Daiwa Institute of Research

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Japan's Economy: Monthly Outlook (August 2018)

1. **Japan's economy is in a temporary lull, no change to DIR outlook (real GDP growth of +1.0% in FY18, and +0.8% in FY19)**
2. **Reassessment of US-China Trade War and its Effects on the Global Economy**
3. **Why no recovery in consumption despite improvements in wages & income?**

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Summary

- In light of the 1st preliminary Apr-Jun 2018 GDP release we have revised our economic growth outlook. However, there is no change in our outlook after the revision. We forecast real GDP growth of +1.0% in comparison with the previous year for FY18, and +0.8% in comparison with the previous year for FY19. Our assessment of Japan's economy remains unchanged. The economy is now in a temporary lull, with the positive factors which came together in FY17 now in the process of falling away. We expect Japan's economy to continue slowing down for some time, and then move toward an extremely moderate growth pattern. From the midterm point of view, the capital stock cycle is maturing centering on the US, Japan, and China, while in addition, a negative income effect is expected when the planned increase in the consumption tax comes along in October 2019. The outlook for Japan's economy in FY19 is hence a continued slowdown throughout the year. Possibilities are high that Japan's economy peaked out in FY2017.

- The main risk for the Japanese economy in the future is the problem of the US-China trade war. Using the DIR macro model, the estimated effects on the US and Chinese real economies due to additional US-China tariff measures is not expected to be devastating. On the other hand, neither can it be ignored. Downward pressure on GDP in the two countries is expected to be -0.25% for China, and -0.29% for the US. Meanwhile, impact on the global economy according to IMF estimates is seen at -0.10%. For Japan, the moment of truth will arrive at the trade negotiations on automobiles. If a tariff of 20% is imposed on imports of Japanese automobiles to the US, the tariff cost to Japanese motor vehicles and parts could grow to 1.7 trillion yen or more.

- Growth in consumption is weak despite growth in wages. There are three factors behind this phenomenon: (1) It is highly possible that income has not improved as much as statistics suggest, (2) There is a bias towards one particular cluster group which has a low propensity to consume. As a result, there appears to be an overall low propensity to consume (mixed effects), and (3) Individuals faced with the flattening of the wage curve have become more practical, and are saving more. There is little chance that the environment will change dramatically in the near future. Recovery and expansion of consumption is likely to continue to be slow for some time.

1. Japan's economy is in a temporary lull, no change to DIR outlook (real GDP growth of +1.0% in FY18, and +0.8% in FY19)

High growth rate an illusion of statistics. The reality is that Japan's economy is in a temporary lull. No change to our assessment

The real GDP growth rate for Apr-Jun 2018 (1st preliminary est) returned to positive growth for the first time in two quarters at +1.9% q/q annualized (+0.5% q/q), while exceeding market consensus as well at +1.3% q/q annualized (+0.3% q/q). Performance was weak during the Jan-Mar period due to a factor unique to Japan, in which an adjustment is not made for leap year when performing seasonal adjustment. The possibility that Apr-Jun period results were especially strong because of this factor cannot be denied, but results for the Apr-Jun period are still surprisingly strong even when we deduct this factor. However, the first half of the year (Jan-Jun) registered a level of growth at only +0.1% in comparison to the previous half-year period (Jul-Dec 2017), suggesting that the Japanese economy remains in a temporary lull, in keeping with our previous assessment up to now.

Japan's economy is now in a temporary lull with positive factors which came together in FY2017 in the process of falling away. But there are few fears of anything more drastic, such as the growth rate continuing to fall below the potential growth rate, or the economy crossing the line into recession territory. Employee compensation remains in an upward trend, and the limiting effect on consumption of high prices of fresh foods has come full circle. Meanwhile, the effects of bad weather in major export destinations is finally past, and the effects of the tax cut in the US are beginning to appear. Careful attention must be paid to negative effects, including intensification of the problem of trade friction, the rising price of crude oil and the effects of the increase in consumption tax which is to go into effect in October 2019. But despite these issues, Japan's economy is expected to continue moderate growth at around the level of the potential growth.

2018 Apr-Jun GDP (1st Preliminary Estimate) **Chart 1**

		2017			2018		
		Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jan-Jun
Real GDP	Q/q % / HF/hf %	0.5	0.6	0.2	-0.2	0.5	0.1
Annualized	Q/q % / HF/hf %	2.1	2.3	0.8	-0.9	1.9	0.2
Personal consumption	Q/q % / HF/hf %	0.8	-0.7	0.3	-0.2	0.7	0.3
Private housing investment	Q/q % / HF/hf %	1.3	-1.3	-3.0	-2.3	-2.7	-5.1
Private non-housing investment	Q/q % / HF/hf %	0.5	1.2	0.8	0.5	1.3	1.5
Change in private inventories (contribution to real GDP growth)	Q/q %pts / HF/hf %pts	-0.1	0.4	0.1	-0.2	0.0	-0.1
Government consumption	Q/q % / HF/hf %	0.4	0.1	0.1	0.0	0.2	0.1
Public investment	Q/q % / HF/hf %	5.4	-2.9	-0.6	-0.4	-0.1	-0.8
Exports of goods and services	Q/q % / HF/hf %	0.2	2.1	2.1	0.6	0.2	1.8
Imports of goods and services	Q/q % / HF/hf %	1.9	-1.5	3.3	0.2	1.0	2.3
Domestic demand (contribution to real GDP growth)	Q/q %pts / HF/hf %pts	0.8	0.0	0.3	-0.3	0.6	0.2
Foreign demand (contribution to real GDP growth)	Q/q %pts / HF/hf %pts	-0.3	0.6	-0.1	0.1	-0.1	-0.1
Nominal GDP	Q/q % / HF/hf %	0.8	0.8	0.3	-0.4	0.4	-0.0
Annualized	Q/q % / HF/hf %	3.2	3.2	1.1	-1.5	1.7	-0.1
GDP deflator	Q/q % / HF/hf %	0.3	0.2	0.1	-0.2	-0.0	-0.1
	Y/y %	-0.3	0.1	0.1	0.5	0.1	0.3

Source: Cabinet Office; compiled by DIR.
Notes: Due to rounding, contributions do not necessarily conform to calculations based on figures shown.

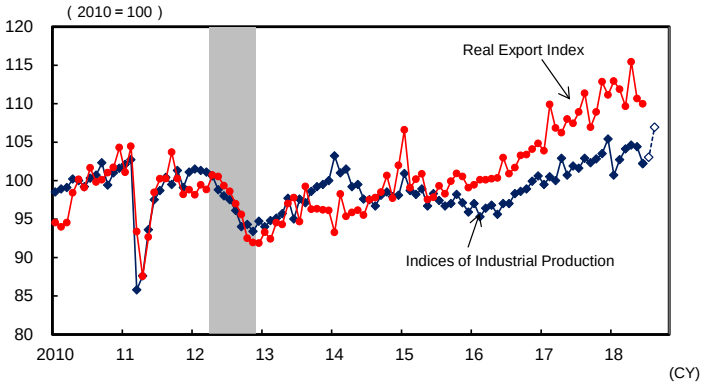
No change to DIR outlook (real GDP growth of +1.0% in FY18, and +0.8% in FY19)

In light of the 1st preliminary Apr-Jun 2018 GDP release we have revised our economic growth outlook. However, there is no change in our outlook after the revision[1]. We forecast real GDP growth of +1.0% in comparison with the previous year for FY18, and +0.8% in comparison with the previous year for FY19. Our assessment of Japan's economy remains unchanged. The economy is now in a temporary lull, with the positive factors which came together in FY17 now in the process of falling away. We expect Japan's economy to continue slowing down for some time, and then move toward an extremely moderate growth pattern. First of all, in the area of exports, until now accelerated growth was encouraged by (1) improvement in the inventory cycle centering on the US, (2) acceleration of China's economy in anticipation of the National Congress of the Communist Party of China in October last year, and (3) the recovery in the European economy due to the shift from fiscal austerity to an expansionary policy. However, these positive factors are gradually disappearing.

Looking back we see that as of 2014 inventory was already accumulating, then the Chinese renminbi was devalued. Along with the stalling of China's economy, shipments declined causing a deterioration of business sentiment amongst both Japanese and US corporations, leading to a reduction in inventory in 2015. However, China's economy gradually regained composure throughout 2016, and coupled with expectations of a recovery in demand in the US following the presidential election, business confidence improved. The inventory cycle then re-entered the accumulation phase where it remained throughout 2017. Europe broke away from austerity originally stemming from the Greek financial crisis of 2015, and returned to an accommodative fiscal policy. This was one of the factors leading to the acceleration of economic growth in 2016-17. As for China's economy, leverage from policies implemented in 2017, the year the National Congress of the Communist Party of China met, likely contributed somewhat to the acceleration in economic growth in that country.

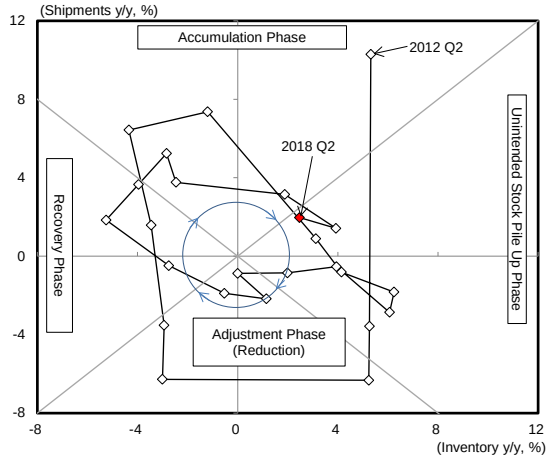
As of this point, the possibility that factors leading to accelerated growth will continue in the future is becoming less and less likely. In Japan and the US, the inventory accumulation phase is reaching its end. And in Europe, the ECB has announced its plans to reduce quantitative easing, and it is doubtful whether the EU countries will be able to maintain the momentum of fiscal expansion. China's economy has been gradually slowing down since the meeting of the National Congress of the Communist Party in October last year. At the same time, just because the factors which led to acceleration of the economy in the past are now falling away does not mean that the global economy will fall into a recession. The slowdown is expected to be gradual with the occasional temporary speed-up adjustment phase. However, with the factors which have led to the acceleration of Japan's economy up to now fading into the background, mainly the expansion of exports and the benefits of the inventory accumulation phase, it is highly likely that Japan's economy will move toward a slowdown in the future.

Japan's Real Exports and Industrial Production **Chart 2**



Source: BOJ, METI and Cabinet Office; compiled by DIR.
Notes: 1) Shaded areas represent periods of economic decline.
2) Most recent two months of industrial production uses values from METI's production forecast survey.

The Inventory Cycle **Chart 3**



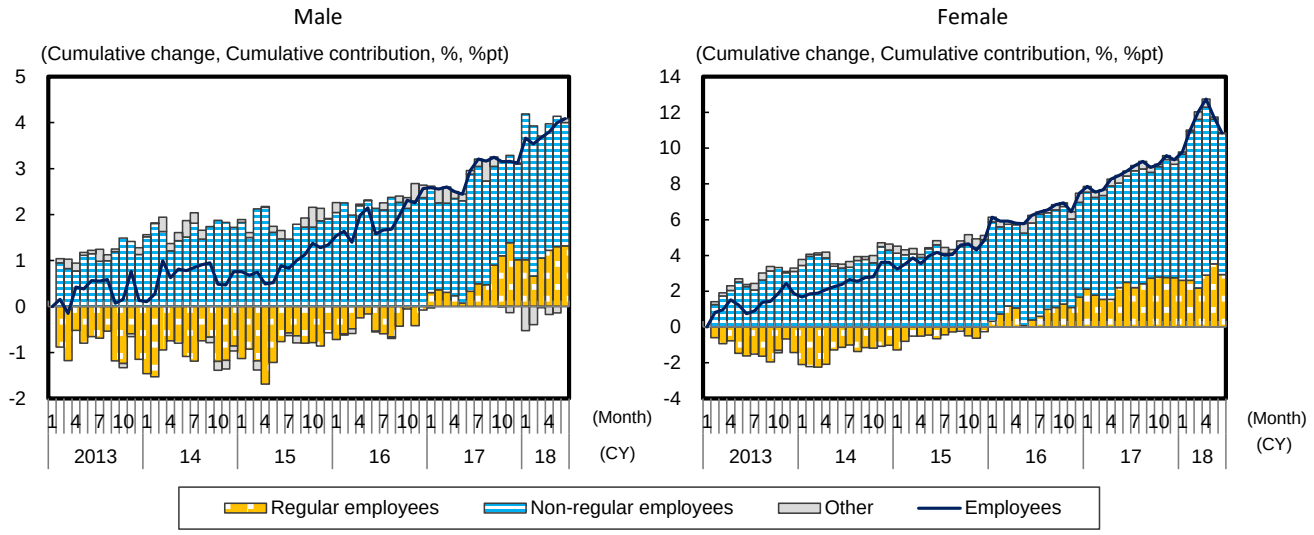
Source: METI; compiled by DIR.

[1] For details see the DIR Report dated 25 May 2018, *Japan's Economy: Monthly Outlook (May 2018): Japan's economy to enter a temporary lull; our estimates of the effects of the rising price of crude oil on Japan's economy and corporate earnings*, by Shunsuke Kobayashi and Yota Hirono.

Both domestic and overseas demand experience ups and downs, lack driver which could trigger acceleration

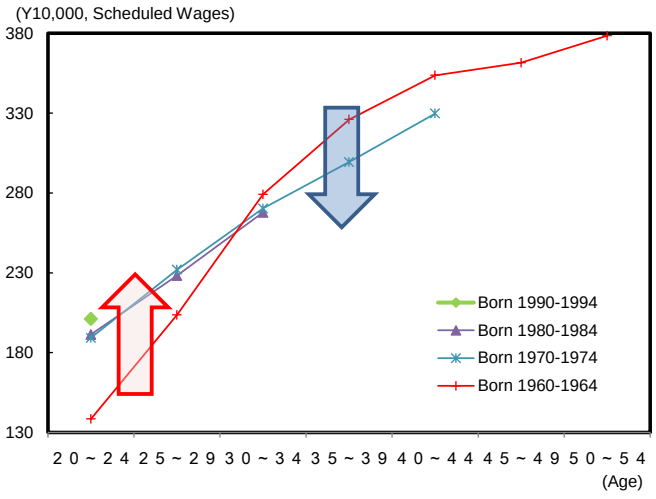
As for domestic demand, growth rate is expected to remain moderate. As was mentioned previously, the inventory cycle is nearing the end of the accumulation phase. Meanwhile, personal consumption is also expected to experience ups and downs. At the same time, growth in employee compensation associated with the increasingly tight supply of labor is expected to provide underlying support for personal consumption. However, growth in wages attributed to the labor shortage may be offset by corporations through the flattening of the wage curve and cutting back on overtime hours. This could slow down the pace of growth in employee compensation and hence in the expansion of personal consumption. We recommend caution on this note. How corporations decide to deal with The Revised Labor Contracts Act is also an issue. The shifting of employees from non-regular employee status to regular employee status was the trend in 2017, and the income environment is considered to have improved because of this, but the trend seems to have been taking a breather more recently.

Factor Analysis of Employment **Chart 4**



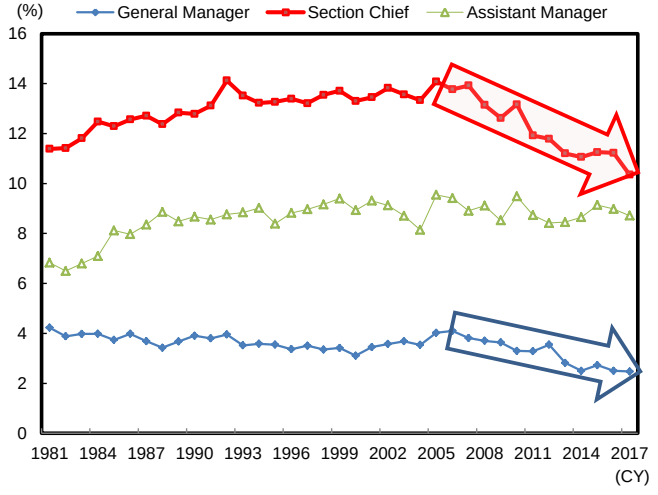
Source: Ministry of Internal Affairs and Communications; compiled by DIR.
Note: Seasonal adjustment by DIR.

Wage Curve by Birth Year and Age Group **Chart 5**



Source: Ministry of Health, Labour and Welfare; compiled by DIR.

Proportion of Workers in their 40s in Managerial Positions **Chart 6**

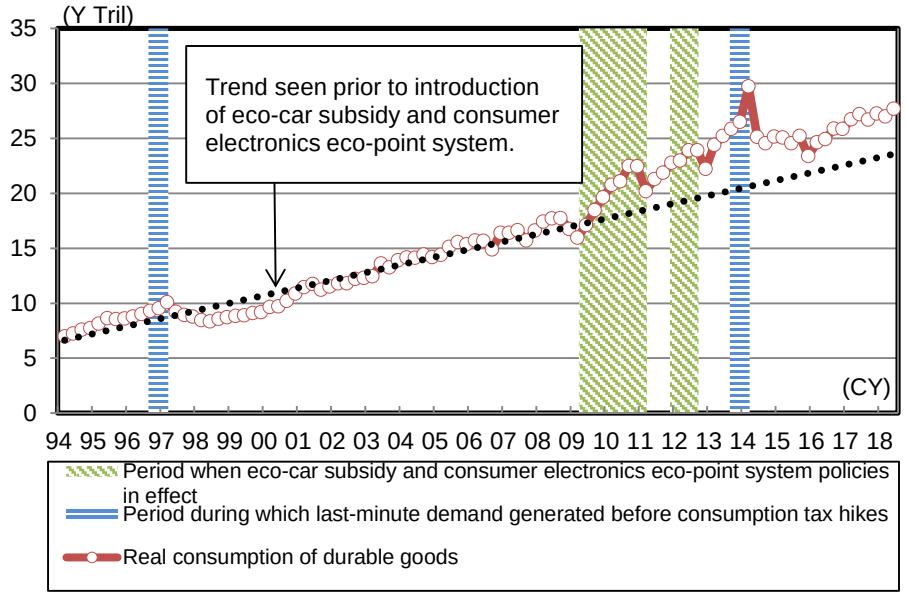


Source: Ministry of Health, Labour and Welfare; compiled by DIR.

In addition, we cannot ignore the fact that the positive influence of the replacement cycle for durable goods centering on automobiles is weakening. In terms of short-term factors, the effect of growth in the price of fresh foods on consumption restraint has completed its cycle, and at this time, there is nothing present in the environment that would cause consumption to continue its decline.

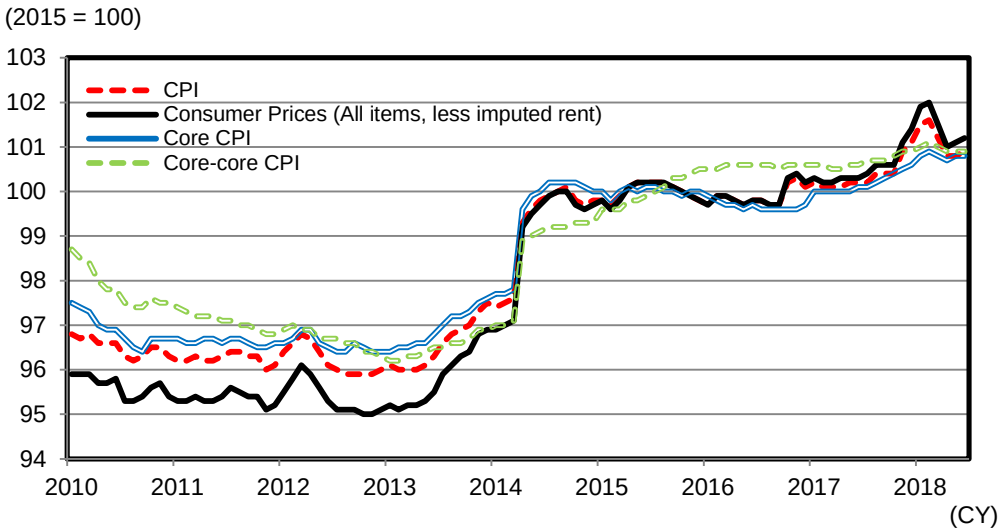
On the other hand, housing investment is expected to continue its gradual decline. The positive effects of strategies in dealing with inheritance tax have disappeared, and the reactionary decline, while moderate, continues. Meanwhile, another possibility that must be kept in mind, though it is not happening yet, is that if housing prices begin to collapse in the future due to oversupply, growth in other demand components such as consumption could also be hindered through the effects of the negative wealth effect. However, starting around then end of 2018 a temporary recovery could very well occur due to the beginnings of last-minute demand in anticipation of the increase in the consumption tax planned for October 2019.

Changes in Real Consumer Spending on Durable Goods **Chart 7**



Source: Cabinet Office; compiled by DIR.

Trends in Consumer Price Indices **Chart 8**



Source: Ministry of Internal Affairs and Communications; compiled by DIR.

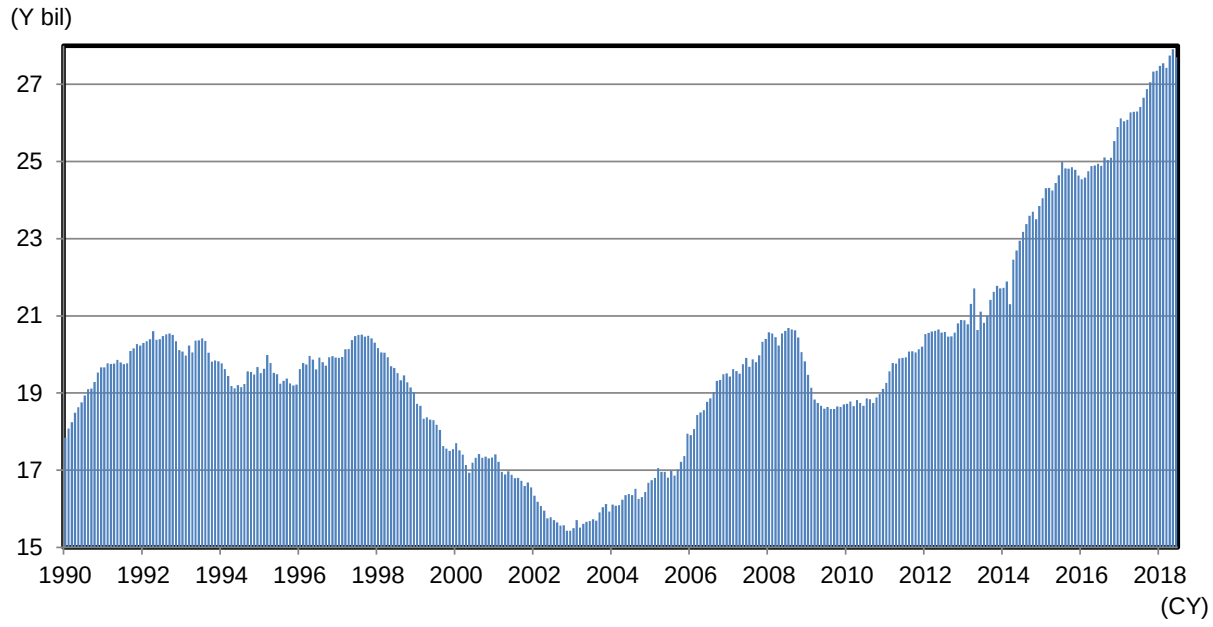
Capital expenditure is expected to experience moderate growth. Ample free cash flow for corporations is expected to provide underlying support. Meanwhile, investment in labor-saving and rationalization due to the continuing labor shortage is expected to continue its growth, as well as investment in research & development oriented toward increasing profitability. However, there is a declining need to accumulate overall capital stock, while in addition, suppliers of capital expenditure related goods may be nearing the limit of supply constraints, and hence caution is required.

Public investment is expected to mark time. The positive effects of the FY2017 supplemental budget are beginning to appear, and reconstruction demand gradually becoming manifest in relation to damage incurred during The Heavy Rain Event of July 2018(the heavy rains of July this year in Western Japan) will likely bring upward pressure on public spending. Meanwhile, public investment is expected to be further increased in the future so that it can act as a measure to soften the aftereffects of the planned increase in consumption tax in October 2019.

Japan's economic growth rate peaked out in FY2017

From the midterm point of view, Japan's economic growth rate is expected to slow down to near cruising speed. As long as the shortage of labor continues, employee compensation should recover again and gain more improvements, and the reactionary decline following replacement demand for durables will pass. The negative effect of Japan and the US inventory cycle will also disappear given time, and the slowdowns in the Chinese and European economies will also gradually settle down. However, as the recovery phase from the last recession grows longer, it is difficult to expect major growth in capex in either the Japanese or the global economy as the maturation phase grows nearer. Without an additional stimulus package, the margin for increasing the growth rate is limited. Furthermore, with a negative income effect expected from the consumption tax hike planned for October 2019[2], we expect Japan's economy to continue to slow down throughout FY2019.

Long-Term Changes in Balance of Machinery Orders **Chart 9**

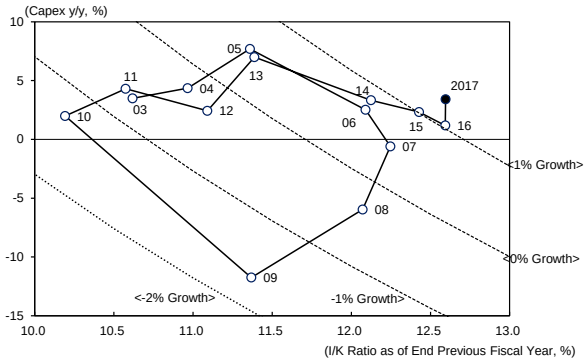


Source: Cabinet Office; compiled by DIR.
Note: Excluding ships; seasonally adjusted.

[2] For details see the DIR Report dated 26 June 2018, *Japan's Economy: Monthly Outlook (June 2018): 1. US-China tariff battle moves into extra innings: how will Japan's economy and corporate earnings fare?, 2. Underestimation rhetoric surrounding effects of consumption tax hike: arguments summarized, 3. Revised economic outlook: +1.0% in FY2018, +0.8% in FY2019,* by Shunsuke Kobayashi and Yota Hirono.

Japan's Capital Stock Cycle

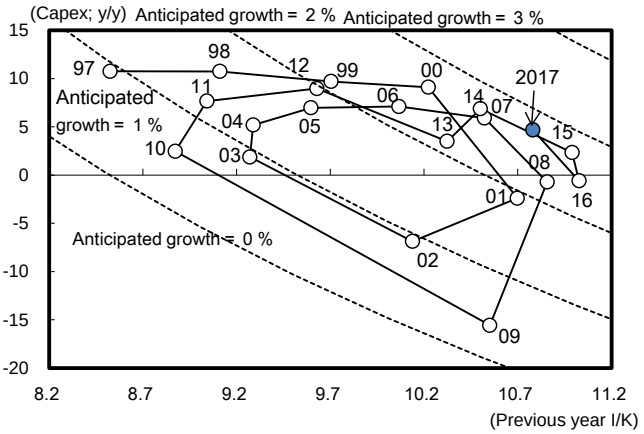
Chart 10



Source: Cabinet Office, BOJ; compiled by DIR.

US Capital Stock Cycle

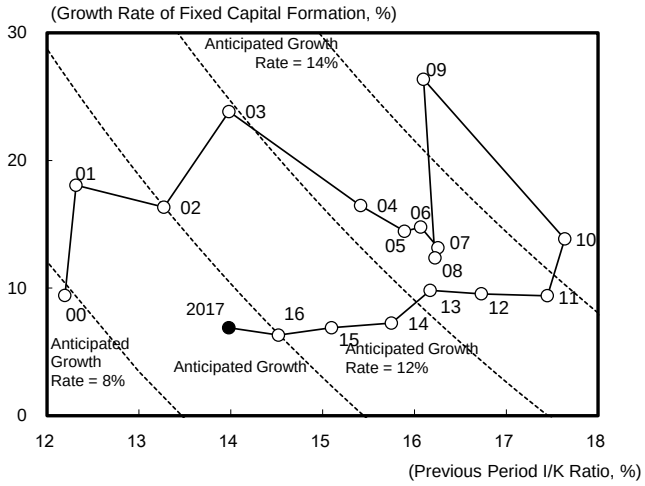
Chart 11



Source: BEA, Haver Analytics; compiled by DIR.

China's Capital Stock Cycle

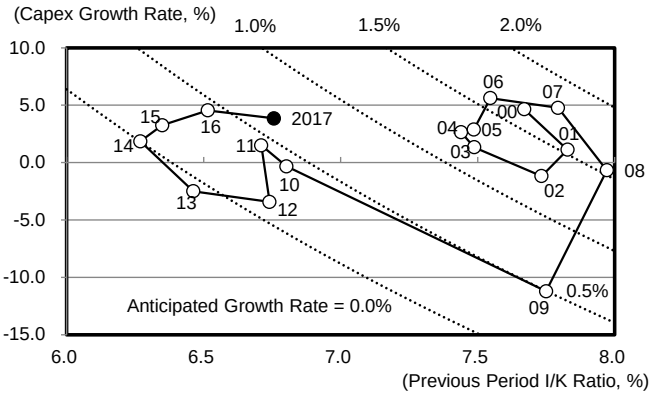
Chart 12



Source: China Statistical Yearbook, CEIC, Haver Analytics, World Bank; compiled by DIR.

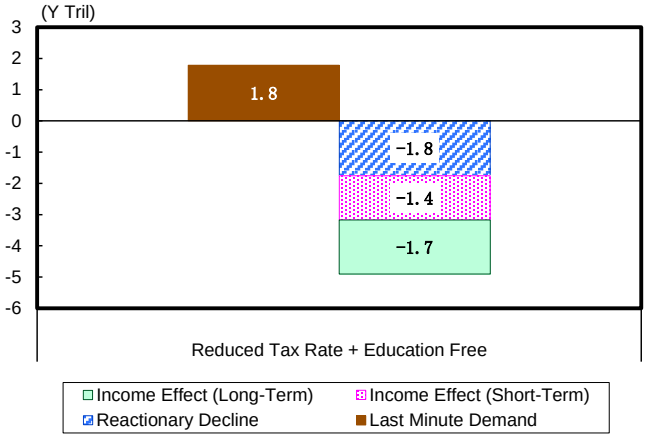
European Capital Stock Cycle

Chart 13



Source: Haver Analytics, European Commission; compiled by DIR.

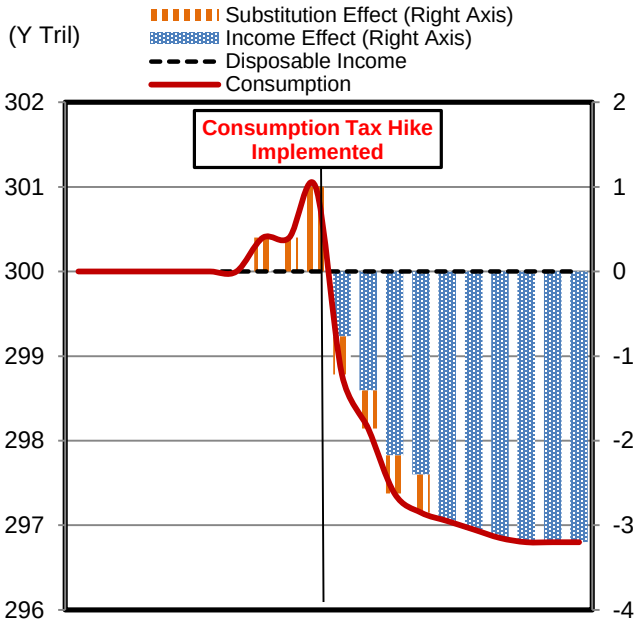
Effects of Consumption Tax Hike
Chart 14



Source: Cabinet Office; compiled by DIR.

Notes: 1) The income effect as estimated here reflects the short-term effects based on marginal propensity to consume. It is possible that a negative income effect will occur which in the long-term is equivalent to tax burden x average propensity to consume - income effect (short-term). For this reason the same effect was used. Meanwhile, the long-term income effect is expressed in real terms making use of the predicted value of prices as of the point when the tax hike occurs (2019Q4).
2) Last-minute demand is generated in 2019 Q1-Q3, and reactionary decline is assumed to be during 2019 Q4-2020 Q3.
3) Preschool education is completely free for ages 3-5, but for ages 0-2 it may be limited to households that exempt from residence taxes. Higher education may also be free for households exempt from residence taxes. For amounts, we referred to the Bank of Japan report "Outlook for Economic Activity and Prices, April 2018."
4) These estimates are based on certain assumptions, and figures should be taken with a certain grain of salt.

Effects of Consumption Tax Hike (Time Series)
Chart 15



Source: Compiled by DIR.

2. Reassessment of US-China Trade War and its Effects on the Global Economy

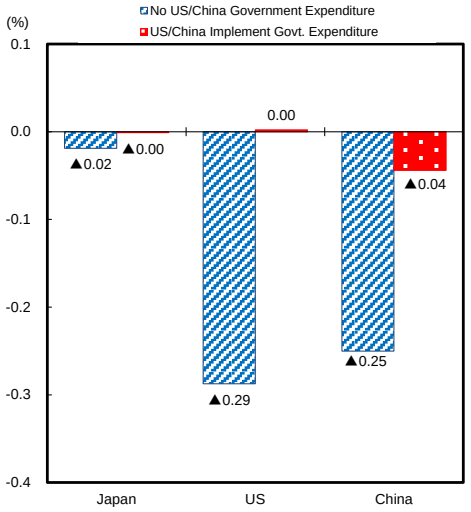
The US-China exchange of retaliatory tariffs is heating up still further. In last month's report (*Japan's Economy: Monthly Outlook (July 2018)*[3]), we provided an estimate of the effects of the US-China trade war on the US and Chinese economies, as well as Japan's economy. The assumptions used in that estimate were as follows: US places a tariff of 25% on $50 billion worth of goods imported from China, and another 10% on $200 billion worth of goods, and at the same time China places a tariff of 25% on $50 billion worth of goods imported from the US. However, the US recently increased the rate of the additional tariff from 10% to 25% on $200 billion worth of goods. Now, as a retaliatory measure, China is considering additional tariffs of 5-25% on $60 billion in goods imported from the US.

DIR Estimate: China -0.25%, US -0.29%, Japan -0.02%

In light of these changes in the assumptions used in estimates, we recalculated out estimate using the DIR macro model to figure the effects on the US, Chinese, and Japanese economies (see charts 16 & 17)[4]. The assumptions used in our new estimate are as follows: US places a tariff of 25% on $250 billion worth of goods imported from China, and China places a tariff of 25% on $50 billion worth of goods imported from the US, and additional tariffs of 5-25% on $60 billion worth of goods imported from the US. (DIR estimates these additional tariffs at an average of just over 15%.)

Based on these assumptions, in the case where growth in government revenue due to the increase in tariffs does not lead to increased government expenditure, downward pressure on GDP would be -0.25% for China, -0.29% for the US, and -0.02% for Japan. If the government helps out by increasing expenditure the effects will be even smaller, with China at -0.04%, the US at +0.00%, and Japan at -0.00%.

Estimated Effects of Tariffs (Summary) Chart 16



Source: Estimates produced using the DIR macro model.
Note: All figures are real. Rate of deviation from actual value.

Effects of Tariffs on Japan, US, and China Economies (Detailed Version) Chart 17

Effects on Chinese Economy		Real GDP	Personal Consumption	Capex	Government Expenditure	Exports	Imports
No US/China Govt. Expenditure	Deviation Rate	**▲0.25**	▲0.44	▲0.09	0.00	▲0.57	▲0.44
	Contribution Rate		▲0.17	▲0.04	0.00	▲0.12	0.08
US/China Implement Govt. Expenditure	Deviation Rate	**▲0.04**	▲0.44	▲0.02	1.19	▲0.41	▲0.28
	Contribution Rate		▲0.17	▲0.01	0.17	▲0.09	0.05
Effects on US Economy		**Real GDP**	Personal Consumption	Capex	Government Expenditure	Exports	Imports
No US/China Govt. Expenditure	Deviation Rate	**▲0.29**	▲0.50	▲0.38	0.00	▲0.13	▲0.88
	Contribution Rate		▲0.35	▲0.06	0.00	▲0.02	0.14
US/China Implement Govt. Expenditure	Deviation Rate	**0.00**	▲0.50	0.00	2.07	▲0.09	▲0.08
	Contribution Rate		▲0.35	0.00	0.35	▲0.01	0.01
Effects on Japan's Economy		**Real GDP**	Personal Consumption	Housing Investment	Capex	Exports	Imports
No US/China Govt. Expenditure	Deviation Rate	**▲0.02**	▲0.01	▲0.00	▲0.14	▲0.20	▲0.19
	Contribution Rate		▲0.00	▲0.00	▲0.02	▲0.04	0.03
US/China Implement Govt. Expenditure	Deviation Rate	**▲0.00**	▲0.00	▲0.00	▲0.01	▲0.01	▲0.01
	Contribution Rate		▲0.00	▲0.00	▲0.00	▲0.00	0.00

Source: Estimates produced using the DIR macro model.
Notes: 1) Estimated effects assuming US imposes tariff of 25% on 250 billion dollars' worth of Chinese imports, and China imposes tariff of 25% on 50 billion dollars' worth of imports from the US, and 15.2% on another $60 billion worth.
2) All figures are real. Rate of deviation from actual value (%) and rate of contribution to GDP (%pt).

According to the IMF model, impact of US-China trade war on the global economy is -0.10%pt

According to the IMF estimate, if the cost of global trade grows by 10% due to tariffs and so on, international trade will decline by 15% in five years, and in the long-term will fall by 16%. The IMF also estimates that in five years production and consumption will decline by 1.75%, while in the long-

[3] For details see the DIR report by Shunsuke Kobayashi and Yota Hirono entitled *Japan's Economy: Monthly Outlook (July 2018): 1. Estimating the Impact of the US-China Trade War, 2. Outlook for the Labor Market: The Big Picture, 3. Has the Phillips curve lost its validity?*, dated 27 July, 2018.
[4] For details on the macro model, see the report listed in Note 2.

term, it will suffer a 2% decline. Utilizing the results of the IMF estimate in a linear fashion, we can calculate the effects of this recent US-China retaliatory tariff battle on the global economy (= +0.48% pt cost of trade) at -0.10%pt (Chart 18). This estimate is generally in agreement with the DIR estimate presented on the previous page. (Afterword, if we multiply the extent of the decline in US & China GDP by the weight that these two economies carry in the world, we get -0.11%pt. then if we include the negative effect on other countries in our calculations, the ultimate effect is of course much larger than this.

Impact on global economy of steel and aluminum tariffs seen at -0.02%pt

Next let's include other tariff measures in the calculation just for reference. First, we look at the increase in the tariffs on steel and aluminum which have already been implemented. This is expected to increase the cost of global trade by 0.04%. If the various countries affected by this tariff implement retaliatory tariffs, this would again increase the cost of global trade by another 0.09%. Using the IMF's estimated value to calculate the effect on the global economy of these hypothetical tariffs, we arrive at -0.02%pt. (See ② in Chart 18.)

Tariff hike on automobiles would trigger decline of -0.10%pt in global economy

What will happen if a 20% tariff is levied on automobiles imported to the US as is now being considered? This would increase the cost of global trade by 0.24%. If the various countries affected by this tariff implement retaliatory tariffs, this would again increase the cost of global trade by another 0.49%. Using the IMF's estimated value to calculate the effect on the global economy of these tariffs, we arrive at -0.10%pt. This is about the equivalent effect of the US-China trade war (③ in Chart 3).

Cumulative negative effects come to -0.21%pt

When we add all of these items up, the cost of global trade is estimated to increase by 1.05%, while global GDP would decline by -0.21%pt (Chart 18, ①+②+③).

If China lowers its tariffs, global economy will grow by +0.01%pt

On the other hand, the global economy cannot ignore good news either. China reduced its tariffs on automobiles and automobile parts, as well as sundry goods as of July 1 this year[5]. The global cost of trade declined by -0.06% due to this measure, and the global economy was pushed up by +0.01%pt (Chart 18, ④).

[5] Concretely speaking, passenger automobile tariffs which were at 20-25% were reduced to 15%, while tariffs on parts originally at 8-25% were reduced to 6% across the board.

If Europe abolishes its automobile tariff, global economy will be pushed up by +0.00%pt

Another possibility is what if Europe refuses to play this game of chicken that the US has thrust upon other nations? If this happens, tariffs on automobiles, currently at 10%, would decline. If Europe abolishes its automobile tariff, the global cost of trade would decline by -0.02%, and the global economy would be pushed up by +0.00%pt (Chart 18, ⑤).

Estimates of Effects of All Tariff Measures on Cost of Trade and Global Economy **Chart 18**

① Tariffs Totaling $250 bil for US, and $50 bil for China

	US	China	Total
Amount of Change in Tariff (Bil Dlrs)	625.0	216.0	841.0
Rate of Change in Global Import Prices (%)	0.4	0.1	0.5

Effect on Global Economy

	OECD	IMF In 5-Yrs	IMF Long-Term
Rate of Change in Cost of Trade (%)	0.48	0.48	0.48
Change in Global Trade Volume (%pt)	**-0.29**	**-0.72**	**-0.77**
Change in Global GDP (%pt)	**-0.07**	**-0.08**	**-0.10**

② US Tariff Hike on Steel and Aluminum

	Steel	Aluminum	Total
Amount of Change in Tariff (Bil Dlrs)	58.4	16.4	74.8
Rate of Change in Global Import Prices (%)	0.0	0.0	0.0

Effect on Global Economy

	OECD	IMF In 5-Yrs	IMF Long-Term
Rate of Change in Cost of Trade (%)	0.04	0.04	0.04
Change in Global Trade Volume (%pt)	**-0.03**	**-0.06**	**-0.07**
Change in Global GDP (%pt)	**-0.01**	**-0.01**	**-0.01**
Case in Which Equal Amount in Retaliatory Tariffs is Implemented			
Rate of Change in Cost of Trade (%)	0.09	0.09	0.09
Change in Global Trade Volume (%pt)	**-0.05**	**-0.13**	**-0.14**
Change in Global GDP (%pt)	**-0.01**	**-0.01**	**-0.02**

③ US Tariff Hike on Automobiles

	Passenger Vehicles	Automobile Parts	Total
Amount of Change in Tariff (Bil Dlrs)	310.0	115.3	425.3
Rate of Change in Global Import Prices (%)	0.2	0.1	0.2

Effect on Global Economy

	OECD	IMF In 5-Yrs	IMF Long-Term
Rate of Change in Cost of Trade (%)	0.24	0.24	0.24
Change in Global Trade Volume (%pt)	**-0.15**	**-0.36**	**-0.39**
Change in Global GDP (%pt)	**-0.03**	**-0.04**	**-0.05**
Case in Which Equal Amount in Retaliatory Tariffs is Implemented			
Rate of Change in Cost of Trade (%)	0.49	0.49	0.49
Change in Global Trade Volume (%pt)	**-0.29**	**-0.73**	**-0.78**
Change in Global GDP (%pt)	**-0.07**	**-0.08**	**-0.10**

Total Negative Effect (①+②+③)

	OECD	IMF In 5-Yrs	IMF Long-Term
Rate of Change in Cost of Trade (%)	1.05	1.05	1.05
Change in Global Trade Volume (%pt)	**-0.63**	**-1.58**	**-1.68**
Change in Global GDP (%pt)	**-0.15**	**-0.18**	**-0.21**

④ China Lowers Tariffs on Sundries and Automobiles

	Sundries	Automobiles	Total
Amount of Change in Tariff (Bil Dlrs)	-52.4	-45.9	-98.4
Rate of Change in Global Import Prices (%)	0.0	0.0	-0.1

Effect on Global Economy

	OECD	IMF In 5-Yrs	IMF Long-Term
Rate of Change in Cost of Trade (%)	-0.06	-0.06	-0.06
Change in Global Trade Volume (%pt)	**0.04**	**0.09**	**0.10**
Change in Global GDP (%pt)	**0.01**	**0.01**	**0.01**

⑤ EU Lowers Tariffs on Automobiles

	Automobiles
Amount of Change in Tariff (Bil Dlrs)	-43.5
Rate of Change in Global Import Prices (%)	0.0

Effect on Global Economy

	OECD	IMF In 5-Yrs	IMF Long-Term
Rate of Change in Cost of Trade (%)	-0.02	-0.02	-0.02
Change in Global Trade Volume (%pt)	**0.01**	**0.04**	**0.04**
Change in Global GDP (%pt)	**0.00**	**0.00**	**0.00**

Total Positive Effect (④+⑤)

	OECD	IMF In 5-Yrs	IMF Long-Term
Rate of Change in Cost of Trade (%)	-0.09	-0.09	-0.09
Change in Global Trade Volume (%pt)	**0.05**	**0.13**	**0.14**
Change in Global GDP (%pt)	**0.01**	**0.02**	**0.02**

Grand Total

	OECD	IMF In 5-Yrs	IMF Long-Term
Rate of Change in Cost of Trade (%)	0.96	0.96	0.96
Change in Global Trade Volume (%pt)	**-0.58**	**-1.45**	**-1.54**
Change in Global GDP (%pt)	**-0.13**	**-0.17**	**-0.19**

Total of Tariffs Already Decided (①+②+④)

	OECD	IMF In 5-Yrs	IMF Long-Term
Rate of Change in Cost of Trade (%)	0.46	0.46	0.46
Change in Global Trade Volume (%pt)	**-0.28**	**-0.69**	**-0.74**
Change in Global GDP (%pt)	**-0.06**	**-0.08**	**-0.09**

Source: US Census Bureau, General Administration of Customs of the People's Republic of China, Eurostat, Ministry of Finance, FRB, OECD, IMF, World Bank, UN Comtrade, various news sources; compiled by DIR.

Notes: 1) US import content deducted from ④ and ⑤.
2) Data from China consists of 2016 performance values. Data from all other countries consists of 2017 performance values.

The main risk to Japan's economy is the automobile tariff

Now that we have covered estimates for the impact on the global economy we take a look closer to home. For Japan, the matter of greatest concern is the tariff now being considered by the US and which it may place on automobiles. President Trump ordered an investigation on May 23 regarding imports of automobiles and automobile parts based on Article 232 of the Trade Expansion Act of 1962. A concrete tariff rate and list of items affected will be revealed after the investigation is complete, but it has been reported that the tariff rate of 2.5% currently applied to passenger vehicles could increase to as much as a maximum of 20%.

Items which may be affected by an additional tariff and amounts in exports to the US are shown in Chart 19. Passenger vehicles, with a current tariff rate of 2.5%, have an export value of 4.5 tril yen, while automobile parts total 961.4 bil yen (figures based on 2017 performance). Together this totals 5.5 tril yen worth of Japanese exports which may be subject to additional tariffs. Assuming that all of these items are hit with an across-the-board tariff of 20%, the amount of increase in tariffs is estimated at 0.95 tril yen.

Meanwhile, the export value of passenger vehicles produced by Japanese automobile manufacturers in third countries, including Mexico and Canada, is also great. According to estimates produced by DIR[6], exports of Japanese passenger vehicles from third countries total 4.0 tril yen, an amount comparable to the 4.5 tril yen in autos exported directly from Japan. If exports from third countries, all NAFTA member countries, have tariffs increased from the current 0% to 20%, the amount of increase in tariffs will come to 0.8 tril yen. Add this to the amount of increase in tariffs on direct exports from Japan and you get 1.6 tril yen. The impact would literally be several orders of magnitude above what we currently experience. If we include the cost of increase in tariffs on automobile parts exported directly from Japan the amount comes to 1.75 tril yen[7], and Japan gets an even bigger hit when we include parts exported from third countries.

Hence the upcoming trade negotiations on automobiles will be Japan's moment of truth.

Effects of US Automobile Tariffs on Japanese Automobile Sales **Chart 19**

		Volume (Units)	Amount (Y100 Mil)	Amount of Tariff Hike (Y100 Mil)
①	Japanese cars sold in domestic US	6,641,216		
②	Japanese cars produced in domestic US	3,773,993		
③	Japanese cars exported from factories in domestic US	423,415		
④	Direct exports from Japan (excluding parts)	1,743,695	45,431	7,839
①-[②-③]-④=⑤	Exports from third countries	1,546,943	40,305	8,061
④+⑤	**Total automobile exports to the US by Japanese manufacturers**	**3,290,638**	**85,736**	**15,900**
⑥	Exports Automobile Parts from Japan		9,614	1,682
④+⑤+⑥	**Total Automobile Related Exports of Japanese Corporations to US**		**95,350**	**17,582**

Source: Automotive News, Haver Analytics, JAMA, Ministry of Finance; compiled by DIR.
Notes: 1) Volume and amount based on 2017 results. However, export amount from third countries estimated by multiplying unit price of direct exports with number of units.
2) Amount of tariff hike assumes (4): 2.5% ⇒ 20% and (5): 0% ⇒ 20%.

[6] For details see the report mentioned in Note 2.
[7] If a tariff of 25% is imposed, tariff costs will increase by 2.23 tril yen. For details see the DIR report by Shunsuke Kobayashi and Yota Hirono entitled *Is the US-China Trade War Really All that Bad?: Thorough examination of impact on Japan's economy and corporate earnings*, dated 22 June, 2018.

3. Why no recovery in consumption despite improvements in wages & income?

Since the beginning of 2018 a growing number of macroeconomists have been observing that growth in consumption is weak despite growth in wages. True, a look at the System of National Accounts will tell you that nominal employee compensation improved considerably in the Apr-June period of 2018, growing +4.3% in comparison to the same period of the previous year, or in monetary terms an increase of 3 trillion 28.4 billion yen. However, nominal private sector final consumption expenditure registered only minor growth at +4.3%, or +288.4 billion yen.

Two major factors which have been suggested as being behind this phenomenon are that with the hike in insurance premiums, growth in net income from employee compensation does not necessarily translate into growth in disposable income, and income of pensioner households is not growing due to the adoption of a macroeconomic slide formula. However, these explanations do not really fit the picture.

In this chapter we suggest three factors behind growth in wages without growth in consumption as of 2018: (1) It is highly possible that income has not improved as much as statistics suggest, (2) There is a bias towards one particular cluster group which has a low propensity to consume. As a result, there appears to be an overall low propensity to consume (mixed effects), and (3) Individuals faced with the flattening of the wage curve have become more practical, and are saving more.

Wage statistics have lost their continuity

First we take a look at (1) in the above list. We start here with what may sound to some like a rather blunt statement, but the fact is that since the beginning of 2018 the reliability of Japan's income related statistics has become questionable. This is because there has been a break in continuity with older data due to technical factors, including replacement of samples and changes in questionnaires.

Let's take a look at one of the most representative of wage related statistics – the Monthly Labour Survey. This is a survey of working hours and wages of businesses. The problem is that the survey sample is changed on a regular basis. To be more specific, samples are completely replaced every two to three years, then a method is applied to correct for the break in the time-series data. The rationale is that even though influence of the change in samples is not completely absent, the risk of major fluctuations in the standard can be kept under control by applying a continuity correction factor.

However, a different method was used when changing samples in January 2018. Instead of replacing all existing samples with new ones, there were partial replacements carried out (some samples were kept, but not others). Most importantly, continuity correction was not performed after this change. Results are shown in Chart 20, which indicates that a difference in level remains in total cash earnings, causing this year's statistics on wages to consistently show considerable growth in comparison to the previous year.

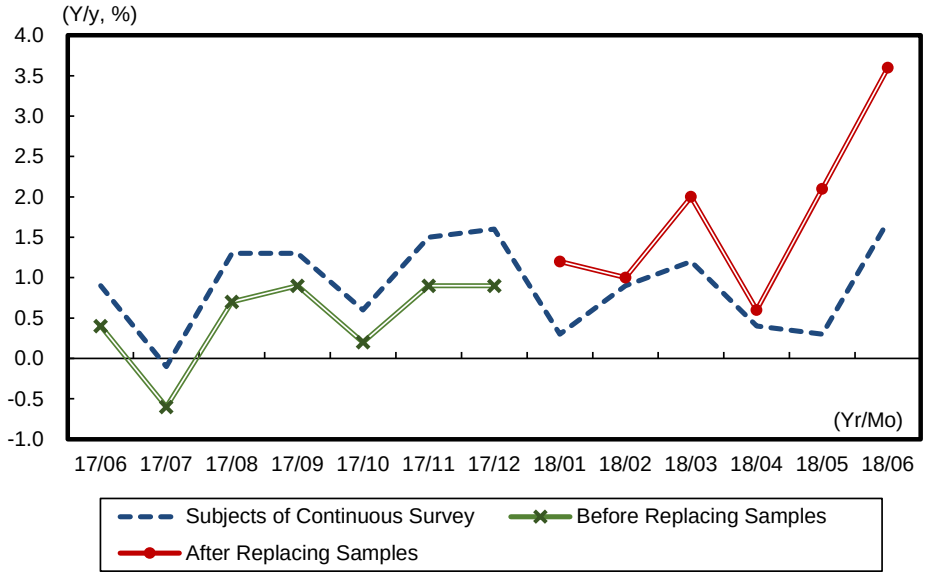
In addition, the Family Income and Expenditure Survey has also gone through changes since January of this year, notably the survey form itself. One major change is the addition of a new section asking for individual financial information from each member of the family separately. The impact of this change in the survey form itself is that there is a significant difference in level of income when we compare results using the older form as opposed to the new form after the change (on the other hand, there is no clear difference detected in level of consumption).[8]

[8] The Ministry of Internal Affairs and Communications is of course aware of this problem, and has provided a fluctuation adjustment value to the public. This is a statistical method of removing the effects of the change in the ministry's official household account book. However, there are some doubts as to whether or not correction can be appropriately carried out

Unevenly distributed wage inflation, and declining propensity to consume due to mixed effects

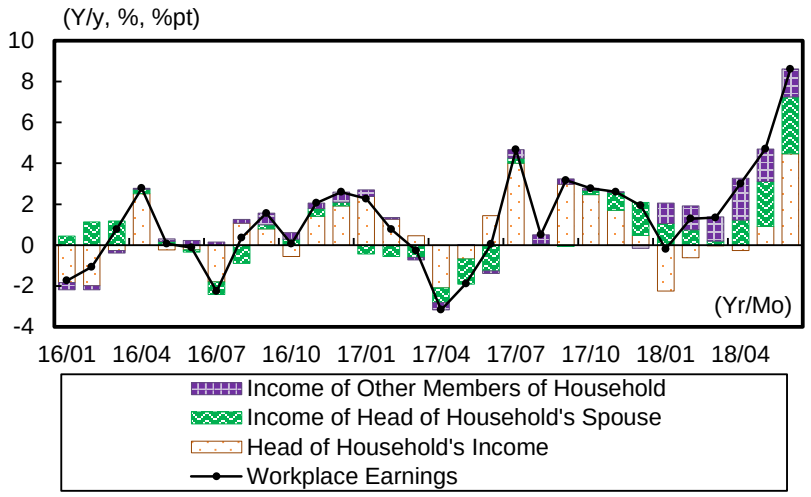
If, as was claimed in the previous section, the growth rate in income is inflated due to a problem in the statistics, there is a very good possibility that the actual income that households are faced with is not as strong as that suggested by statistics. That said, this does not necessarily mean that income is not growing at all. The rate of base pay increase this year did exceed that of the previous year somewhat. And one gets the impression that the trend in bonus pay at Japanese corporations isn't bad. Meanwhile, the labor force participation rate (number of people / time), centering on the younger generation, the elderly, and women, is also continuing to grow. The result, as shown in Chart 20, is that the extent of growth in total cash earnings on a year-to-year basis is being maintained amongst subjects of continuous surveys. And if that is the case, we will be forced to say that it is highly probable that a decline in propensity to consume is occurring.

Changes in Total Cash Earnings on the Monthly Labour Statistics Survey **Chart 20**



Source: Ministry of Health, Labour and Welfare; compiled by DIR.

Income Trends of Working Households in Family Income and Expenditure Survey **Chart 21**



Source: Ministry of Internal Affairs and Communications; compiled by DIR.

So why is propensity to consume declining? One of the factors is (2) there is a bias towards one particular cluster group which has a low propensity to consume. As was illustrated in Chart 5, and

using this method. The problem is that estimation of the correction value corrects for numbers on the high side, but when a high is not detected, it uses the original number as is (in other words, the method does not correct for numbers on the low side).

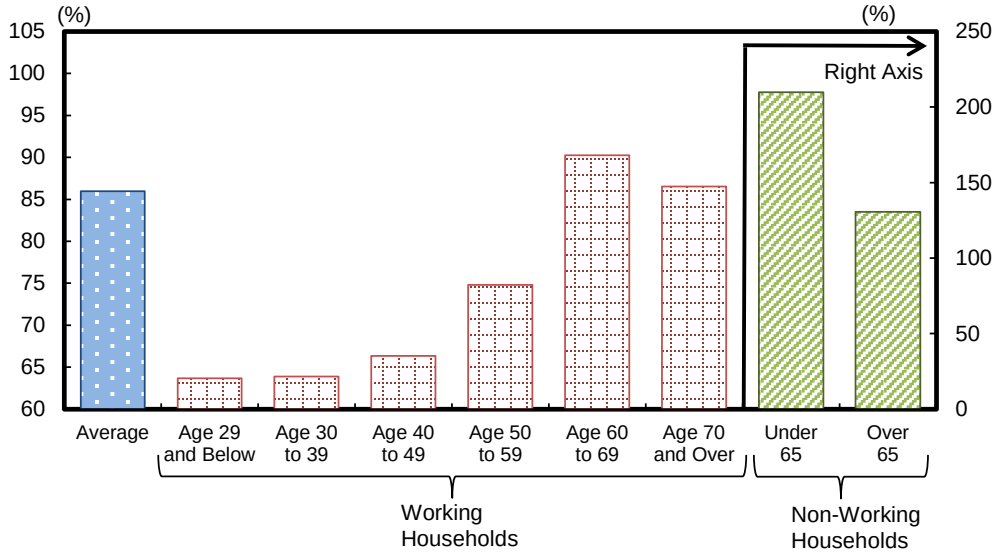
explained in the previous month's report (*Japan's Economy: Monthly Outlook (July 2018)*[9]), The labor market is getting tighter, and wage growth is most prominent amongst the younger generation. However, as is indicated in Chart 22, young people have a low propensity to consume even though it is they who are reaping the benefits of wage growth more than any other generation. On the other hand, wage growth amongst middle-aged and old-aged workers, who show a high propensity to consume, continues to be sluggish. As a result, propensity to consume declines because of mixed effects.

A reasonable anxiety regarding the future (or perhaps resignation, a lowering of expectations)

The level of propensity to consume amongst young people has continued a downward trend for many years. There is a strong tendency to search for an explanation in sociological phenomena meant to explain today's young people. These include labels such as "herbivorous", meant to describe a generation which seems less ambitious or competitive than previous ones. Leaving aside the question of how accurate these kinds of explanation might be, we take a look at our third factor explaining the consumption paradox. That is (3) Individuals faced with the flattening of the wage curve have become more practical, and are saving more. In other words, today's young people cause propensity to consume to decline, but at the same time encourage growth in the propensity to save. Ultimately, this is a very practical tendency. As was shown earlier in Chart 5, the generations born during Japan's postwar period based their approach to life planning on the promise that although their salaries would start on the low side when younger, as they grew older, the growth of their salaries would also increase. But in contrast, people born since the 1990s base their life planning on the expectation (or more like a sense of resignation) that their salaries may start high, but as they grow older, the rate of increase in their salaries will shrink. The fact that the propensity to consume amongst younger people is kept in check is in fact a form of economic rationality or practicality.

There is little chance that the environment will change dramatically in the near future. The current situation, in which growth in consumption is weak despite growth in wages, will most like continue for some time to come.

Propensity to Consume by Age Group and Classification (as of 2017) **Chart 22**



Source: Ministry of Internal Affairs and Communications (Family Income and Expenditure Survey); compiled by DIR.
Note: Households made up of two or more people. Average includes working and non-working households.

[9] For details see the report mentioned in Note 3.

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	FY17	FY18 (Estimate)	FY19 (Estimate)	CY17	CY18 (Estimate)	CY19 (Estimate)
Main economic indicators						
Nominal GDP (y/y %)	1.7	1.2	1.8	1.5	1.1	1.8
Real GDP (chained [2011]; y/y %)	1.6	1.0	0.8	1.7	0.9	1.1
Domestic demand (contribution, % pt)	1.2	0.9	0.6	1.2	0.7	1.0
Foreign demand (contribution, % pt)	0.4	0.1	0.2	0.6	0.1	0.1
GDP deflator (y/y %)	0.1	0.2	1.0	-0.2	0.2	0.7
Index of All-industry Activity (y/y %)*	1.8	1.3	1.1	1.6	1.2	1.5
Index of Industrial Production (y/y %)	4.1	2.1	1.9	4.4	1.9	2.5
Index of Tertiary Industry Activity (y/y %)	1.0	1.2	0.9	0.7	1.1	1.2
Corporate Goods Price Index (y/y %)	2.7	2.6	3.3	2.3	2.6	2.8
Consumer Price Index (excl. fresh food; y/y %)	0.7	0.9	1.3	0.5	0.9	1.0
Unemployment rate (%)	2.7	2.4	2.5	2.8	2.5	2.4
Government bond yield (10 year; %)	0.05	0.08	0.10	0.05	0.07	0.10
Money stock; M2 (end-period; y/y %)	3.7	2.9	1.8	4.0	3.0	2.1
Balance of payments						
Trade balance (Y tril)	4.6	3.8	4.6	5.0	3.5	3.9
Current balance ($100 mil)	1,968	1,905	1,956	1,957	1,867	1,874
Current balance (Y tril)	21.8	21.5	22.2	22.0	20.5	20.9
(% of nominal GDP)	3.9	3.9	3.9	4.0	3.7	3.7
Real GDP components (Chained [2011]; y/y %; figures in parentheses: contribution, % pt)						
Private final consumption	0.8 (0.5)	0.8 (0.5)	0.1 (0.1)	1.0 (0.6)	0.5 (0.3)	0.8 (0.5)
Private housing investment	-0.3 (-0.0)	-4.9 (-0.1)	2.0 (0.1)	2.7 (0.1)	-6.3 (-0.2)	3.0 (0.1)
Private fixed investment	3.1 (0.5)	2.8 (0.5)	1.2 (0.2)	2.9 (0.4)	3.0 (0.5)	1.6 (0.3)
Government final consumption	0.7 (0.1)	0.6 (0.1)	0.8 (0.2)	0.4 (0.1)	0.5 (0.1)	0.8 (0.2)
Public fixed investment	1.4 (0.1)	-1.9 (-0.1)	0.9 (0.0)	1.2 (0.1)	-1.3 (-0.1)	-0.5 (-0.0)
Exports of goods and services	6.3 (1.0)	3.3 (0.6)	2.8 (0.5)	6.7 (1.1)	3.9 (0.7)	2.9 (0.5)
Imports of goods and services	4.1 (-0.6)	2.9 (-0.5)	1.4 (-0.2)	3.4 (-0.5)	3.3 (-0.5)	2.4 (-0.4)
Major assumptions:						
1. World economy						
Economic growth of major trading partners	4.2	3.9	3.7	4.1	4.0	3.8
Crude oil price (WTI futures; $/bbl)	53.6	68.4	68.4	50.9	67.1	68.4
2. US economy						
US real GDP (chained [2009]; y/y %)	2.4	2.9	2.3	2.2	2.8	2.5
US Consumer Price Index (y/y %)	2.1	2.4	2.2	2.1	2.5	2.1
3. Japanese economy						
Nominal public fixed investment (y/y %)	3.2	-0.4	1.6	2.8	0.4	0.3
Exchange rate (Y/$)	110.8	110.7	111.3	112.2	110.0	111.3
(Y/€)	130.3	128.8	128.5	127.2	129.7	128.5

Source: Compiled by DIR.
Note: Due to rounding, actual figures may differ from those released by the government.
* Excl. agriculture, forestry, and fisheries.
Estimate: DIR estimate.