

## Price hike of daily necessities generates a regressive financial burden on households

Financial impact on low-income households is equivalent to a more than 2% consumption tax increase

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### Impact of food and energy price hikes – the lower the household income, the greater the financial burden

With soaring commodity prices around the globe and a weaker yen, the Consumer Price Index (CPI) has been rising steadily. The representative index that shows the trend of consumer prices, “all items less fresh food (core CPI),” rose by +0.5% from the previous year in December 2021, marking positive growth for four consecutive months. The notable feature of the December figure is core CPI growth primarily attributable to the price hike of daily necessities, such as energy<sup>1</sup> (year-on-year increase of +16.4%) and food (less fresh food) (+1.1%).

Higher consumer prices lead to lower household purchasing power with real incomes falling. Especially in the case of rising prices centered on daily necessities, such as the increases we are seeing today, the financial burden becomes greater for low-income households whose share of daily necessities (food and energy, among others) in total spending is substantial (refer to Minami, 2022). In this report, as CPI is expected to continue rising,<sup>2</sup> we quantitatively estimated the potential financial burden placed on households by different income groups in 2022 due to higher food and energy prices.

Our estimate is based on nominal expenditures in 2021 by annual income group compiled in the “Family Income and Expenditure Survey” by the Ministry of Internal Affairs and Communications. We regarded the potential increase in food and energy expenditures in 2022 driven by rising prices as the financial burden increase for 2022.<sup>3</sup> Based on the estimation method used by Minami (2021), we assumed a +3.3% year-on-year price increase rate for

<sup>1</sup> Source: The Ministry of Internal Affairs and Communications, *Consumer Price Index*. Energy includes electricity, city gas, propane gas, kerosene, and gasoline.

<sup>2</sup> For more details, refer to Minami (2022) and Minami (2021). With a one-to-nine-month time lag between crude oil price hikes and consumer price increases for such items as electricity, we expect the transfer of crude oil price hikes onto various energy prices will last at least until around September 2022. Likewise, the transfer of higher import food prices onto consumer prices is anticipated to emerge full scale from the first half of 2022. This means we can expect rising prices to continue for a while.

<sup>3</sup> We used the data of households with two or more members and classification by use from the Ministry of Internal Affairs and Communications, *Family Income and Expenditure Survey*. The basis of our estimate is derived by calculating the weighted average of annual income data by income group by the number of households. Energy is an aggregate of electricity, gas, other fuel and light, and gasoline. Due to data constraints imposed by classification by use, we estimated the gasoline value by multiplying 1/3 of the maintenance of vehicles. For 2021 annual income and expenditures, since the December 2021 data were not yet released, we used the data of December 2020. For the 2022 annual income value used to calculate the burden rate against income, we used the same value as 2021.

food (less fresh food) and a +9.1% jump for energy in 2022<sup>4</sup>.

Our estimate results (**Chart 1**) revealed that food and energy price hikes will add to the financial burden placed on households in 2022 by 42,339 yen on average for households with an annual income less than 3 million yen (“low-income households”), and by 67,998 yen on average for households with an annual income more than 10 million yen (“high-income households”). As the level of spending is generally higher when annual income increases, the financial burden in terms of actual value is larger for high-income households. But if we compare the increases in the burden rate (burden of food and energy costs/annual income), while the burden rate rose only slightly by +0.5%Pt (11.0% to 11.5%) for high-income households, the burden rate for low-income households jumped by +1.8%Pt (38.7% to 40.5%), showing that the lower the income, the greater the financial burden.

**[ Chart 1: Estimated financial burden on households by income group due to higher food and energy prices (2022) ]**

Annual income	Burden increase in 2022 (yen)			Burden rate against income (%)		Burden rate increase (%Pt)
	Food	Energy	Total	2021	2022	
Less than 3 million	22,840	19,499	<b>42,339</b>	<b>38.7</b>	<b>40.5</b>	<b>+1.8</b>
3-4 million	26,147	21,361	47,508	29.4	30.8	+1.4
4-5 million	28,484	23,121	51,605	24.9	26.1	+1.2
5-6 million	29,194	24,004	53,198	20.9	21.9	+1.0
6-7 million	31,305	24,261	55,566	18.7	19.6	+0.9
7-8 million	32,205	24,467	56,672	16.7	17.4	+0.8
8-9 million	33,205	26,167	59,373	15.3	16.0	+0.7
9-10 million	35,939	26,596	62,535	14.5	15.2	+0.7
More than 10 million	40,690	27,308	<b>67,998</b>	<b>11.0</b>	<b>11.5</b>	<b>+0.5</b>
Total average	30,135	23,517	53,652	18.7	19.6	+0.9

Notes: 1. We estimated the annual increase in financial burden in 2022 from 2021. We used the data of households with two or more members and classification by use.  
 2. Energy is an aggregate of electricity, gas, other fuel and light, and gasoline. The burden rate is the share of spending on food and energy in total income.  
 3. Refer to footnote 3 for details.

Source: Made by MHRT based on the Ministry of Internal Affairs and Communications, *Family Income and Expenditure Survey*.

### Financial burden of higher daily necessity prices is equivalent to a more than 2% consumption tax hike for low-income households

As discussed in the previous section, soaring prices of daily necessities generate a greater financial burden for lower income households. This is akin to a regressive consumption tax (when the tax burden is heavier for low-income households).

The regressive nature of the consumption tax hike in 2014, raised from 5% to 8%, became the center of debate because a lower tax rate was not introduced for food items. For example, Yamamoto (2013) estimated the impact of the consumption tax hike by annual income group and concluded that the impact on low-income households was higher. According to Yamamoto’s estimate, the 3% consumption tax hike pushed up the tax burden rate on low-income households by +2.4%Pt (4.1% to 6.5%). This concept of increase in “tax burden rate” is equivalent to the increase in burden rate (+1.8%Pt) for households with an annual income under 3 million yen in **Chart 1**. By simply comparing the two figures, we can estimate the increased burden on low-income households due to recent price hikes as 3/4 of the impact of the 3% consumption tax rise (=1.8%Pt/2.4%Pt),<sup>5</sup> and can conclude that the

<sup>4</sup> Forecast at the time of writing this report. It should be noted that in the calculation this time, we roughly estimated the burden of food using the price increase rate of food items excluding fresh food subject to price fluctuations due to climate factors. Since the increase in food prices should also include fresh food, strictly speaking, the actual burden placed on households may be larger than our estimate.

<sup>5</sup> We made a simple comparison using the proportion of +1.8%Pt change in the burden rate for households with an annual income under 3 million yen and +2.4%Pt in 2014 when the consumption tax was raised. We also made a similar calculation of the burden increase for

financial burden is equivalent to a more than 2% rise in consumption tax, revealing the greater burden placed on low-income households.

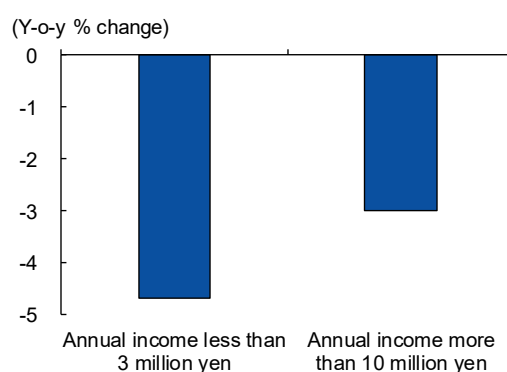
### Lower income leads to greater spending cuts – more support for low-income households is critical

The price escalation of daily necessities is expected to impose a relatively heavier burden on low-income households, but how will this affect the consumption behavior of households in general?

When commodity market prices skyrocketed in 2008 (2008 average energy price in CPI rose sharply by +9% year-on-year), increased spending on daily necessities weighed heavily on the household disposable income and restrained the consumption of non-essential items, such as “personal effects,” “clothing and footwear,” and “social expenses,” and overall personal consumption tumbled as a result (refer to Sakai et al., 2021).

In **Chart 2**, we examined changes in nominal household expenditures in 2008 by annual income group.<sup>6</sup> The outcome revealed that in 2008, other expenditures other than food and energy declined for both households with an annual income less than 3 million yen and those with an annual income more than 10 million yen. The rate of decrease, however, showed a higher reduction for the under 3-million-yen households, at -4.7% year-on-year, compared with the over 10-million-yen households, at -3.0%. This can be explained by the greater impact on low-income households as a larger share of their annual income is spent on daily necessities, compelling them to crimp on non-essential spending to protect their household finances. (Minami, 2022, points out that low-income households slashing education expenses to a greater extent than high-income households run the risk of exacerbating the disparity in education.) So we see once again that the lower the household income, the more likely that expenditures for non-essential items will be reduced.

**[ Chart 2: Reduction rate of “other expenditures (other than food and energy)” by annual income group (2008) ]**



Note: Households with two or more members, classification by use, nominal value. Other expenditures are defined as “expenditures other than food and energy.” Refer to footnote 6 for details.

Source: Made by MHRT based on the Ministry of Internal Affairs and Communications, *Family Income and Expenditure Survey*.

Lower income groups are presumed to include more households whose income has declined due to job loss or shorter working hours because of the coronavirus pandemic (refer to Shimanaka, 2021), and the recent surge in prices centered on daily necessities has made matters worse for low-income earners during the COVID-19 crisis.

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households with an annual income over 10 million yen against annual income, and the burden increase was equivalent to a 1.5% hike in the consumption tax.

<sup>6</sup> We used the data of households with two or more members and classification by use from the Ministry of Internal Affairs and Communications, *Family Income and Expenditure Survey*. The basic calculation methods, including the method of total weighted average and the definition of energy, are the same as described in footnote 3. Other expenditures are defined as “expenditures other than food and energy.”

While greater financial support for households affected by the pandemic is called for, the government has already decided to offer temporary benefits for households with children and residential tax-exempt households. But we believe the government should launch additional financial support measures that can alleviate the financial burden that rising prices place on households (such as additional benefits for low-income households).

### Reference

**Refer to the original Japanese report by clicking the URL below for the reference material.**

<https://www.mizuho-ir.co.jp/publication/report/2022/pdf/express-jp220127.pdf>

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