Box 3.1

An Evaluation of Recent Unit Cost Developments

Unit cost is defined as the average cost per unit of total goods and services produced in an economy. A gradual normalization in supply and demand conditions has taken place recently after the sharp decline in production and sales due to the pandemic. This makes the concept of unit cost a current issue due to fixed costs. When the adaptation in cost factors, labor, rent and energy in particular, does not accompany the decline in economic activity in the short term, unit costs increase as a result. The recent price increases, especially in sectors such as catering, accommodation, transportation and personal care services that are subject to capacity constraints in the gradual normalization, can be evaluated in this context. Although this box addresses the concept of unit cost over labor costs, similar inferences can be made for all cost factors that affect profitability and pricing behavior, such as non-variable input costs and debt service.

The real unit labor cost is calculated by multiplying the amount of labor used for a unit of production by the real labor cost. The two main components of this indicator can also be expressed as real labor cost per person and partial labor productivity (production amount / employment):

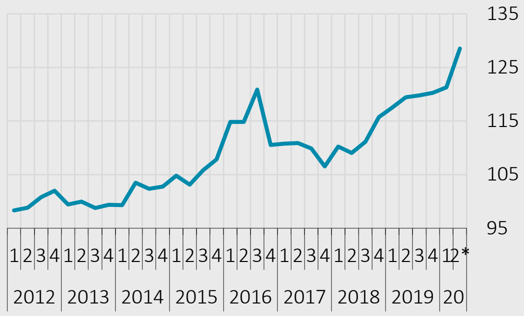
$$Real\ Unit\ Labor\ Cost^{1} = \frac{Total\ Labor\ Cost}{Total\ Production\ Value} = \frac{Labor\ Cost\ per\ Person}{Price} * \frac{Employment}{Production}$$

Accordingly, when the increase in the real labor cost is larger than the increase in productivity, the unit labor cost increases and exerts an upward pressure on inflation. When the real labor cost increase is compensated for by a productivity increase, the real unit labor cost does not change. In historical terms, significant increases in real unit labor costs are observed in 2016 and 2019 when nominal wage adjustments were high, or in periods such as the global financial crisis period when economic activity and productivity declined. In times of production decline, the adaptation in the labor market may be slower and limited compared to the goods and services market, in which case the per capita production (partial labor productivity) decreases. Given the sticky wages, this loss of productivity causes an increase in real unit wages. A similar picture is predicted to have appeared in the second quarter of 2020 when economic activity weakened significantly due to the pandemic (Chart 1).

When the components of this increase predicted in the real unit labor cost are analyzed, it can be seen that contrary to previous periods, the sharp contraction in production has played a significant role. The fact that the decrease in employment is limited compared to production results in a decrease in partial labor productivity and an increase in the real unit labor cost (Chart 2). It should be noted at this point that measures to protect formal employment, particularly the short-term employment allowance, limit the increase in labor cost calculated here.

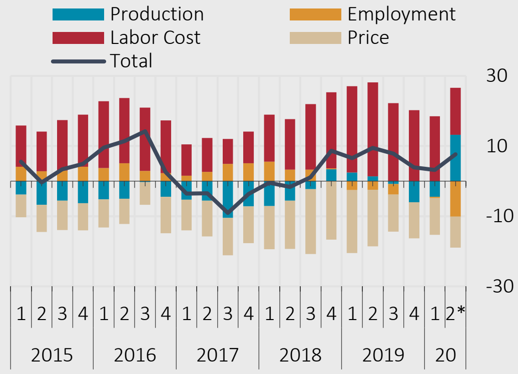
[1] In the calculations, the production variable stands for Non-Agricultural GDP; employment is the Non-Agricultural Employment from the Household Labor Force Survey, labor cost stands for the Hourly Labor Cost data from TURKSTAT's Labor Cost and Earnings Statistics, and Non-Agricultural GDP deflator is used for the price variable.

Chart 1: Real Unit Labor Cost (2012=100)



Sources: CBRT, TURKSTAT. *Forecast.

Chart 2: Real Unit Labor Cost and Its Contribution (YoY % Change, % Point)



Sources: CBRT, TURKSTAT. *Forecast.

In addition to the real unit labor cost, additional costs specific to the pandemic period may also be effective in pricing behavior. Besides increased logistics costs and spending on hygiene and health products due to supply-side problems and pandemic measures, factors such as debt service in periods of sharply declining cash flows can also be determinant in inflation dynamics and limit the disinflationary effect of demand conditions in the short term. Unit cost increases due to capacity constraints also play an important role in the recent price increases in the sectors whose activities were interrupted and then gradually normalized with various restrictions (Table 1).

Table 1: Selected Subgroups of Services (Seasonally Adjusted, Monthly % Change)

	January-March 2020*	April 2020	May 2020	June 2020
Catering services	1.1	0.2	0.0	2.5
Accommodation services	0.5	-0.6	-0.1	1.4
Intercity passenger transport by road	1.4	-0.5	8.2	20.0
Passenger transport by air	0.8	-2.5	-1.3	9.4
Hairdressing and personal grooming services	1.5	-0.4	6.6	3.1

Sources: CBRT, TURKSTAT.
* Monthly averages are taken.

In conclusion, there has been some increase in the trend of core inflation indicators recently due to the decline in production and sales as well as to the impact of unit cost increases driven by the measures against the pandemic. It is projected that with the continuation of the normalization process, the capacity constraints will be alleviated, and accordingly, the supply-side factors that have been effective in the short term due to the pandemic measures will gradually disappear.