

The 21st

ASIA CONSTRUCT CONFERENCE

24-25 November 2016

Japan Theme Paper

PREPARED BY



RESEARCH INSTITUTE OF CONSTRUCTION AND ECONOMY

Address NP-Onarimon Building,
25-33,Nishishimbashi 3-chome,
Minato-ku,Tokyo 105-0003,Japan

TEL +81-3-3433-5011

FAX +81-3-3433-5239

URL

<http://www.rice.or.jp/english/index.html>

E-mail info@rice.or.jp

Masamichi Tokunaga , Executive Fellow
Tadayori Nakao , Researcher

Theme Paper (Japan)
—Future Outlook for the Construction Market in an Era of Population
Decline and Construction Industry Policy Aimed at Sustainability—

Masamichi Tokunaga, Executive Fellow
Tadayori Nakao, Researcher
Research Institute of Construction and Economy (RICE)

Overview

Japan's construction investment, which had maintained a long downward trend since its peak in fiscal 1992, has been showing signs of increasing over the past few years due to recovery and reconstruction work following the Great East Japan Earthquake that occurred in March 2011 and a recovery in private sector investment.

Meanwhile, there are concerns about future shortages of skilled workers in the Japanese construction industry as deterioration in the treatment of skilled workers on construction sites, due to the decline in construction investment that has persisted to date and intensifying competition for orders, and the aging of workers combines with a decline in the number of young workers entering the industry.

If the current situation is ignored, there will be a shortage of successors in the construction industry, which is the safeguard of communities, and there are concerns about impediments to community maintenance if the establishment, operation and management and quality assurance of social infrastructure and disaster response are not adequate into the future. The revitalization of the construction industry by securing and training its successors and raising productivity is the most important challenge.

This report reviews the past trends for construction investment and the number of construction industry workers in addition to highlighting the results of the forecasts in *Middle- to Long-term Forecasts of Construction Investment - prospects up to 2030*, which RICE published in November 2016 based on recent changes in the construction investment environment. Finally, it will introduce the content of the Interim Report compiled in June 2016 by the Basic Issue Subcommittee of the Construction Subcommittee, Industry Subcommittee, Central Council for Construction Business and Council for Social Infrastructure, which are composed of experts, revealing the latest trends in construction industry policy.

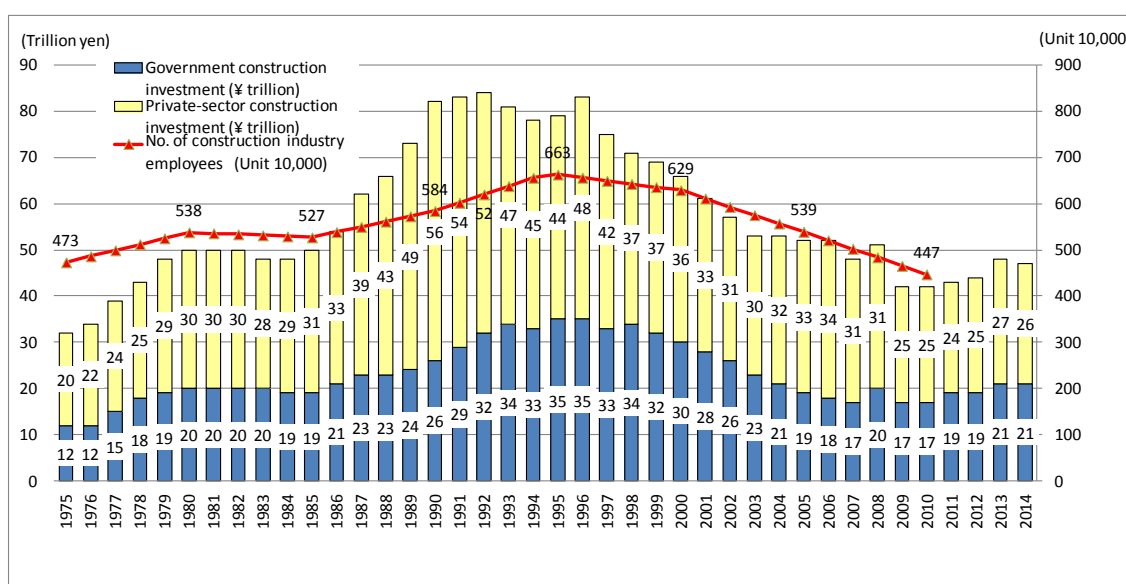
1 Issues involved in the Construction Industry and Market

(1) Trends in Construction Investment and Employment

Figure 1 shows the trends in construction investment and construction industry employees. Construction investment continued declining from the peak of ¥84trillion in FY1992, decreased to the half amount of ¥42trillion in FY2010. Since FY2011, reconstruction works of the Great East Japan Earthquake combined with recovery of private construction works pushed up the total amount to approximately ¥50trillion the past few years.

In parallel with the declining trend of construction investment, labour force in the construction industry constantly decreased to 4.5million in 2010, which is less than 32.6% of its historical peak of 1995.

Fig. 1 – Trends in Construction Investment and Construction Industry Employees



(Source) Created by this institute based on “Construction Investment Forecasts” (MLIT) and the “Population Census” (MIC)

(Note) The “Population Census” was used for numbers of construction industry employees (statistical figures up to 2010)

(3) Rapid Aging of Construction Industry Employees

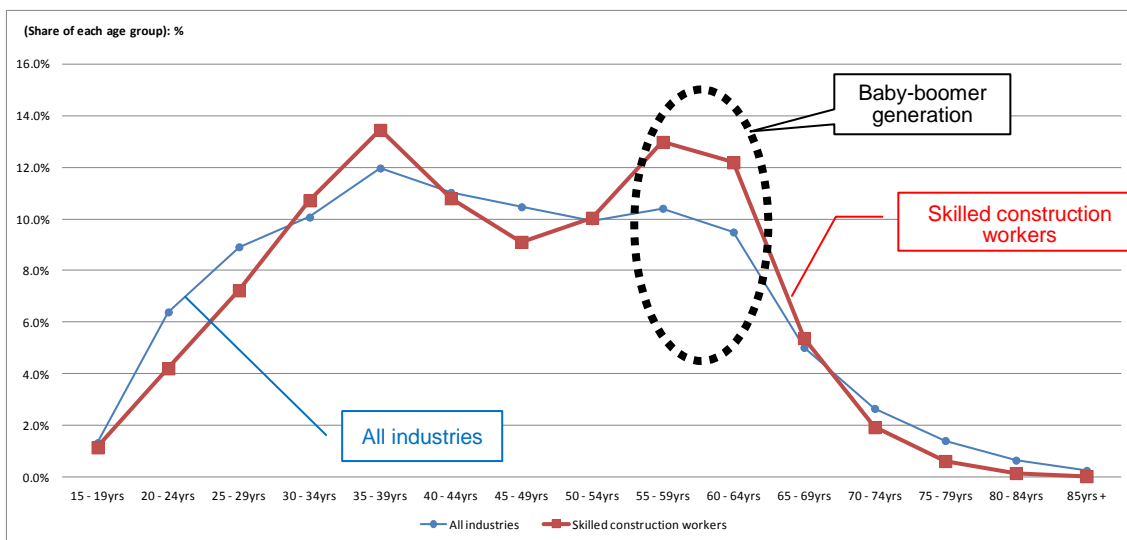
A. Age Composition of Construction Industry Employees

Figure 2 shows the age composition of the total employees in Japan and that of skilled construction workers in 2010.

The skilled construction worker graph shows a clear “M” shaped curve, and the peak for the

baby-boomer generation (55-64) is distinctly higher in comparison to that of the overall industries. It is clear that the baby-boomer generation still forms the mainstay of the construction industry workforce. However, they have already reached 60 years and eventually retire over the next few years, thus there are concerns that the shrinkage of construction workforce will accelerate in the coming years.

Fig. 2 – Age Composition of Total Employees and Skilled Construction Workers (2010)



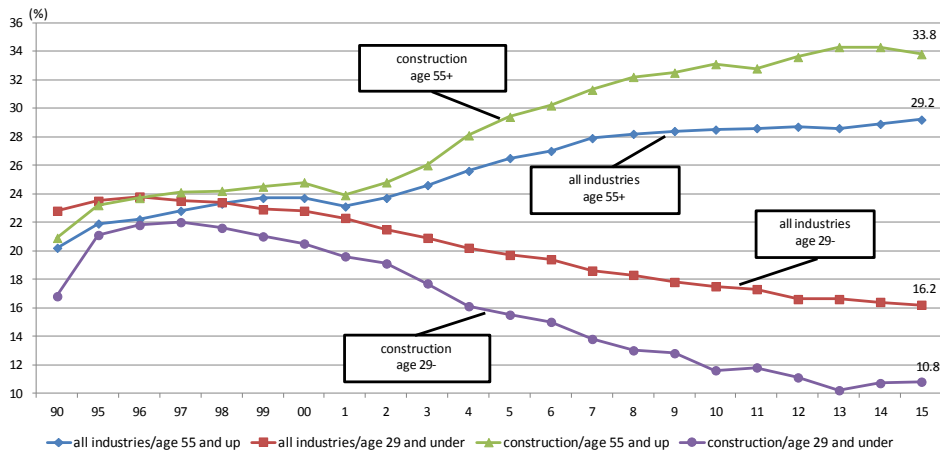
(Source) Created by RICE, based on the “Population Census” (MIC)

B. Rapid Aging of Construction Industry Employees and Decline in Youth Recruits

Figure 3 shows the trend of ratios for youth employees and senior employees in the past 20 years. In 2015, the share of employees aged 55 and over for all industries is 29.2%, while that of the construction industry is 33.8%, showing the construction industry depends more on senior workforce.

When looking at the percentages of employees aged 29.2 and under as of 2015, the figure for all industries is 16.2% while that of the construction industry is 10.8%. The gap becomes larger as year goes by, indicating that the decrease in youth workers is particularly pronounced in the construction industry.

Fig. 3 – Ratios of Workers Aged 29 and under/Aged 55 and over



(Source) “Labor Force Survey” (MIC)

(3) RICE Projections of Construction Industry Employees

This chapter shows the outline of our projection on construction industry employees based on cohort analysis method (October 2013).

A cohort analysis is used in a projection, by assuming the rate of change of population cohorts during certain two periods continue in future. First, we calculate a change ratio of a certain cohort. We assume subsequent cohorts will decrease at the same ratio when they reach the same age stage. Based on the assumption, we aggregate the result of each age cohort and get the projection results.

The projection was calibrated on the cohort charge rate of 2005-2010 periods, which is influenced by serious economic downturn. The 2005-2010 period experienced large cuts in investment affected by the overall economic pullback of the “Lehman shock”, and this peculiar background is considered to be a major causal factor from the big decline in the 2005–2010 ($\Delta 17.0\%$). However, after the bottom of 2010, private and public investment made a significant recovery. In addition, a variety of measures were hammered out by the MLIT, the Ministry of Health Labour and Welfare, and also the construction industry showed concerted efforts to improve worker conditions and recruits promotion.

In view of these circumstances, work force projection based on the rate of change for the 2005-2010 periods should be revised positively. As shown in Figure 4, other scenarios are presented, with some positive corrections to the rates of change.

Fig. 4 – Positive Corrections and Revised Scenarios

① Young adult age group correction	Recovery of youth accession (15–24yrs) rate to year 2000 levels.
② Mid-level age group remain in the sector	Reduction of mid-level age group employees (25–59yrs) stops, and they will remain in the industry.
③ Senior age group postpone retirement	Senior workers (60–69yrs) postpone retirement, resulting in a 50% reduction in the number of retirees during this age period .
Correction ①+②+③	Total of all assumed corrections for ① – ③

In Figure 5, revised projection results of construction industry employees are presented, as the Index values of base year 2012¹. In comparison to the base estimate (no correction) which assumes a continued rate of decrease equivalent to that of 2005-2010, the corrected projections shift upward in the order of ,

③ senior age-group < ① young age-group < ② mid-level age-group < total of three corrections.

Fig. 5 – Employee Projections on Different Scenarios (2012=100)

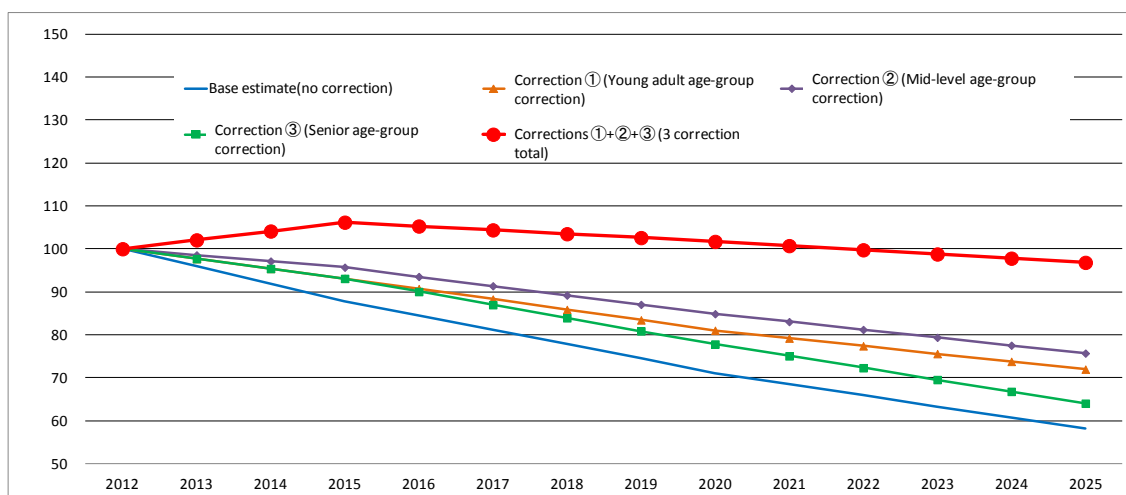


Table 6 shows the projection in 2025 and comparison with base year of 2012. The results show that even when all three corrections are achieved (optimistic correction), the total employees will still be smaller by 131 thousand ($\Delta 3.2\%$) in comparison to 2012 levels, indicating an unavoidable decrease in the number of employees.

¹ The number of construction industry employees for 2012 was calculated through equal interval interpolation between the figure of 4.47 million given in the 2010 population census and the figure of 3.64 million calculated under future estimates for 2015.

Table. 6 – Projection Results on 2025 and Comparison with 2012

Year/Case	No. of construction industry employees (1,000)	2012 comparison (Change)	2012 comparison (Rate of change)
2012 (Base year)	4,140	—	—
2025 Base estimate (no corrections)	2,405	Δ1,735	Δ41.9%
2025 ① (Young adult age-group correction)	2,980	Δ1,160	Δ28.0%
2025 ② (Mid-level age-group correction)	3,135	Δ1,005	Δ24.3%
2025 ③ (Senior age-group correction)	2,652	Δ1,488	Δ35.9%
2025 ①+②+③ (3 correction total)	4,009	Δ131	Δ3.2%

(Note) In principle, calculated figures are rounded off, so fractional values will not match totals.

The results show a decrease in the number of employees even when such optimistic positive corrections are made, implying that the manpower shortage in the construction industry is a long-term structural issue and not a temporary phenomenon².

The projections above mentioned highlighted the urgent need for the industry to take actions for securing and nurturing human resources in order that the industry becomes sustainable in the future.

² For example, the assumption that youth accession rates will suddenly recover more than double to the level in 2000 is optimistic enough (2010 rate 2.4% → 2000 rate 5.3%).

2 Medium-to Long-term Forecasts of Construction Investment – Prospects up to 2030

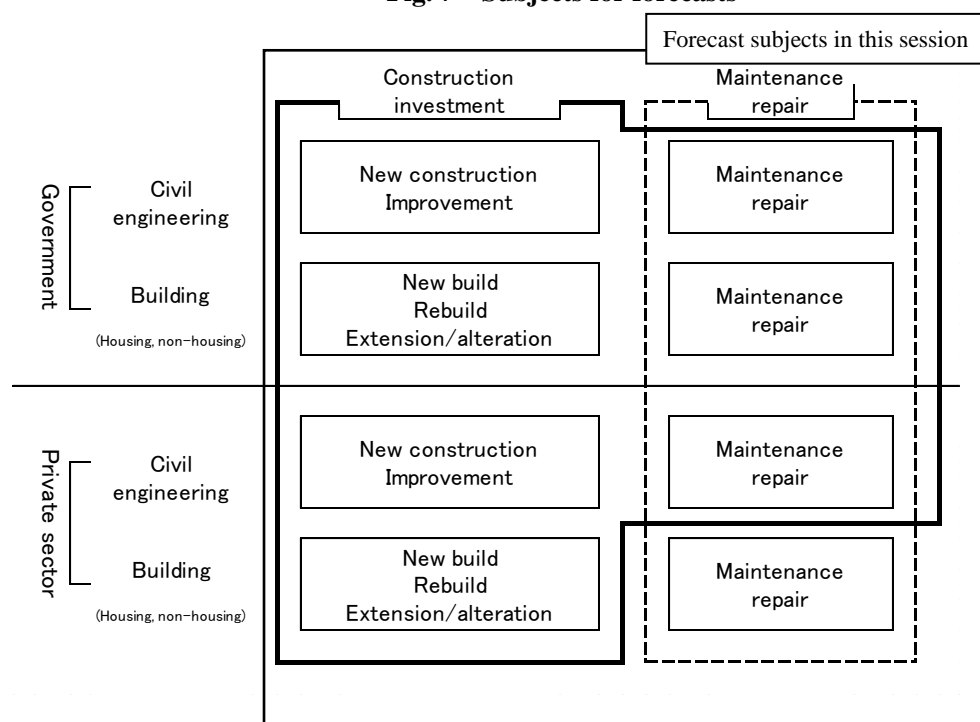
In addition to the decline in the population and the number of households and further declines in the birthrate and aging of the population in Japan, the environment surrounding construction investment is changing significantly, including intensifying international and inter-city competition accompanying growth in Asian countries and technological innovation. In this situation, it is necessary to predict a sense of the scale of medium- to long-term construction investment, so RICE published the prospects for construction investment up to 2030 in October 2016.

(1) Approach to Forecasts

The subjects for our projections are; “Construction Investments” that pertain to construction works for new builds, extensions, reconstruction and rebuilds, and “Maintenance and Repairs” works that are not included under “Construction Investment”.

“Construction Investment” is divided into “Government Construction Investment” and “Private sector Construction Investment”. Furthermore, each of these is sub-divided into “Buildings Investment” and “Civil Engineering Investment”.

Fig. 7 – Subjects for forecasts*



*Regarding government sector construction investment (Government Construction Investment) and private-sector construction investment in the field of civil engineering (private sector civil engineering investment), maintenance and repair is included in each field due to statistical constraints.

Future economic growth rate

“The Plan to Advance Economic and Fiscal Revitalization,” which is Chapter 3 of the Basic Policy on Economic and Fiscal Management and Reform (2015) (Cabinet Decision June 30, 2015) aims for real economic growth around 2% and nominal economic growth around 3% and will promote economic and fiscal management toward achieving these goals. In its Economic and Fiscal Projections for Medium to Long Term Analysis (July 26, 2016), the Cabinet presented two macroeconomic scenarios: the Economic Revitalization Case and the Baseline Case. Based on this, we established two interpretations, with Case 1 as the scenario in which the Economic Revitalization Case materializes and Case 2 as the scenario in which the Baseline Case materializes (Table 8).

Table 8 - Macro-economy related scenarios

Economic revitalization case	The effects of the economic and fiscal policies for the revitalization of Japan’s economy, founded on the mainstays of “Bold monetary policy”, “Flexible fiscal policy” and “Growth strategies to stimulate investment from the private sector”, are steadily becoming apparent. Stable medium and long-term trends show <u>real and nominal economic growth rates exceeding 2% and 3% respectively</u> , and consumer price growth rates approaching 2%.
Baseline case	Trends in the economy continue in line with the current potential economic growth rate. Medium and long-term trends show <u>real and nominal economic growth rates below 1% and around 1.5% respectively</u> .

(Source) Created by this institute based on the “Economic and Fiscal Projections for Medium to Long Term Analysis” (July 26, 2016, Cabinet Office)

In addition, for the rate of change in consumer prices, the projections use 2.0% in Case 1 and 1.2% in Case 2, while the rate of change for corporate goods prices in Japan used was 1.1% in Case 1 and 0.5% in Case 2.

(2) Results of Forecasts

Government construction investment

Government construction investment continued to decline from its peak of 34.8 trillion yen in fiscal 1995 until fiscal 2008. However, it has been increasing slowly since fiscal 2009. It has been around 20 trillion yen recently, and the level in fiscal 2015 was about 60% of the peak.

With severe fiscal constraints, recent public sector investment has been restrained, and we forecast a total of four cases for the initial budgets of public sector-related investment (national and local governments), using a case in which they increase in line with consumer prices and a case in which they are flat for each of Case 1 and Case 2.

Fig. 9 Establishment of Cases for Initial Budgets of Public Sector-Related Investment (National and Local Governments)

Assumed case	Assumed economic growth rate	Rate of change in public sector investment budget (initial budget) each fiscal year 2018 - 2030
Case A	Economic Revitalization Case (Case 1)	Year-on-year increase of approximately 2.0% along with the consumer price (nominal basis)
Case B	Baseline Case (Case 2)	Year-on-year increase of approximately 1.2% along with the consumer price (nominal base)
Case C	Economic Revitalization Case (Case 1)	Flat (nominal basis)
Case D	Baseline Case (Case 2)	Flat (nominal basis)

Moreover, based on the actual figures for the supplementary budget each year since fiscal 1998, and taking into account recent trends, the future supplementary budget is expected to be about 1 trillion yen each fiscal year. Additionally, the period of reconstruction for the Great East Japan Earthquake will end in fiscal 2020.

The forecast results are shown in Figure 10. Forecasts for fiscal 2020 range from 18.7 trillion yen – 19.7 trillion yen on a nominal basis and 16.1 trillion yen – 16.9 trillion yen on a real basis (fiscal 2005 prices). Forecasts for fiscal 2030 range from 18.7 trillion yen – 23.4 trillion yen on a nominal basis and 14.4 trillion yen – 18.0 trillion yen on a real basis.

Table 10. Future Forecasts for Government Construction Investment

		Nominal value (Trillions of yen)		
FY	2016	2020	2025	2030
Case 1	21.4	18.7-19.7	18.7-21.5	18.7-23.4
Case 2	21.4	18.7-19.3	18.7-20.4	18.7-21.4

		Real value (FY2005) (Trillions of yen)		
FY	2016	2020	2025	2030
Case 1	19.6	16.1-16.9	15.2-17.5	14.4-18.0
Case 2	19.6	16.4-17.0	16.0-17.5	15.7-17.9

Notes 1. Government construction investment includes maintenance and repairs.

2. Construction investment for fiscal 2016 and fiscal 2017 is based on forecasts related to government construction investment in Quarterly Outlook of Construction and Macro Economy (forecasts for fiscal 2016 and fiscal 2017) compiled by RICE in August 2016.

3. Real values are based on fiscal 2005 prices.

Private sector residential investment

The number of new housing starts was more than 1,600,000 in 1996, but has been on a downward trend since then, falling to 775,000 in fiscal 2009. There has subsequently been a moderate recovery to 925,000 in fiscal 2015.

RICE conducted forecasts for the number of new housing starts based on the total of (1) change in the number of dwellings with a resident household (number of principal households), (2) change in the number of dwellings without a resident household, and (3) the number of dwellings disposed of (rebuilt).

With regard to the change in the number of dwellings with a resident household (change in the number of principal households¹), the number of principal households in Japan is forecast to decline starting around 2020.

“Dwellings without a resident household” refers to dwellings that are usually unoccupied and are composed of dwellings with temporary occupants, vacant houses, and dwellings under construction. In 2013, vacant houses accounted for 96.1%. The number of vacant houses is on an upward trend and is forecast to rise in the future.

In terms of forecasts for the number of dwellings disposed of (rebuilt), the housing disposal rate is on a downward trend due to recent improvements in the performance of housing stock. Consequently, the number of dwellings disposed of is also expected to decline in the future.

Based on the above, the forecast results for the number of new housing starts are as shown in Table 11, and a drastic decline is expected through fiscal 2030.

Table 11. Forecast Results for Number of New Housing Starts

	Change in no. of principal households	Change in no. of dwellings without a resident household	No. of dwellings disposed of (rebuilt)	No. of new housing starts	
				(Over 5 years)	(Annual average)
2016-2020	145	411-642	3,707	4,296-4,257	853-899
2021-2025	-596	469-597	3,568	3,461-3,589	688-714
2026-2030	-1,172	391-577	3,392	2,631-2,816	522-559

Average construction unit costs per square meter have been on an upward trend since 2010 because of such factors as economic recovery, reconstruction demand due to the Great East Japan Earthquake, and demand for public works accompanying the holding of the 2020 Tokyo Olympics. They are expected to increase in tandem with future economic growth. In addition, despite the decline in the size of households, the average floor space per new dwelling is expected to remain flat due to efforts to improve living standards.

The forecast results for private sector residential investment through fiscal 2030 including renovation investment in addition to the above is as shown in Table 12. For fiscal 2016 – 2020, the forecasts ranged from 14.0 trillion yen – 14.8 trillion yen in Case 1 and 13.8 trillion yen – 14.7 trillion yen in Case 2. For fiscal 2021 – 2025, the forecasts ranged from 11.9 trillion yen – 12.4 trillion yen in Case 1 and 11.4 trillion yen – 11.9 trillion yen in Case 2. For fiscal 2026 – 2030, the forecasts ranged from 9.2 trillion yen – 10.1 trillion yen for Case 1 and 8.6 trillion yen – 9.4 trillion yen for Case 2.

Table 12. Forecast Results for Private Sector Residential Investment

Nominal values		(Trillions of yen)		
	FY2020	FY2025	FY2030	
Case 1	14.0-14.8	11.9-12.4	9.2-10.1	
Case 2	13.8-14.7	11.4-11.9	8.6-9.4	

Real values (based on FY2005)		(Trillions of yen)		
	FY2020	FY2025	FY2030	
Case 1	12.4-13.2	9.9-10.3	7.3-7.9	
Case 2	12.4-13.2	9.9-10.3	7.3-7.9	

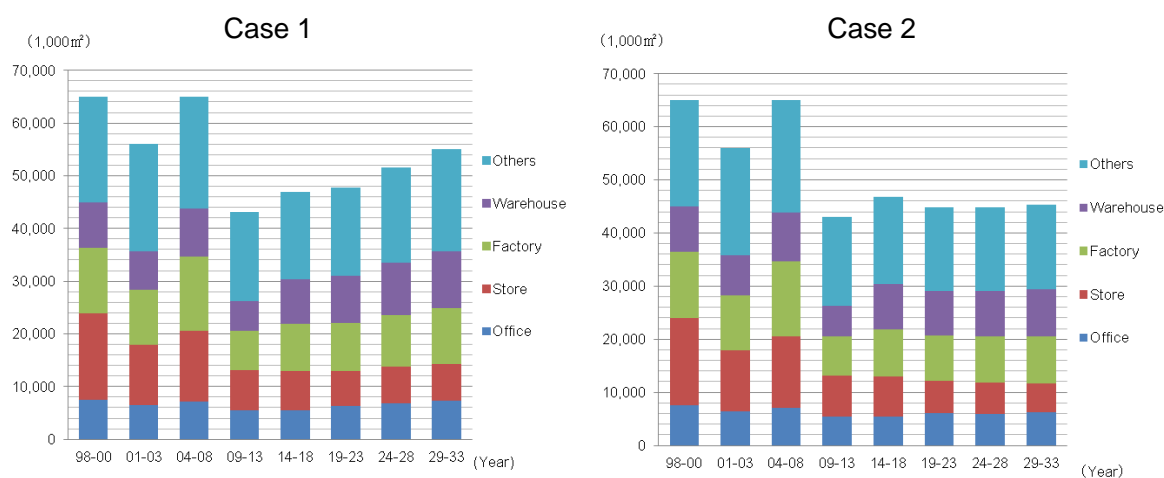
Private sector non-residential investment

Private sector non-residential construction investment is affected by trends in economic activity more than government construction investment and private sector residential investment. When forecasting investment, RICE first analyzed the factors that cause fluctuations in construction investment for each main use (offices, stores, factories, warehouses) to estimate future construction floor area.

Amid a decline in the working age population, construction floor area for offices is expected to increase thanks to the trend toward improving office environments. Construction floor space for stores was forecast to decline due to sales optimization through the omnichannel strategy in the retail industry. Construction area for factories was forecast to rise only slightly as a result of the decline in the working age population and the transfer of production sites offshore. Construction floor area for warehouses is expected to rise with the move towards centralization and streamlining in addition to small-lot, high frequency transport.

The future forecasts for private sector non-residential construction starts floor area including other uses resulted in an increase under Case 1 and remained flat under Case 2.

Figure 13. Forecast Results for Future Private Sector Non-Residential Construction Starts Floor Area



Unit construction costs have been on an upward trend since fiscal 2013, impacted by rising labor costs due to the shortage of skilled workers in the construction industry and sharp increases in the prices of building materials. Future construction unit costs were forecast to remain robust amid expectations of stable economic growth going forward.

The forecast results for private sector non-residential construction investment in Case 1 were 15.1 trillion yen in nominal terms and 11.5 million yen in real terms for the five-year average from fiscal 2029 to fiscal 2033. Under Case 2 over the same period, the forecasts were 11.5 trillion yen, or up 14.6%, in nominal terms and 9.5 trillion yen, or up 3.4%, in real terms.

Table 14. Forecast Results for Private Sector Non-Residential Construction Investment

Nominal values		(Billions of yen)				
Annual average	04-08 (Actual)	09-13 (Actual)	14-18	19-23	24-28	29-33
Case 1	9,423	7,434	10,519	11,815	13,485	15,122
Case 2	9,423	7,434	10,486	10,800	11,066	11,465

Real values (based on FY2005)		(Billions of yen)				
Annual average	04-08 (Actual)	09-13 (Actual)	14-18	19-23	24-28	29-33
Case 1	9,169	7,096	9,563	10,072	10,855	11,525
Case 2	9,169	7,096	9,547	9,454	9,434	9,533

Private sector civil engineering investment reached a peak of 8.9248 trillion yen in fiscal 1992 after continuously rising since fiscal 1980, and had subsequently maintained a decline. However, the decline in investment has halted since around fiscal 2010, and it is standing at just over 4 trillion yen. The maintenance and repair of existing stock and large-scale civil engineering investment is expected in the future. As a result, it is considered that private sector civil engineering investment will remain stable.

In the future, amid expectations of stable economic growth as is the case with private sector non-residential construction investment, the forecast results for private sector civil engineering investment under Case 1, which is steady for both private sector non-residential construction investment and private sector civil engineering investment, were 8.0 trillion yen in nominal terms and 6.1 trillion yen in real terms for the five-year average from fiscal 2029 to fiscal 2033. Under Case 2 over the same period, the forecasts were 6.0 trillion yen in nominal terms and 5.0 trillion yen in real terms.

Table 15. Forecast Results for Private Sector Engineering Investment

Nominal values						(Billions of yen)
Annual average	04-08 (Actual)	09-13 (Actual)	14-18	19-23	24-28	29-33
Case 1	4,930	4,344	5,531	6,213	7,091	7,952
Case 2	4,930	4,344	5,514	5,679	5,819	6,029

Real values (based on FY2005)						(Billions of yen)
Annual average	04-08 (Actual)	09-13 (Actual)	14-18	19-23	24-28	29-33
Case 1	4,783	4,091	5,029	5,296	5,708	6,060
Case 2	4,783	4,091	5,020	4,972	4,961	5,013

Maintenance and repairs

Maintenance and repairs refer to “construction work carried out to maintain the prior functions of existing buildings and accompanying structures, such as regular repair work, renovation work, relocation work, disaster restoration work, and carriageway installation work” and does not include orders that are only for maintenance and management operations not accompanied by construction, such as inspections, cleaning and surveys, snow clearance work and so on. In addition, expenses required for construction that upgrades functions beyond the prior level such as the renewal expenses needed for the replacement of buildings with a decline in functions due to deterioration and reestablishment of the same degree of functionality, seismic retrofitting and so on are not included.

Maintenance and repairs are included in construction investment for government and private sector civil engineering. In recent years, the percentage of construction investment accounted for by maintenance and repairs in these sectors has increased, and it is considered that this upward trend

will continue in the future.

Maintenance and repairs have remained stable for private sector residential and private sector non-residential construction over the past few years, and it is considered that the level of recent years will be maintained in real terms in the future.

Based on the above, the future forecasts for maintenance and repairs are as shown in Table 16.

Table 16. Future Forecasts for Maintenance and Repairs

Maintenance and repairs summary		(Trillions of yen)			
Nominal values		2015	2020	2025	2030
Government	Case 1	5.0	5.4 ~ 5.7	5.6 ~ 6.4	5.7 ~ 7.2
	Case 2	5.0	5.4 ~ 5.6	5.6 ~ 6.1	5.7 ~ 6.6
Private sector residential	Case 1	2.9	3.1	3.3	3.5
	Case 2	2.9	3.1	3.1	3.2
Private sector non-residential construction	Case 1	4.4	4.7	5.0	5.3
	Case 2	4.4	4.6	4.7	4.9
Private sector civil engineering	Case 1	1.6	2.0	2.4	2.7
	Case 2	1.6	1.9	1.9	2.0
Total	Case 1	14.0	15.3 ~ 15.6	16.3 ~ 17.1	17.2 ~ 18.6
	Case 2	14.0	15.0 ~ 15.1	15.4 ~ 15.9	15.8 ~ 16.7

Real values (FY2005 prices)		(Trillions of yen)			
FY		2015	2020	2025	2030
Government	Case 1	4.6	4.7 ~ 4.9	4.6 ~ 5.2	4.4 ~ 5.5
	Case 2	4.6	4.8 ~ 4.9	4.8 ~ 5.2	4.8 ~ 5.5
Private sector residential	Case 1	2.7	2.7	2.7	2.7
	Case 2	2.7	2.7	2.7	2.7
Private sector non-residential construction	Case 1	2.7	4.1	4.1	4.1
	Case 2	2.7	4.1	4.1	4.1
Private sector civil engineering	Case 1	1.5	1.7	1.9	2.0
	Case 2	1.5	1.6	1.7	1.7
Total	Case 1	12.8	13.2 ~ 13.4	13.2 ~ 13.9	13.2 ~ 14.3
	Case 2	12.8	13.1 ~ 13.3	13.2 ~ 13.6	13.2 ~ 13.9

(3) Overall Forecast Results

The forecast results for construction investment up to fiscal 2030 are as shown in Table 17. These forecasts must be interpreted with considerable latitude as they involve various uncertainties.

Table 17. Medium-to Long-term Forecasts of Construction Investment

Case 1 (Trillions of yen)

		FY2015	FY2016	FY2020	FY2025	FY2030
Nominal values	Construction investment	51.0	51.5	50.7 ~ 52.5	51.2 ~ 54.4	51.1 ~ 56.4
	of which, government construction investment	21.6	21.4	18.7 ~ 19.7	18.7 ~ 21.5	18.7 ~ 23.4
	of which, private sector construction investment	29.4	30.1	32.0 ~ 32.8	32.5 ~ 33.0	32.3 ~ 33.1
	Maintenance and repairs (partially reproduced)	14.0	14.2	15.3 ~ 15.6	16.3 ~ 17.1	17.2 ~ 18.6
	Construction market total	58.3	58.9	58.6 ~ 60.3	59.5 ~ 62.7	59.9 ~ 65.2
Real values	Construction investment	46.6	47.3	43.9 ~ 45.5	41.7 ~ 44.3	39.3 ~ 43.4
	of which, government construction investment	19.6	19.6	16.1 ~ 16.9	15.2 ~ 17.5	14.4 ~ 18.0
		27.1	27.7	27.8 ~ 28.5	26.5 ~ 26.9	24.9 ~ 25.5
	Maintenance and repairs (partially reproduced)	12.8	13.0	13.2 ~ 13.4	13.2 ~ 13.9	13.2 ~ 14.3
	Construction market total	53.4	54.0	50.7 ~ 52.2	48.5 ~ 51.1	46.1 ~ 50.2

Case 2 (Trillions of yen)

		FY2015	FY2016	FY2020	FY2025	FY2030
Nominal values	Construction investment	51.0	51.5	50.7 ~ 52.5	51.2 ~ 54.4	51.1 ~ 56.4
	of which, government construction investment	21.6	21.4	18.7 ~ 19.7	18.7 ~ 21.5	18.7 ~ 23.4
		29.4	30.1	32.0 ~ 32.8	32.5 ~ 33.0	32.3 ~ 33.1
	Maintenance and repairs (partially reproduced)	14.0	14.2	15.3 ~ 15.6	16.3 ~ 17.1	17.2 ~ 18.6
	Construction market total	58.3	58.9	58.6 ~ 60.3	59.5 ~ 62.7	59.9 ~ 65.2
Real values	Construction investment	46.6	47.3	43.9 ~ 45.5	41.7 ~ 44.3	39.3 ~ 43.4
	of which, government construction investment	19.6	19.6	16.1 ~ 16.9	15.2 ~ 17.5	14.4 ~ 18.0
		27.1	27.7	27.8 ~ 28.5	26.5 ~ 26.9	24.9 ~ 25.5
	Maintenance and repairs (partially reproduced)	12.8	13.0	13.2 ~ 13.4	13.2 ~ 13.9	13.2 ~ 14.3
	Construction market total	53.4	54.0	50.7 ~ 52.2	48.5 ~ 51.1	46.1 ~ 50.2

3 *Recent Trends in Construction Industry Policy — Interim Report* compiled by the Basic Issue Subcommittee of the Construction Subcommittee, Industry Subcommittee, Central Council for Construction Industry and Council for Infrastructure Development

As demonstrated in section 2, it is expected that a certain level of construction investment will be secured, going forward, accompanying anticipated future economic growth. In addition, the construction industry is indispensable for the development of Japan's housing and social infrastructure as well as the development of urban and industrial infrastructure, and the industry is expected to play an important role in supporting economic activity in the future, which requires its sound development.

Meanwhile, as demonstrated in section 1, measures for securing and training skilled workers are urgently required ahead of the impending era of mass retirement of the baby boomer generation. New measures are also needed to address the growing complexity and diversification of construction production systems resulting from such factors as the increasing proportion of factory products in construction work in addition to the stratification of subcontracting.

This section will introduce an overview of the Interim Report compiled by the Basic Issue Subcommittee of the Construction Subcommittee, Industry Subcommittee, Central Council for Construction Business and Council for Social Infrastructure, which are advisory bodies to the Minister of Land, Infrastructure and Transport, in June 2016.

(1) Background to the Review

In November 2015, the discovery that fabrication of data had been carried out in relation to the installation of foundation piles for a condominium complex in Yokohama led to the establishment of the Foundation Pile Installation Issues Taskforce Committee ("the Taskforce"), and it was suggested that a forum should be established promptly for discussion of measures to structural issues in the construction industry related to the construction systems considered to be behind this issue.

In light of this, the Central Council for Construction Business and the Industry Subcommittee, the Construction Subcommittee and the Fundamental Issues Subcommittee of the Social Infrastructure Improvement Council("the Fundamental Issues Subcommittee") have conducted deliberations into the current status and challenges related to and directions of measures to address "clarification and improvement to the stratified structure of roles and responsibilities of prime contractors and subcontractors for construction systems," "enhancement of treatment, motivation and qualities of engineers and skilled workers," and "clarification of the roles and responsibilities and the strengthening of cooperation between parties involved in private sector projects," which were proposed by the Taskforce. At the same time, the Fundamental Issues Subcommittee has also considered "the establishment of an environment to facilitate mergers between small and medium-sized companies in regional areas" and "basic policy for the construction business license system."

(2) Directions for Measures to Address Issues

A. Rationalization of Construction Production Systems

1) Proper Assignment of Managing Engineer and Clarification of Role

i) Clarification of Role of Managing Engineer, etc., in Construction Systems

Current situation and issues

Under Japan's Construction Business Act, the roles of chief engineers and managing engineers, who are responsible for the technical management of the construction work in question and the technical advice and supervision of workers employed in the construction work in order to properly implement the construction work, are specified without any particular distinctions. Meanwhile, stratification of subcontracting has occurred in the construction production system due to specialization and division of labor in construction and in response to changes and fluctuations in the volume of work, leading to marked differences in the roles of engineers at prime contractors and subcontractors.

Direction of measures

There is a need to clarify the responsibilities of a managing engineer at a prime contractor (the person in charge of the overall construction management of the contracted work, including subcontracts) and a chief engineer at a subcontractor (the person responsible for construction management of the contracted work). In particular, it is necessary to clarify the respective roles in quality control with significant differences in roles:

- The managing engineer, etc., of the prime contractor should check on the contracted work overall by confirming reports from subcontractors and on-site and follow-up spot checks as necessary.
- The chief engineer of the subcontractor should, as a rule, conduct onsite checks in addition to reporting to the prime contractor or the senior subcontractor, etc.

ii) Basic Policy for Assignment of Engineers

Current situation and issues

At present, the assignment of a full-time managing engineer, etc., is only stipulated under the Construction Business Act for important construction work related to public facilities or structures, or facilities or structures utilized by a large number of people based on the subcontract fee, and there is a view that a full-time managing engineer, etc., is not really necessary for work with a low level of difficulty or for work in which material costs account for the majority of costs and there is little onsite work.

Direction of measures

It is necessary to conduct a review into the establishment of requirements for full-time managing engineers, etc., that can be determined objectively and clearly and includes factors other than the amount of the subcontract fee following a reorganization of the approach to what kind of work should require a full-time managing engineer.

In addition, with regard to approving the engagement of the relevant engineer in other full-time projects during periods when a full-time managing engineer is not required due to the temporary suspension of construction, it is necessary to consider specific methods for the scope and cases of approval, etc.

iii) Exclusion from Construction Work of Companies Not Actually Engaged in Construction

Current situation and issues

In light of the increasing proportion of factory products in construction work, there are companies that only deal in factory products and materials, etc., and do not engage in construction management, such as trading firms and distributors that sell factory products and materials, etc. There are many cases in which such companies are not actually engaged in the management of construction, and there are concerns that this leads to a lack of clarity about roles and responsibilities for construction, obstructs smooth communication and information sharing, and results in a decline in the quality of work.

Direction of measures

There is a need to clarify the determination criteria related to a prohibition on blanket subcontracting in order to exclude companies that do not actually engage in construction from construction work and to avoid unnecessary stratification.

iv) Rationalization of Subcontracting Agreement for Orderers and Prime Contractors in Private Sector Construction

Current situation and issues

There is no basic framework in private sector construction on the fundamental approach to liability for specific risks expected in construction such as underground conditions and local coordination in construction work or procedures for discussions between orderers and suppliers.

Direction of measures

It is necessary to formulate new guidelines for a basic framework on such matters as the fundamental approach to construction risks for which consultation between orderers and suppliers is considered necessary and the subjects for consultation prior to the conclusion of a construction contracting agreement.

It is particularly pertinent to incorporate the need for preliminary surveys and the fundamental approach and subjects for consultation relating to liability for each individual risk related to underground construction work and design, etc., into the guidelines.

Other details to be incorporated are as follows.

- Recommend assignment of multiple engineers in large-scale projects (clarify that is desirable to assign separate engineers responsible for the role of assisting the managing engineers, etc., assigned to the prime contractor construction company)

- Basic policy on quality control for factory products used in construction products (consideration to establishing a certain institutional involvement of companies that manufacture factory products in order to ensure their quality)
- Clarify documents to be delivered by developers to condominium management associations (clarification of the content of documents to be delivered, including information on foundations, etc.)
- Expand scope of deliberation of the Committee for Adjustment of Construction Work Disputes (consideration of scope of Committee for Adjustment of Construction Work Disputes to disputes other than “disputes concerning contracts for construction work” in order to resolve various disputes relating to construction quality)

B. Securing and Training Engineers and Skilled Workers to Support Construction Production

1) Securing and Training and Active Participation of Engineers with Outstanding Technical Skills and Management Capabilities

Current situation and issues

Over the past few years, there has been a drastic decline in the number of young people entering the industry and the retirement rate is also high. Therefore, amid a rising need to secure outstanding engineers, the number of candidates for technical certification has fallen, and successful candidates have become older.

Direction of measures

It is necessary to promote consideration of such measures as increasing the number of opportunities to take the Level 2 examination, for which there are many young candidates, to twice a year in order to further expand the opportunities to sit for technical certification and foster the motivation to take examinations.

2) Securing and Training Skilled Workers for the Medium- to Long-term ahead of an Era of Mass Retirements

Current situation and issues

Facing the possibility of mass retirement of older workers ahead, there are concerns that the construction industry will confront a severe successor shortage in the future. In the past, a variety of initiatives have been implemented in the construction industry as successor strategies, including measures to counter non-participation in social insurance and enhancement of education and training. As seen in the improvement in social insurance participation rates, results are steadily emerging. Nevertheless, many issues that need to be addressed and resolved remain, including improvements to treatment, the difficulty in identifying future career paths, and the so-called “single master” style of working.

Direction of measures

The goal is a “human resources investment growth industry” that creates a positive cycle of growth for both people and corporations through investment in people and management innovations.

In order to achieve this, the six focus strategies below will be tackled intensively and as a priority.

Six Focus Strategies:

1. Appropriate evaluation and improved treatment of skilled workers in line with experience and skills
Promotion of efforts in cooperation with concerned parties aimed at the full-scale operation of a Construction Career Upgrade System to build up the experience and skills of skilled workers in fiscal 2017
2. Measures to counter non-participation in social insurance
Strengthening of countermeasures such as increased guidance for subcontractors by prime contractors aimed at achieving the target of measures to counter non-participation in social insurance in fiscal 2017 (100% achievement on company base).
3. Promotion of efficient utilization of human resources aimed at raising productivity
Promotion of standardization of construction periods combined with further development of environment for adjusting to fluctuations in order to utilize human resources efficiently
4. Improvement of treatment
Establishment of appropriate public works labor costs and securing appropriate wage levels and holidays
5. Enhancement of education and training
Enhancement of the quality of education and training programs to meet diverse needs according to the times
6. Image improvement strategy and cutting-edge promotion
Implement new projects starting with the possible aimed at cutting-edge promotion, including career education, regional revitalization and collaboration with other industries, new product development, active participation by women, and review of the corporate evaluation system, etc.

In addition, classify successors into “promoting entry into the industry by young workers,” “mid-career employment,” “prevention of retirement and promoting retention,” “women,” and “older workers” to incorporate measures tailored for each group.

C. Establishment of Environment Conducive to Sustainable Activities by Construction Companies

1) Establishment of Environment to Facilitate Smooth Mergers of Small and Medium-Sized Regional Companies and Transfer of Business, etc.

Current situation and issues

Proprietors are aging, and the issue of a successor is a growing management challenge, particularly for small construction companies. In addition to establishing an environment that allows mergers and business transfers, etc., to be implemented smoothly, there is a need to effectively utilize the technical abilities and human resources possessed by small and medium-sized construction companies that are forced to close due to succession difficulties, in order to maintain and secure local leaders.

Direction of measures

Measures to expedite and simplify procedures for construction business licenses and business evaluation at the time of mergers as well as shortening window periods and reducing the procedural burden will be considered.

In addition, the introduction of special measures on business evaluation for companies that accept engineers from companies that are forced to close will be considered in order to promote the smooth transfer of these engineers to enable them to play an active role in a new company.

In addition, the following details were included.

- Consideration of basic policy for chief administrator requirements (Consideration of basic policy for chief administrator requirements from perspective of degree of impact on company management overall accounted for by construction business management and the scale and stability of management)
- Consideration of measures for minor construction (consideration of specific involvement for those who only contract for minor construction worth less than 5 million yen which does not require a license)

D. Improvement of Stratified Subcontracting Structure

In order to improve the stratified subcontracting structure in the construction industry, it is necessary to respond to the diverse issues related to the rationalization of construction production systems and the securing and training of engineers and successors in a cross-industry manner, with a need to take comprehensive and targeted measures.

Main issues

- Impact of stratification of subcontracting on construction management and quality aspects

There are concerns that the quality and safety of construction will decline the more stratified the construction system becomes. This includes the facts that roles and responsibilities for construction tend to become unclear, the scrupulous management of onsite construction by the prime contractor and the senior subcontractor tends to be difficult, impediments to smooth coordination of onsite communication and information sharing tend to arise, and opinions and proposals regarding the construction from the junior subcontractor tend not to reach the prime contractor.

- Decline in subcontracting consideration, which is passed on to labor costs

There are concerns about declines in the construction consideration for the junior subcontractor, which are passed on to labor costs, as a result of an increase in the number of companies involved in the intermediate stages as subcontractors.

- Interventions by subcontracting companies not involved in construction management

The incorporation of companies that are only involved in transactional agreements and do not provide the necessary construction management, such as distributors and others that engage in sales of factory products and materials, in the construction system creates unnecessary stratification and problems that include a lack of clarity on roles related to construction.

- Stratification of subcontracting to provide labor services seen in the lower levels of subcontracting

It is observed that there is a trend of externalization among specialized construction contractors with a shift from directly employing the skilled workers required for construction to contracting in order to manage fluctuations in construction. There are concerns that it will become difficult to assess and manage the skill and employment conditions of the engineers in charge of onsite construction, destabilize the status of skilled workers, lead to unclear employment and subcontracting relations, and that the working environment will deteriorate.

Direction of measures

Improving the stratified structure of subcontracting is a wide-ranging challenge and necessitates a discussion of the overall construction production system combined with a review from a broad perspective. First, discussion will continue to be deepened further while the following strategies are taken as measures for the time being.

- Exclusion of subcontracting companies not actually involved in construction

Clarification of the determination criteria related to the prohibition of blanket subcontracting in order to ensure guidance on legal compliance regarding the prohibition of subcontracting

- Establishment of an environment that facilitate employment of core skilled workers by specialized construction contractors

In order to establish an environment that facilitates employment of core skilled workers as employees by primary and secondary specialized construction contractors, there will be standardization of construction times for public works, establishment of an environment to adjust for fluctuations, establishment of the Construction Career Upgrade System, and thorough implementation of measures to counter non-participation in social insurance.

4 Conclusion

Construction demand in Japan has experienced a recovery over the last few years due to work for recovery and reconstruction from the Great East Japan Earthquake and growth in the private sector. However, faced with deterioration in treatment of onsite skilled workers, the aging of workers, the decline in young people entering the industry, and the full-scale advent of a declining population, there are concerns over a shortage of successors to carry on the future construction industry.

RICE published the *Middle-to Long-term Forecasts of Construction Investment – Prospects up to 2030* in November 2016. As a result, while government construction investment and private sector residential investment will somewhat lack growth due to severe fiscal constraints and a decline in the number of households, construction demand will be led by the private sector non-residential segment, accompanying anticipated stable economic growth, and it is expected overall that the recent level of construction investment will be maintained in real terms over the medium- to long-term.

Meanwhile, the construction industry, which is the leading figure in the construction market, has experienced a stratification of subcontracting in response to the specialization and division of labor in construction and the occurrence of changes and fluctuations in the volume of construction. In addition, it is necessary to ensure proper procedures for construction work in response to the increasing complexity and diversification of construction production systems caused by the increasing prevalence of factory products. These measures are compiled in the Interim Report issued by the Basic Issue Subcommittee of the Construction Subcommittee, Industry Subcommittee, Central Council for Construction Business and Council for Social Infrastructure in June 2016 as a strategy for the future. In particular, there are concerns that the stratification of subcontracting creates a lack of clarity about roles and responsibility for construction and has a negative impact on the construction system and the quality of construction. Moreover, it has been observed that the increase in the number of companies involved in the intermediate stages as subcontractors leads to a decline in subcontracting considerations, which is passed on to labor costs and a deterioration in the working environment due to inadequate management structures.

The construction industry is essential for the development of Japan's housing and social capital as well as its urban and industrial infrastructure. Ensuring the proper execution of construction work together with improving the treatment of skilled workers, standardizing construction periods and developing an environment for adjusting to fluctuations will contribute to securing and training the skilled workers of the future in addition to ensuring the quality of construction work, making it possible for the construction industry to continue to play its role in supporting Japan's society and economy.

Even amid the future decline in the population, the construction industry will respond as a matter of urgency to the diverse issues it currently confronts in order to continue supporting Japan's economic growth and to develop the capacity to secure a construction system that can meet the demand for construction which will accompany that economic growth.

Future Outlook for the Construction Market in an Era of Population Decline and Construction Industry Policy Aimed at Sustainability

JAPAN



Researcher Tadayori NAKAO
Research Institute of Construction and Economy

Table of Contents

1. Trends in the Construction Industry and Employment

2. RICE Forecasts of Construction Investment – Prospects up to 2030

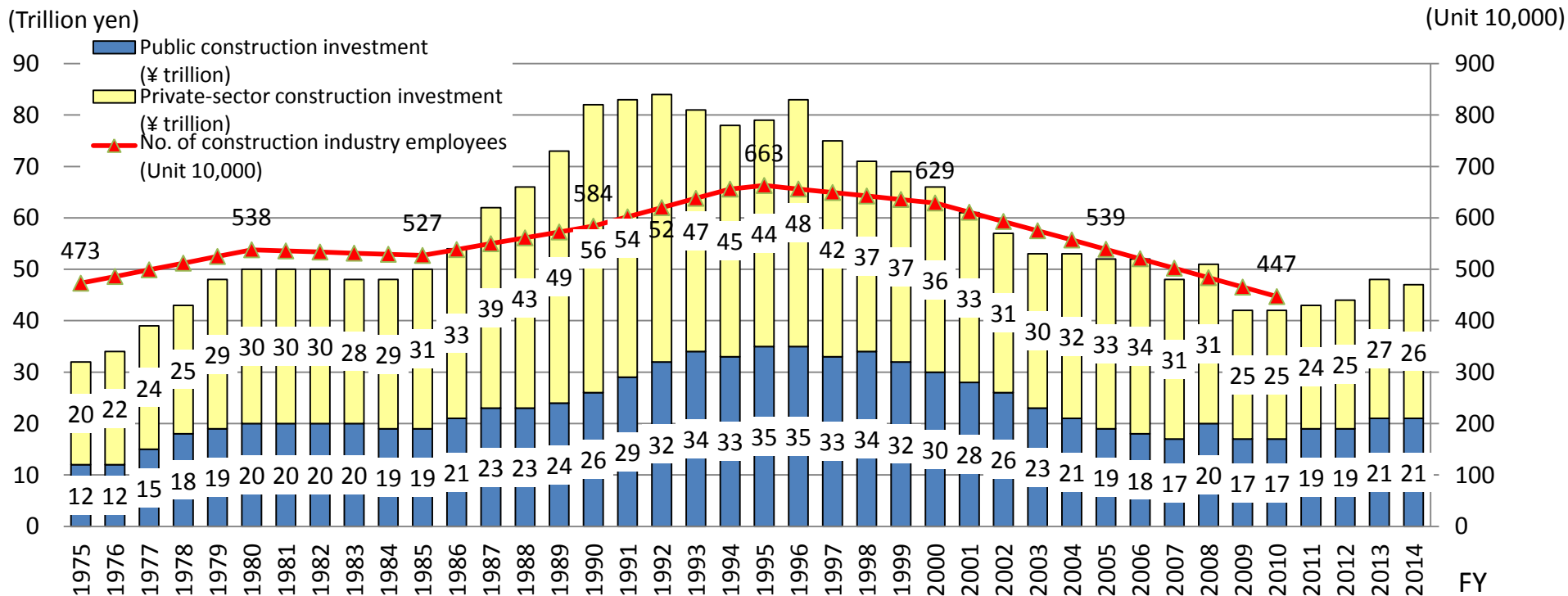
3. Recent Trends of Construction Industry Policy

1 . Trends in the Construction Industry and Employment

1 - 1 Trends in Construction Investment and Employment

Construction employment

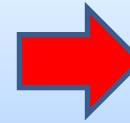
6.6million(1995) ⇒ 4.5million(2010) Δ32.6%



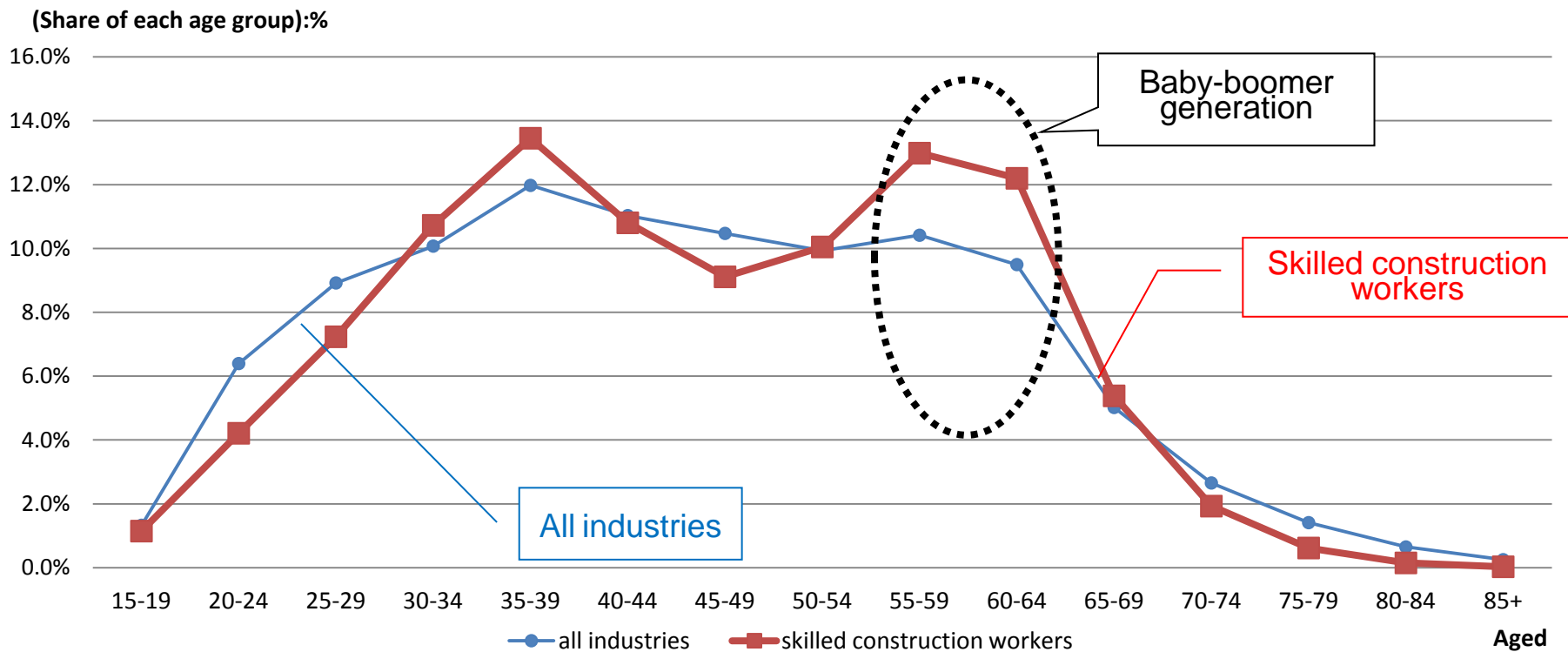
(Source) "Construction Investment Forecasts" (MLIT) and the "Population Census" (MIC)

1 - 3 Age Composition of Construction Industry Employees (2010)

- Retirement of baby-boomers
- Low accession of young workers

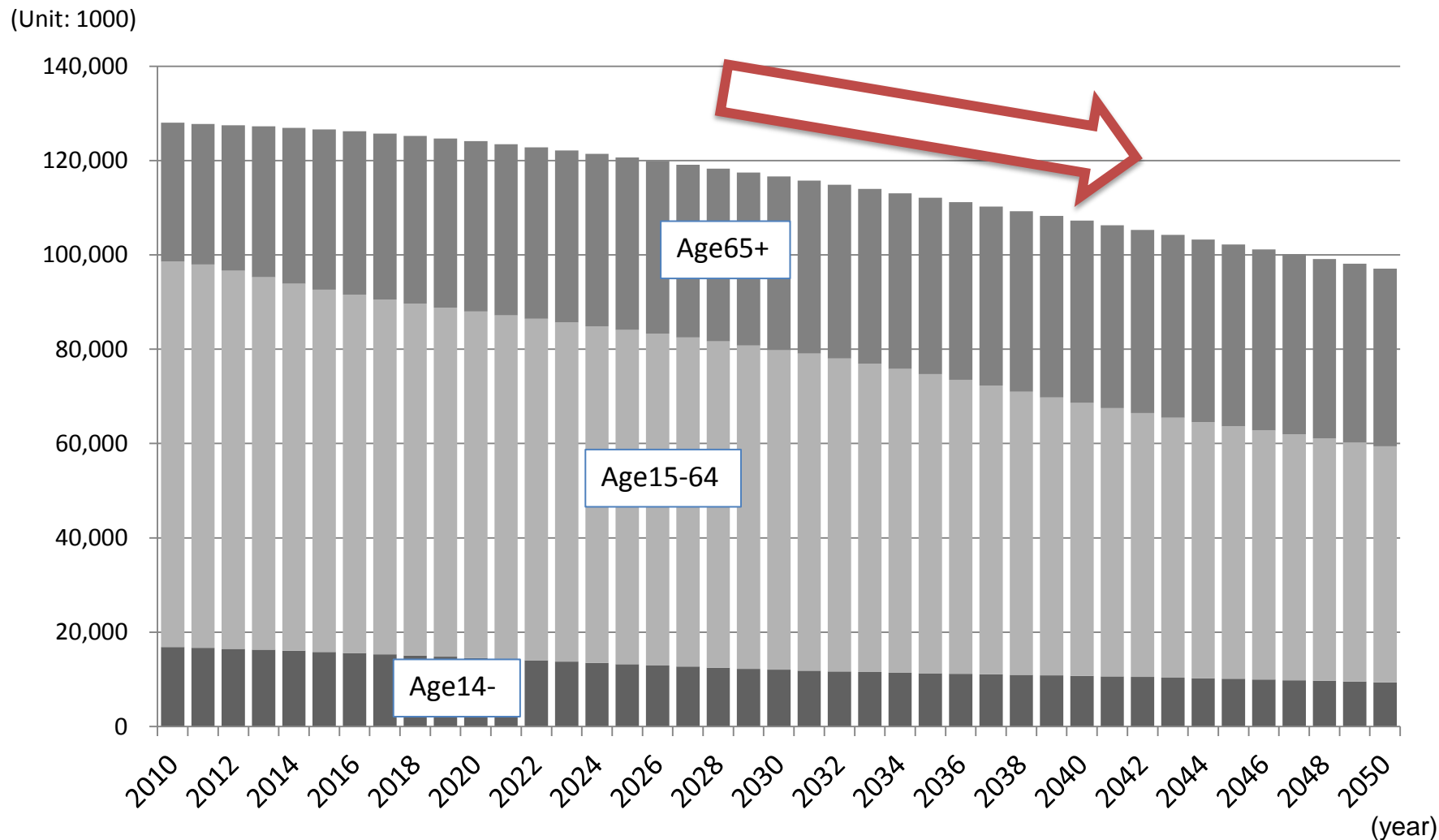


Accelerating
workforce shrinkage



(Source) "Population Census" (Ministry of Internal Affairs and Communication)

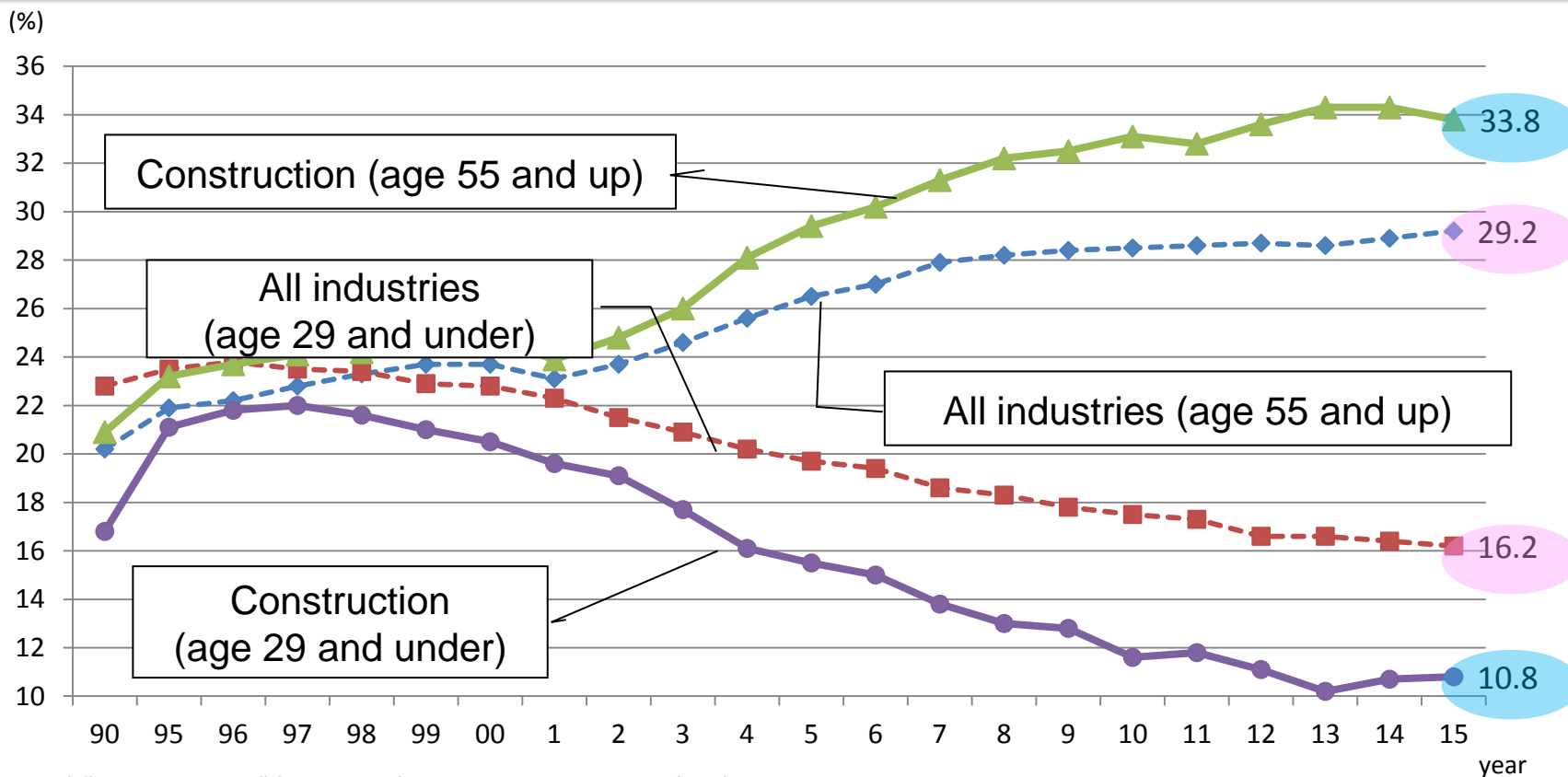
1 - 4 Population Projection



(Source) "Population Projections for Japan (January 2012)" (Institute of Population and Social Security Research.)

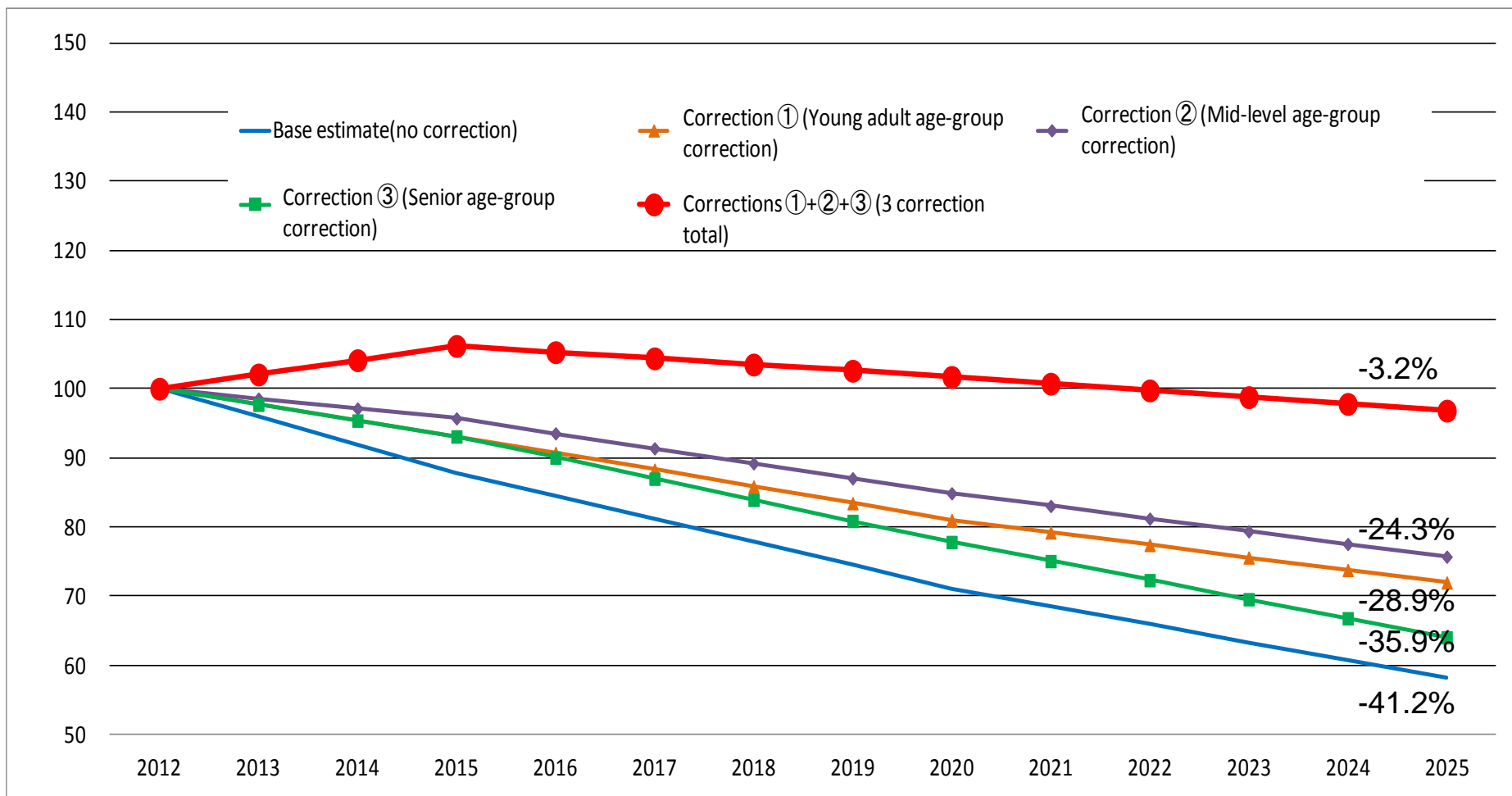
1 - 5 Ratios of Workers Aged 29 and under/55 and over

- Rapid aging : 33.8% are aged 55⁺ (2015)
- Fewer youth : 10.8% are aged 29⁻



(Source) "Labor Statistics" (Ministry of Health, Labour and Welfare)

1 - 6 RICE Projection of Construction Employees (2013)



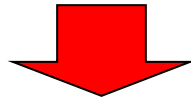
(Source) RICE

2. RICE Forecasts of Construction Investment – Prospects up to 2030

2 - 1 Intention

Changes in Construction Market

- Shrinkage of population and households
- Decreasing birthrate and aging population
- Variation of lifestyle and customers' demands
- Fierce international competition among cities
- Progress of technologies
- Deterioration of infrastructure and utilities



Forecasts of Construction Investment
– Prospects up to 2030 (Nov.2016)

2 - 2 Framework

Phased Approach

Government Construction Investment

Private sector Residential Investment

Private sector Non- Residential Construction Investment

Maintenance and Repairs

Factors analysis
in respective sectors



Sum up forecasts

2 - 3 Premise (Economic Growth)

2 Cases in the “Economic and Fiscal Projections for Med-to-Long Term Analysis” by the Cabinet Office (July 2016)

Case 1 (Economic Revitalization)

GDP Growth Rate (%) : 2.0+ (real), 3.0+ (nominal)

Consumer Price (CP) Growth Rate (%) : 2.0

Corporate Goods Price (CGP) Growth Rate (%) : 1.1

Case 2 (Baseline)

GDP Growth Rate (%) : 1.0- (real), 1.5 (nominal)

CP Growth Rate (%) : 1.2

CGP Growth Rate (%) : 0.5

2 - 4 Government Construction Investment - Premise-

Annual General-Account Budget

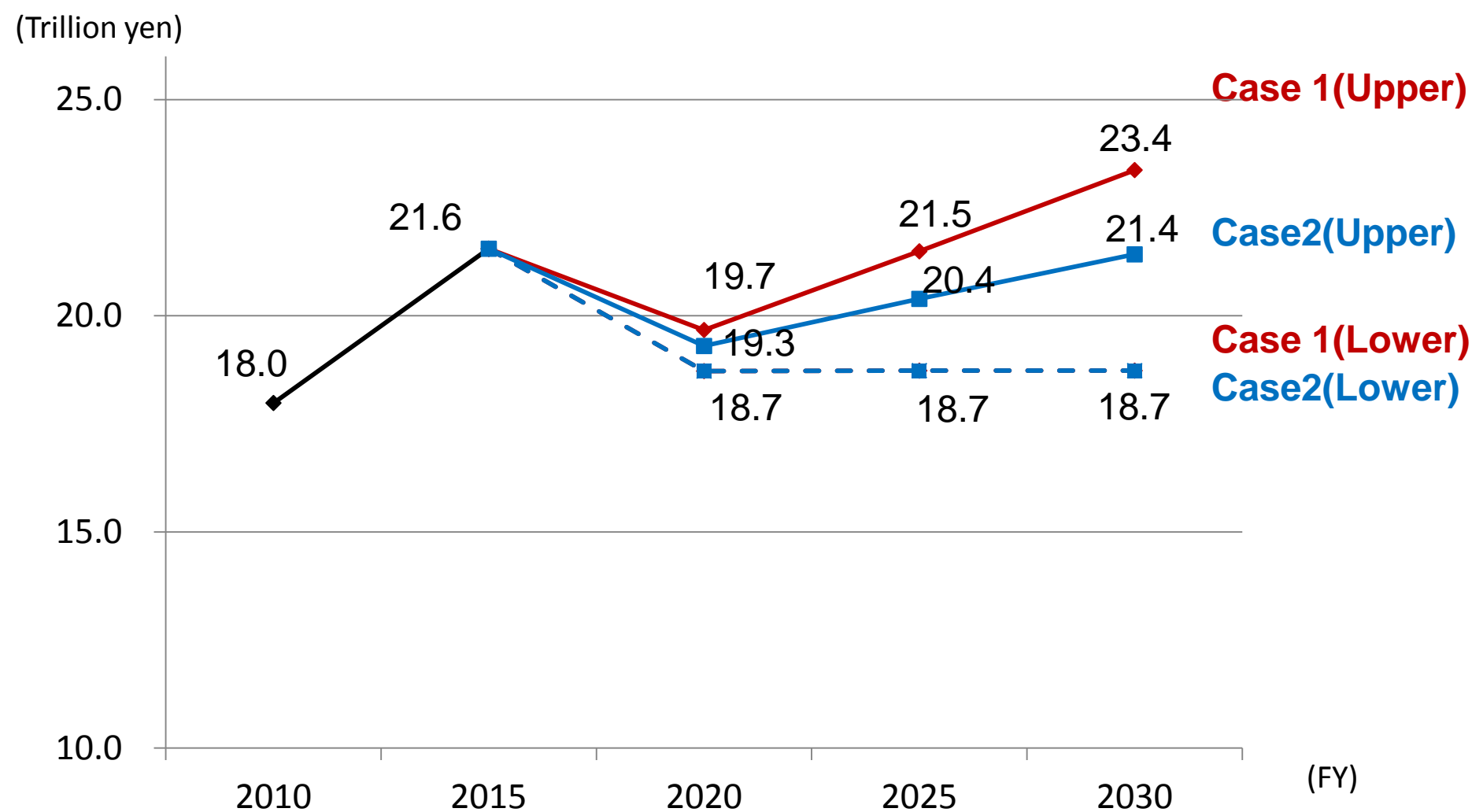
Reflection of Severe Fiscal Status

- Annual Change Rate of Initial General-Account Budget;
 - ① Remain Flat
 - ② Increase at the rate of CPI Growth;
2.0% (Case 1) or 1.2% (Case 2)
- Supplementary Budget; Around 1 trillion yen per year

Special Account for Reconstruction from the Great Earthquake in East Japan

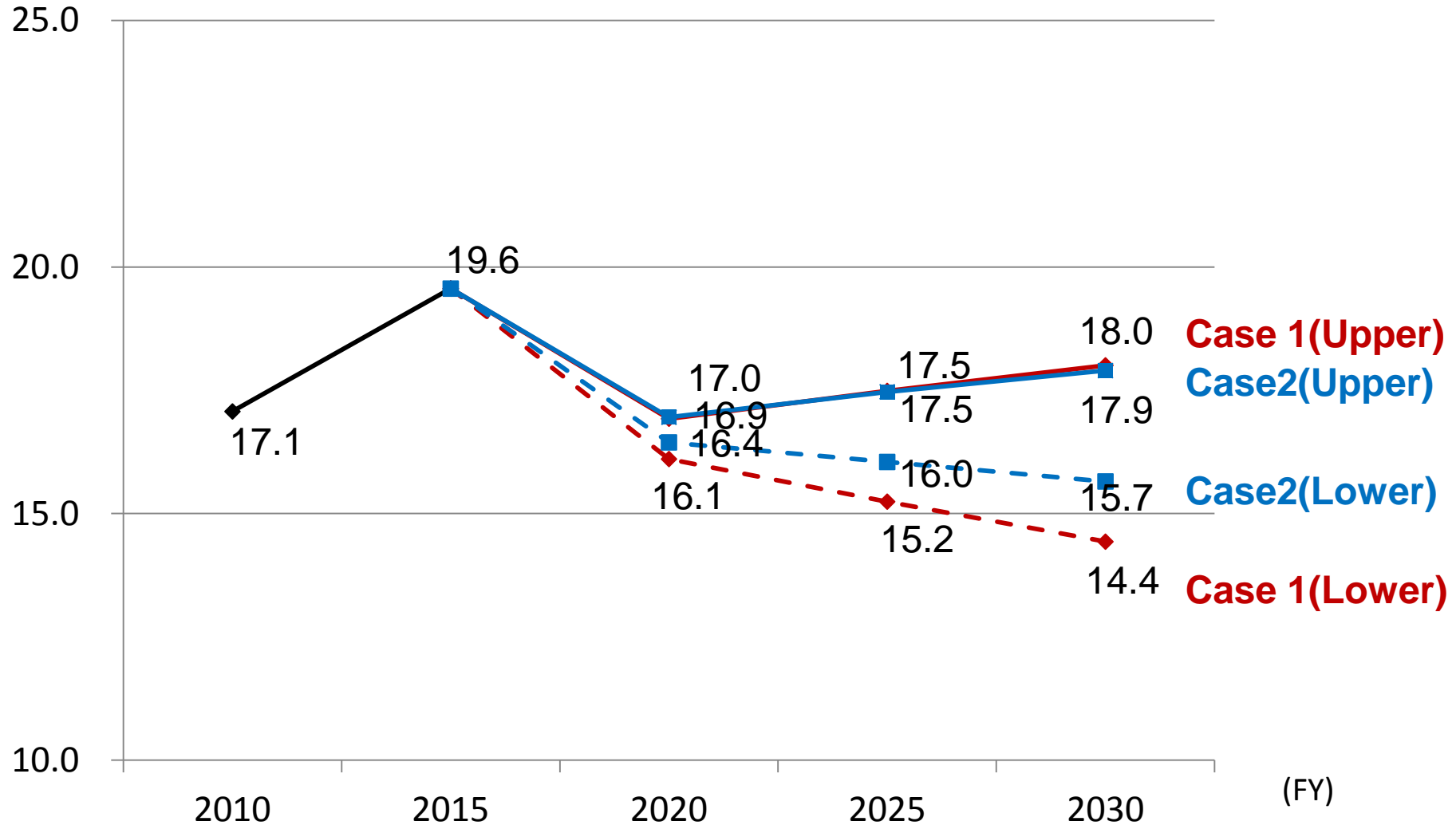
- Expire in FY2020
- Construction Projects Complete before FY2020

2 - 5 Government Construction Investment - Forecast Results (nominal value) -



2 - 6 Government Construction Investment - Forecast Results (real value) -

(Trillion yen, 2005 prices)



2 - 7 Private sector Residential Investment

- Forecast of No. of New Housing Starts 1-

No. of New Housing Starts

Change in No. of Housing Stock

Change in No. of Dwellings with a Resident Household
(Change of No. of Principal Households)

Change in No. of Dwellings without a Resident Household

•Increase No. of Vacant Houses

No. of Dwellings Disposed of (Rebuilt)

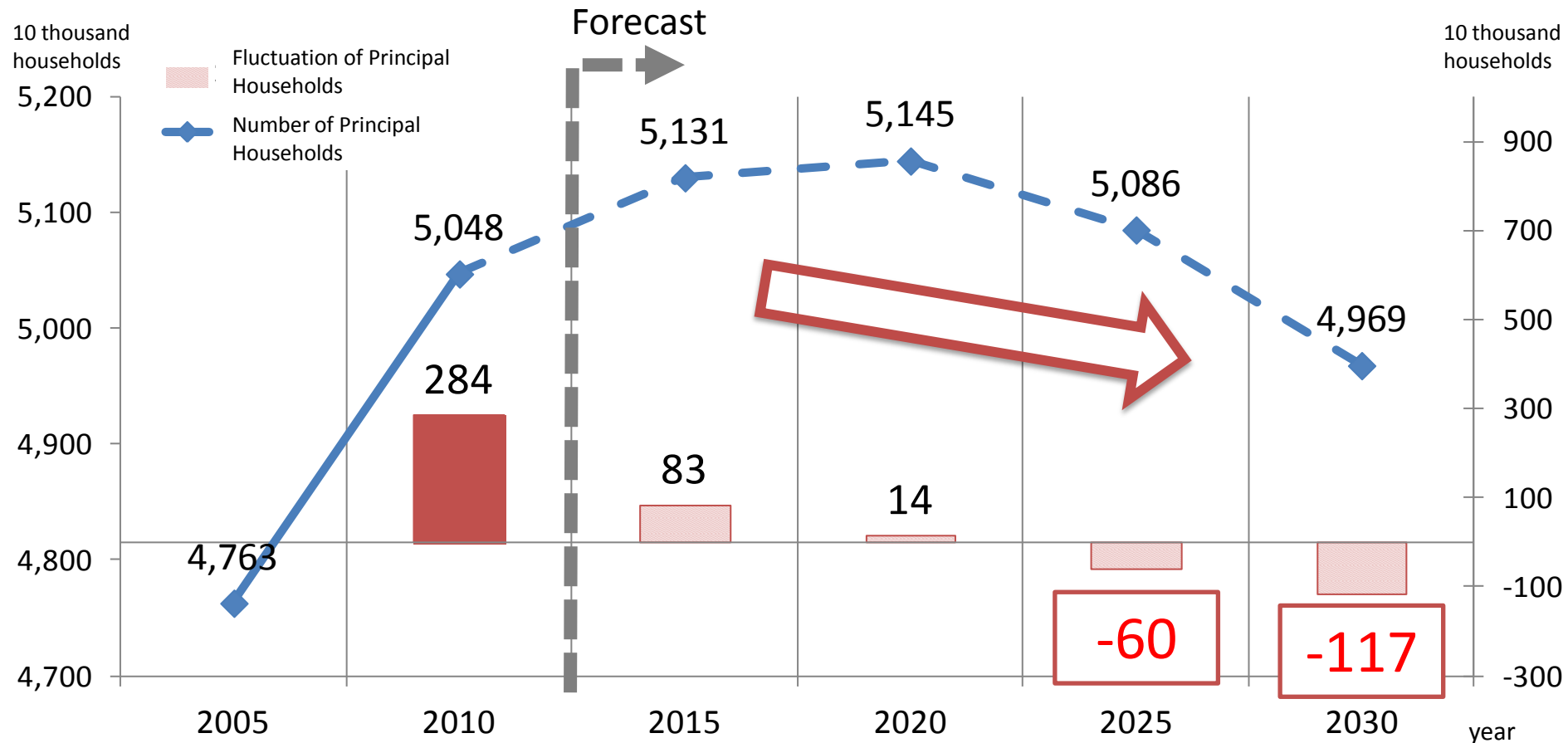
•Quality Improvement of Housing Stock→Longevity



2 - 8 Private sector Residential Investment

- Forecast of No. of New Housing Starts 2 -

Change of No. of Dwellings with a Resident Household



(Source) "Population Census" (MIC), "Population Projections for Japan (January 2012)" (IPSSR)

2 - 9 Private sector Residential Investment

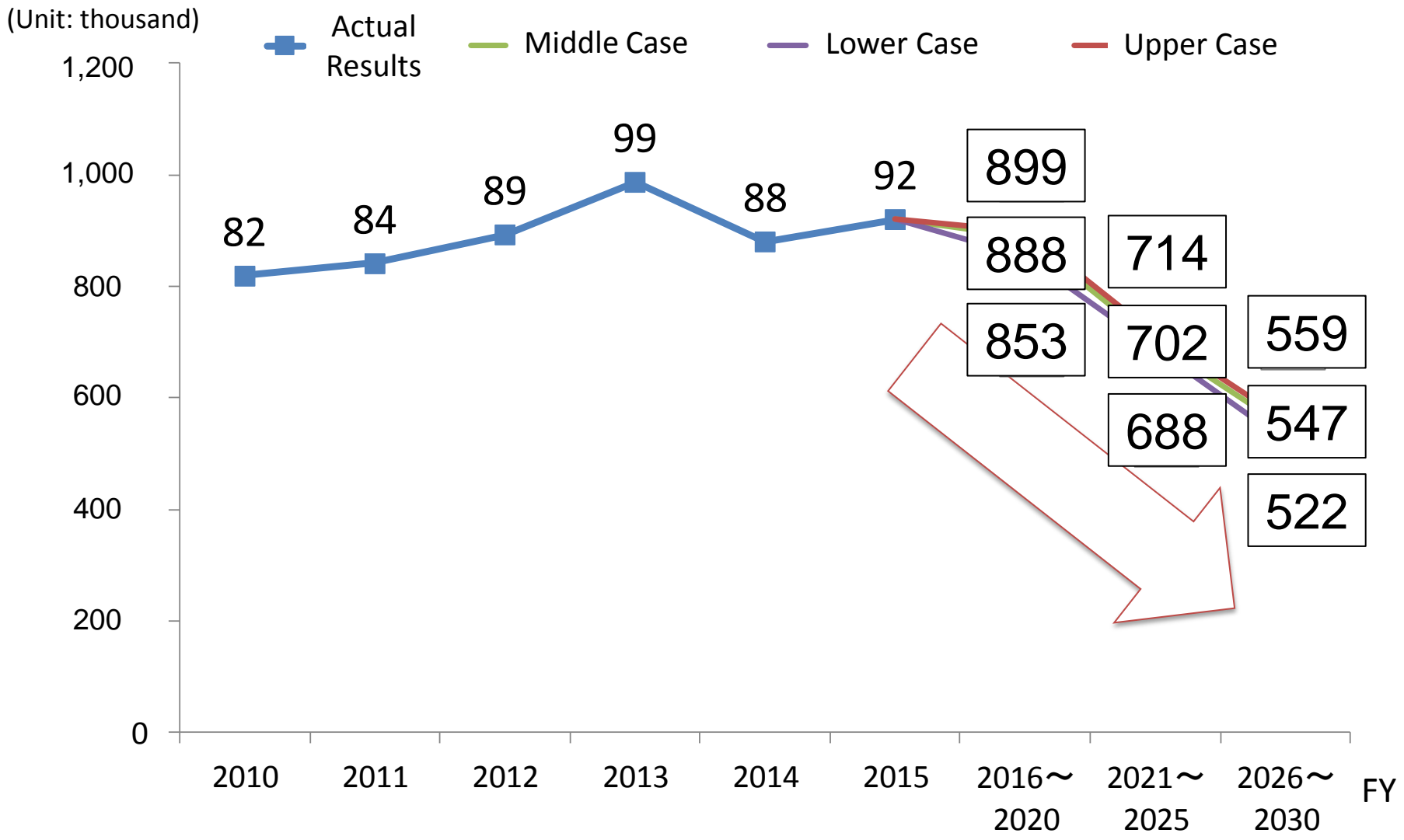
- Forecast of No. of New Housing Starts 3 -

(Unit: thousand)

	Change in Dwellings with a Resident Household	Change in Dwellings without a Resident Household	Elimination (Rebuilding)	Sum (5 yrs)	per year
FY2020 (2016~2020)	145	411~642	3,707	4,296 ~ 4,527	853~ 899
FY2025 (2021~2025)	-596	469~597	3,568	3,461 ~ 3,589	688~ 714
FY2030 (2026~2030)	-1,172	391~577	3,392	2,631 ~ 2,816	522~ 559

2 - 10 Private sector Residential Investment

- Forecast of No. of New Housing Starts 4 -



2 - 11 Private sector Non-Residential Construction Investment - Forecast of Construction Starts Floor Area 1-

Forecast of Business Environments in 4 Main Types

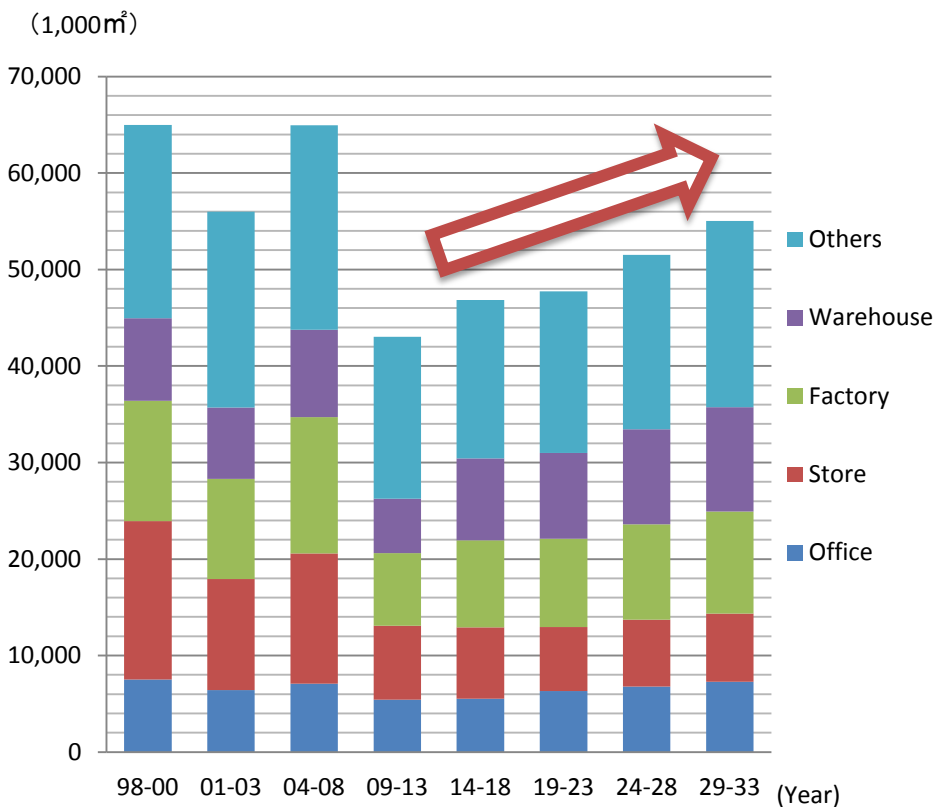
Type	Key Factor*	Forecast of Business Environments
Office	Population of Office Workers	<ul style="list-style-type: none"> •Reduction of working-age population •Increasing office floor area per office worker
Store	Private Consumption	<ul style="list-style-type: none"> •Expansion of omni channel retailing & e-commerce, decreasing floor area for sales in stores per consumption
Factory	Production in Secondary Industry	<ul style="list-style-type: none"> •Increasing demands of factories in food, metal, production machinery industry •Rebuilding of old factories
Warehouse	Transport Volume	<ul style="list-style-type: none"> •Increasing demands of multi-tenant warehouse •Expansion of automatic transport system according to small lot & frequent transport •activation of e-commerce

*Significantly influenced by economic situation, presuming steady economic growth

2 - 12 Private sector Non-Residential Construction Investment - Forecast of Construction Starts Floor Area 2 -

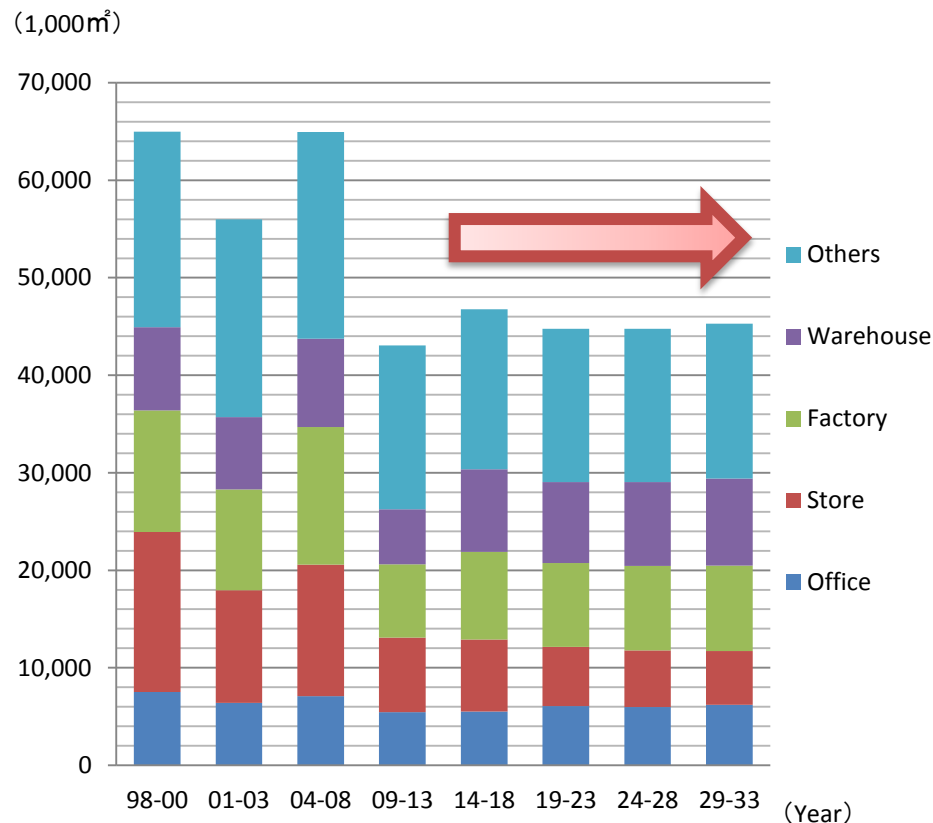
Case 1

GDP Growth Rate (%);
2.0+ (real), 3.0+ (nominal)



Case 2

GDP Growth Rate (%);
1.0- (real), 1.5 (nominal)



2 - 13 Maintenance and Repairs

- Term Definition and Recent Trends-

•Term Definition

In “Statistics of Construction Projects Implemented” by MLIT, “Maintenance and Repairs” stand for “construction work carried out to **maintain** the prior functions of existing buildings and accompanying structures, such as **regular** repair work, renovation work, relocation work, disaster restoration work, and carriageway installation work”, **not including** expenses required for construction that **upgrades functions** beyond the prior level.

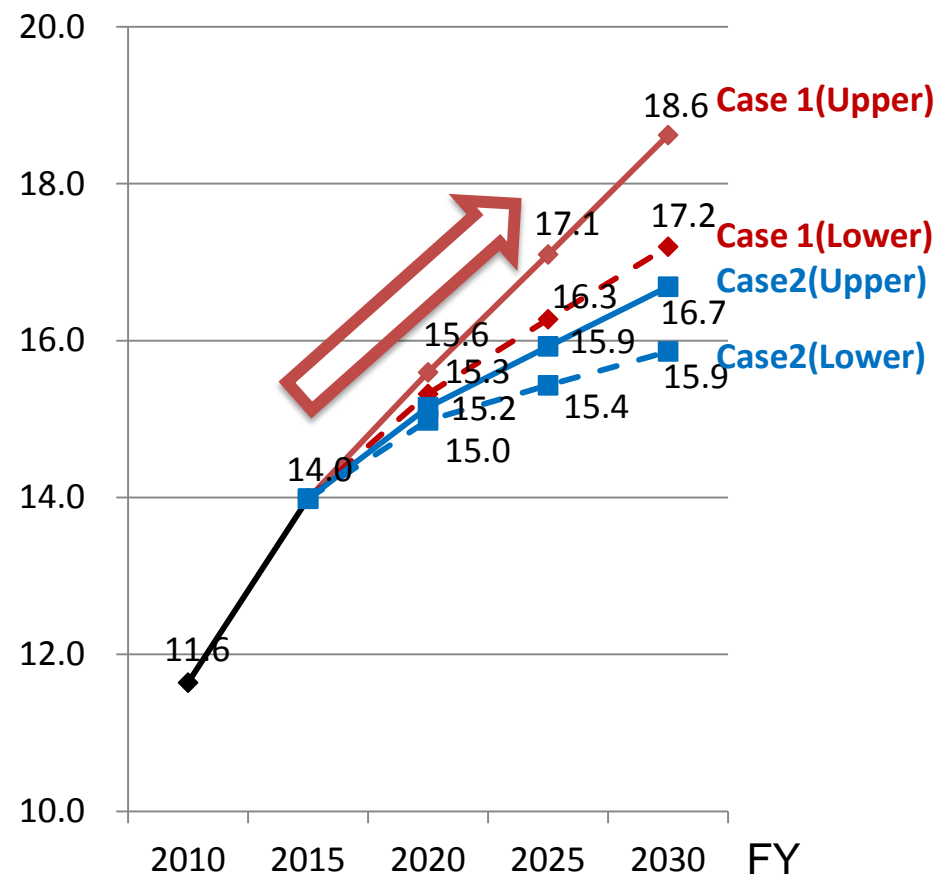
•Recent Trends

Public Sector/ Private sector civil engineering; Increasing
Private sector building; Remain Flat

2 - 14 Repair and Maintenance - Forecast Results-

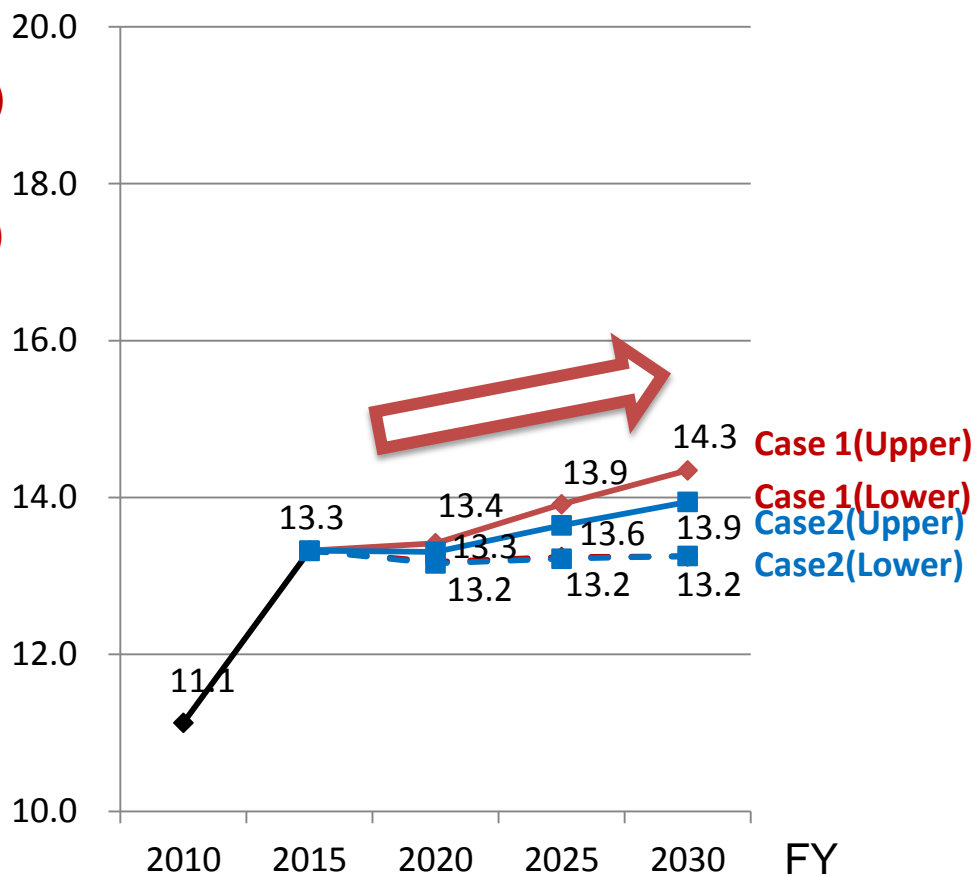
Nominal

(Trillion yen)



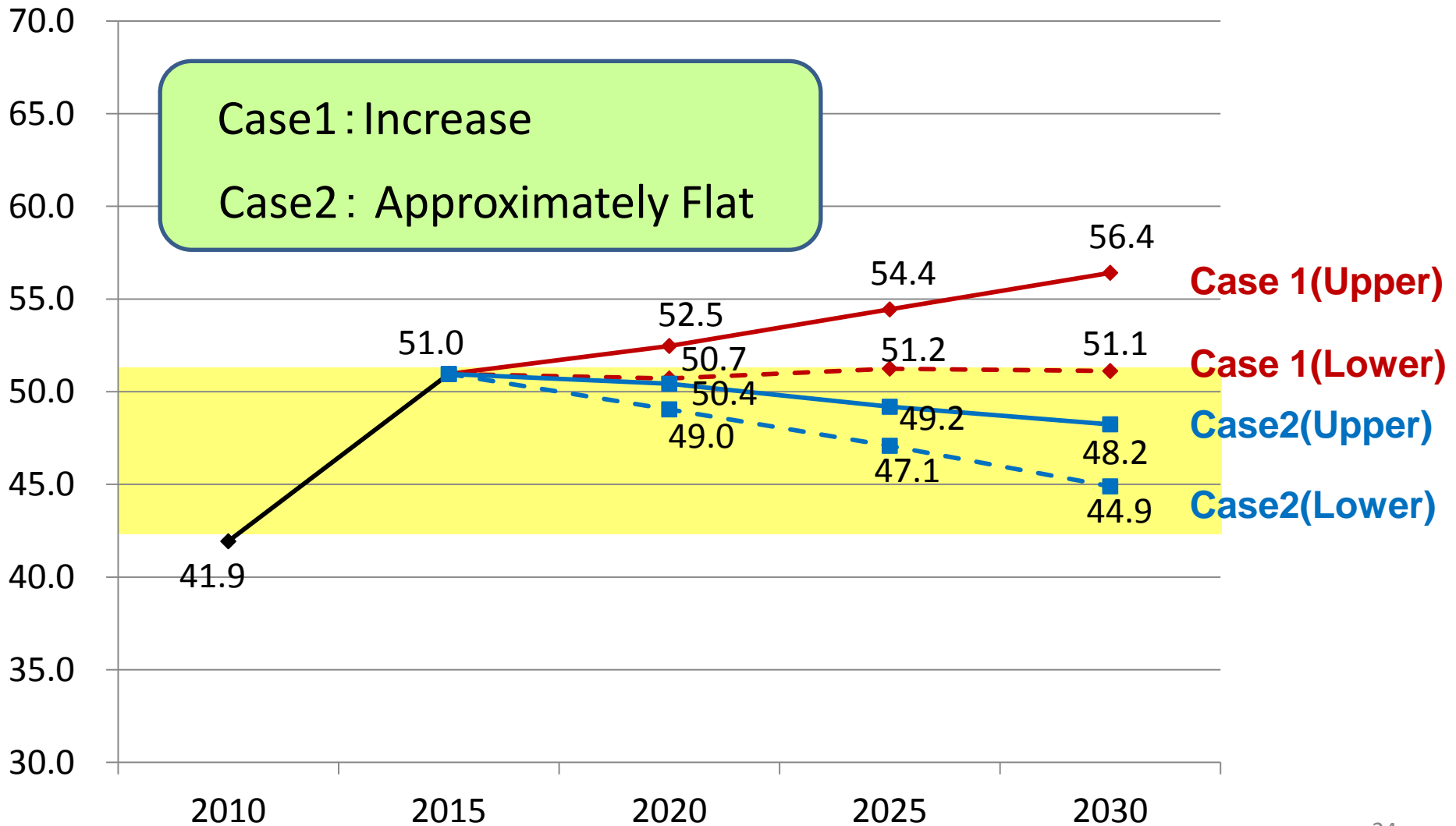
Real

(Trillion yen,
2005 prices)



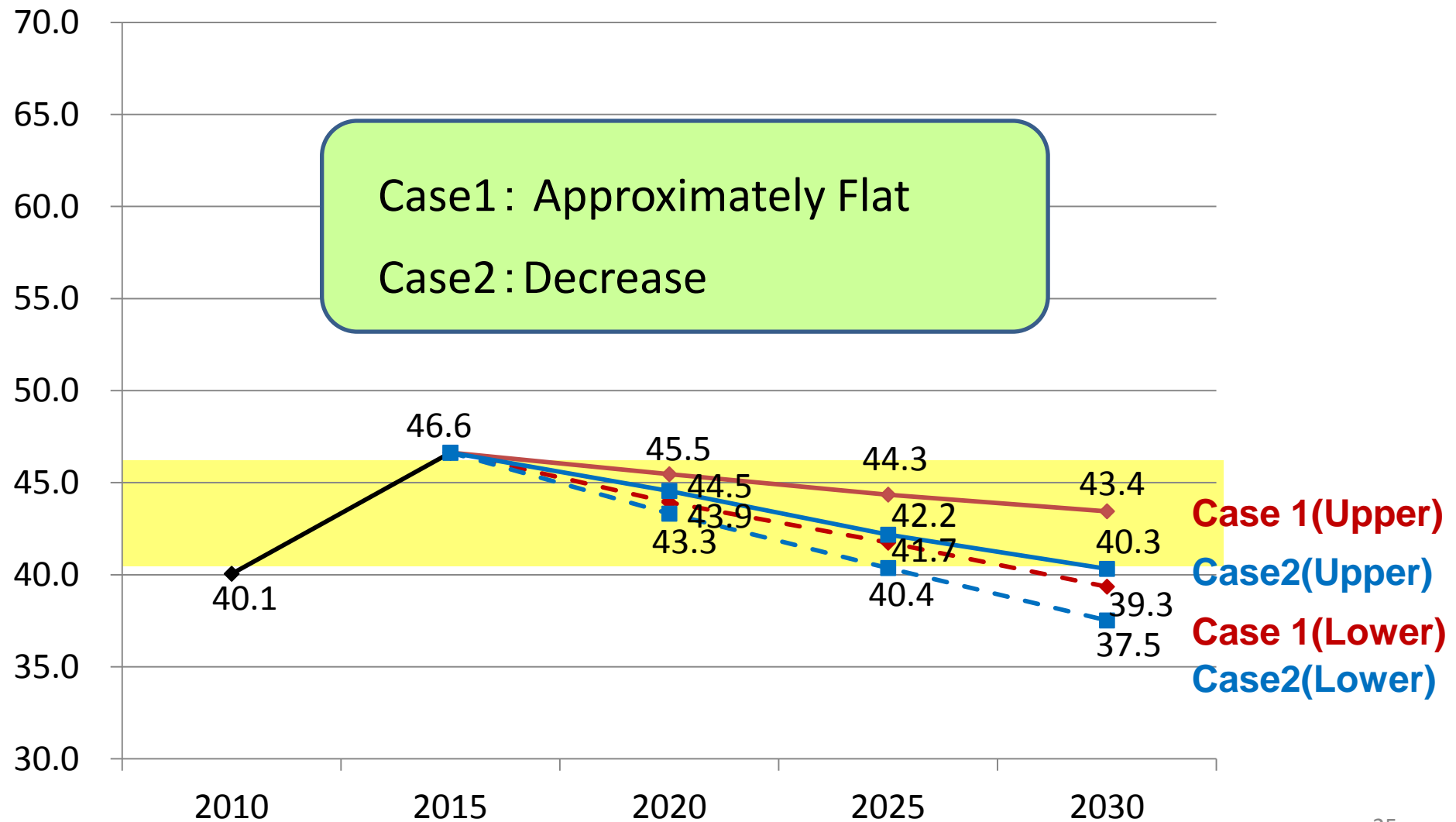
2 - 15 Forecast Results of Construction Investment

- Nominal Value-



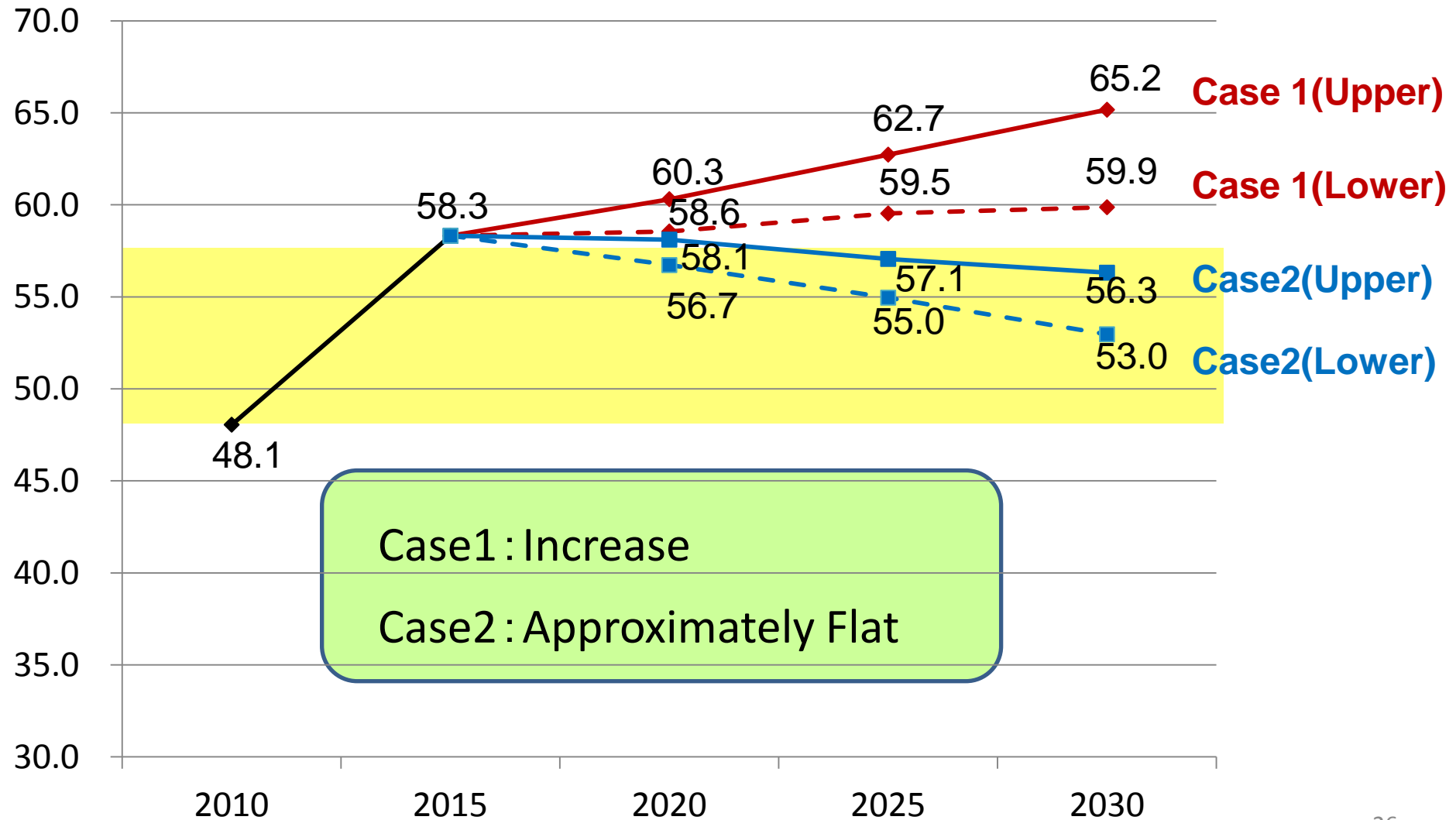
2 - 16 Forecast Results of Construction Investment

- Real Value -



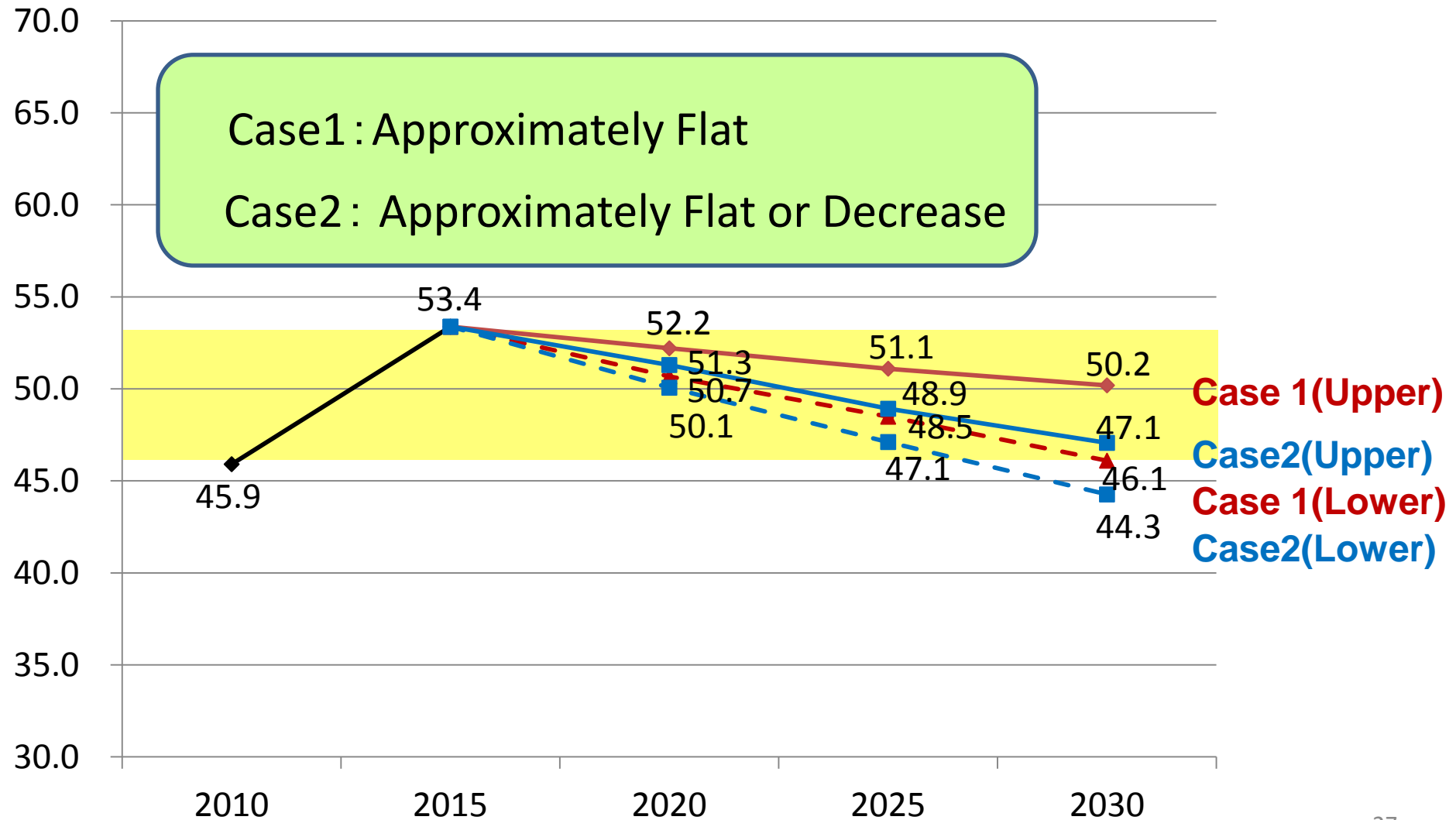
2 - 17 Forecast Results of Construction Market

Including Maintenance and Repairs - Nominal Value-



2 - 18 Forecast Results of Construction Market

Including Maintenance and Repairs - Real Value-

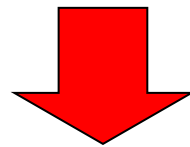


3. Recent Trends of Construction Industry Policy

3 - 1 Recent Trends of Construction Industry Policy

Basic Issue Subcommittee,
Construction Subcommittee, Industry Subcommittee,
Central Council for Construction Industry
and Council for Infrastructure Development

Interim Report (2016.6)



- ① Rationalization of Construction Production Systems
- ② Securing and Training Engineers and Skilled Workers
- ③ Facilitation of Sustainable Regional Construction Industry

3 - 3 Rationalization of Construction Production Systems

Current Issues

Specialization &
Stratification of
subcontracting



- Less subcontracting consideration
- Vague responsibility disposition
- Low construction quality

Prevalence of factory
products



Some companies not
engaged in construction
management

Direction of Measures

Clarifying roles between engineers at prime contractors and those at subcontractors

Optimizing disposition of engineers with accordance to substance of construction work

Specifying criteria for prohibition on blanket subcontracting

Developing new guideline of construction contracting agreement in the private sector

etc.

3 - 4 Securing and Training Engineers and Skilled Workers

Current Issues

Low accession & high turnover rate of young workers

possibility of mass retirement of older workers in the near future

Direction of Measures

Providing workers with more opportunities to take technical certification exams

Aiming for “human resources investment growth industry”

- Improved treatment of skilled workers (ex. securing appropriate wage levels and holidays)
- Visualizing career paths
- Promoting enrolment in social insurance
- Stabilizing seasonal fluctuation of business amount etc.

3 - 5 Facilitation of Sustainable Regional Construction Industry

Current Issues

Aging small-to-mid sized
construction business
proprietors



Necessity of maintain
and secure local leaders

Direction of Measures

Facilitating mergers and business transfers,
helping utilize human resources and technical
abilities in local existing companies

etc.

Conclusions

- The “RICE Forecast of construction investment – Prospects up to 2030” indicates that the amount of construction demand will be about as much as in recent years.
- The industry is faced with potential shortage of workers in the future, because of deterioration of treatment of workers, aging of workers, and low accession of young workers.
- Besides, it is required to deal with issues about construction system such as stratification of subcontracting, which may worsen the quality of construction and the treatment of workers.
- For sustainable construction industry, It is important to practice for rationalization of construction system, securing and training workers, and improvement of construction productivity.

Thank you for your attention !!