(Box 3) Linkage between Wages and Prices: Current Situation and Future Issues

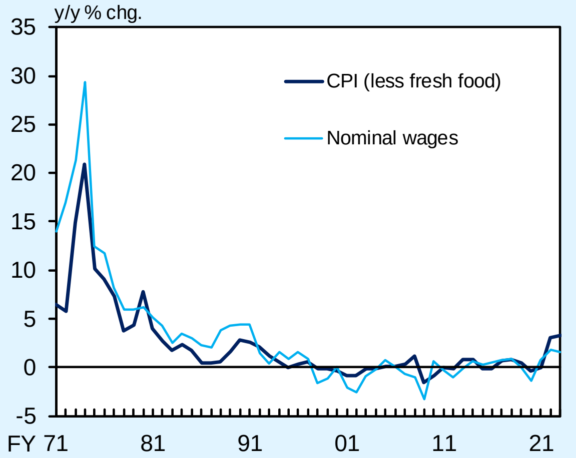
While the year-on-year rates of change in wages and prices had both been hovering at around 0 percent since the 2000s, they have been rising recently (Chart B3-1). In order to achieve stable inflation, it is important that wages and prices interact and gradually push each other up. This box assesses the current state of the link between wages and prices and provides an overview of issues going forward.

First, regarding spillovers from prices to wages, as shown in Box 1, price rises were reflected in wages in the annual spring labor-management wage negotiations in 2023. It is necessary to monitor whether this development will continue, including in the annual spring labor-management wage negotiations from next year onward.

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.[21]

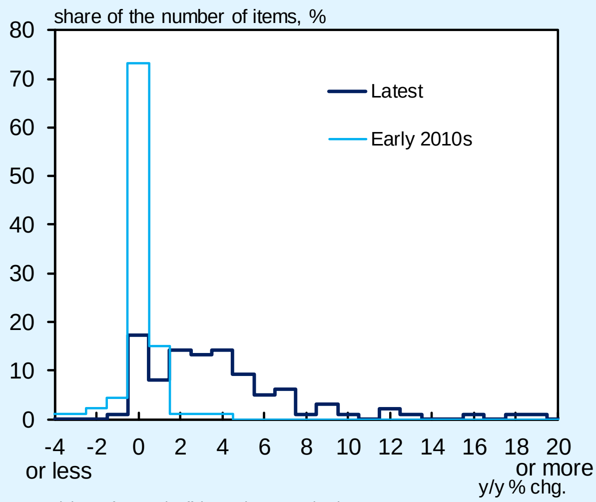
A look at the distribution of changes in services prices by item shows that the distribution overall has shifted to the right (Chart B3-2). However, this is partly because of the fact that prices of many service items, such as dining out and services related to housing repairs and maintenance, have been rising due to the strong impact of the past

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.
2. Figures for fiscal 2023 are April-August averages.

Chart B3-2: Price Change Distribution (General Services)



Source: Ministry of Internal Affairs and Communications.
Notes: 1. Figures show the CPI for general services (less housing rent).
2. Figures for the early 2010s are as of June 2012 and the latest figures are as of September 2023.

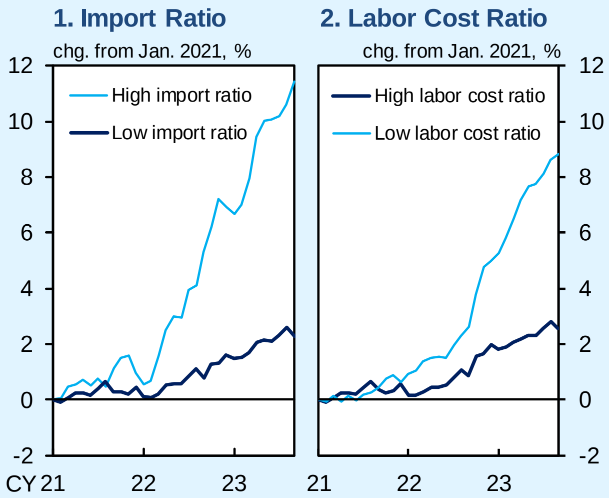
[21] For differences in the cost structure of output prices by industry, see Box 2 of the April 2023 Outlook Report.

rise in import prices. In this regard, price rises have been relatively slower for items with a low ratio of import costs to total costs and those with a high ratio of labor costs to total costs (Chart B3-3). In order for prices across a wide range of items to increase in a well-balanced manner once the impact of higher import prices has dissipated, moves to reflect actual wage increases in prices as well as forward-looking price-setting behavior in anticipation of factors such as future rises in wage costs will need to spread. In this respect, while many firms, when asked whether they have been able to reflect a wide range of costs, including wages, in their selling prices, point out that it has been difficult to pass on costs other than raw material costs to this point, some have started to say that they have raised prices to secure funds for future wage increases (Chart B3-4).

Econometric methods to examine the linkage between wages and prices show that, in Japan, wages have not responded in a statistically significant way to increases in prices and vice versa for a long time, but this situation may be changing (Chart B3-5). Starting with spillovers from prices to wages, the latest elasticity has increased in a statistically significant way, although it has not reached the level of the early 1990s, when inflation was stable. On the other hand, with regard to spillovers from wages to prices, although the elasticity itself has risen, no statistically significant change is observed at this point.[22] Attention needs to be paid to whether the

[22] Chart B3-5 shows the estimation results using a time-varying parameter VAR model. On this point, conducting a rolling estimation with similar variables using a local projection method has led to almost the same results.

Chart B3-3: CPI by Cost Structure



Source: Ministry of Internal Affairs and Communications.
Notes: 1. Based on staff calculations using the CPI excluding fresh food, energy, mobile phone charges, and imputed rent.
2. CPI items are matched to the items in the *2015 Input-Output Tables for Japan* and grouped in terms of their "total imports coefficient" or the share of "wages and salaries" and other labor costs in the domestic output of those items. Figures in the chart are the weighted averages of the items grouped in the top (bottom) 25 percent.

Chart B3-4: Interview Responses by Firms

Firms experiencing difficulty in passing on higher labor costs to output prices

-- We have been forced to pass on increases in raw material costs to our output prices and have continued to raise prices. On the other hand, we have absorbed higher labor costs by raising productivity and have not passed them on to output prices (eating and drinking).

-- Further output price hikes could lead to a decline in demand. Given the ongoing labor shortages, we intend to continue raising wages from next spring onward but plan to keep prices unchanged (hotel).

-- Although upward pressure on labor costs has continued, since we are concerned about losing customers, we do not plan to pass on higher labor costs to output prices (services for individuals).

Firms making progress in passing on higher labor costs to output prices

-- We plan to raise wages next fiscal year. In light of this, we have raised prices for the first time since our establishment (services for individuals).

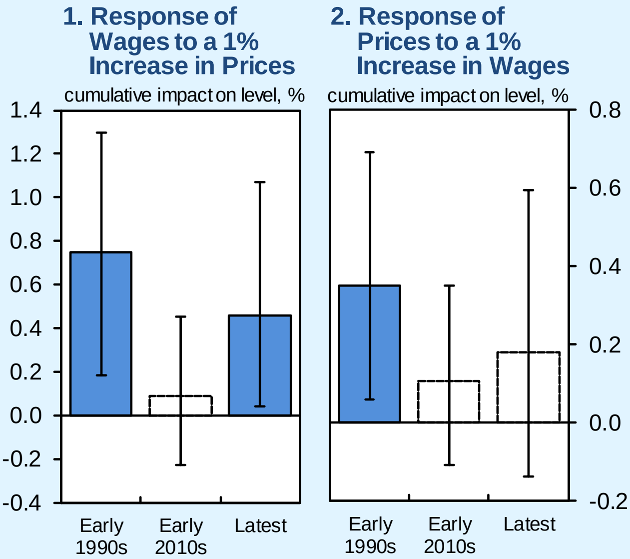
-- In response to rising electricity charges as well as higher labor costs partly due to the effects of the increase in minimum wages this fall, we have raised output prices (pharmacy).

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

above-mentioned changes in price-setting behavior that are starting to be seen among some firms will spread.

As described above, a gradually increasing number of firms have been changing their behavior, albeit slowly, which is based on the assumption that wages and prices will not increase easily and has been observed in Japan for many years. As the economy continues to recover, it is necessary to closely monitor whether the linkage between wages and prices will strengthen further.

Chart B3-5: Linkage between Wages and Prices



Sources: Ministry of Internal Affairs and Communications; Cabinet Office; Ministry of Health, Labour and Welfare; 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 (less fresh food). 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.
3. 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/Q2.