

## Section 4

# INFLATION, ITS BURDEN ON HOUSEHOLDS, AND THE EFFECTS OF GOVERNMENT MEASURES

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Section 4 examines the impact of accelerated inflation in 2022 on households in the Kansai region. Subsection 4.1 analyzes the movement in the consumer price index by category of expenditure to identify the characteristics of inflation in 2022. Considering that inflation was significant in food, fuel and light, the estimate of the household burden is limited to these two expense items. Since the proportion of expenses for these items differs by income quantile class, the extent of the burden should also vary. Therefore, the burden amount and the burden ratio were estimated for each income group. In addition, Subsection 4.3 examines the regional characteristics of the increase in the household burden due to inflation. And Subsection 4.4 assesses government measures to mitigate sharp fluctuations in electricity and gas prices from February 2023.

## 1. Inflation Trends in 2022

All index items of national consumer prices in 2022 reached 102.3 (2020=100), up 2.5% from the previous year. This is the highest growth since the 2014 consumption tax hike (+2.7% YoY). A characteristic of the recent price increases is that while the service price increase rate remains low, the rate of price increase for goods, particularly food and energy, is high. As explained in Subsection 2.2.1, there are several factors contributing to the acceleration of consumer price inflation in 2022. First, the surge in crude oil prices spilled over into resource prices and food prices, leading to a sharp increase in import prices (contract currency basis). Behind this lies Russia's invasion of Ukraine. Russia's geopolitical instability led to a sharp rise in energy prices. Moreover, Russia and Ukraine are major exporters of wheat, and the conflict has resulted in a rise in global food prices. The increase in import prices pushed up the production costs for companies and spread to domestic corporate prices. As a result, transferring these costs to consumers led to an increase in consumer prices.

In addition, the rapid depreciation of the JPY has been an additional factor pushing up consumer prices. In previous economic cycles, the coexistence of rising import prices and a weakening JPY had never occurred, however, this time the coexistence had a significant impact on consumers.

The National Consumer Price Index is a representative cost-of-living index

that measures price changes in goods and services purchased by households nationwide. The rate of change in the overall index reflects the movement of consumer prices as a whole, and to understand the specific details, it is necessary to examine the trends in prices by expense item.

Table 2-4-1 displays the 2022 average trend in the National Consumer Price Index. It shows the growth rate (YoY) and contribution levels of the overall index and the 10 major expense items.<sup>1)</sup> Food rose +4.5% YoY, while fuel, light and water charges rose +14.8% YoY. On the other hand, transportation and communication fell -1.5% YoY, and medical care fell -0.3% YoY. However, when considering the contribution levels weighted by each expense item's significance, they are 1.17%, 1.04%, -0.22%, and -0.01%, respectively.

Figure 2-4-1 shows the monthly contribution level of the 10 major expense items to the growth rate of the National Consumer Price Index. Although fuel, light and water charges account for less than 7% of total consumption expenditures, the surge in the price of fuel, light and water had been a major factor in driving up the overall consumer price index since the fall of 2021. On the other hand, the price of food (excluding fresh food) gradually increased, and it became the main driving factor, overtaking fuel, light and water charges from October 2022. Looking at the contribution to the overall consumer price index in 2022, food, fuel, light and water charges accounted for nearly 90%

Table 2-4-1

Price Index Change YoY and Contribution of the 10 Major Expense Category Indices (2022 Average)

|                                  | National YoY Change (%) | National Contribution (% points) | Kansai YoY Change (%) | Kansai Contribution (% points) | Weight |
|----------------------------------|-------------------------|----------------------------------|-----------------------|--------------------------------|--------|
| All items                        | 2.5                     | —                                | 2.3                   | —                              | 10,000 |
| Food                             | 4.5                     | 1.17                             | 4.6                   | 1.22                           | 2,626  |
| Housing                          | 0.6                     | 0.14                             | 0.5                   | 0.10                           | 2,149  |
| Fuel, Light and Water            | 14.8                    | 1.04                             | 11.7                  | 0.83                           | 693    |
| Furniture and Household Utensils | 3.8                     | 0.15                             | 4.5                   | 0.18                           | 387    |
| Clothing and Footwear            | 1.6                     | 0.06                             | 1.4                   | 0.05                           | 353    |
| Medical Care                     | -0.3                    | -0.01                            | -0.3                  | -0.01                          | 477    |
| Transportation and Communication | -1.5                    | -0.22                            | -2.1                  | -0.31                          | 1,493  |
| Education                        | 0.9                     | 0.03                             | 0.5                   | 0.01                           | 304    |
| Culture and Recreation           | 1.1                     | 0.10                             | 1.0                   | 0.10                           | 911    |
| Miscellaneous                    | 1.1                     | 0.07                             | 1.1                   | 0.07                           | 607    |

1) For details, see “How the Consumer Price Index Works and How to Read it - Consumer Price Index for the Base Year 2020 -,” by the Statistics Bureau of the Ministry of Internal Affairs and Communications.

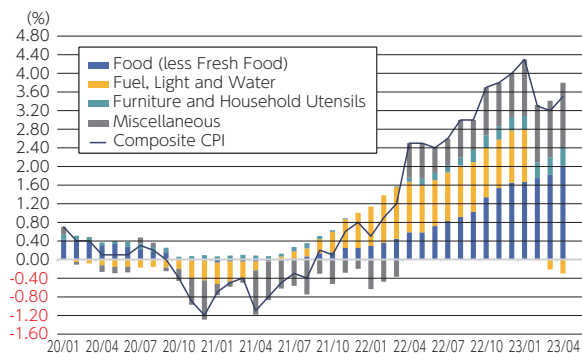


Figure 2-4-1

### Contribution Breakdown of the National Consumer Price Composite Index (January 2020 to April 2023)

Note: Weights are based on the year 2020 when calculating contributions.

Source: Authors' estimates based on the "Consumer Price Index" from the Statistics Bureau, Ministry of Internal Affairs and Communications.

((1.17+1.04)/2.5\*100=88.4) of the increase. In other words, the rise in consumer prices in 2022 can be primarily attributed to the price increases in food, fuel, light and water. The following subsections will consider the burden on household budgets due to the price increases in food, fuel, light and water.<sup>2)</sup>

## 2. Inflation and the Burden on Households

### (1) Increased Burden on Households Due to Inflation by Income Quantile Group

Before examining the impact of rising prices on household budgets, it is necessary to explain the "Family Income and Expenditure Survey." The survey is conducted by the Statistics Bureau of the Ministry of Internal Affairs and Communications, which samples approximately 9,000 households nationwide every month to investigate household income and expenditure by category. In this paper, data from the survey on two-or-more-person households (of which workers' households), which have disposable income available, is used.

Even if the rate of price increase is the same, it does not affect all households equally. By using data from the Consumer Price Index and the Family Income and Expenditure Survey, this study examines the burden caused by price fluctuations in food, fuel and light on households, categorized by annual income quantile. All households are sorted from lowest to highest annual income and

2) Since the growth rate of water prices is almost zero, the following subsections are limited to fuel and light only.

Table 2-4-2 Income and Consumption Expenditures in 2021 (in JPY)

|                     | Income<br>(Annual) | Consumer<br>Expenditures<br>(Monthly) | Food<br>Expenditures<br>(Monthly) | Fuel and<br>Light Ex-<br>penditures<br>(Monthly) | Food/Total<br>Expendi-<br>tures (%) | Fuel and<br>Light/Total<br>Expendi-<br>tures (%) |
|---------------------|--------------------|---------------------------------------|-----------------------------------|--|-------------------------------------|--|
| National<br>Average | 7,263,789          | 309,469                               | 78,576                            | 15,844   | 25.4                                | 5.1  |
| Quantile I          | 4,089,008          | 221,435                               | 61,718                            | 15,039   | 27.9                                | 6.8  |
| Quantile II         | 5,420,871          | 258,599                               | 70,361                            | 15,226   | 27.2                                | 5.9  |
| Quantile III        | 6,567,262          | 288,274                               | 77,706                            | 15,698   | 27.0                                | 5.4  |
| Quantile IV         | 8,208,987          | 338,708                               | 82,990                            | 16,203   | 24.5                                | 4.8  |
| Quantile V          | 12,032,814         | 440,328                               | 100,102                           | 17,052   | 22.7                                | 3.9  |

Source: Created based on "Family Income and Expenditure Survey" by the Statistics Bureau of the Ministry of Internal Affairs and Communications.

divided into five quantile groups: Quantile I, Quantile II, Quantile III, Quantile IV, and Quantile V. Table 2-4-2 shows the average actual income, food, fuel and light expenditure amounts for all households and by annual income quantile in 2021, before inflation accelerated. As can be seen from the table, while households with higher incomes spend more on food, fuel and light, the proportion of these expenditures in their total spending is lower for higher-income households.

Since there is no data on the quantity of consumption by income group, it is not possible to grasp the changes in household consumption patterns. Therefore, based on the assumption that the consumption patterns of 2022 are the same as those of 2021, the burden on households due to the rise in prices has been estimated. The following formula is used to calculate how much the cost-of-living expenses for households has increased each month due to the rise in prices.

$$\begin{aligned} & \text{Increase in burden for expense item } i \text{ in the current period} \\ &= \text{Expenditure on expense item } i \text{ in the previous period} \\ & \quad \times \text{YoY change in price index of expense item } i \text{ in the current period} \end{aligned}$$

For example, the increase in the food burden for January 2022 is calculated based on the amount spent on food in January 2021 and multiplied by the rate of increase in food prices.

Figure 2-4-2 sums up the monthly increase in burden due to the rise in prices in 2022 for 12 months and calculates it for each income quantile. To maintain the same standard of living as in 2021, the average household burden for food increased by JPY 42,491, and the burden for fuel and light increased by

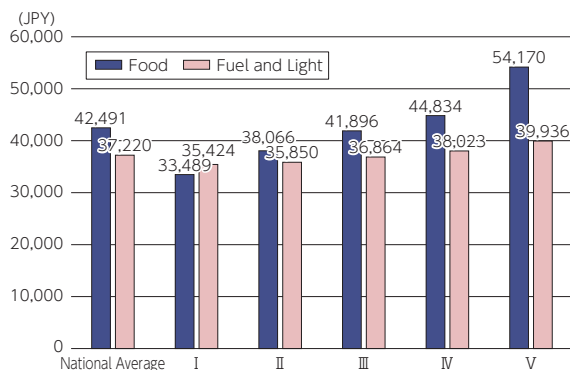


Figure 2-4-2

### Increase in Food, Fuel and Light Costs Due to Price Rises in 2022 (by Income Quantile Group)

Source: Authors' estimates based on "Consumer Price Index" and "Family Income and Expenditure Survey" by the Statistics Bureau of the Ministry of Internal Affairs and Communications.

JPY 37,220. As Table 2-4-2 and Figure 2-4-2 show, higher-income households spend more on food, fuel and light, resulting in a larger increase in the burden due to rising prices. From Quantile I to Quantile V, the increase per household in food expenses was JPY 33,489, JPY 38,066, 41,896, JPY 44,834, and JPY 54,170, respectively. The increase in the burden of fuel and light was JPY 35,424, JPY 35,850, JPY 36,864, JPY 38,023, and JPY 39,936 from Quantile I to Quantile V, respectively.

## (2) Percentage of Households Burdened Due to Inflation by Income Quantile Group

In Subsection 4.2.(1), we estimated the increased burden due to rising prices. However, when examining the impact of price increases on household budgets, the additional burden alone is insufficient. Even with the same increase in burden, higher-income households feel less of an impact than lower-income households. To more accurately capture the effects on households, various household attributes such as income level and number of household members must also be considered. Here, the proportion of the increase in household burden due to price rises to disposable income is calculated separately for each income group as follows:

Burden ratio for expense item *i* in the current year (%)

$$= \frac{\text{Increase in burden for expense item } i \text{ in the current year}}{\text{Total disposable income in the previous year}}$$

For example, the burden ratio for food in 2022 is the increase in the food burden for 2022, as calculated in Subsection 4.2.(1) divided by the disposable income in 2021.

Figure 2-4-3 shows the ratio of the increased burden for two-or-more-person households (of which workers' households) to disposable income due to price increases in 2022, calculated for each income group. On national average, the increased burden for food due to higher prices accounted for 0.72% of the total disposable income. The increase in the burden for fuel and light was 0.63% of the total disposable income. As Table 2-4-2 shows, the lower the income class, the larger the proportion of food, fuel and light expenses in total consumption expenditures. As a result, the ratio of the burden due to the increase in food, fuel and light prices is larger for lower-income households than for higher-income households. In Figure 2-4-3, the respective food burden ratio for Quantiles I to V was 0.95%, 0.83%, 0.77%, 0.67%, and 0.58%. The burden ratio for fuel and light expenses also decreased from 1.00% in Quantile I to 0.43% in Quantile V as the income class increased. Since the price increase in 2022 was primarily due to rises in food, fuel and light prices, it is confirmed that the ratio of the burden is higher for households (lower-income quantile groups) that spend a larger proportion of their budget on food, fuel and light.

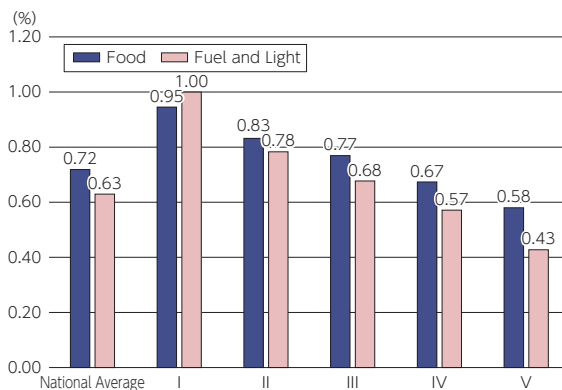


Figure 2-4-3

Proportion of Increased Burden on Food, Fuel and Light Costs to Disposable Income (by Income Quantile Group)

Source: Authors' estimates based on "Consumer Price Index" and "Family Income and Expenditure Survey" by the Statistics Bureau of the Ministry of Internal Affairs and Communications.

### 3. Inflation and Household Burden by Region

#### (1) Inflation and Household Burden (by Region)

In Subsection 4.2, we calculated the increased burden of national average consumer price inflation. However, the combination of goods and services people consume has regional characteristics. Because the mix of consumption varies by region and the price increase rate for each category is not the same, the actual burden felt due to price increases also varies.

This subsection attempts to estimate the increase in household burden due to inflation by region. Table 2-4-3 shows the income, consumer spending, and the rate of increase in food, fuel and light prices for each of the 10 national regions. From Table 2-4-3, while there is not much regional variation in the rate of increase in food prices, the rate of increase in fuel and light prices varies significantly. For instance, in Kyushu, fuel and light prices rose by 9.2% YoY in 2022, whereas in Tokai, they increased by 18.6% YoY. As in the previous subsection, we first calculated the increased burden due to price hikes as follows:

Table 2-4-3 Income, Consumption Expenditures and Price Increases by Region (JPY, %)

|                  | Income (Annual) | Consumer Expenditures (Monthly) | Food Expenditures (Monthly) | Fuel and Light Expenditures (Monthly) | Food/ Total Expenditures (%) | Fuel and Light/ Total Expenditures (%) | Food Price YoY Change (%) | Fuel and Light Price YoY Change (%) | Number of Households |
|------------------|-----------------|---------------------------------|-----------------------------|---------------------------------------|------------------------------|--|---------------------------|-------------------------------------|----------------------|
| National Average | 7,263,789       | 309,469                         | 78,576                      | 15,844                                | 25.4                         | 5.1                                    | 4.5                       | 14.8                                | 10,000               |
| Hokkaido         | 6,530,397       | 277,611                         | 68,917                      | 21,301                                | 24.8                         | 7.7                                    | 5.3                       | 13.6                                | 419                  |
| Tohoku           | 6,404,911       | 276,346                         | 72,910                      | 18,816                                | 26.4                         | 6.8                                    | 4.5                       | 13.0                                | 636                  |
| Hokuriku         | 7,526,233       | 320,353                         | 77,698                      | 18,998                                | 24.3                         | 5.9                                    | 4.4                       | 11.4                                | 432                  |
| Kanto            | 7,907,560       | 331,623                         | 85,172                      | 14,927                                | 25.7                         | 4.5                                    | 4.6                       | 17.9                                | 3,719                |
| Tokai            | 7,298,845       | 320,332                         | 79,105                      | 15,799                                | 24.7                         | 4.9                                    | 4.2                       | 18.6                                | 1,220                |
| Kansai           | 7,095,559       | 300,294                         | 77,823                      | 15,072                                | 25.9                         | 5.0                                    | 4.6                       | 11.7                                | 1,585                |
| Chugoku          | 6,434,141       | 284,646                         | 71,462                      | 16,171                                | 25.1                         | 5.7                                    | 4.5                       | 14.1                                | 606                  |
| Shikoku          | 6,986,485       | 285,062                         | 67,175                      | 16,046                                | 23.6                         | 5.6                                    | 3.9                       | 9.4                                 | 296                  |
| Kyushu           | 6,530,397       | 277,611                         | 71,049                      | 14,726                                | 24.8                         | 5.2                                    | 4.5                       | 9.2                                 | 970                  |
| Okinawa          | 5,224,277       | 253,374                         | 70,486                      | 15,734                                | 27.8                         | 6.2                                    | 5.2                       | 12.4                                | 118                  |

Source: Authors' estimates based on "Consumer Price Index" and "Family Income and Expenditure Survey" by the Statistics Bureau of the Ministry of Internal Affairs and Communications.

Note: Income and consumer expenditures are based on 2021 data, while the year-over-year inflation rate for food, fuel and light prices is based on 2022 data.

$$\begin{aligned} &\text{Increase in burden for expense item } i \text{ in region } A \text{ for the current period} \\ &= \text{Expenditure on expense item } i \text{ in region } A \text{ for the previous period} \\ &\quad \times \text{YoY change in price index for expense item } i \text{ in region } A \text{ for the} \\ &\quad \text{current period} \end{aligned}$$

For example, the increase in the food burden for Hokkaido in 2022 is based on the amount spent on food in Hokkaido one year earlier (on a monthly basis), multiplied by the monthly rate of increase in food prices in Hokkaido for each month of 2022, and then totaled.

Figure 2-4-4 sums up the respective monthly increase in burden due to price rises in 2022 for 12 months by region. Kanto saw the highest total increase in food expenditures due to price inflation in 2022, amounting to an additional JPY 44,923, despite the average rate of increase in food prices in Kanto being the same as the national average (+4.5%), and lower than the rate of increase in Hokkaido (+5.3%). However, since Kanto originally had the highest food expenditure in 2021, it has resulted in the highest increase in the food burden nationwide. In contrast, Shikoku had the lowest increase in food burden due to its lower food expenditure and the lowest average rate of increase in food prices, resulting in an increase of JPY 31,474. Kansai saw an increase in food burden of JPY 43,487, which is roughly the national average, due to similar levels of food expenditure and average rate of increase in food prices.

Next, let’s look at the increase in the burden of fuel and light charges. As

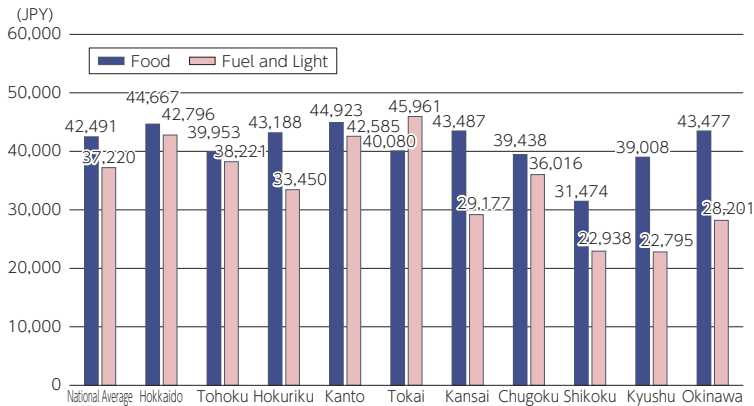


Figure 2-4-4

Increase in Food and Electricity and Light Costs Due to Price Increases in 2022 (by Region)

Source: Authors’ estimates based on “Consumer Price Index” and “Family Income and Expenditure Survey” by the Statistics Bureau of the Ministry of Internal Affairs and Communications.



shown in Table 2-4-3, northern regions originally had higher expenditures for fuel and light. However, the average rate of increase in prices of fuel and light in 2022 was the highest in Tokai at 18.6%. As a result, the burden in Tokai increased by JPY 45,961, the largest in the country. In contrast, the lowest increase of fuel and light burden was in Kyushu at 22,795, about half that of Tokai. This is due to Kyushu's lower costs and the lowest average rate of increase in prices. In Kansai, the burden increased by 29,177. Since the fuel and light expenditure in Kansai in 2021 was at the same level as the national average, and the rate of increase in prices of fuel and light in Kansai in 2022 was lower at 11.7%, the burden was about JPY 8,000 less than the national average. Kansai Electric Power and Kyushu Electric Power, having operational nuclear power plants, managed to keep electricity costs relatively low, and as a result, the increase in the burden in Kansai and Kyushu was lower than the national average.

## (2) Inflation and the Share of Household Burden (by Region)

In this subsection, we will examine the ratio of the increased household burden due to inflation by region. Since income levels vary by region, the same increase in burden can feel more substantial in areas with lower incomes. For this analysis, disposable income is used as the basis for regional income, and the proportion of the increased burden on households due to inflation is estimated for each region as follows:

$$\text{Burden ratio of expense } i \text{ in region A for the current year (\%)} \\ = \frac{\text{Burden increase of expense } i \text{ in region A for the current year}}{\text{Total disposable income in region A for the previous year}}$$

Figure 2-4-5 calculates the ratio of the increased burden for 2022 to the disposable income of 2021 for each region. In Okinawa, the increased burden for food due to higher prices was the highest, accounting for 0.98% of the total disposable income. Although Okinawa was the fourth-highest in terms of the increase in burden, the burden ratio was the highest because of its lower disposable income. On the other hand, the highest ratio of the increase in burden of fuel and light was in Hokkaido, where the increase accounted for 0.79% of the total disposable income. Due to the lower disposable income in Hokkaido, the ratio of fuel and light burden was also the highest. In Kansai, the ratio of the food burden increase was 0.75%, and for fuel and light, it was 0.50%. Compared to the national average, the food burden ratio in Kansai was slightly higher (national average: 0.72%, Kansai: 0.75%), while the burden of fuel and light was significantly lower (national: 0.63%, Kansai: 0.50%).

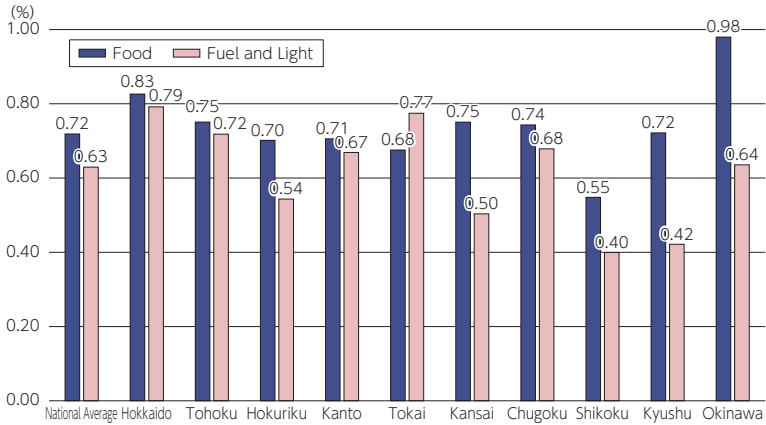


Figure 2-4-5

#### Increased Food and Fuel and Light Costs as a Percentage of Disposable Income (by Region)

Source: Authors' estimates based on "Consumer Price Index" and "Family Income and Expenditure Survey" by the Statistics Bureau of the Ministry of Internal Affairs and Communications.

## 4. Estimation of the Government Measures to Mitigate Sharp Fluctuations in Electricity and Gas Prices

Up to this point, we have examined the impact of the price surge on households in 2022. It has been clarified that the sharp rise in the cost of food, fuel and light imposed a significant burden on households. Although fuel and light account for only about 5% of household consumption, the surge in their prices led the inflationary trend. Entering 2023, the effects of high international crude oil prices and the weakening JPY were expected to further burden households with increased costs for fuel and light. Against this backdrop, the government introduced the measures to mitigate sharp fluctuations in electricity and gas prices in February 2023, which provides a discount on electricity and gas bills according to usage (hereinafter referred to as "measures"). This initiative was implemented to alleviate the impact of significant increases in electricity and gas costs on household budgets.<sup>3)</sup>

Evaluating the extent to which the government measures have had a mitigating effect on households is an important issue. Given that lower-income households bear a heavier burden for electricity and gas, as observed, it is necessary to examine the impact of the measures in more detail. However, it is not

3) The discount is applied only to manufactured and piped gas, not for liquefied propane gas. In this paper, the manufactured and piped gas is called as "gas" for convenience.

possible to directly determine the electricity and gas price indices in the absence of the measures. Nevertheless, using the contribution level to the price index published every month by the Ministry of Internal Affairs and Communications from February 2023, it is possible to estimate the electricity and gas price indices if the measures were not in place.

For example, looking at the impact on the overall price index for electricity costs in September 2023, the contribution degree is -1.01, and the contribution degree due to the measures as published by the Ministry is -0.82. This means that the contribution degree due to electricity price fluctuations alone is -0.19. The formula for calculating the contribution degree is as follows:

Contribution degree due to electricity prices fluctuations alone at time t

$$= \frac{\text{Electricity price index without measures at time t} - \text{Electricity price index at time t-12}}{\text{Composite consumer price index at time t-12}} \times \text{weight of electricity costs}$$

The electricity price index and the overall consumer price index one year ago, as well as the weight of electricity costs in overall consumption items, are known. Therefore, using the above formula, it is possible to derive the monthly electricity price index in the absence of the measures. The same approach applies to gas price.

Figure 2-4-6 shows the actual trend of the electricity and gas price indices with measures and the trend of these indices in the absence of measures. If the measures had not been implemented starting February 2023, the electricity price index would have fluctuated between 118.9 to 131.2, and gas between 120.8 to 149.2. In a scenario without measures, there would likely have been a gradual decline from the peak in February 2023, yet the prices would have remained at a high level.

Next, we will estimate the household expenditure on electricity and gas without the measures using the monthly expenditure data of households with two or more persons (of which workers' households) from the Family Income and Expenditure Survey. The ratio of the expenditure amount with the measures to the amount without them is equal to the ratio of the electricity price index with the measures to the index without them. We can therefore derive the expenditure amount without the measures using the following relationship, and

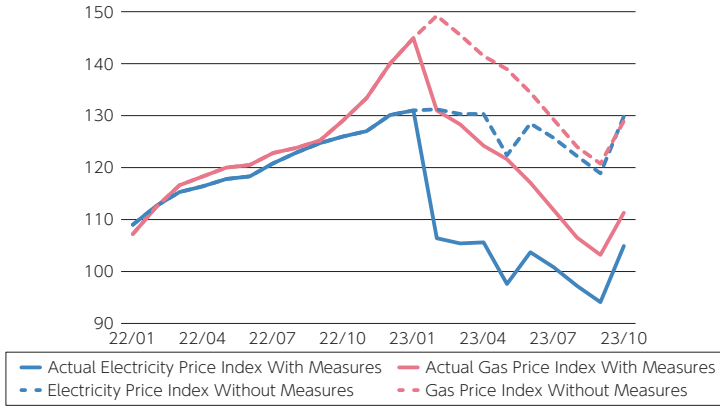


Figure 2-4-6

### Electricity and Gas Price Indexes, Comparing Scenarios With and Without Government Measures

Note: The year 2020 is set as 100.

Source: Compiled by the authors based on "Consumer Price Index" from Statistics Bureau, Ministry of Internal Affairs and Communications

similar calculations can be performed for gas:<sup>4)</sup>

$$\frac{\text{Expenditures with measures at time } t}{\text{Expenditures without measures at time } t} = \frac{\text{Electricity price index with measures at time } t}{\text{Electricity price index without measures at time } t}$$

Lastly, we will estimate the amount of burden alleviation for electricity and gas provided by the measures. This is defined as the difference between the expenditure amount without the measures and the amount with them. Table 2-4-4 aggregates the monthly alleviation amount per household from February to October 2023, categorized by income quantile group. Due to the measures, the average expenditure amount decreased by JPY 25,288 for electricity and JPY 4,056 for gas. By income group, electricity bills per household were respectively reduced by JPY 23,570, JPY 25,785, JPY 26,333, JPY 27,873, and 29,141 per household from Quantile I to V. The higher the income of the households, the greater the amount of electricity used, and thus the greater the burden reduction due to the measures. The amount of the burden reduction for gas bills from Quantile I to V was JPY 4,226, JPY 3,943, JPY 4,044, JPY 4,208, and JPY 4,521,

4) Assuming that gas accounts for 62.25% of the total gas category, an estimated expenditure amount was calculated for a scenario without measures.

respectively.

On the right side of [Table 2-4-4](#), the proportion of the alleviation amount from February to October 2023 to disposable income during the same period is shown for each income class. On national average, the alleviation amount for electricity costs due to the measures accounted for 0.60% of the total disposable income, and for gas cost, it was 0.10%. The respective proportion of alleviation for electricity costs ranging from Quantile I to V was 0.91%, 0.76%, 0.67%, 0.59%, and 0.50%, indicating that the percentage reductions are smaller for households with higher incomes. A similar trend was observed for the respective burden reduction ratio for gas bills, with 0.16%, 0.12%, 0.10%, 0.09%, and 0.08% from Quantile I to V.

As indicated by the previous analysis, the price inflation of 2022 was primarily due to essential expenses such as food, fuel and light, and the burden was higher for low-income groups with a higher proportion of these expenses. It was also observed that the degree of burden due to price increases varies significantly by region. Although the burden of food costs due to price inflation remains significant through 2023, the measures have provided a certain level of relief for households. Specifically, while high-income households experienced a larger amount of burden alleviation due to the measures, the proportion of alleviation was relatively larger for low-income households when viewed as a percentage of their income. According to the Monthly Labour Survey, real wages have declined for 19 consecutive months, underscoring the persistent economic pressures on households. Nonetheless, the government's measures to mitigate the burden of rising electricity and gas prices are anticipated to lessen household financial strains and boost consumption, which is likely to foster a positive impact on the overall economy.

**Table 2-4-4** Amount and Percentage of Burden Reduction

|                  | Amount of Burden Reduction with Measures (in JPY) |       |        | Proportion of Burden Reduction in Disposable Income (%) |      |       |
|------------------|---|-------|--------|---|------|-------|
|                  | Electricity                                       | Gas   | Total  | Electricity   | Gas  | Total |
| National Average | 25,288  | 4,056 | 29,344 | 0.60  | 0.10 | 0.70  |
| Quantile I       | 23,570  | 4,226 | 27,796 | 0.91  | 0.16 | 1.07  |
| Quantile II      | 25,785  | 3,943 | 29,728 | 0.76  | 0.12 | 0.88  |
| Quantile III     | 26,333  | 4,044 | 30,377 | 0.67  | 0.10 | 0.77  |
| Quantile IV      | 27,873  | 4,208 | 32,081 | 0.59  | 0.09 | 0.68  |
| Quantile V       | 29,141  | 4,521 | 33,661 | 0.50  | 0.08 | 0.58  |

Source: Authors' estimates based on "Consumer Price Index" and "Family Income and Expenditure Survey" by the Statistics Bureau of the Ministry of Internal Affairs and Communications.

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