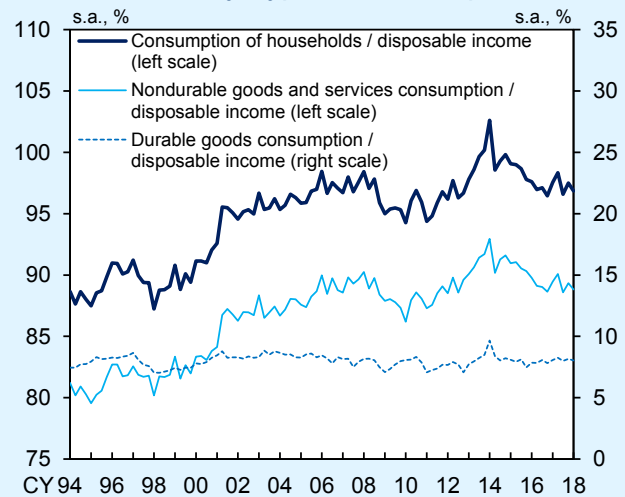


### (Box 3) The Relationship between the Expansion in the Labor Force Participation of Women and Seniors and the Decline in the Propensity to Consume

From a somewhat longer-term perspective, the macroeconomic propensity to consume followed a moderate uptrend until around 2014 -- albeit with some fluctuations that mainly reflected the consumption tax hike -- but started to decline in the past few years (Chart B3-1). By type of consumption, whereas the propensity to consume durable goods basically is more or less unchanged at a certain level, the propensity to consume nondurable goods and services started to decline from around 2014. This suggests that the latter determines developments in the overall propensity to consume. Against this background, this box examines the possibility that the expansion in the labor force participation of women and seniors in recent years has played a role in these developments. Specifically, it highlights the possibility that the macroeconomic propensity to consume may have been pushed down by (1) the fact that the number of dual-income households, which have a relatively low propensity to consume, has been increasing due to the growing employment of women, and (2) the fact that the number of senior households with a working head, which have a relatively low propensity to consume, has been increasing due to the growing employment of seniors.

Taking the labor force participation rates by gender and age as given, the overall labor force participation rate should have continued to show a trend decline due to demographic changes in recent years. In reality, however, it bottomed out around end-2012 and has continued on an

**Chart B3-1: Developments in the Propensity to Consume by Type of Consumption**



Source: Cabinet Office.  
 Note: Figures for nondurable goods and services consumption are calculated by subtracting figures for durable goods consumption from those for consumption of households.

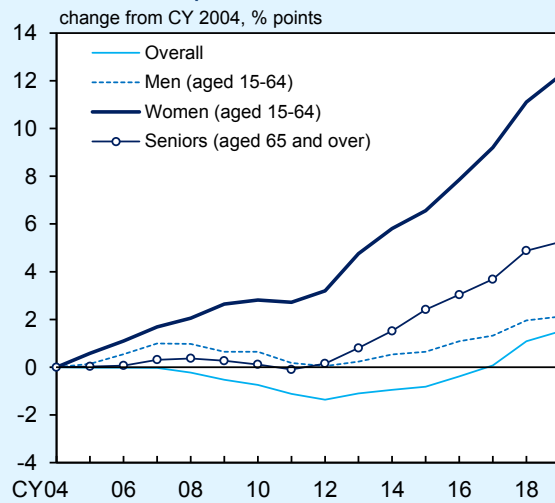
uptrend since then (Chart B3-2). While the demand-side factors, such as the increase in labor demand as a result of the economic expansion since 2013, have played a part, the supply-side factors in a broader sense, including various legal reforms and institutional changes, as well as efforts by the government and firms to promote employment, also seem to have played a major role. More specifically, the supply-side factors are as follows: (1) employment support for women of child-rearing age, such as the provision of nursery facilities within the place of business, has increased women's desire to join the labor force, and (2) the government's measures to encourage firms to retain workers by raising the age at which pensions start to be paid and extending the retirement age have expanded the employment of seniors.<sup>39</sup>

These structural changes in labor supply likely have had a non-negligible impact on the macroeconomic propensity to consume. That is, (1) since the propensity to consume of dual-income households is relatively lower than that of single-income households, an increase in the number of dual-income households has exerted downward pressure on the macroeconomic propensity to consume (Chart B3-3).<sup>40</sup> Moreover, (2) since the propensity to consume of senior households with a working head also is relatively lower than that of senior

<sup>39</sup> For details on the expansion in the labor force participation of women and seniors in recent years, see Box 2 in the October 2017 Outlook Report.

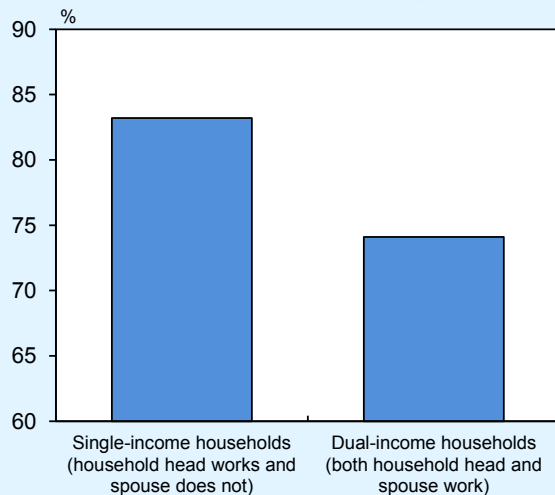
<sup>40</sup> For a more detailed analysis on the factors behind the increase in the employment of women since 2012 in particular, including the government's measures to improve the work environment, see "The Recent Increase in Dual-Income Households and Its Impact on Consumption Expenditure," *Bank of Japan Review Series*, no.17-E-7.

**Chart B3-2: Developments in the Labor Force Participation Rate**



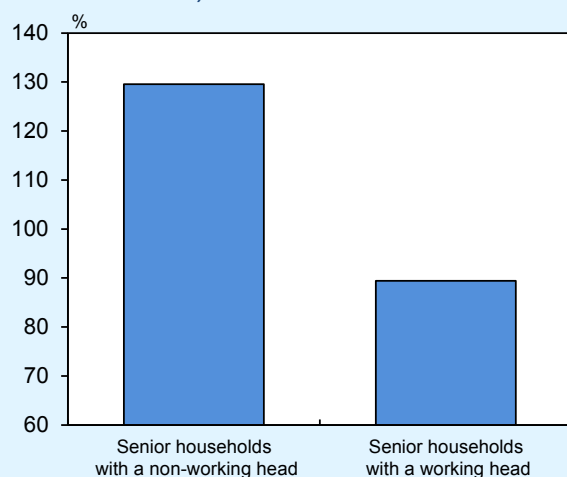
Source: Ministry of Internal Affairs and Communications.  
Note: Figures for 2019 are January-June averages on a seasonally adjusted basis.

**Chart B3-3: Propensity to Consume (Single- and Dual-Income Households)**



Source: Ministry of Internal Affairs and Communications.  
Note: Propensity to consume = consumption / disposable income. Figures are for workers' households with at least two members in the "National Survey of Family Income and Expenditure" conducted in 2014.

**Chart B3-4: Propensity to Consume (Senior Households)**



Source: Ministry of Internal Affairs and Communications.  
Note: Propensity to consume = consumption / disposable income. Senior households are households with a head aged 60 or older. Figures are for households with at least two members in the "Family Income and Expenditure Survey," and are averages for the period from 2000 through 2017.

households with a non-working head relying on pension income, an increase in the employment of seniors also has led to a decline in the overall propensity to consume (Chart B3-4).

In order to quantitatively examine the impact of such changes in labor supply on the macroeconomic propensity to consume, this box estimates a propensity-to-consume function that explicitly incorporates the labor force participation rate as an explanatory variable. The estimation results for the long-run relation to the propensity to consume nondurable goods and services, which determines the macroeconomic propensity to consume, suggest that a higher labor force participation rate shows a statistically significant lower propensity to consume (Chart B3-5). Thus, the decline in the propensity to consume in recent years mostly can be explained by explicitly taking into account the labor force participation rate as a determinant of changes in the propensity to consume (Chart B3-6).

The above analysis suggests that the decline in the propensity to consume in recent years is not necessarily a "reactive" phenomenon that reflects a rise in households' preference to cut back on spending but also has a "proactive" aspect. In other words, although the propensity to consume has declined, employee income newly generated by the increase in the employment of women and seniors likely has led to the recent increase in private consumption (relative to a scenario with no such increase in employment).

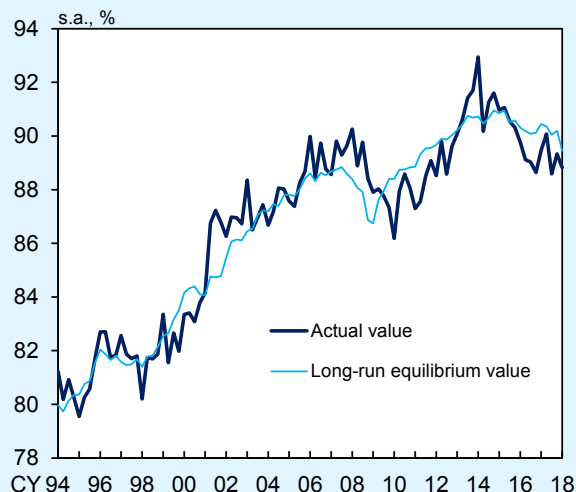
**Chart B3-5: Estimation Results (Long-Run Equilibrium)**

Dependent variable: $\ln(\text{nondurable goods and services consumption} / \text{disposable income})$	
$\ln(\text{household financial assets} / \text{disposable income})$	0.181 ***
Real interest rate gap	-0.181 **
$\ln(\text{labor force participation rate})$	-0.724 ***
S.E. of regression	0.010
Estimation period	1994/Q1-2018/Q1

Sources: Cabinet Office; Ministry of Internal Affairs and Communications; Consensus Economics Inc., "Consensus Forecasts"; Bank of Japan; Hirakata et al., "The Quarterly Japanese Economic Model (Q-JEM): 2019 Version," *Bank of Japan Working Paper Series*, No.19-E-7, etc.

Notes: 1. \*\*\* and \*\* denote statistical significance at the 1% and 5% levels, respectively.  
 2. The real interest rate gap is obtained by subtracting medium- to long-term inflation expectations and the natural rate of interest from long-term interest rates. The natural rate of interest is estimated based on the method of Hirakata et al. (2019).

**Chart B3-6: Propensity to Consume Nondurable Goods and Services**



Sources: Cabinet Office; Bank of Japan; Consensus Economics Inc., "Consensus Forecasts," etc.

Note: The propensity to consume nondurable goods and services is obtained by dividing nondurable goods and services consumption by disposable income.