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Energy price hikes bringing about inflation

Gasoline subsidies as a measure to support the needy?

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Summary

As the Japanese economy recovers from the COVID-19 disaster, inflation has become a challenge. The inflation rate in Japan is lower than in Western countries. A breakdown of the rate indicates that a government-led cut in mobile phone fees has pushed down the inflation rate. Excluding telecommunication and accommodation prices under policy-related temporary pressure, the consumer price index posts a 1.8% increase. From April 2022 when the impact of the mobile phone fee cut will expire, Japan's inflation rate will become higher.

Currently, energy price hikes are the largest factor behind inflation. As energy is essential to life, it is difficult to adjust energy consumption. Energy price hikes are viewed as a heavy burden on households including low-income households. To quantify the burden, we estimated the inflation rate and its breakdown by expenditure category for each of annual income quintile group. The estimation indicated that inflation pressure is greater for lower-income households. From April 2022, lower-income households will be exposed to the impact of the rising inflation rate.

Figure 1 | Inflation and component contributions (year-on-year change)

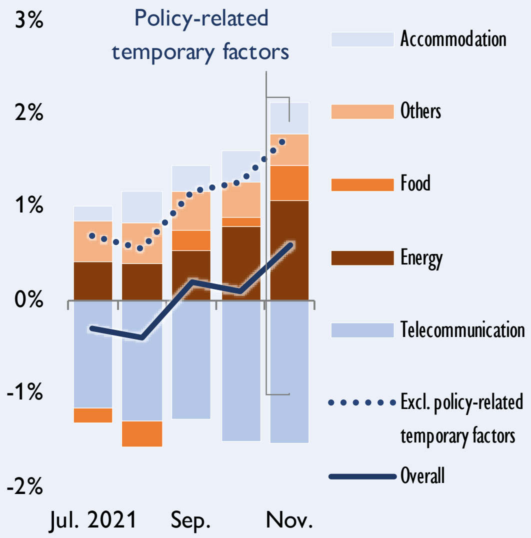
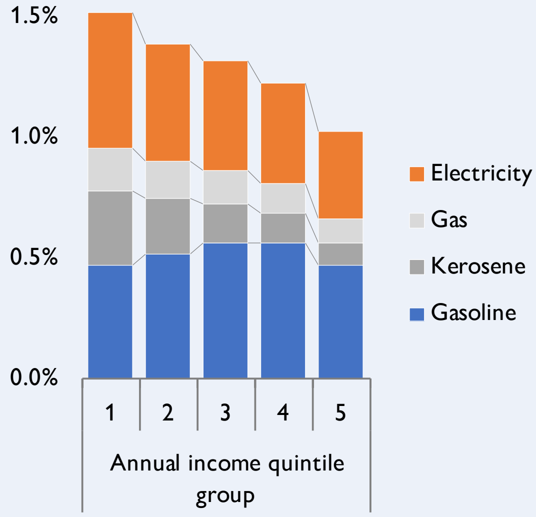


Figure 2 | Energy price hikes' contributions to inflation (year on year, November 2021)



"Gasoline subsidies", though designed to mitigate the inflation burden, give greater benefits to middle- and middle-high-income households than to low-income households as gasoline consumption is larger for households with higher income. Like the reduced value added tax on food and drinks, gasoline subsidies fail to support low-income households sufficiently. Among petroleum products, subsidies for kerosene may provide greater policy benefits to low-income households that consume more kerosene than higher-income households.

Keywords: Prices, gasoline, electricity, subsidy

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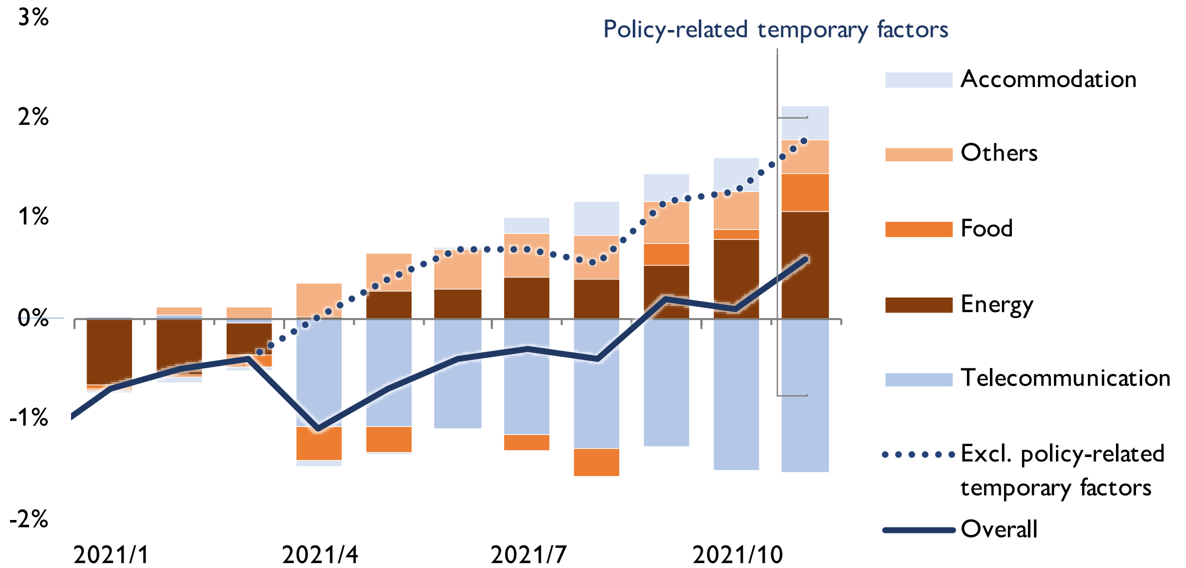
Electricity subsidies may also benefit low-income households selectively. An important point here is that electricity prices are destined to rise further. Even if oil price and the dollar-yen exchange rate remain unchanged, electricity prices will continue to rise until the summer of 2022. Future electricity price hikes will be the same as seen in the second half of 2021 when energy price hikes became remarkable. They will push up inflation.

Inflation is unexpectedly high and will accelerate from April 2022

As the Japanese economy recovers from a substantial contraction caused by the COVID-19 disaster, inflation through supply constraints has become a challenge. Since September 2021, Japan's consumer price index (CPI) has remained above the year-before level. In November 2021, the CPI posted a 0.6% year-on-year increase, the highest since March 2020 just before the spread of COVID-19 infections. Japan's inflation, even though rising, has still been lower than European and U.S. inflation. As a deflationary mindset is deep-rooted among Japanese consumers, companies have reportedly been hesitant to revise prices of final consumption goods on concern about customer losses through price hikes, despite substantial price hikes for imports and corporate goods.

However, a breakdown of the low inflation rate below 1.0% indicates some features. In fact, a telecommunication price cut has made a major contribution to lowering inflation (Figure 3). The mobile phone fee cut led by the Suga administration has pushed down the inflation rate by 1.1%-1.5% since April 2021. Meanwhile, accommodation price hikes as another policy-related factor have pushed up the inflation rate. Accommodation prices have risen since late December 2020 when the government suspended the Go To Travel Campaign that it introduced in July 2020 to cover some portion of domestic travel costs to support the tourism industry affected by the COVID-19 disaster.

Figure 3 | Inflation and component contributions (year-on-year change)



Source: Estimated from Statistics Bureau, Ministry of Internal Affairs and Communications "Consumer Price Index"

However, the policy-related factors' contributions to pushing up or down the CPI are temporary. The telecommunication factor will disappear in April 2022 one year after the mobile phone fee cut. The

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accommodation price factor will vanish in January 2022 unless the Go To Travel Campaign is resumed. Excluding these policy-related temporary factors, the inflation rate reaches 1.8%. From April 2022 when the mobile phone fee cut's contribution to lowering inflation will end, the inflation rate will rise substantially.

Price hikes for energy essential to life exert a greater impact on lower-income households

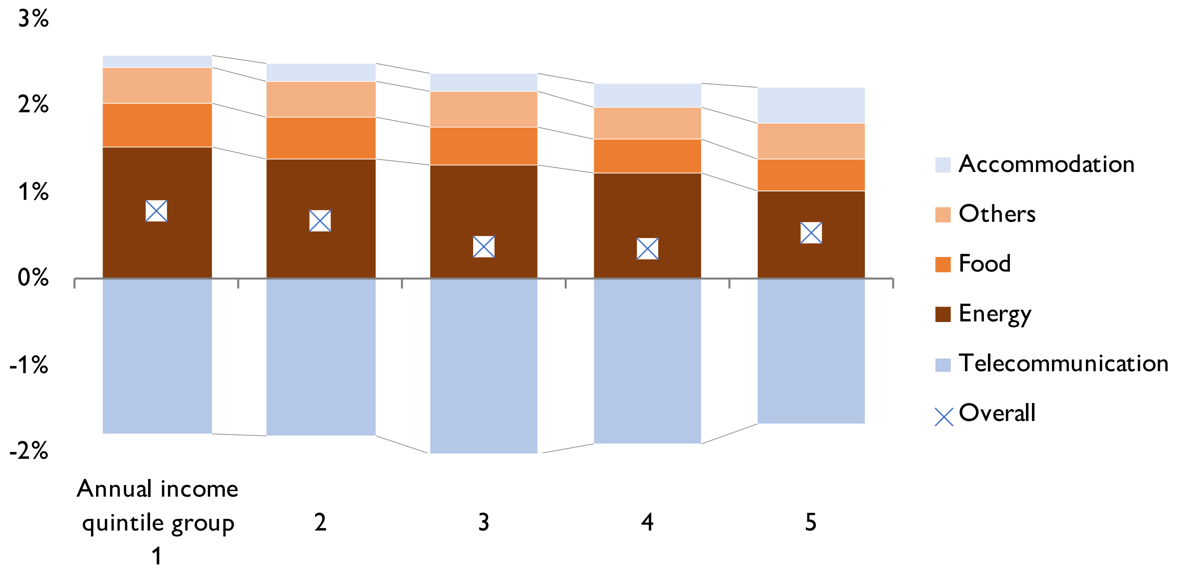
While food price hikes have become controversial, the largest factor behind the current inflation is energy price hikes triggered directly by an increase in international oil prices. As energy and food are essential to life, it is difficult to adjust their consumption. Their price hikes are viewed as a heavy burden on households including low-income households. To quantify the burden, we used a component-by-component breakdown of consumption expenditure in the Family Income and Expenditure Survey by the Statistics Bureau of the Ministry of Internal Affairs and Communications to simply estimate a rise in the CPI (excluding imputed rents for owner-occupied houses) and component contributions to the rise for each of the annual income quintile group in the survey[1]. Each group's major indicators are given in Table 1.

Table 1 | Major indicators of annual income quintile groups (2019-2020 average)

Annual income quintile group	1	2	3	4	5
Income (JPY10,000)	256	389	534	727	1,205
Consumption expenditure (JPY10,000)	227	290	330	373	493
of which: Basic expenditure	*73%*	*67%*	*61%*	*54%*	*47%*
Number of Household members (persons)	2.39	2.65	3.06	3.27	3.45

Source: Statistics Bureau, Ministry of Internal Affairs and Communications "Family Income and Expenditure Survey"

Figure 4 | Inflation rates and component contributions (year-on-year, November 2021)



Sources: Estimated from Statistics Bureau, Ministry of Internal Affairs and Communications, "Consumer Price Index" and "Family Income and Expenditure Survey"

[1] All components other than pocket money (for unknown purposes), social expenses and remittance are adopted. In principle, computation is on a middle classification basis.

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The inflation rate is the highest for annual income quintile group 1 for the lowest income households and falls as income rises (Figure 4). Exceptionally, however, the inflation rate for annual income quintile group 5 for the highest income households is higher than for annual income quintile group 3 for the middle-income households. This is because:

1/ While telecommunication spending for annual income quintile group 5 is the largest among the five groups, its share of total expenditure is the lowest due to the higher total expenditure close to JPY5 million. Therefore, the mobile phone fee cut's contribution to pushing down the CPI is smaller.

2/ Accommodation spending for annual income quintile group 5 more than doubles from the average to a remarkably high level, meaning that the contribution of the Go To Travel Campaign suspension to pushing up the CPI is large.

As telecommunication and accommodation prices subjected to great policy-related temporary impacts are excluded from the CPI, contributions from energy and food (warm colour portions in Figure 4) essential to life become dominant, indicating the negative correlation relationship between annual income and the inflation rate more clearly. Inflation pressure is higher for lower-income households. From April 2022, lower-income households will be exposed more to the impacts of rising food and energy prices.

How gasoline subsidies should be viewed

Given this point, the government apparently decided to adopt a subsidy program for mitigating sharp fuel price hikes (hereinafter referred to as "gasoline subsidies")[2] "as a temporary emergency radical change alleviation measure to suppress the impact of gasoline and other price hikes on national livelihood"[3]. However, details of energy price hikes' contribution to inflation indicates that there are various problems with viewing gasoline subsidies as supporting poor households[4].

Gasoline price hikes have pushed up the CPI by 0.5%-0.6%. Due to automobile ownership differences[5], however, gasoline price hikes' contribution to the CPI rise for low-income households is smaller than for middle- and middle-high-income households (Figure 5)[6]. This means that the gasoline subsidies give greater

[2] If the nationwide average gasoline price exceeds 170 yen per litre, the government may pay up to JPY5/L for gasoline, diesel oil, kerosene and heavy fuel oil to cover wholesale price hikes caused by fluctuations in yen-denominated oil prices.
https://www.meti.go.jp/main/yosan/yosan_fy2021/hosei/pdf/hosei_yosan_pr.pdf

[3] Remark by Koichi Hagiuda, Minister of Economy, Trade and Industry, at a press conference on 19 November 2021.
https://www.meti.go.jp/speeches/kaiken/2021/20211119001.html

[4] The gasoline subsidies are not targeted at poor households other than high income households. As they cover petroleum products consumption by companies as well as households, they may support transportation business operators that have yet to introduce a fuel surcharge system. However, the budget size for the gasoline subsidies is limited to JPY80 billion, indicating that it is too small for an economic stimulus measure. Naturally, the measure may be understood at a direct support program. If so, the measure should have been designed to give priority to supporting the needly.

[5] According to the Cabinet Office's Consumer Confidence Survey, the car ownership rate as of March 2021 stood at 86.6% for households with annual income between JPY5.5 million and less than JPY7.5 million, against 67.4% for those with annual income less than JPY3 million. The number of cars per 100 households was 144.6 for households with annual income between JPY5.5 million and less than JPY7.5 million, against 94.2 for those with annual income less than JPY3 million.

[6] As is the case with telecommunication spending, gasoline spending is the largest for annual income quintile group 5 for the highest income households, with its share of total consumption expenditure being the smallest. Therefore, gasoline price hikes' contribution to the CPI rise for the highest income group is relatively smaller.

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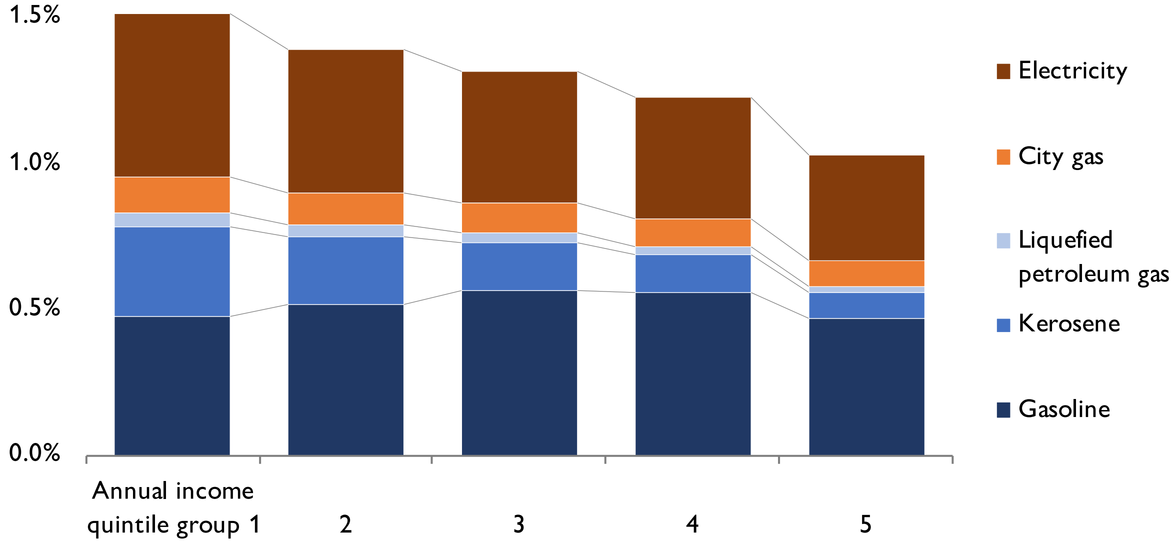
benefits to middle- and middle-high-income households than to low-income households. Like the reduced value added tax on food and drinks, gasoline subsidies fail to support low-income households sufficiently[7].

Figure 5 | Energy price hikes' contributions to inflation (year-on-year, November 2021)



Sources: Estimated from Statistics Bureau, Ministry of Internal Affairs and Communications, "Consumer Price Index" and "Family Income and Expenditure Survey"

If energy subsidies are proposed to support the needy, subsidies for kerosene that is more consumed at low-income households may be appreciated as producing a policy effect more selectively among petroleum products. However, attention must be paid to interregional gaps in kerosene consumption.

Subsidies for electricity as well as kerosene may also support low-income households more than the gasoline subsidies, although the current government energy subsidy program does not cover electricity. Like gasoline consumption, electricity consumption is less at lower-income households. As electricity is more essential to life than gasoline, however, income-based gaps in electricity consumption are narrower than in gasoline consumption. Even if income at a household is 10% less than the average, its electricity consumption may not be 10% or more less. Therefore, electricity price hikes impose a greater impact on lower-income households.

It is important that electricity prices are certain to rise further in the future. If international oil prices and the dollar-yen exchange rate stay at present levels, with other conditions remaining unchanged, gasoline prices may not rise month on month. This means that gasoline prices will not exceed the threshold of JPY170/L for the payment of subsidies until the gasoline subsidy program expires in March 2022 (Figure 6).

In contrast, electricity prices will continue to rise until the summer of 2022 even if oil price and the dollar-yen exchange rate stay at present levels. This is because:

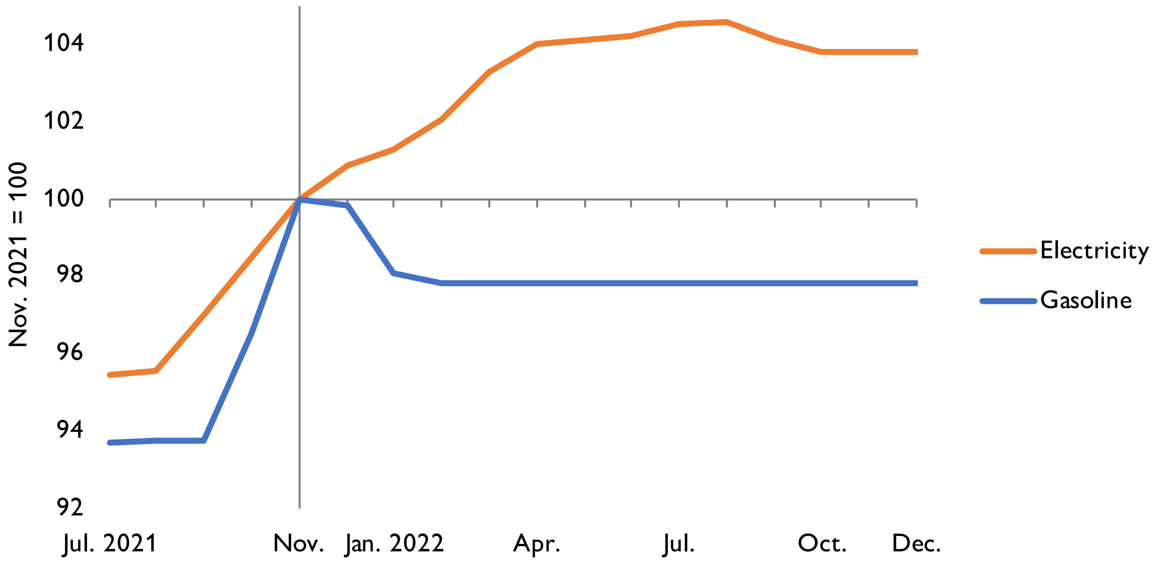
7 The value added tax burden is regressively higher for low-income households. In response to the regressivity, food and drinks other than liquors and eating-out are subjected to the reduced tax rate. While food is essential to life, food consumption is more for high-income households than for low-income households. This means that benefits from the reduced tax rate are larger for high-income households and lower for low-income households. The reduced tax rate contributes to mitigating the regressivity less than assumed generally.

1/ Fuel price changes take some time to be reflected in electricity prices under the fuel price adjustment system for electricity prices[8].

2/ Prices for liquefied natural gas, a major fuel for power generation, take some time to reflect oil price changes (hikes).

Future electricity price hikes will be the same as seen in the second half of 2021 when energy price hikes became remarkable. Electricity prices will continue to push up the CPI throughout 2022.

Figure 6 | Gasoline and electricity price outlook



Note: Estimated under an assumption that international oil price will stay at $75/bbl, with the U.S. dollar remaining at 115 yen, from December 2021.

The gasoline subsidies have a problem as a measure to support low-income households, but they are expected to produce an effect. Price changes for gasoline that is frequently purchased, as well as for fresh food, reportedly exert great impacts on consumer sentiment. If the subsidies to suppress gasoline price hikes stimulate gasoline consumption, the private sector may welcome the effect, apart from the problem of uneven distribution. If the subsidies push up consumption by 1.2% during the three-month subsidy program period (until March 2022), the government sector may offset the gasoline subsidies planned at JPY80 billion with an increase in value added tax revenue.

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[8] For instance, fuel import prices in January will be reflected in electricity prices for the April-June. This is the same case with city gas prices under the feedstock cost adjustment system.