

Japan's Challenge to Ageing -Demographic Trend, Health Determinants, and Public Policies-

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Keynote Speech by Haruko Noguchi



Contents of today's speech

- Challenges in the super aged society – Japan as an example -
- Fact findings by aggregated in selected countries
 - ✓ Demographic trends
 - ✓ Health status
 - ✓ Socio-economic status
- Health Determinants - Marital status & social network - by Ms. Rong FU in tomorrow–
- Population ageing and wellbeing: lessons from Japan's long-term care
 - ✓ Public long-term care (LTC) policy in Japan & Japan's LTCl in comparison
 - ✓ Impacts of LTCl : policy evaluation
 - ✓ LTCl and Japanese family values
- Conclusion & discussion

Challenges in The Super-aged Japan

As Japan ages, so too do its workers

The elderly keep on toiling



Print edition | Asia >

Jan 7th 2017 | TOKYO

LIKE many firms in Aichi prefecture, Nishijimax, a maker of machine tools, has trouble finding workers. Its solution in a country with a drum-tight labour market is

Japan's shrinking population faces shortage of workers

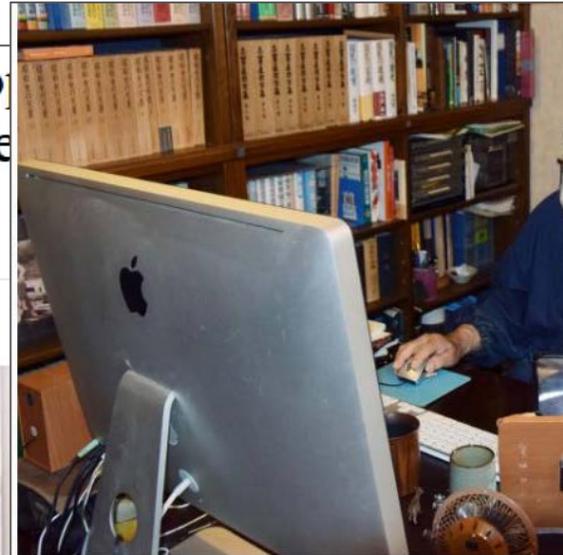
Isabel Reynolds
Bloomberg

Tokyo | Sun, May 21, 2017 | 10:16 am



With a life expectancy of 87 years, Japanese are among the longest-living people on Earth (Bloomberg/File)

Source: Bloomberg. <http://www.thejakartapost.com/news/2017/05/21/japans-shrinking-population-aging-nation-faces-shortage-of-workers.html>



Yasuharu Shimamura works at his home in Okegawa, Saitama Prefecture.

NATIONAL

Japan's retirees heading back to work

BY MAYUKO MATSUMOTO
KYODO

Some companies are bringing retirees back into the office to utilize the experience gained through decades on the job.

Such workers can offer valuable insights and placement advice, and companies are increasingly accommodating them as Japan faces a looming labor shortage.

Sakae Kajita, 67, retired two years ago after a career with a major Japanese firm.

Source: Japan Times. <http://www.japantimes.com/news/2017/05/21/japans-shrinking-workforce-redefine-old-age-s-retirees-heading-back-work-firms-face-labor-shortages/>

How to Boost Japan's Shrinking Workforce? Redefine Old Age

Some say "old age" doesn't really start until you're 75

By Yoshiaki Nohara
2017年2月17日 GMT+9 上午6:00
From Benchmark



A woman exercises with wooden dumbbells at a temple in Tokyo. Photographer: Tomohiro Ohsumi/Bloomberg

Source: Bloomberg. <https://www.bloomberg.com/news/articles/2017-02-16/how-to-boost-japan-s-shrinking-workforce-redefine-old-age>

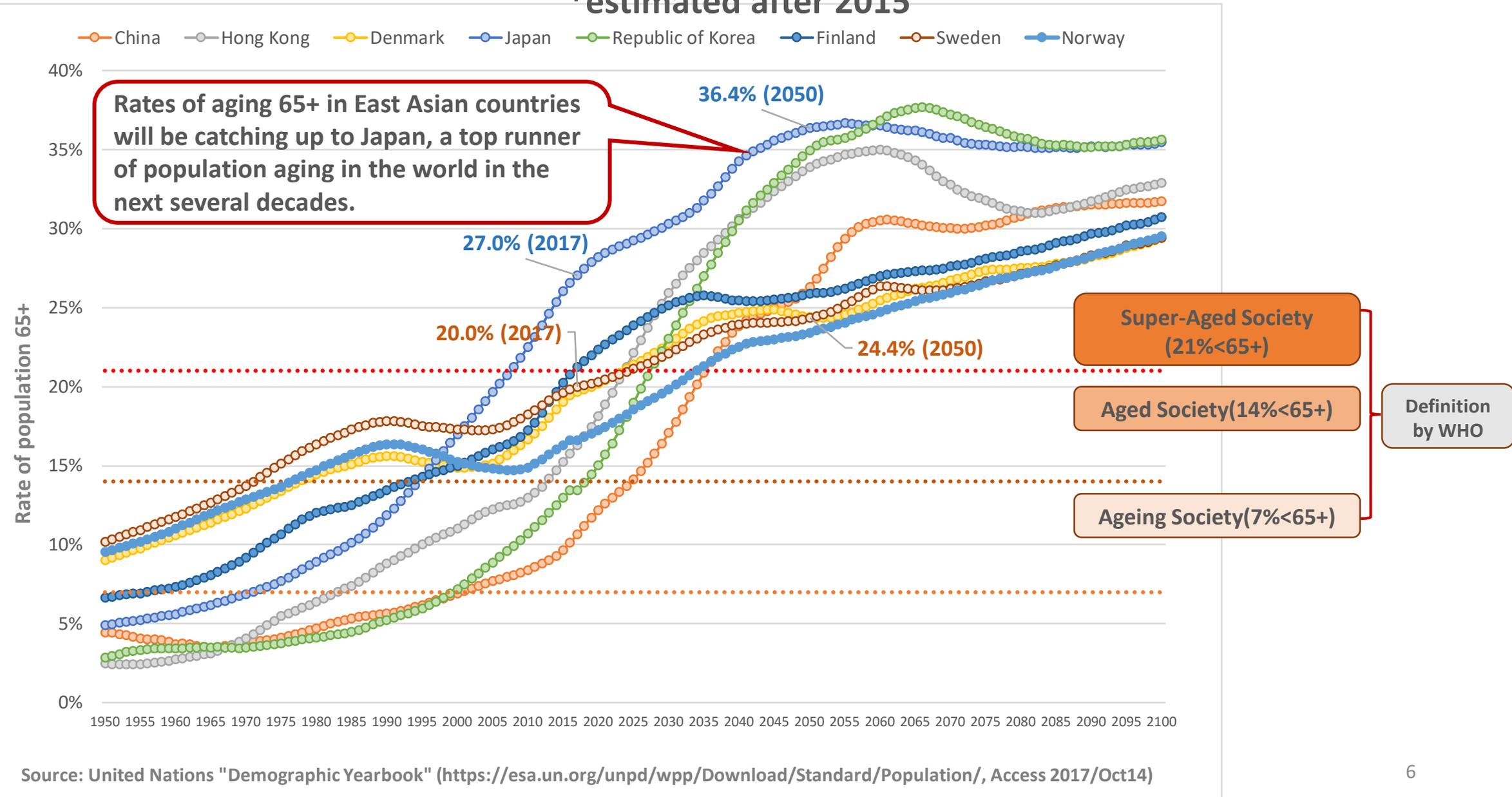
Source: The Economist <https://www.economist.com/news/2017/05/21/japans-shrinking-population-aging-nation-faces-shortage-of-workers>



Fact findings by aggregated in selected countries

Demographic trend (1): Rate of population 65+ in Northern Europe & East Asian countries (1950-2100)

*estimated after 2015



Demographic trend (1) – Summary: Velocity of population aging in the society

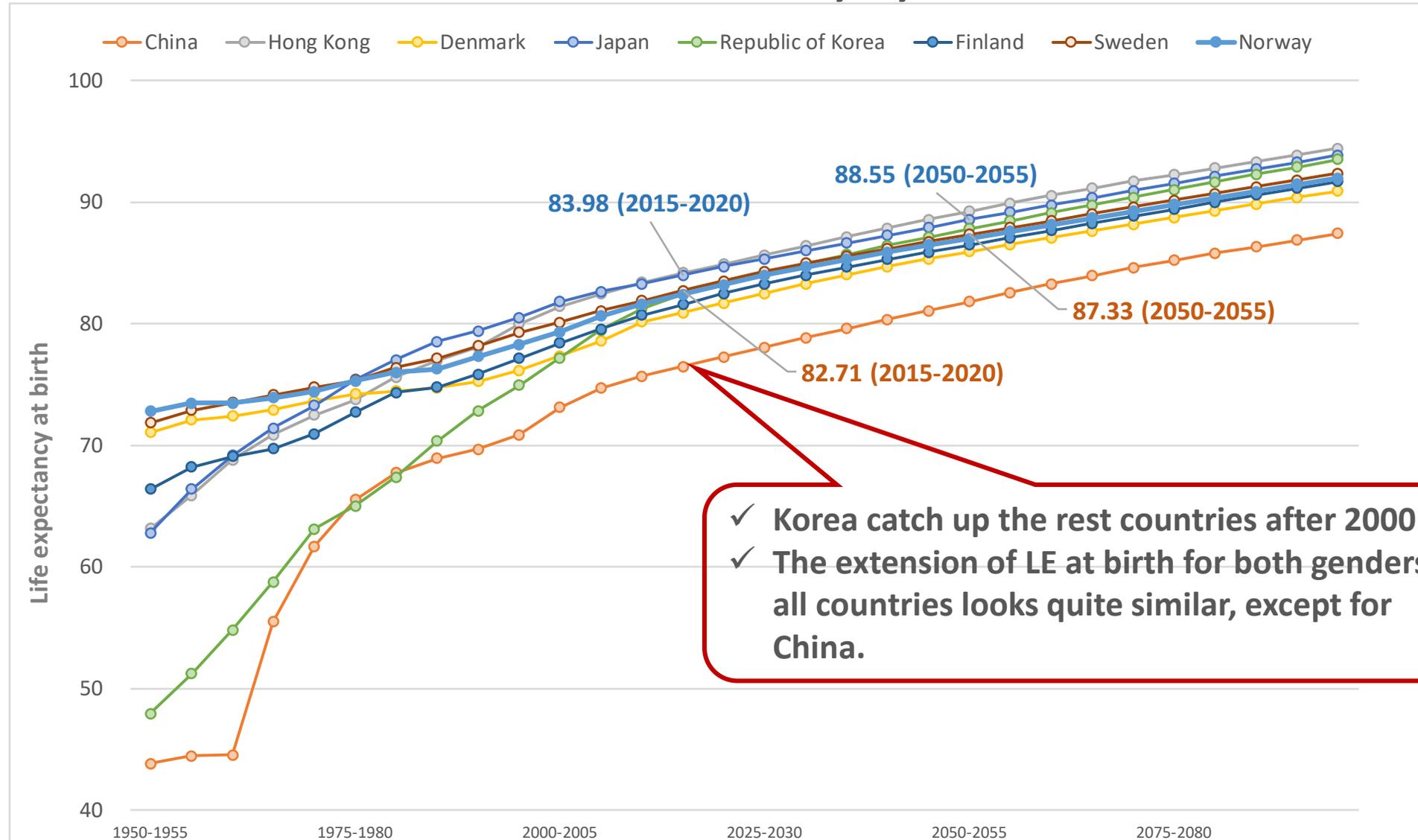
	Ageing society	Aged society	Super aged society	Number of years of transition	
				7% to 14%	14% to 21%
Proportion of seniors 65+	>7%	>14%	>21%	7% to 14%	14% to 21%
Denmark	1925	1978	2027	53	66
Finland	1958	1994	2017	36	42
Norway	1885	1977	2027	92	70
Sweden	1890	1975	2014	85	39
China	2001	2026	2038	25	19
Hong Kong	1984	2013	2024	29	11
Japan	1970	1996	2007	26	11
Republic of Korea	2000	2013	2027	13	14

Source: United Nations "The Aging of Population and Its Economic and Social Implications (Population Studies, No.26,1956)" and "Demographic Yearbook" before 1950; and United Nations "World Population Prospects: The 2004 Revision" after 1950.

- ✓ All countries will become “Super-aged society” until 2030s
- ✓ It took 26 years for Japan to shift from aging to aged society.
- ✓ East Asian countries have been aging much faster than Nordic countries, e.g. China (25 years); Hong Kong (29 years); Japan (26 years); and Korea (13 years) from 7% to 14%; China (19 years); Hong Kong (11 years); Japan (11 years); and Korea (14 years) from 14% to 21%,
- ✓ While Denmark (53 years); Finland (36 years); Norway (92 years); and Sweden (85 years) from 7% to 14%; Denmark (66 years); Finland (42 years); Norway (70 years); and Sweden (39 years) from 14% to 21%

Demographic trend (2): Life expectancy (LE) at birth for both genders in Northern Europe & East Asian countries (1950-2100)

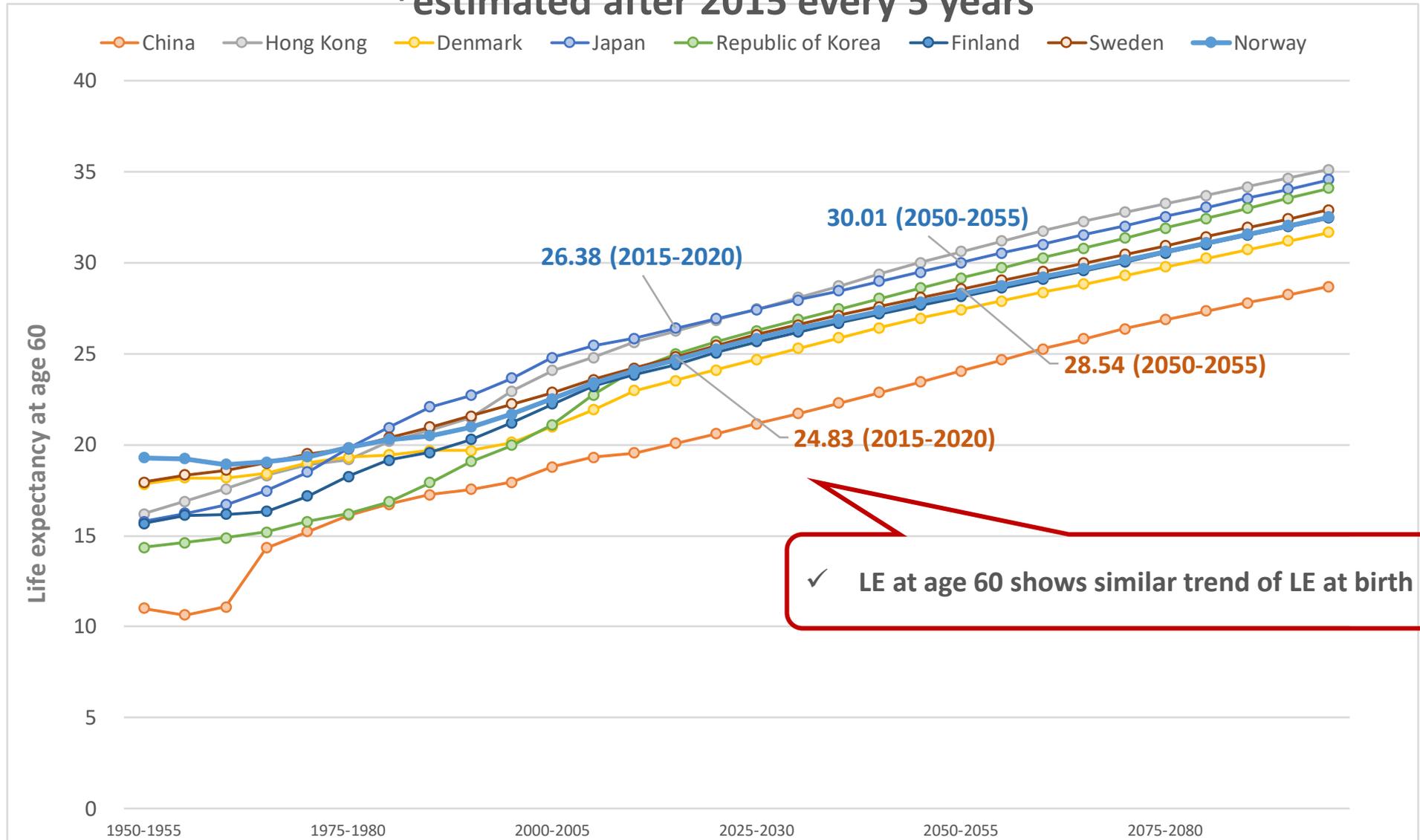
*estimated after 2015 every 5 years



Source: United Nations "Demographic Yearbook" (<https://esa.un.org/unpd/wpp/Download/Standard/Population/>, Access 2017/Oct14)

Demographic trend (3) : LE at age 60 for both genders in Northern Europe & East Asian countries (1950-2100)

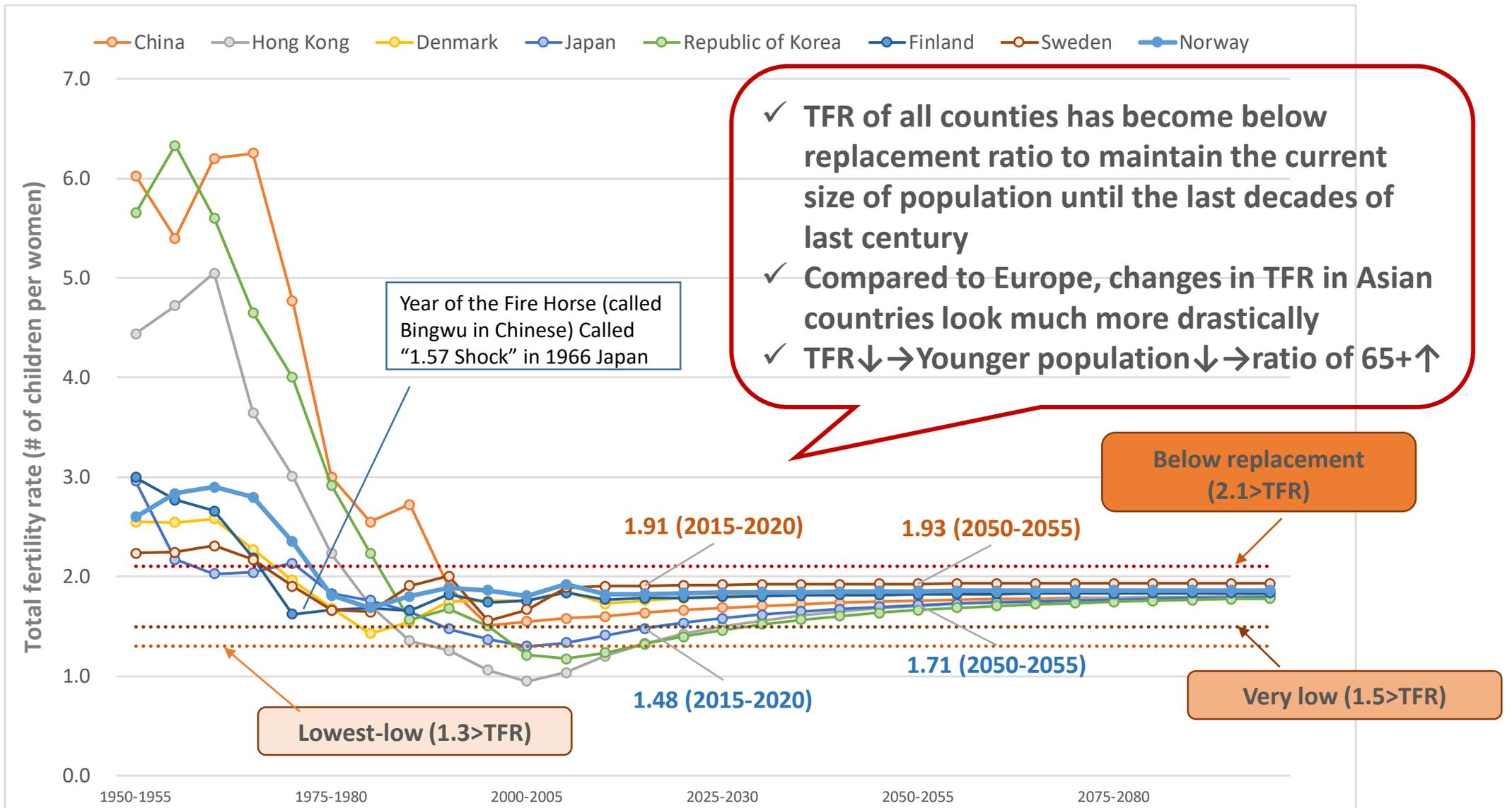
*estimated after 2015 every 5 years



Source: United Nations "Demographic Yearbook" (<https://esa.un.org/unpd/wpp/Download/Standard/Population/>, Access 2017/Oct14)

Demographic trend (4) : Total Fertility Ratio (TFR) (1950-2100)

*estimated after 2015



- ✓ TFR of all counties has become below replacement ratio to maintain the current size of population until the last decades of last century
- ✓ Compared to Europe, changes in TFR in Asian countries look much more drastically
- ✓ TFR ↓ → Younger population ↓ → ratio of 65+ ↑

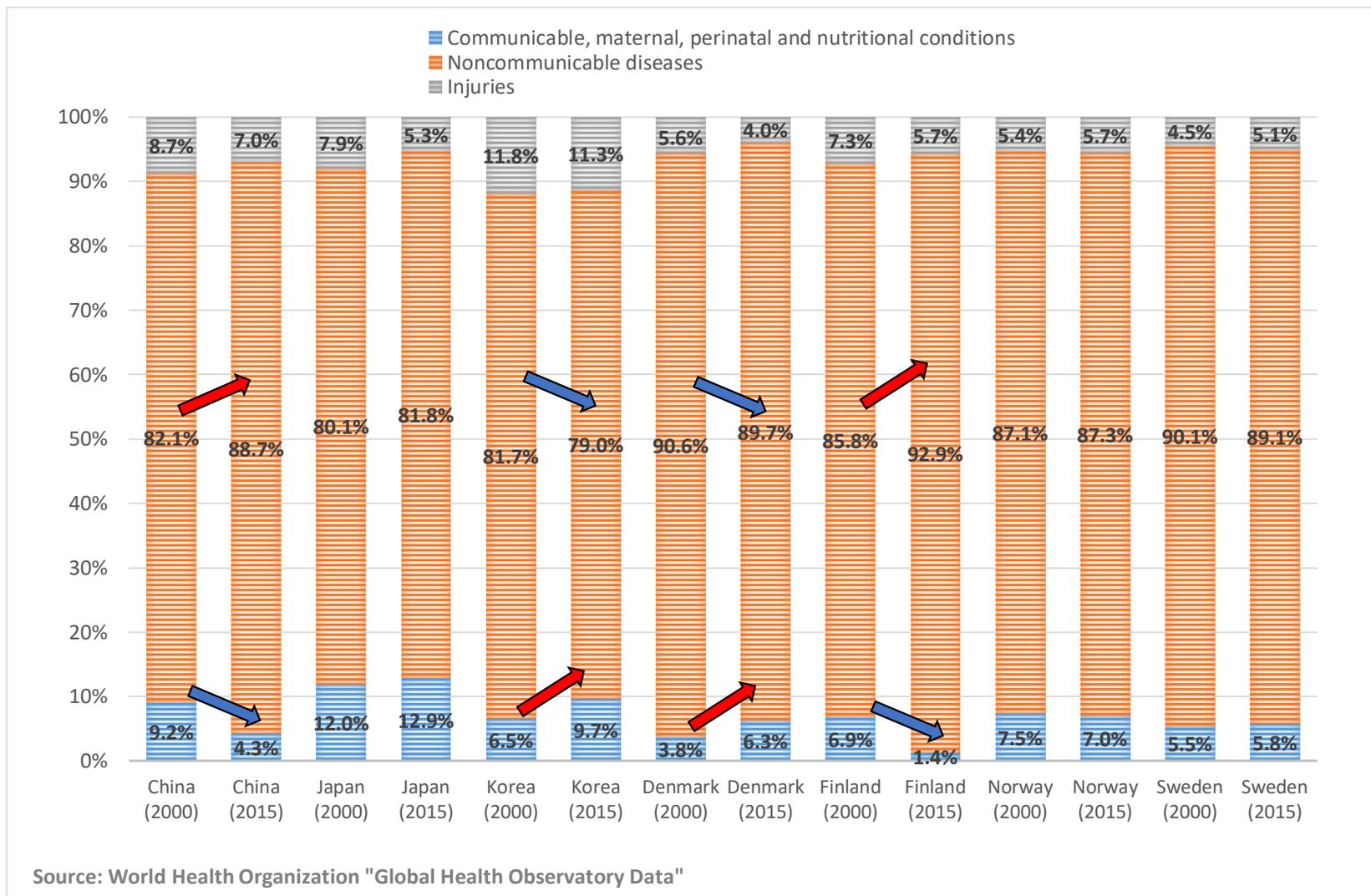
Demographic trends - Summary

- Backgrounds of an increase in rate of population 65+
 - ✓ LE at birth and at age 60 will be expanding in the next several decades
 - ✓ A drastic decrease in TFR in Asian countries would contribute to an increase in rate of 65+ to population.

Population aging would cause:

- change in structure of disease
- increase in demand for medical and long-term care
- increase in demand for formal/informal human resources for medical and long-term care
- increase in cost of medical and long-term care

Health status (1): A change in mortality ratio by cause (2000 and 2012)

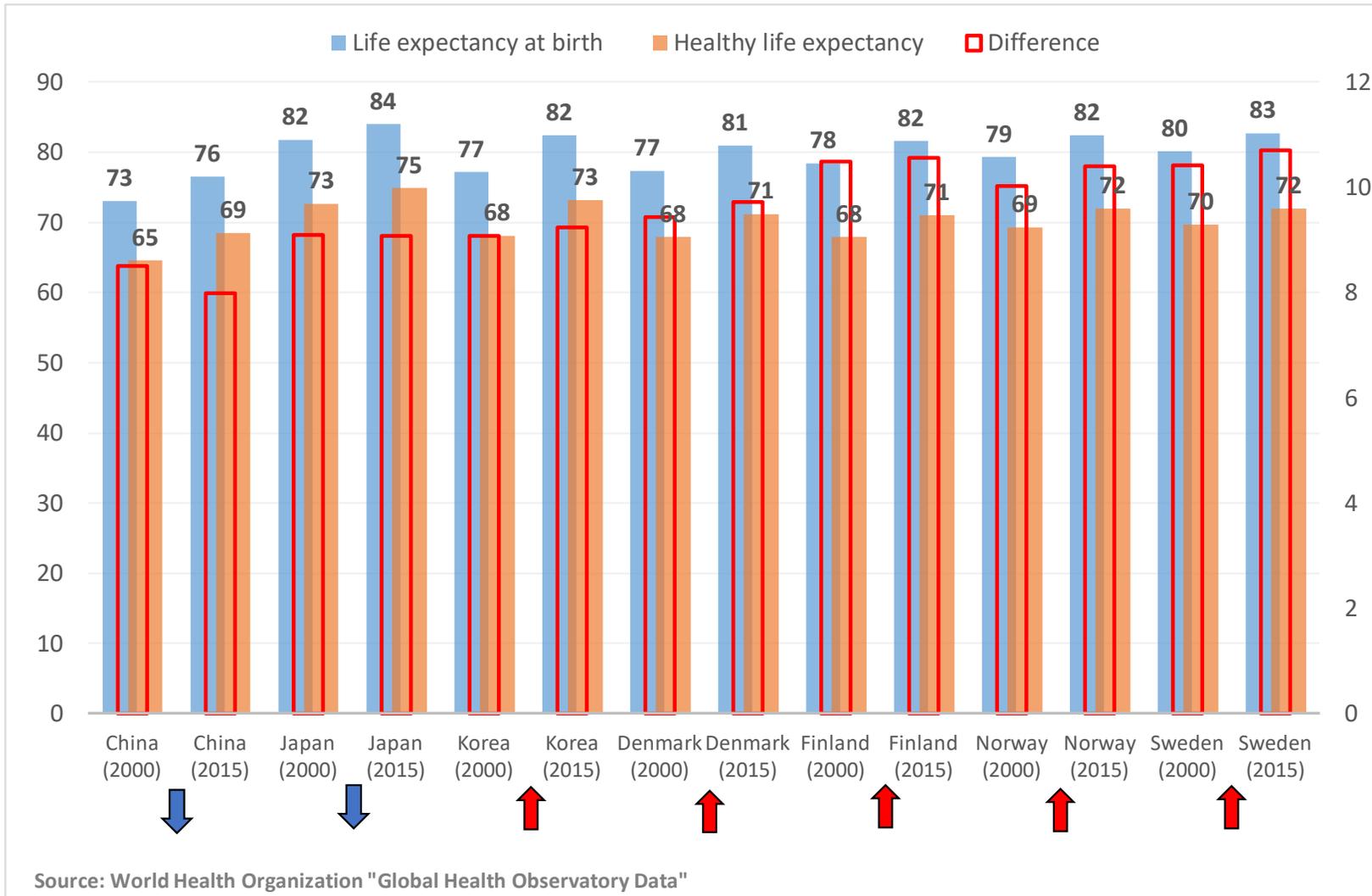


From 2000-2015:

- In China and Finland, the ratio of mortality rate of communicable disease has decreased, while the ratio of Non-communicable diseases (NCDs) has increased in 2000-2015
- On the other hand, in Korea and Denmark, the ratio of communicable disease increased, and the ratio of NCDs decreased
- The ratio remains relatively stable in Japan, Norway, and Sweden.

=>Structure of disease has been changing, but the timing of the change from communicable to NCDs would vary among countries

Health Status (2) : Difference in LE at birth and healthy LE (2000 and 2013)

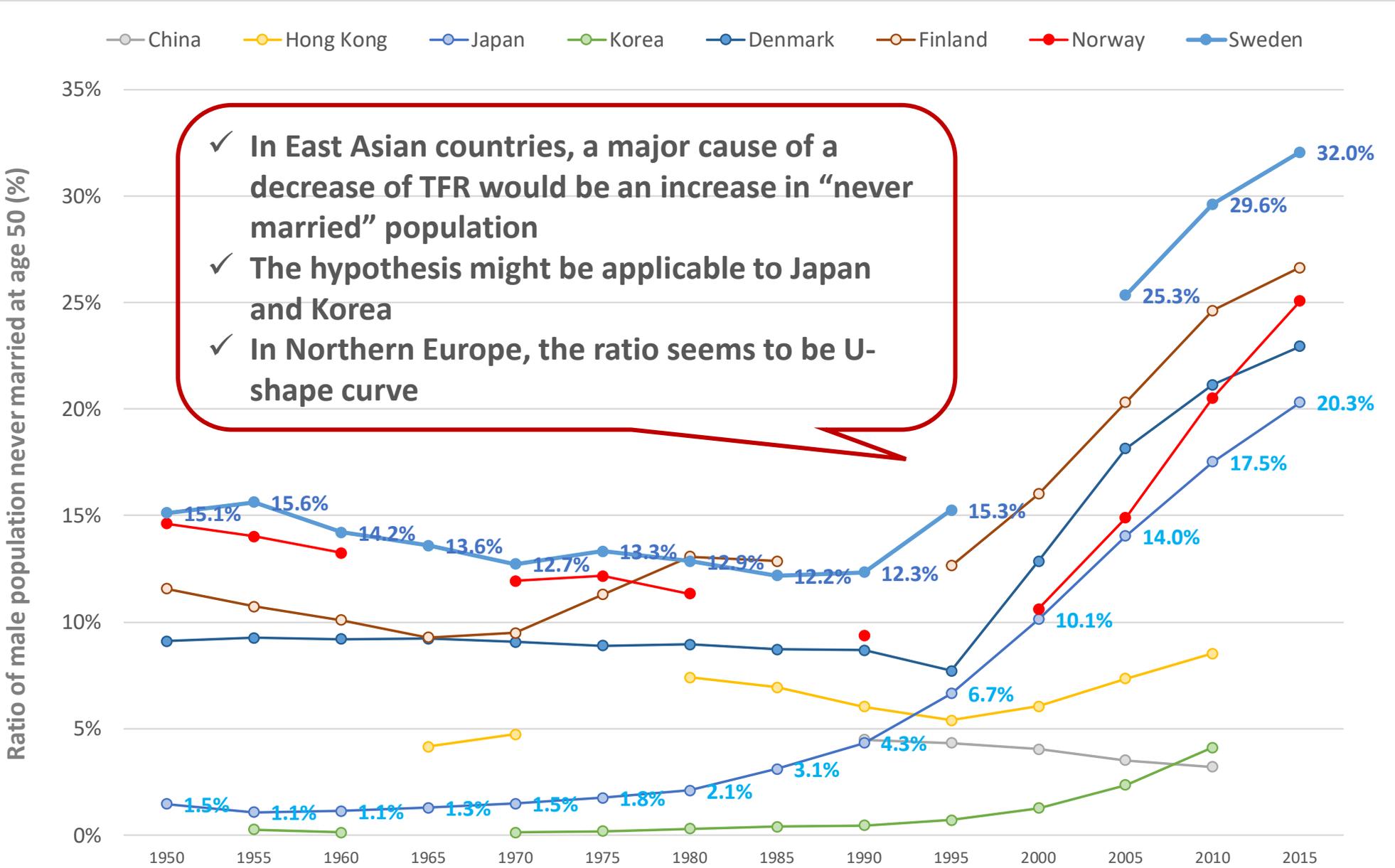


From 2000-2015:

- Both LE at birth and healthy LE without any difficulties in daily living has expanded everywhere
- In China and Japan, the difference between LE at birth and healthy LE has shrunk
- On the other hand, the difference expanded in the rest of these countries

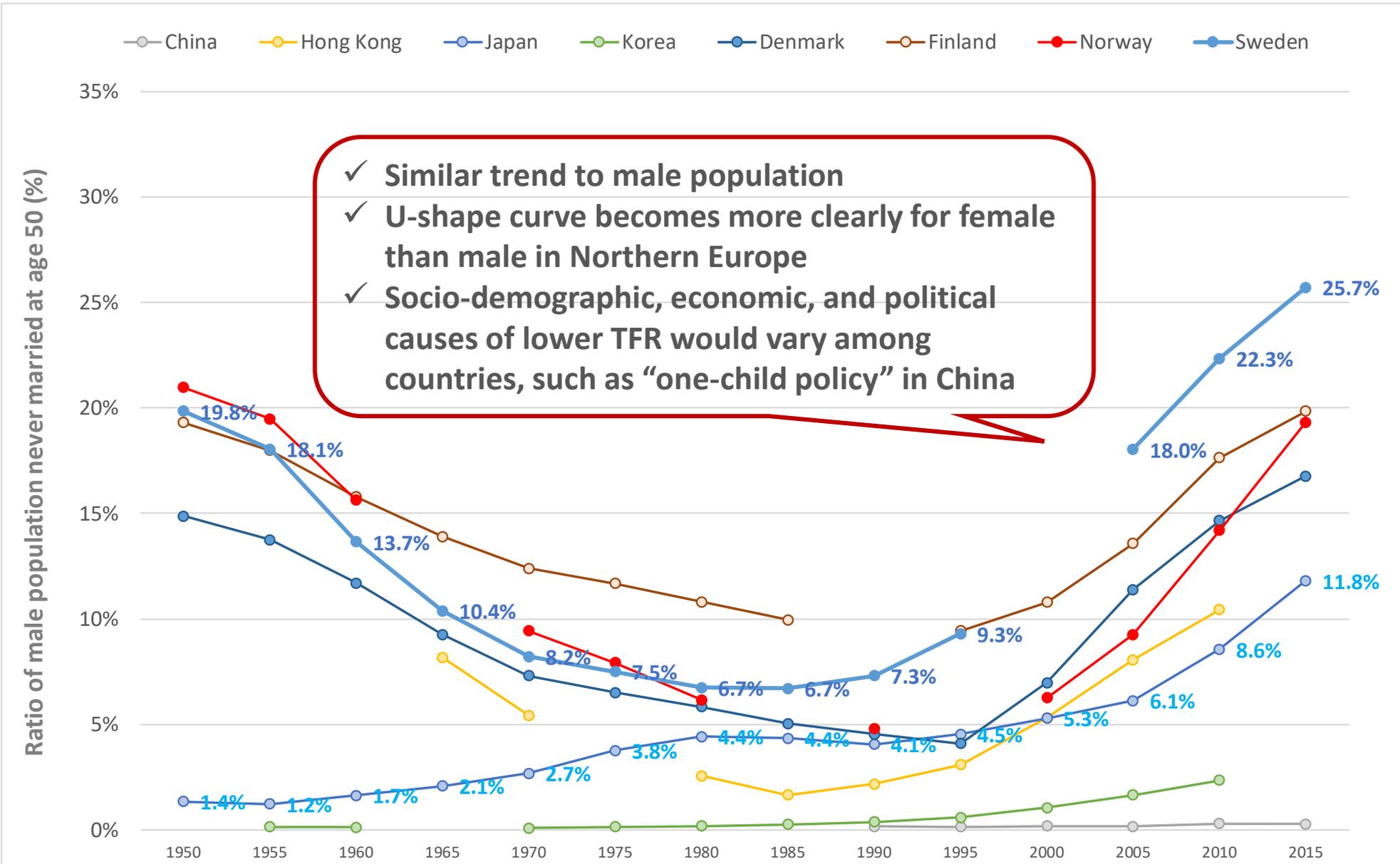
=>The difference between LE at birth and healthy LE prospects the length of care need. Therefore, expanding the difference would imply an increase in demand for medical and long-term care

Socio-economic status (1a) : Ratio of male population never married at age 50 (1950-2015)



Source: United Nations "Demographic Yearbook"

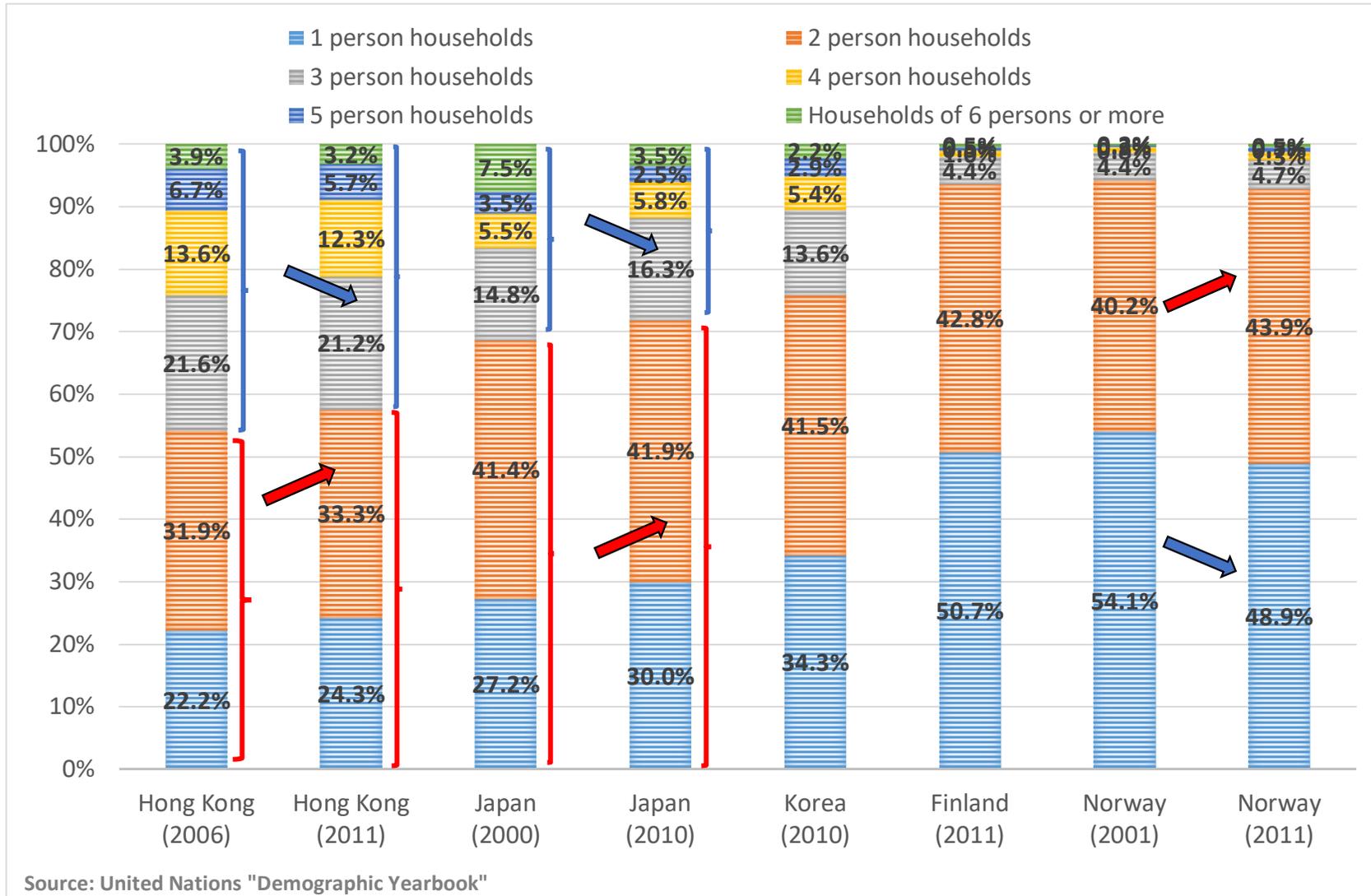
Socio-economic status (1b) : Ratio of female population never married at age 50 (1950-2015)



✓ Similar trend to male population
 ✓ U-shape curve becomes more clearly for female than male in Northern Europe
 ✓ Socio-demographic, economic, and political causes of lower TFR would vary among countries, such as "one-child policy" in China

Source: United Nations "Demographic Yearbook"

Socio-economic status (2) : Ratio of households by size for head of household 65+ and both genders (available countries)



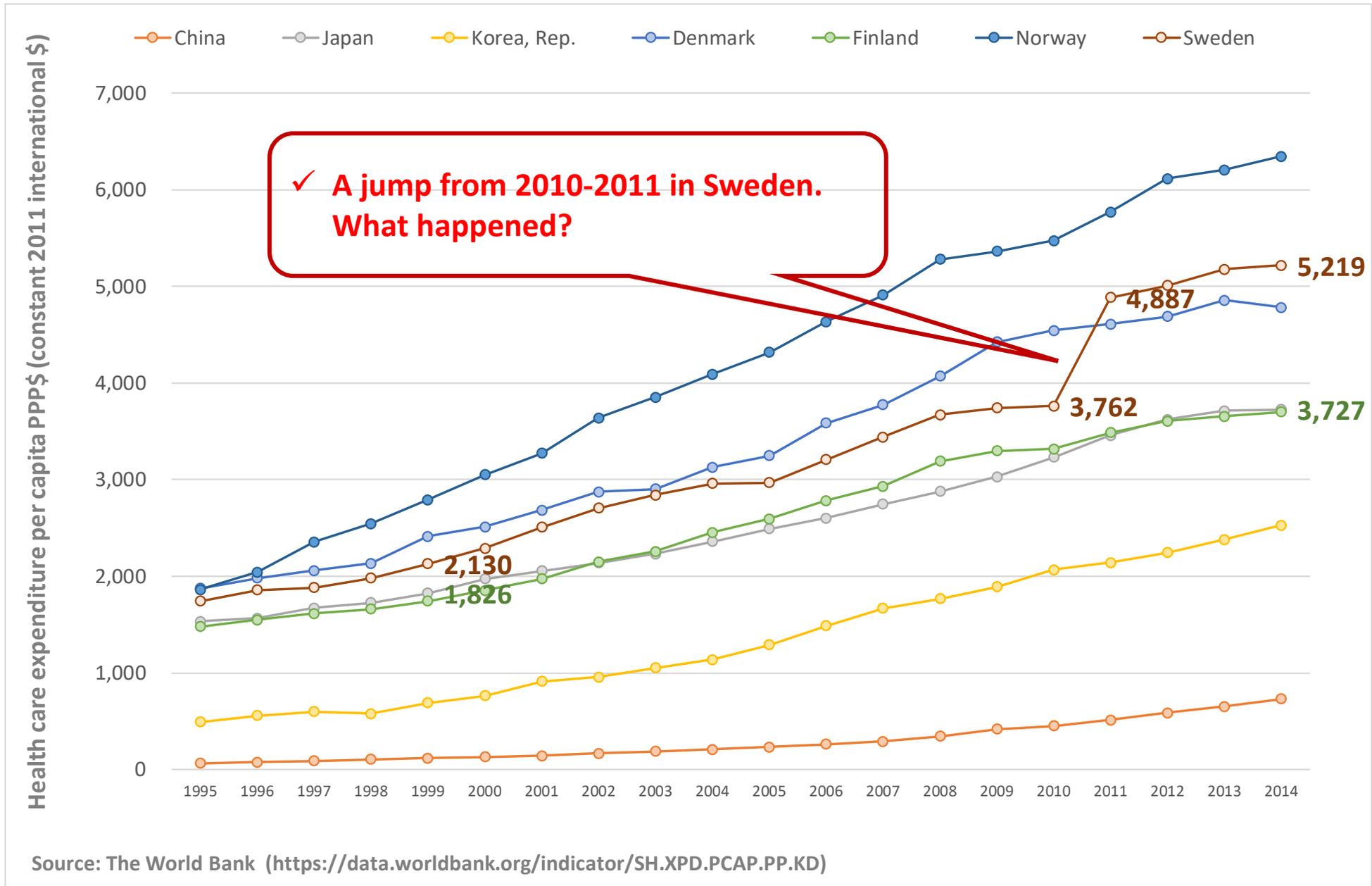
Source: United Nations "Demographic Yearbook"

In the past decade,

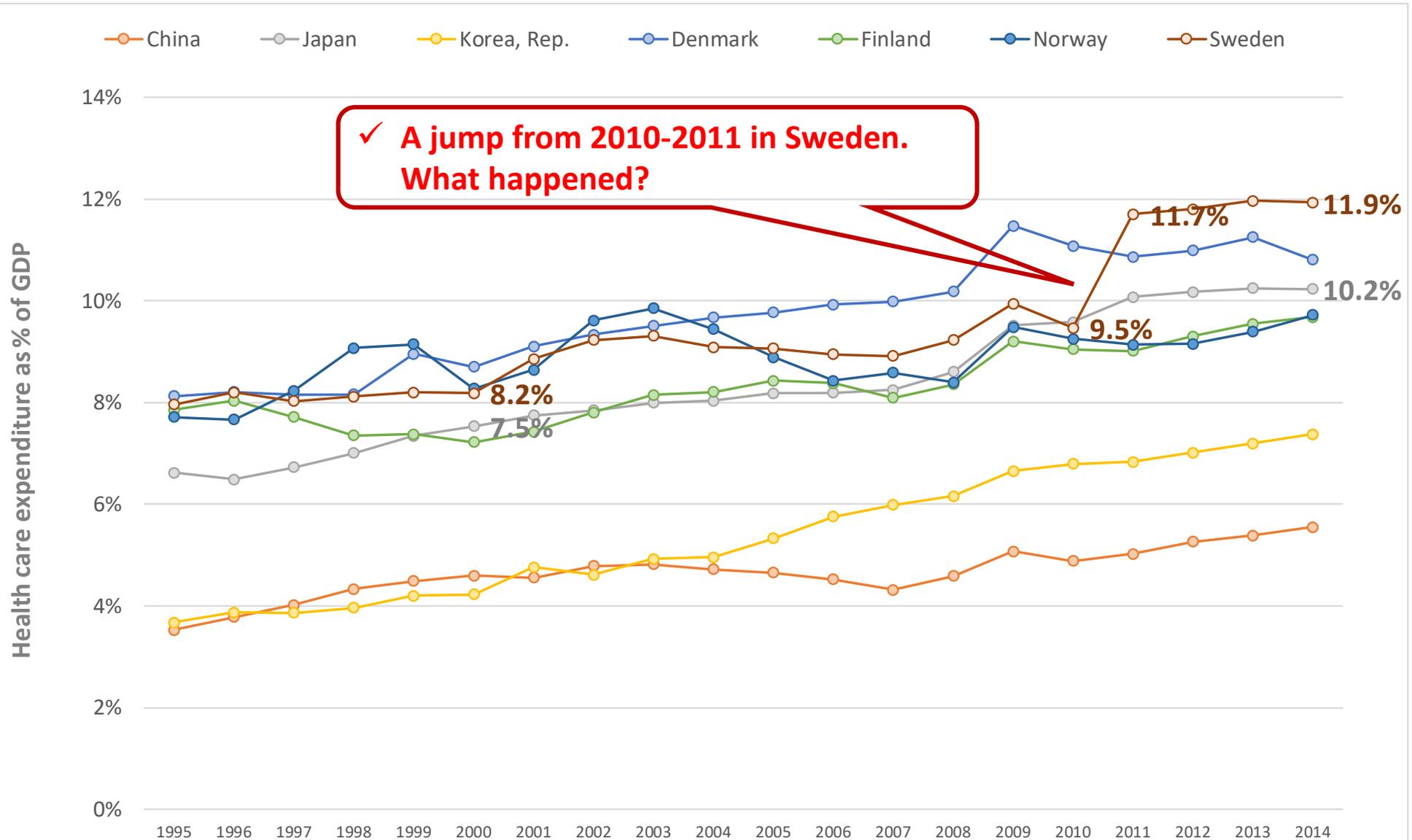
- In East Asian countries, ratios of living alone or 2 person among household head 65+ has increased
- The ratio became more than 70% in Japan and Korea
- A decrease in size of household would reflect lower TFR associated with an increase in the ratio of "never married" population
- In Northern Europe, e.g. Norway, single household decreased and couple has increased

=>In contrast to an increase in demand for care (in particular long-term care), lack of informal caregivers within household might be a significant issue in Asian societies, with which Japan currently faces

Health care expenditure (1a) : per capita PPP\$ (constant 2011 international \$) (1995-Latest available year)



Health care expenditure (1b) : % of GDP (1995-Latest available year)



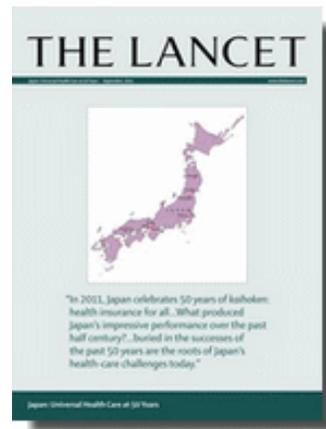
Source: The World Bank (<https://data.worldbank.org/indicator/SH.XPD.PCAP.PP.KD>)

Health and socio-economic status - Summary

- Related to population aging:
 - ✓ Structure of disease has been changing, but the timing of the change from communicable to NCDs would vary among countries
 - ✓ The difference between LE at birth and healthy LE implies an increase in demand for medical and long-term
 - ✓ In contrast to an increase in demand for care (in particular long-term care), lack of informal caregivers within household (because of shrinking size of household) might be a significant issue in East Asian societies, with which Japan currently faces.
 - ✓ As background of such demographic trends, educational achievement has become higher and so does opportunity costs of marriage and having children among females. Consequently, female working participation rate has increased and marriage rate and TFR have been decreasing.

Population ageing and wellbeing: Lessons from Japan's long-term care

Lancet, 378(9797): p1183–1192,
24 September 2011



Co-authors: Nanako Tamiya MD (co-lead author), Haruko Noguchi PhD (co-lead author), Akihiro Nishi MD, Michael Reich PhD, Naoki Ikegami MD, Hideki Hashimoto MD, Kenji Shibuya MD, Ichiro Kawachi MD, John Creighton Campbell PhD

Lancet Special Series on Japan

- **Japan—a call for research papers**

Kenji Shibuya, Lincoln C Chen, Keizo Takemi, William Summerskill

Japan achieved universal health insurance coverage in 1961 and now has the longest life expectancy in the world. Japan's strengths are, however, now becoming its weaknesses. Universal coverage is not the end but the beginning of new challenges—a rapidly ageing population, escalating health-care expenditures, and sustainability of universal coverage—that all countries will have to face in the future. How can Japan reinvigorate its health system to be more sustainable and equitable?

Scopes of this study

- Give a historical overview of the public long-term care (LTC) policy in Japan.
- Clarify the uniqueness of Japan's Long-Term Care Insurance (LTCI-which was introduced in 2000) compared to LTC provisional systems in other countries, as a response to the society aging.
- Evaluate the impact of LTCI on old persons and informal caregivers.
- Extract global lessons from Japan's experience.

Historical overview of Japanese health care and welfare policies for older population in Japan

Proportion of people aged 65 or over	Year	Start and implementation of the major policies
5.7% (1960)	1963	Enforcement of Act for the Welfare of the Aged * Setting up special nursing homes for the aged * Legislation for home helpers
7.1% (1970)	1973	Free access to medical care for all the older adults
9.1% (1980)	1982	Enforcement of Medical Service Act for the Aged * Including the introduction of a fixed amount of copayment among older adults medical care
	1989	Establishment of "Gold Plan" (a 10-year strategy for promotion of health and welfare for the aged)
12.0% (1990)	1994	Establishment of "New Gold Plan" * Focalizing on home care A government report from a working team for care and self-support of older adults
14.5% (1995)	1996	Agreement by the ruling three parties * Memorandum of foundation of Long-term care insurance system
	1997	Enactment of Long-term Care Insurance Act
17.3% (2000)	2000	Enforcement of Long-term Care Insurance Act
	2005	Amendment of Long-term Care Insurance Act

* Source: This historical overview was provided by MHLW

Goals of Long-Term Care Insurance (LTCI)

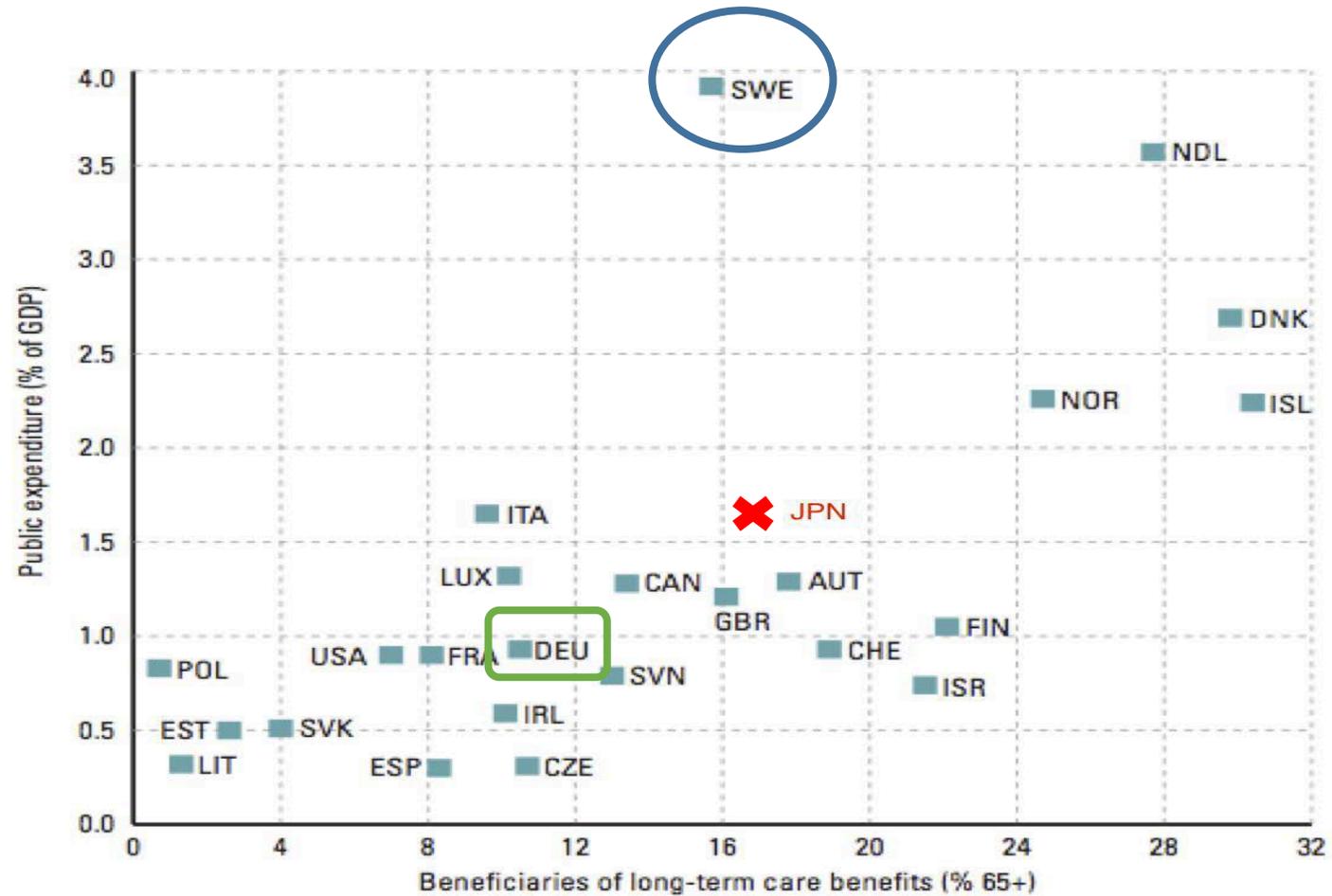
- Official purpose: to help those in need of long-term care “to maintain dignity and an independent daily life routine according to each person's own level of abilities.” (Ministry of Justice 1997)
- Other goals: 1) introducing competition, consumer choice, and participation by for-profit companies into what had been a bureaucratic system, 2) achieving savings in medical spending by moving people from hospitals into the LTCI system, 3) emphasizing community-based care over institutional care, and especially 4) relieving burdens on family caregivers. (Campbell 2002; Tsutsui et al. 2007)

International comparison of LTC policy for caregivers

	Austria	Canada	Germany	Netherlands	Sweden	USA	UK	Japan
Eligibility criteria^{a)}	Universal	Usually means tested	Universal	Universal	Universal	Medicaid: Means-tested Medicare: Universal	Means-tested	Universal
Fund^{a)}	General taxation	General taxation	Insurance contributions	Insurance contributions	General taxation	Insurance contributions and general taxation	General taxation	Insurance contributions and general taxation
Cash Benefit^{b)}	"Full cash" allowance (care receiver & caregiver)	Cash allowance (care receiver)	Unrestricted cash allowances (family based arrangements)	"personal budget" to buy formal or informal home care	Sometime cash benefit for family caregivers	No cash benefit. Formal home-based care	No cash benefits	No cash benefit. Formal care is encouraged
Provision^{b)}	"full cash" strategy	Government-funded services	Profit & nonprofit providers	Government, nonprofit and private providers	Local public monopolies and private providers (small)	Private profit and nonprofit providers	Public and private providers	Nonprofit, public and private providers
Cash Benefit Programme^{a,c)}	Cash allowance	No cash benefit	Option of cash allowance or care-in-kind or a combination of the two	Personal budget available to all those qualifying for long-term home-based care	Cash payments- minimum need of 17 hrs a week of care	Medicaid pays for a specified number of hours of a user-hired personal assistant	Direct payment	No cash benefit
Employment of relatives^{c)}	Yes	NA	Yes	Yes (but not in the same house)	Yes	Yes	Yes (but not spouse, close relative, or someone lives in the same house)	NA

Note: NA= Not Available; a) OECD. Long-term Care for Older People: OECD Publishing, 2005; b) Nelly A, Jorge H. Summary of LTC in Developed Countries, 2005 . Available from: <http://www.ciss.org.mx/pdf/en/studies/CISS-WP-05092.pdf>; c) Lafortune G , Balestat G, The Disability Study Expert Group Members. Trends in Severe Disability Among Elderly People:Assessing the Evidence in 12 OECD Countries; d) Glasby J, Littlechild R. Direct Payments and Personal Budgets: Putting Personalisation Into Practice: The Policy Press, 2009.

figure 1 International comparisons on LTC covering and spending



Source: Rodrigues R, Schmidt A. Paying for Long-term Care. Policy Brief; Vienna; European Centre, , 2010. Japan was not included and was estimated with data from Campbell J, Ikegami N, Gibson M. Lessons from Public Long-Term Care Insurance in Germany and Japan. Health Affairs 39:1 (January 2010), 87-95

Impacts of LTCI *-Policy Evaluation-*



Given the past decade of rapid expansion of LTCI services as the major response to the society ageing in Japan, it is worthwhile to evaluate the effects on the intended beneficiaries from both macro and micro viewpoints, drawing on a national representative data - [the Comprehensive Survey of People's Living Conditions \(CSPLC\)](#).

What kinds of outcomes should we measure as the impacts of LTCI?

- Focusing explicit/implicit LTCI's key goals, we evaluate the effects of the LTCI on outcomes as follows:
 - (1) Health status of care recipients and caregivers
 - **self-rated health status (SRH)**
 - **instrumental activities of daily living (iADLs)**
 - (2) Labor participation (working/no working) of caregivers
 - (3) Time allocation of caregivers
 - **hours of informal care per day,**
 - **hours of working per week,**
 - **hours of other activities than informal care and working per day**
 - (4) Household economy
 - **% spending for formal care out of household expenditure**

Strategy for Program Evaluations

- Use the introduction of LTCl in the year of 2000 as a “natural experiment”.
- Adopt the simplest strategy for setting up difference-in-difference (DD) in the context of quasi-empirical design, where outcomes are observed for two groups over two time periods.
 - Define two groups for households which use formal care as “the treated (treatment group)” and for those which do not use formal care as “the controlled (control group)”.
 - Compare two periods before (1998) and after (2004) the introduction of LTCl. CSPLC was conducted in the year of 2001 just after the LTCl. However, we do not use the data in 2000 because one year must not an appropriate time frame to evaluate the impacts of universal LTC program.

Basic model for DD

$$Y_{t,i} = \alpha + \beta D_{t,i} + \gamma After_i + \delta D_{t,i} * After_i + \varphi X_{t,i} + \varepsilon_{t,i}$$

where

- $Y_{t,i}$ are i th individual's/household's outcomes at time t
(SRH, iADLs, labor participation, time allocation of caregivers, household economy)
- $D_{t,i} = 1$ if in treatment group (formal care users) at time t , $D_{t,i} = 0$, otherwise
- $After_i = 1$ after the introduction of LTCI [2004], $After_i = 0$, otherwise [1998]
- δ , the coefficient of interaction term ($D_{t,i} * After_i$) provides DD estimate
- $X_{t,i}$ is i th individual's characteristics at time t
- $\varepsilon_{t,i}$ is a i th individual's residual at time t

	Treatment Group	Control Group	Difference
Before LTCI	$\alpha + \beta$	α	β
After LTCI	$\alpha + \beta + \gamma + \delta$	$\alpha + \gamma$	$\beta + \delta$
Difference	$\gamma + \delta$	γ	δ

Data

- Comprehensive Survey of People's Living Conditions (国民生活基礎調査- CSPLC), conducted by MHLW in the years of 1998 and 2004, before/after the introduction of LTCI
- So far, the best available national representative data with a decent number of repeated cross sectional samples
 - The baseline questionnaires of CSPLC were composed of household and health surveys. Out of district areas designed for the 1995 and 2000 Census, CSPLC randomly sampled 5,240 and 5,280 regional clusters from 47 prefectures in 1998 and 2004, respectively.
 - In 1998 and 2004, a total of 721,288 and 619,115 individuals within 247,662 and 220,836 households living in the regional clusters answered the questionnaires (response rates: 89.6% and 79.8%).

Study population

- We created two files for care recipients and informal caregivers as follows:
 - Care recipients' file:** Focusing on non-institutional population, 65+ who need any supports for the daily living reside within the family (including single household). The # of elderly persons who need care in the community was 7,539 (1.0%) and 18,604 (3.0%), in 1998 and 2004.
 - Informal caregivers' file:** Those who provide informal care to other family members 65+ who need any supports for daily living. The # of caregivers are 6,767 (0.9%) and 14,084 (2.3%) in 1998 and 2004. Since some caregivers lived with more than one frail elderly person, we identified an elderly person who needs the longest hours of care per day; who has been bedridden for the longest months; or the oldest as the main care recipient.

Major difficulties in CSPLC

- Selection bias in treatment and control groups

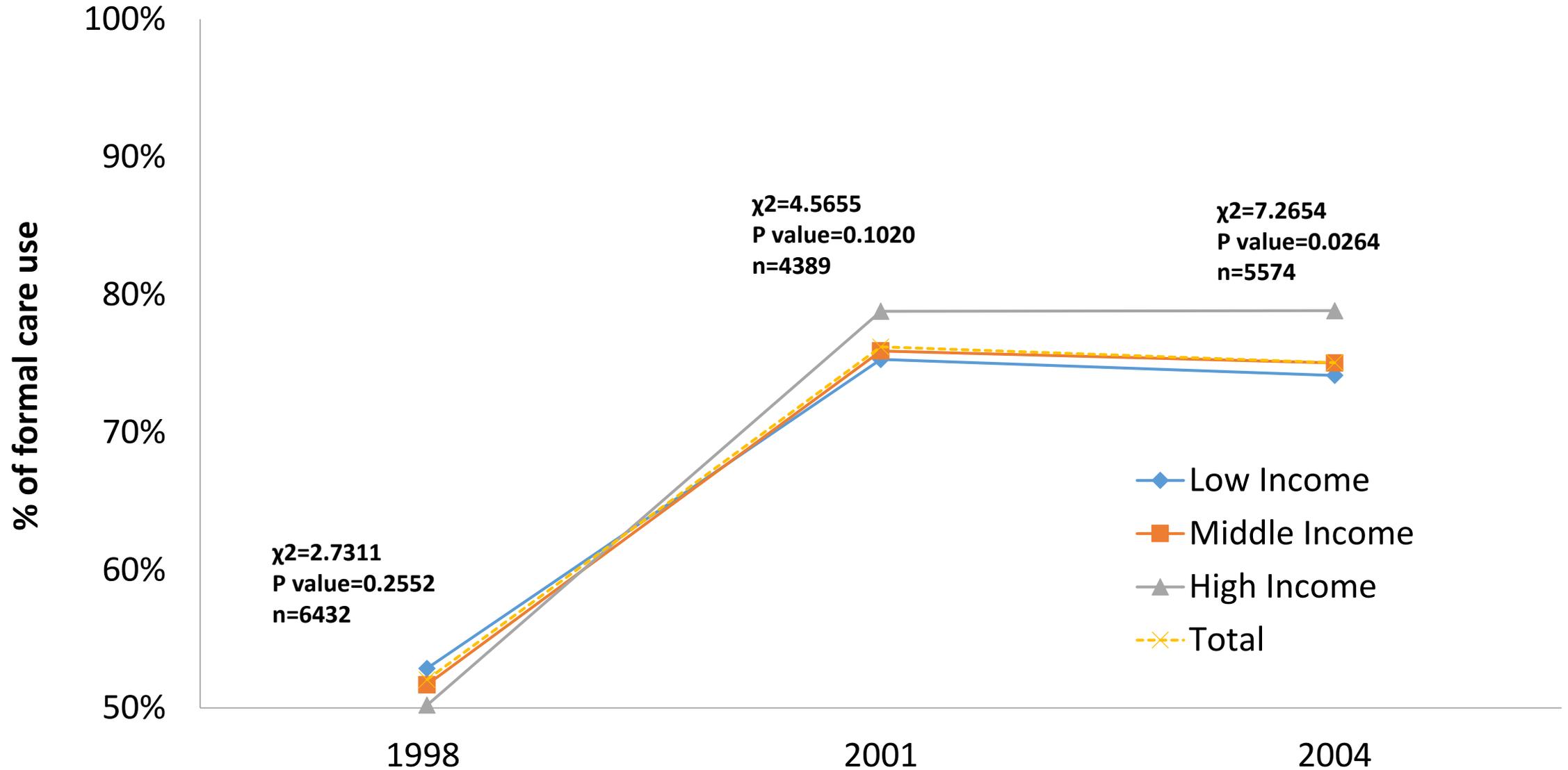
- In CSPLC, formal care users (as treatment group) and informal care users (as control group) are not randomly selected.

- For example, male elderly persons living alone in urban areas are more likely to use formal care than female elderly persons living with other family members in rural areas. The higher level of income would motivate the utilization of services provided by resources outside of the households.



Propensity score matching (PSM): Matching treated and controlled observations on the estimated probability of being treated (propensity score).

figure 2: Trends of percent formal care use out of people age 65+ who need care by household income status before and after the long-term care insurance in 2000



One-to-one matching strategy

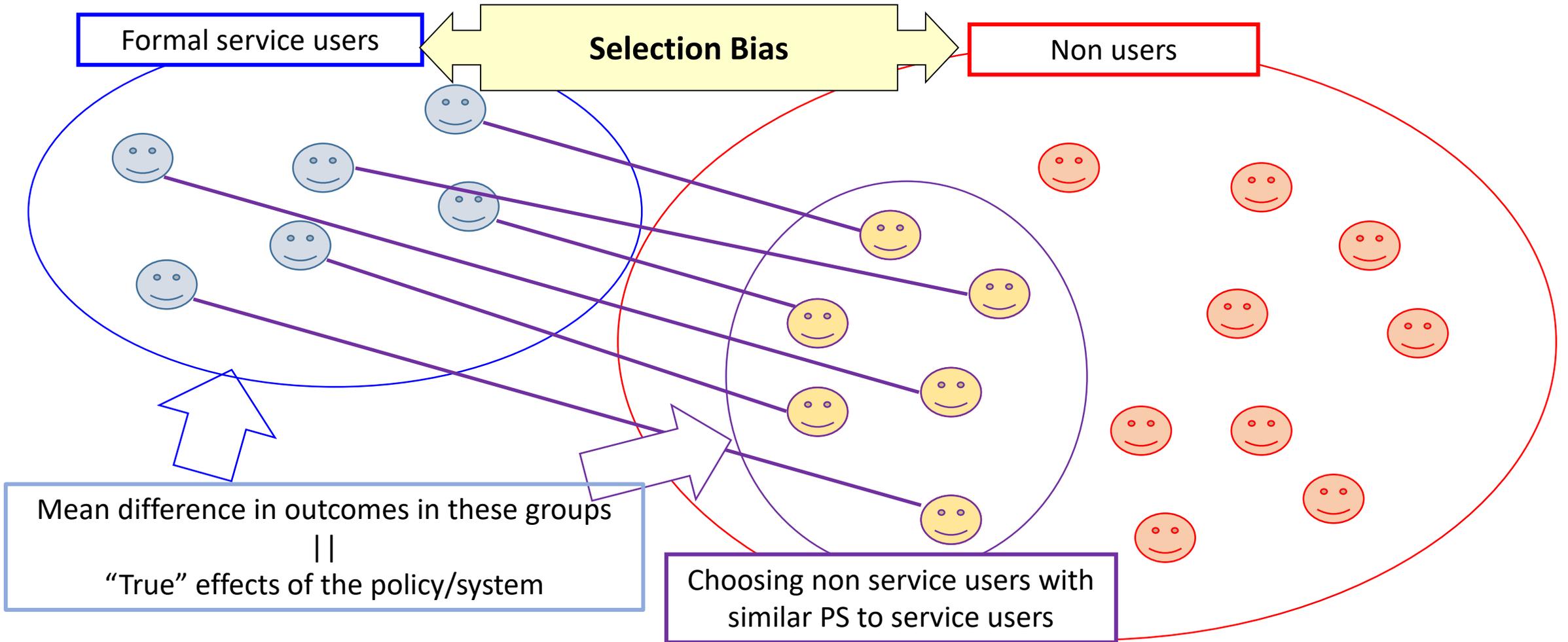
- Every individual caregiver who used formal services is matched one-to-one with a care recipient (and a caregiver) who does not use formal services with a similar propensity score.
- Matched on the basis of the propensity score

$$P(X_{t,i}) = Prob(D_{t,i} = 1 | X_{t,i})$$

where

- $X_{t,i}$ is *ith* individual's characteristics at time t
- $D_{t,i} = 1$ if in treatment group (formal care users) at time t , $D_{t,i} = 0$, otherwise
- Not matching for each participant with exactly the same value of $X_{t,i}$, match on **the probability of using informal care (propensity score)**

*A graphical image of
One-to-one matching strategy (created by Y. Todo)*

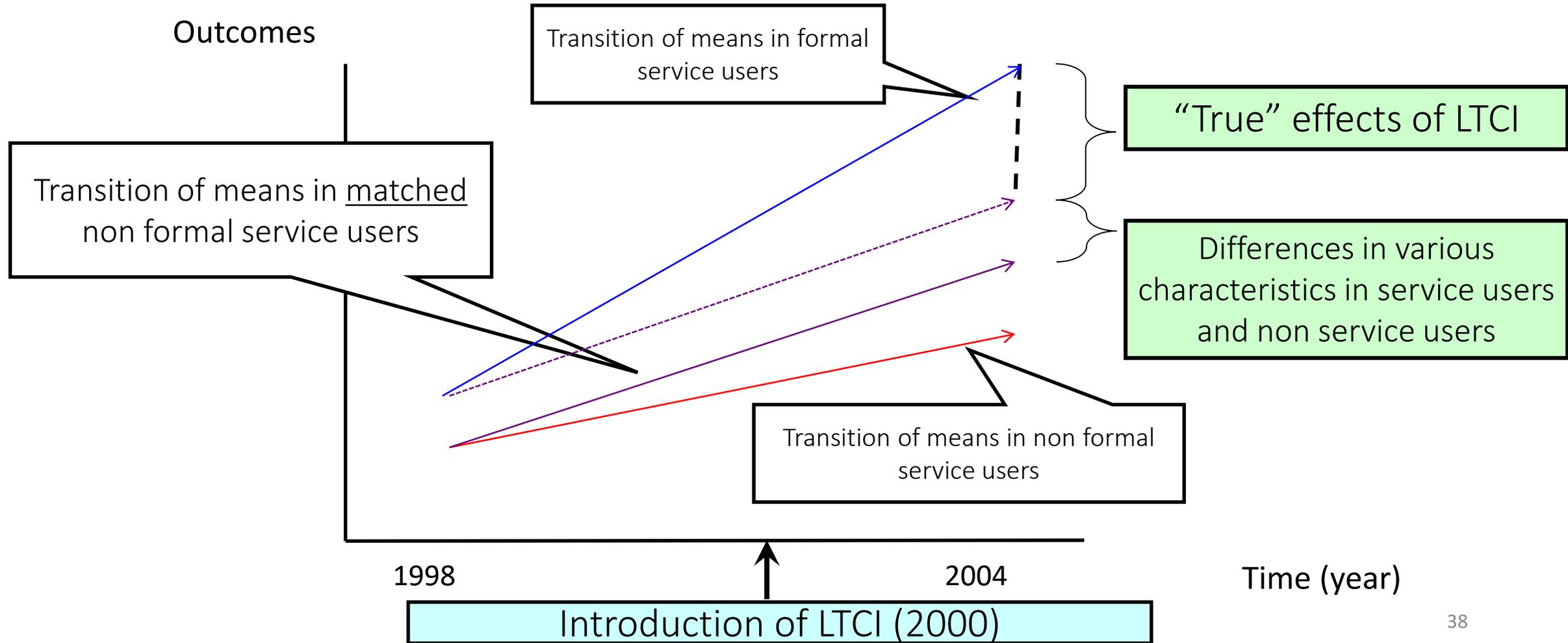


Example results on balancing test after Matching

	1998						2004					
	Unmatched			Matched			Unmatched			Matched		
	Treated	Controlled	t-test	Treated	Controlled	t-test	Treated	Controlled	t-test	Treated	Controlled	t-test
Family structure												
couple with children	0.13	0.22	0.000	0.13	0.12	0.404	0.11	0.16	0.000	0.11	0.10	0.661
three-generation	0.47	0.41	0.000	0.47	0.48	0.711	0.44	0.38	0.001	0.44	0.45	0.676
House ownership	0.93	0.91	0.004	0.93	0.94	0.223	0.94	0.92	0.037	0.94	0.95	0.793
logarithm of annual income	5.91	5.86	0.098	5.90	5.89	0.540	5.72	5.71	0.704	5.72	5.73	0.615
# of household members 20-64	1.96	2.07	0.009	1.96	1.95	0.767	1.83	1.71	0.030	1.82	1.80	0.615
Age of informal caregivers	61.90	60.70	0.002	61.91	62.11	0.588	63.03	63.89	0.087	63.03	63.99	0.007
Working status of informal caregivers	0.36	0.39	0.061	0.37	0.36	0.773	0.43	0.42	0.396	0.44	0.41	0.149
Health status index for informal caregivers	13.15	13.30	0.022	13.17	13.12	0.446	12.95	13.15	0.012	12.96	12.84	0.041
Age of care recipient	79.78	72.52	0.000	79.74	79.90	0.714	83.57	80.93	0.000	83.52	83.56	0.873
Sex of care recipient (female)	0.60	0.56	0.011	0.60	0.59	0.530	0.65	0.59	0.002	0.65	0.65	0.876
Relation with care recipient												
Child's spouse	0.34	0.26	0.000	0.34	0.35	0.315	0.36	0.27	0.000	0.36	0.37	0.537
Parents	0.04	0.13	0.000	0.04	0.04	0.631	0.03	0.04	0.042	0.03	0.02	0.343
Bedridden	0.20	0.11	0.000	0.20	0.19	0.391	0.18	0.10	0.000	0.17	0.15	0.059

- Compared unmatched with matched samples in 1998 and 2004, characteristics b/w treated and controlled group are more balanced among matched samples.
- As results, we apply DD estimates to **5,042 and 4,556 care recipients** and **4,224 and 4,532 informal caregivers** in 1998 and 2004, respectively, out of which a half number of individuals are categorized into treatment (or control) group.

A graphical image of DD of treatment and control groups before/after the introduction of LTCI



Main results (table 1: Effects of long-term care insurance: Difference-in-Difference estimates by a nationally representative data (CSPLC) in 1998 and 2004)

Outcomes	Regression model¶	Entire sample
<i>Effects for older people</i>		
Subjective health status (excellent/very good vs fair/poor/very poor)	Logit	1.03
	95% confidence intervals	(0.84-1.26)
IADL status (any difficulties in IADL vs no difficulties)	Logit	0.96
	95% confidence intervals	(0.80-1.14)
<i>Effects for family caregivers</i>		
Subjective health status (excellent/very good vs fair/poor/very poor)	Logit	0.98
	95% confidence intervals	(0.82-1.18)
<u>Hours of informal care per day</u>	Tobit	-0.81
	95% confidential interval	(-1.19--0.43)
Labour participation (working vs no working)	Logit	1.09
	95% confidence intervals	(0.89-1.33)
Hours of working per week	Tobit	1.25
	95% confidence intervals	(-0.36-2.87)
Hours for other activities than informal care and working	Tobit	0.67
	95% confidence intervals	(0.27-1.07)
<i>Effects of household economy</i>		
<u>% spending for formal care out of household expenditure</u>	OLS	-0.05
	95% confidence intervals	(-0.06--0.04)

Main results (summary of findings)

- Introduction of LTCI was not associated with health status of older care recipients.
- Introduction of LTCI was associated with the reduction of hours of informal care per day, but not with health status, labor participation, hours of working, or hours of other activities.
- Introduction of LTCI was associated with the reduction of % spending for formal care out of household expenditure

Main results with stratification by income level (table 1)

Outcomes		By annual income status of household†		
		Low	Middle	High
		<=33 Percentile	33-66 Percentile	>66 Percentile
<i>Effects for older people</i>				
Subjective health status	Logit	0.91	0.85	1.28
	95% confidence intervals	(0.63-1.31)	(0.60-1.22)	(0.91-1.81)
IADL status	Logit	0.77	1.15	1.04
	95% confidence intervals	(0.57-1.05)	(0.84-1.56)	(0.76-1.40)
<i>Effects for family caregivers</i>				
Subjective health status	Logit	0.96	1.03	0.99
	95% confidence intervals	(0.69-1.32)	(0.73-1.44)	(0.72-1.36)
Hours of informal care per day	Tobit	-0.45	-0.81	-1.36
	95% confidential interval	(-1.13-0.23)	(-1.45--0.18)	(-2.01--0.71)
Labour participation	Logit	0.89	0.85	1.72
	95% confidence intervals	(0.63-1.26)	(0.60-1.21)	(1.22-2.44)
Hours of working per week	Tobit	-0.62	-0.55	4.57
	95% confidence intervals	(-3.37-2.12)	(-3.44-2.35)	(1.77-7.37)
Hours for other activities than informal care and working	Tobit	0.90	0.84	0.50
	95% confidence intervals	(0.20-1.61)	(0.14-1.53)	(-0.17-1.17)
<i>Effects of household economy</i>				
% spending for formal care out of household expenditure	OLS	-0.05	-0.04	-0.06
	95% confidence intervals (Coefficient t)	(-0.06--0.04)	(-0.05--0.03)	(-0.07--0.05)

Results in each income-stratified group

- Introduction of LTCI was not associated with health status of older care recipients over the groups.
- The effect of introduction of LTCI on the reduction of hours of informal care per day was the largest among the high income households and the smallest among the low income households. → A likely explanation for this difference is that for higher-income women, the opportunity costs of caregiving are high because they can get higher wages. Note also that employers tend to offer care leave only to full-time workers with relatively high income.
- Introduction of LTCI was associated with the reduction of % spending for formal care out of household expenditure across income levels.

From the Results of Empirical section

- Wellbeing of care recipients

The results of our before-after comparisons show no overall impacts of LTCI on either subjective health status or instrumental activities of daily living of recipients. It appears that maintenance rather than improvement in health and functional status of frail older people is the appropriate goal for LTC programs.

- Wellbeing of caregivers

Caregivers' self rated health status was not significantly affected according to our analysis.

- Opportunity losses for caregivers

After the introduction of LTCI, average caregiving significantly dropped by 0.81 hours a day, and other activities rose by 0.67 hours. However, impacts differ by income level.

- Household economy

The proportion of household expenditure spent on out-of pocket payment for formal long-term care decreased by 5% in 2004 compared to before LTCI was introduced. This change was almost the same across income levels (Iwamoto Y. 2010).

LTCl and Japanese family values

How it fits into the Japanese socio-cultural environment?

- Has Japan's LTCl program solved the problems of frailty and dependence for elderly recipients and their families?

-No...LTCl in Japan seeks to relieve the burdens of family caregivers by replacing some of their duties with formal services, thereby giving them more choice to work or pursue other interests. But..

- **But does Japanese LTCl fully liberate Japanese family caregivers?**

As formal services expanded they became common and accepted as natural even in the most old-fashioned rural areas--

Japan actually has a higher institutionalization rate (about 5.5% of the 65+ population) than the OECD average (3.3%) , but still long waiting lists.

Challenges, responses, and recommendations

- Are home care services appropriate?

- The empirical evidence that LTCI has relieved caregiver burdens is thin. Providing more night visits and respite care, and helping caregivers balance work and life as would be helpful. Beyond that, Japan needs additional services aimed specifically at helping family caregivers (counseling , community based support).

- Employment opportunities for family caregivers

- specialized job training should be made available.

- Fiscal sustainability

- the 2006 reform was successful (figure 3B). Constraining spending more severely would require cutting coverage, benefits, which would be quite difficult. More likely is to distribute the burden differently among age groups or between tax and premium revenues. Total government revenue (taxes and social insurance premiums) per GDP (%) 33.5% Japan, United States (34.0) the UK (41.4), Germany (43.9), France (49.6) and Sweden (56.3).

- Common problems

- overdependence on institutions, human resources, coordination between long-term care and medical care.

Global lessons

- **Services rather than cash**
 - with extensive day care, many frail older people regularly get out of the house, socialize with peers, participate in healthful activities, and are monitored by staff while their family caregivers get some time off
- **Consumer choice, with assistance**
 - Consumer choice as the main mechanism for quality control
 - Care managers (Germany has started)
- **Comprehensive design, flexible management**
 - Every three years each municipality must draw up a work plan
- **Specializing in frail older people**
 - The needs and preferences of most frail older people and their families differ from those of younger disabled people

Key messages

- The number of people age 65+ in Japan almost doubled in the past two decades, reaching 29 million—or 23 percent of the population—in 2010. Demographic projections estimate that number of older people will level off at about 40 million, while younger people will continue to decrease.
- In 2000 Japan implemented public, mandatory long-term care insurance (LTCI). It is one of the most generous LTC systems in the world in terms of coverage and benefits.
- A decade of experience has proved LTCI to be effective and manageable, including holding expenditures to the growth rate of the target population.
- Japan provides only services rather than “cash for care.” The most-popular service is adult day care, with 1.9 million users (6.5% of the 65+ population), benefitting both frail older people and their caregivers.
- LTCI has significantly increased use of formal care with less financial burdens, though analysis found increased labor participation among family caregivers only in higher-income households due to their high opportunity costs.
- Distinctive features including the services-only strategy, consumer choice with expert advice, and comprehensive organization with flexibility in management, and specializing in older people, offer important lessons to long-term care policy makers and experts around the world.

Reference for this lecture

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- OECD "OECD Stat"
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Tack för din uppmärksamhet!

Thank you for listening!

ご静聴ありがとうございました！