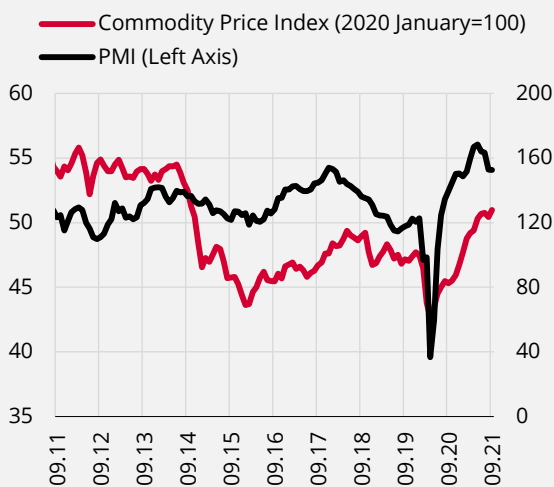


Box 2.1

Commodity Price Developments

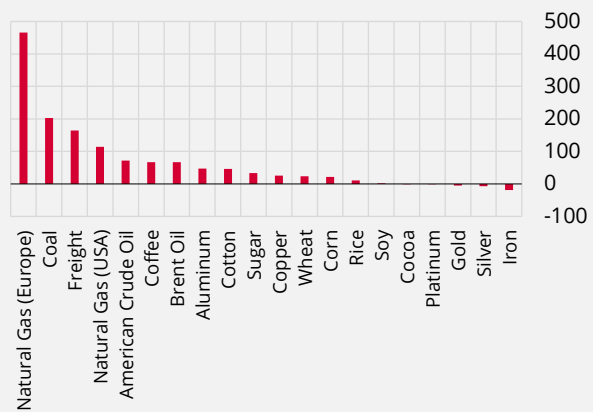
Commodity prices have risen sharply in the recent period, driven by range of factors such as the recovery in demand with the gradual easing of the pandemic measures (Chart 1), supply-side constraints caused by the inability of production to respond to the rapidly increasing demand, supply chain problems, increasing drought, uncertainties regarding commodity stocks, restrictions due to supply security of countries and additional stock demand. While the increase varies between different commodities, excluding precious metals, there is a general rise. Sharp increases have taken place in some commodities, especially in energy (Chart 2).

Chart 1: Commodity Price Index (2020 January=100) and Global Manufacturing PMI



Sources: Bloomberg, IHSMarkit.

Chart 2: Commodity Price Index* (Year-to-Date, % Change)

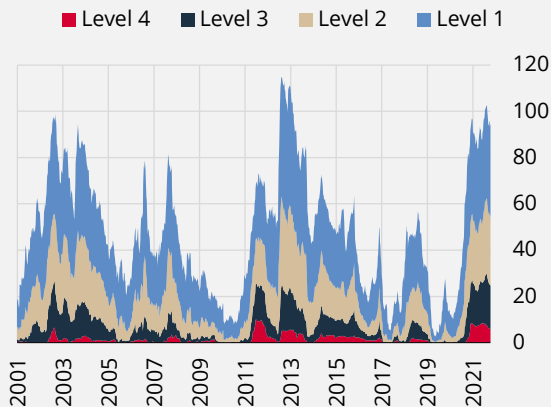


Source: Bloomberg.

* Shows percentage changes for the average of October 1-26, 2021 and the average of December 2020.

The sharp increases in agricultural commodity prices have their own driving factors. These include climatic conditions (Chart 3), the delayed effects of the problems experienced in soy and corn harvests in 2019, the La Niña weather event causing concerns about the harvest in Latin American food exporters such as Argentina and Brazil, supply-related problems in America (Chart 4), the change to export tax rates made by countries such as Russia to avoid domestic supply problems, and the precautionary stock-taking behavior in some countries. In addition, the shortage of empty containers resulting from supply chain disruptions kept global freight prices at historically high levels and this contributed to the increase in agricultural commodity prices. When evaluated on the basis of sub-items, significant increases have been observed in coffee, cotton, sugar, wheat and corn prices since the start of 2021 (Chart 2).

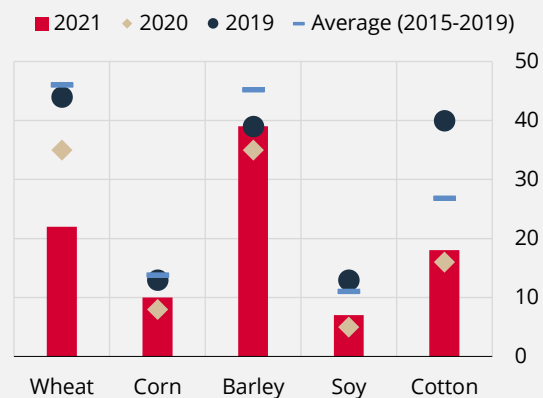
Chart 3: U.S. Drought Index*



Source: NIDIS.

* Level 4 shows the highest drought level.

Chart 4: U.S. Stock-to-Use Ratio* (%)

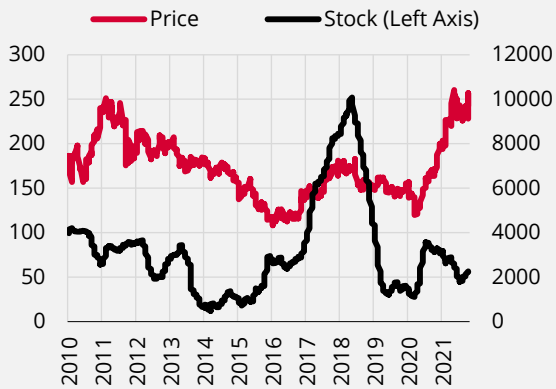


Sources: U.S. Department of Agriculture, the author's own calculations.

* A higher rate means better supply conditions. 2021 values are projections.

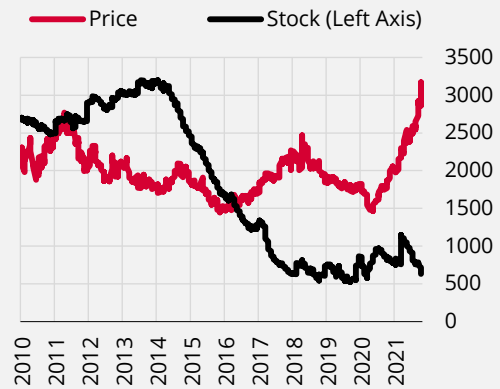
In addition to the improvement in demand conditions, industrial metal commodity prices are also increasing due to supply conditions and the decline in aluminum and copper stocks to low levels (Charts 5 and 6). The industrial metals price index rose by about 48 percent annually.

Chart 5: International Copper Stocks (Thousand Tons) and Copper Price Developments (USD/Ton)



Sources: London Metal Exchange (LME), COMEX.

Chart 6: International Aluminum Stocks (Thousand Tons) and Aluminum Prices (USD/Ton)

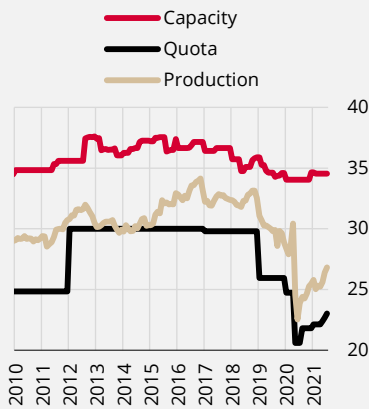


Source: London Metal Exchange (LME).

As economies reopened, global production recovered rapidly. However, the shortfall in energy supply in the face of the recovery in demand led to a chain of price increases in energy commodities. American crude (WTI) and Brent crude prices, which had fallen to historically low levels at the beginning of the pandemic, rose strongly throughout 2021. While demand conditions played an important role in the rise in oil prices, supply-related problems have been more effective recently (Charts 7 and 8). In addition to the efforts of some developed and developing countries to replenish their stocks in order to avoid supply shortages, the unexpected impact of Hurricane Ida on oil facilities, the inadequacy of drilling by shale gas producers and the maintenance problems observed in some important oil facilities all emerged as supply-side factors. Thus, the price of Brent oil, which was around 50 US dollars per barrel in December 2020, increased to over 85 dollars in October 2021.

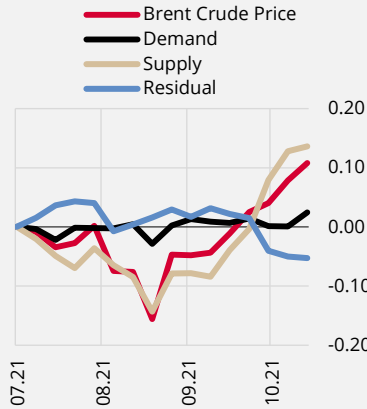
A similar trend is also observed in natural gas prices. At the beginning of 2021, natural gas stocks in Europe decreased rapidly due to the cold weather in April. Although inventories recovered somewhat in the rest of the year, they remain below the previous five-year average and 2019-2020 levels (Chart 9). Along with the concerns caused by this situation, i) increasing demand, ii) limited natural gas imports, and iii) weakening of production from alternative energy sources such as wind and hydroelectricity after the dry summer months caused a rapid increase in natural gas prices in Europe. Dutch natural gas prices with one-month maturity, which are indicative for European natural gas prices, increased approximately five times (466 percent) in October 2021 compared December 2020. Similar to the situation in Europe, climatic conditions, the increasing demand for liquefied natural gas in Asia, and the problems experienced in the pipelines caused a supply-demand mismatch in the natural gas market and drove prices up on a global basis. The increase in natural gas prices together with the increase in electricity production as a result of the improvement in demand conditions and the effect of air temperature above seasonal norms has also increased the demand for coal recently. However, due to the insufficient increase in coal supply in the face of increasing demand, coal prices also displayed a similar movement to other energy commodity prices.

Chart 7: OPEC Capacity, Quota and Production Developments (Million Barrels)



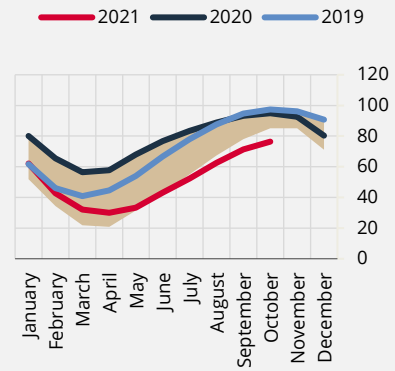
Source: Bloomberg.

Chart 8: Brent Crude Price Decomposition (2 July, 2021=0)



Source: New York FED.

Chart 9: Natural Gas Inventories in European Union (%)*



Source: AGSI+.

* The shaded area shows the average of the last five years.

All in all, following the short-term decline in commodity prices at the beginning of the pandemic, a remarkable increase has been observed. The supply-demand mismatch created by the reopening of economies plays an important role in the increase. In addition, pandemic-related uncertainties, supply chain problems, climatic conditions and country-specific policies are also important in the course of commodity prices.