

The 23rd

ASIACONSTRUCT CONFERENCE

8-10 October 2018

Japan Country Report

PREPARED BY



RICE

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
Kenichi Takano, Researcher
Yuta Urakawa, Researcher

Country Report (Japan)

I. Overview

Although the Japanese economy had been in a recession due to the turmoil in the global economy and the Great East Japan Earthquake of March 2011, it has experienced a trend of recovery backed by public investment, primarily earthquake recovery and reconstruction work. In fiscal 2018 capital investment is improved on the back of corporate earnings and business condition judgments, and personal consumption is also improved.

The economy is expected to gradually recover as the economic virtuous circle advances, against the backdrop of economic measures and continued improvements in employment and income environments through smooth and steady implementation of related budgets. In fiscal 2019, due to the steady implementation of economic measures and the stimulation of economic demand due to the Olympics, etc., the economic virtuous circle will develop and the gradual recovery will continue to take over.

Construction investment in Japan peaked at about 84.0 trillion yen in fiscal 1992 and has remained at about 40 – 50 trillion yen, or half the peak level, in recent years. Challenging times have persisted for the construction industry, but construction investment is gradually recovering due to recoveries in public sector and private sector investment resulting from recovery and reconstruction following the Great East Japan Earthquake. In fiscal 2018, although the initial budget relating to the general account was flat, investment is expected to decrease 1.2% on a nominal basis when reconstruction work following the Great East Japan Earthquake and the amount of the supplementary budget of FY2017 are included. In private sector residential investment, construction starts will be reduced for rental houses.

In private residential investment, the number of rental real estate will decrease, but the number of new constructions with sales or possession purposes will increase due to the rushing demand by the construction tax increase at 2019. In private non-residential construction investment, corporate capital investment is increasing against the backdrop of improved corporate earnings, etc. It is expected that the investment will continue to be high in the future. Capital investment by civil engineering infrastructure companies also remained steady, and overall it is expected to rise by 3.1% compared to the previous year in nominal terms.

The recent circumstances of the construction industry in Japan are summarized as below.

- 1) The number of licensed construction company operators declined 0.1% in fiscal 2017 from the same period of the previous year and has undergone a decline of 22.6% from the peak in 2000.
- 2) The number of workers in the construction industry has declined, and there has been a significant decrease in the number of general contractors and equipment contractors.
- 3) Construction costs are on an upward trend given the increase in labor costs. Meanwhile, construction material costs have remained stable in the past few years.
- 4) Male workers in the construction industry have been low wages in comparison to other industries for a long time. But it increased to 4,450 thousand yen. Then the gap between the construction industry and other industries was most reduced.
- 5) Japan's overseas construction orders fell to 697.0 billion yen in fiscal 2009, affected by the global recession, but subsequently recovered to 1.8410 trillion yen in fiscal 2017, and it is the highest level ever.

II. Macroeconomic Review and Prospects

1. Japanese Economy Overview (Figures 1 and 2)

In fiscal 2018, personal consumption is picking up as capital investment and so on is gradually increasing against the backdrop of improved corporate earnings and business condition judgments.

The economy is expected to gradually recover as the economic virtuous circle advances, against the backdrop of continued improvement of employment and income environments through smooth and steady implementation of economic measures and related budgets.

In fiscal 2019, full-scale economic policy progress with further demand stimulation is expected to result in the development of a positive cycle for the economy, which will continue to maintain a moderate recovery.

However, it is necessary to pay attention to trends in trade problems, downside risks accompanying trends in China's financial markets including excessive debt problems, and policy trends in the United States.

Real economic growth in fiscal 2018 is expected to be 1.3%. Government fixed capital formation is forecast to rise 0.0% year on year (GDP contribution rate up 0.0 percentage points), private sector housing investment is forecast to decrease 0.7% (down 0.0 percentage points) and private sector plant and equipment investment is forecast to rise 2.8% (up 0.4 percentage points).

Fig. 1 Macro Economic Trends (FY)

(Unit: Billion yen)

Fiscal year	2000	2005	2010	2014	2015	2016	2017	2018 (Forecast)	2019 (Forecast)
Real GDP	464,240	492,571	492,892	510,962	518,321	524,443	533,013	540,174	543,088
(YoY change)	2.5%	2.0%	3.2%	-0.3%	1.4%	1.2%	1.6%	1.3%	0.5%
Real private final consumption expenditures	264,032	281,475	286,509	293,971	296,297	297,053	299,625	302,170	304,413
(YoY change)	1.4%	1.6%	1.4%	-2.5%	0.8%	0.3%	0.9%	0.8%	0.7%
(Contribution rate)	0.7	0.9	0.8	-1.5	0.5	0.1	0.5	0.5	0.4
Real government final consumption expenditures	84,488	92,401	98,053	103,239	105,198	105,724	106,484	107,192	108,109
(YoY change)	3.6%	0.4%	2.1%	0.4%	1.9%	0.5%	0.7%	0.7%	0.9%
(Contribution rate)	0.6	0.1	0.4	0.1	0.4	0.1	0.1	0.1	0.2
Real private housing	21,652	20,016	13,892	14,664	15,201	16,142	16,098	15,978	15,816
(YoY change)	-0.5%	-0.4%	2.5%	-9.9%	3.7%	6.2%	-0.3%	-0.7%	-1.0%
(Contribution rate)	0.0	0.0	0.1	-0.3	0.1	0.2	-0.0	-0.0	-0.0
Real private corporate facilities	72,652	78,339	67,552	79,781	81,623	82,627	85,234	87,620	89,470
(YoY change)	6.3%	7.7%	2.0%	3.3%	2.3%	1.2%	3.2%	2.8%	2.1%
(Contribution rate)	1.0	1.1	0.3	0.5	0.4	0.2	0.5	0.4	0.3
Real public fixed asset formation	40,018	28,262	24,675	26,081	25,665	25,890	26,265	26,266	24,653
(YoY change)	-7.3%	-7.8%	-7.1%	-2.0%	-1.6%	0.9%	1.4%	0.0%	-6.1%
(Contribution rate)	-0.6	-0.4	-0.4	-0.1	-0.1	0.0	0.1	0.0	-0.3
Real inventory increase	512	673	1,136	489	1,190	-239	307	302	-55
(YoY change)	-116.7%	-59.4%	-123.3%	-132.7%	143.2%	-120.1%	-228.4%	-1.8%	-118.1%
(Contribution rate)	0.7	-0.2	1.2	0.4	0.2	-0.3	0.1	-0.0	-0.1
Real financial services net exports	-13,482	-7,055	1,314	-7,315	-7,021	-3,240	-1,470	176	211
(YoY change)	11.8%	-17.1%	-161.6%	-28.9%	-4.0%	-53.8%	-54.6%	-112.0%	19.9%
(Contribution rate)	0.1	0.6	0.9	0.6	0.1	0.8	0.4	0.3	0.0
Nominal GDP	528,513	525,692	499,281	518,469	533,897	539,351	548,696	556,891	564,696
(YoY change)	1.2%	0.9%	1.5%	2.2%	3.0%	1.0%	1.7%	1.5%	1.4%

Source: Construction and Economic Forecasts (RICE) for 2018 and 2019, Unit 2017 SNA(Cabinet Office)

Note: Real values reflect 2011 prices.

2. Major Economic Indicators

Fig. 2 List of Major Economic Indicators

Economic Indicators					
	2014	2015	2016	2017	2018 (Forecast)
GDP (Real, (2011 prices), billion yen) ¹	510,962	518,321	524,443	533,013	540,174
GDP (Nominal, billion yen)	518,469	533,897	539,351	548,696	556,891
GDP growth (%)	2.2%	3.0%	1.0%	1.7%	1.5%
Agriculture, forestry, and fishery	-3.1%	-4.8%	-13.1%	-	-
Manufacturing	3.0%	3.8%	2.0%	-	-
Services	1.1%	-5.4%	-1.5%	-	-
Mining	-3.5%	-19.2%	-6.8%	-	-
Construction	3.9%	0.6%	1.1%	-	-
Demographic Indicators					
Population (thousands) ²	127,237	127,095	126,933	126,706	126,520
Population growth rate (%)	-0.14%	-0.11%	-0.13%	-0.18%	-0.15%
Total labor force (thousands) ³	66,164	66,326	66,815	67,501	68,415
Labor force growth rate (%)	0.32%	0.24%	0.74%	1.03%	1.35%
Unemployment rate (%)	3.5%	3.3%	3.0%	2.7%	2.4%
Inflation rate (%) ⁴	2.9%	0.2%	-0.1%	0.7%	0.8%
Financial Indicators					
Interbank interest rate (%) ⁵	0.18091	0.17091	0.05727	0.06727	0.06909
Short-term interest rate (%) ⁶	0.07	0.038	-0.058	-0.05	-0.069
Long-term interest rate (%) ⁷	0.565	0.38	-0.031	0.061	0.056
Exchange rate against US\$ (yen) ⁸	105.84	121.02	108.84	112.16	108.65

Source: Construction and Economic Forecasts (RICE, Oct 2017), SNA(Cabinet Office), Population Estimates, Labour Force Survey, Employment Status Survey (Ministry of Internal Affairs and Communications), JBA TIBOR Administration website, Bank Of Japan website

Notes:

1. The GDP figure for FY2018 is a forecast. Real values reflect 2011 prices.
2. Population figures are estimates as of October 1 each year. The FY2018 estimates as of March 1.
3. The workforce population and unemployment rates are average values for 12 months. For FY2017, the figure is an average value for two months.
4. The inflation rate is a percentage as compared with the previous year's consumer price index (FY2015 base) For 2018, the figure is an average value for two months.
5. JBA TIBOR (3 months) in 2018 is as of the end of June. Others reflect at the end of each year (the last day of December)
6. Short-term interest rates are the year-end uncollateralized overnight call rates (end of December of each year). 2018 is the end of May
7. Long-term interest rates are the rates on 10-year government bonds. (12 month average, 2018 average 3 month average)
8. Exchange rate for 2018 is as of the end of June. Others are annual averages.

III. Construction Industry Overview

1. Construction Investment Forecast (Figure 3)

Japanese construction investment in fiscal 2017 (nominal value, same hereinafter) was about 56.0 trillion yen, which includes about 23.0 trillion yen in government investment and about 33.0 trillion yen in private sector investment. Compared to its peak, construction investment was down 31.2% (peak in fiscal 1992) with government investment down 34.5% (peak in fiscal 1995) and private sector investment down significantly by 40.8% (peak in fiscal 1990).

Construction investment in fiscal 2018 is expected to rise 0.8% from the previous fiscal year to 56.48 trillion yen.

With regard to government construction investment related to general accounts, based on the contents of the initial budget for fiscal 2018, the project cost was estimated for the government construction investment related to the East Japan great earthquake disaster reconstruction special account and the local independent project cost respectively.

Considering that some of the government construction investment relating to supplementary budgets in fiscal 2016 and fiscal 2017 will be realized as completed amounts during fiscal 2018, government construction investment is forecast to down 1.2% from the previous fiscal year.

Private residential investment, housing starts will increase by 1.6% and private residential investment will increase by 1.3% in comparison with previous fiscal year. Duo to the number of rental real estate will decrease, but the number of new constructions with sales or possession purposes will increase clue to the rushing demand by the construction tax increase at 2019.

Private non-residential construction investment is expected to keep steady in the future as corporate capital investment has increased due to improvements in corporate earnings, etc. The construction floor area of private non-residential buildings is expected to increase by 0.9% from the previous fiscal year.

Capital investment by civil engineering infrastructure companies has been steady, and overall it is expected to increase 3.1% over from the previous fiscal year.

Fig. 3 Construction Investment Forecast

Fiscal Year	(Unit: billion yen)										
	1990	1992	1995	2000	2014	2015	2016	2017	2018 (Forecast)	2019 (Forecast)	
Nominal construction investment	81,440	83,971	79,017	66,195	51,141	50,983	53,570	56,020	56,480	55,090	
(YoY change)	11.4%	1.9%	0.3%	-3.4%	-0.3%	-0.3%	5.1%	4.6%	0.8%	-2.5%	
Nominal government construction investment	25,748	32,334	35,199	29,960	22,862	21,275	23,380	23,040	22,760	21,430	
(YoY change)	6.0%	12.8%	5.8%	-6.2%	1.3%	-6.9%	5.2%	2.9%	-1.2%	-5.8%	
(Contribution rate)	2.0	4.4	2.5	-2.9	0.6	-3.1	2.2	1.2	-0.5	-2.4	
Nominal private residential construction	25,722	22,663	24,313	20,276	14,121	14,744	15,680	15,990	16,200	16,050	
(YoY change)	9.3%	-2.0%	-5.2%	-2.2%	-10.6%	4.4%	6.3%	2.0%	1.3%	-0.9%	
(Contribution rate)	3	-0.6	-1.7	-0.7	-3.3	1.2	1.8	0.6	0.4	-0.3	
Nominal private non-residential construction	29,970	28,974	19,505	15,959	14,158	14,964	15,510	16,990	17,520	17,610	
(YoY change)	18.4%	-5.4%	-1.8%	0.7%	9.3%	5.7%	3.7%	9.5%	3.1%	0.5%	
(Contribution rate)	6.4	-2	-0.4	0.2	2.4	1.6	1.1	2.8	0.9	0.2	
Real construction investment	84,221	83,603	77,935	66,195	48,612	48,366	50,717	51,969	51,830	50,250	
(YoY change)	7.6%	0.6%	0.2%	-3.6%	-3.6%	-0.5%	4.9%	2.5%	-0.3%	-3.0%	

Source: Construction and Economic Forecast (RICE), Construction Investment Forecasts (MLIT).

Notes:

1. Real values reflect 2011 prices.
2. Private non-residential construction investment = private non-residential building investment + private civil engineering investment.

2. Construction Companies

The number of licensed construction companies in Japan as of end March 2018 was 465 thousand, a decrease of 0.1% from the same month of the previous year. (Figure4) In comparison to the peak of March 2000, it is a decrease of 22.6%.

Looking at the number of licensed construction companies by capital classification, the highest proportion, 39.7%, is comprised of “Corporation with ¥3 million up to ¥10 million in capital”, followed by “Corporation with ¥10 million up to ¥20 million in capital (22.4%)”, and then “ Sole proprietor (16.9%)”.

Fig. 4 No. of Construction Companies, and Composition Size

Year (In March)	2000		2015		2016		2017		2018	
	(thousand)	Percent of total	(thousand)	Percent of total	(thousand)	Percent of total	(thousand)	Percent of total	(thousand)	Percent of total
No. of registered contractors (total)	601	100.0%	473	100.0%	468	100.0%	465	100.0%	465	100.0%
Breakdown of registered contractors by size classification										
Sole proprietor	158.2	26.3%	89.9	19.0%	85.3	18.2%	81.9	17.6%	78.5	16.9%
Corporation with less than ¥3 million in capital	1.0	0.2%	12.9	2.7%	15.1	3.2%	17.6	3.8%	20.5	4.4%
Corporation with ¥3 million up to ¥10 million in capital	195.3	32.5%	181.3	38.3%	181.5	38.8%	182.7	39.2%	184.5	39.7%
Corporation with ¥10 million up to ¥20 million in capital	166.0	27.6%	111.8	23.6%	108.8	23.3%	106.1	22.8%	103.9	22.4%
Corporation with ¥20 million up to ¥100 million in capital	74.1	12.3%	71.5	15.1%	71.5	15.3%	71.7	15.4%	72.0	15.5%
Corporation with ¥100 million up to ¥1 billion in capital	4.8	0.8%	4.2	0.9%	4.2	0.9%	4.1	0.9%	4.2	0.9%
Corporation with ¥1 billion up to ¥10 billion in capital	1.6	0.3%	1.0	0.2%	1.0	0.2%	0.9	0.2%	0.9	0.2%
Corporation with ¥10 billion or more in capital	0.4	0.1%	0.4	0.1%	0.3	0.1%	0.3	0.1%	0.3	0.1%

Source: Survey of on the Number of Licensed Construction Companies (MLIT)

The number of construction consultant businesses is shown in the figure below. (Figure 5)

**Fig. 5 No. of Registered Construction-Related Businesses
(by Business Type and Net Registered Number)**

Business Type	Fiscal Year ²	2009	2010	2011	2012	2013	2014	2015	2016
Surveying ¹	No. of registered companies	12,974	12,695	12,566	12,436	12,272	12,115	12,000	11,952
	YoY change (%)	-2.6	-2.2	-1.0	-1.0	-1.3	-1.3	-0.9	-0.4
Construction consulting ¹	No. of registered companies	3,952	3,991	3,935	3,941	3,945	3,947	3,934	3,951
	YoY change (%)	-1.0	1.0	-1.4	0.2	0.1	0.1	-0.3	0.4
Geological surveying ¹	No. of registered companies	1,286	1,289	1,265	1,263	1,259	1,265	1,269	1,266
	YoY change (%)	-1.5	0.2	-1.9	-0.2	-0.3	-0.3	0.3	-0.2
Net number of companies	No. of registered companies	14,605	14,200	13,951	13,773	13,714	13,599	13,475	13,407
	YoY change (%)	-3.0	-2.8	-1.8	-1.3	-0.4	-0.4	-0.9	-0.5

Source: Registration Status of Construction-Related Companies (MLIT)

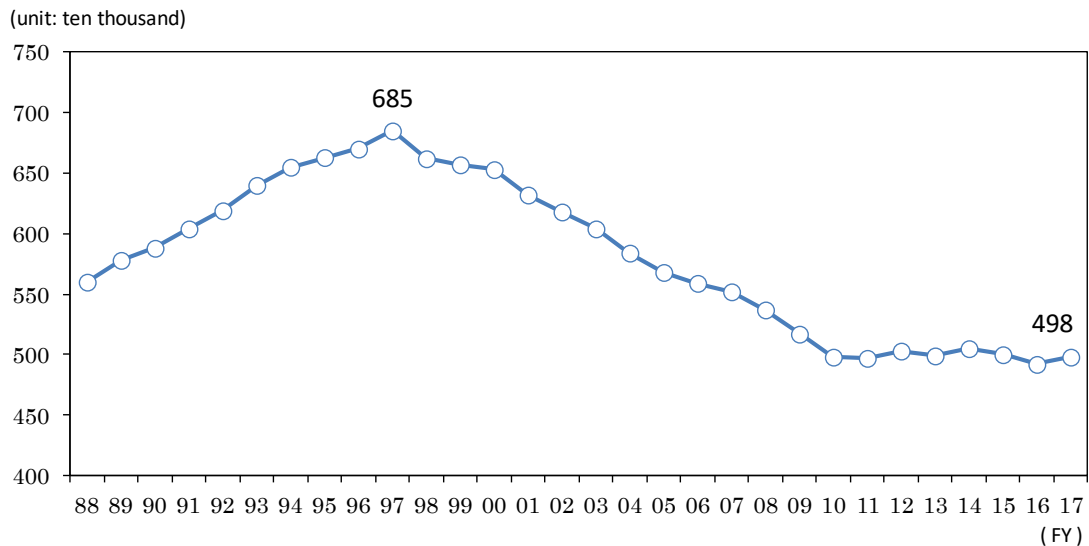
Notes:

1. Including companies with multiple registrations.
2. As of the end of March in each fiscal year.

3. Employees and Construction Labor

The number of construction industry employees in 2017 was 498 ten thousand, a decrease of ▲27.3% in comparison to the 685 ten thousand in 1997. (Figure 6)

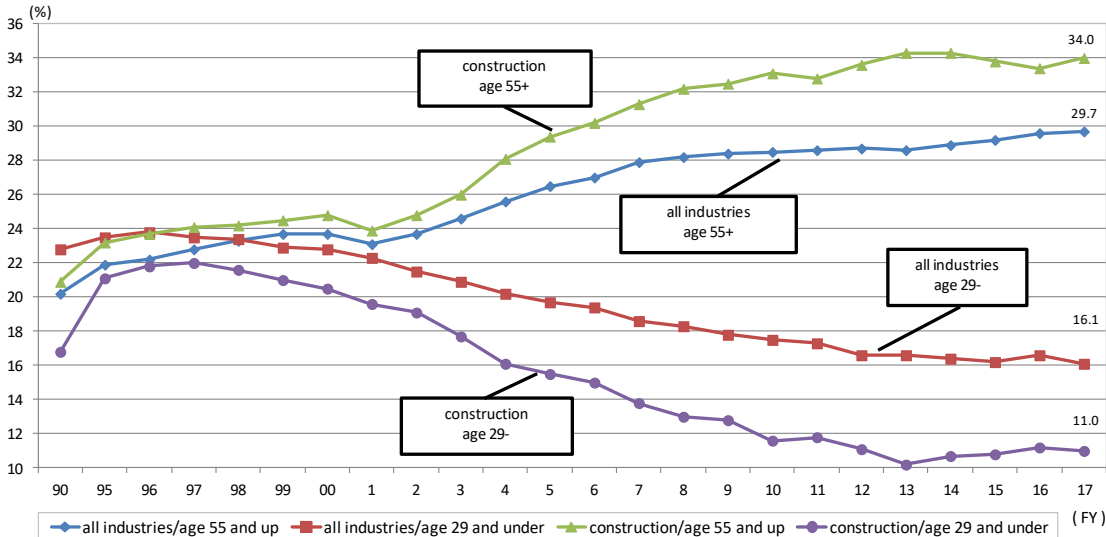
Fig. 6 Number of Construction Industry Employees



Source: Annual Report on the Labor Force Survey

Looking at trends in age composition among construction industry employees, in 2017, 34.0% of employees were aged 55 or higher, while 11.0% were aged 29 and under, indicating that aging in the employee population is progressing. In addition, the percentage in the young adult age group has dropped significantly, and the passing of skills to the next generation has become a major issue. (Figure 7)

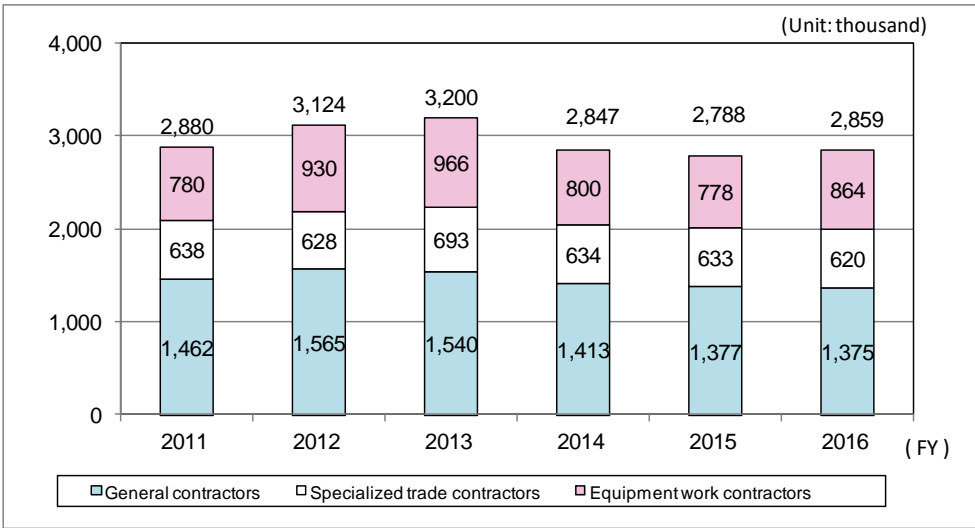
Fig.7 Age Composition of Construction Industry Employees



Source: Labour Force Survey (Ministry of Health, Labour and Welfare)

The numbers of construction industry employees by trade/field shows that 1,375,000 (48.1%) work for “general contractors,” 620,000 (21.7%) for “specialized trade contractors,” and 864,000 (30.2%) for “equipment work contractors,” for a total of 2,859,000 employees. This total is down 340,000 from FY2013, and it is decreasing for all occupations.

Fig. 8 Number of Construction Industry Employees by trade/field



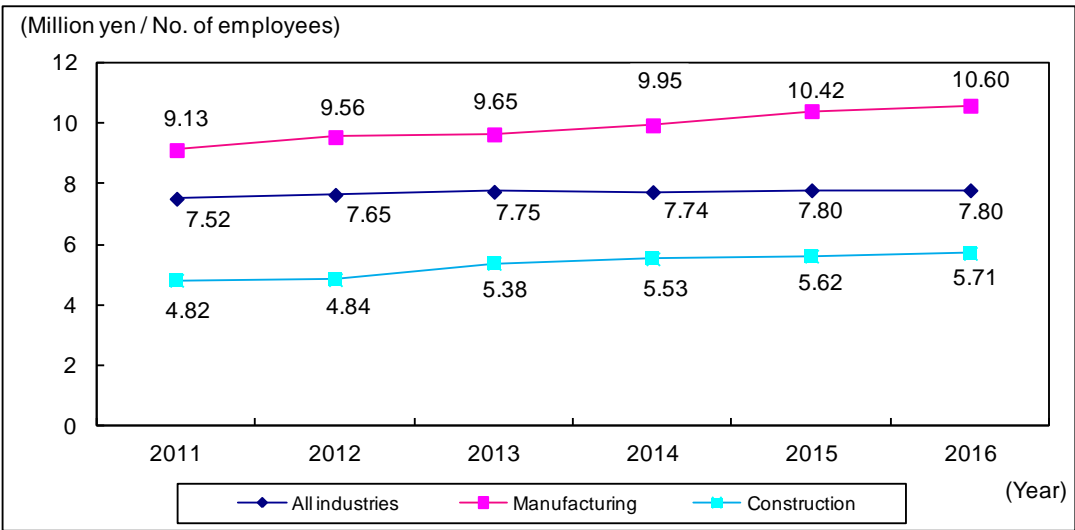
Source: Statistics on Construction Projects Implemented (MLIT)

4. Productivity

The reason that the labor productivity of the construction industry is lower than manufacturing industries is probably disincentive of the productivity exists at work sites and companies. The major factors involved are as

- (1) Productivity improvement in workplace that would bring about major reforms in the production system has not been adequately developed.
- (2) Production system has been in effective because of that the state of “too many layers of subcontractors” leads to increased overhead costs.

Fig. 9 Trends in Real Labor Productivity in the Construction Industry



Source: SNA (Cabinet Office)

Notes:

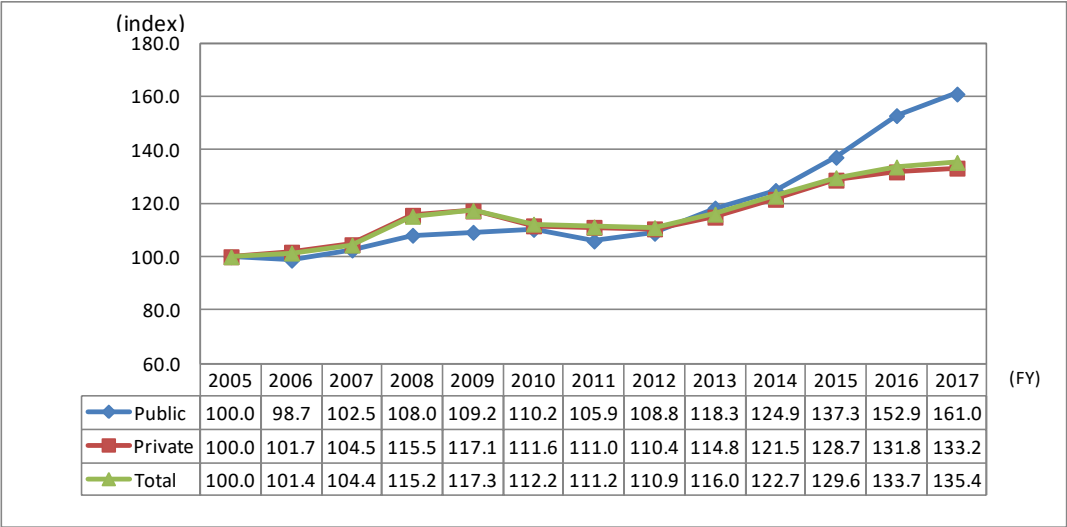
- 1. Real labor productivity = GDP by economic activity / no. of employees engaged in each economic activity
- 2. Benchmark year 2011. Real prices: Fixed standard year method.

5. Construction Costs

(1) Trends in the expected construction costs per floor area of new starts

This diagram shows the trends in the expected construction costs per floor area of new starts using FY2005 as the baseline. The index, combining the public and private sectors, shows that there has been an increasing trend in construction costs. This is largely due to the increase of labor cost.

Fig. 10 Trends in the expected construction costs per floor area of new starts

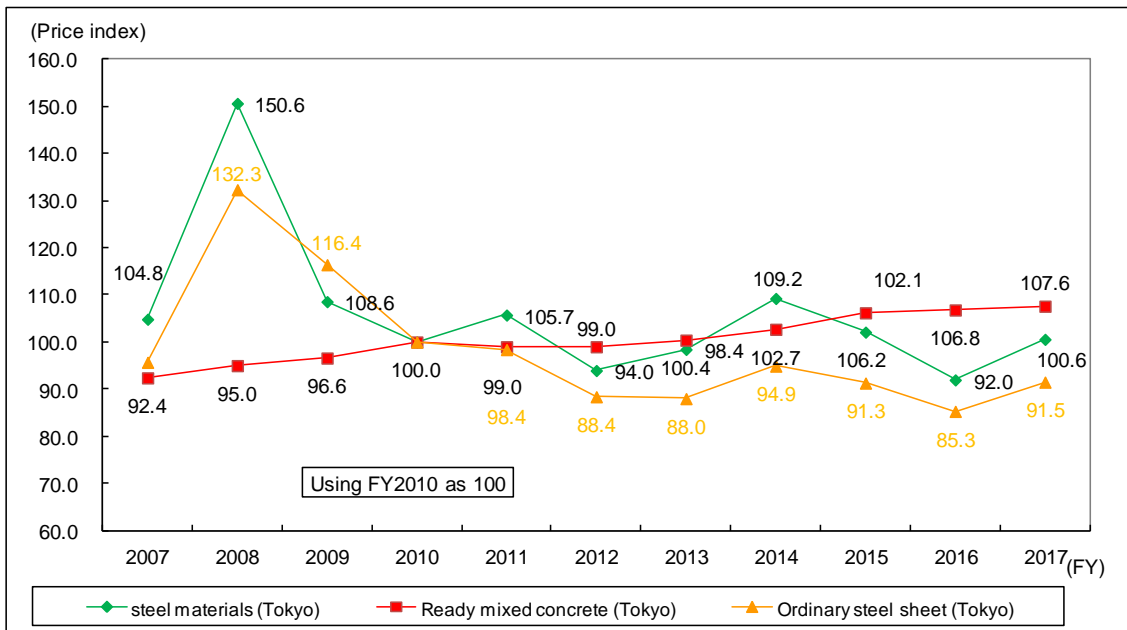


Source: Statistics on Building Starts (MLIT)

(2) Construction Material Prices

Figure 11 shows the trends in prices of major materials in the form of an index based on the average prices in 2010 (construction materials price index). In 2007 and 2008, prices of steel materials and ordinary steel sheets increased significantly due to the impact of soaring resource prices, etc., but after the drop in response to the Lehman shock in 2009, it is relatively stable.

Fig. 11 Trends in the Construction Materials Price Index



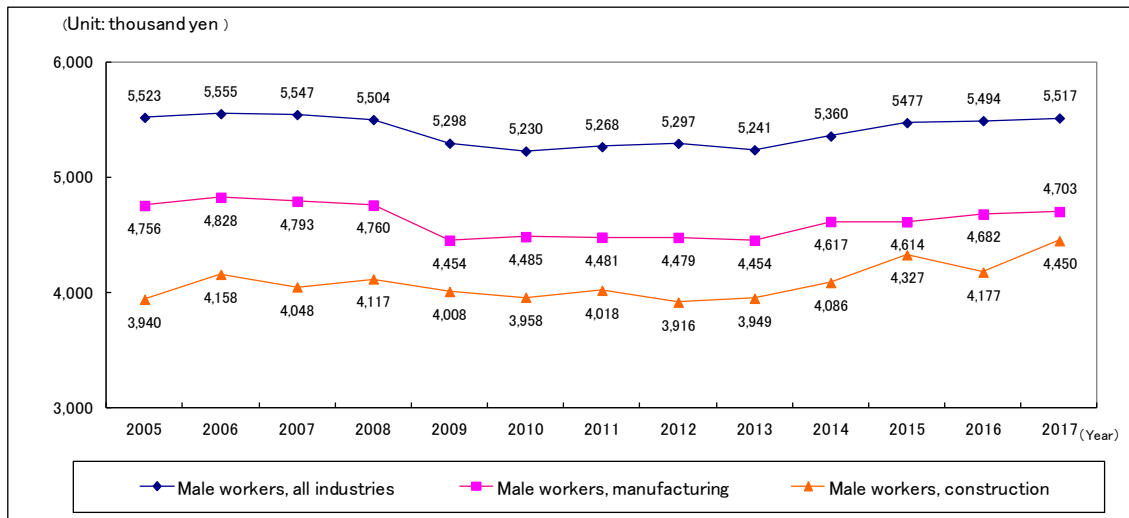
Source: Market Conditions and Price Trends for Major Commodities (Economic Research Association)

(3) Construction Industry Wages

The average wage of the production workers in the construction industry was lower than other industries since the latter half of the 1990s, but after 2013 the average wage turned to rise and the disparity shrank. Although the disparity expanded temporarily in 2016, the disparity has shrunk since 2005, as the 2017 year reduced again.

The average wage for male workers in the construction industry in 2017 is 445.0 thousand yen, about 106.7 thousand yen (19.3%) lower than the average wage for male production workers in all industries and about 253 thousand yen (5.4%) lower than the average wage of male production workers in the manufacturing industry.

Fig. 12 Trends in Total Annual Wages of Production Workers

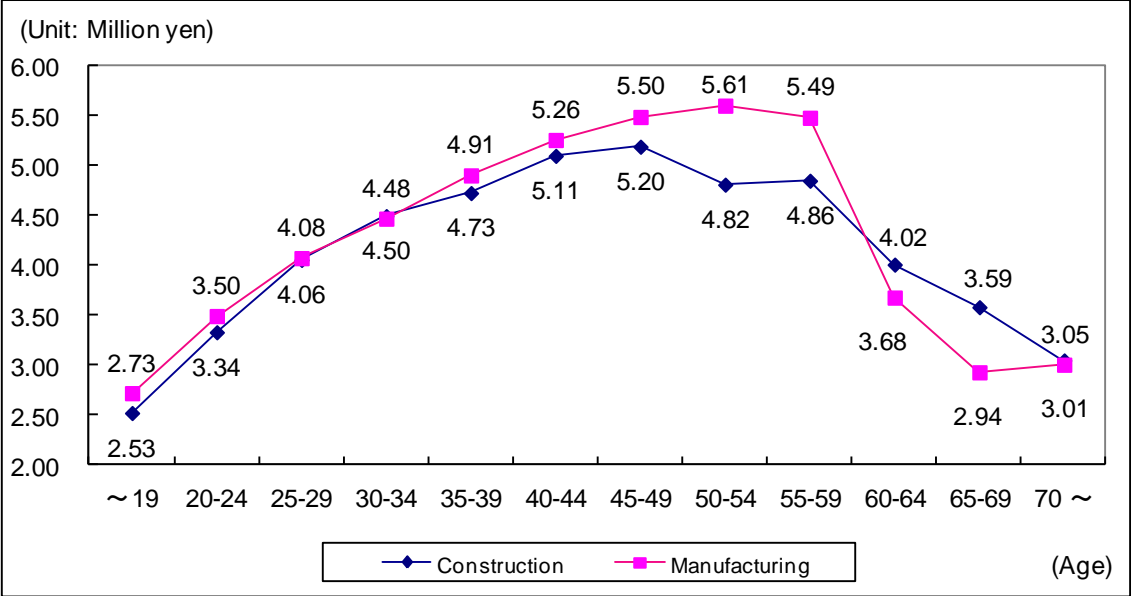


Source: Basic Survey of Wage Structures (Ministry of Health, Labor, and Welfare)

Note: Total annual wages = fixed monthly salary × 12 (months) + annual bonus and other special pay

Looking at the average wage curve of construction workers, the problem is that the average wage stop rising for 45 to 49 years old, when they have families and expenditure on educational expenses for children begins to rise. Even in 2017, the difference with the average wage curve of manufacturing workers is not resolved.

Fig. 13 Annual Wages for Male Production Workers in Construction and Manufacturing



Source: Basic Survey of Wage Structures (Ministry of Health, Labour, and Welfare)

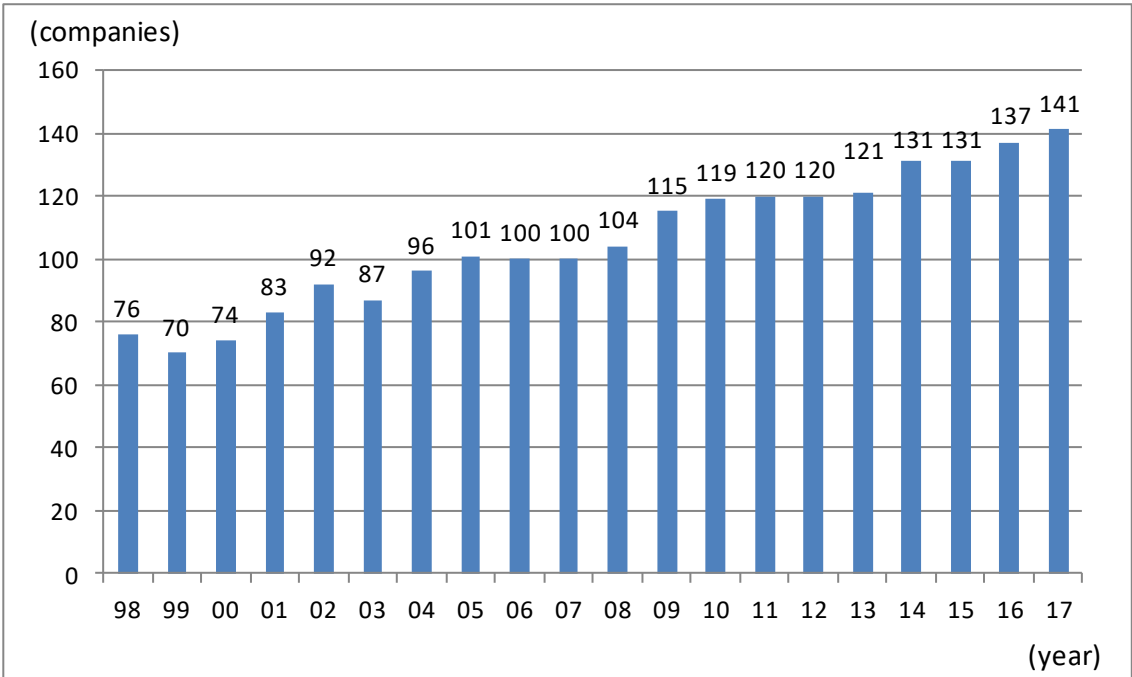
Note: Total annual wages = fixed monthly salary × 12 (months) + annual bonus and other special pay

6. International Transactions in the Construction Market

(1) International Construction Companies in Japan

In FY2017, there were 141 international construction companies holding construction licenses in Japan (foreign corporations and Japanese corporations with 50% or greater foreign ownership).

Fig. 14 Number of International Construction Companies Holding Construction Licenses in Japan



Source: MLIT

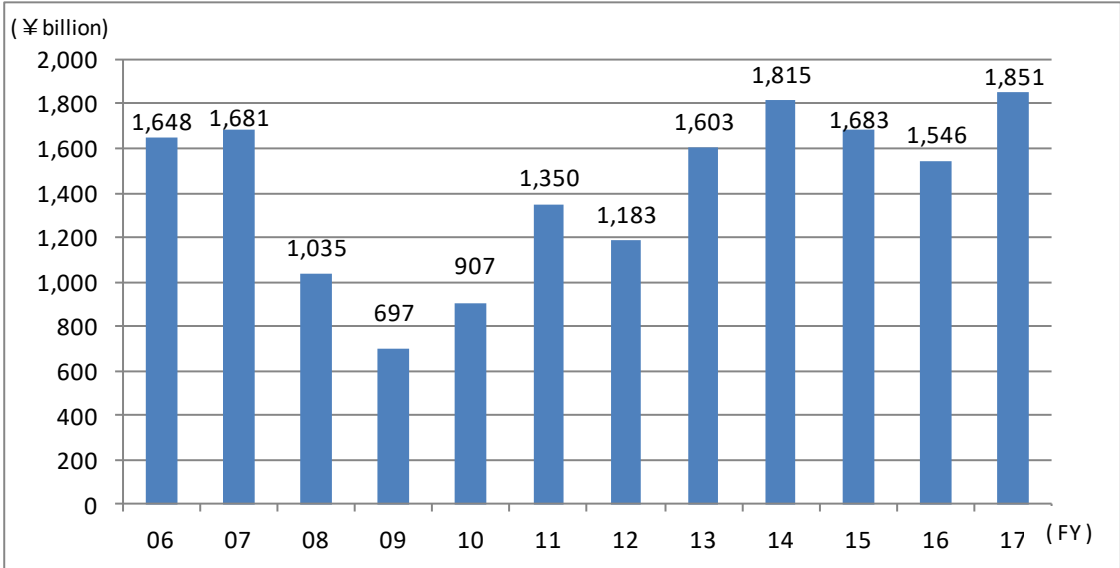
(2) Japanese Construction Companies Overseas

Construction contracts of Japanese companies from overseas trended at about the ¥1 trillion level for more than 20 years since first crossing the ¥1 trillion threshold in FY1983. Orders received in FY2007 rose to ¥1,681.3 billion. However, as a result of the global economic downturn, fell to ¥697 billion in FY2009 due to the effects of the global recession.

In FY2017, it is ¥1,851 billion, which is the highest value in history by more than ¥35.7 billion in FY 2014.

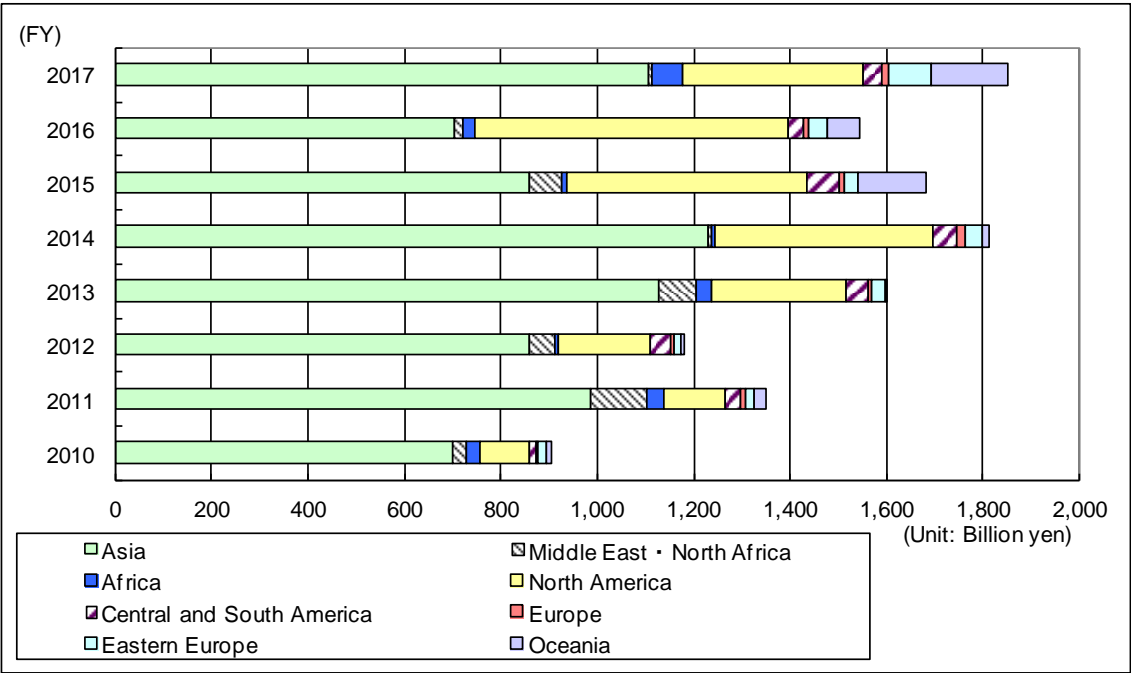
Nate that the amount of construction contracts of Japanese companies from overseas only represents a sampling of construction companies. These figures come from a census of 50 companies in The Overseas Construction Association of Japan, Inc.

Fig. 15 Overseas Construction Contracts of Japanese Companies



Source: The Overseas Construction Association of Japan, Inc.

Fig. 16 Overseas Construction Contracts by Region (from 2010 to 2017)



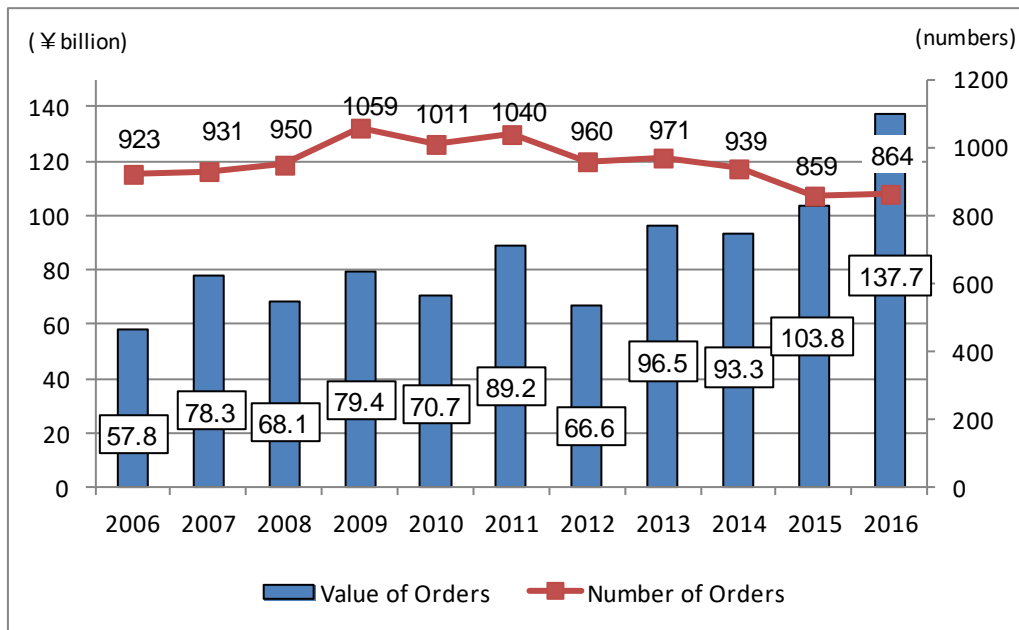
Source: The Overseas Construction Association of Japan, Inc.

(2) Japanese Construction Consulting Companies Overseas

Regarding the overseas contracts of Japanese construction consultant companies, the contracts set a record at ¥1,377 billion in FY2016 increased by ¥34 billion from FY2015, and the number of projects increased by 5 to 864.

When looking at the overseas sales per order, FY2016 increased by ¥38 million to ¥15.9 billion compared to previous year.

Fig. 17 Overseas Sales of Japanese Construction Consulting Companies



Source: Infrastructure Development Institute of Japan, Inc