

**(Box 4) Impact of a Rise in International Commodity Prices on Japan's Economy:
Comparison with the 2007-2008 Period**

The baseline scenario in this Outlook Report is that, with the impact of such factors as COVID-19 waning, Japan's economy will continue growing at a pace above its potential growth rate throughout the projection period, although it will be under downward pressure stemming from the rise in international commodity prices due to, for example, Russia's invasion of Ukraine. This box outlines the background to this baseline scenario while comparing the current phase with the period before the Global Financial Crisis (GFC) of around 2007 to 2008, which was the last time commodity prices saw a significant increase.

Looking back at economic developments from 2007 to around summer 2008, overseas economies had already entered a deceleration phase, mainly due to adjustment in the U.S. housing market, which had been overheated against the background of securitization. Meanwhile, international commodity prices continued to rise, partly due to factors other than actual demand, such as financialization of commodities (in the chart, these factors are categorized as supply factors) (Charts B4-1 and B4-2). Reflecting such rise in commodity prices, Japan's terms of trade deteriorated significantly, and weakness started to be seen in corporate profits and business fixed investment, mainly in the nonmanufacturing industry and among small

Chart B4-1: International Commodity Prices

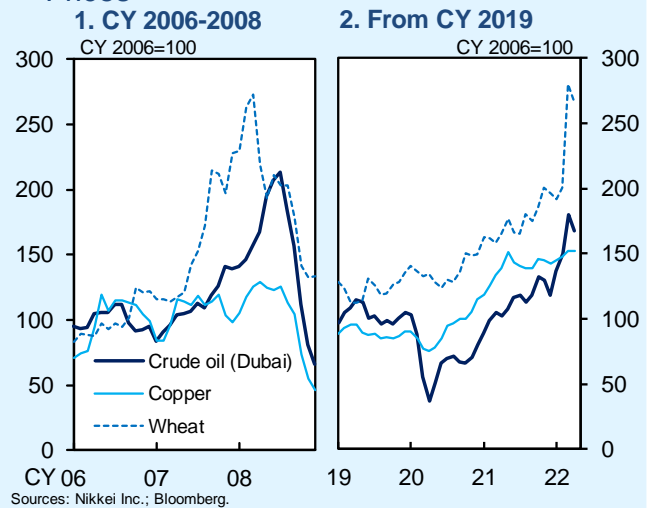
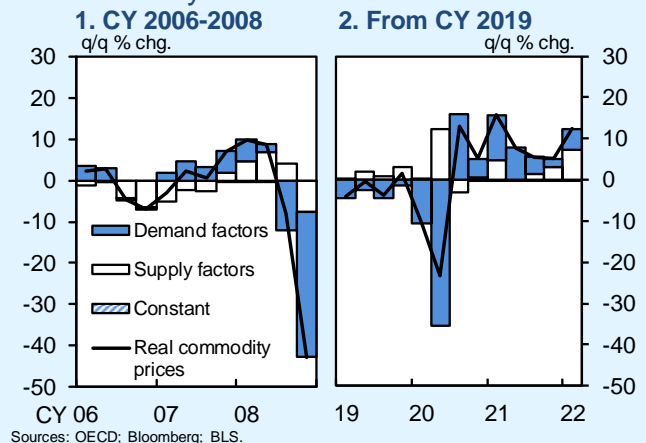


Chart B4-2: Decomposition of Changes in Commodity Prices

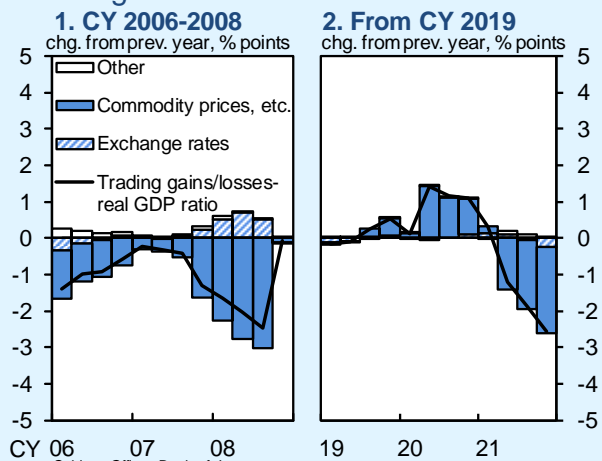


Note: A two-period lag VAR model using the following two variables is estimated: the OECD's Composite Leading Indicator (CLI, OECD total) and real commodity prices (the CRB Index deflated by the U.S. CPI). Demand and supply shocks are identified by imposing the following sign restrictions on the impulse response function of each variable. Demand increase shocks: the responses of the CLI and real commodity prices are both restricted to be positive. Supply increase shocks: the response of the CLI is restricted to be positive, while that of real commodity prices is restricted to be negative. The estimation period is 1994/Q4-2021/Q1.

and medium-sized firms (Chart B4-3).²⁸ Moreover, mainly owing to rises in energy and food prices, CPI inflation temporarily rose to a considerable extent, reaching 2.4 percent on a year-on-year basis for the July-August period of 2008 when excluding fresh food; this pushed down households' real income and thereby constrained private consumption (Chart B4-4). As a result, Japan's economy peaked at the beginning of 2008, before the GFC, after having experienced economic improvement for a long period from the early 2000s.

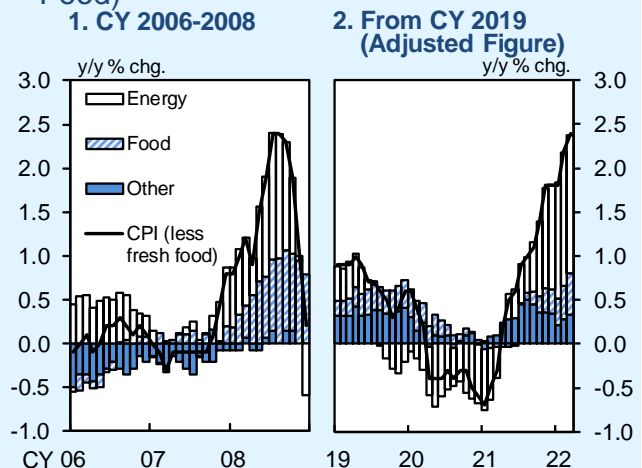
Economic conditions in the current phase have been similar to those in the 2007-2008 period in the following two respects. First, the rise in international commodity prices and the resultant deterioration in the terms of trade have been as significant as those seen in the 2007-2008 period (Charts B4-1 through B4-3). Second, the rise in the current phase was at first largely due to the effects of global recovery in demand for goods but more recently has been attributed to the increasing effects of supply factors such as supply concerns and heightened geopolitical risks as a result of Russia's invasion of Ukraine. The rise in commodity prices due to factors other than demand fundamentals tends to adversely affect the domestic economy, as was the case in the 2007-2008 period.²⁹

Chart B4-3: Contribution to Changes in Trading Gains and Losses



Sources: Cabinet Office; Bank of Japan.
 Notes: 1. The contribution of commodity prices, etc. is calculated using changes in export/import price indexes on a contract currency basis. The contribution of exchange rates is calculated using the difference between export/import price indexes on a yen basis and those on a contract currency basis. "Other" is the contribution of other factors such as changes in quantities.
 2. Trading gains/losses = (Nominal net exports / Weighted average of export and import deflators) - Real net exports

Chart B4-4: Consumer Prices (Less Fresh Food)



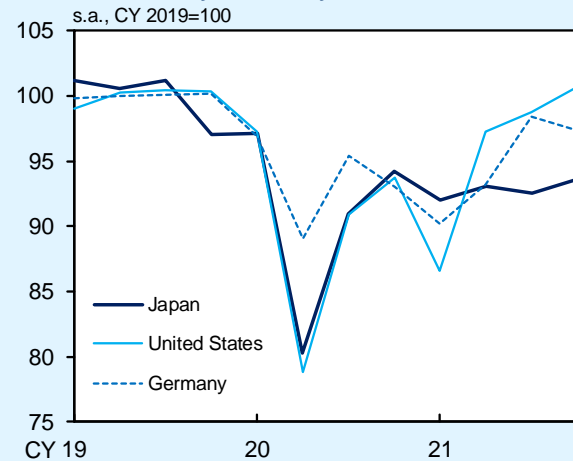
Source: Ministry of Internal Affairs and Communications.
 Notes: 1. Figures from 2019 onward are staff estimates and exclude mobile phone charges and the effects of the consumption tax hike, policies concerning the provision of free education, and the "Go To Travel" campaign, which covers a portion of domestic travel expenses.
 2. Figures for food exclude fresh food and alcoholic beverages and include meals outside the home.

²⁸ For the method of decomposing changes in commodity prices as well as developments in corporate profits and business fixed investment from 2007 to 2008, see Box 2 in the July 2021 Outlook Report.

²⁹ See Charts B2-5 and B2-7 in Box 2 in the July 2021 Outlook Report.

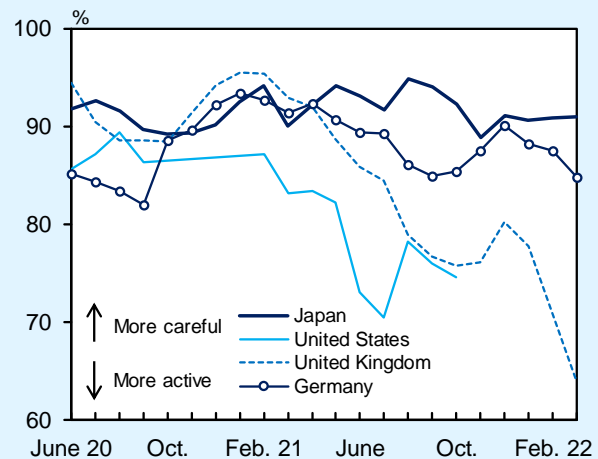
On the other hand, economic conditions in the current phase and the 2007-2008 period have been significantly different in the following three respects. First, current profits and their ratio to sales in the overall corporate sector have improved to levels exceeding those seen around the end of 2019, before the pandemic, and the levels have been clearly higher than in the 2007-2008 period (Chart 18). Therefore, corporate profits are highly likely to remain at historically high levels, despite the projected downward pressure stemming from deterioration in the terms of trade. Second, Japan's economy is currently in the recovery phase from a significant downturn due to the spread of COVID-19, and household savings that have accumulated as a result of pandemic-related restrictions are likely to mitigate to some extent the negative impact of decreased income on spending (Chart B4-5). There is more room for private consumption in Japan to recover than in the United States and major European countries, which have been ahead in terms of taking preventive measures against COVID-19 and improving economic activity simultaneously. Thus, as the impact of COVID-19 wanes, domestic demand is projected to recover, led mainly by pent-up demand. In this regard, the current phase is different from the 2007-2008 period, when the economy had already entered the "mature phase" of the business cycle after the long economic improvement. Third, as mentioned in Box 2, the rise in prices of petroleum products is likely to be curbed owing to the government's measures against oil price hikes, and this is also expected to mitigate the adverse effects of such price rises on corporate profits and households' real income.

Chart B4-5: Average Propensity to Consume by Country



Therefore, although the recent deterioration in the terms of trade is projected to restrain the growth in domestic demand through pushing down corporate profits and households' real income, Japan's economy is expected to continue recovering, unlike in the 2007-2008 period, as the impact of such factors as COVID-19 wanes. That said, there are high uncertainties on the outlook for the course of the situation surrounding Ukraine and its impact on the economy. Moreover, attention should be paid to the point that the situation with COVID-19 and its impact on private consumption will remain highly uncertain for the time being. In particular, vigilance against COVID-19 has been persistent in Japan, especially among seniors, compared with Europe and the United States; therefore, if COVID-19 resurges, for example, there is a risk that private consumption will be constrained for a prolonged period, coupled with downward pressure stemming from inflation on real income (Chart B4-6).

Chart B4-6: Percentage of People Avoiding Crowded Areas



Source: Jones, Sarah P., Imperial College London Big Data Analytical Unit and YouGov Plc. 2020, Imperial College London YouGov Covid Data Hub, v1.0, YouGov Plc, April 2020.

Note: Percentage of people answering 1, 2, or 3 (where 1 represents "always") to the question "how often have you avoided crowded areas?" (5 choices: 1-5).