Infotainment Research Center
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The Effect of Japan's High Food Inflation on Inflation Expectations

(Summary)

This study analyzed the recent high food inflation in Japan (excluding rice prices) in terms of its mechanism and effects on inflation expectations (IEs). The following three issues were identified. First, even when soaring rice prices are excluded, it is observed that food prices, generally, have been rising higher than headline inflation rates, driven by such goods as confectionary and drinks. Such high food inflation was supported by tightening supply/demand conditions, decrease in food inventories, and firms' positive attitudes towards price hikes. Second, food prices exert relatively larger influence over IEs compared to other consumption items. Third, increases in food prices tend to boost IEs in a non-liner manner so that large price increases accelerate IEs. The above findings suggest that food prices will continue their upward trend unless excess demand conditions improve. Furthermore, central banks should carefully examine the development of food prices when formulating monetary policies, as many central banks now focus on core inflation rates, which often exclude food prices to mitigate short-term or temporary price fluctuations.

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1. Introduction

The Infotainment Research Center published five studies in English on the inflation expectations (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), “Heterogeneity of household inflation expectations” (published in December 2024), and “Unique features of Japan’s inflation expectations of households and firms during the current inflationary period” (published in March 2025). In June 2024, the center also published a study on IEs in the corporate sector titled, “Japanese firms’ inflation expectations during the current inflationary phase.”

This study explores the development of food inflation in Japan from the perspectives of its mechanism and effects on households’ IEs. The effects of rice price hike were excluded from this study because such phenomenon has been discussed in previous studies (see Appendix for summary of discussion).

The following three issues were identified. First, even when soaring rice prices are excluded, it is observed that food prices, generally, have been rising higher than headline inflation rates, driven by such goods as confectionary and drinks. Such high food inflation was supported by tightening supply/demand conditions, decrease in food inventories, and firms’ positive attitudes towards price hikes. Second, food prices exert relatively larger influence over IEs compared to other consumption items. Third, increases in food prices tend to boost IEs in a non-liner manner so that large price increases accelerate IEs. The above findings suggest that food prices will continue their upward trend unless excess demand conditions improve. Furthermore, central banks should carefully examine the development of food prices when formulating monetary policies, as many central banks now focus on core inflation rates, which often exclude food prices to mitigate short-term or temporary price fluctuations.

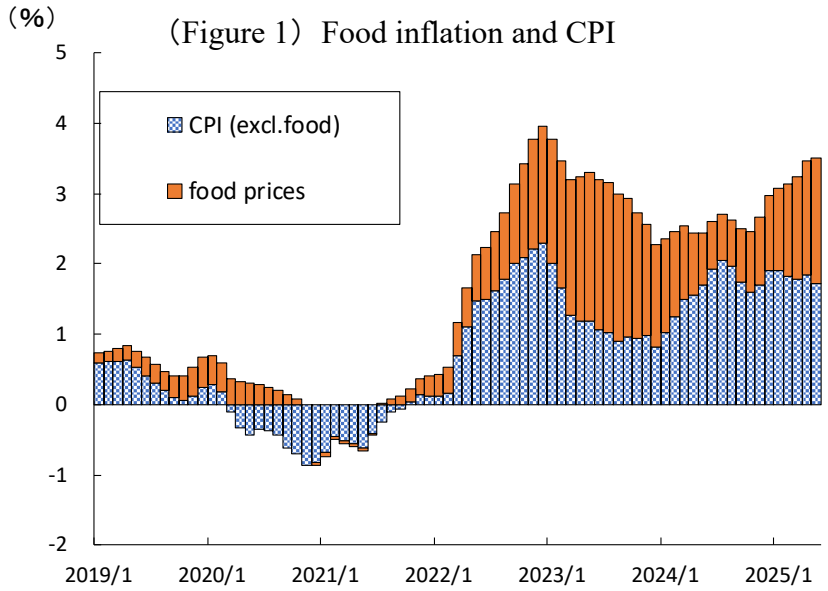
The remainder of this article is organized as follows. Section 2 discusses that food prices continue to rise even after excluding rice prices. Section 3 indicates that tight supply and demand conditions are the main factors underlying high food inflation. Section 4 suggests that food prices exert greater effects on IEs compared to their share in the consumption basket. Section 5 discusses that the relationship between food prices and

IEs is non-liner; thus, significant increases in food prices accelerate IEs. Finally, Section 6 presents the conclusions of this study.

2. Rising food prices in Japan

Japan's consumer price index (CPI) started to rise suddenly from 2020 on year-on-year basis and peaked out in the middle of 2023. CPI has been rising again since the beginning of 2024 (Figure 1; the latest figure was that of June 2025). In Figure 1, the changes in the headline CPI were decomposed to food inflation (shown in orange color) and other items (shown in blue dotted pattern). The rise in headline inflation after mid-2024 was mostly because of food inflation.

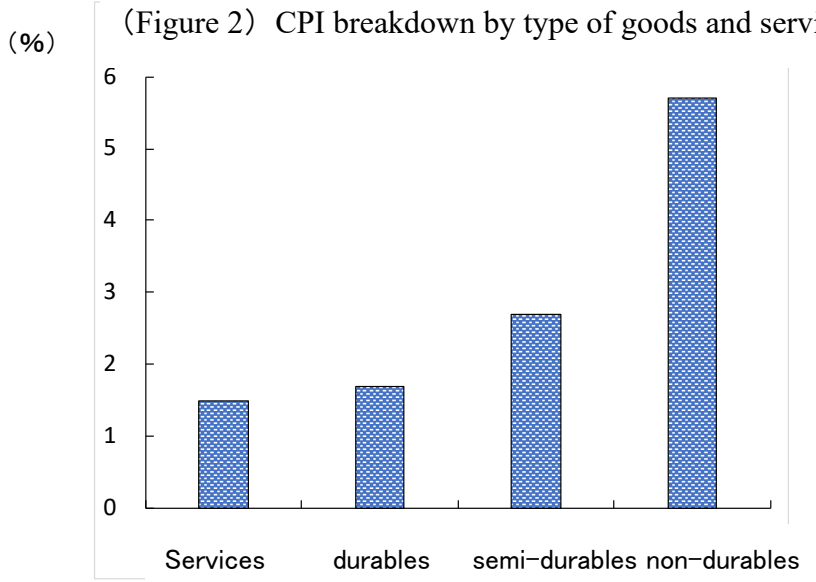
（Figure 1） Food inflation and CPI



(Source) Ministry of Internal Affairs and Communications; data are three-month-moving-average.

Figure 2 depicts the latest inflation rates (June 2025) of major categories of CPI components on year-on-year basis, including services, durables, semi-durables, and non-durables. While the service inflation was lower than 2 percent, which is the level of the Bank of Japan's (BOJ's) inflation target, non-durables, including food items, show a significant increasing pace of approximately 6 percent.

（Figure 2）CPI breakdown by type of goods and services



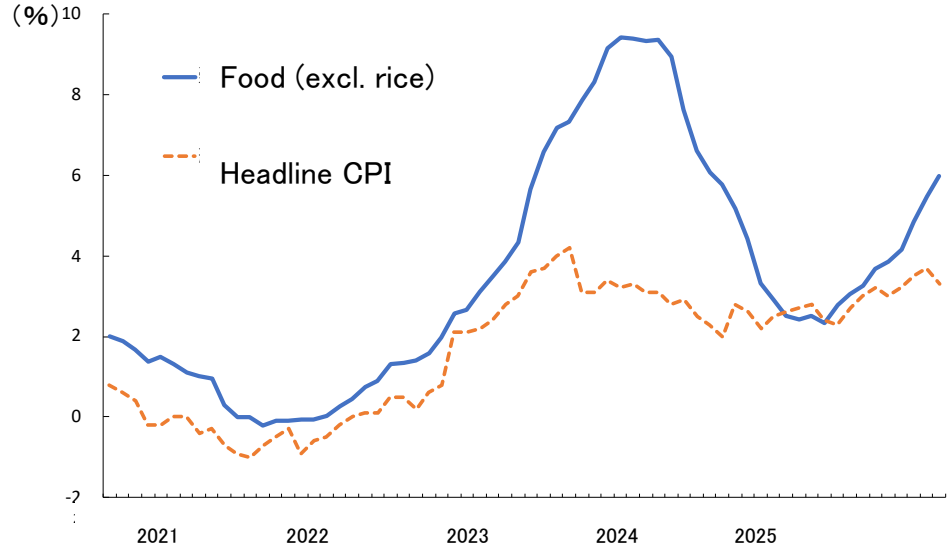
(Source) Ministry of Internal Affairs and Communications.

High food inflation rate was significantly induced by soring rice prices starting from the middle of 2024[2]. However, this study focuses on food inflation excluding rice prices because another study published by the Infotainment Research Center has already analyzed the issue (Japanese version only). Figure 3 illustrates the development of food inflation excluding rice prices. Even without contribution from soring rice prices, food inflation began to increase since July 2024 and marked a 6 percent increase on year-on-year basis in June 2025.

Figure 4 depicts six sub-categories of food that showed the highest price increase among food items as of June 2025. The highest increasing rate of 9 percent was marked by confectionary items, followed by drinks, dried food, cooked food, and restaurant services. Perishables, including vegetables, fish, eggs, fruits, oil, and alcohol—not depicted in the figure—showed relatively low inflation rates.

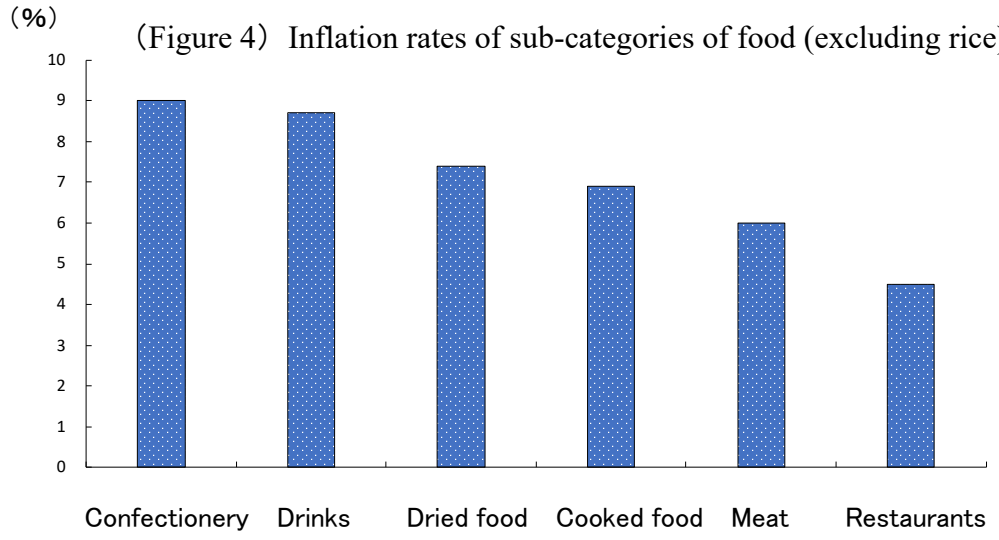
[2] CPI for rice almost doubled from June 2024 to June 2025, mainly because of supply shortages (extremely hot summer in 2024) and strong household demand. See Appendix.

（Figure 3） Food inflation (excluding rice)



(Source) Ministry of Internal Affairs and Communications.

（Figure 4） Inflation rates of sub-categories of food (excluding rice)



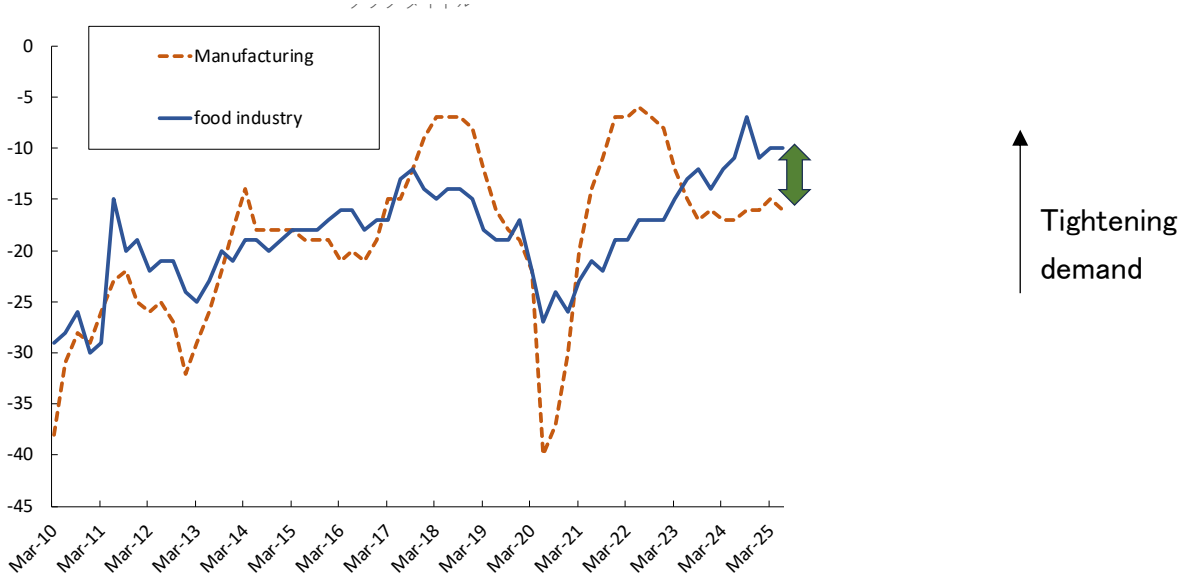
3. Determinants of high food inflation

This section analyzes the determinants of high food inflation (excluding rice prices).

Using BOJ's Tankan data, Figure 5 illustrates the demand/supply conditions of the food industry and the manufacturing industry. "Excess Demand D.I.," which subtracted "excess supply" from "excess demand," indicated that excess demand increased in 2020-2022 period, when the COVID19 crisis caused product supply shortages. When the crisis was over, the excess demand for the manufacturing sector decreased except in the food

industry.

（Figure 5）Damand/Supply conditions of food industry



（Source）BOJ.

Another Tankan D.I. that indicated the food industry's judgement on inventory level constantly moved from "excess" to "insufficient" after 2020. The latest figure indicates the absence of "excess" inventory (Figure 6). The same D.I. for the manufacturing industry as a whole has remained within the "excess" level (around +10 to +20 level).

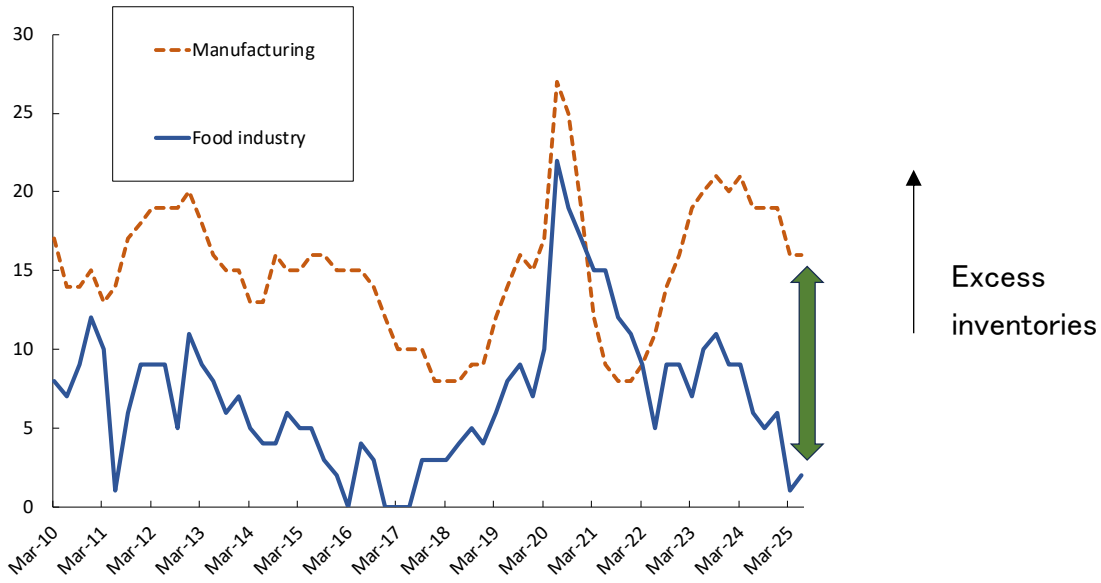
Tankan also asks firms about the output prices of their products one-year-ahead (Figure 7). As the food industry's price outlook is constantly above that of the manufacturing industry, especially since mid-2024, it showed the industry's strong attitude toward increasing their product prices.

The above Tankan data indicates that excess demand combined with insufficient inventory level motivated the food industry to assume a robust attitude toward output price rise.

In addition to the tightening of demand/supply conditions, the industry experiences cost-push pressures from soring rice prices[3] and rising transportation cost (Figure 8).

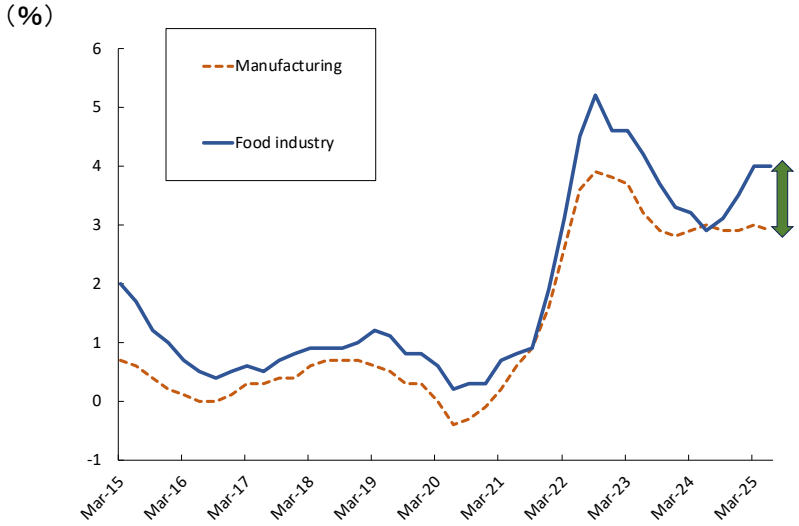
[3] Many Japanese confectionary items such as *senbei* use rice as the main ingredient.

（Figure 6）Inventory level of food industry



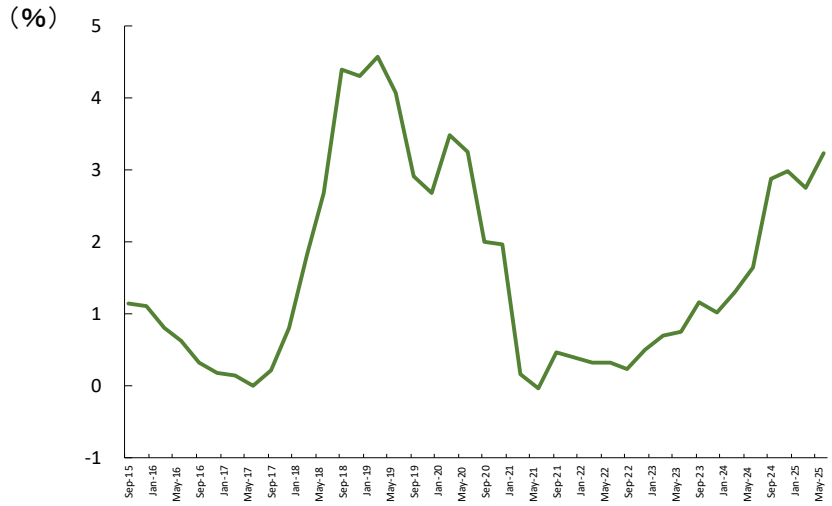
（Source）BOJ.

（Figure 7）Output prices outlook for one-year-ahead



（Source）BOJ.

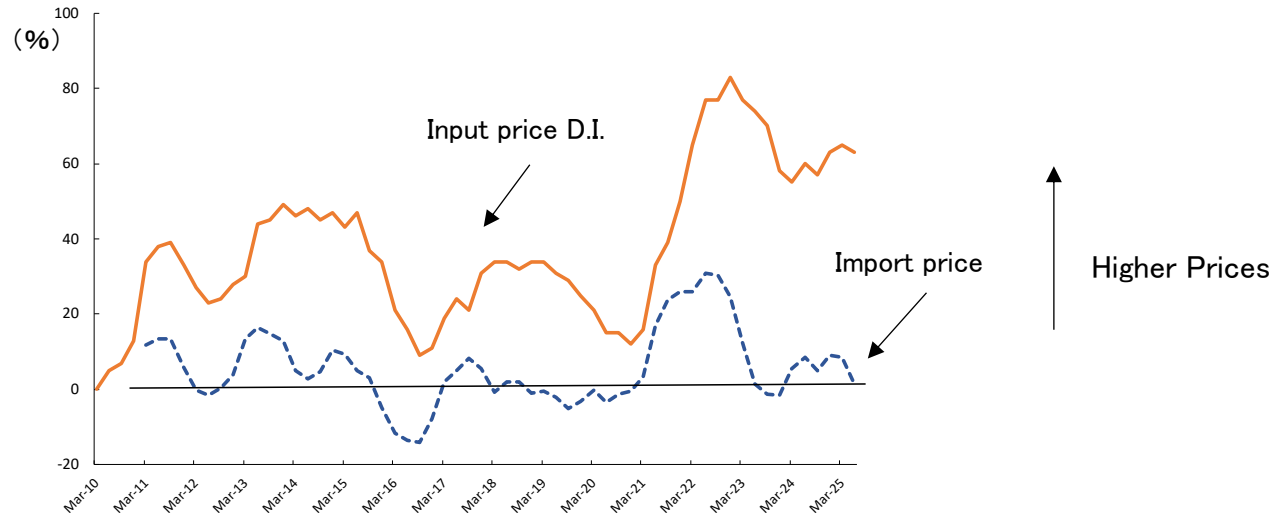
（Figure 8） Transportation cost (year-on-year basis)



（Source） BOJ.

Some economists in Japan argue that the current high food inflation is a temporary event because it was mainly induced by the rising cost of imported materials owing to the recent depreciation of the yen and the rise in imported materials in dollar terms. Although the import prices index of food and drinks published by the BOJ (yen-basis, shown in blue dotted line) rose more than 30 percent in 2022, the latest data indicates a drop to the 1 percent level on year-on-year basis (Figure 9). Even so, the Tankan data on the “change of input prices” (“rise”–“fall”) continued to remain elevated after the peak-out in 2022. Such varied development between the two indicators suggests that the current food inflation was not boosted merely by the yen’s depreciation and rise in the cost of imported materials.

（Figure 9） Import price and input price DI for food and drinks



（Source） BOJ.

To confirm this point via a statistical method, we estimated a simple regression where the dependent variable is CPI food prices and independent variables are Tankan "excess demand D.I." for the food industry (yen-base) and import price index for food and drinks (yen-basis). The estimated period was from the first quarter of 2011 to the second quarter of 2025 (Table 1). The result indicated that only Tankan D.I. is significant.

Additionally, Figure 10 plotted the Tankan data for output price D.I. and input price D.I. (both were calculated by "rise"–"fall"). As the gap between the two D.I.s is narrower in the current high inflation phase than in the previous ones, it seems that smooth output price increases were achieved in the current phase.

（Table 1） A regression of CPI food by import price and excess demand D.I.

	parameter	t value
Constant	8.09	6.47
Import prices	0.026	0.87
Excess demand D.I.	0.33	4.95

（Source）BOJ. Estimated period was from the first quarter of 2011 to the second quarter of 2025. R^2=0.31.

（Figure 10） Markup ratio of food industry

This section as a whole indicated that, based on data available as of August 2025, the current high food inflation is not a temporary phenomenon; it has been induced by a more fundamental one, driven mainly by excess demand. This indicates the persistence of high

food inflation in the near future.

4. Food inflation and IEs

It is a well-known fact that when consumers form IEs, they are significantly influenced by prices of frequent purchasing items such as food[4]. To confirm it, we divided CPI index into food, goods except food, and services, and estimated a simple regression model. Table 2 presents the results for one-year-ahead IEs—food has significant explanatory power compared to the other two variables.

（Table 2）One-year-Ahead IEs and CPI components

	Parameter	t value
Constant	2.15	7.54
Service	0.09	0.29
Food	0.74	6.22
Goods (Excl. food)	0.16	1.83

Regarding the five-year-ahead IEs, the parameter for food remains significant, that for goods (excluding food) is near zero, and that of service is insignificant (Table 3).

（Table 3）Five-year-ahead IEs and CPI components

	Parameter	t value
Constant	2.02	13.90
Service	0.04	0.26
Food	0.30	4.94
Goods (Excl. food)	0.08	1.86

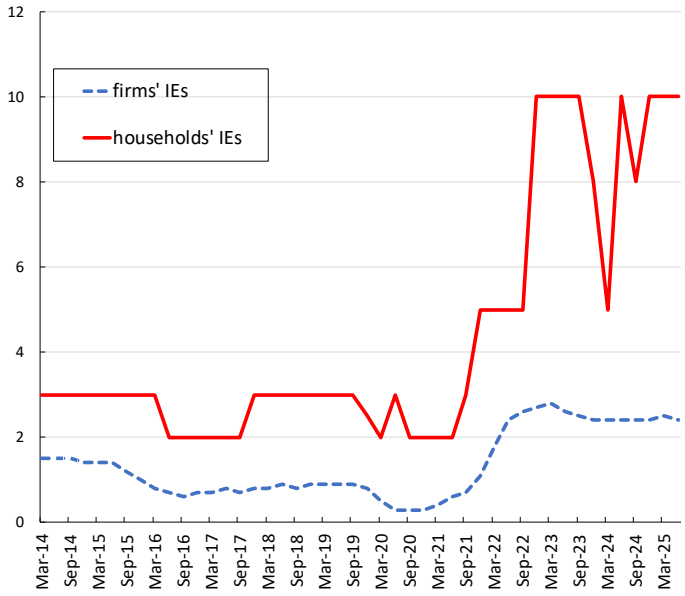
The above regression confirmed that food price has a significant impact on forming IEs[5]. This feature may also explain the widening the gap between the IEs of households and firms in the current high food inflation period (Figure 11).

Figure 12 shows that although the median one-year-ahead IEs hovered around 10

[4] See Infotainment Research Center (2024).
[5] Similar results were obtained for British households. See BOE (2025).

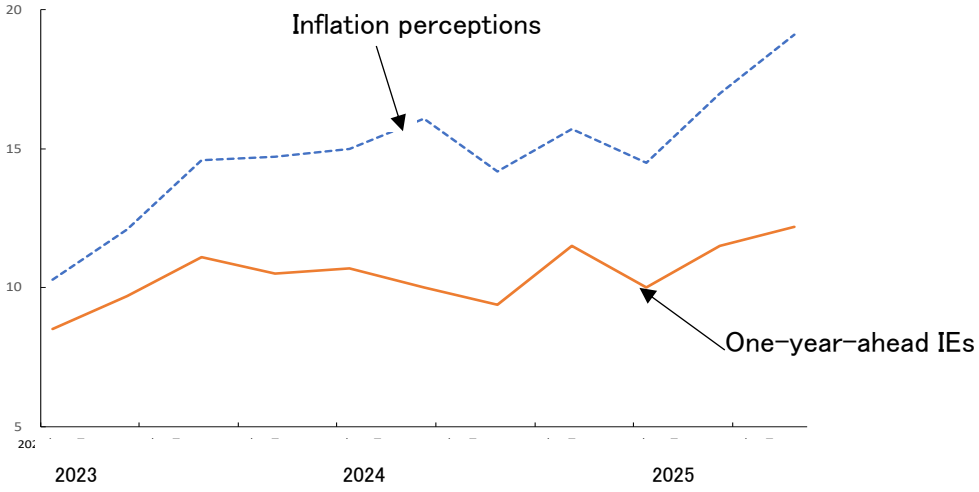
percent for the last three quarters, the average figures showed a 1.3pp rise compared to three-quarters before. This implies that households' response tilted toward right side of distribution.

（Figure 11） One-year-ahead IEs of households and firms



（Source）BOJ.

（Figure 12） Households' inflation perceptions and IEs (average)



（Source）BOJ.

5. Unique features of food inflation

Based on the U.K. household data, the Bank of England (BOE) (2025) detected that the relationship between food inflation and IEs has persistence, non-linearity, and asymmetry. This section employs the same methods to Japanese households to ascertain whether such relationships hold in Japan.

5.1. Persistence

To ascertain whether the current period's food price hike has lasting effects on the T+1 and T+2 periods, the following regression was conducted.

IEs=a＋b*（food price inflation in period T）＋b_{-1}（food price inflation in period T-1）＋b_{-2}（food inflation in period T-2）＋ ε_t

（Table 4）The relationship between food prices and IEs: Persistence

one-year-ahead IEs	parameter	t value	five-year-ahead IEs	parameter	t value
Constant	1.94	7.54	切片	2.15	16.89
CPI food	0.86	5.23	CPI food	0.29	3.60
t-1	-0.076	-0.33	t-1	-0.01	-0.086
t-2	0.090	0.53	t-2	0.061	0.73

（Source）BOJ, Ministry of internal affairs and communication.

Although the regression in Table 4 added lagged dependent variables T-1 and T-2, they were insignificant. Therefore, Japanese food inflation did not show persistence.

5.2. Non-linearity

If a relationship between food inflation and IEs is non-liner, increase in IEs accelerates as the rise in food inflation becomes larger. To test if such relationship holds, the following regression was conducted to ascertain whether the parameter c is significant.

IEs=a + b*（food inflation in period T）＋c＊（food inflation in period T）^{2}+ ε_t

（Table 5）The relationship between food prices and IEs: Non-linearity

one-year-ahead IEs	parameter	t value
Constant	2.10	8.86
CPI food	0.45	2.64
（CPI food）^{2}	0.066	2.70
five-year-ahead IEs	parameter	t value
Constant	2.24	18.62
CPI food	0.16	1.90
（CPI food）^{2}	0.026	2.09

Estimated results from Table 5 showed that non-linearity holds both in one-year-ahead and five-year-ahead IEs.

5.3. Asymmetry

If the relationship between food inflation and IEs is asymmetrical, then changes in IEs are larger when food inflation is accelerating than when it is decelerating. To test the asymmetry, following regression was conducted.

IEs=a＋b＊（food inflation in period T）＋c＊（food inflation in period T）＊（Dummy variable）＋ ε_t

Dummy variable takes 1 when food inflation is positive, and takes 0 when it is negative.

（Table 6）The relationship between food prices and IEs: Asymmetry

	one-year-ahead IEs	five-year-ahead IEs
Constant	2.56	2.54
Food inflation	0.94	0.37
Dummy variable	-0.93	-0.55

The result in Table 6 shows that the parameter for the dummy variable does not satisfy the sign condition.

5.4 Estimated results

Following the BOE (2025), we identified that non-linearity holds between food inflation and IEs in Japan. As shown in Section 4, the pace of IEs accelerates in the current phase compared to previous periods of food inflation.

6. Conclusion

This study explores the development of food inflation in Japan from the perspectives of its mechanism and effects on households' IEs. The effect of rice price hike was excluded from this study because such phenomenon has been discussed in previous studies (Japanese versions only).

The following three issues were identified. First, even when soaring rice prices are excluded, food prices have been rising higher than headline inflation rates driven by such goods as confectionary and drinks. Such high food inflation was supported by tightening supply/demand conditions, decrease in food inventories and firms' positive attitudes towards price hikes. Second, food prices exert relatively larger influence over IEs compared to other consumption goods. Third, increases in food prices tend to boost IEs in a non-liner manner, so that large price increases accelerate IEs.

The above findings suggest that food prices will continue their upward trend unless excess demand conditions improve. Furthermore, central banks should carefully examine the development of food prices when formulating monetary policies, as many central banks now focus on core inflation rates, which often exclude food prices to mitigate short-term or temporary price fluctuations.

Based on this perspective, it is a positive sign that in Japan, the BOJ examined the mechanizm of current high food inflation in "Outlook for economic activity and prices in August 2025 (BOJ (2025)).

（References）

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BOE（2024）“How food prices shape inflation expectations and the monetary policy response” Staff Working Paper No. 1094, October 2024, Dario Bonciani, Riccardo M Masolo and Silvia Sarpertro

BOE（2025）“Food prices matter most: sensitive inflation expectations” Staff Working Paper No. 1125, May 2025, Nikoleta Anesti, Vania Esady and Mattew Naylor

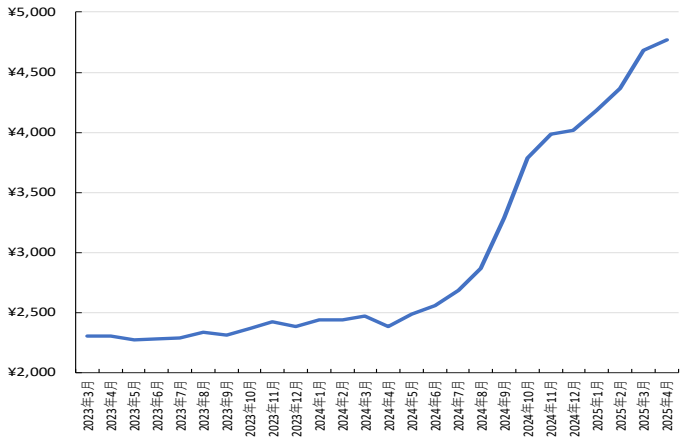
(Appendix)

Soring rice prices in Japan

The price of rice in Japan has been significantly increasing since May 2024. Data from the Ministry of Internal Affairs and Communication indicates that the average rice price in Fiscal 2023 (April 2023 to March 2024) was 2,360 yen. It increased to 3,285 yen in September 2024 and reached 4,018 yen in December. The latest figure is 4,770 yen in April 2025. (Appendix Figure 1).

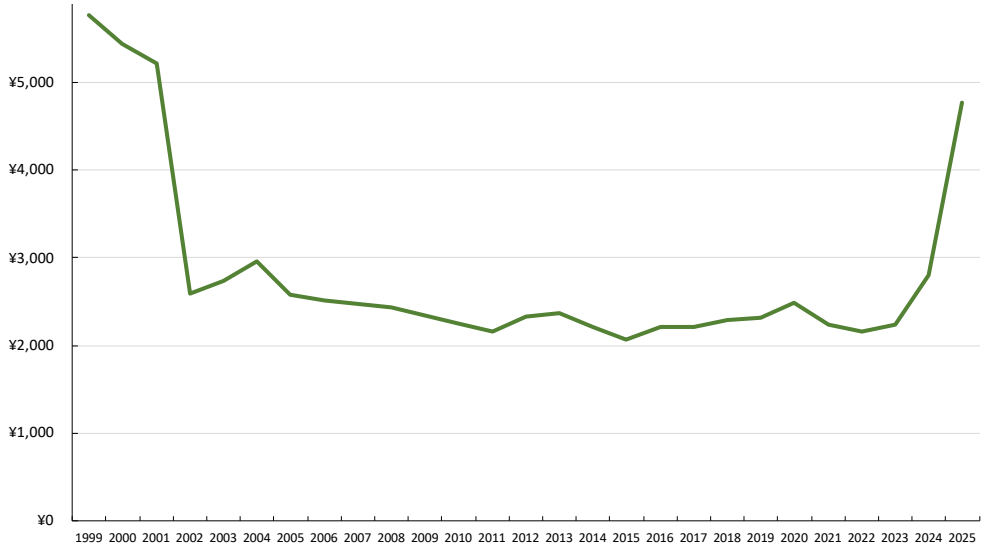
The long-term price has remained stable around 2,000 yen (Appendix Figure 2). Year-on-year increase in CPI rice, starting from 1980, is shown in Appendix Figure 3. Compared to the past, the current pace of increase is unprecedented; it marked +98.4% in April 2025. Since previous price-increase periods, such as the 1993 poor-harvest period and the 2004 Typhoon disaster, the peak-level of year-on-year increasing rates has persisted around +20 to +30 percent.

（Appendix Figure 1）Retail price of rice in Japan since March 2023



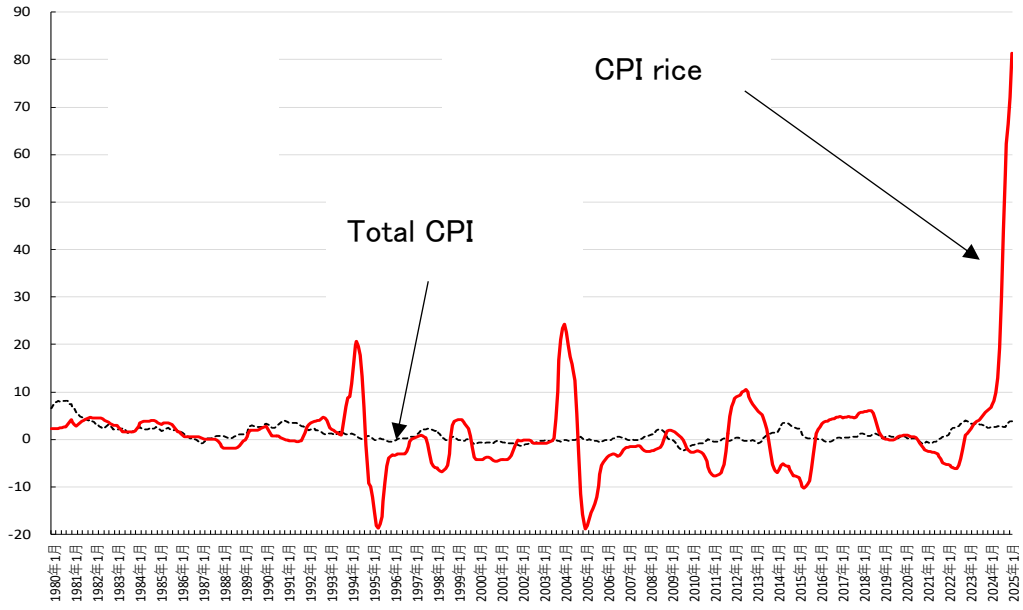
（Source）Ministry of Internal Affairs and Communication.

（Appendix Figure 2）Long-term trend of retail price of rice in Japan



（Source）Ministry of Internal Affairs and Communication.

（Appendix Figure 3）Year-on-year rise in CPI rice



（Source）Ministry of Internal Affairs and Communication. Three-month moving average.