Mizuho Economic Outlook & Analysis

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Will the consumption tax hike dampen consumer spending once again?

Households' familiar prices and thrift-consciousness hold the key

< Summary >

◆ Japan's consumer spending slowed down after the consumption tax hike in April 2014, but has returned since 2017 to the same expansionary path seen during the period of economic growth lasting from 2002 to 2008 (known as the *Izanami Boom*). Going forward, the focal point is whether the economic expansion will be able to overcome the consumption tax hike scheduled in October 2019.

◆ Triggered by the tax increase in 2014, prices were raised centered on familiar, frequently purchased items. This move heightened the households' familiar prices and strengthened their thrift-consciousness, leading to a longer-than-expected slump in consumption.

◆ On the other hand, we expect the strengthening of thrift-consciousness to be mitigated in 2019, thanks to the introduction of a reduced tax rate system for food and drink. Although a temporary surge in consumption and subsequent reactionary decline will occur, we expect the overall level of consumer spending to continue on an expansionary track.

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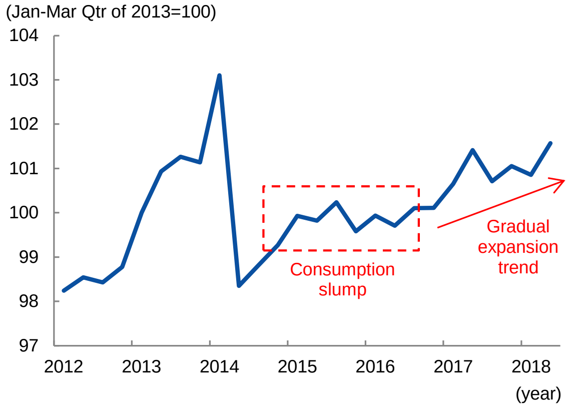
1. Personal spending is growing gradually. Will it be able to overcome the consumption tax hike in 2019?

Japan's personal consumption, after the temporary surge and subsequent decline before and after the consumption tax hike in April 2014, slowed down during the period between 2015 and 2016 (**Chart 1**). But consumption returned to a growth track in 2017. Real consumption growth from the Jan-Mar quarter of 2017 to the Apr-Jun quarter of 2018 was +0.24% year on year on average. This level of growth is similar to the average growth rate recorded during the *Izanami Boom*, the period of economic expansion from 2002 to 2008, which was +0.26%, and even now consumer spending continues growing gradually. An increase in employment and higher wages has fueled people's income level, supporting growth in personal spending.

As we forecast the future trend of consumer spending, the biggest issue is the impact of the consumption tax hike scheduled in October 2019. After the last consumption tax hike in 2014, consumer spending slowed down for a longer period than expected, with growth in real consumption from 2015 to 2016 amounting +0.11% on average, showing that growth remained at an extremely low level. Our concern is that the tax increase in 2019 will dampen personal consumption, just like in 2014. Personal consumption is the biggest demand item, accounting for about 60% of the Japanese economy, and its movement exerts a significant impact on economic trends.

Chart 1: Real consumption



Source: Made by MHRI based upon the Cabinet Office, *Quarterly Estimates of GDP*.

In this report, we explain the mechanisms through which the consumption tax hike affects personal consumption, verify the factors behind the slowdown in consumption following the consumption tax increase in 2014, and draw up a short-term outlook after 2019.

2. Three mechanisms through which the consumption tax hike affects personal spending.

First of all, through what kinds of mechanisms does a consumption tax increase affect personal spending? In this report, we divide these mechanisms into (1) substitution effect, (2) income effect and (3) thrift-consciousness effect, and explain how they affect personal spending. **Chart 2** depicts the three mechanisms as a conceptual diagram.

(1) The substitution effect occurs when a part of consumption that is originally

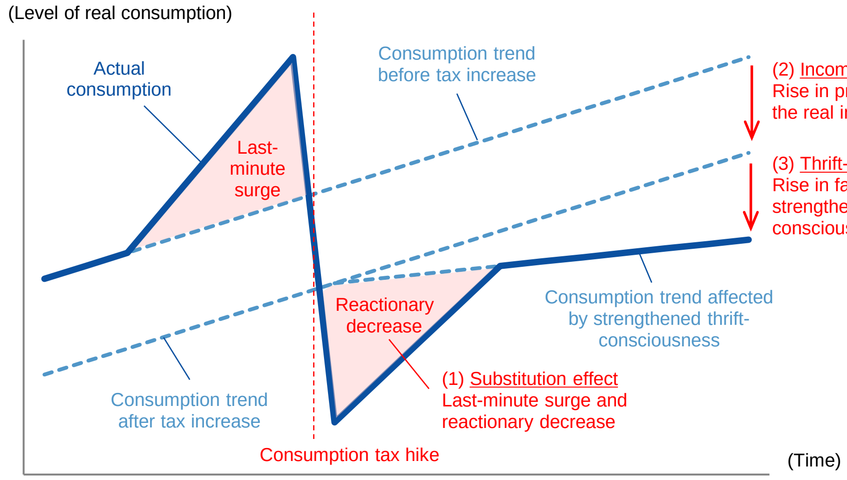
supposed to occur after a tax increase moves up before the actual tax increase. When the government announces the timing of a tax hike, an incentive emerges for households to spend more while the tax rate is low. This invites a surge in personal consumption before the tax increase and a subsequent fall in consumption after the tax rate is raised, causing a one-time significant up-and-down fluctuation in personal spending.

(2) The income effect emerges when the level of real income declines due to the higher tax rate and ultimately reduces the level of real consumption. In October 2019, the consumption tax rate will rise to 10% from 8%, and if we assume that prices before tax will remain unchanged, prices after tax are expected to increase by 1.85% (=1.10/1.08-1).[1] As a result, income level in real terms that takes into account the rise in prices after tax due to the tax increase will decline by 1.85% during the post-consumption tax hike period compared with the period before the tax increase.

In addition, companies in Japan may be tempted to raise prices before tax, as the consumption tax increase provides a good opportunity for companies to revise existing prices. An increase in prices before tax includes not only an opportunistic price hike to take advantage of the consumption tax hike, but also a chance to revise prices by shifting the general increase in raw material and personnel costs onto prices. If prices before tax are raised, prices after tax will rise by more than 1.85% as described above, and this will reduce households' real income level even further.

(3) The thrift-consciousness effect means a stronger tendency for households to save, triggered by an increase in households' familiar prices due to higher after-tax prices following the consumption tax hike and the revision of prices. In particular, the price

Chart 2: How the consumption tax hike affects personal consumption (conceptual diagram)



Source: Made by MHRI

[1] However, since personal consumption includes such tax-free items as rent, medical cost, insurance cost, tuition fee and public service cost, the actual growth rate of after-tax prices of overall personal consumption due to the consumption tax hike is expected to be lower than 1.85%.

increase of familiar items such as food and drink has a great impact on households' familiar prices (prices of items familiar to households) and is expected to strengthen the propensity of households to save. Furthermore, familiar prices tend to "rise easily but not fall as readily," and once the rate of increase heightens, it does not decline so easily (Sakai et al., 2018). This is because households, while susceptible to the rising prices of familiar items, once they experience a price increase, the strong impression makes them unresponsive to subsequent price declines. Hence, once familiar prices go up, households' sentiment continues to worsen and impedes growth in personal consumption for a long period.

3. The slump in consumption after the consumption tax hike in 2014 was affected by a rise in familiar prices.

In this section, we confirm how the three mechanisms described above actually affected personal spending at the time of the consumption tax hike in 2014.

As for the substitution effect, we can estimate that the real personal consumption was pushed up by about 2.5% due to a last-minute surge in spending during the Jan-Mar quarter of 2014, and that a reactionary reduction in personal spending on a similar level occurred after the tax hike in the Apr-Jun quarter of 2014.[2] If we focus on consumption by type, consumer durables such as automobiles and consumer electronics topped the list as their amounts in terms of last-minute consumption and reactionary reduction were large. Consumer durables include many big-ticket items and impose a higher burden on consumers at the time of a consumption tax hike. Also, once consumer durables are purchased they tend to be used for at least a few years, unlike food and drink that are consumed constantly. We consider these to be the main reasons why the big last-minute surge and subsequent fall in consumption occurred for consumer durables.

Next, regarding the income effect, the higher consumption tax rate pushed down real disposable income in FY2014 by 2.41 percentage points. In addition, for many items, prices were raised in conjunction with the tax increase. Items whose prices went up by more than the consumption tax increase (+2.86%[3]) at the time of the consumption tax hike in April 2014 accounted for around 55% on a consumer prices index (CPI) weighted basis (**Chart 3**). It seems that costs that had been rising due to the yen depreciation and

[2] We added the dummy variables of last-minute consumption before the tax hike (Jan-Mar qtr of 2014 = 1) and reactionary reduction in consumption (April-June of 2014 = 1) to the consumption function of the error correction model whose explained variable is the change rate of real consumption from the previous term, and we compared the coefficients of the estimated dummy variables with the size of the last-minute hike and reactionary reduction of consumption at the time of the tax increase in 2014.

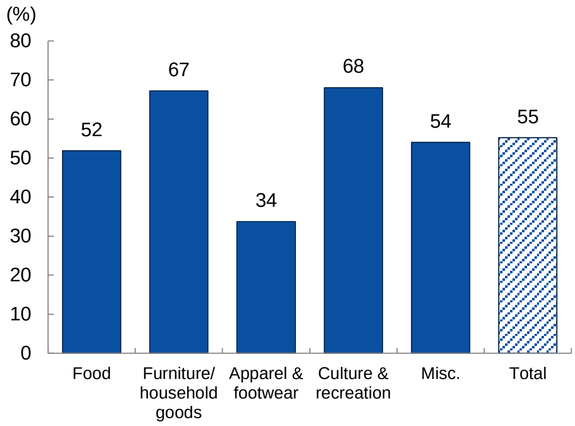
[3] Since the consumption tax rate was raised from 5% to 8% in April 2014, assuming that prices before tax were constant, the increase rate of prices after tax is calculated as 1.08/1.05-1≈2.86%. Nonetheless, just like in note 1, due to the presence of consumption tax-free items, the actual growth rate of after-tax prices of overall personal consumption due to the consumption tax hike stayed at +2.41% (value computed using the household final consumption expenditure deflator [excluding imputed rent and FISIM]).

higher energy prices were transferred onto final prices. This increase in prices before tax that includes the cost transfer onto prices triggered a fall in real disposable income in FY2014 by 0.68 percentage points.[4] If we combine the impact of the tax increase and the rise in prices before tax, the range of decline in real disposable income is estimated to be 3.08 percentage points.

Although various income support measures were taken, such as benefit payments to low income earners and tax reductions on housing loans, the double impact of the consumption tax hike and increase in prices before tax was so big that real disposable income in FY2014 dropped by 2.29% compared with the previous year. As a result, real personal consumption in FY2014 also showed a substantial decline of -2.50% from the preceding year.

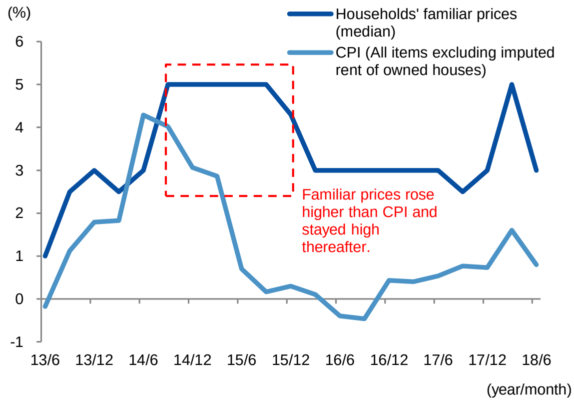
Furthermore, from a thrift-consciousness effect perspective, growth in households' familiar prices was higher compared with the growth in CPI after the tax increase in 2014 (**Chart 4**). One factor behind the rise in households' familiar prices is the increase in the prices of familiar goods that are purchased frequently by households, as mentioned earlier. If we look at **Chart 5** where CPI growth is broken down by purchase frequency, after the consumption tax increase in April 2014, we can see that such items as bread,

Chart 3: Proportion of items whose prices rose more than the increase caused by the tax hike (April 2014)



Note: Proportions were calculated on a CPI weighted basis by item.
Source: Made by MHRI based upon the Ministry of Internal Affairs and Communications, *Consumer Price Index*.

Chart 4: CPI and familiar prices



Notes: 1. Households' familiar prices are the median of answers to the survey question, "By what percent do you think prices have changed compared with one year ago?"
2. CPI is the CPI of all items excluding imputed rent.
Source: Made by MHRI based upon the Bank of Japan, *Opinion Survey on the General Public's Views and Behavior*, and the Ministry of Internal Affairs and Communications, *Consumer Price Index*, among others.

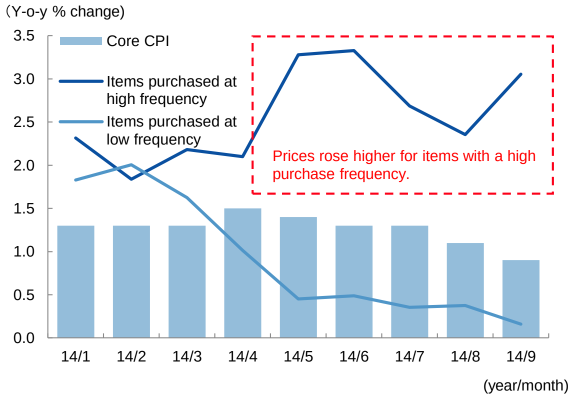
4 In terms of the household final consumption expenditure deflator (excluding imputed rent and FISIM) used when calculating the real value of employee compensation, we calculated the index after adjusting the consumption tax using the consumer price index (all items excluding imputed rent), and computed the impact of the rise in prices before tax on real disposable income.

vegetables and gasoline that are purchased more frequently by households showed higher growth in prices. Thus, we believe it is fair to say that an increase in the tax rate and prices before tax of "items purchased more frequently" is responsible for the surge in familiar prices after the tax increase.

Moreover, due to the characteristics of familiar prices that "go up easily but do not fall as readily," the growth rate of familiar prices remained high even after CPI growth slowed down after the tax increase in 2014 (**Chart 4**). With familiar prices continuing to go up, we presume that many households felt that their real income had fallen more significantly compared with the actual volume of decline. Looking at the "real familiar wage" derived by calculating the real value of nominal wage using familiar prices, it became more sluggish than the real wage calculated using the CPI (all items excluding imputed rent for owned houses) after the 2014 tax increase and hovered in the negative territory (**Chart 6**). There is no doubt that the slowdown in growth in wage that is familiar to households strengthened their thrift-consciousness, leading to a slump in personal consumption.

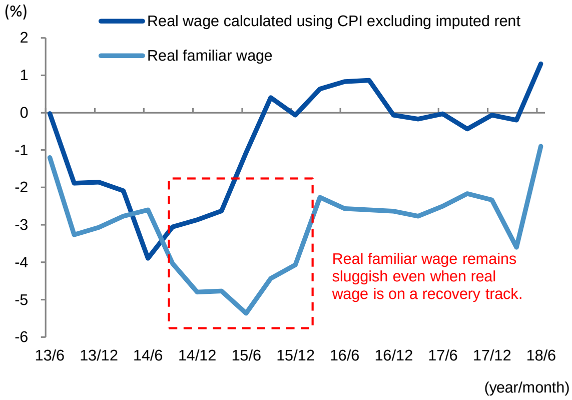
Thus, after the consumption tax hike in 2014, the substitution effect, income effect and thrift-consciousness effect all served as significant negative factors on real consumption. In particular, the fact that familiar prices remained high for a long time causing households' thrift-consciousness to persist is thought to be the main factor for the longer-than-expected slump in personal consumption after the tax increase.

Chart 5: CPI by purchase frequency of items



Notes: 1. High purchase frequency items are those items purchased more than 15 times a year (about 40 items, accounting for about 12% of the core CPI weight). Low purchase frequency items are items purchased less than 0.5 times a year (about 190 items, accounting for about 19% of the core CPI weight).
2. Excluding the impact of the consumption tax hike.
Source: Made by MHRI based upon the Ministry of Internal Affairs and Communications, *Consumer Price Index*.

Chart 6: Real wage and familiar real wage



Notes: 1. The real value of familiar wage was calculated using familiar prices.
2. The real value of wage was calculated using the CPI (all items excluding imputed rent).
Source: Made by MHRI based upon the Ministry of Internal Affairs and Communications, *Consumer Price Index*, the Ministry of Health, Labour and Welfare, *Monthly Labour Survey*, and the Bank of Japan, *Opinion Survey on the General Public's Views and Behavior*.

4. Downward pressure on consumption is expected to be mitigated for all three mechanisms after the 2019 tax increase.

Based on our analysis thus far, we now examine the expected impact of the consumption tax increase in 2019.

In terms of the substitution effect, we need to watch whether a last-minute surge in consumer durables purchases will occur or not. Thus we look at the movement of the stock ratio of consumer durables to confirm the extent of stock adjustment pressure.[5] It expresses the ratio of the amount of durable goods consumption each term (flow), divided by the amount of the outstanding consumer durables (stock) in the Japanese economy. If the stock ratio is high, this suggests that consumption is excessive against the appropriate level of stock, and this makes it easier to place adjustment pressure on consumer durables. In contrast, if the stock ratio is low, this means the amount of consumer durables consumption is too small against the appropriate level of stock, and hence we can interpret that there is room for growth in durable goods consumption.

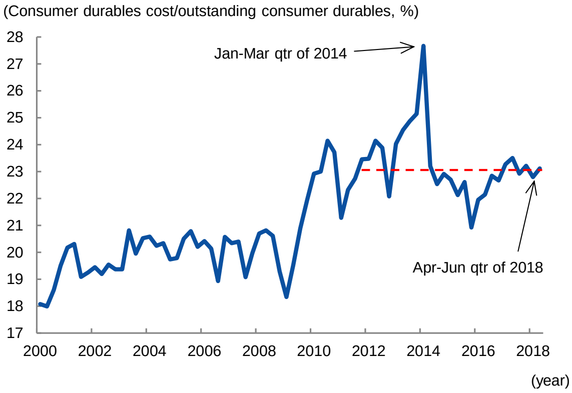
If we look at **Chart 7**, the stock ratio has been hovering at around 23% since the latter half of 2016. This level is almost the same as the level before the last-minute surge in consumption emerged prior to the consumption tax hike in 2014 (around 2012-2013). At that time, due to the last-minute rise in durable goods consumption, the stock ratio spiked from about 23% to over 27% in the Jan-Mar quarter of 2014. Based on this experience, it can be inferred that similar last-minute purchases of consumer durables will be repeated at the time of the tax increase in 2019.

Nonetheless, we hold that the volume of last-minute purchases will be smaller in 2019 compared with the time of the 2014 tax increase. The range of consumption tax rate increase in 2019 will be 2 percentage points (8%→10%), lower than the 3 percentage points (5%→8%) in 2014. Furthermore, considering that as of April 2014, the consumption tax rate was scheduled to be raised additionally to 10% in October 2015, there is a possibility that last-minute consumption at that time may have factored in a tax rate increase of 5 percentage points (5%→10%). Therefore, at the time of the tax increase in 2019, while a last-minute surge in consumption and reactionary reduction are expected to occur centered on consumer durables due to the substitution effect, the volume is expected to be limited compared with 2014.

Next we take a look at the income effect. **Chart 8** is a breakdown of the impact on real disposable income that emerges at the time of the consumption tax increase. At the time of the 2014 tax hike, the decline in real disposable income reached 3.08 percentage

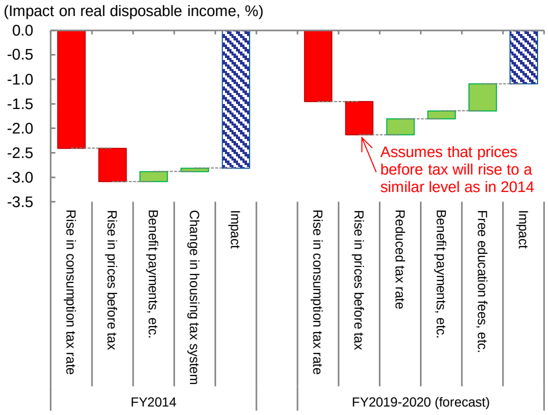
[5] Refer to Ichikawa (2015) for a detailed analysis of consumer durables from a stock perspective.

Chart 7: Stock ratio of consumer durables



Notes: 1. We assume a constant depreciation value per year and used the yearly outstanding stock value in the quarterly calculation.
2. After 2017, we fixed the depreciation rate as of 2016 year-end and extended the outstanding stock value.
Source: Made by MHRI based upon the Cabinet Office, *Annual Report on National Accounts* and *Quarterly Estimates of GDP*.

Chart 8: Impact of the consumption tax hike on real disposable income



Notes: 1. The price index is the households' final consumption deflator (excluding imputed rent and FISIM).
2. Since the impact on the tax rate increase after the October 2019 consumption tax hike will be divided into FY2019 and 2020, we depicted a two-year value.
Source: Made by MHRI based upon the Cabinet Office, *Annual Report on National Accounts* and *Quarterly Estimates of GDP,* among others.

points due to the consumption tax hike and rise in prices before tax, as mentioned earlier. Although income support measures, including payment of benefits, mitigated the decline by 0.27 percentage points, the net impact was a decline of 2.81 percentage points. On the other hand, at the time of the 2019 tax increase, even assuming that prices before tax will rise by the same amount as in 2014, we estimate that the net negative impact on real disposable income will remain at 1.09 percentage points.[6]

The reason for the substantial difference in the negative impact on real disposable income is that the consumption tax rate increase will be smaller in 2019 and that the government will extensively expand its income support measures. Up until now, various income support measures have been announced in the "New Economic Policy Package" of December 2017 and the "Basic Policy on Economic and Fiscal Management and Reform 2018" (Basic Policy) of June 2018. The specific income support scheme includes a reduced tax rate for food, drink and newspapers, benefit payments for pensioners, and free education for young children and higher education students, and the government plans to spend over 3 trillion yen on this income support program. This is almost four times greater than the income support scheme introduced at the time of the tax increase in 2014 (less than 1 trillion yen in total).

6 Since the tax hike in 2019 is scheduled for October, which is mid-fiscal year, the negative impact on real income caused by the tax rate hike will be dispersed in FY2019 and 2020.

Lastly, concerning the thrift-consciousness effect, the focal point here is the reduced tax rate mentioned in the income effect section. In the reduced tax rate system that will be introduced together with the tax increase in 2019, consumption tax rates for food, drink and newspapers will stay unchanged at 8% even after October 2019. In terms of CPI weight, food and drink account for over 60% of items purchased at high frequency that can greatly affect households' familiar prices. Therefore, by introducing a reduced tax rate for food and drink, we expect the increase rate of after-tax prices for items purchased at high frequency to be relatively subdued, limiting the increase in familiar prices compared with the rise experienced after the 2014 consumption tax hike. As a result, we expect that the pressure on households' thrift-consciousness will be alleviated and so will the downward pressure on consumption. We hold that the introduction of the reduced tax rate system for food and drink will play a pivotal role in softening the thrift-consciousness effect that caused a downturn in personal consumption after the tax increase in 2014.

5. Personal consumption is expected to maintain a gradual expansion. The risk factor is cost transfer by companies.

In this report, we studied the mechanisms through which the consumption tax hike can affect personal consumption and provided our forecast on the potential impact of the consumption tax hike scheduled in October 2019 based on the experience of the 2014 consumption tax increase.

The major factor behind the longer-than-expected slump in personal spending at the time of the 2014 tax hike was the surprise surge in familiar prices that stayed high even beyond the tax increase, stimulating the thrift-consciousness of households. On the other hand, for the consumption tax hike planned in 2019, it is highly likely that the negative influence of the tax increase on personal consumption will be limited by virtue of the introduction of the reduced tax rate system intended to subdue the rise in familiar prices. While a one-time surge and fall in consumption is predicted before and after the consumption tax hike in October 2019 due to last-minute purchases and their repercussion, if we even out these fluctuations, we believe that personal consumption will stay on a gradual expansionary track in the future.

Nonetheless, if companies suddenly start transferring the increase in personnel and other costs onto final prices in conjunction with the tax increase, this move will heighten familiar prices and run the risk of strengthening households' thrift-consciousness. There is only one year until the consumption tax increase. To project the future trend of personal consumption, we need to watch out for any developments that may result in a rise in familiar prices, such as changes in the stance of companies on increasing prices.

Refer to the original Japanese report by clicking the URL below for the reference material.

https://www.mizuho-ri.co.jp/publication/research/pdf/insight/jp180907.pdf