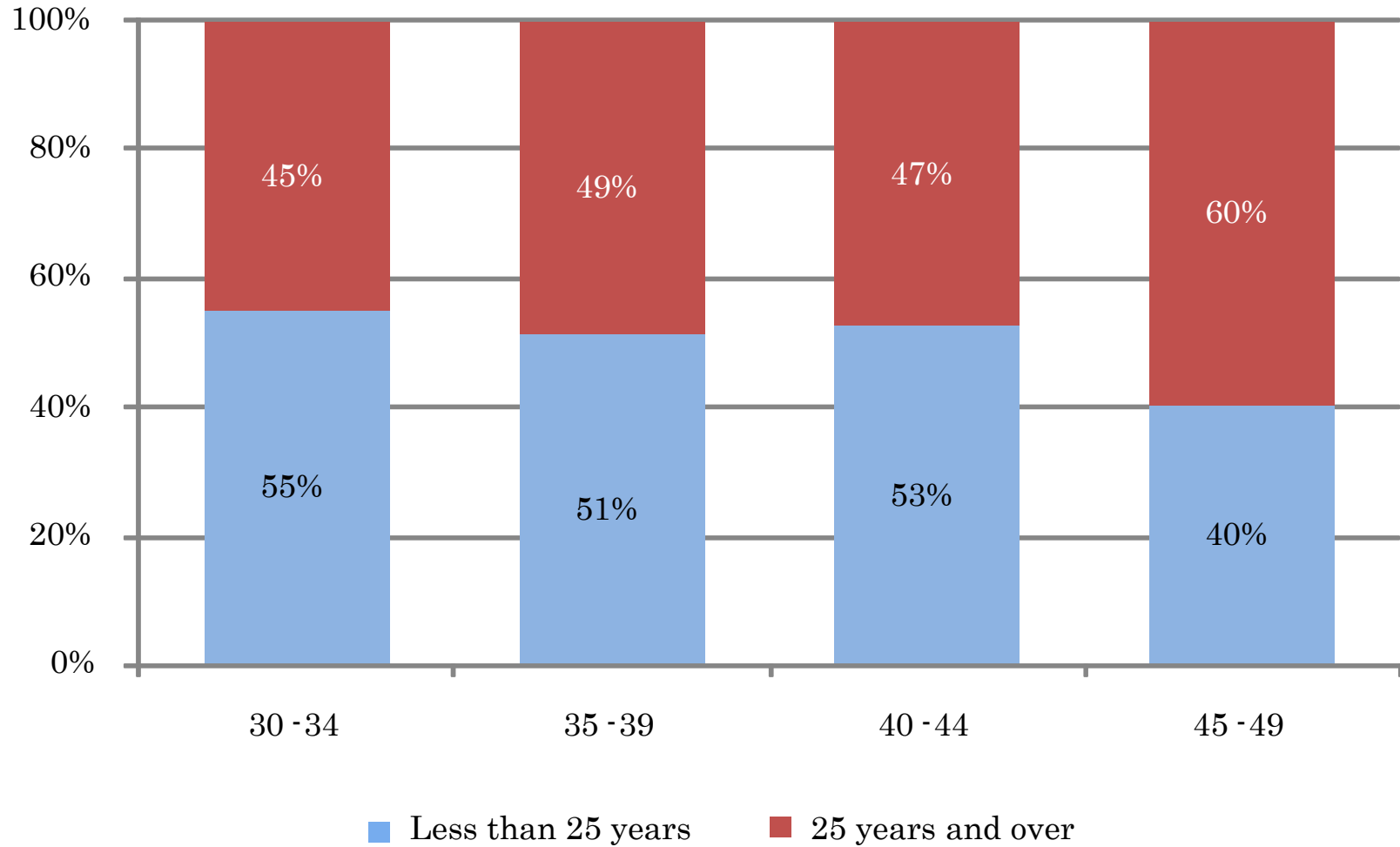
Note: a sample of 615 individuals.

How Likely is a Bad Start to Cause a Bad Finish?

- **Bad Finish: KNH coverage with less than 25 yrs**
- **Simulation method: a simple and primitive way**
- **Results: around 90% (females) & 50% (males) for the current young cohorts**

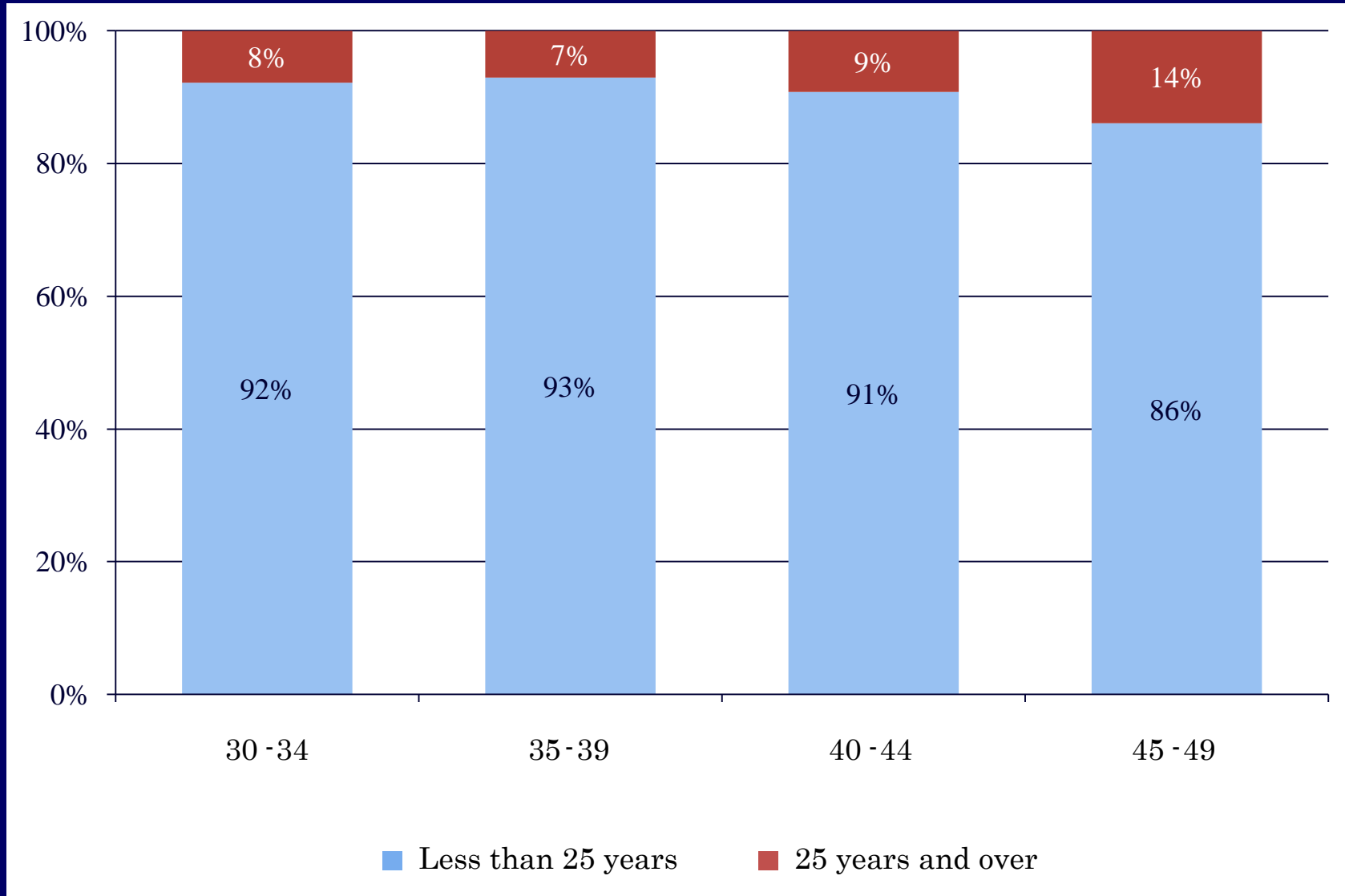
→ **The BS/BF issue is as serious in Japan as in European countries**

Probabilities of BF for BS Males



Note: BF = KNH Coverage less than 25 years at age 60

Probabilities of BF for BS Females



Note: BF = KNH Coverage less than 25 years at age 60

Nelson-Aalen Cumulative Hazard Estimates: TY \rightarrow AT

