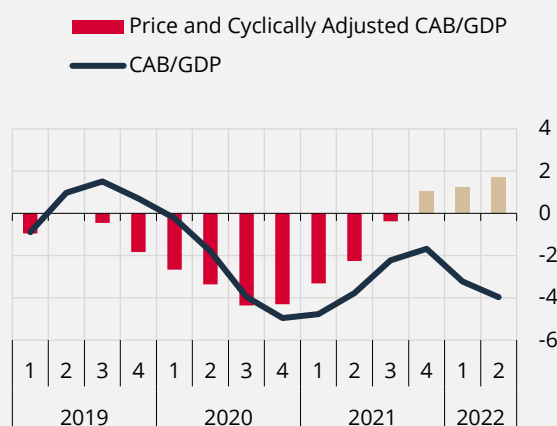


Box 2.5

Recent Outlook for the Energy Market and Its Reflections on the Current Account Balance

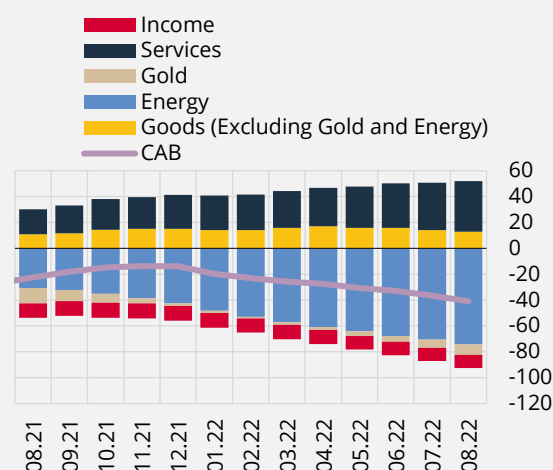
In order to be able to make more reliable and accurate assessments on the current account balance, it is important to identify the cyclical effects in the current account balance, which denote incidental effects such as foreign trade prices and fluctuations in economic activity, and focus on structural factors after eliminating these effects. As a matter of fact, in the last quarter of 2021, while the structural current account balance in the Turkish economy, adjusted for price and cyclical effects, moved into positive territory for the first time in history, it maintained this outlook in the following two quarters and posted a surplus in the first half of 2022 (Chart 1).¹ However, the rising energy import bill due to the supply-demand mismatch resulting from the pandemic and geopolitical risks has been overshadowing the current account balance outlook and becoming the most prominent factor driving the increase in the headline current account deficit (Chart 2). Against this background, this box analyzes the recent outlook for the energy market, which plays an important role in the current account balance, and examines the concordance between energy import prices and global energy commodity prices. In addition, it presents a discussion of upside and downside risks to energy prices as well as their possible implications in the upcoming period.

Chart 1: Cyclically Adjusted Current Account Balance (12-Month Cumulative, %)



Source: CBRT, TURKSTAT.

Chart 2: Current Account Balance Sub-Items (USD Billion, 12-Month Cumulative)



Source: CBRT.

According to the SITC Rev.4 classification, import unit value index (IUVI) consists of food, beverages and tobacco (food), crude materials except fuels (crude), fuels (fuel), manufactured goods excluding food, beverages and tobacco (manufactured), and commodities not classified elsewhere in the SITC (other). In this context, the sub-breakdowns of the general import unit value index with the coefficients of the regression results formed within the framework of Equation (1) are shown in Chart 3. Even though there is a significant decrease in the coefficient compared to the pre-pandemic period, the manufacturing subgroup has the most important share in the general index. While it is followed by the fuels group, a significant increase is observed in the coefficient of the food subgroup compared to the pre-pandemic period as a result of rise in global agricultural commodities' prices due to increasing drought, disruptions in the supply chain, global restrictions caused by the supply security and geopolitical risks. A more stable course is observed in crude materials and other items (Chart 3).

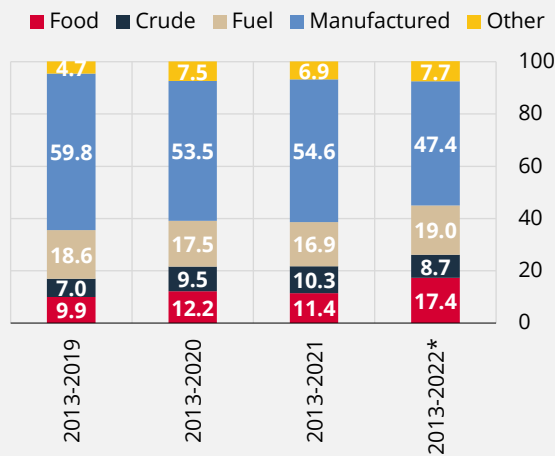
$$\ln(IUVI)_t = \alpha_1 \ln(Food)_t + \alpha_2 \ln(Crude)_t + \alpha_3 \ln(Fuel)_t + \alpha_4 \ln(Manufactured)_t + \alpha_5 \ln(Other)_t \quad (1)$$

¹ See Eren (2022) for further details.

If a similar procedure is applied to fuels and its sub-items in the framework of Equation (2), oil import prices have the highest share in energy import prices. The coefficient of the natural gas group increased compared to the pre-pandemic period and ranked second, while the coefficient of the coal group remained quite low compared to the other two energy commodity groups (Chart 4).

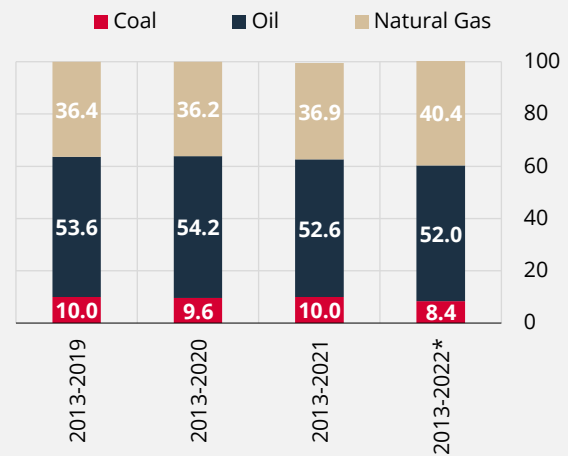
$$\ln(Fuel)_t = \beta_1 \ln(Coal)_t + \beta_2 \ln(Oil)_t + \beta_3 \ln(Natural\ Gas)_t \quad (2)$$

Chart 3: Coefficients of Sub-Breakdowns of Import Unit Value Index (%)



Source: TURKSTAT, author's calculations.
* Last Observation: August 2022.

Chart 4: Coefficients of Sub-Breakdowns of Energy Import Unit Value Index (%)



Sources: TURKSTAT, author's calculations.
* Last Observation: August 2022.

When the price changes of these sub-items over the last year are examined, it is observed that the import unit value index increased led by the fuels group, which includes energy commodities. While the import unit value index increased by 34.1% in the January-August 2022 period compared to the same period of the previous year; food increased by 20.7%, crude materials by 22.1% and other items by 20.0%. With the weakening in the global growth outlook, the increase in the manufacturing group remained more limited at 8.7%. On the other hand, the change in the import unit value index of the fuels group has considerably diverged from the change in other groups, increasing by 166% in a one-year period, and became a determinant item that pushed general import prices up. Against this background, it is important to examine the fuels group in their sub-fractions in order to better understand the outlook for the energy market and import prices.

Similarly, an examination of the fuels sub-items for the last year reveals that import unit value index of coal, which has a more limited share in import prices, increased by 89.3%. While the import unit value index of oil, one of the key determinants of energy import prices, increased by 63.0%, natural gas prices posted a more striking increase of 444.1%. When the course of imports is analyzed in terms of volume, there is a different outlook compared to price developments. While the general import volume index increased by 5%, an increase of more than 10% was observed in the food and manufacturing groups. While the volume index in the crude materials group followed a horizontal course, a significant increase was observed in the other item due to the increase in gold imports in the recent period. The volume index of the fuels item with the highest price increase decreased by 10.2% due to the decrease in natural gas imports (Table 1). In this context, while there is a decrease in energy imports in terms of volume, the current account balance is pulled down by the price cycle effect resulting from the fact that energy import prices, especially natural gas, are above their trends. Therefore, it is important to detect the determinants of energy commodity prices in order to understand the possible effects of energy prices on the current account balance in the upcoming period.

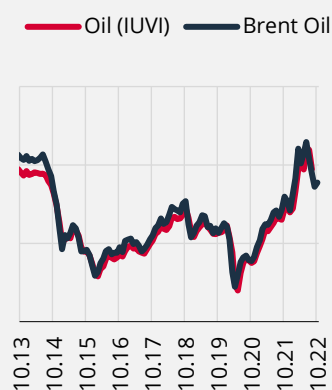
Table 1: Import Unit Value and Volume Indices (Year-on-Year % Change)

	2019		2020		2021		2022 January-August*	
	Unit Value	Volume	Unit Value	Volume	Unit Value	Volume	Unit Value	Volume
General	-4.1	-5.1	-6.2	10.7	23.3	0.7	34.1	5.0
Food-Beverages-Tobacco	-2.5	4.2	2.9	-5.8	16.9	-2.7	20.7	15.0
Crude materials except fuels	-9.8	-0.6	-5.1	11.4	48.6	5.5	22.1	0.3
Fuels	-4.3	-0.1	-30.8	-1.8	61.8	9.4	166.4	-10.2
Coal	-17.2	-2.6	-23.9	1.2	65.6	-2.6	89.3	19.2
Oil	-8.7	8.6	-32.8	-3.9	59.6	4.4	63.0	21.9
Natural Gas	9.3	-13.3	-28.0	3.1	62.1	13.8	441.1	-38.3
Manufactured goods except food, beverages and tobacco	-4.1	-7.6	-3.6	9.1	16.5	9.0	8.7	10.3
Commodities not classified elsewhere in SITC (Other)	5.2	-5.2	29.4	71.9	-14.2	-75.5	20.0	73.5

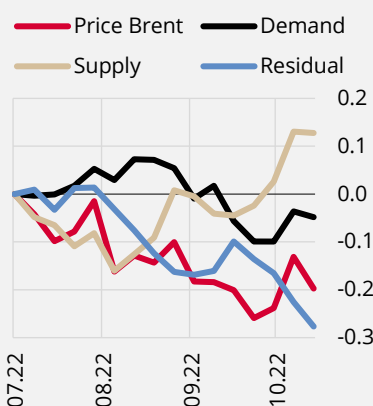
Source: TURKSTAT.

* Shows the percentage change between the average of January-August 2022 and the average of the same period of the previous year.

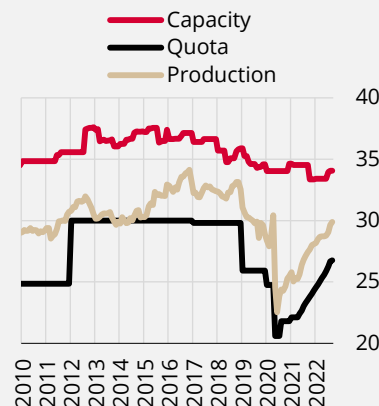
Oil import prices have historically been quite consistent with Brent oil prices per barrel (Chart 5). There is a nearly perfect correlation between the oil import unit value index and the price of Brent oil. Correlation analysis and graphical representation show that international oil prices are the drivers of imported oil prices. In this context, when the recent global oil prices are examined, it is seen that both supply and demand factors continue to be effective on prices. Although supply-side problems persist in the recent period, the tightening of international financial conditions and the strengthening of the dollar index as well as increasing concerns on global demand play a dominant role on oil prices. As a matter of fact, the price of Brent oil per barrel, which rose above USD 125 in June, dropped below USD 85 by the end of September. However, the latest OPEC+ decision to cut oil output by 2 million barrels per day as of November caused an increase in oil prices again. Increasing prices in the oil market reduce demand and allow supply to adapt, and prices may stabilize after a while. However, the recent plans of oil producers regarding supply indicate that the demand-driven downward movement in oil prices may be more limited compared to the previous reporting period (Chart 6). In summary, OPEC's below-capacity production decisions (Chart 7) as well as the decisions of OECD countries regarding the use of strategic reserves, and the future course of the global demand outlook continue to keep risks in both directions to oil prices alive.

Chart 5: Oil Import Unit Value Index (2015=100) and Brent Oil Price (2015=100)


Source: Bloomberg, TURKSTAT.

Chart 6: Brent Crude Price Decomposition (July 2022=0)²


Source: New York Fed.

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


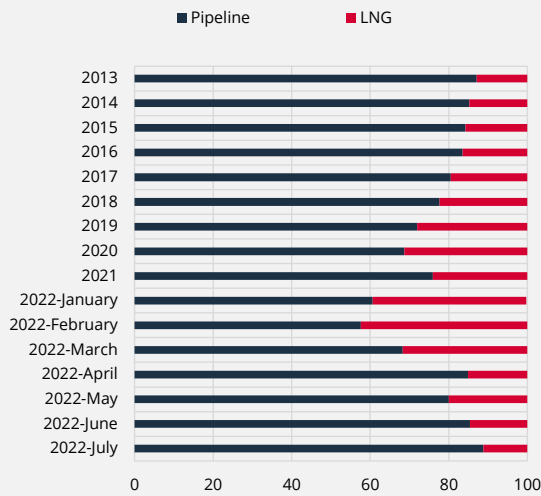
Source: Bloomberg.

See Eren (2022) for further details.

By the New York Fed is used to determine how much of the change in oil prices is due to supply and demand factors. The upward (downward) movement of the series implies that it plays an increasing (decreasing) role in oil prices. The series indicated as residual shows the portion of prices that cannot be explained by supply and demand factors.

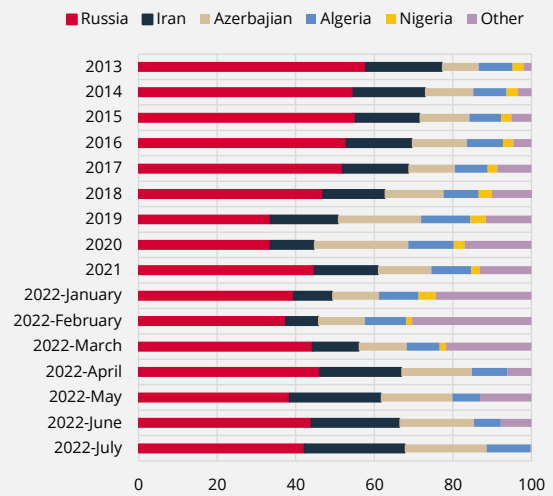
In order to diversify supply sources and increase supply security and flexibility in supply, natural gas is imported in two ways: through pipelines and liquefied natural gas (LNG). Although there are divergences in ratios according to periods, a significant deal of natural gas imports is made through pipelines. Although the share of natural gas imports by pipelines which fell to around 57% in February 2022, it recovered in the following months and rose to 89% as of July 2022 (Chart 8). There is also flexibility in natural gas imports on a country-by-country basis. Historically, the shares of natural gas imports made through pipelines from Russia, Iran and Azerbaijan within the scope of long-term natural gas purchase agreements were at their peak, while the share of natural gas imports made via the LNG channel also increased significantly from time to time, as in the February-March 2022 period (Chart 9).

Grafik 8: Import Shares by Natural Gas Type (%)



Source: EMRA.

Chart 9: Natural Gas Import Shares by Countries (%)

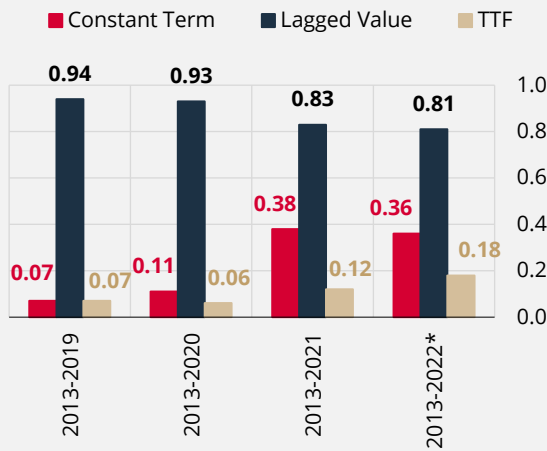


Source: EMRA.

In order to identify the determinants of the natural gas import unit value index, a model has been created using the constant term, lagged value and Netherlands-based 1-month natural gas prices (TTF), which are indicative for European natural gas prices. As mentioned before, since a significant portion of natural gas imports is made via pipelines within the scope of long-term agreements, the coefficient of lagged values of natural gas prices is quite high. However, this coefficient decreased gradually in the post-pandemic period and the TTF coefficient increased as a result of the adjustment of contract prices to spot market prices after a certain period of time and higher imports of natural gas from the spot market (Chart 10).

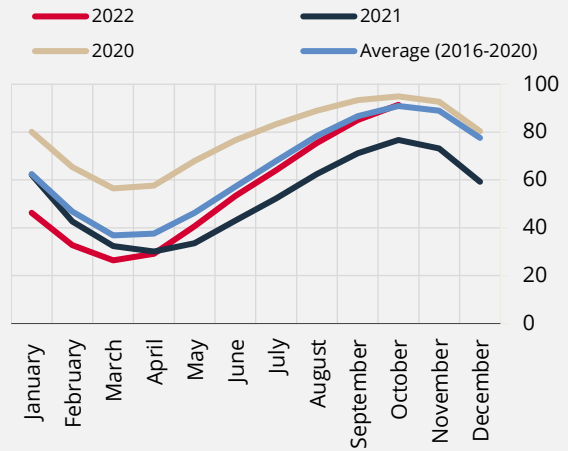
The recent outlook for the natural gas market suggests that the increase in risks regarding natural gas supply in the euro area due to the sanctions imposed on Russia caused a significant increase in the TTF during summer months. As a matter of fact, prices had increased by about 150% between August and May. However, after the European Union's natural gas stocks were considerably full, a retracement was observed in prices (Chart 11). It is considered that measures to increase energy efficiency, the amount of energy to be obtained from alternative energy sources, climatic conditions in winter, geopolitical risks, and the course of the level of natural gas stocks will play an important role in natural gas prices in the upcoming period. Accordingly, it has potential to become an energy distribution center with increase in local natural gas supply via natural gas reserves discovered in the Black Sea to be partially introduced to the system in 2023 and Türkiye's convergence to its geographical potential in global natural gas stock and distribution. These developments will create a strong base for both price and macroeconomic stability, not only through the stability in global and national energy prices to be ensured thanks to sounder price-setting, but also through the positive effects on our current account balance that will emerge from this channel.

Chart 10: Coefficients of the Natural Gas Import Unit Value Index Model³



Source: TURKSTAT, author's calculations.
* Last Observation: August 2022.

Chart 11: Natural Gas Inventories in European Union (%)



Source: AGSI+.

References

Eren, O. (2022). "Cyclically Adjusted Current Account Balance", CBRT Blog.

³ The coefficients are obtained from Equation (3) below. The coefficients in all four equations are statistically significant at the 1% level and the power of the models to explain the natural gas import unit value index (adjusted-R²) is 97%, 96%, 88% and 92%, respectively.

$$\ln(\text{Natural Gas Import Unit Value Index})_t = \text{Constant} + \gamma_1 \ln(\text{Natural Gas Import Unit Value Index})_{t-1} + \gamma_2 \ln(\text{TTF})_t \quad (3)$$