

Population Aging and the Future of Social Security

Bocconi

How aging will affect the political decisions
on social spending and size of government

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Tokyo Fiscal Forum 2017
Fiscal policy under demographic change
and radical uncertainty



Università Commerciale
Luigi Bocconi

Pensions, Aging & Politics

- ✓ Pension Systems in Asia: A Tale of Two Worlds
- ✓ Demographic trends
 - ✓ Aging Rich
 - ✓ Growing Old before becoming Rich
- ✓ Economic and Political Effects of Aging
 - ✓ Politics vs. Economics: how to Reform?
 - ✓ Increasing Retirement Age & the Labor Market

Pension Systems in Asia: A Tale of two Worlds

	Pillar 0	Pillar 1	Pillar 2
Cambodia	..	..	..
China ¹	T	DB	-
Hong Kong SAR, China	U	-	DC
India	T	DB, PF	-
Indonesia	-	PF	-
Japan	B	DB	-
Korea, Rep.	B	DB	-
Lao	-	DB	-

	Pillar 0	Pillar 1	Pillar 2
Malaysia ²	T	PF	-
Mongolia ³	U	NDC	-
Papua New Guinea	-	PF	-
Philippines	B	DB	-
Singapore	-	PF	-
Thailand	U	DB	-
Timor-Leste	U	-	-
Vietnam	T	DB	-

Pillar 0: Often called “social pensions” in recognition of their social-policy goal of offering a safety-net, minimum income in old 1) Targeted programs, that pay benefits only to those with the lowest old-age income elderlys, 2) Basic pensions refer to either flat rate or it only depends on years of work and 3) Universal: Social pension non contributory, non earning related for all the population above certain age.

Pillar 1: Mandatory publicly managed schemes. 1) Defined-benefit schemes (DB) have a formula directly relating retirement incomes to individual earnings. 2) Notional defined-contribution schemes (NDC), benefits depend on the amount of contributions made and notional interest credited to individual accounts. and 3) Provident Funds/Publicly managed defined-contribution schemes (PF), where benefits depend on the amount of contributions and the investment returns they earn.

Pillar 2: Mandatory privately managed schemes either fully-funded (DC) or defined benefit (DB).

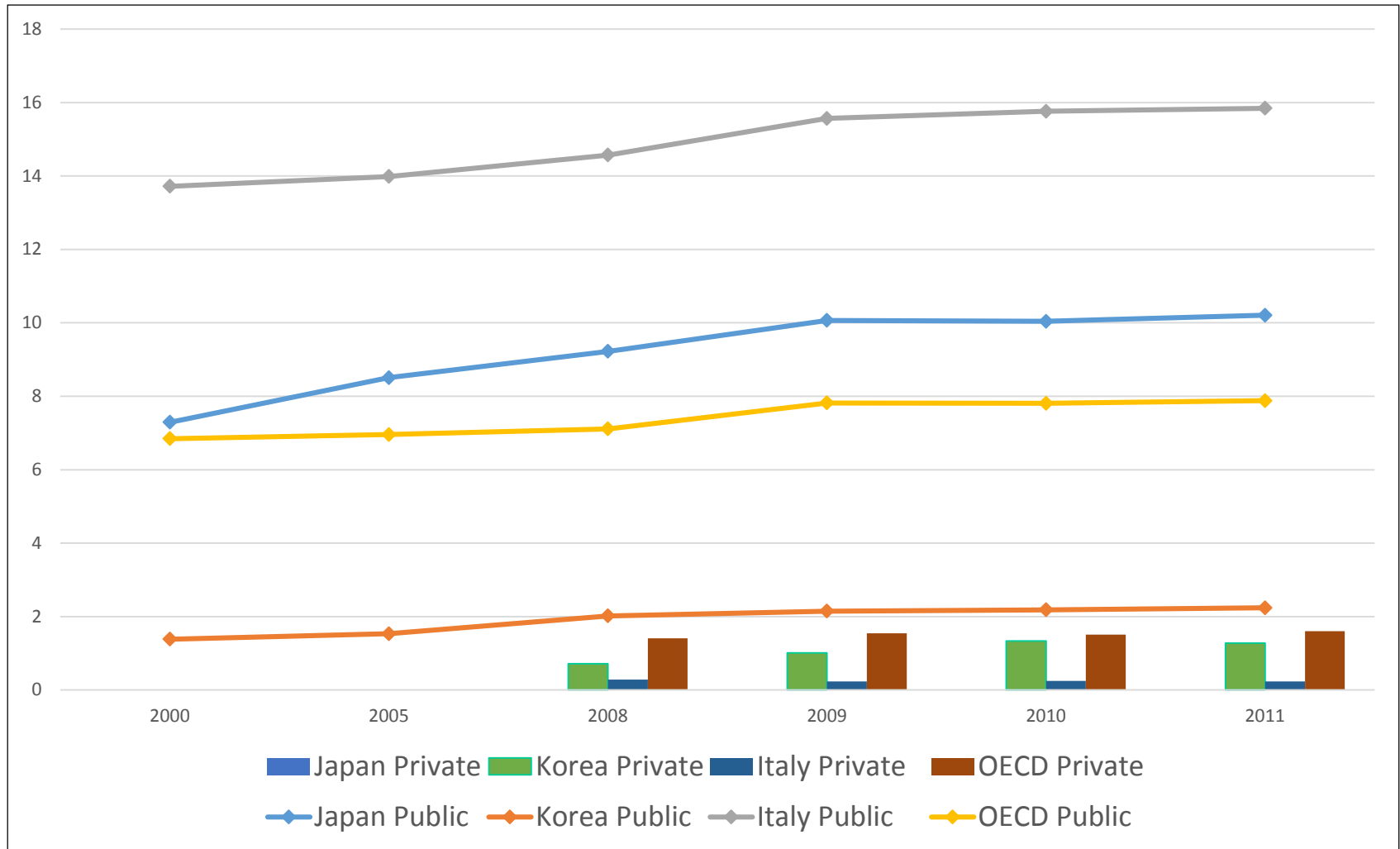
Pension Systems in Asia: A Tale of two Worlds

	Recent Year	Total Spending (% of GDP)
Cambodia	2005	0,60
China	2006	2,50
Hong Kong SAR, China	2006	1,60
India	2010	1,00
Indonesia ¹	2010	0,99
Japan	2009	10,10
Korea, Rep.	2005	1,60
Lao	2005	0,20

	Recent Year	Total Spending (% of GDP)
Malaysia	2012	3,75
Mongolia	2009	4,90
Papua New Guinea	2005	0,20
Philippines	2003	1,50
Singapore	-	-
Thailand	2006	0,80
Timor-Leste	2011	-
Vietnam	2004	2,50

1. Indonesia: Civil Servant scheme includes lump sum at retirement, death benefits for current old-age pensioners who die death benefit for spouse pensioners who die and Provident Fund include payouts. Military scheme not included.

Private and Public Pension Spending



Source: OECD Country Factbook 2015-2016

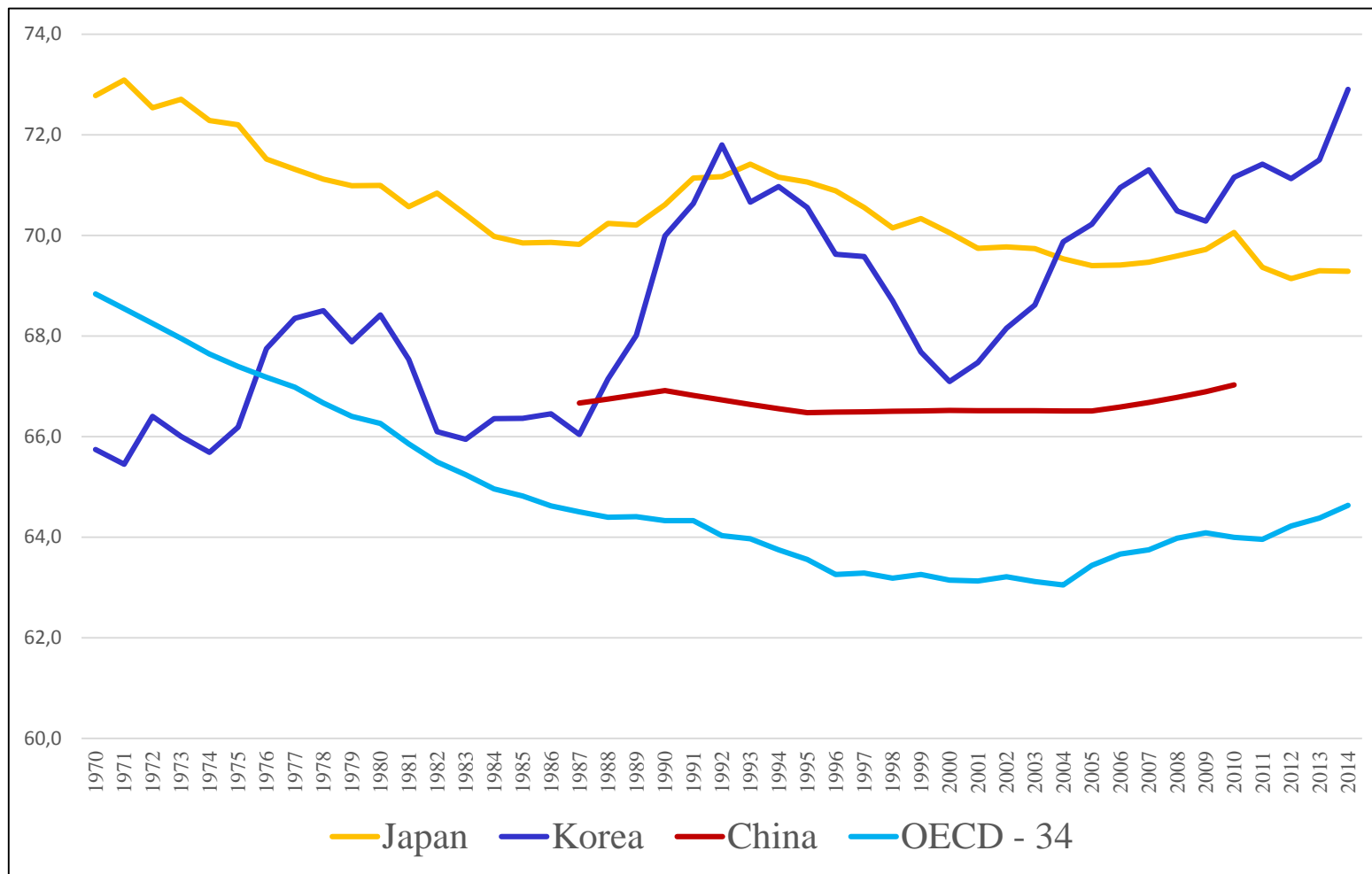
Pension Systems in Asia: A Tale of two Worlds

	Recent Year	Total Number of Active Contributors (thousands) (1)	Labor Force (thousands) (2)	Working Age Population (thousands)	First Arctive Coverage (1)/(2)	Schemes Covered
Cambodia	2010	36	7.972,30	9.276,12	0,5%	cs
China	2010	268.200	799.825	968.336	33,5%	ns, ss
Hong Kong SAR, China	2009	2.922	3.701	5.275	78,9%	ns
India	2006	44.404	432.048	695.835	10,3%	ns,cs
Indonesia	2010	12.979	117.962	161.699	11,0%	ns, cs
Japan	2005	63.560	66.643	84.702	95,4%	ns
Korea, Rep.	2011	19.886	24.898	36.703	79,9%	ns, cs, ss
Lao	2008	42	3.002	3.713	1,4%	..
Malaysia	2010	6.400	11.970	22.776	53,5%	ns
Mongolia	2009	544	1.153	1.850	47,2%	ns
Papua New Guinea	2009	129	2.965	3.888	4,4%	
Philippines	2011	10.163	38.712	58.078	26,3%	ns,cs
Singapore	2009	1.645	2.650	3.687	62,1%	ns
Thailand	2009	8.537	38.638	48.364	22,5%	ns
Timor-Leste	2010	32	348	581	9,2%	cs
Vietnam	2010	10.585	51.137	61.188	20,7%	ns

Source: World Bank Country statistics, 2016

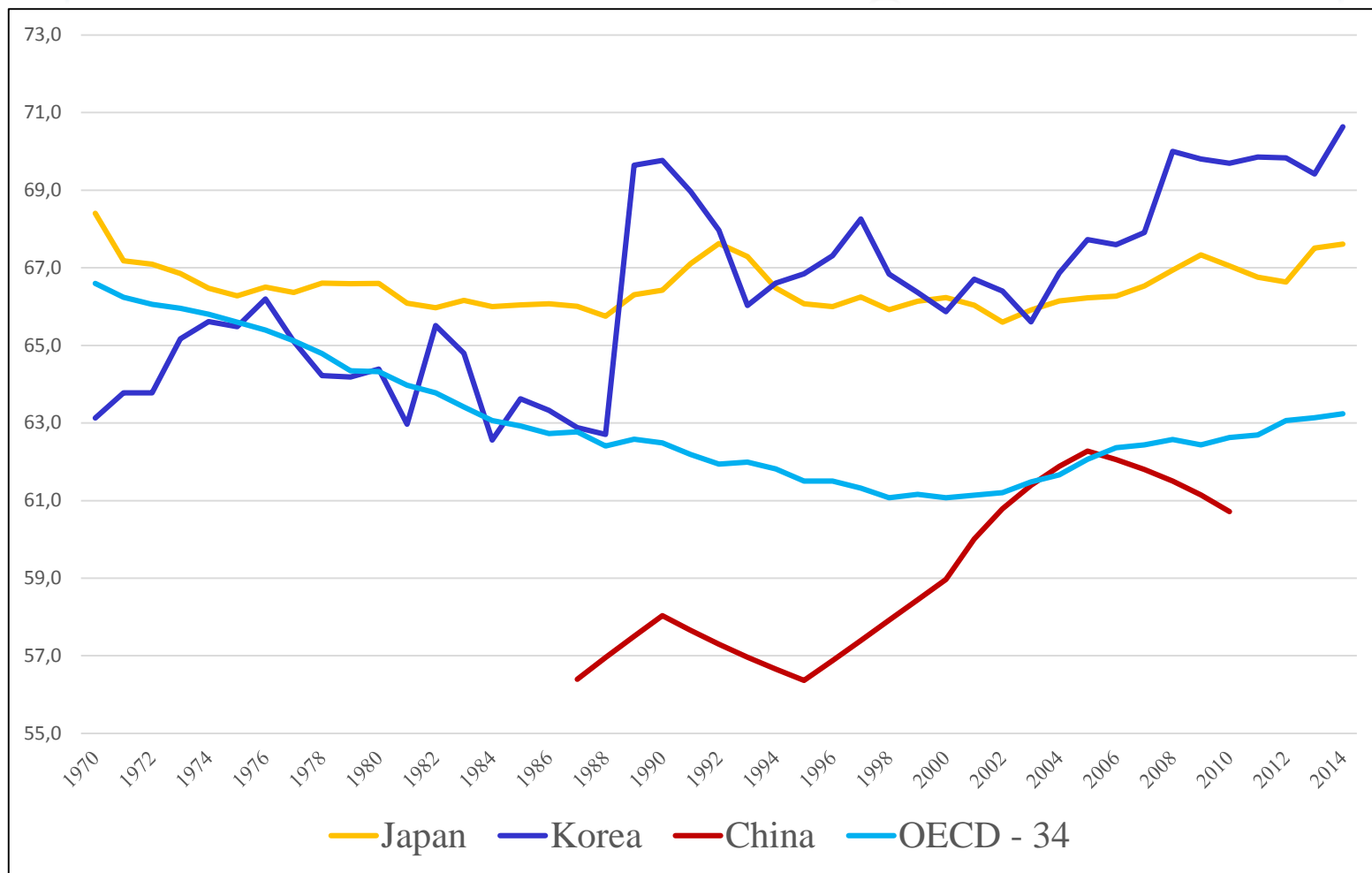
Ns: National Scheme cs: Civil Servants scheme ss: Special scheme

Effective Retirement Age, Males



Source: OECD Live longer, work longer report

Effective Retirement Age, Females



Source: OECD Live longer, work longer report

Demographic trends in Asia

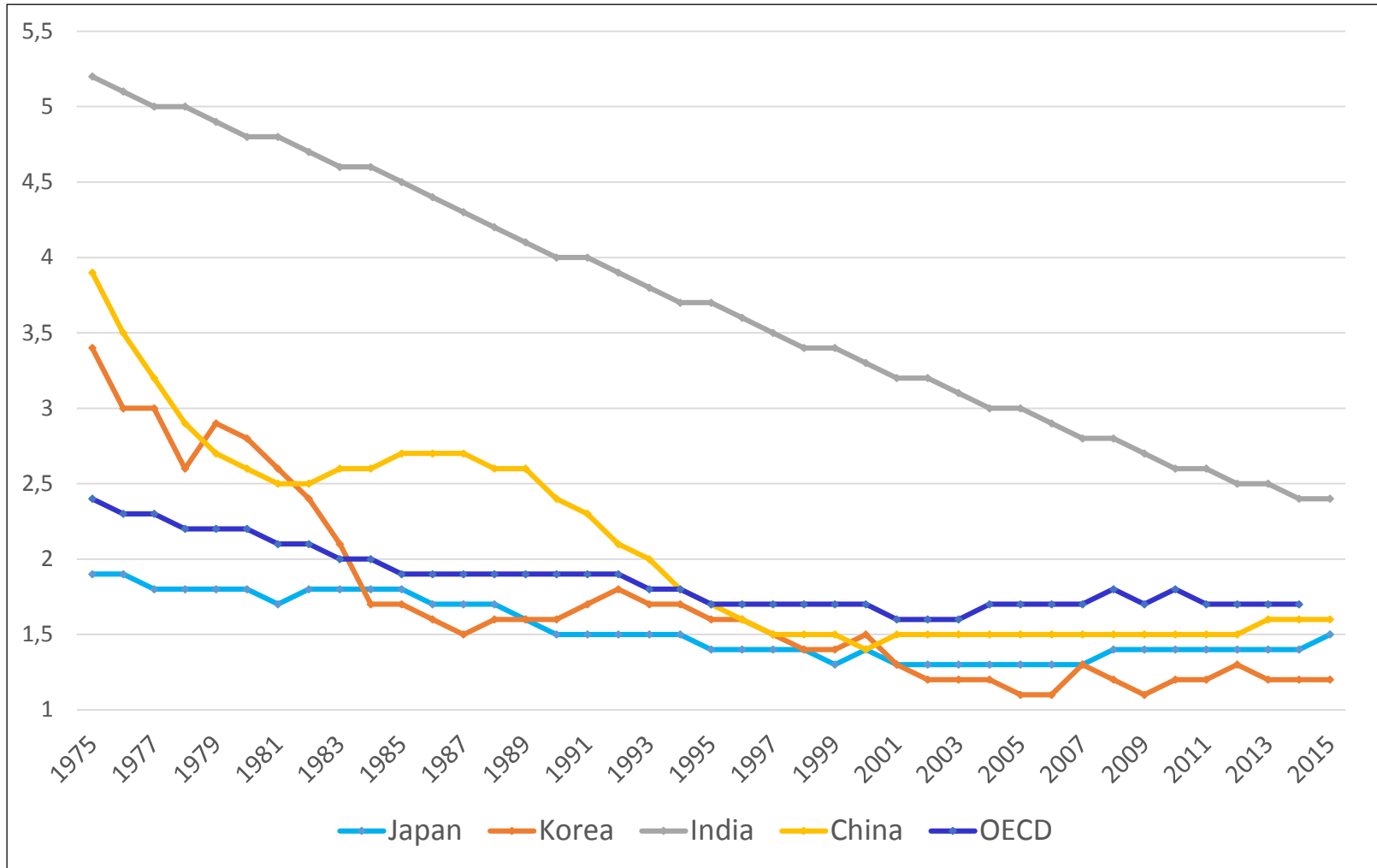
- ✓ Aging is due to
 - ✓ Low fertility
 - ✓ Low(er) Mortality
- ✓ Demographic trends: A Tale of two Worlds
 - ✓ Aging Rich
 - ✓ Growing Old before becoming Rich

Demographic trends in Asia

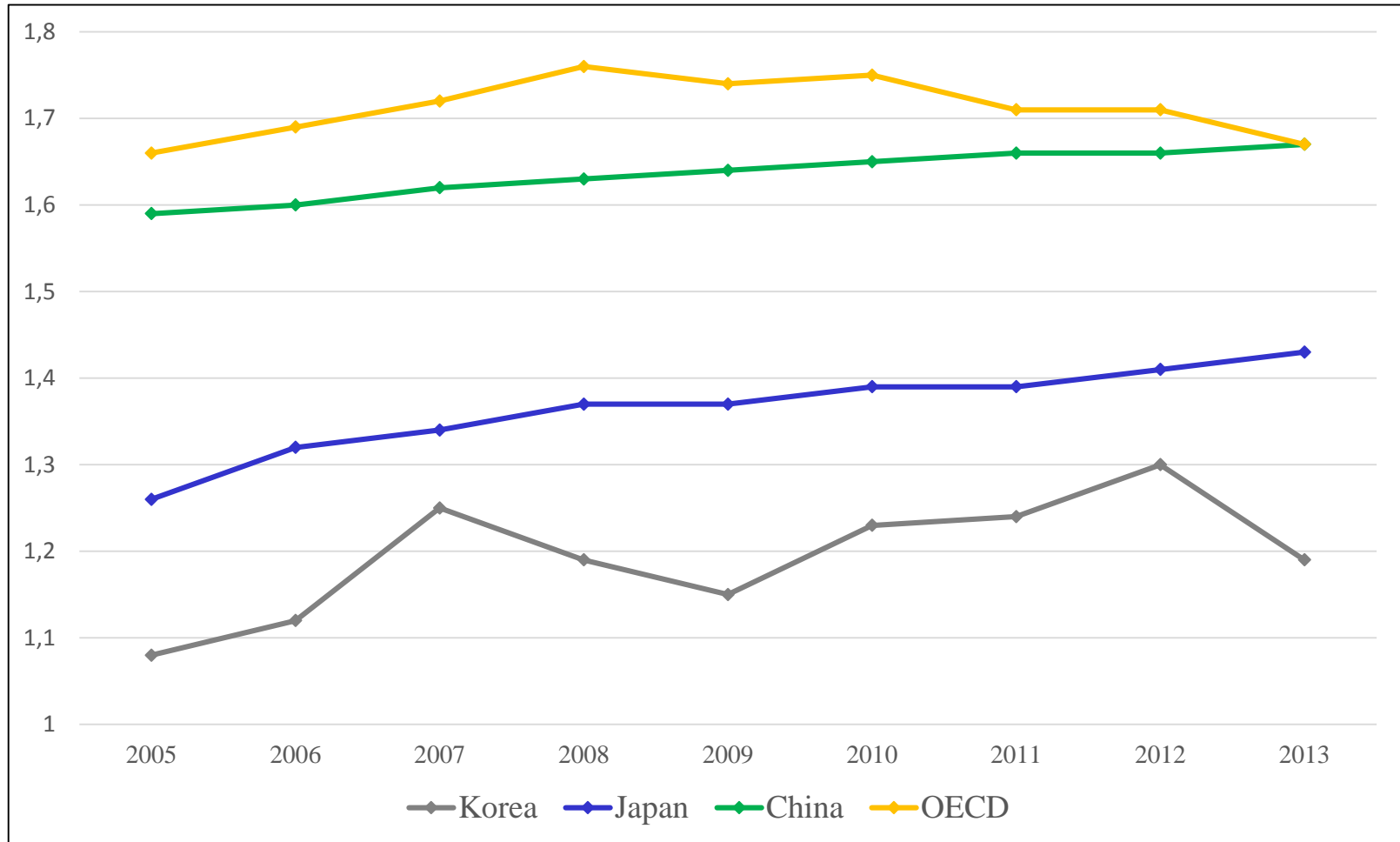
	Life Expectancy at 60		Fertility rate		Life Expectancy at 60		Fertility rate
	<i>Men</i>	<i>Women</i>			<i>Men</i>	<i>Women</i>	
Cambodia	14.1	16.1	3.0	Malaysia	16.5	18.4	3.0
China ¹	17.4	19.7	2.0	Mongolia	0	0	3.0
Hong Kong SAR. China	..	..	1.0	Papua New Guinea	14.7	16.5	4.0
India	15.3	16.8	3.0	Philippines	16.1	18.8	3.0
Indonesia	15.7	17.6	2.0	Singapore	20.8	24	1.0
Japan	22.3	27.8	1.0	Thailand	19.1	20.7	2.0
Korea. Rep.	..	..	1.0	Timor-Leste	..	..	6.0
Lao	14.4	16	3.0	Vietnam	16.5	19.4	2.0

Source: World Bank Country statistics, 2016

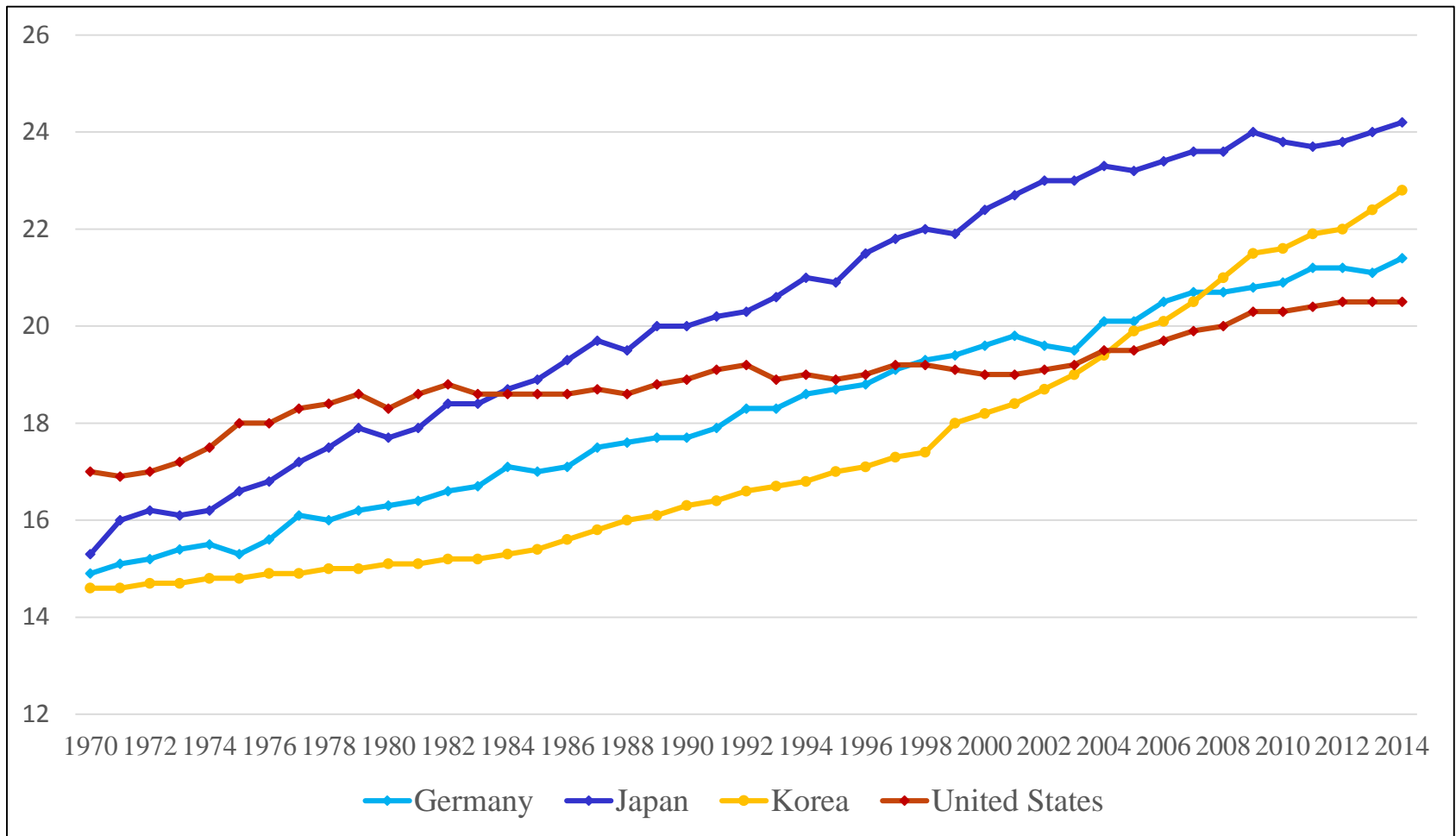
Demographic trends in Asia: Fertility



Demographic trends in Asia: Fertility

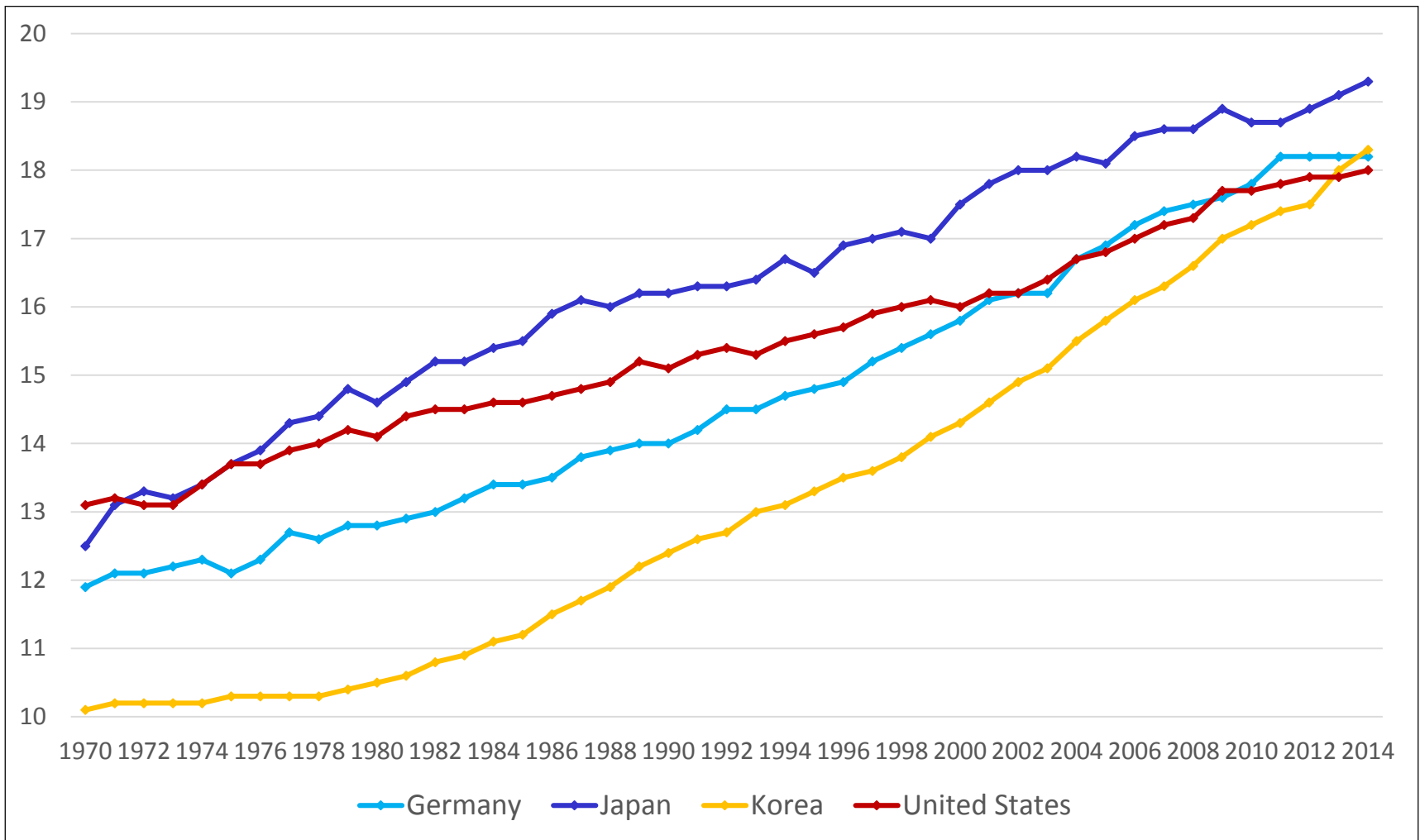


Demographic trends in Asia: Life Expectancy at 65, Females

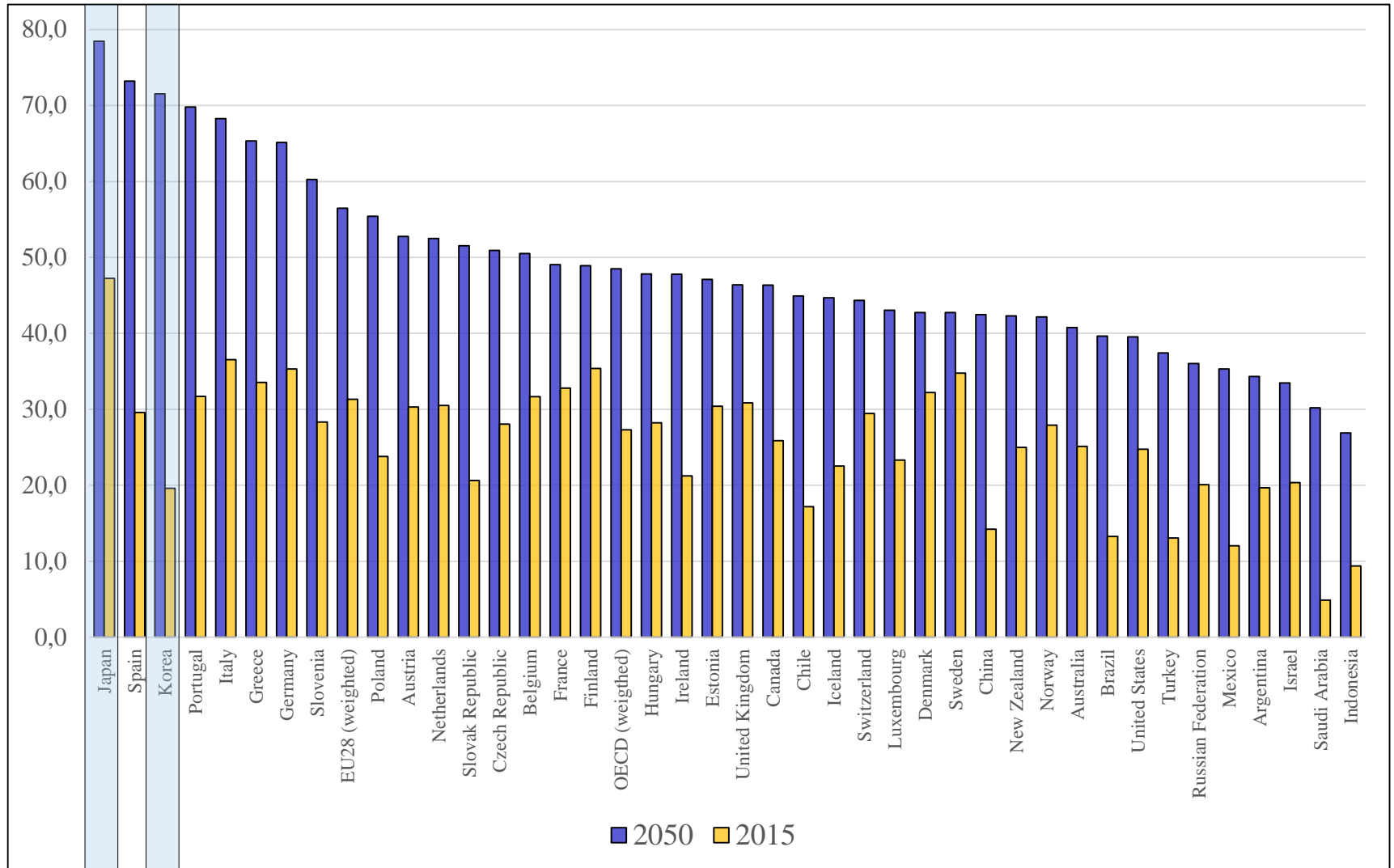


Source: OECD Health Status database (2016)

Demographic trends in Asia: Life Expectancy at 65, Males

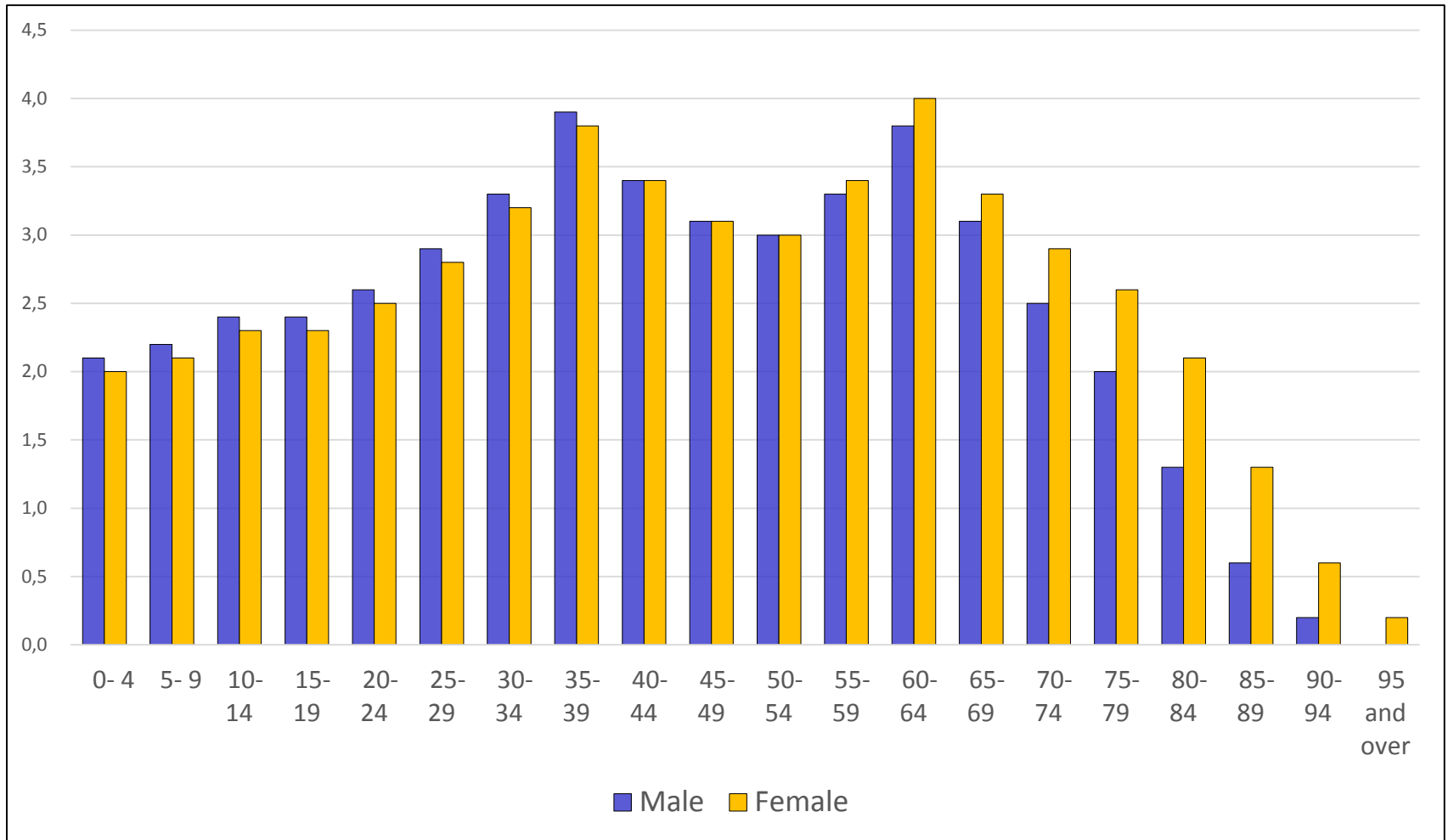


Demographics in Asia: Old Age Dependency ratio



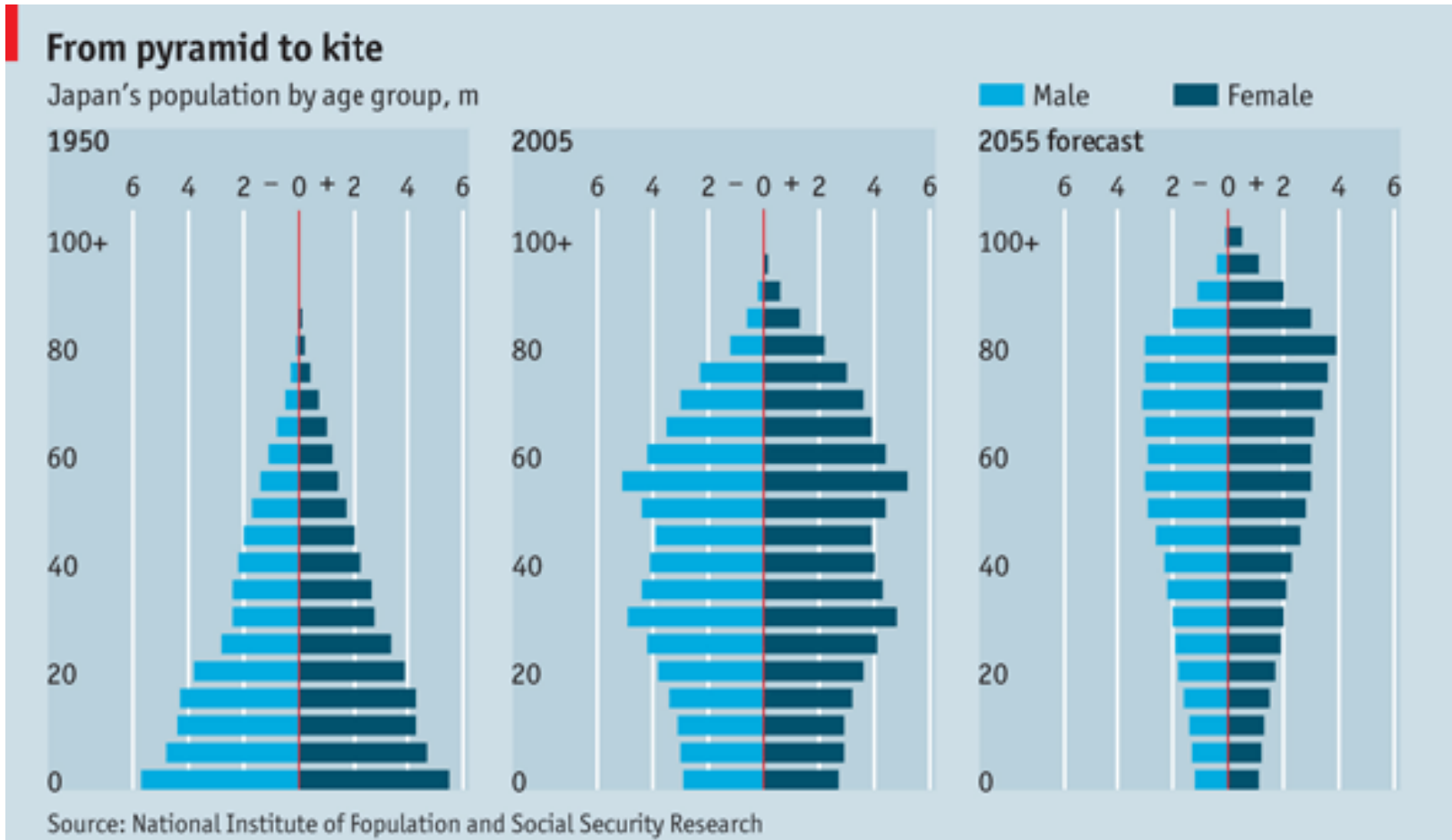
Source: OECD Pensions at Glance (2015)

Population Pyramid in Japan, by Gender, 2010



Source: Statistics Bureau, Ministry of Internal Affairs and Communications, Population Census of Japan

Population Pyramid in Japan, 1950-2005-2055



Source: National Institute of Population and Social Security Research. The Economist elaboration

Politics of Pensions: why to have pensions?

1. Normative Approach:

- ✓ Poverty reduction among the elderly or lack of reliable saving instruments for the poor
- ✓ Longevity Risk, Asymmetric information and lack of Annuity Markets

2. Political-Economy Approach

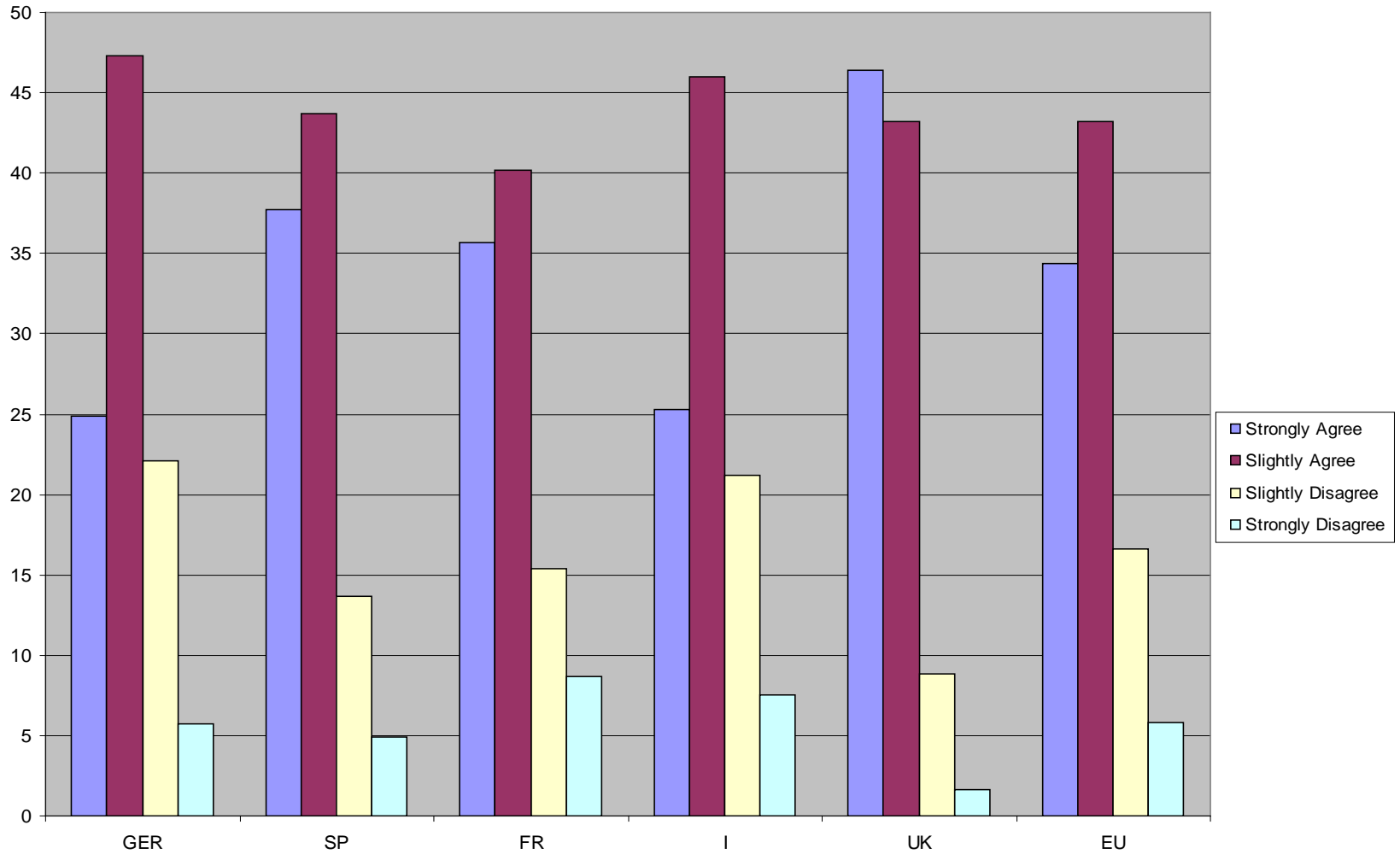
- ✓ Policy-makers are politicians with career (electoral) concerns
- ✓ Pensions are a tangible public spending: buy consensus. Different coverage depending on the state of economic development
- ✓ The Elderly are “Single-minded”

3. Political Constraints

- ✓ Hard to reduce Pension Generosity, in absence of external constraints or financial crisis
- ✓ Hard to increase Coverage, due to budget constraints and black markets

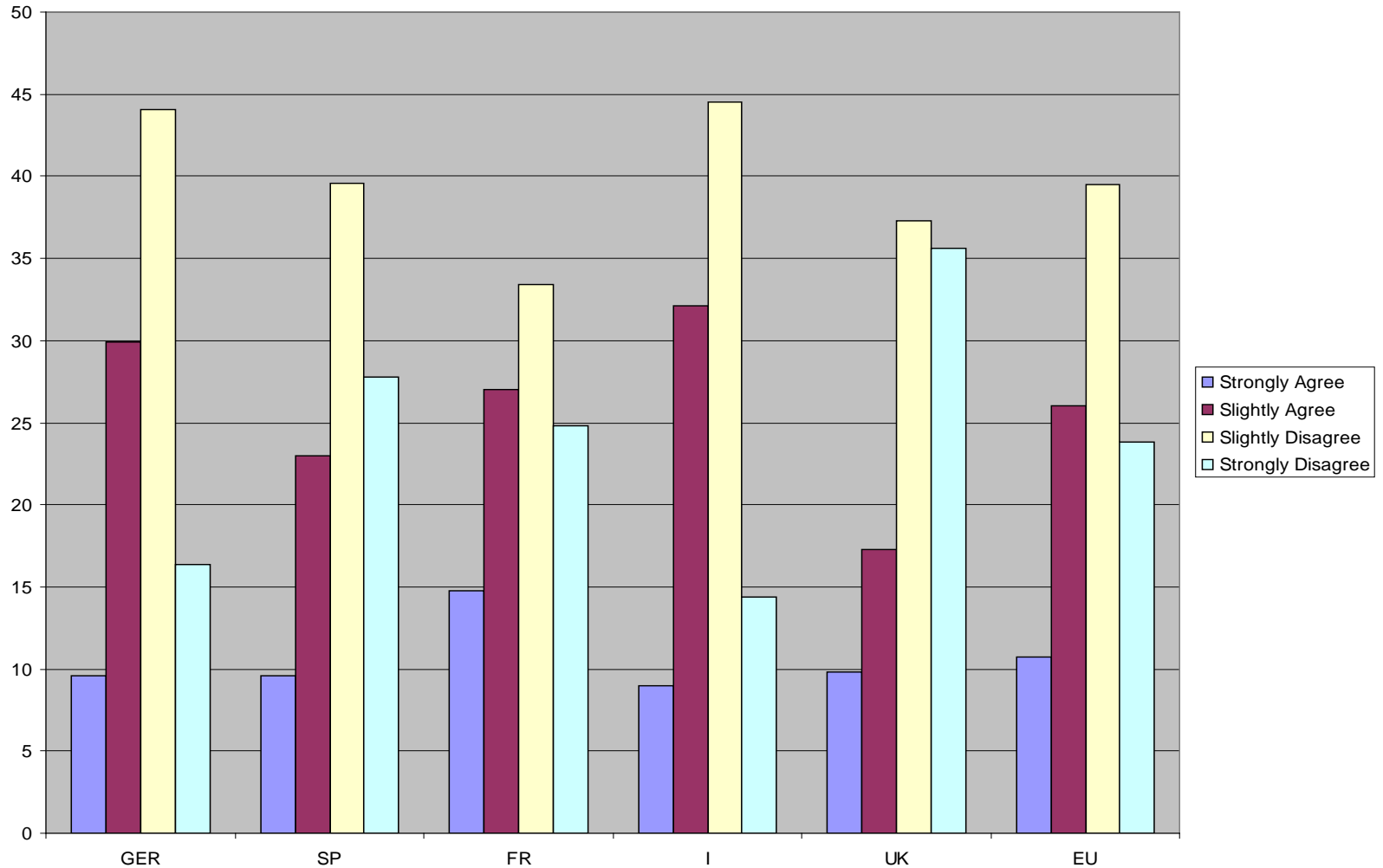
Politics of Pensions

Figure 1: Current Pension Levels Should be Maintained even if this Means Raising Taxes or Contributions



The Politics of Pensions

Figure 2: Contribution Rates Should Not be Raised even if this Means Lower Pension Levels



Politics of Pensions: who wants pensions?

Individual Preferences for Pensions (France, Germany, Italy, Spain)

Who wants to shift resources from the young to the old people, given no change in the size of the welfare state?

- + Elderly
- + Low Educated
- + With a Permanent Job

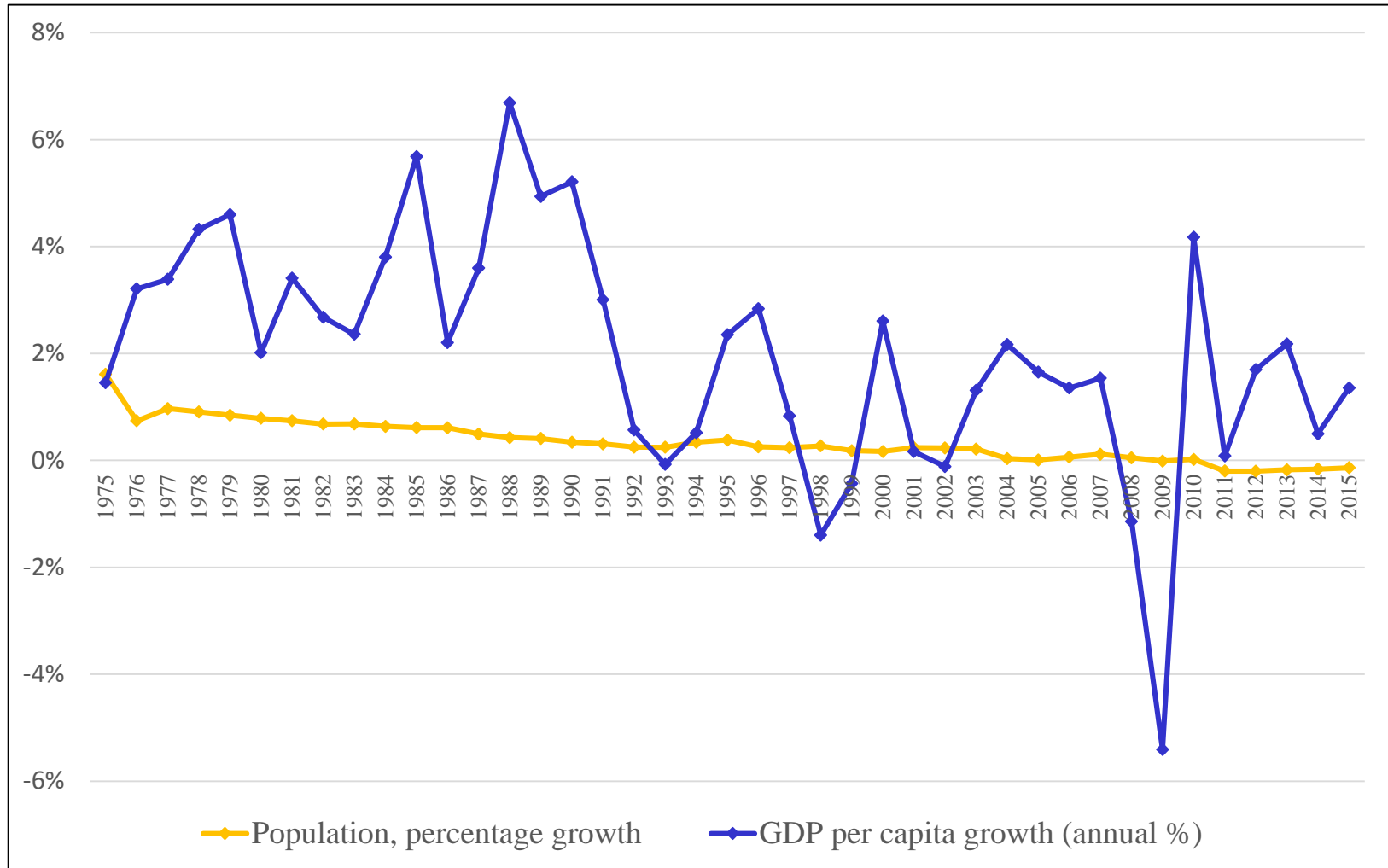
- Unemployed

Politics of Aging

Aging induces (at least) two crucial effects:

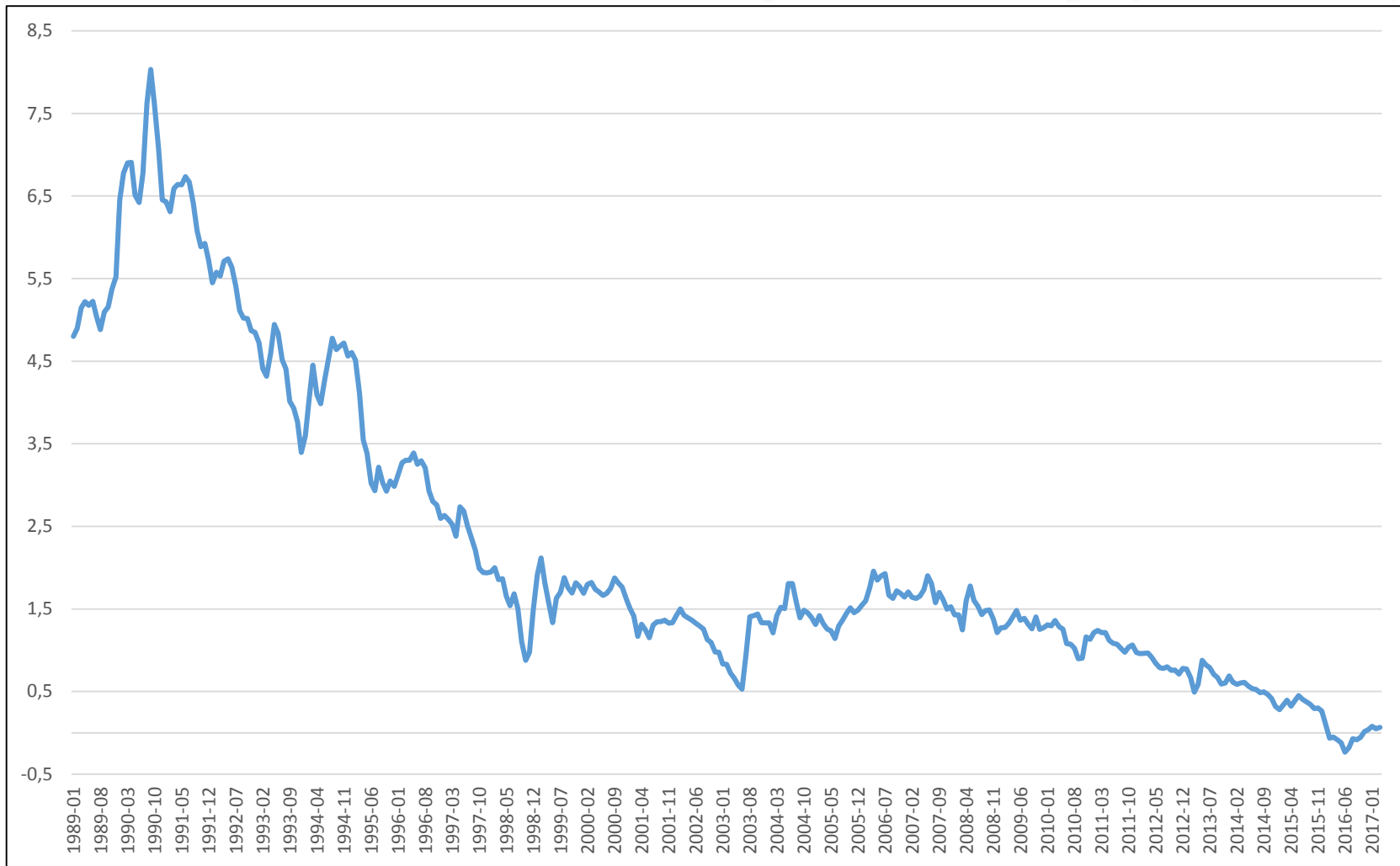
- 1. Economic:** An increase in the Dependency Ratio reduces the average long run return of the system: $(1+n)(1+g)$
 - ✓ Policy Implication: Reduce the Relative Importance of the 1st Pillar vs other (Mandatory) Saving Instruments.
- 2. Political:** Aging Increases the Political Weight of the Elderly
 - ✓ High Coverage Countries: Generates “political pressure” to maintain the generosity of the system
 - ✓ Low Coverage Countries: Generates “political pressure” to increase coverage

The Economic Effect of Aging in Japan



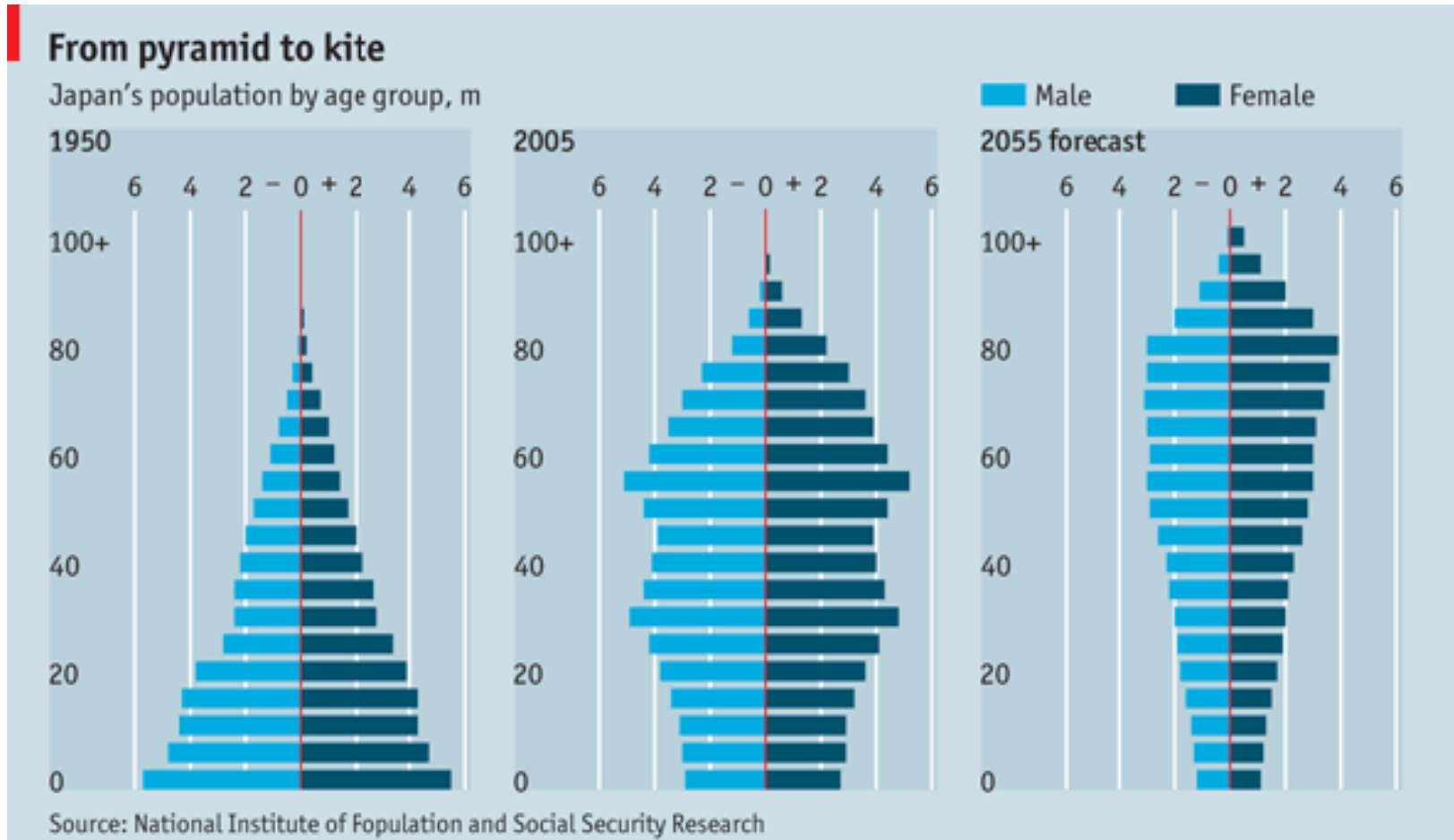
Source: World Bank Country statistics, 2016

Alternative Asset: 10-year Bond Japan



OECD (2017), Long-term interest rates (indicator). Accessed on 15 May 2017

The Political Effect of Aging in Japan



Source: National Institute of Population and Social Security Research. The Economist elaboration

Politics of Aging

To assess the relative strength of the Economic and Political effect of Aging for six countries (France, Germany, Italy, Spain, UK and US):

1. **Calibrate** a general equilibrium politico-economic model to the economic, demographic and political aspects of these countries.
2. **Simulate** the expected economic, demographic and political for the 2050 and assess the political sustainability of the pension system: How do the voters want the pension system to be change?
3. **Results:** Political effect dominates. Contribution rates increase everywhere although (generosity) replacement rates may decrease

Politics of Aging: Simulations' Results

		Median Voter's Age	Effective Retirement Age	Social Security Contribution Rate	Replacement Rate
France	2000	47	58	22.4%	49.2%
	2050	56	58	40.8%	54.6%
	2050	56	65	29.7%	72.2%
Germany	2000	46	61	23.8%	68.3%
	2050	55	61	37.7%	55.4%
	2050	55	65	32.6%	81.2%
Italy	2000	44	58	38.0%	73.6%
	2050	56	58	50.0%	55.5%
	2050	56	65	38.0%	74.2%
Spain	2000	44	62	21.3%	67.9%
	2050	57	62	45.5%	64.6%
	2050	57	65	40.7%	77.3%
UK	2000	45	63	14.5%	75.8%
	2050	53	63	33.2%	95.2%
	2050	53	65	31.1%	114.3%
US	2000	47	63	9.7%	41.9%
	2050	53	63	21.6%	55.7%
	2050	53	65	18.3%	53.9%

Politics of Aging: Policy Implication

To assess the relative strength of the Economic and Political effect of Aging for six countries (France, Germany, Italy, Spain, UK and US):

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Policy Implication: Raising the effective retirement age limits the increase of the pension spending, and may increase the generosity of the system

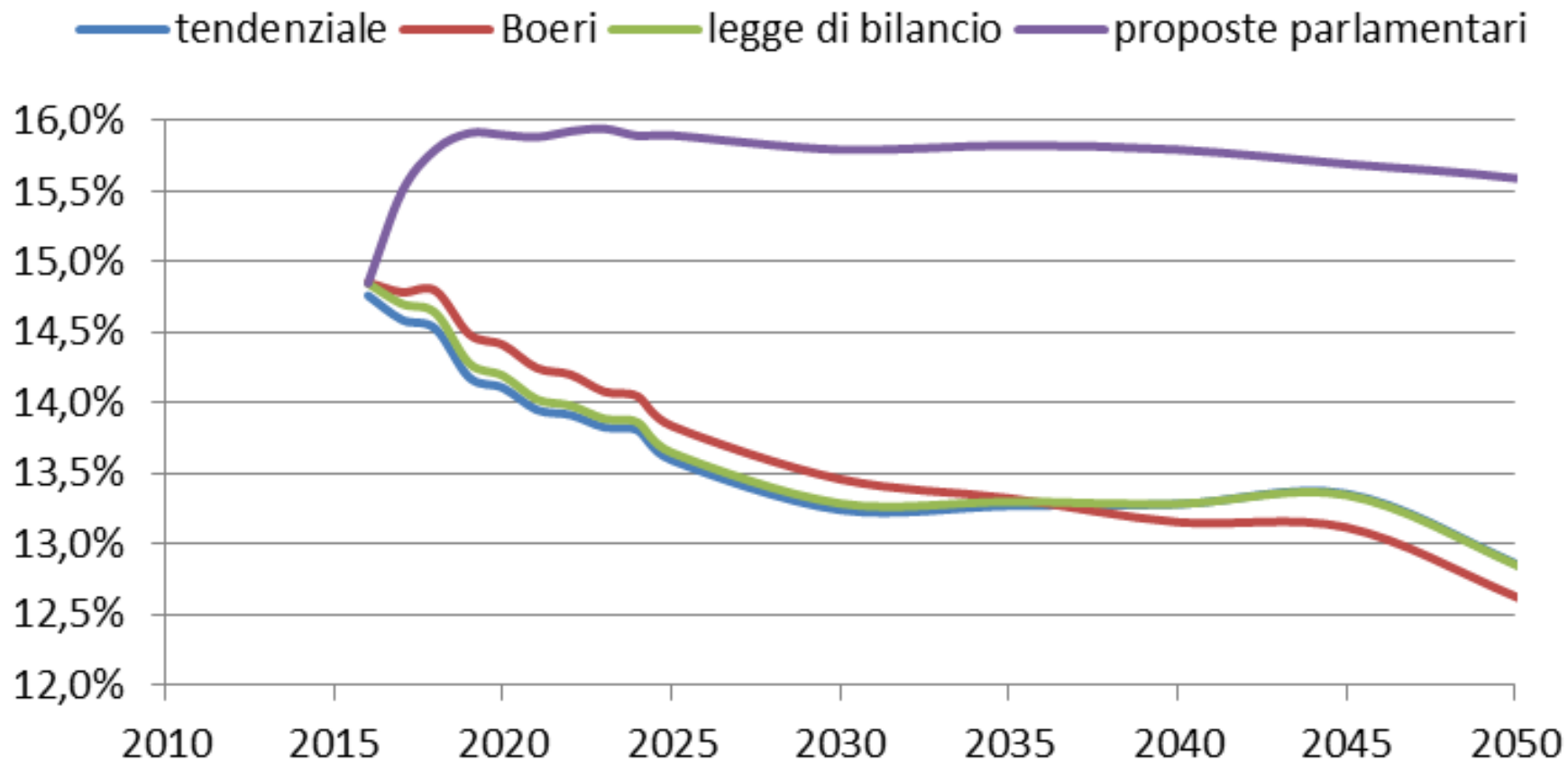
Politics of Increasing Retirement Age

However, Increasing Retirement Age may have political cost:

1. **High Effective Retirement Age:** difficult to push it further for health reasons.
 2. **Labor Demand Effect:** How do firms deal with an aging workforce? The issue of Seniority Wages
 3. **Flexibility in Retirement Decisions:** Individuals may have different preferences for retirement due to health, family status, valuation of their leisure.
- Flexible Retirement Scheme, with Actuarially Fair Penalties needed
 - In countries with Tight Budget Constraints, it may not be feasible

Politics of Increasing Retirement Age: the case of Italy

Incidenza sul pil spesa pensionistica



A New Policy: Flexibility through Financial Markets



With this Policy (APE: Pension Guaranteed Monthly Loan), beneficiaries have access to a monthly loan until their retirement age, guaranteed by their future pension, and by a life insurance. Payments in 20 years since retirement.

Typically, this loan market does not exist, due to asymmetric information between borrowers and banks on the future pension rights and amounts

Public Intervention (in Italy):

1. **Certification of Pension Rights**, issued by SSA to solve asymmetric information problem
2. **Pricing**: Set-up a Centralized Bargaining system to reduce Firms and Insurance Company Oligopoly power
3. **Tax Breaks**: on Interests and Insurance Premium paid by the beneficiaries
4. NO Pension Reform
5. NO Retirement Required