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THE CONDITIONS AND POLICY REFORMS FOR FINANCING SOCIAL SECURITY WITH THE DECLINING BIRTHRATE AND AGING POPULATION IN JAPAN

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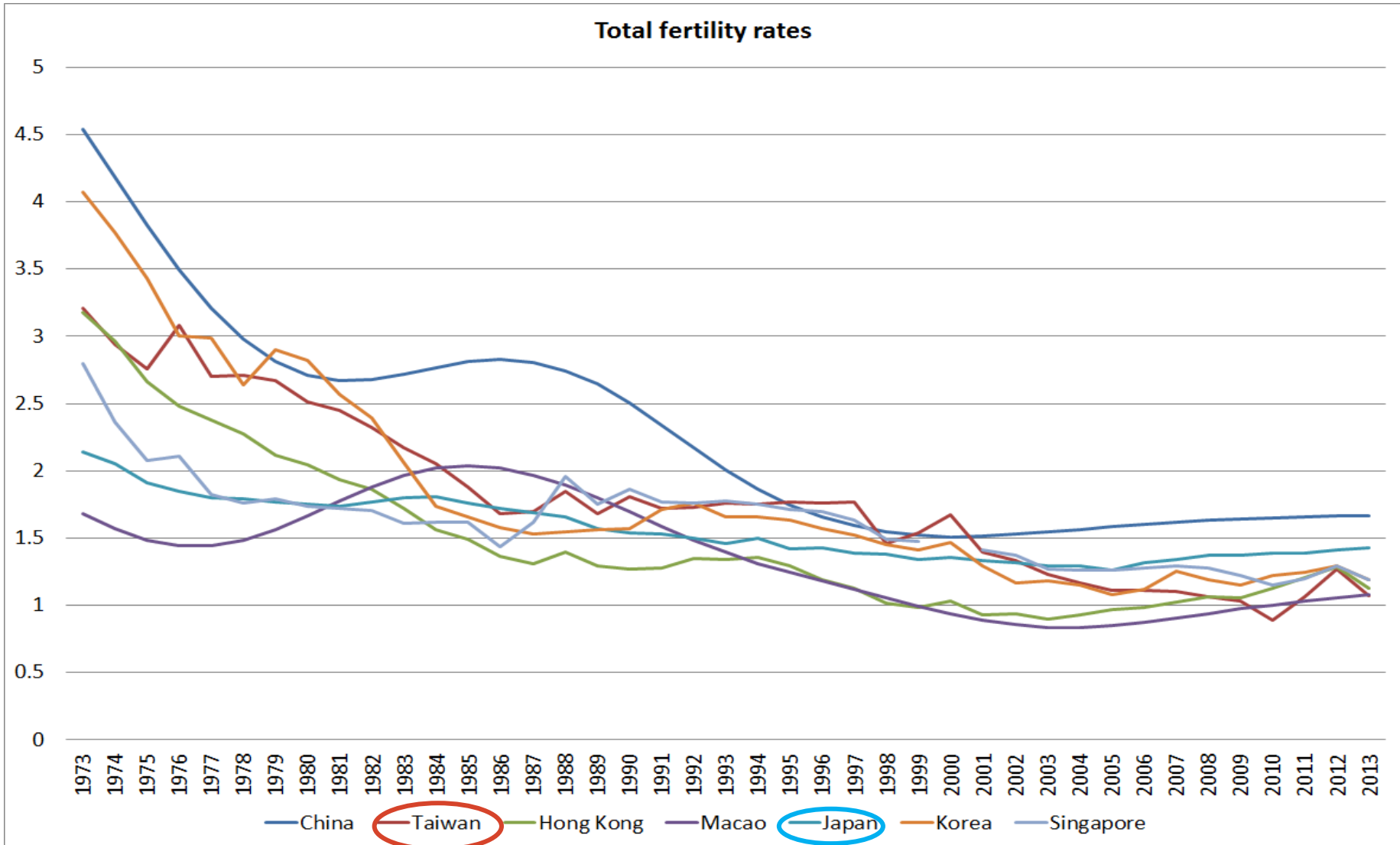INSTITUTE OF ECONOMIC RESEARCH

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TOKYO, JAPAN

TOTAL FERTILITY RATE, 1970, 1995 AND 2013 ACROSS OECD COUNTRIES
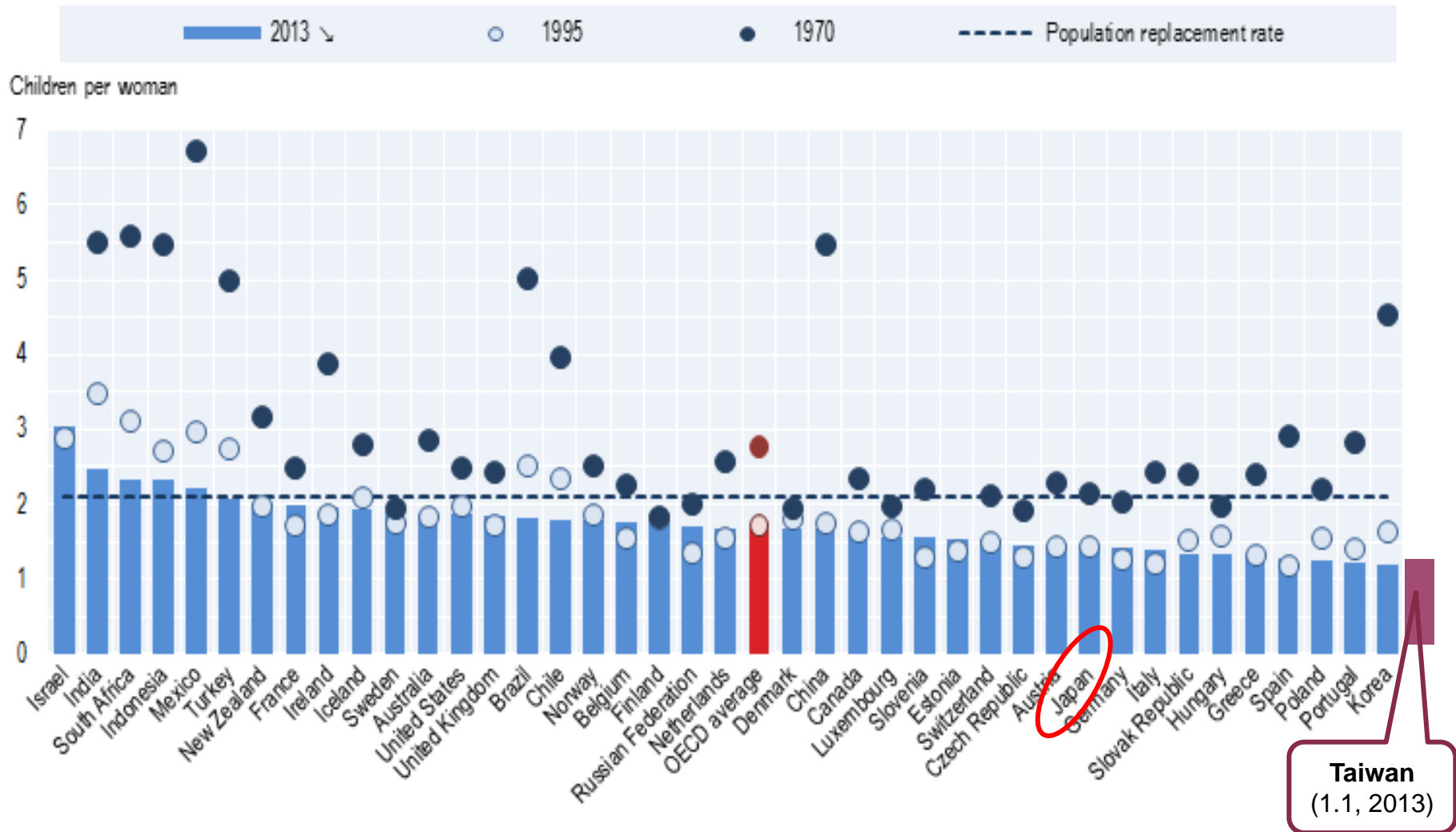
Taiwan
(1.1, 2013)

Source: OECD Family Database May 2015

TRENDS OF TOTAL FERTILITY RATE IN ASIAN NATIONS AND REGIONS

Total fertility rates

Legend: China, Taiwan, Hong Kong, Macao, Japan, Korea, Singapore

Source: China's fertility rate in an Asian perspective based on the World Bank database,
https://croakingcassandra.com/2015/10/30/chinas-fertility-rate-in-an-asian-perspective/

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TRENDS IN LIFE EXPECTANCY AT BIRTH OF TAIWAN AND JAPAN

JAPAN
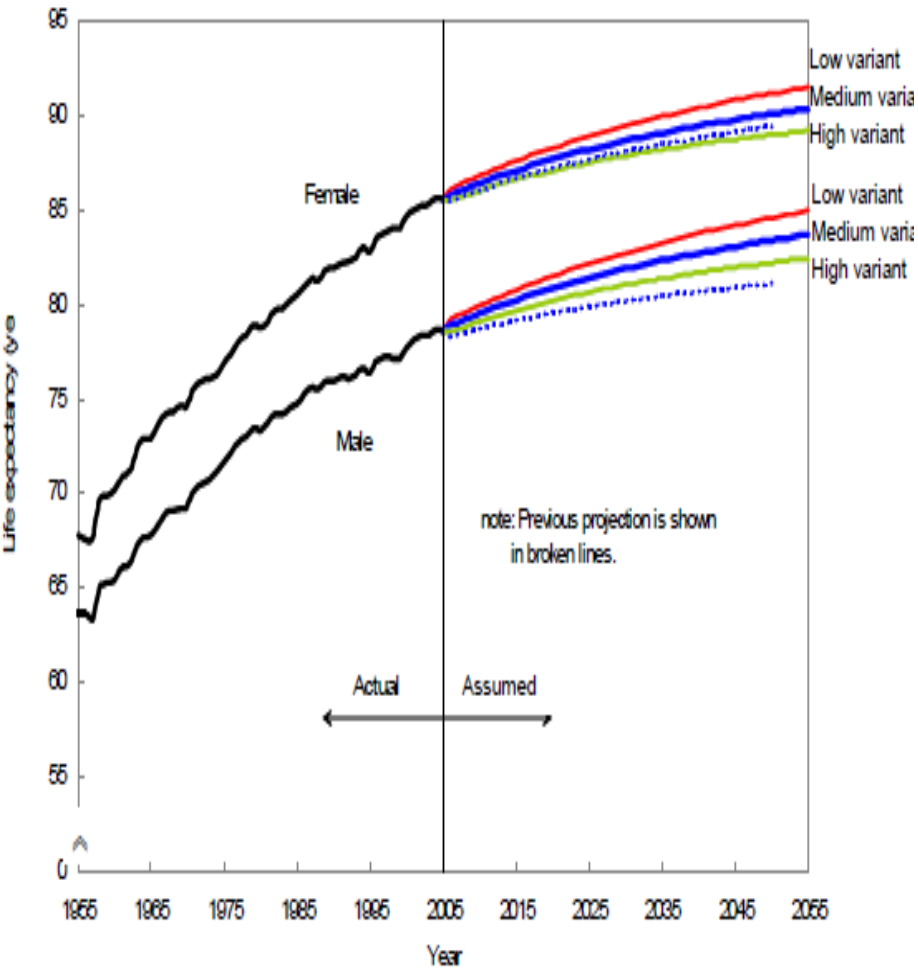
TAIWAN

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DECLINING BIRTHRATE AND ADVANCEMENT OF AGING → POPULATION DECREASE (ACTUAL AND PROJECTED POPULATION IN TAIWAN AND JAPAN)

JAPAN

Source: Population Projection for Japan: 2011-2060 (January 2012), National Institute of Population and Social Security Research

TAIWAN
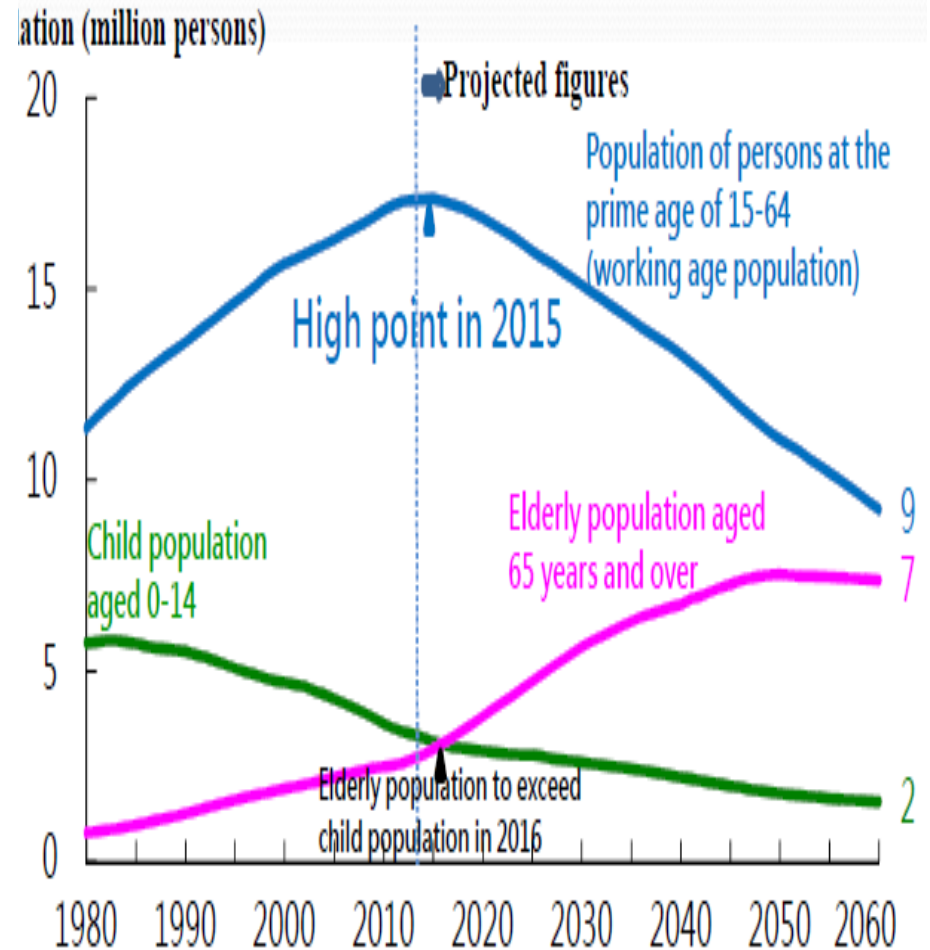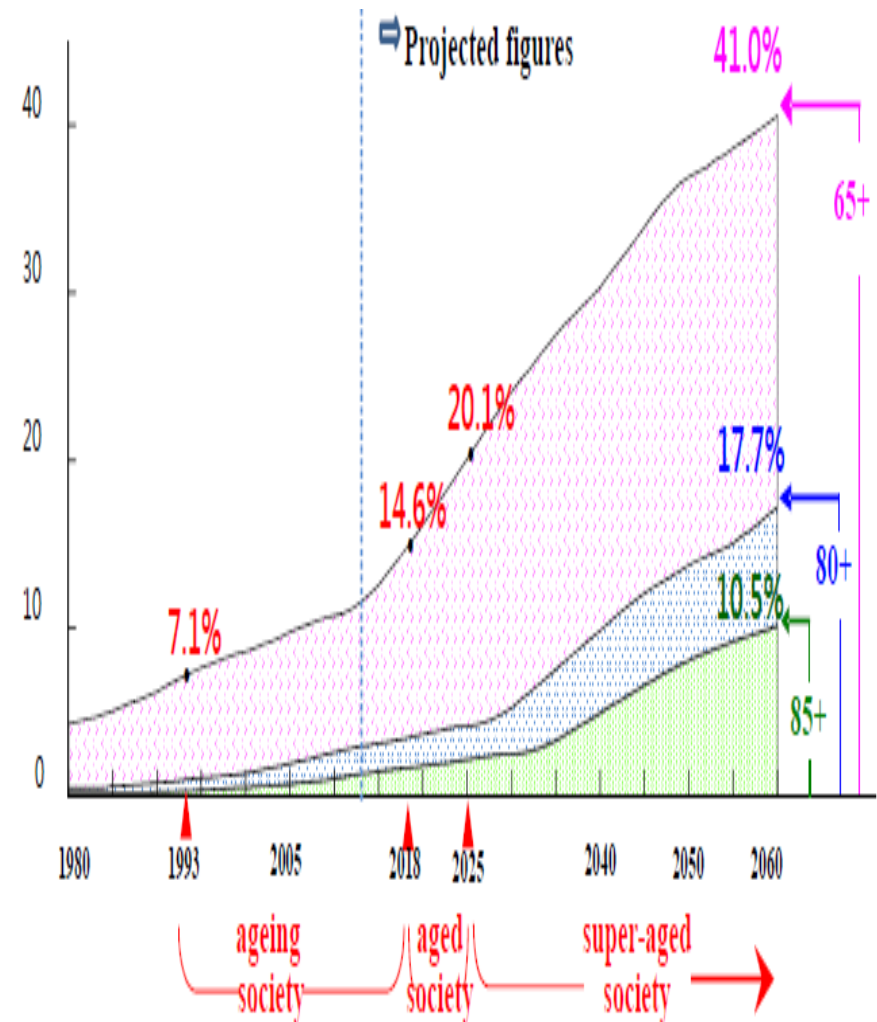
Source;Population Projections for R.O.C. (Taiwan): 2016~2060, National Development Council

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TRENDS IN THE PROPORTION OF THE ELDERLY

JAPAN

TAIWAN

Source: Population Projection for Japan: 2011-2060 (January 2012), National Institute of Population and Social Security Research
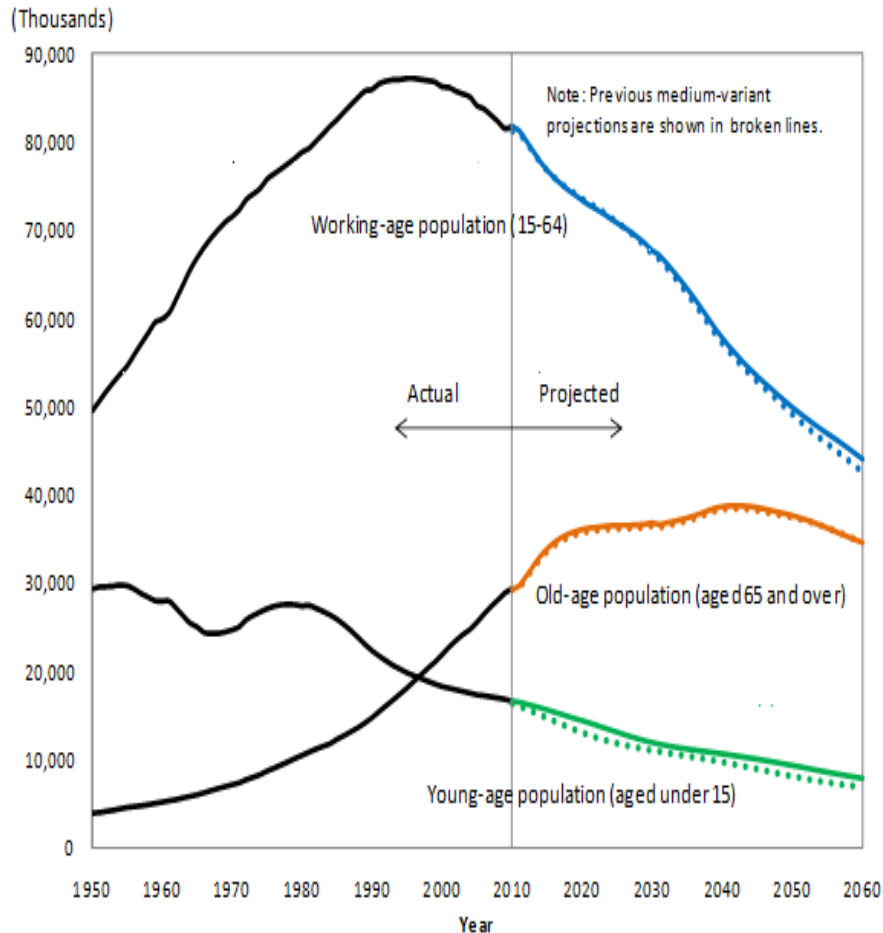
Source;Population Projections for R.O.C. (Taiwan): 2016~2060, National Development Council

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TRENDS OF SOCIAL EXPENDITURE BY POLICY AREA IN JAPAN

Trillion yen

Legend:
- Old age
- Health
- Survivors
- Family
- Incapacity-related benefits
- Other social policy areas
- Unemployment
- Active labour market programme
- Housing

Fiscal Year (1980 – 2013)
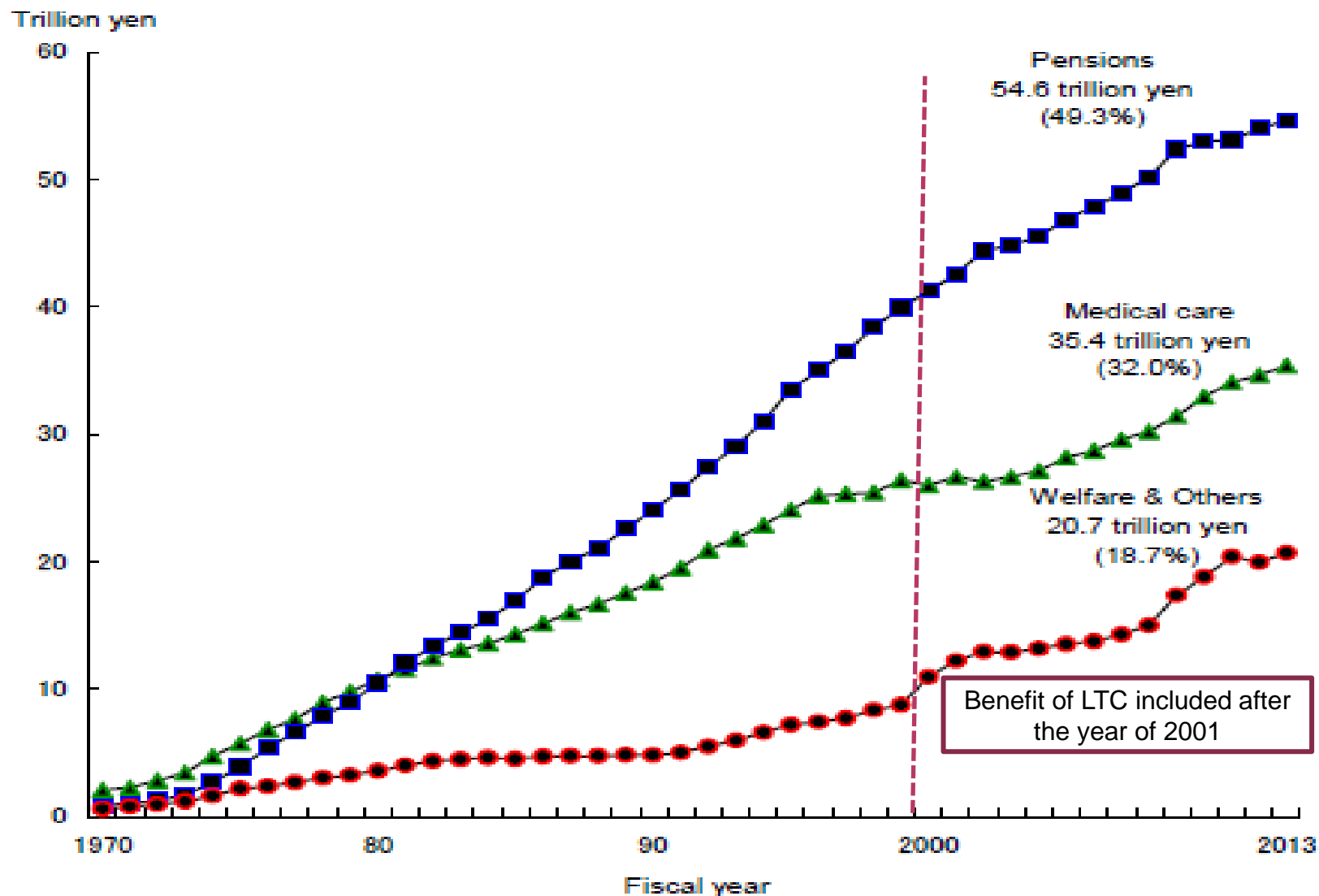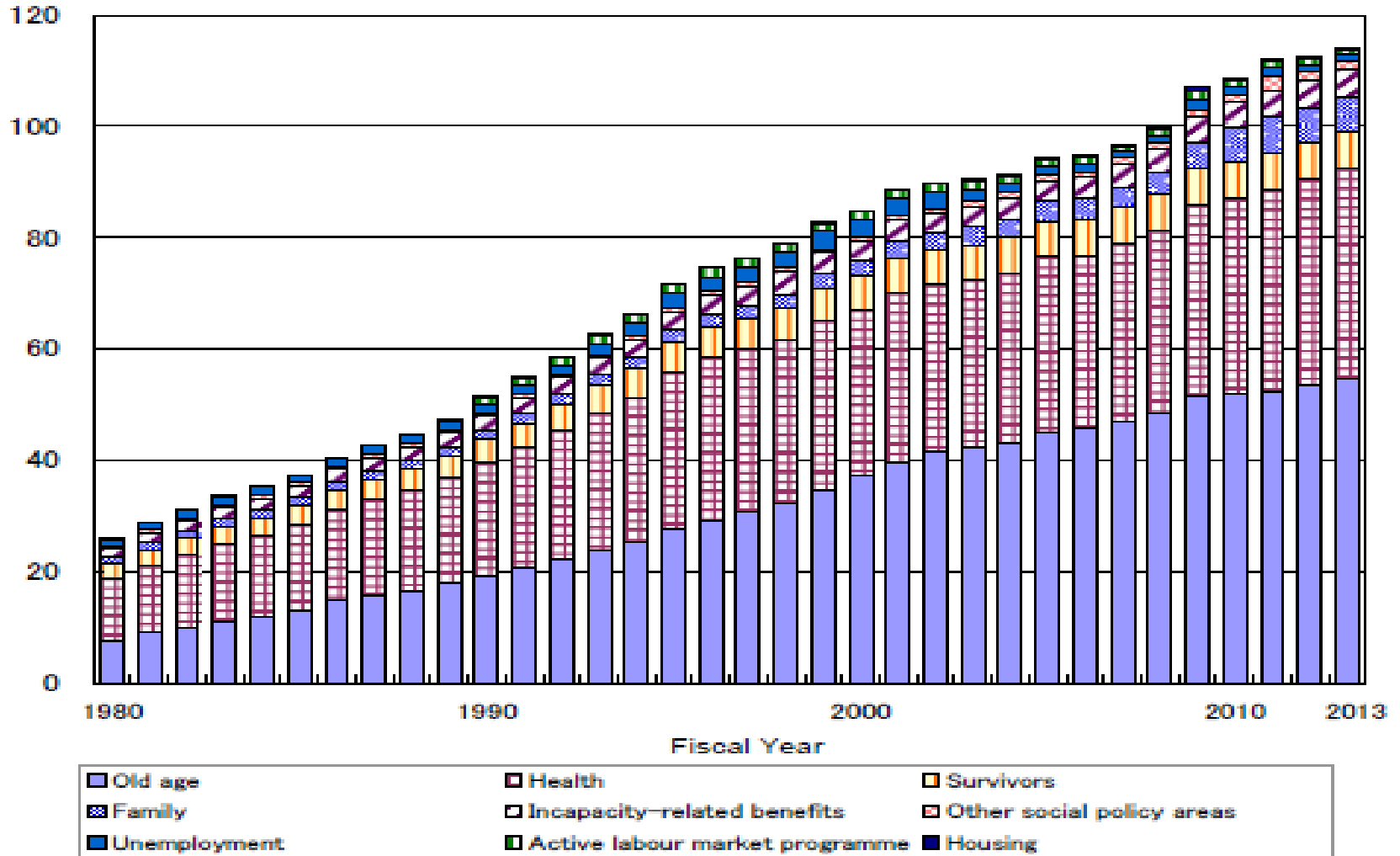
Source: The Financial Statistics of Social Security in Japan FY 2013, National Institute of Population and Social Security, Japan

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INCREASE IN THE NUMBER OF AGED 75 AND OVER AND MEDICAL CARE AND LONG-TERM CARE BENEFITS PER CAPITA (ESTIMATION MADE BY MHLW)

	Number and ratio to total population		Medical care (2011)		Long-term care (2012)	
	2012	2025	Medical care benefits per capita	Public aid per capita	Long-term care benefits per capita	Public aid per capita
	- 13.0 million people Aged 64 and under: 96.7 million → 84.1 million		Aged 64 and under : ¥175 thousand	27 thousand	Certification rate	
Aged 65~74	- 1.0 million people 15.6 million → 14.8 million (12.2%)	(12.3%)	¥553 thousand	¥85 thousand	¥50 thousand (4.4%)	¥14 thousand
Aged 75 and over	+ 7.0 million people 15.2 million → 21.8 million (11.9%)	(18.1%)	¥892 thousand	¥326 thousand	¥461 thousand (31.3%)	¥131 thousand

Source: Fiscal Policy in Japan - Issue and Future Directions - , July2015, Ministry of Finance, Japan

PROSPECTS OF SOCIAL SECURITY BENEFITS IN JAPAN (2012 MARCH ESTIMATION PROVIDED BY MHLW)

Prospect of Social Security Benefits

Source*: Fiscal Policy in Japan - Issue and Future Directions - , July2015, Ministry of Finance, Japan
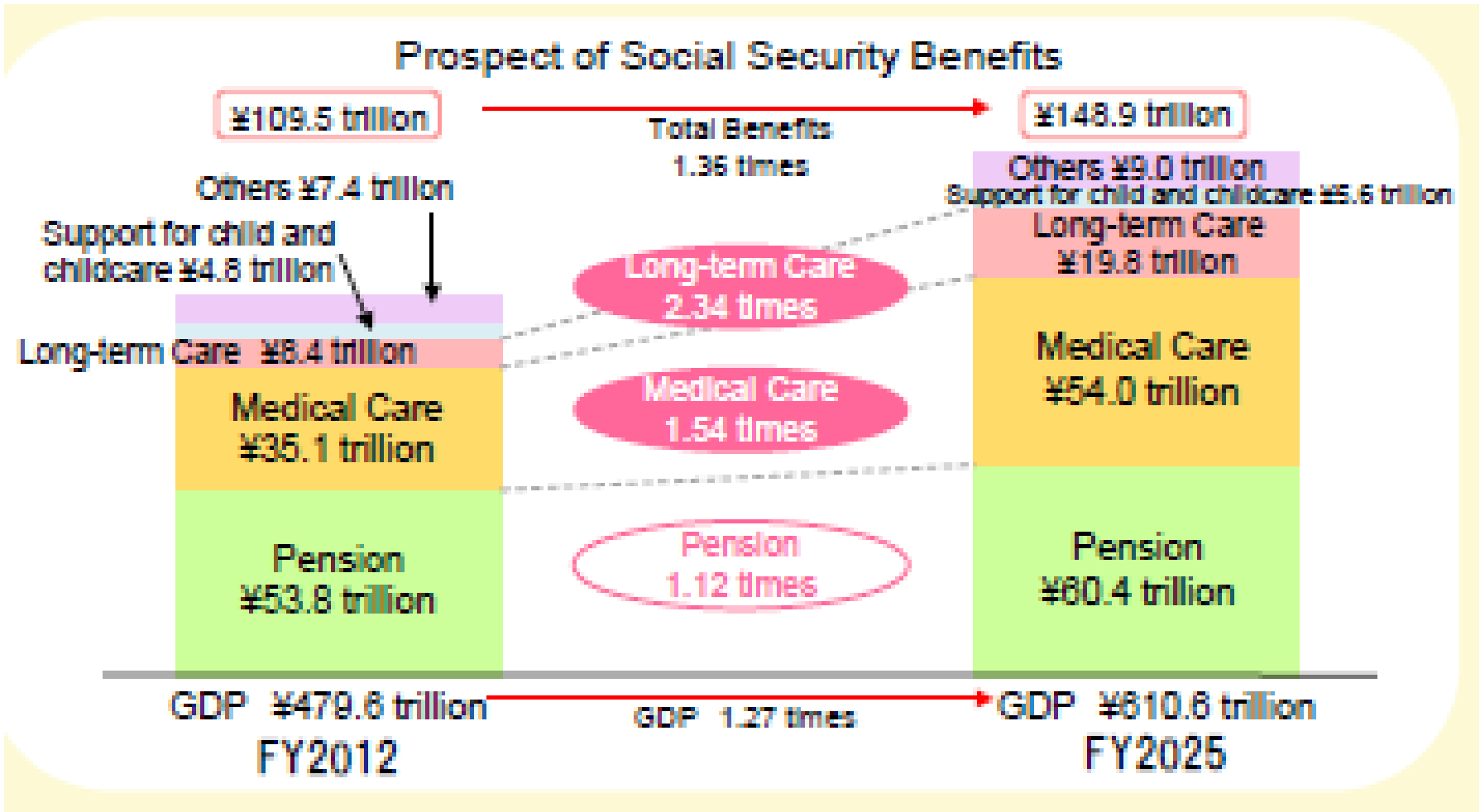
PENSION SYSTEM IN JAPAN
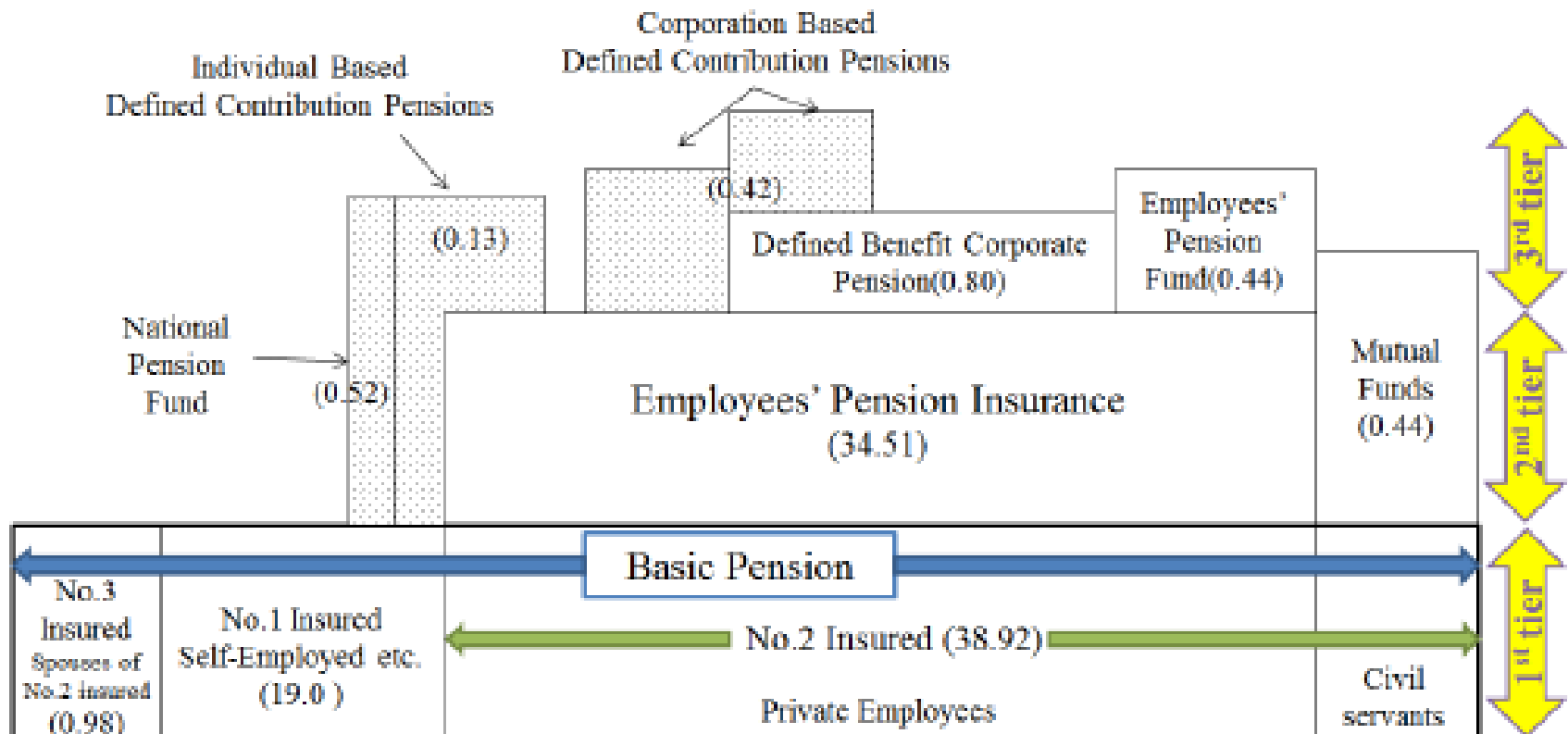
Note: 1) Shaded boxes indicate optional Defined-Contribution pensions.
2) Numbers in ( ) are the number of subscribers in millions. All numbers are as of March 2012.
Source: Web-site of Ministry of Health, Labour and Welfare (MHLW)
(http://www.mhlw.go.jp/topics/nenkin/zaisei/01/01-01.html in Japanese Access Aug. 25th 2013)

Source: Social Security in Japan 2014, National Institute of Population and Social Security Research, Ch.3, Pension

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CONTROL OF AN INCREASE IN PENSION BENEFITS ACCORDING TO AGING IN JAPAN INTRODUCTION OF MACRO-ECONOMIC SLIDE FORMULA IN 2004 PENSION REFORM

New System of Adjusting the Amount of Pension (Macro-Economic Slide Formula)

People who newly start receiving pension (new decision recipients): wage growth - slide adjustment rate*

People who are currently receiving pension (previous decision recipients): price growth - slide adjustment rate*

* Slide adjustment rate:
Increase rate of the total number of people covered by public pensions + fixed rate with consideration of growth rate of average life expectancy (total of approx. 0.8%)

* Annual average from FY2012 to FY2038

Wage (price) growth

Revision rate of the amount of pension

Slide adjustment rate
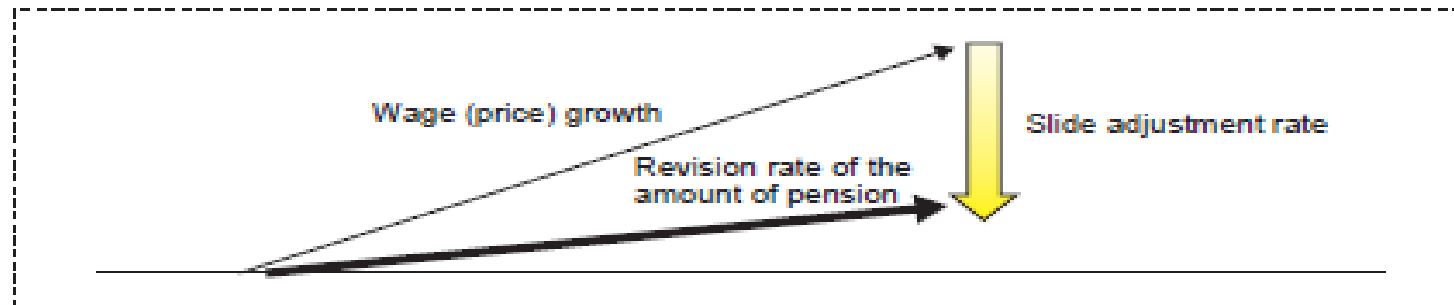
○ Start the adjustment of the amount of benefits in the case where it is anticipated, in the actuarial verification that is held at least once every five years, that keeping the financial equilibrium of pension is difficult throughout the financial equilibrium period, even though keeping necessary amount of pension reserve (approximately one year of the amount of benefit) so as not to be detrimental to pension payment at the end of the approximately 100 years of the financial equilibrium period.

○ The amount of pension usually increase in response to wage and price increase. However during adjustment period of pension benefit, the revision of pension benefit will be reflected in the decrease of the force that bears pension system and growth of average life expectance so that the increase of the amount of pension shall be suppressed to be lower than the increase of wage and prices. (This system is called as "Macro-Economic Slide Formula")

○ In subsequent actuarial verification, at a time when the financial equilibrium of pension is anticipated to be sustainable, those adjustment of the amount of benefits shall be concluded.

Source: Policy Information, Pension, Pension Security, Ministry of Health Labour and Welfare, Japan.
http://www.mhlw.go.jp/english/wp/wp-hw6/dl/11e.pdf

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Medical care system for the elderly aged 75 and over

Approx. 13 trillion yen

· Age 75 or over
· About 14 mil people
· 47 insurers (extended association)

Age 75

System to address the imbalance in the payment of medical expenses for the under 75
(about 14 million people) approx. 6 trillion yen (aforementioned)

Age 65

Retired persons Healthcare System (interim measures)

· Retired salaried employee
· (About 2 mil people)

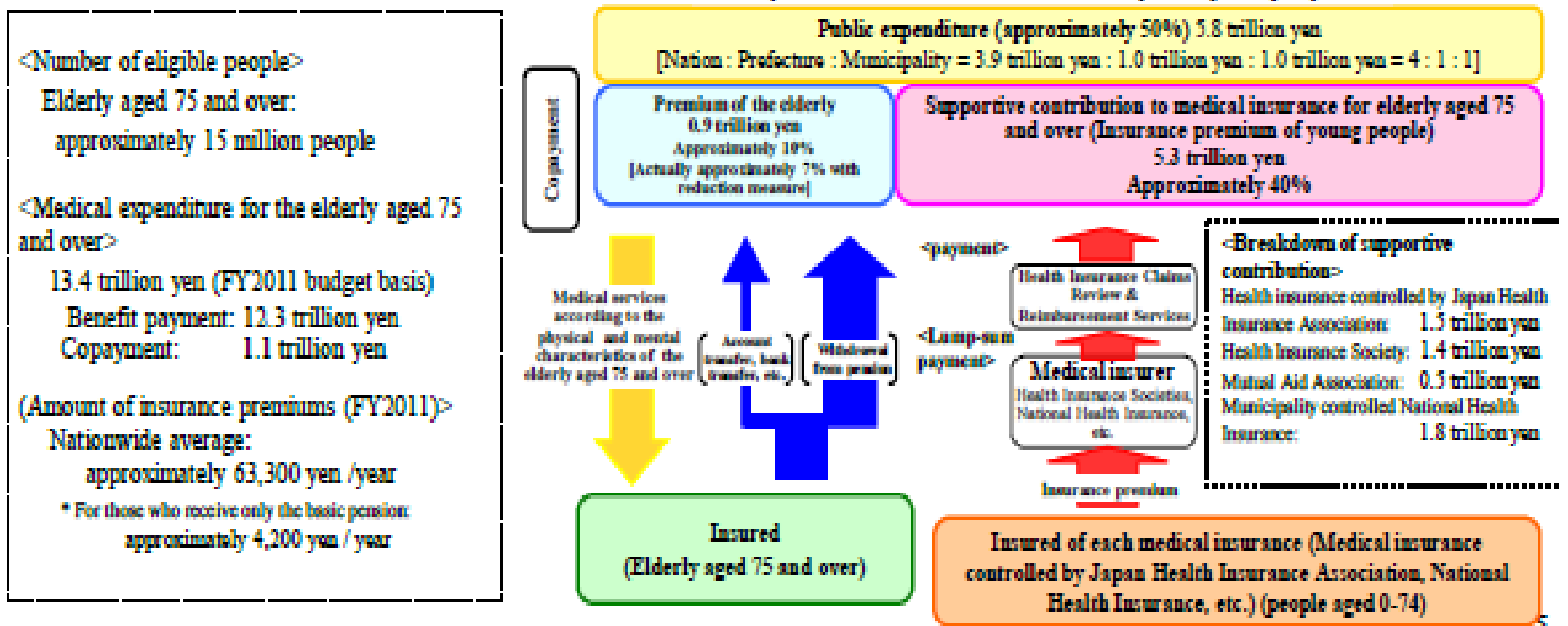| National Health Insurance (municipality controlled NHI + NHI society)	Public-corporation-run Health Insurance	Society-managed, employment-based Health Insurance	Mutual aid association
· Individual proprietor, Pensioner, Irregular employer, etc · About 39 mil people · About 1,900 insurers	· Salaried employee of SMEs · About 35 mil people · 1 insurer	· Salaried employee of Large Corporation · About 30 mil people · About 1,500 insurers	· Civil officer · About 9 mil. people · 85 insurers
Approx. 10 trillion yen	Approx. 4 trillion yen	Approx. 5 trillion yen (total)	

| Numbers of members and insurers are preliminary figures as of the end of March 2011
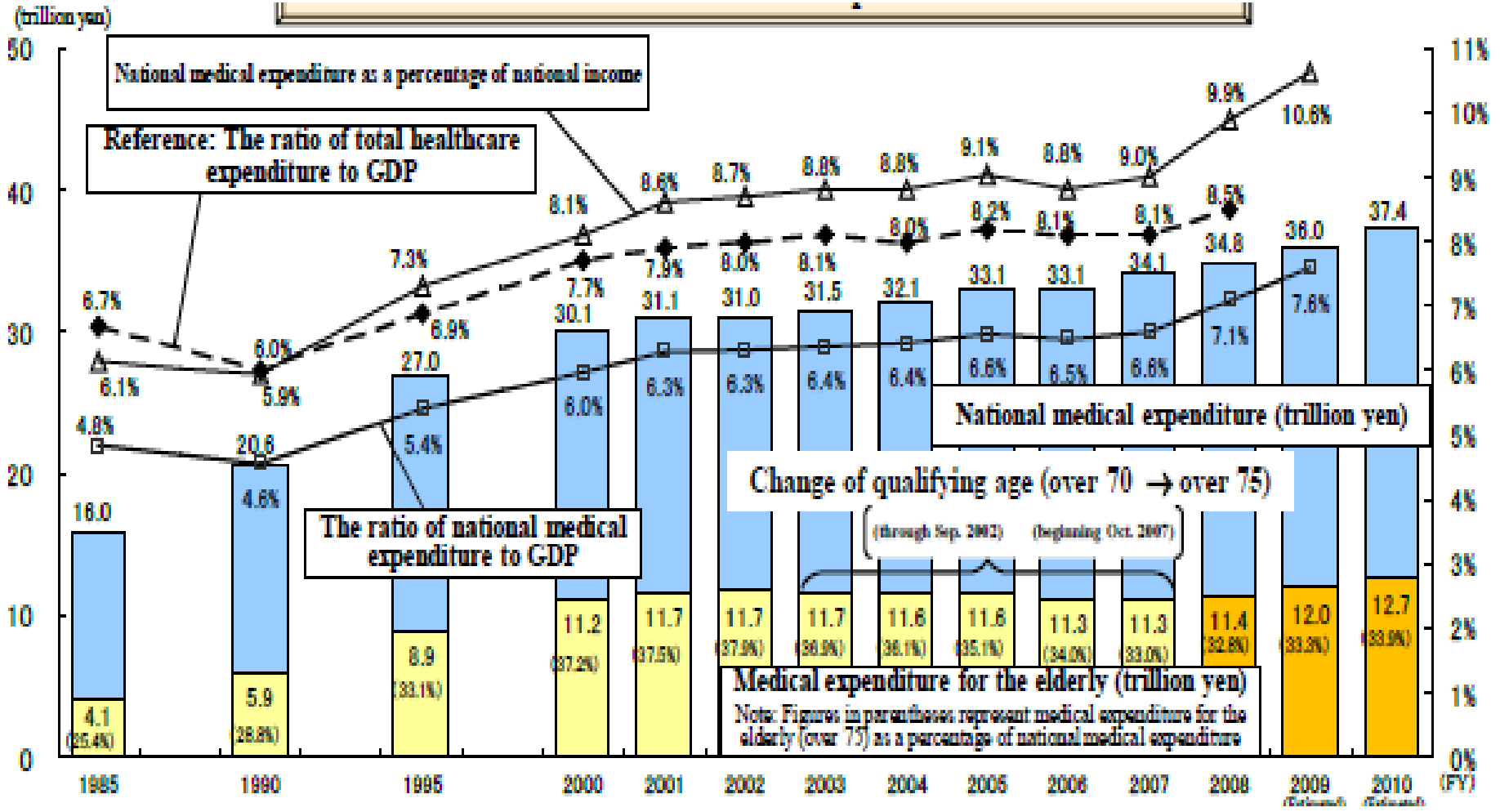
| Amounts are benefits based on the budget for FY2012.

CONTROLLING INCREASE IN MEDICAL EXPENDITURES AND STABILIZING REVENUE OF HEALTH CARE SYSTEM FOR THE ELDERLY PEOPLE

○In anticipation of increasing medical expenditure with aging of society, from the viewpoint to clarify the burden between aged and young generations, the medical insurance system for the elderly aged 75 and over was enacted in April 2008.

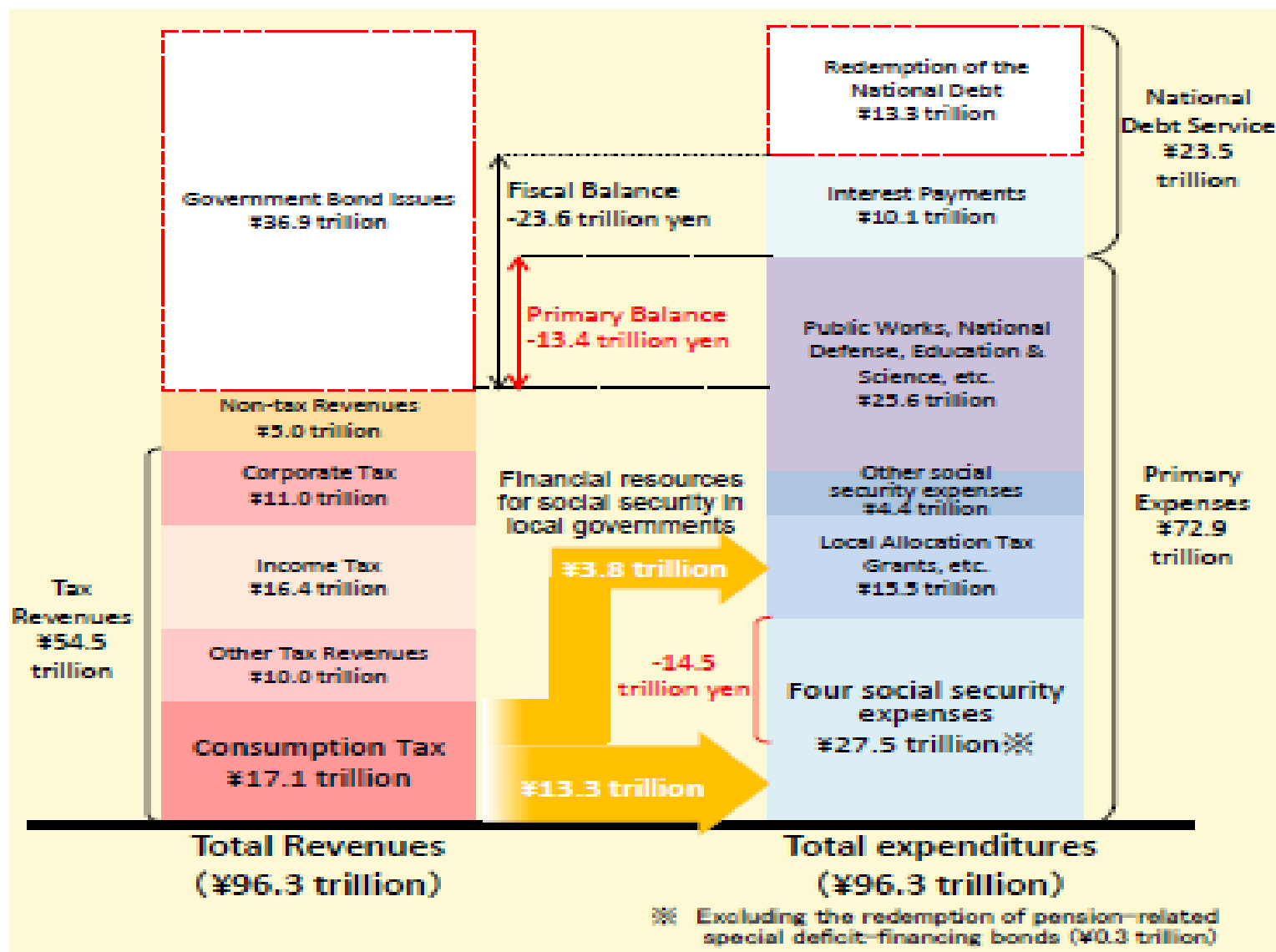Structure of Medical Care System for the Elderly aged 75 and Over

[Extended association that all the municipalities participate]

Public expenditure (approximately 50%) 5.8 trillion yen
[Nation : Prefecture : Municipality = 3.9 trillion yen : 1.0 trillion yen : 1.0 trillion yen = 4 : 1 : 1]

Copayment

Premium of the elderly
0.9 trillion yen
Approximately 10%
[Actually approximately 7% with reduction measure]

Supportive contribution to medical insurance for elderly aged 75 and over (Insurance premium of young people)
5.3 trillion yen
Approximately 40%

<Number of eligible people>
Elderly aged 75 and over:
approximately 15 million people

<Medical expenditure for the elderly aged 75 and over>
13.4 trillion yen (FY2011 budget basis)
Benefit payment: 12.3 trillion yen
Copayment: 1.1 trillion yen

(Amount of insurance premiums (FY2011)>
Nationwide average:
approximately 63,300 yen /year
* For those who receive only the basic pension:
approximately 4,200 yen / year

Medical service according to the physical and mental characteristics of the elderly aged 75 and over

Account transfer, bank transfer, etc.

Withdrawal from pension

<payment>
Health Insurance Claims Review & Reimbursement Services

<Lump-sum payment>
Medical insurer
Health Insurance Societies, National Health Insurance, etc.

Insurance premium

<Breakdown of supportive contribution>
Health insurance controlled by Japan Health Insurance Association: 1.5 trillion yen
Health Insurance Society: 1.4 trillion yen
Mutual Aid Association: 0.5 trillion yen
Municipality controlled National Health Insurance: 1.8 trillion yen

Insured
(Elderly aged 75 and over)

Insured of each medical insurance (Medical insurance controlled by Japan Health Insurance Association, National Health Insurance, etc.) (people aged 0-74)

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Source: Overview of Medical Service Regime in Japan, Ministry of Health, Labour and Welfare, Japan, www.mhlw.go.jp/bunya/iryouhoken/iryouhoken01/dl/01_eng.pdf

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CONSUMPTION TAX REVENUES FOR SOCIAL SECURITY (FY2015 BUDGET)

Source: Fiscal Policy in Japan - Issue and Future Directions - , July2015, Ministry of Finance, Japan

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OVERVIEW OF CONSUMPTION TAX OF JAPAN

The following domestic and import transactions, except for certain transactions deemed non-taxable, are subject to consumption tax. The consumption tax rate is 8% (inclusive of local consumption tax rate of 1.7%).

Although the consumption tax rate is scheduled to increase to 10% (inclusive of local consumption tax rate of 2.2%) from April 1, 2017, a reduced consumption tax rate will also be introduced at the same time.

The reduced tax rate of 8% (inclusive of local consumption tax rate of 1.76%) will be applied to food and beverages, except for alcoholic drinks and dining out, and newspapers published more than twice a week (based on a subscription contract).

Financial transactions, capital transactions and certain transactions in the areas of medical care, welfare and education are deemed non-taxable.
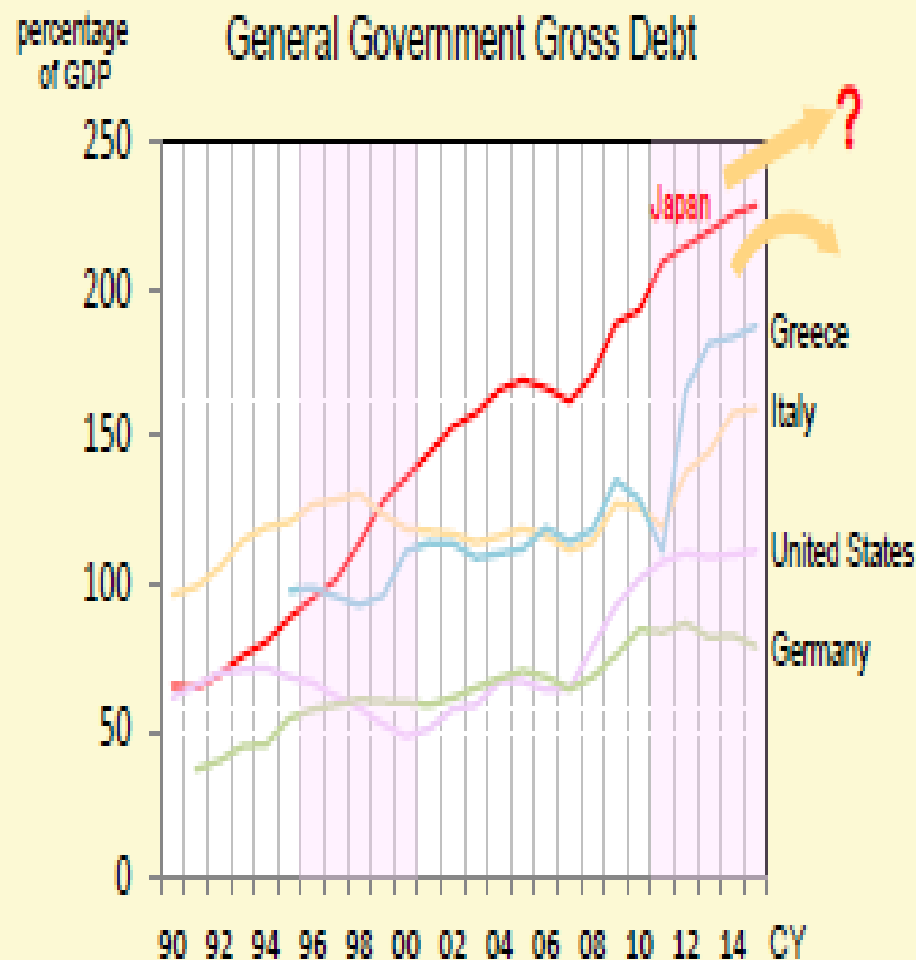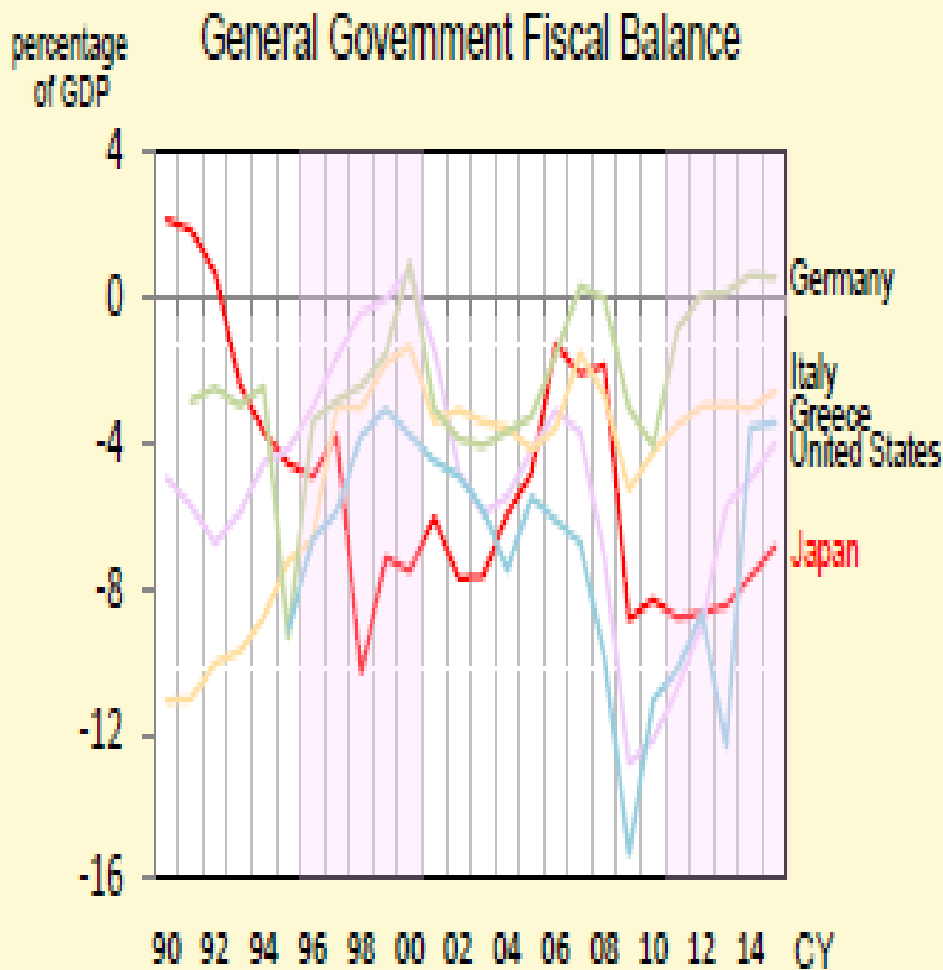
On June 1, 2016, Prime Minister Shinzo Abe announced that the rise in the consumption tax to 10% and the introduction of the reduced tax rate would be postponed until October 2019.

TRENDS IN EXPENDITURES & REVENUES, AND THE GOVERNMENT BOND ISSUES IN JAPAN
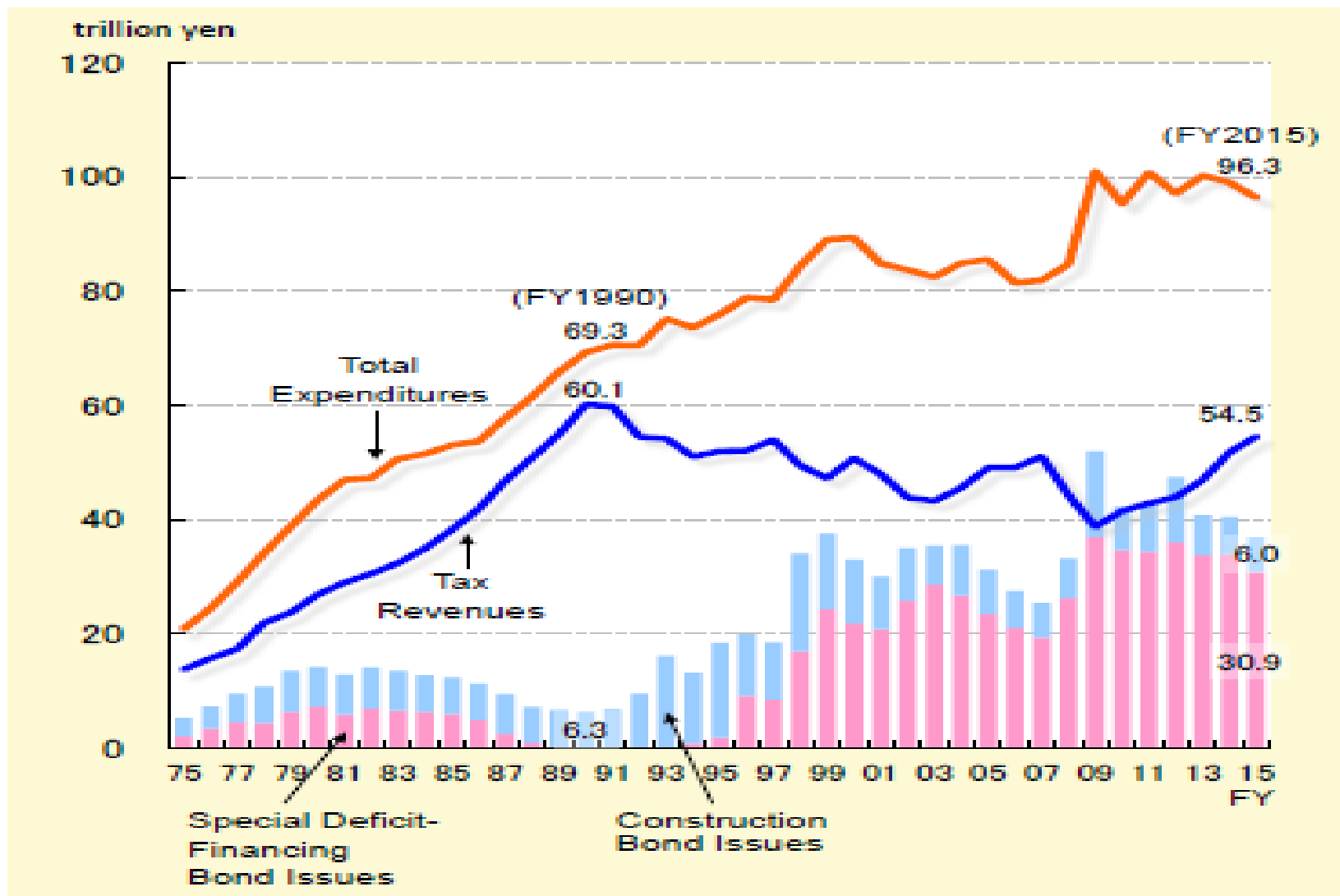
Source: Fiscal Policy in Japan - Issue and Future Directions - , July2015, Ministry of Finance, Japan

THE JAPAN'S PLAN FOR DYNAMIC ENGAGEMENT OF ALL CITIZENS CABINET DECISION ON JUNE 2, 2016

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(Summary) <u>Toward a society participated by all citizens, whether they are women or men, the elderly or youths, people who have experienced a failure, people with disabilities and people fighting an illness, can play active roles in their respective homes, workplaces and local communities or any other places.</u>

<u>The Doctrine of a Mechanism of a Virtuous Cycle of Growth and Distribution</u>

On the second stage of Abenomics, we will tackle the issue of the declining birthrate and aging population, which is at the root of the obstacles in economic growth, head on. In order to try to build a new system of our economic society where we enhance childcare supports and social security as a broader economic policy, which will lead to a more robust economy.

We will realize a society where diversity is accepted and all citizens are included, which will lead to more certain prospects for the future, a boost in consumption and the expansion of investment. We will encourage all citizens to fully show their own various talents, which will lead to improvement in the labor participation rate and creation of innovation, in order to further accelerate the economic growth.

 We cannot continue "distribution" without the fruits of "growth". We will enhance the foundation of childcare and social security, utilizing achievements of Abenomics. People can be engaged in growth when they are provided supports for childcare and nursing care.

A set of the new three arrows combined altogether itself can be called as the ultimate growth strategy.

Improvement in working conditions of non - regular workers (account for approximately 40% of the whole workers in Japan) including realization of "equal pay for equal work" should be conducted urgently. Through formulation of guidelines, we will indicate what kind of treatment gaps are unreasonable and should be corrected and in order to let them smoothly be corrected, we will submit the related bills.

• Practices of long working hours make it difficult to balance work and family life including childcare, which leads to the declining birthrate and prevention of career formation of women. We will enhance **enforcement of legal regulations** and as for the Labor Standards Act, we will once again consider the state of regulations contained in Article 36.

• As for **promotion of employment of the elderly**, it is necessary to prepare the environment for raising the retirement age and extending employment beyond the age of retirement. We will provide supports for businesses raising the retirement age to 65 and extending employment beyond the age of 65 while encouraging other businesses to do so.

(2)IMPROVEMENT IN THE ENVIRONMENT FOR CHILDCARE

• We raised the target for additional childcare arrangements from for 400,000 children to 500,000 children, which is to be accomplished by the end of FY2017.

• As for working conditions of childcare providers, we will newly implement a pay rise equivalent to 2% (about 6,000 yen per month) . We will additionally improve working conditions for childcare providers with skills and experiences in order to eliminate a wage gap between childcare providers and female workers across all industries, which is currently around 40,000yen , making budgetary steps be reflected in actual wages appropriately in execution processes. We will also reduce a wage gap between male workers and female workers across industries as a whole, promoting efforts based on the Act of Promotion of Women's Participation and Advancement in the Workplace and toward "equal pay for equal work". We will further improve working conditions of childcare providers as needed.

• In order to ensure and develop various childcare providers, we will make comprehensive efforts including enhancement of a scheme of a forgivable loan and improvement in productivity by utilizing ICT.

• We will prepare additional arrangements of "After - school Kids' Clubs" for 300,000 children by the end of FY2019. While promoting improvement in working conditions of childcare providers and reduction in labor burdens shouldered by them, we will discuss the way to bring forward preparation of additional arrangements and complete it by the end of FY2018. As for improvement in working conditions, we will make sure that related budget actions will be appropriately reflected to wages in budget - implementing processes.

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(3) IMPROVEMENT IN THE ENVIRONMENT FOR NURSING CARE

• We will accelerate preparation of additional nursing care arrangements for more than 380,000 people (expected increase in arrangements in FY2015 - FY2020). Furthermore, we raised this target to for more than 500,000 people, which is to be accomplished by early 2020s.

• As for working conditions of nursing care providers, in order to eliminate a wage gap between nursing care providers and workers in other competing industries, we will build a career development scheme from FY2017 and improve their wages by 10,000 yen per month on average.

• In order to ensure and develop various nursing care providers, we will make comprehensive efforts including enhancement of a scheme of a forgivable loan, utilization of senior human resources and improvement in productivity by utilizing nursing care robots and ICT related technologies.

AN EMPIRICAL STUDY OF THE EFFECT OF INTEGRATED COMMUNITY BASED CARE SYSTEM OF LTCI ON MEDICAL EXPENDITURE OF THE ELDERLY HOUSEHOLD

After the introduction of Long-term care insurance, the need and demand for long-term care services provided by LTCI increased .more than the expectation. With such circumstances, the long-term care insurance was reviewed and several reforms were put in place.

The long-term care insurance system initially aimed to support the independent living of the elderly, and even if the elderly entered a state that required long-term care, it aimed to develop an environment where the elderly could receive treatment in the community with which they were familiar.

To this end, the 2005 revision in the law established community-based care services and Integrated Community Care Support Centers to ensure enhanced services and coordination at the municipality level.

It is expected that the Integrated community based care system decreases the medical expense of the household where the needing care senior citizen exists (amount of expense of the medical treatment a month) by strengthening the cooperation between the medical treatment and long-term care services.

We shall make an empirical study of the effect of Integrated community based care system of LTCI on medical expenditure of the elderly household.

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ESTIMATION METHOD AND DATA

We shall make a regression analysis by making use of the estimation of the difference in difference method（DID) of OLS estimation. In this estimation, we shall treat the home where there exists senior citizen receiving the certification for long-term care with a treatment group, and treat the home where there does not exist senior citizen receiving the certification for long-term care with a comparison group.

The data that we use is the National Survey of Family Income and Expenditure (Statistics Bureau, Ministry of Internal Affairs and Communication) (2004, 2009, 2014) classified by 47 prefectures and by the household structures: the home where there exists senior citizen receiving the certification for long-term care and the home where there does not exist senior citizen receiving the certification for long-term.

The number of samples used for this regression analysis is 282（=47x3x2）.

The estimation method used for the regression analysis is the difference in difference method（DID) of OLS estimation.

The description of this section (the estimation method, the data and the estimation result) is based on the presentation for the Japanese Economic Association 2016 Autumn Meeting.

$Y_{ijt} = \beta_0 + \beta_1 *needed\_ltc + \beta_2 *d\_icbcare + \beta_3 * needed\_ltc* d\_icbcare$
$+ \gamma X + c_{jt} + u_{ijt}$

The explained variable is medical treatment expense of one month per the elderly household.

Affixing character I indicates prefectures (i=1 to 47), j =1 indicates a treatment group and j=0 indicates a comparison group, d indicates a dummy variable that takes one after the introduction of integrated community based care system (that is after the period over 2006). βs and γ indicate coefficients and a vector of coefficient to be estimated respectively.

Explanatory variables that included in a vector X: n_household: number of household members, hh_age: age of household head, poprate75: the proportion of the elderly people aged 75 and over, drate_cancer: drate_diab~s: drate_cere~r: wage_f5564: wage rate of women, employment~c: the dummy variable that shows the period after the enforcement of extended employment of the aged between 60 and 64 years of age,, metropolit~a: the dummy variable for the existance of large population city in the prefecture, unemprate: unemployment rate of the prefecture, h_savings: amount of household savings

c_{jt} and u_{ijt} indicate the error term classified by group and the error term of individual respectively.

BASIC STATISTICS OF THE NATIONAL SURVEY OF FAMILY INCOME & EXPENDITURE (STATISTICS BUREAU, MINISTRY OF INTERNAL AFFAIRS AND COMMUNICATION) (2004, 2009, 2014)

year	n_work~g	d_icbc~e	needed~c	intera~n	n_hous~d	hh_age	h_income	h_savi~s
2004	1.535106	0	.5	0	3.465957	56.87766	6997.872	17621.83
	.2030453	0	.502681	0	.310931	3.918557	843.1727	5335.63
2009	1.442553	1	.5	.5	3.205319	59.09149	6424.638	17469.48
	.2007991	0	.502681	.502681	.2528832	4.478735	960.939	5019.585
2014	1.344681	1	.5	.5	3.145745	61.72979	6052.574	16376.57
	.2674519	0	.502681	.502681	.2777269	5.293552	811.9102	5103.777
Total	1.44078	.6666667	.5	.3333333	3.27234	59.23298	6491.695	17155.96
	.2381798	.4722426	.5008889	.4722426	.3131987	4.994261	954.3533	5166.314

year	n_work~g	n_hous~d	hh_age	h_medi~t	popra~75	drate~er	drate_~s	drate~ar
2004	1.535106	3.465957	56.87766	16369.56	9.86383	289.7426	12.06809	110.6723
	.2030453	.310931	3.918557	5104.125	1.811365	34.41844	2.06581	24.11111
2009	1.442553	3.205319	59.09149	15875.11	12.14043	289.7426	12.06809	110.6723
	.2007991	.2528832	4.478735	4175.861	2.093272	34.41844	2.06581	24.11111
2014	1.344681	3.145745	61.72979	14995.09	13.87021	311.934	12.01064	104.9255
	.2674519	.2777269	5.293552	3700.308	2.066311	36.83195	2.385281	24.49132
Total	1.44078	3.27234	59.23298	15746.59	11.95816	297.1397	12.04894	108.7567
	.2381798	.3131987	4.994261	4387.407	2.578867	36.6461	2.169921	24.30409

year	n_work~g	n_hous~d	hh_age	wa~m5564	wa~f5564	unempr~e	employ~c
2004	1.535106	3.465957	56.87766	357.0707	996.4337	4.461702	0
	.2030453	.310931	3.918557	43.097	755.9761	.9597386	0
2009	1.442553	3.205319	59.09149	338.2324	926.0709	4.812766	0
	.2007991	.2528832	4.478735	37.53489	711.1728	.8089864	0
2014	1.344681	3.145745	61.72979	347.0141	893.8021	3.310638	1
	.2674519	.2777269	5.293552	37.80334	667.2063	.6243221	0
Total	1.44078	3.27234	59.23298	347.4391	938.7689	4.195035	.3333333
	.2381798	.3131987	4.994261	40.16731	711.1313	1.031278	.4722426

- Source: the authors tablation based on the National Survey of Family Income and Expenditure (2004, 2009, 2014)

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ESTIMATION RESULT OF THE EFFECT OF INTEGRATED COMMUNITY BASED CARE SYSTEM ON MEDICAL EXPENDITURE OF THE ELDERLY HOUSEHOLD
(THE EXPLAINED VARIABLE: MEDICAL TREATMENT EXPENSE OF ONE MONTH PER THE ELDERLY HOUSEHOLD)

Variable	q1	q2
needed_ltc	5800.5165	5431.2170*
d_icbcare	761.2355*	537.1956
interaction	-1.83e+03*	-1.75e+03***
n_household	1337.3767	1282.9102
hh_age	221.8277	198.6574
poprate75	-98.9859	-48.8783
drate_cancer	-23.4378	-24.3133
drate_diab~s	-166.7747	-177.5049
drate_cere~r	23.9843	27.9632
wage_f5564	0.0963	0.0376
unemprate	-711.6328	-387.6384
employment~c	-1.63e+03	-1.03e+03
metropolit~a	215.1557	168.7025
h_savings		0.0952
_cons	6380.4673	4465.0022
Nr2		

legend: * p<0.05; ** p<0.01; *** p<0.001

The dummy variable in which the home where the needing care senior citizen exists is positive, but the coefficient of the intersection of the integrated community based care system is negative and statistically significant.

This implies that Integrated community cased care system exerted the influence that decreased the medical expense a month of the home where the senior citizen receives certification of LTC service with coordination of medical care and LTC enabled to be done more efficiently compared with before the system's being introduced.

Source: the authors estimation based on the National Survey of Family Income and Expenditure (2004, 2009, 2014)

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