

### (Box 3) Linkage between Wages and Prices: Spread of Moves to Pass Labor Cost Increases on to Selling Prices

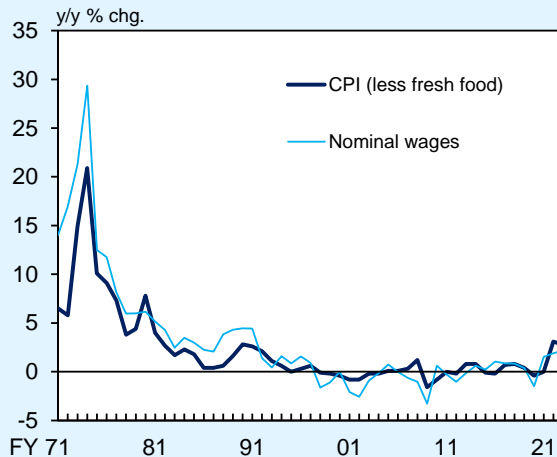
While both the year-on-year rates of change in wages and prices had remained rigidly at around 0 percent since the 2000s, they have been rising recently (Chart B3-1). When considering the outlook for price developments, whether the linkage between wages and prices would strengthen gradually has become increasingly important, as pointed out in past Outlook Reports.<sup>29</sup> This box provides an update on the current situation of the linkage between wages and prices.

First, regarding spillovers from prices to wages, as shown in Box 2, following last year, a high-level base pay increase is expected to be achieved at the spring labor-management wage negotiations in 2024.

Second, with regard to spillovers from wages to prices, developments in services prices -- where labor costs account for a high share of output prices -- are particularly important. In this regard, this box examines the current situation with moves to pass higher labor costs on to selling prices both qualitatively and quantitatively.

Some firms still indicate that "getting consumers to accept higher prices due to higher labor costs

**Chart B3-1: Developments in Wages and Prices**



Sources: Ministry of Internal Affairs and Communications; Ministry of Health, Labour and Welfare.

Notes: 1. The CPI figures are staff estimates and exclude the effects of the consumption tax hikes, policies concerning the provision of free education, and travel subsidy programs. Figures for nominal wages are for establishments with 30 or more employees up through fiscal 1990, and with 5 or more employees from fiscal 1991 onward. Figures from fiscal 2016 onward are based on continuing observations following the sample revisions.  
2. Figures for fiscal 2023 are April 2023-February 2024 averages.

**Chart B3-2: Interview Responses by Firms**

- Getting consumers to accept higher prices due to higher labor costs is difficult (manufacturer).
- We raised membership fees because we increased wages to recruit and retain employees (sports club).
- We expect labor market conditions to remain tight. Moreover, the continuous increase in minimum wages planned by the government will add upward pressure on wages for regular employees. Considering these factors, we have raised prices to secure funds for future wage increases (eating and drinking).
- We believe that higher labor costs should basically be absorbed through productivity gains. However, we recently changed our stance in negotiating input costs to take suppliers' wages into account (manufacturer).

Source: Interviews by the Bank of Japan.  
Note: The industry of the interviewee is shown in parentheses.

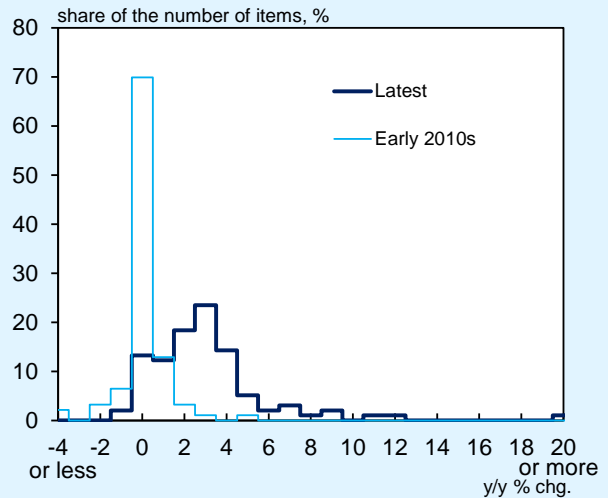
<sup>29</sup> Regarding the linkage between wages and prices, see also Box 3 of the October 2023 Outlook Report and Box 3 of the January 2024 Outlook Report.

is difficult," but in services industries, labor costs increasingly have been passed on to selling prices, as labor shortages have been exerting upward pressure on wages (Chart B3-2). Moreover, to prepare for future wage increases, some firms have raised selling prices in advance. With regard to goods prices, manufacturers still tend to hold the view that "higher labor costs should be absorbed through productivity gains"; nevertheless, moves to pass labor costs on to selling prices seem to have been spreading gradually.

Next, a look at the distribution of changes in services prices by item shows that the distribution overall has shifted to the right (Chart B3-3). This is mainly due to the fact that the inflation rates have been increasing in items such as dining out and services related to housing repairs and maintenance due to the strong impact of the past rise in import prices (Chart B3-4). As this impact wanes, such increase in the inflation rate is likely to slow. In contrast, the right tail of the distribution has become thicker recently, in culture and recreational services (such as monthly lesson fees) and in items with a high ratio of labor costs to total costs, suggesting that moves to pass labor cost increases on to selling prices have been spreading.

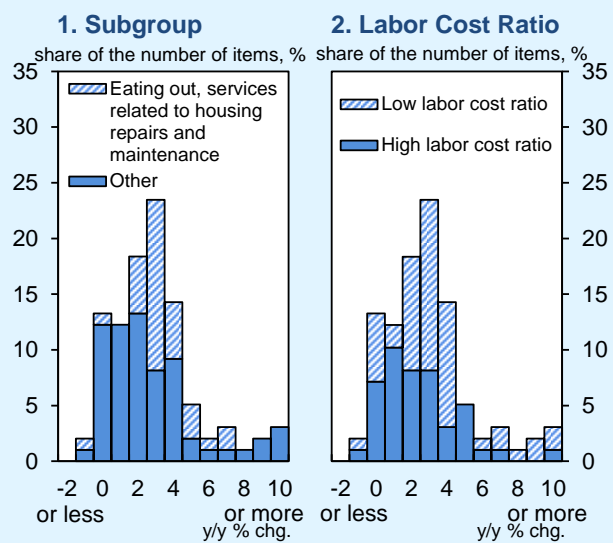
Furthermore, the following part attempts to carry out quantitative analyses that have been presented in the Bank's publications including the October 2023 Outlook Report. In Chart B3-5, a look at elasticity, which represents the response of inflation rates to wage increases, indicates that, although the CPI less fresh food has been

**Chart B3-3: Price Change Distribution of General Services, Total**



Source: Ministry of Internal Affairs and Communications.  
 Notes: 1. Figures show the CPI for general services (less housing rent and the effects of travel subsidy programs).  
 2. Figures for the early 2010s are as of March 2012 and the latest figures are as of March 2024.

**Chart B3-4: Price Change Distribution of General Services, Breakdown**

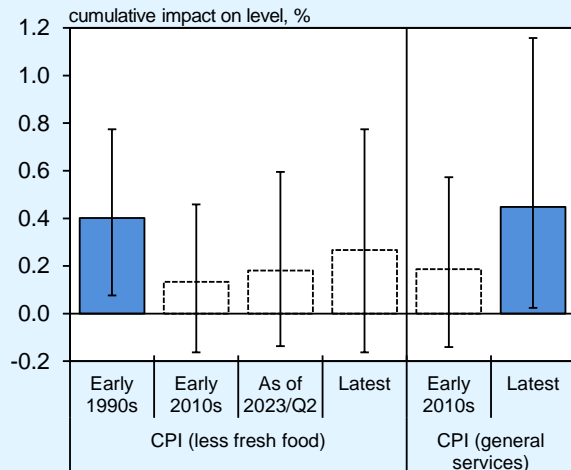


Source: Ministry of Internal Affairs and Communications.  
 Notes: 1. Figures show the CPI for general services (less housing rent and the effects of travel subsidy programs). Figures are as of March 2024.  
 2. Figures for "other" include culture and recreation.  
 3. In the right-hand chart, CPI items are matched to the items in the 2015 *Input-Output Tables for Japan* and grouped in terms of the share of "wages and salaries" and other labor costs in the domestic output of those items. Figures for items with a high (low) labor cost ratio are for items that fall into the top (bottom) 50 percent in general services.

increasingly reactive, it is not statistically significant yet; on the other hand, the elasticity of the services prices to wage increases has increased recently in a statistically significant way. Moreover, "low-volatility items," "wage factors," and "the trend in services prices," all of which are estimated using the statistical methods to determine upward pressure on prices deriving from the linkage between wages and prices, have been increasing further (Chart B3-6).<sup>30</sup> In addition, high base pay increases are expected to be agreed in the 2024 spring labor-management wage negotiations. This will also encourage an increased spillover from wages to prices.

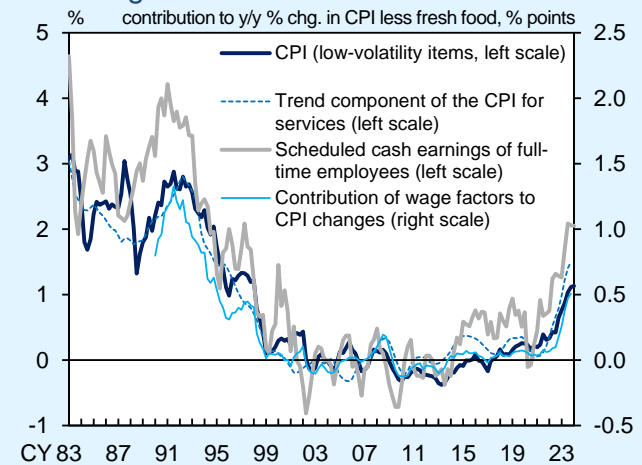
As explained, positive developments have been spreading in firms' wage- and price-setting behavior as time has passed. It is necessary to keep monitoring carefully from various standpoints if recent changes in firms' behavior will continue. A few firms point out that "it is easy to pass labor costs on to selling prices together with a rise in raw material costs amid the remaining effects of the rise in the latter, which is an exogenous shock common to many firms." Going forward, careful attention is warranted in particular on whether labor cost increases will continue to be passed on to selling prices as the effects of the past rise in raw material costs wane further.

**Chart B3-5: Response of Prices to a 1% Increase in Wages**



Sources: Ministry of Internal Affairs and Communications; Cabinet Office; Bank of Japan.  
 Notes: 1. Figures show the estimation results of a time-varying parameter VAR model consisting of the output gap, nominal wages, and the CPI. Import prices are added as an exogenous control variable. The CPI figures are staff estimates and exclude temporary factors.  
 2. Figures are 4-quarter cumulative impulse responses. The bands indicate the 75 percent confidence intervals, while the broken lines indicate that the results are not statistically significant. Figures for the early 1990s are as of 1991/Q2, those for the early 2010s are as of 2012/Q2, and the latest figures are as of 2023/Q4.

**Chart B3-6: CPI and Scheduled Cash Earnings**



Sources: Ministry of Internal Affairs and Communications; Ministry of Health, Labour and Welfare; Bank of Japan.  
 Notes: 1. Figures for low-volatility CPI items and scheduled cash earnings of full-time employees are year-on-year percentage changes, while those for the trend component of the CPI for services are the 6-quarter backward moving averages of annualized quarter-on-quarter percentage changes. Figures for scheduled cash earnings of full-time employees before 1994 are those for regular employees. Moreover, figures from 2016 onward are based on continuing observations following the sample revisions.  
 2. Figures for the contribution of wage factors to CPI changes are based on the relationship between the CPI and wages, estimated using a 4-variable VAR model comprising import prices (yen basis), the output gap, wages (scheduled cash earnings of full-time employees), and price indices for low-, medium-, and high-volatility items in the CPI. The estimates are obtained using 20-year rolling regressions for low-, medium-, and high-volatility CPI items.  
 3. Figures for the trend component of the CPI for services are the composite of the sector-specific price trend for services and the common trend in services prices and wages. The figures are estimated using category-level services prices and industry-level scheduled cash earnings.

<sup>30</sup> For details of each indicator, see "Recent Developments in the Linkage between Wages and Prices," *Bank of Japan Review Series*, forthcoming.