

The Unique Features of Japan's Inflation Expectations of Households and Firms during the Current Inflationary Period

(Summary)

This study compared inflation expectations (IEs) of Japanese households and firms against those of major advanced countries at the end of 2024, when surges in inflation rates subdued in overseas economies. In many advanced countries, the following facts were observed: (1) peak-rates of inflation reached 5 to 8 %, (2) after peaking out, both inflation rates and IEs converged to approximately 3 %, (3) long-run IEs remained relatively stable during the inflationary period. The developments in Japan's IEs were as follows: (1) one-year-ahead IEs of households reached 10%, which was more than double the amount of CPI increase rates, (2) five-year-ahead IEs also reached 5% at their peak level, (3) firms' IEs were more restrained than those of households, and (4) both the short- and long-term IEs of households and firms remained elevated even after the CPI peaked. Compared to the IEs of other advanced countries, Japan's IEs showed unique features, such as that (1) no other countries besides Japan experienced one-year-ahead IEs substantially exceeding the CPI and marking the highest value among the advanced countries, (2) unlike most advanced countries, Japan's IEs have not converged to approximately 3 % level, (3) Japan's five-year-ahead firm IEs continued an increasing trend at the end of 2024. Such unique features of Japanese IEs seemed to be related to remaining at a high level of the CPI and to the larger upward bias of Japanese households' IEs compared to other countries. Thus, this require continued close monitoring.

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1. Introduction

The Japanese economy has experienced prolonged periods of low inflation. For example, the consumer price index (CPI), excluding fresh food and the effect of increased consumption tax rates, only shifted between -2 and +2 %. This trend disappeared suddenly at the beginning of 2021. The CPI's rate of increase soared to +4.1 % in January 2023 and remained at a relatively high level of +3.0 % in December 2024.

Although the recent surge in inflation has caused problems in the Japanese economy, it offers new frontiers for analyzing the economy, such as inflation expectations (IEs). Although IEs play a vital role in the macroeconomy, previous studies have mainly focused on financial markets and professional economists. Thus, the formation processes of IEs in households and corporate sectors have not been fully elucidated.

The Infotainment Research Center published four studies on the IEs of Japanese households: “Instability of Japanese households inflation expectations during the current inflationary phase” (published in November 2023), “Japanese households’ inflation perceptions: The formation process and their relationship with the inflation expectations” (published in February 2024), “Japanese households’ inflation thresholds” (published in September 2024), and “Heterogeneity of household inflation expectations” (published in December 2024). In June 2024, the center published a study on IEs in the corporate sector titled “Japanese firms’ inflation expectations during the current inflationary phase.”

When the Center published a study in November 2023 focusing on the instability of household IEs, increasing CPI rates and IEs in major countries had already peaked, but remained higher than the rates observed before the COVID-19 crisis. Since then, inflation rates have stabilized further in most advanced countries, and the increasing CPI rates in some countries have returned to the level seen before the COVID-19 crisis.

Based on these price developments, this study compared the IEs of Japanese households and firms with those of major advanced countries at the end of 2024.

In many advanced countries, the following observations were made: (1) peak rates of one-year-ahead inflation reached 5 to 8%; (2) after peaking, both inflation rates and IEs converged to approximately 3%; and (3) long-run IEs remained relatively stable during the inflationary period.

Moreover, developments in Japan's IEs were as follows: (1) one-year-ahead IEs of

households reached 10%, which was more than double the CPI increase rate; (2) five-year-ahead IEs reached 5%, which was higher than the peak CPI rates; (3) IEs of firms were more restrained than those of households; and (4) both the short- and long-term IEs of households and firms remained elevated even after the CPI peaked.

Compared to the IEs of other advanced countries, Japan's IEs showed unique features, such as the following: (1) no other countries besides Japan experienced one-year-ahead IEs substantially exceeding the CPI and marked the highest level among advanced countries; (2) unlike most advanced countries, Japan's IEs have not converged to the same level; and (3) Japan's five-year-ahead firm IEs continued to increase at the end of 2024.

Such unique features of Japanese IEs seem to be related to the remaining high CPI increasing rates and the larger upward bias of Japanese households' IEs compared to other countries. Therefore, the IEs of Japanese households and firms requires careful monitoring and further analysis.

The remainder of this paper is organized as follows. Section 2 discusses the recent development of IEs in the U.S., the U.K., and the Eurozone. Section 3 discusses IEs in other developed countries. Section 4 summarizes the recent trends in IEs observed in overseas economies, and Section 5 compares them with those of Japanese IEs. Finally, Section 6 presents the conclusions of this study.

2. IEs in the U.S., the U.K., and the Eurozone

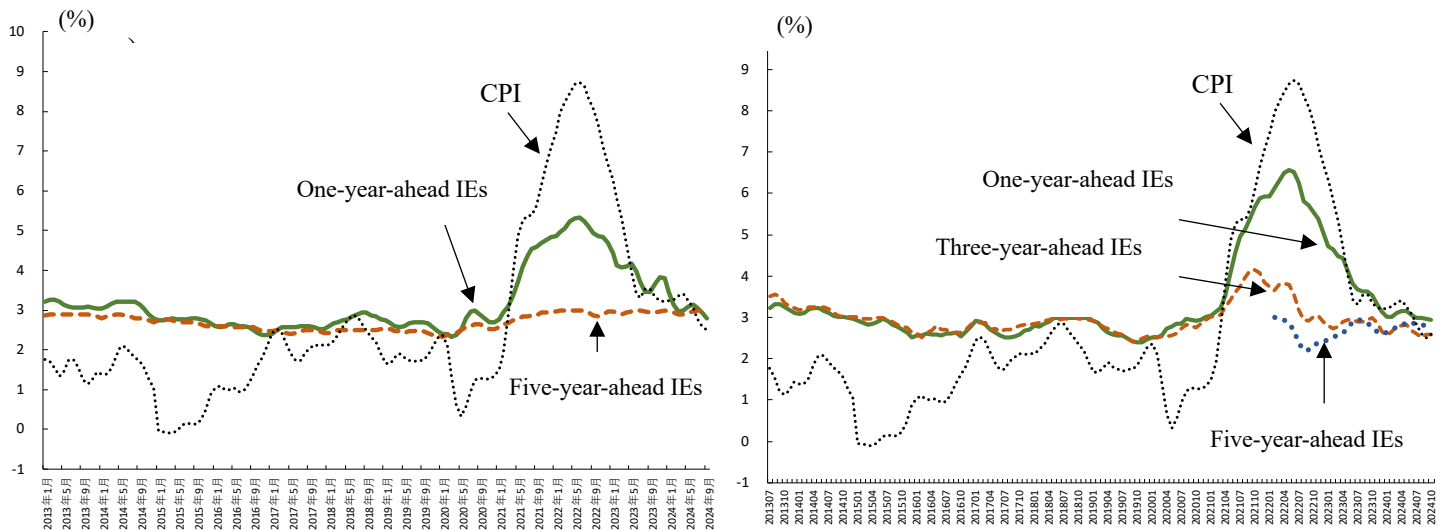
2.1 IEs in the U.S.

In the U.S., two surveys are available for monitoring household IEs: one by the University of Michigan and the other by the Federal Reserve Bank of New York (FRBNY) (Figure 1). In Figure 1, note that both figures share an identical scale on the y-axis. For one-year-ahead IEs, the following points can be observed: (1) both surveys indicated that IEs were stable around 2.5-3.0% during the pre-pandemic period; (2) although the timing of the peak was almost identical for both surveys, the peak level shown by the FRBNY was 1 percentage point higher than that shown by the University of Michigan; and (3) after peaking, the IEs of both surveys gradually declined and nearly converged to the increasing CPI rate of 2.7 % in November 2024.

Regarding five-year-ahead IEs, the University of Michigan survey has a long history. The IEs remained stable at approximately 3%, even during the current inflationary phase. Therefore, by the end of 2024, the increasing CPI rates and one- and five-year-ahead IEs

converged to nearly the same level. In the FRBNY survey, three-year-ahead IEs were somewhat more sensitive to a surge in the CPI during the current inflationary period than the five-year-ahead IEs indicated by the survey conducted by the University of Michigan.

(Figure 1) IEs of U.S. households (Left: U. of Michigan; Right: FRBNY) and the CPI

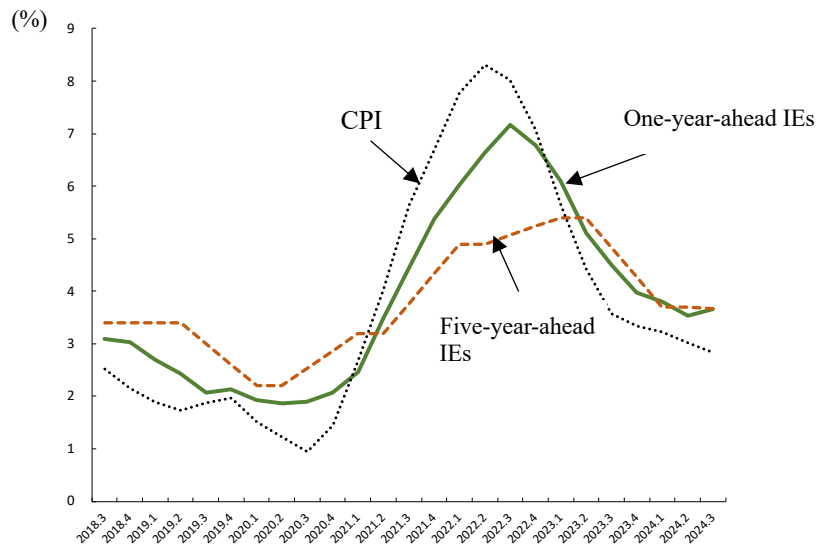


(Source) Left: University of Michigan; Right: FRBNY. CPI from Bureau of Labor Statistics. All data were 3-month moving-averaged.

Figure 2 shows the IEs of U.S. firms surveyed by the Federal Reserve Bank of Cleveland. Although the sample period was relatively short, starting from the second quarter of 2018 during the current inflationary phase, the following observations were made: First, the peak levels of IEs were higher than those of households, and the peak period for IEs occurred later than that of the CPI. Second, five-year-ahead IEs are more sensitive to movements in the CPI than are households. Third, even at the end of 2024, IEs were approximately 1 percent point higher than the CPI increase rates.

Generally speaking, upward bias of IEs compared to the CPI are found to be “professionals < firms < households.” However, the above figures show that firms’ IEs were generally more unstable than those of households, as the upward bias and instability of the five-year-ahead IEs of firms were larger than those of households.

(Figure 2) IEs of U.S. firms and the CPI

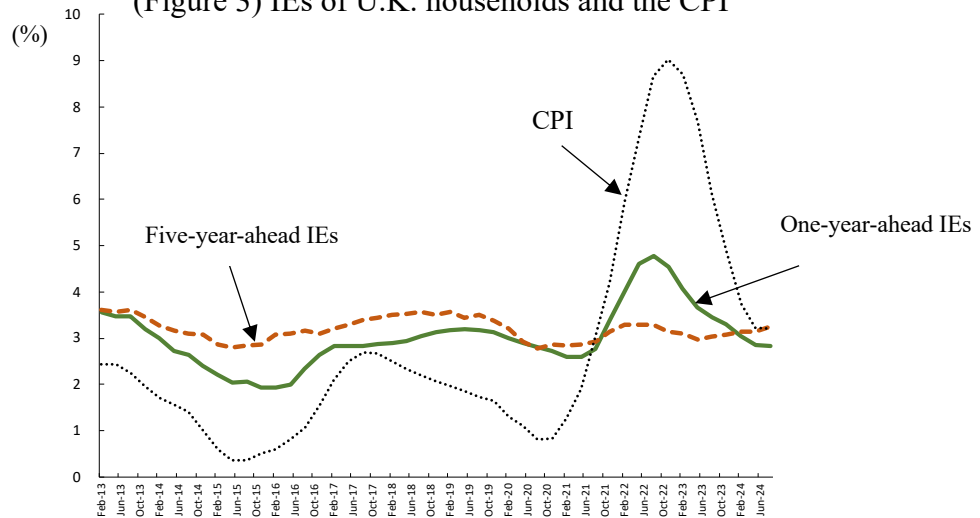


(Source) The Federal Reserve Bank of Cleveland and the Bureau of Labor Statistics. All data are 3-month moving-averaged.

2.2 IEs in the U.K.

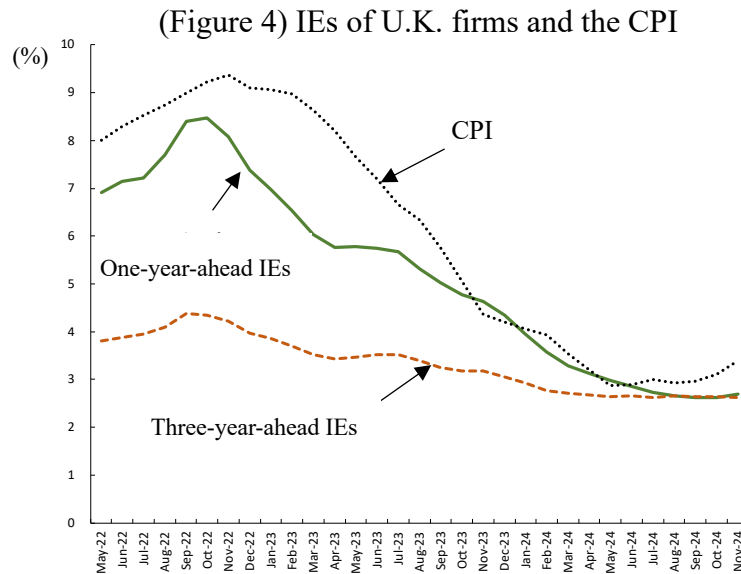
In the case of the U.K., Figure 3 shows the IEs of households. First, although the peak level of the CPI was somewhat higher than that in the U.S., the peak level of one-year-ahead IEs (4.8%) was lower than that in the U.S. (University of Michigan survey: 5.3%; FRBNY: survey 6.6%). Second, despite that the average level of five-year-ahead IEs from the first quarter of 2013 to the third quarter of 2024 was 3.2%, which is approximately 1 percentage point higher than the 2% inflation target of the Bank of England, they were moving stably. Third, the number of five-year-ahead IEs was recently found to be higher than that of one-year-ahead IEs.

(Figure 3) IEs of U.K. households and the CPI



(Source) Bank of England, Office for National Statistics. All the data were 3-month moving-averaged.

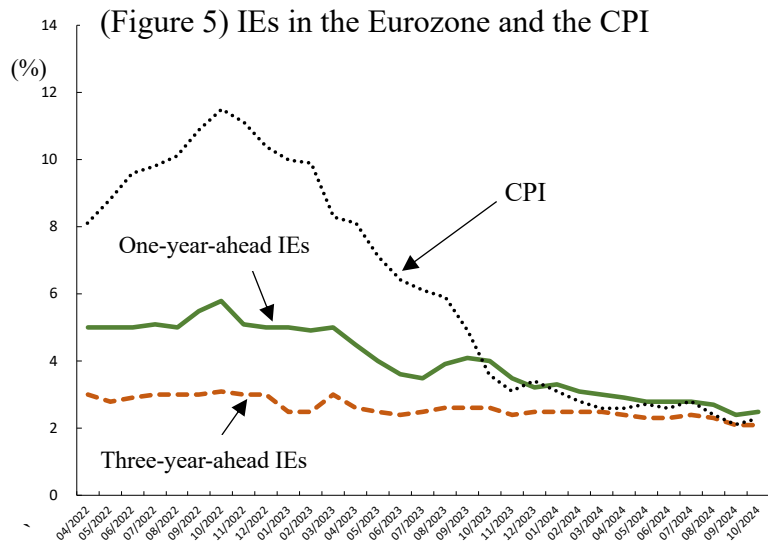
Figure 4 shows the IEs of U.K. firms. Some of the features are as follows: First, the peak level of the one-year-ahead IEs (8.5%, 3-month moving-averaged) was significantly higher than that of households (less than 5%). Second, although three-year-ahead IEs increased to a maximum of 4.4 %, they were more stable than those of U.S. firms. Third, at the end of 2024, both the one-year- and three-year-ahead IEs declined to a level somewhat lower than that of the CPI.



(Source) The Decision Makers Panel and the Office of National Statistics. All data were 3-month moving-averaged.

2.3. IEs in the Eurozone

Some of the features of Eurozone household IEs, shown in Figure 5, compared with those of the U.S. and the U.K. are as follows: First, although the peak level of the CPI was over 11%, which was higher than that of the other two countries (less than 10%), the peak level of one-year-ahead IEs of the Eurozone (5.8%) was lower than that of U.S. households. Second, although only three-year-ahead IEs were available in the Eurozone, their peak level remained around 3%, and recently, they were shifting to around 2%, which is the European Central Bank’s inflation target level. Third, similar to the U.S. and the U.K., both the CPI and IEs converged to the 2% level in the first half of 2024.

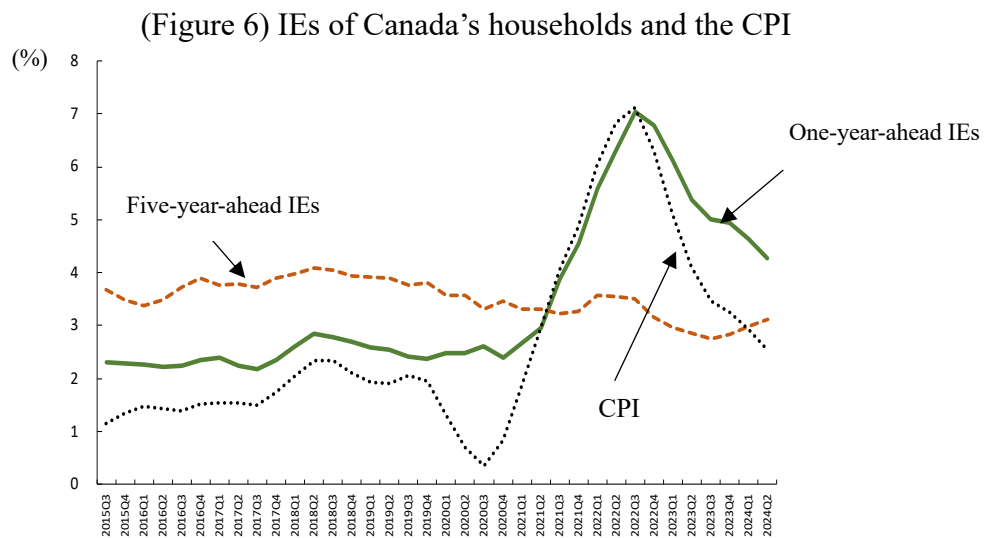


(Source) The European Central Bank and the European Commission’s Eurostat. All data were 3-month moving-averaged.

3. IEs in other developed countries

3.1. IEs in Canada

Figure 6 shows the IEs of Canadian households. Compared to other developed countries, the IEs of Canadian households showed that (1) one-year-ahead IEs increased to almost the same level as the CPI at their peak, and (2) the declining pace of IEs was slower than in other developed countries (the latest figure for one-year-ahead IEs was 4.3%, and that for three-year-ahead IEs was 3.1%, both of which were higher than the CPI increase rate at the time).



(Source) Bank of Canada. All data were 3-month moving-averaged.

Turning to the IEs of firms, the Bank of Canada conducts two types of corporate sector surveys. One is the “Business Outlook Survey (BOS),” conducted since 2013 on a quarterly basis. The other is the “Business Leaders Pulse (BLP),” starting in 2022 and conducted on a monthly basis².

Although in BOS survey, only two-year-ahead IEs are available, they show that the peak level of IEs during the current inflationary period remained at 3.6%, about half the level of the CPI, and that, unlike household IEs, they declined smoothly and converged to the level of the CPI at the end of 2024 (Figure 7).

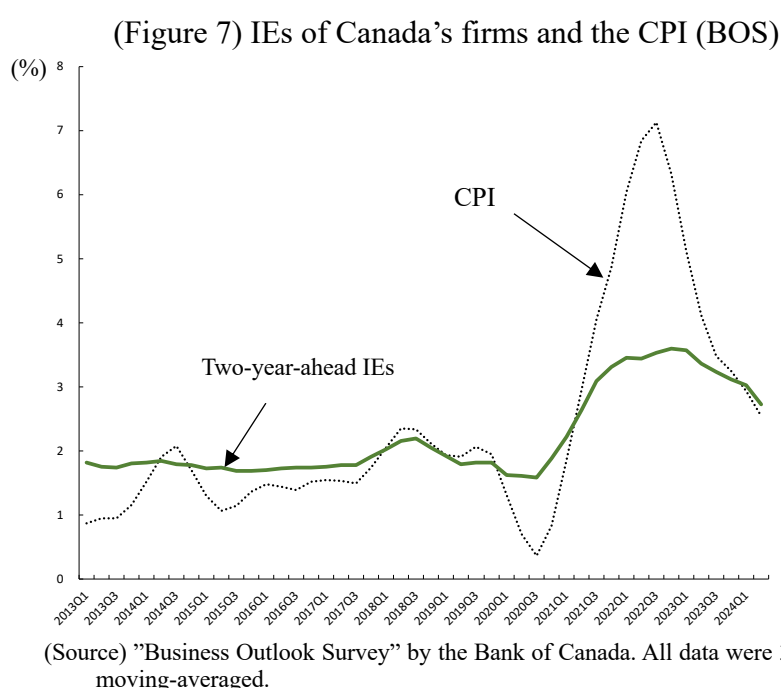
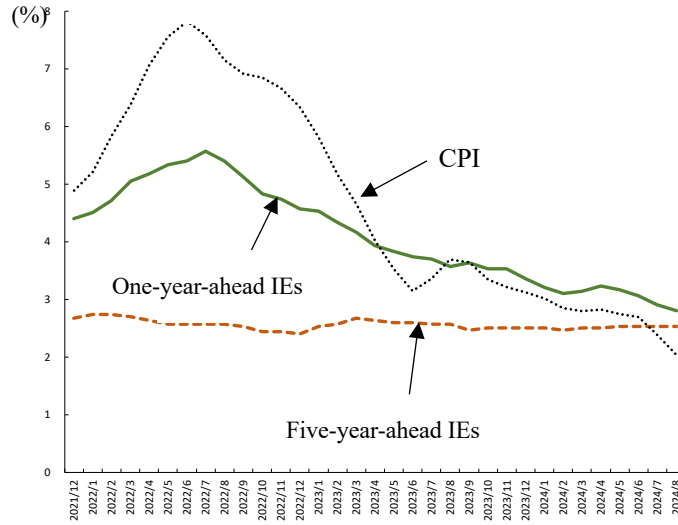


Figure 8 shows the results of the BLP survey. Although the BLP’s sample period is short—approximately 2 years—it provides both one- and five-year-ahead IEs. The survey showed that the peak level of one-year-ahead IEs was lower than the CPI, similar to the BOS survey (however, the peak level of BLP [5.6%] was significantly higher than that of the BOS [3.6%]). Second, at the end of 2024, the CPI and both types of IEs all converged to almost the same level. Third, five-year-ahead IEs moved stably around the 3% level, which is somewhat higher than the Bank of Canada’s 2% inflation target.

² The BOS survey is conducted by the branch offices of the Bank of Canada, and the BLP is conducted via the Internet.

(Figure 8) IEs of Canada firms and the CPI (BLP)

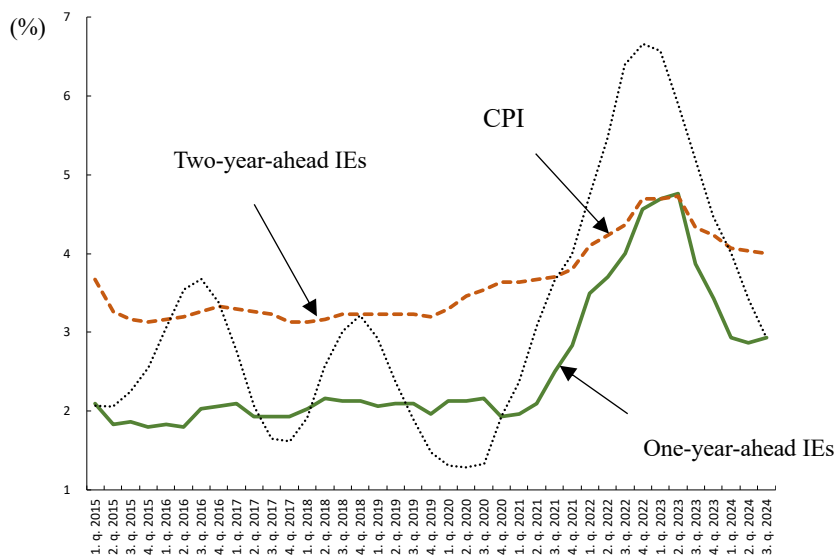


(Source) “Business Leaders’ Pulse” by the Bank of Canada. All data were 3-month moving-averaged.

3.2. IEs in Norway

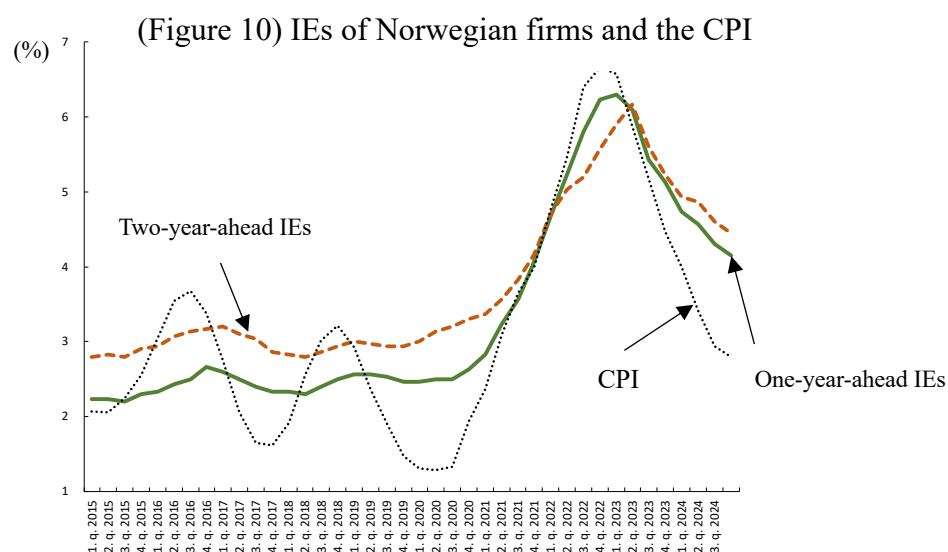
Next, we examined the IEs of Norway’s households and firms (see Figure 9). Regarding households, (1) both one- and two-year-ahead IEs reached an approximately 5% level at their peak, and (2) CPI and one-year-ahead IEs declined to approximately 3% by the end of 2024, although the two-year-ahead IEs consistently remained above one-year-ahead IEs.

(Figure 9) Norway’s household IEs and the CPI



(Source) The Norges Bank Expectation Survey. All data were three-quarter moving-averaged.

Figure 10 shows the IEs of Norway’s firm sector. First, both one- and two-year-ahead IEs recorded more than 6% at peak levels, which was close to that of the CPI. Second, even before the pandemic, two-year-ahead IEs were higher than one-year-ahead IEs. Third, even at the end of 2024, IEs were approximately 1.5 percentage point higher than the CPI.

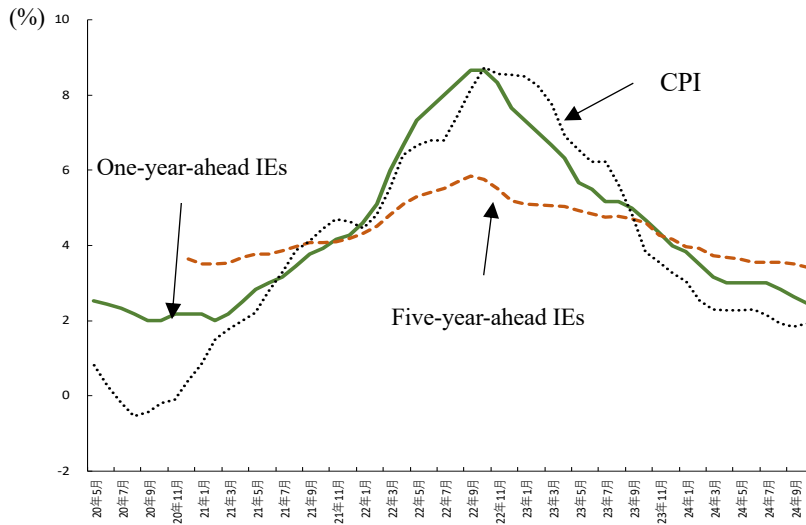


(Source) The Norges Bank Expectation Survey. All data were three-quarter moving-averaged.

3.3. IEs of German households

The sample period of Germany’s survey of households’ IE was relatively short but sufficient to cover the pandemic period (Figure 11). Figure 11 shows that (1) one-year-ahead IEs reached approximately 9% at the peak level, similar to the CPI; (2) even five-year-ahead IEs, which reached 5.9% at their peak, were more sensitive to movements in the CPI than in other developed countries; and (3) at the end of 2024, IEs were still higher than the CPI, with five-year-ahead IEs specifically higher than one-year-ahead IEs.

(Figure 11) IEs of Germany’s households and the CPI

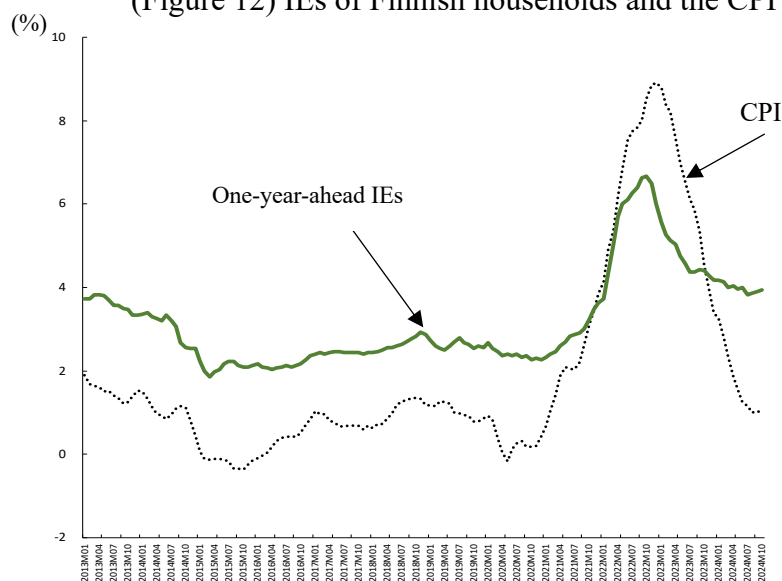


(Source) Deutsche Bundesbank and the Federal Statistical Office. All data were 3-month moving-averaged.

3.4. Finnish households’ IEs

The Central Bank of Finland publishes the one-year-ahead IEs of households (Figure 12). Figure 12 shows that (1) IEs increased from 3% during the pre-pandemic period to almost 7% during the current inflationary period, and (2) even after peaking, they remained at approximately 4%, which was much higher than that of the CPI (1%).

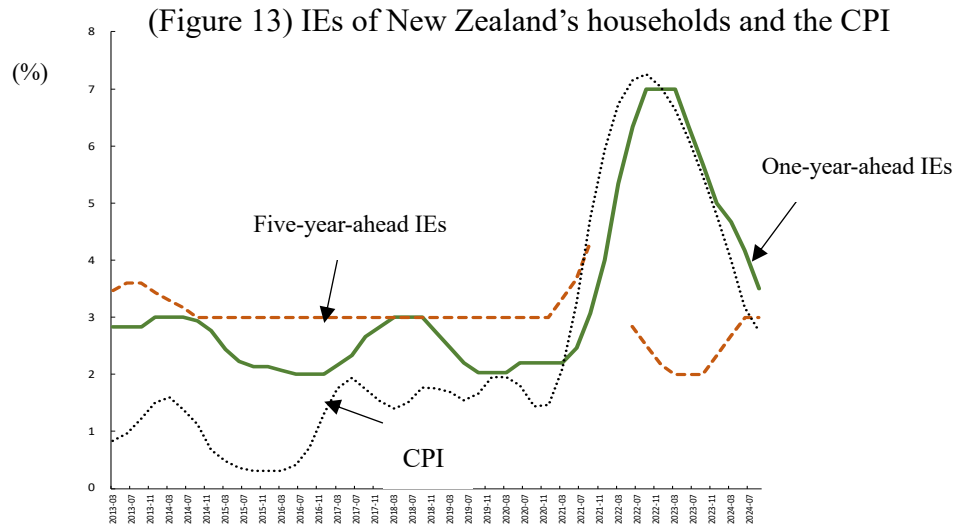
(Figure 12) IEs of Finnish households and the CPI



(Source) The Central Bank of Finland. All data were 3-month moving-averaged.

3.5. IEs of New Zealand’s households

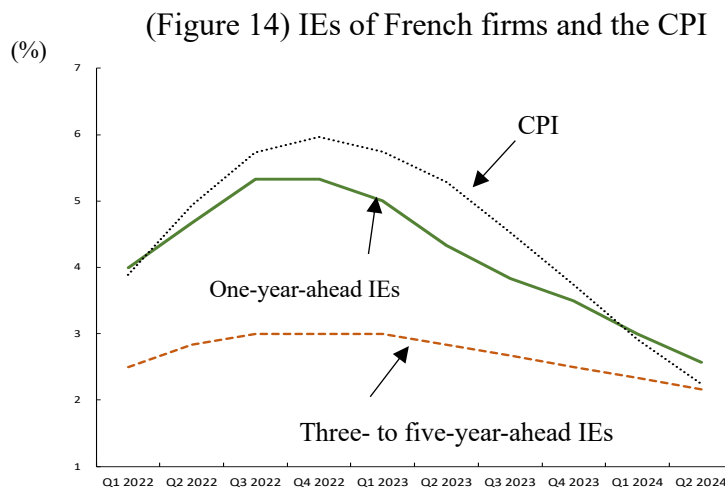
Figure 13 shows the IEs of households in New Zealand. First, the peak level of the one-year-ahead IEs reached almost the same level as that of the CPI (7.0%). Second, by the end of 2024, the CPI and IEs converged to approximately 3%.



(Source) "Household inflation expectations," the Reserve Bank of New Zealand. All data were three-quarter moving-averaged. There was a change in the survey method for five-year-ahead IEs.

3.6. IEs of French firms

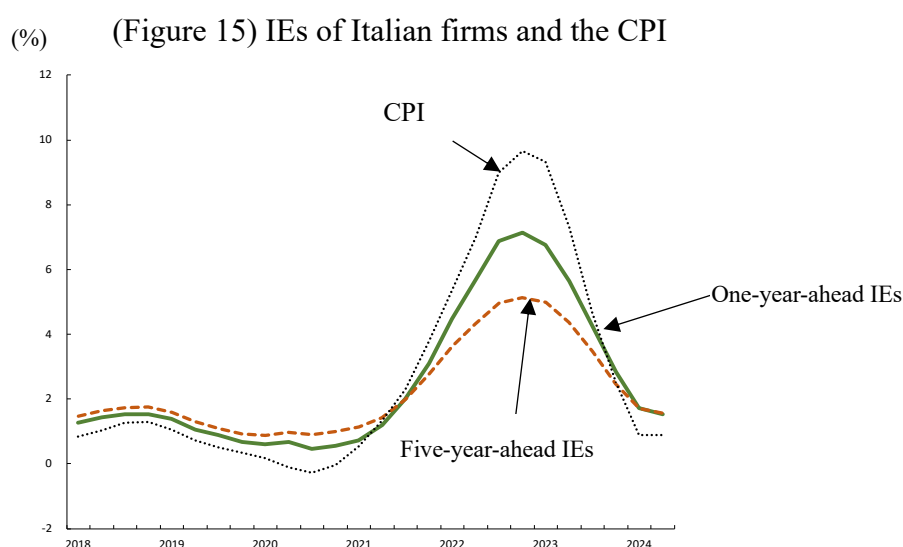
Although the survey of the IEs of French firms began in 2022, it included the peak period of the current inflation rates and found that (1) one-year-ahead, IEs increased close to CPI (6%) at the peak period, and (2) after peaking, IEs and the CPI gradually declined so that at the end of 2024, their levels converged to around 3% (Figure 14).



(Source) "Inflation expectations," the Bank of France. All data were three-quarter moving-averaged.

3.7. IEs of Italian firms

Finally, Figure 15 shows the IEs of the Italian firms. Please note that surveyors from the Bank of Italy tell representatives of firms about the latest CPI increase rate before asking the IEs. Three distinctive features can be pointed out from the survey results. First, one-year-ahead IEs were subdued compared to the movement of CPI. Second, five-year-ahead IEs increased from approximately 2% during the pre-pandemic period to 5.1% at the peak, which is in stark contrast to the IEs of Canadian firms (see Figure 8). Third, at the end of 2024, the CPI and IEs converged to approximately the 1% level.



(Source) Bank of Italy. All data were three-quarter moving-averaged.

4. Distinctive features of advanced countries' IEs during the current inflationary period

The previous two sections monitored the movement of IEs in developed countries, except for Japan. The following three points are common features of these IEs, although there are minor differences among them.

- (1) Converging CPI and IEs.....In most developed countries, inflation had already peaked by the end of 2024; therefore, the CPI and one- and five-year-ahead IEs converged to around the 3% level. For example, households in the U.S., the U.K., and the Eurozone, including Germany, as well as firms in the U.S., the U.K., the Eurozone, including Germany, France, and Italy, and Canada matched this pattern.

- (2) Surge in one-year-ahead IEs·····At the peak of the current inflation period, year-on-year increasing CPI rates reached approximately 10%, and accordingly, one-year-ahead IEs rose to the 5-8% level in many countries. In particular, in some countries, including households in Germany, Canada, and New Zealand and firms in the U.S. and Norway, IEs increased to almost the same level as the CPI at the peak.
- (3) Stable five-year-ahead IEs····· In many countries, the five-year-ahead IEs of households remained stable even though the CPI has surged. Such tendencies were eminent in countries/areas with large economic scales, such as the U.S., the U.K., and the Eurozone. Firms' five-year-ahead IEs were generally more unstable than those of households, except in France and Canada. In countries with stable five-year-ahead IEs, the CPI and IEs also converged to approximately 3%, as noted above.

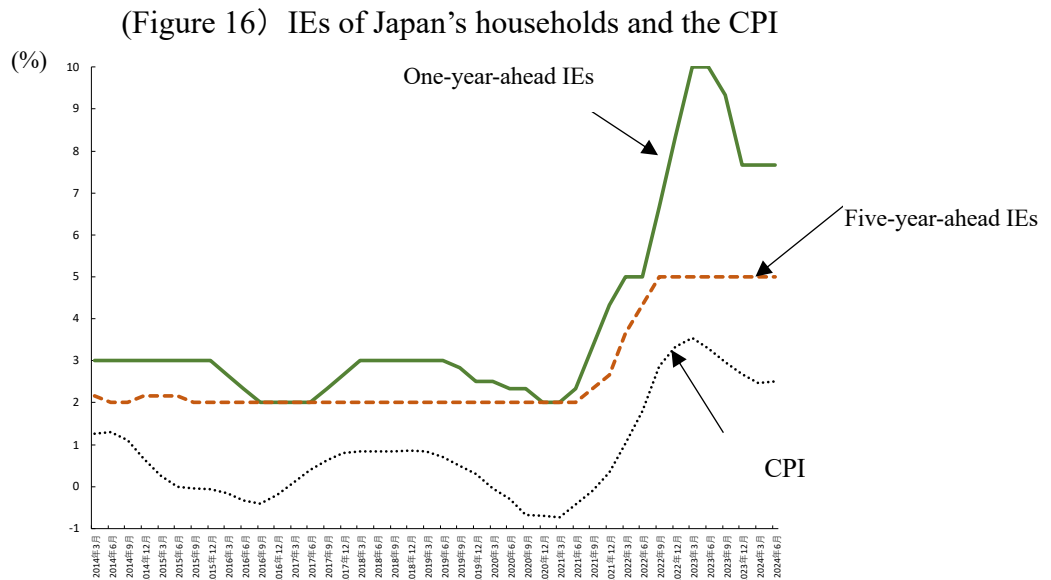
5. Comparing Japanese households' and firms' IEs with those of other developed countries

This section reviews IEs in Japanese households and firms. For households, the Opinion Survey” conducted by the Bank of Japan is available (Figure 16). The figures show a stark contrast with those in other developed countries. The following points are noteworthy:

- (1) Large upward bias of short-run IEs against the CPI and instability of long-run IEs·····Both one- and five-year-ahead IEs showed significant upward biases against the CPI even before the current inflationary period. Although the peak rate of the CPI during the inflationary period remained at approximately 4%, the peak rate of Japan's one-year-ahead IEs reached 10%, almost double that of the CPI. In fact, it was higher than the IEs of any major developed country. In addition, the five-year-ahead IEs showed unstable movements, as they surged from 2% to 5% during the current inflationary period.
- (2) Maintaining relatively high IEs even after the CPI peaked·····In other developed countries, the CPI and IEs often converged around the 1-3% level after showing smooth decelerations. In contrast, Japan's CPI remained at 3%, which is approximately 2% higher than the pre-pandemic period, and one- and five-year-ahead IEs also maintained high levels (8% and 5%, respectively), even at the end of 2024.

As described above, Japanese household IEs have unique features compared with other those of developed countries. Next, Figure 17 indicates the IEs of Japanese firms

based on “Tankan,” published by the Bank of Japan. The following three points are noteworthy:



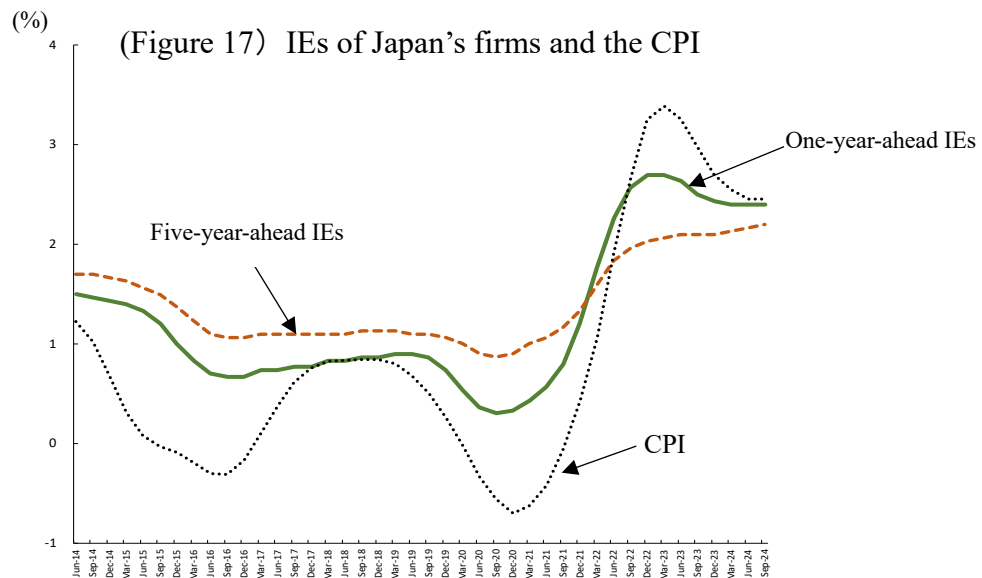
(Source) “Opinion Survey” Bank of Japan. All data were three-quarter moving-averaged.

- (1) More restrained increase in IEs compared to those of the household sector.....The increasing pace of one- and five-year-ahead IEs has been more restrained compared to those of the household sector. Specifically, even when the CPI marked a peak rate of around 4%, one-year-ahead IEs remained at 2.7%, and five-year-ahead IEs were at 2.2%.
- (2) Heightened IEs at the end of 2024.....Although the peak rate of IEs remained stable, they also remained high even at the end of 2024. Although Figure 17 shows that the CPI and IEs converged in the recent period, the convergence level of 2.5% was much higher than the CPI increase rate in the pre-pandemic period of 0-1%.
- (3) Continued upward trend of five-year-ahead IEs.....Even though the CPI continued to moderately decline, five-year-ahead IEs continued to rise from 1% to above 2%.

Based on the above observations, the following are unique features of Japan’s IEs compared to those of other advanced countries, as described in Section 4.

- (1) One-year-ahead IEs exceed the peak rate of CPI...As the peak rates of the CPI in

other developed countries were around 10%, which was approximately double that of the Japanese CPI, the peak rates of their IEs, especially one-year-ahead IEs, reached 5-8%. However, none of these countries recorded IEs that substantially exceeded the increasing CPI rates.



(Source) "Tankan" Bank of Japan. All data were three-quarter moving-averaged.

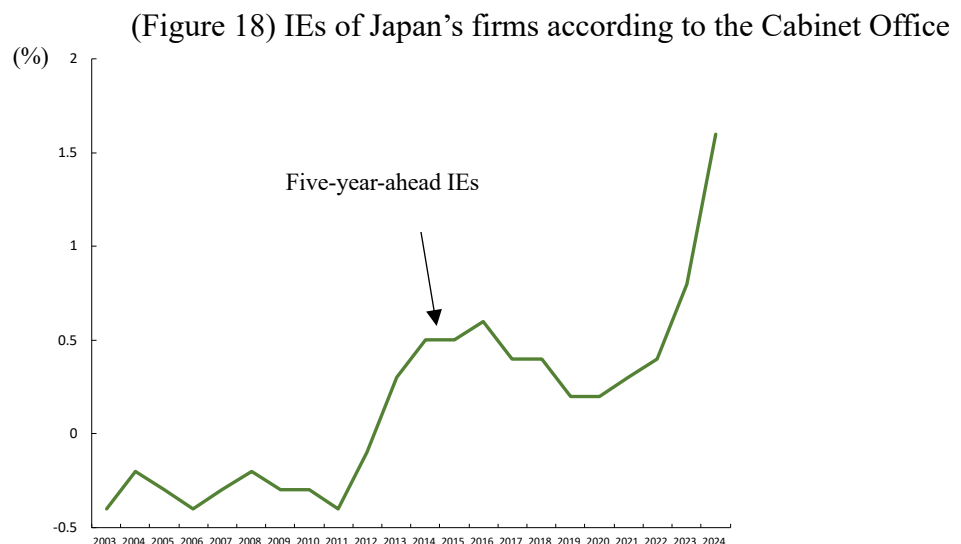
- (2) High level of households' IEs at the end of 2024..... In many other developed countries, CPI and IEs have converged to around the 3% level, while in Japan, one-year-ahead IEs remained at 10%, and five-year IEs were at 5%, with no sign of convergence.
- (3) Instability of five-year-ahead IEs..... In other countries, five-year-ahead IEs continued to move stably despite surges in the CPI. However, in Japan, the five-year-ahead IEs of households remained at 5%, and those of firms continued to rise even after the peak of the CPI.

The following are comments on the uniqueness of Japanese IEs during the current inflationary period:

- (1) Unique movements of Japan's CPI..... As noted above, although the peak level of the Japanese CPI remained at approximately half that of other developed countries, the pace of deceleration was slow and remained higher than the pre-pandemic level, even at the end of 2024. These unique CPI movements significantly influenced the

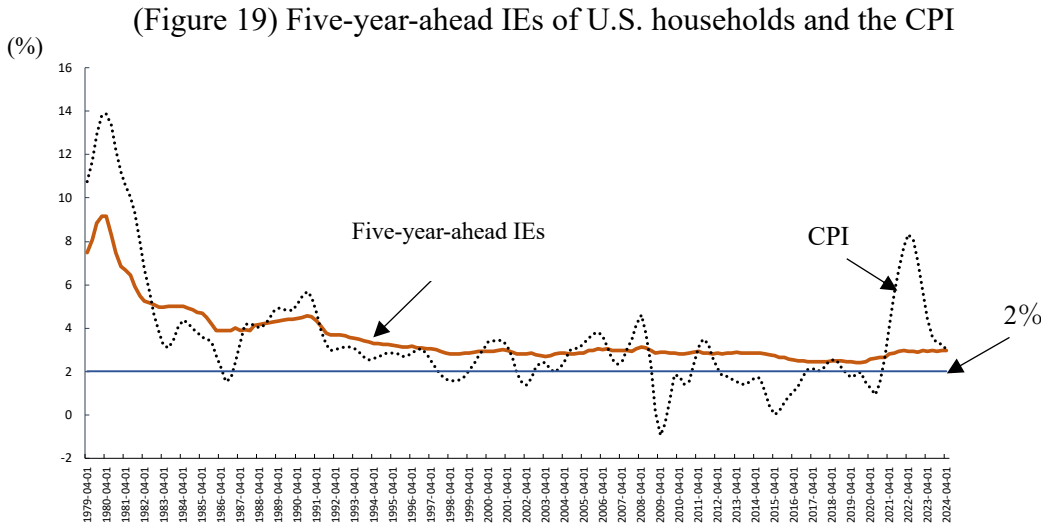
IE movements of households and firms.

- (2) Significant upward biases of IEs in the pre-pandemic period……In the pre-pandemic period, low inflation or mild deflation lasted for years in Japan, so the CPI moved between -1% and 1%. During this time, the upward bias of households’ one-year-ahead IEs against the CPI remained at around two to three percentage points. Although upward bias itself is commonly observed in most advanced countries, the amount of upward bias in Japan is larger than in other major developed countries. Such peculiar movements in Japan’s IEs during the pre-pandemic period might have affected the overshooting of IEs beyond the CPI during the current inflationary period.
- (3) Continued increase in five-year-ahead IEs in the corporate sector even after the peak of the CPI……Although the IEs of Japan’s firms were restrained compared to those of households, five-year-ahead IEs continued to rise even after the peak of the CPI. Some argue that this reflects changes in Japan’s economic structure, such as recently observed wage increases in the labor market. However, firms’ five-year-ahead IEs are relatively unstable and have fluctuated in accordance with the CPI since 2014, when the survey began. A recent surge in five-year-ahead IEs was also observed in other IE surveys, namely, the “Annual survey of corporate behavior” published by Japan’s Cabinet Office (Figure 18).



(Source) “Annual Survey of Corporate Behavior,” Japan’s Cabinet Office. The data are calculated by subtracting estimates of real GDP growth from nominal GDP estimates. Usually, changes in the GDP deflator are lower than that of the CPI.

Figure 19 shows the five-year-ahead IEs of U.S. households since 1979. This shows that IEs were gradually anchored as the CPI continued to decline after the Great Inflation in the 1970s. In contrast, Japanese firms' five-year-ahead IEs have been rising to inflation targets of 2%. Successful anchoring in a downward direction is rare. Therefore, more data and analyses are needed to conclude that Japan's economic changes have succeeded in anchoring IEs by 2%. Despite such movements in the corporate sector, household IEs showed no signs of convergence to 2%.



(Source) The University of Michigan and the Bureau of Labor Statistics. All data were three-quarter moving-averaged.

6. Conclusion

This study compared the IEs of Japanese households and firms to those of major advanced countries at the end of 2024.

In many advanced countries, the following facts were observed: (1) peak rates of one-year-ahead inflation reached 5-8 percent; (2) after peaking, both inflation rates and IEs converged to approximately the 3 percent level; and (3) long-run IEs remained relatively stable during the inflationary period in most countries.

Moreover, developments of Japan's IEs were as follows: (1) the one-year-ahead IEs of households reached 10%, which was more than double the peak CPI rates; (2) five-year-ahead IEs reached 5%, which was higher than the peak rates of the CPI; (3) the IEs of firms were more restrained than those of households; and (4) both the short- and long-term IEs of households and firms remained elevated even after the CPI peaked.

Compared to the IEs of other advanced countries, Japan's IEs showed unique features, such as that (1) no other countries besides Japan experienced one-year-ahead IEs substantially exceeding CPI, (2) unlike most advanced countries, Japan's IEs have not converged to approximately the 3 percent level, and (3) Japanese firms' five-year-ahead IEs continued to increase at the end of 2024.

Such unique features of Japanese IEs seem to be related to the CPI increasing rates remaining at a high level as well as the larger upward bias of Japanese households' IEs compared to other countries. Therefore, the IEs of Japanese households and firms require careful monitoring and further analysis.