



MGSSI Japan Economic Quarterly

January 2018

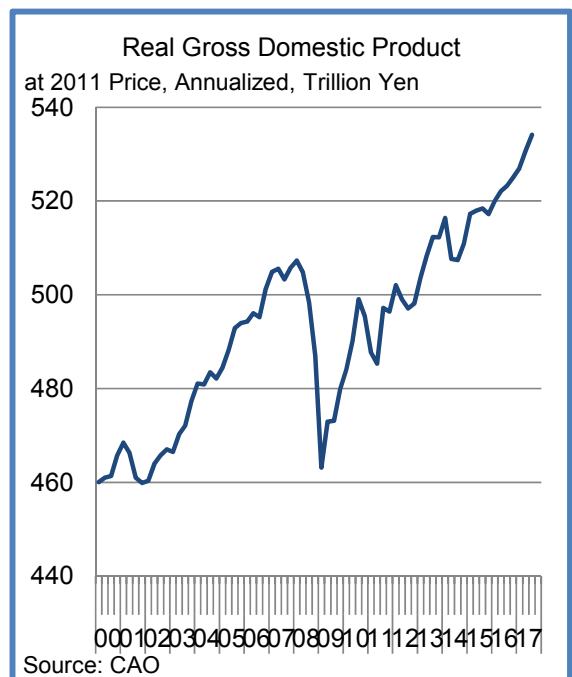
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Positive Growth for Consecutive Quarters

Real GDP in the third quarter of 2017 rose by 0.6% (2.5% annualized) from the previous quarter, maintaining positive growth for seven consecutive quarters, the first in 17 years. Private consumption*, private housing investment, and public investment all declined, while private non-residential fixed investment and exports increased. The economic expansion that started in November 2012 appears to be lasting for the second longest period since the end of World War II. (*All subsequent references to GDP demand items are in real terms unless otherwise indicated.)

Private consumption fell by 0.5% from the previous quarter. Bad weather in summer such as continual rain apparently put restraints on spending related to restaurant services and leisure, and the sales of passenger cars, mobile phones, etc. seem to have been sluggish. With corporations increasingly feeling the shortage of workers, the total amount of wages paid by corporations rose by 0.7% from the previous quarter on a nominal basis, a positive growth for 12 consecutive

quarters. Compared to this, the growth rate of disposable income, which is the amount of money left after deducting social insurance premiums, etc. from the total income received, appears to be more moderate. In addition, the real wage index (nominal wage index divided by consumer price index) has never risen by more



	Real Gross Domestic Product (GDP)			
	at 2011 Price, Calendar year			
	2016	2017		
	y/y%	7-9	10-12	1-3
		q/q%	q/q%	q/q%
Real Gross Domestic Product	0.9%	0.4%	0.7%	0.6%
Private Consumption	0.1%	0.4%	0.9%	-0.5%
Private Housing Investment	5.6%	0.9%	1.3%	-1.0%
Private Non-Resi. Fixed Investment	0.6%	0.2%	1.2%	1.1%
Public Investment	-0.1%	0.3%	4.6%	-2.4%
Government Consumption	1.3%	0.2%	0.2%	0.0%
Exports of Goods & Services	1.3%	1.9%	-0.1%	1.5%
(less) Imports of Goods & Services	-1.9%	1.3%	1.5%	-1.6%

Source: CAO

than 0.1% on a year-on-year basis since the beginning of 2017, indicating that real purchasing power did not increase partly due to rising prices, resulting in sluggish growth in consumption.

Private housing investment declined by 1% from the previous quarter. Due to a sense of oversupply, new housing starts stood at only 956,000 units (annualized). In particular, rental housing starts, which had been on



an uptrend as part of inheritance tax-saving measures, have declined since May 2017. Positive financing mainly by local banks shows signs of decline.

Private non-residential fixed investment rose by 1.1% from the previous quarter, growing for four quarters in a row. According to the Financial Statements Statistics of Corporations, nominal non-residential fixed investment rose by 4.3% year over year. In the manufacturing industry, sectors such as electric machinery, steel, and petroleum & coal, contributed to the increase, while the transport machinery sector, the business oriented machinery sector, etc., contributed to the decrease. In the non-manufacturing industry, non-residential fixed investment increased in the service sector, the goods rental and leasing sector, the construction sector, etc. According to a survey conducted by the Bank of Japan in December, on a nominal basis, planned capital investment for fiscal 2017 rose by 6.3% from the previous fiscal year. This is an upward revision from a previous survey conducted in September, and private non-residential fixed investment is expected to continue a solid growth.

Public investment fell by 2.4% from the previous quarter. This seems to be the reactionary decline from the second quarter, which saw a relatively high quarter-over-quarter growth of 4.6%. Another possible reason for the decline is that the pump-priming effects of the fiscal 2016 supplementary budget passed in October 2016 came to an end. Meanwhile, the central government adopted a supplementary budget bill for fiscal 2017 and a budget bill for fiscal 2018 in a Cabinet meeting in December 2017. In the fiscal 2017 supplementary budget bill, the government increased public works projects-related expenditures by about 1 trillion yen, with total spending related to public works projects amounting to the 7 trillion-yen level in fiscal 2017. In addition, public works projects-related expenditures in the fiscal 2018 budget bill stand at 6.0 trillion yen, and the amount of public works projects-related expenditures in the initial budget has increased for six straight years since the launch of Prime Minister Shinzo Abe's second Cabinet.

Exports of goods and services grew by 1.5% from the previous quarter, contributed by recovery in the sales of electronic parts, the growth in auto sales, etc. The global trade expanded for five consecutive quarters, and the world's economy is expected to continue to grow going forward. Given these, Japan's exports will be on an uptrend.

Meanwhile, imports of goods and services declined by 1.6% from the previous quarter, working to push down the real GDP growth rate by 0.2% points. Consumers held off buying before the launch of new smartphone models, causing a fall in imports of telecommunications devices. However, if the Japanese economy continues to grow, albeit moderately, a significant fall in imports is unlikely in the future.

Ordinary profits of Japanese corporations rose by 4.8% year over year, increasing for five consecutive quarters. Ordinary profits in the manufacturing sector grew for four consecutive quarters by 44%. This growth was contributed by the weaker yen compared to the corresponding period of the previous year as well as continued recovery in overseas economies. Many sectors, including transport machinery, chemistry, information and communication electronics equipment, and production machinery, respectively achieved increases in both income and profit. On the other hand, ordinary profits declined by 7.2% in the non-manufacturing sector. However, this is a reactionary decline as the sector saw a significant increase in both income and profit in the same quarter of the previous year due to a special factor (subsidiaries of pure holding companies in the service sector recorded substantial increases in profits). In fact, both income and profit increased in such sectors as wholesale, retail, construction, transport, and postal services.

In the third quarter of 2017, net profits of listed companies are expected to reach a record high for two years in a row. According to an ESP Forecast survey (January 2018), the average of forecasts of private economists on



real GDP growth, real GDP will grow 1.7% in 2017 and 1.4% in 2018 on a year-on-year basis. The economy is highly likely to continue moderate expansion going forward, supported by consumption and exports.

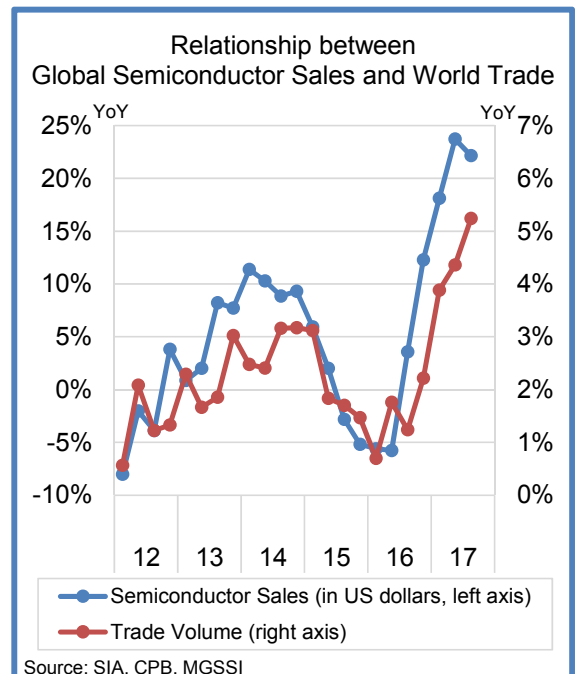
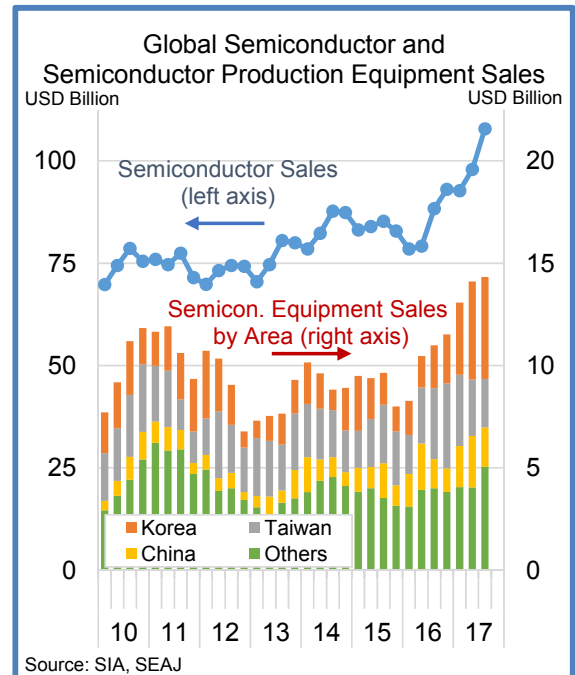
Silicon Cycle

The world's semiconductor market is booming. According to the U.S. Semiconductor Industry Association (SIA), the global sales of semiconductors amounted to 107.9 billion dollars for the third quarter of 2017, up 22.2% from a year earlier. The boom-and-bust cycle of the semiconductor market is called the "Silicon Cycle," and the previous boom took place in 2014, when new models of major smartphones were launched. The current sales is nearly 20% more than 2014.

In addition, the global sales of semiconductor production equipment stood at 14.3 billion dollars in total for the third quarter, up 23.8% from a year earlier, according to the statistics by the Semiconductor Equipment Association of Japan (SEAJ). The figure surpassed the level in 2011, which saw the peak of recovery from the global financial crisis, for the first time in about six years. Furthermore, according to a forecast by SEMI (former Semiconductor Equipment and Materials International), the global sales of semiconductor production equipment will be 55.9 billion dollars in 2017, up 26.3% from the previous year, and grow to 60.1 billion dollars in 2018.

By region, shipment to South Korea and Taiwan collectively accounts for 51.4% of the total, followed by China with 13.5%. Shipment to them, all in East Asia, makes up a high proportion of the total shipment. Sales for South Korea, where Samsung Electronics Co., Ltd. took the lead in the mass production of 3D NAND flash memories, are expected to grow to around 17 billion dollars for two consecutive years in 2017 and 2018, from 7.7 billion dollars in 2016. In addition, sales for China are expected to increase from 6.5 billion dollars in 2016 to 7.6 billion dollars in 2017 and 11.3 billion dollars in 2018. In the "Guidelines to Promote National IC Industry Development" issued in 2014 and the "Made in China 2025" project announced in 2015, the Chinese government aims to promote the semiconductor industry. In 2018, more than 10 new plants of semiconductors will begin operations by companies such as Taiwan Semiconductor Manufacturing Company Limited (TSMC) and the Semiconductor Manufacturing International Corporation (SMIC).

The booming semiconductor market has driven the recovery of the world's trade, while giving a strong boost to Japan's exports. Of Japan's major export items, total exports of digital-related products including





semiconductors, their production equipment, and scientific and optical instruments stood at 2.2 trillion yen for the third quarter of 2017, up 305.1 billion yen from a year earlier. Furthermore, the cumulative amount of increase in export value for January-September was 1.1 trillion yen, which surpasses the amount of increase in exports of three automobile-related items (automobiles, auto parts and engines) at 934.3 billion yen (their export value was nearly double that of the above three items).

At the end of 2017, the price of DRAM, which is a typical semiconductor memory device, rose by 39% from the previous year, and that of NAND-type flash memory also rose by 21% from the previous year. In the first place, given the current situation where big data, Internet of Things (IoT), and artificial intelligence (AI), all of which help boost the demand for semiconductors, are hot topics in society, it is no wonder that the semiconductor industry is enjoying a boom called a “super cycle,” which surpasses the peaks of past booms.

However, looking back, the demand for semiconductors increased globally and the arrival of a super cycle was heralded in the past. Moreover, the steel and petrochemical industries have been troubled by overcapacity as a result of China’s vigorous investment. Some point out that, if the current boom expands not only to typical semiconductor devices such as memories and processors, but also to liquid crystal devices, sensors, condensers, motors, etc., the difference between boom and slump will narrow down. On the other hand, in that case, if a wide imbalance between supply and demand takes place, it will have a greater impact. Since the semiconductor industry undoubtedly has played a part in economic recovery so far, one needs to pay close attention to the trend of the Chinese semiconductor industry and the development of the silicon cycle.

Selected Economic Indicators	Fiscal Year		2016		2017	
	2015	2016	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun
GDP at current prices (SAAR, Trillion Yen)	532.0	538.0	536.6	539.4	538.8	542.8
Real GDP at 2011 prices (SA, q/q%)	1.3%	1.3%	0.2%	0.4%	0.3%	0.6%
Industrial Production Index (SA, 2010=100)	97.5	98.6	98.0	99.8	100.0	102.1
Exports (SA, Trillion Yen)	74.1	71.5	17.0	18.0	19.2	19.0
Imports (SA, Trillion Yen)	75.2	67.5	16.2	17.0	18.3	18.6
Balance on Current Account (SA, Trillion Yen)	17.9	20.4	4.9	5.1	5.4	4.7
Corporate Bankruptcies	8,684	8,381	2,087	2,086	2,079	2,188
Unemployment Rate (SA, %)	3.3%	3.0%	3.0%	3.1%	2.9%	2.9%
Wage Index (SA, 2010=100)	100.2	100.6	100.8	100.5	100.9	100.7
Consumer Prices (y/y%)	0.2%	-0.1%	-0.5%	0.3%	0.3%	0.4%
Nikkei Stock Average	18,841	17,520	16,497	17,933	19,241	19,503
Japanese Government Bond Yields (%)	0.29	-0.05	-0.13	0.00	0.07	0.04
Foreign Exchange Rate (Yen/ Dollar)	120.1	108.4	102.4	109.3	113.6	111.1

Note: SAAR means Seasonally Adjusted Annual Rate. SA means Seasonally Adjusted.
q/q% means %change from a quarter earlier. y/y% means %change from a year earlier.
Source: CAO, METI, MOF, Tokyo Shoko Research, MIC, MHLW, Nihon Keizai Shimbun, CEIC, BOJ

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