# 3. Inflation Developments

Following a flat course in the first quarter of the year, annual consumer inflation rose by 5.16 points and hit 15.39 percent in the second quarter (Chart 3.1). Inflation increased across subgroups, while the increase in the contributions particularly from the food, core goods and energy items stood out (Chart 3.2). In the second quarter, the Turkish lira depreciated by around 16 percent against the currency basket. Reaching 35 percent during the last one year, the weakening in the Turkish lira proved the main challenge to inflation prospects. Oil and commodity prices also trended upwards in this period. Food inflation recorded an upsurge due to unprocessed food prices as a result of the exchange rate developments and adverse supply conditions in some products. Core goods inflation increased owing to durable consumption goods, which exhibit high and relatively fast exchange rate pass-through, while the course of demand conditions fed into the upward outlook in the group's inflation. In addition to exchange rate effects, rise in international oil prices also affected the notable acceleration in energy inflation in this period. On the other hand, implementation of fixed prices introduced by the tax adjustment in fuel products (re-setting of lump sum special consumption tax amounts according to changes that may occur in domestic refinery outlet prices) curbed a worse portrait in energy inflation.[1]

After a robust course in the first quarter of 2018, economic activity slowed and settled on a trend of balancing. However, the impact of demand conditions on inflation continued to hover at inflationary levels in the second quarter, albeit with some deceleration. The ongoing brisk recovery in tourism weighs on inflationary pressures on items with strong links to this sector. Inflation expectations deteriorated significantly in this period, and high levels of inflation had further adverse impacts on items with strong indexation behavior, particularly prices of services. Real unit wages also increased year-on-year. Having posted high figures since the last quarter of 2016, producer inflation hit 23.71 percent, leading producer prices to create apparent cost pressures on consumer prices.

Chart 3.1: CPI and D Index (CPI Excluding Unprocessed Food and Alcohol-Tobacco, Y-o-Y % Change)
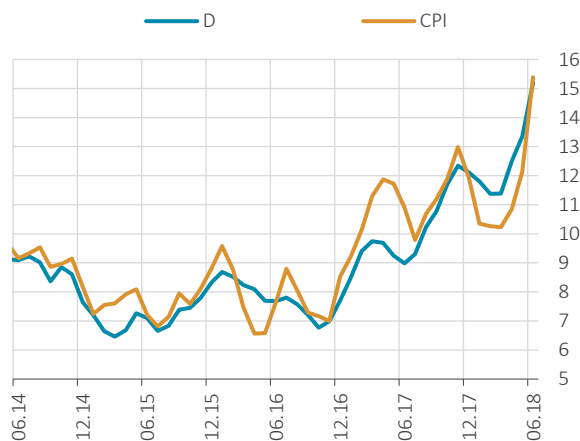
Source: TURKSTAT.

Chart 3.2: Contributions to Annual CPI (Percentage Points)
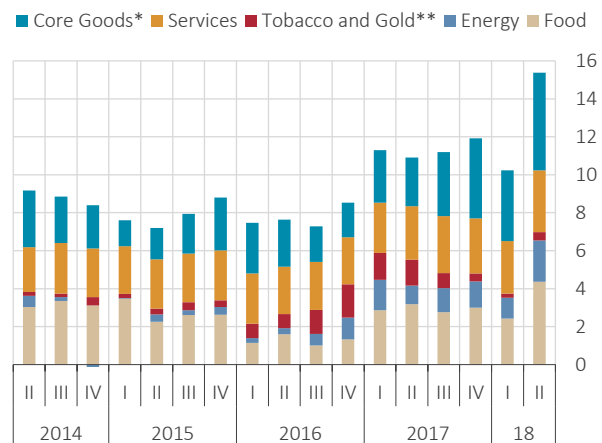
Source: CBRT, TURKSTAT.

* Core Goods: Goods excluding food, energy, alcoholic beverages, tobacco and gold.

** Tobacco and Gold: alcoholic beverages, tobacco products and gold.

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[1] Similarly, tobacco products witnessed a reduction in the proportional SCT rate in contrast to a raise in lump sum SCT rate in July. On the back of this change, inflationary pressures stemming from the prices of tobacco products in the short term were contained. Related short and medium/long term gains are mentioned in Box 3.1.

In sum, inflation soared in the second quarter of the year and this upsurge spread through subgroups. Both annual inflation and the underlying trend of core indicators saw a notable deterioration. Diffusion indices suggest a significant strengthening in the price-raising tendency of economic units. Current levels of inflation and inflation expectations continue to pose risks to pricing behaviors. The projection that the effect of aggregate demand conditions on inflation will continue to fade gradually is preserved. Nevertheless, cost pressures, which grew more apparent amid the recent depreciation in the Turkish lira and the possible secondary effects thereof have an adverse impact on inflation outlook.

3.1 Core Inflation Outlook

Annual core goods inflation rose by 4.62 points to 18.55 percent in the second quarter of the year (Chart 3.1.1). This was led mainly by the cumulative exchange rate effects, while aggregate demand conditions also contributed to the increase in group's inflation. The rise in inflation spread across subgroups, but it was more evident in durable consumption goods due to the high and fast exchange rate pass-through in this group (Chart 3.1.2).

Chart 3.1.1: Prices of Core Goods and Services (Annual % Change)
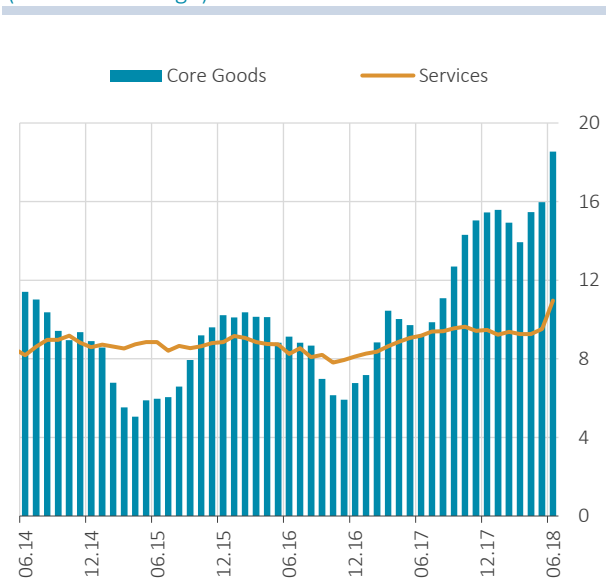
Source: TURKSTAT.

Chart 3.1.2: Core Goods Prices (Annual % Change)
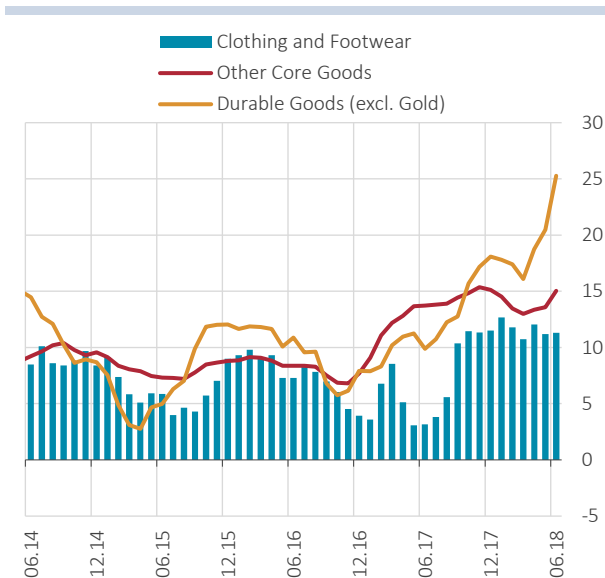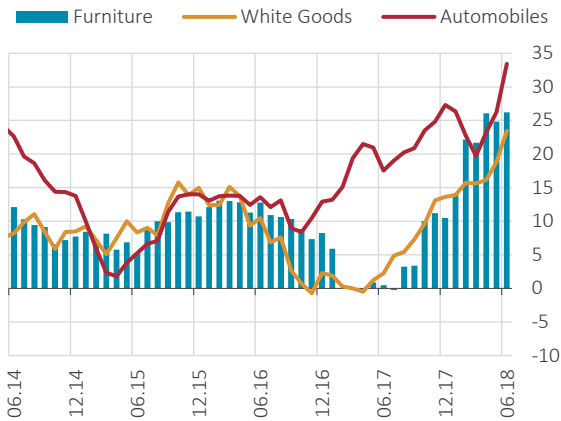

Source: TURKSTAT.

In the second quarter, prices of durable goods rose by 8.22 percent; while the group's annual inflation increased by 9.19 points to 25.27 percent (Chart 3.1.2). This is attributed to products with high import content such as automobiles and white goods that manifest cumulative exchange rate effects (Chart 3.1.3). In addition, demand conditions also fed into price hikes. Annual inflation in the clothing group inched up by 0.56 points to 11.30 percent in this period (Chart 3.1.2). In addition to the depreciation in the Turkish lira, the demand for clothing supported by the robust course of exports and tourism sectors are held responsible for this outcome. Core goods excluding durable goods and clothing also trended upwards in this period. The largest contributors to price hikes in this group were housing maintenance and repair equipment, personal care products, home textiles and spare parts and accessories of transport vehicles. All in all, recent developments in the exchange rate were manifest in core goods across sub-items, and the underlying trend of inflation gained a noticeable momentum (Chart 3.1.4).

Table 3.1.1: Prices of Goods and Services (3-Month and Y-o-Y % Change)

|	2017				2018		
	II	III	IV	Annual	I	II	Annual
CPI	1.49	1.32	4.31	11.92	2.77	6.23	15.39
1.Goods	1.12	0.58	5.80	12.99	2.83	7.16	17.26
Energy	-2.26	3.46	4.88	10.41	2.11	5.60	16.99
Food and Non-Alcoholic Beverages	-0.39	-1.16	5.70	13.79	6.06	7.29	18.89
Unprocessed Food	-2.95	-5.60	8.74	15.55	6.71	12.50	23.23
Processed Food	2.17	3.08	3.04	12.20	5.43	2.22	14.47
Core Goods	4.44	0.58	7.51	15.45	0.88	8.67	18.55
Clothing and Footwear	14.46	-5.90	13.17	11.51	-9.15	15.04	11.30
Durable Goods (excl. gold prices)	0.27	3.37	7.58	18.08	4.09	8.22	25.27
Furniture	1.71	3.88	7.30	10.49	7.35	5.46	26.19
Electrical and Non-electrical Appliances	-0.31	1.65	4.72	10.24	1.39	4.87	13.18
Automobile	-0.29	4.32	10.27	27.30	4.39	11.11	33.43
Other Durable Goods	2.99	2.58	0.90	12.77	3.76	5.98	13.83
Core Goods excl. Clothing and Footwear	2.86	2.09	3.10	15.13	4.34	4.74	15.04
Alcoholic Beverages Tobacco Products and Gold	-0.18	0.82	1.18	5.96	1.37	3.15	6.66
2. Services	2.33	3.06	0.95	9.47	2.62	3.93	10.96
Rent	1.93	2.75	2.35	9.21	1.99	2.20	9.62
Restaurants and Hotels	2.90	3.84	1.65	11.47	2.81	4.40	13.30
Transport	3.41	4.20	0.44	12.46	1.18	4.48	10.64
Communication	0.85	0.54	0.12	1.87	-0.72	6.45	6.38
Other Services	2.14	2.93	0.17	9.39	4.45	3.51	11.47

Source: CBRT, TURKSTAT.

Chart 3.1.3: Selected Durable Consumption Good Prices (Annual % Change)
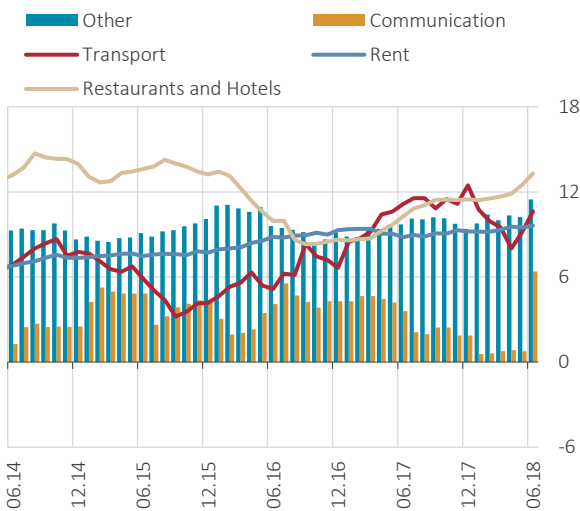

Source: TURKSTAT.

Chart 3.1.4: Core Goods Prices (Seasonally-Adjusted, Annualized, 3-Month Average % Change)
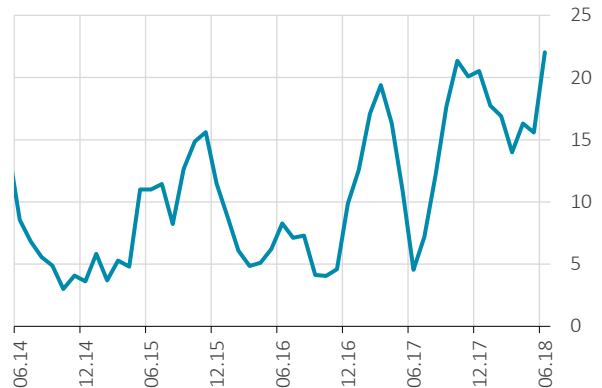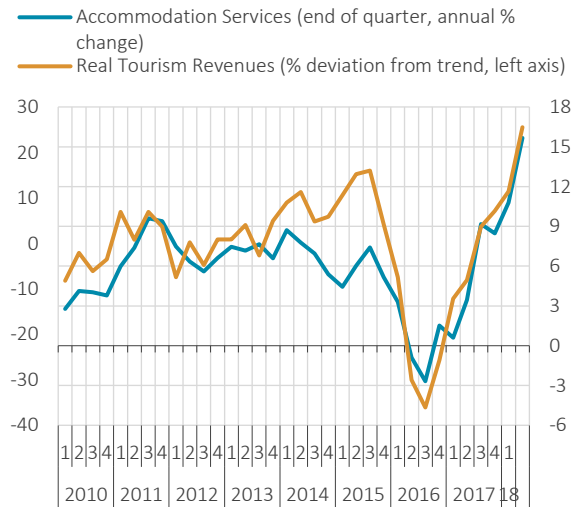

Source: CBRT, TURKSTAT.

Prices of services rose by 3.93 percent, and the group's annual inflation picked up by 1.70 points to 10.96 percent in the second quarter of the year (Chart 3.1.1). Annual inflation registered increases in all subgroups in this period (Chart 3.1.5).

Chart 3.1.5: Prices of Services by Sub-Categories (Annual % Change)
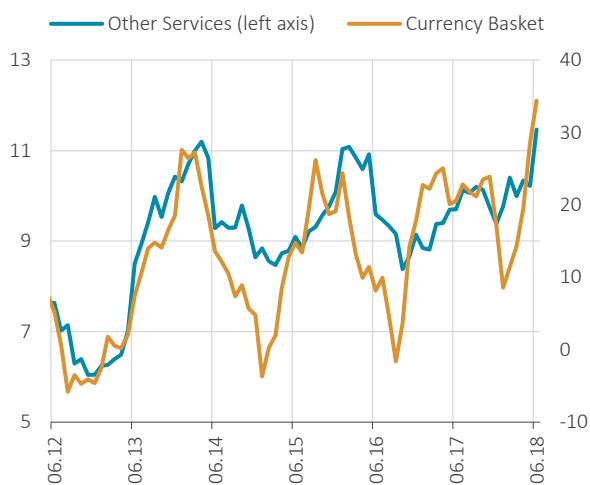

Source: TURKSTAT.

Chart 3.1.6: Accommodation Services and Tourism Revenues (Annual % Change)

Source: CBRT, TURKSTAT.

The largest contribution to the rise in services inflation came from the communication group. Annual inflation in this group surged by 5.60 points to 6.38 percent due to prices of internet services. Annual inflation in restaurants-hotels, divided into two groups as catering and accommodation services, reached 13.30 percent in this period. This was led by hikes in food prices as well as the robust outlook for tourism. It was remarkable that annual inflation in accommodation services, which is closely related to the tourism sector, climbed by around 5 points to 15.67 percent (Chart 3.1.6). Inflation in transport services reached 10.64 percent in this period due to the depreciation in the Turkish lira, developments in oil prices and the favorable outlook in domestic tourism. On the other hand, implementation of fixed prices in fuel contained a worse outlook in the transport inflation. Manifesting lagged effects of the exchange rate and backward indexation behaviors, annual inflation in other services hit 11.47 percent, while rent inflation remained on the rise in this period.
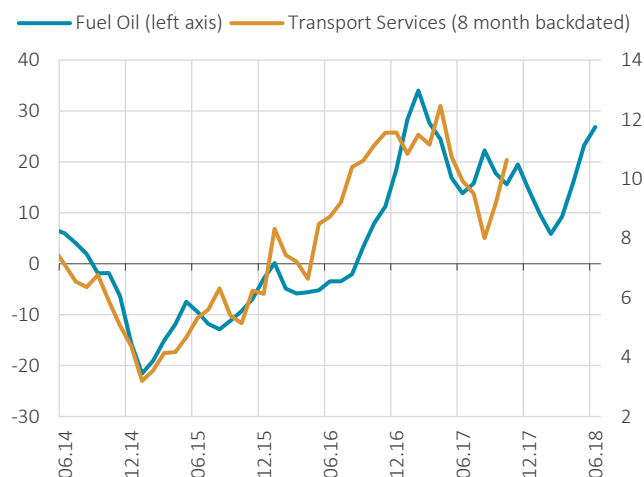
Chart 3.1.7: Other Services and Currency Basket*
(Annual % Change)

Source: CBRT, TURKSTAT.

* Average Turkish lira against the euro and the US dollar.

Chart 3.1.8: Transport Services and Fuel Prices*
(Annual % Change)

Source: CBRT, TURKSTAT.

* Inflation in transport services is backdated by 8 months.

Both the underlying trend of services inflation and the tendency to hike prices as captured by the diffusion index for services posted significant increases, signaling an apparent deterioration in the pricing behavior in the services sector (Charts 3.1.9 and 3.1.10). High inflation and inflation expectations, the weak course of the Turkish lira, worsening food inflation and brisk prospects for tourism caused services inflation to remain elevated. Moreover, rising real unit labor costs due to wage adjustments and low productivity, adversely affect the inflation outlook for the services sector due to its labor-intensive nature.

Chart 3.1.9: Services Prices (Seasonally-Adjusted, Annualized, 3-Month Average % Change)
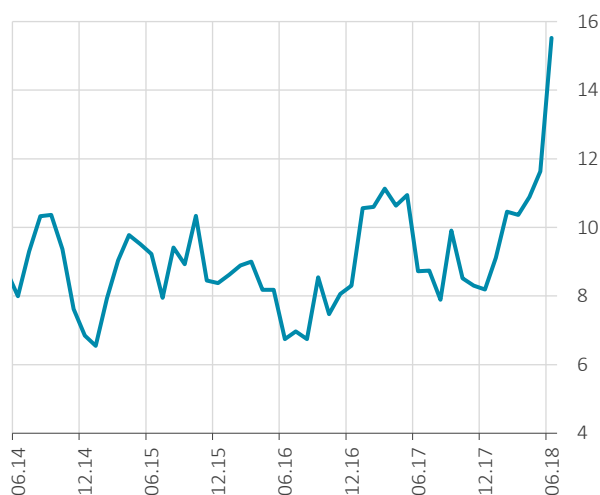
Source: CBRT, TURKSTAT.

Chart 3.1.10: Diffusion Index for Services Prices * (Seasonally-Adjusted, 3-Month Average)
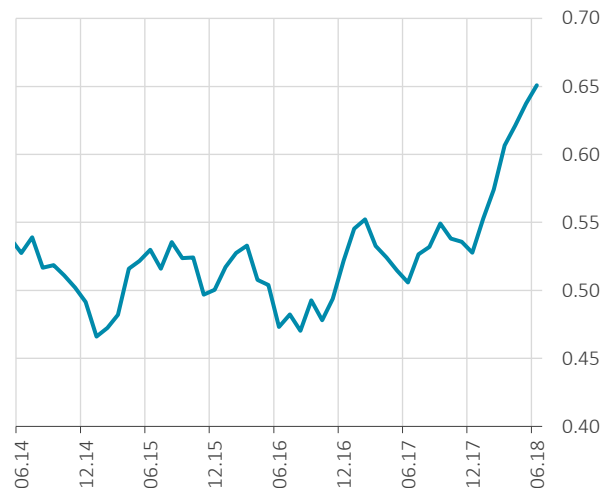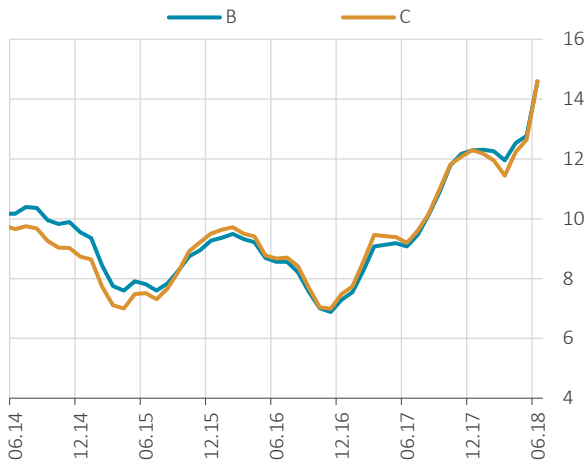

Source: CBRT, TURKSTAT.

* Diffusion index is calculated as the ratio of the number of items with increasing prices minus the number of items with decreasing prices to total number of items within a given month.
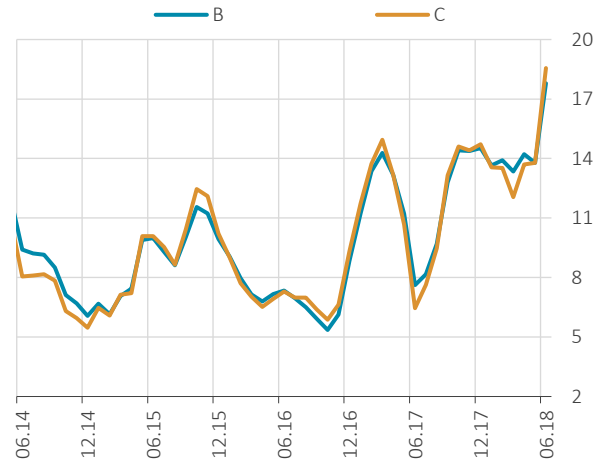
Among core inflation indicators, annual inflation in the B and C indices increased by 2.63 and 3.16 points quarter-on-quarter to 14.58 and 14.60 percent, respectively, owing to the developments in prices of core goods and services (Chart 3.1.11). The seasonally-adjusted underlying trend of core inflation indicators also recorded an evident deterioration in this period (Chart 3.1.12).

**Chart 3.1.11: B and C Indices** (Annual % Change)

Source: TURKSTAT.

Chart 3.1.12: B and C Indices (Seasonally-Adjusted, Annualized, 3-Month Average % Change)
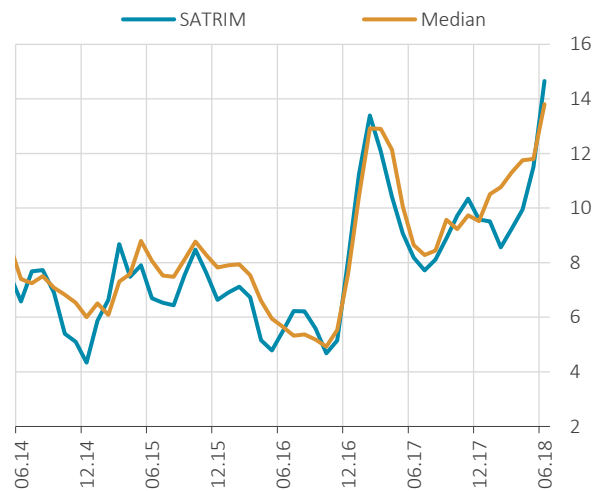

Source: CBRT, TURKSTAT.

The tendency for price hikes of economic units proved higher, as captured by the diffusion indices for core indicators (Chart 3.1.13). Both Median and SATRIM, the alternative core inflation indices monitored by the CBRT, registered sharp increases (Chart 3.1.14). Hence, as suggested by the indicators for tendency and pricing behavior, the underlying trend of inflation recorded a notable worsening.

Chart 3.1.13: B and C Diffusion Indices (Seasonally-Adjusted 3-Month Average)
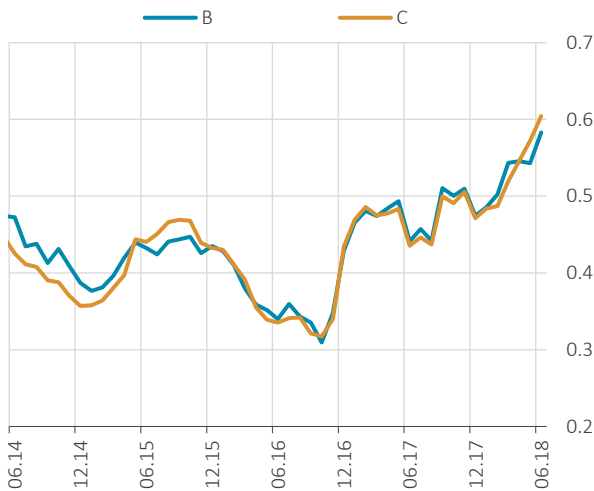
Source: CBRT, TURKSTAT.

Chart 3.1.14: Core Inflation Indicators SATRIM* and Median** (Annualized 3-Month Average, %)

Source: CBRT, TURKSTAT.

* SATRIM: Seasonally-Adjusted trimmed mean inflation.

** Median: Seasonally-Adjusted median monthly inflation of 5-digit sub-price indices.

3.2 Food, Energy and Alcohol-Tobacco Prices

Annual food inflation, which was 10.37 percent in March, went up by around 8.52 points to 18.89 percent in the second quarter (Chart 3.2.1). While this was largely caused by soaring unprocessed food prices, processed food prices remained elevated (Chart 3.2.2). The depreciation in the Turkish lira, negative supply conditions in some vegetable products, temporary effects led by Ramadan as well as tourism-driven demand conditions were influential in the course of food prices.

Chart 3.2.1: Food and Energy Prices (Annual % Change)

Legend: — Food and Non- Alcoholic Beverages — Energy
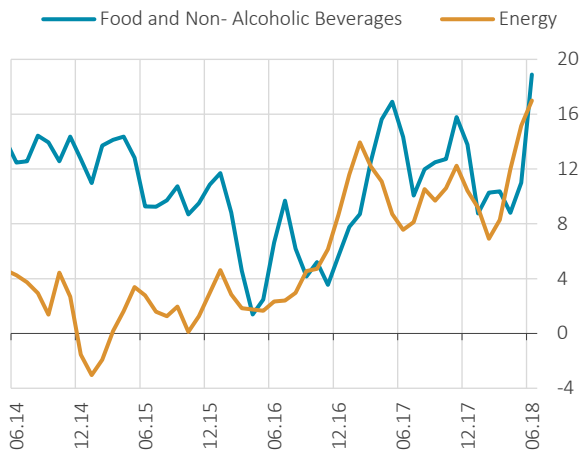
Source: TURKSTAT.

Chart 3.2.2: Food Prices (Annual % Change)

Legend: — Processed Food — Unprocessed Food
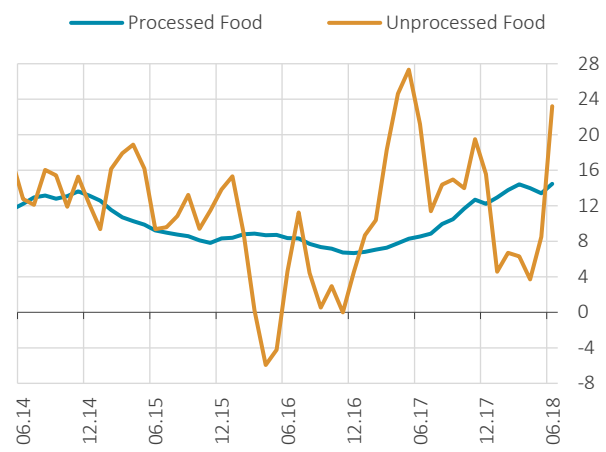
Source: TURKSTAT.

After receding in the first quarter, annual unprocessed food inflation soared by 16.92 points to 23.23 percent in the second quarter due to exchange rate developments and negative supply conditions in certain products (Chart 3.2.2). Maintaining the downtrend of the first quarter also in April and coming down to quite low levels due mainly to the mild course in fresh fruits and vegetables, unprocessed food inflation witnessed notable upswings in May and June as the trend reversed in fresh fruits and vegetables (Chart 3.2.3). This period was marked by soaring prices of potato and egg as well as vegetables, particularly onion (Chart 3.2.4). In the first quarter of 2018, temperatures above seasonal averages favored the unprocessed food group, but following the rainless April, excessive rains in May harmed agricultural fields and had a negative impact on the supply of some vegetable products. The upcoming period is expected to witness a correction in prices of fresh fruits and vegetables amid the supply of new products.

Chart 3.2.3: Food Excl. Fresh Fruits and Vegetables (Annual % Change)

Legend: — Food Excl. Fresh Fruits and Vegetables — Fresh Fruits and Vegetables (Left axis)
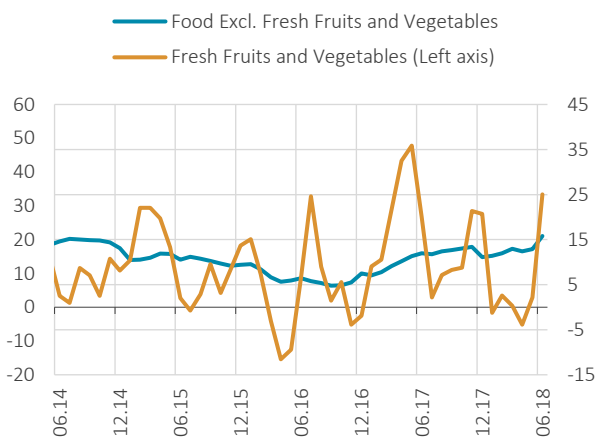
Source: CBRT, TURKSTAT.

Chart 3.2.4: Selected Food Prices (Annual % Change)

Legend: — Egg — Potato — Vegetables

Source: CBRT, TURKSTAT.

31
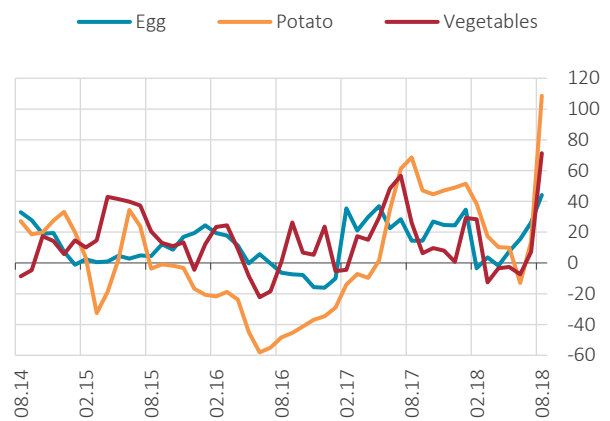
Annual processed food inflation, which reached quite high levels at the end of the first quarter, remained relatively flat in the second quarter with 14.47 percent (Chart 3.2.2). There exist upside risks on the future outlook for processed food prices stemming from bread-cereals and the possible consequences of the latest adjustment in the raw milk reference price. Accumulated cost pressures in raw milk prices, chiefly feed prices, have the potential to worsen processed food inflation through the dairy products channel. Moreover, owing to the rise in wheat purchasing prices, there are upside risks to the prices of the bread-cereals group, particularly bread.

Energy prices increased by 5.60 percent in the second quarter of the year (Table 3.1.1). After ending the previous quarter at 66 USD/bbl, Brent crude oil prices trended upwards in the two subsequent months and hovered around 75 USD/bbl at the end of the second quarter. In tandem with the upward trajectory in the exchange rate, TL-denominated oil prices witnessed a remarkable increase in this period (Chart 3.2.5). Accordingly, fuel, bottled gas and solid fuel prices rose by 9.50, 4.54 and 3.85 percent, respectively in the second quarter. As of mid-May, a sliding scale tariff in fuel was introduced. Accordingly, lump sum special consumption taxes were re-adjusted according to the changes to occur in domestic refinery outlet prices due to international oil prices or the exchange rate, and as a result, fuel prices have remained flat as of mid-May. Thus, a worse picture in energy inflation was averted. In this period, out of administered prices, natural gas did not record a noticeable change, while prices of the municipal water, for which backward-indexation in inflation prevails, and the electricity prices increased by 3.55 and 2.90 percent, respectively (Chart 3.2.6). All in all, annual energy inflation climbed by 8.70 points to 16.99 percent in this quarter (Chart 3.2.1).
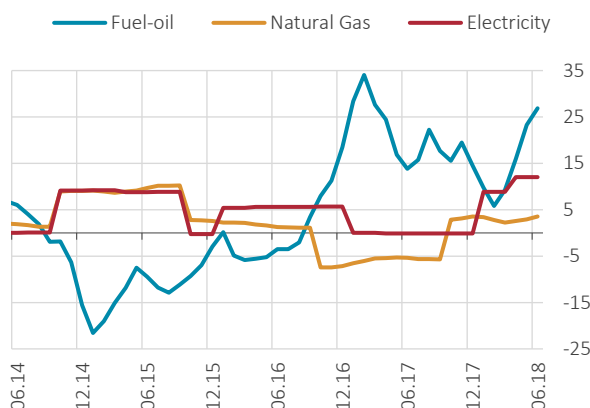
Chart 3.2.5: Oil and Selected Domestic Energy Prices*
(Index, December 2010=100)
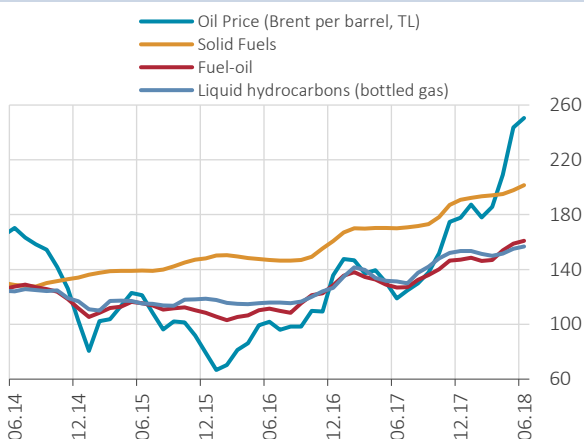
* Oil price are reported in TL.
Source: Bloomberg, CBRT, TURKSTAT.

Chart 3.2.6: Domestic Energy Prices (Annual % Change)

Source: TURKSTAT.

3.3 Domestic Producer Prices

Led by the manufacturing industry and production and distribution prices of electricity and gas, domestic producer prices (D-PPI) spurted by 9.72 percent in the second quarter of the year (Table 3.3.1). Having notably accelerated as of the last quarter of 2017, producer price increases grew stronger in this period. Thus, annual D-PPI inflation surged by 9.43 percent quarter-on-quarter to 23.71 percent and hit the highest level of the index history (Chart 3.3.1). Developments in the exchange rate and international commodity prices, chiefly oil and metals, weighed on producer prices in this period. As a result, notable price increases were seen across subgroups.

Table 3.3.1: D-PPI and Sub-Categories (3-Month and Y-o-Y % Change)

	2017				2018		
	II	III	IV	Annual	I	II	Annual
D-PPI	1.35	1.82	5.18	15.47	5.29	9.72	23.71
Mining	-2.60	1.85	6.88	16.13	6.52	7.02	24.09
Manufacturing	1.43	2.13	5.52	16.64	4.98	9.68	24.10
Manufacturing excl. Petroleum Products	1.76	1.86	5.04	16.16	5.01	9.04	22.51
Manufacturing excl. Petroleum and Base Metal Products	2.03	1.08	4.21	14.04	4.88	8.58	19.96
Production and Distribution of Electricity and Gas	2.27	-2.37	-0.07	0.41	9.43	12.35	19.95
Water Supply	1.71	1.26	1.56	11.30	0.02	3.17	6.13
D-PPI by Main Industrial Groupings							
Intermediate Goods	0.90	3.15	7.21	20.75	5.38	10.24	28.47
Durable Consumption Goods	3.47	2.02	3.47	16.31	3.57	6.69	16.64
Durable consumption goods (excl. jewelry)	3.91	2.07	2.91	15.89	3.53	6.56	15.88
Non-durable Consumption Goods	2.86	-0.88	1.00	7.69	4.32	7.61	12.39
Capital goods	1.27	3.07	6.26	17.52	5.81	8.39	25.60
Energy	-1.36	1.73	6.59	11.23	7.61	15.58	34.87

Source: CBRT, TURKSTAT.

Annual inflation hit 24.10 percent in the manufacturing industry and 28.47 percent in intermediate goods (Table 3.3.1 and Chart 3.3.2). In this period, import prices increased at a relatively moderate pace in USD terms, while the rise in TL terms proved quite notable due to the developments in the exchange rate (Chart 3.3.3).

Chart 3.3.1: Domestic Producer and Consumer Prices (Annual % Change)
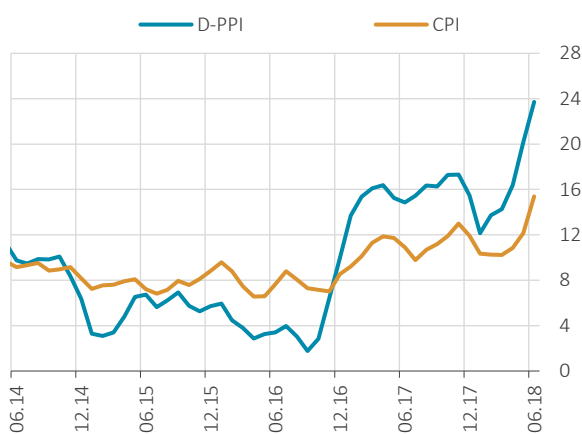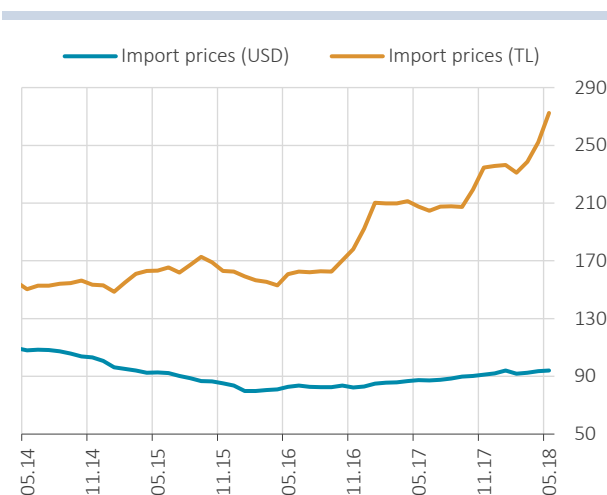

Source: TURKSTAT.

Chart 3.3.2: Manufacturing Prices (Annual % Change)
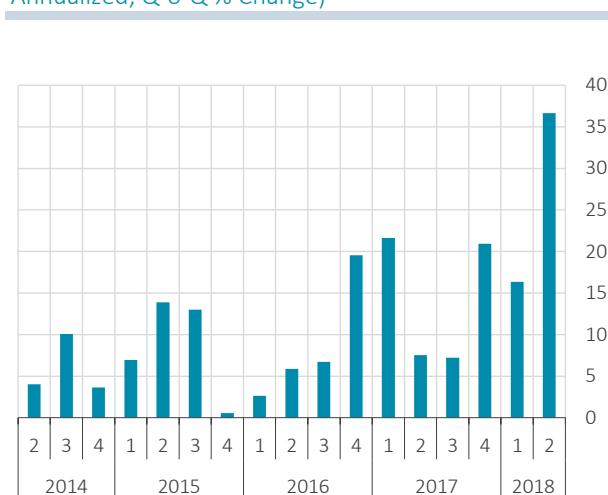

Source: TURKSTAT.

According to the main industrial groupings, price hikes prevailed in all subcategories in this quarter (Table 3.3.1). Prices of intermediate goods saw a widespread upsurge, particularly in iron-steel, plastics, threads and fibers, basic chemical products, textiles and paper products. Metal construction products, motor vehicles and spare parts and accessories, and machinery accounted for the price hikes in capital goods. Energy prices rose owing to petroleum products, production, transmission and distribution of electricity as well as manufacturing prices of gas. Increase in prices of durable consumption goods is attributed to furniture and home appliances while non-durable consumption goods saw price hikes owing to prices of meat and meat products, fats and oils, printing services and apparel. Against this background, the seasonally-adjusted underlying trend of manufacturing prices excluding petroleum and base metal products, which entails information on underlying trend of producer prices, gained considerable momentum (Chart 3.3.4). All in all, producer-driven cost pressures on consumer prices remained strong with a notable escalation.

Chart 3.3.3: Import Prices in USD and TL (Index, 2010=100)

Source: CBRT, TURKSTAT.

Chart 3.3.4: Manufacturing Prices Excluding Petroleum and Base Metal Products (Seasonally Adjusted, Annualized, Q-o-Q % Change)
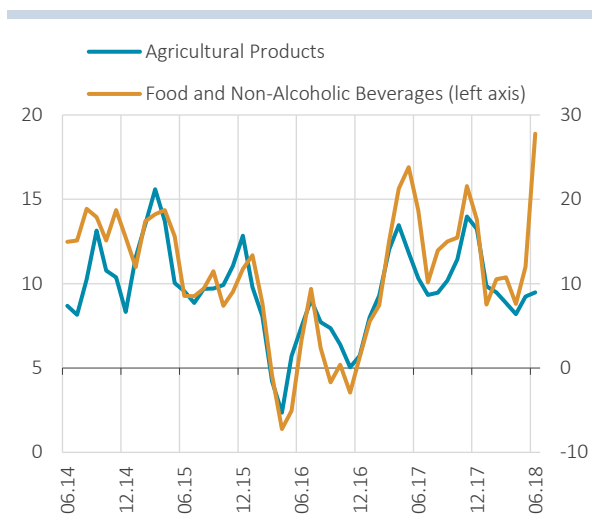

Source: CBRT, TURKSTAT.

3.4 Agricultural Producer Prices

Annual agricultural inflation (A-PPI) in the second quarter recorded an uptick by 1.27 points to 8.97 percent (Chart 3.4.1). Prices of vegetables stood out in this rise in annual inflation. In the second quarter, the uptrend in livestock prices continued, particularly in sheep and goats. Annual inflation increased in grains such as wheat and corn, while prices of fruit and legumes trended downwards. A-PPI and food consumer inflation displayed a noticeable divergence in this period (Chart 3.4.1). This divergence is more pronounced in the underlying trend indicators (Chart 3.4.2). The underlying trend of agricultural producer prices followed a favorable course in this quarter, whereas the trend of food consumer prices reached a considerably high level. For example, the gap between producer and consumer prices of onion and potato expanded severely in this period (Charts 3.4.3 and 3.4.4). This divergence in outlook for producer and consumer prices is attributed to market failures in storable products of this kind (Box 3.2).

**Chart 3.4.1: Prices of Agricultural Products and Food** (Annual % Change)

Agricultural Products
Food and Non-Alcoholic Beverages (left axis)

Source: TURKSTAT.

Chart 3.4.2: Prices of Agricultural Products and Food (Seasonally Adjusted, Annualized, 3-month Average % Change)

Agricultural Products
Food and Non-alcoholic Beverages (left axis)
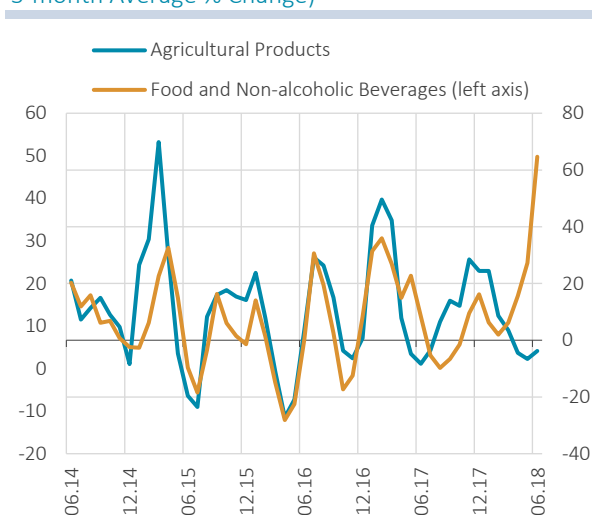
Source: CBRT, TURKSTAT.

Favorable supply outlook supported by weather conditions in the first quarter of 2018 had a downward pressure on agricultural prices. However, the ensuing period was marked by flood and hail, which restricted the supply of vegetables. Sharp price increases in vegetable products are expected to be partially compensated for by supply conditions, which are supposed to improve in the upcoming months.

Chart 3.4.3. Onion Prices (TL)

Consumer Price   Producer Price
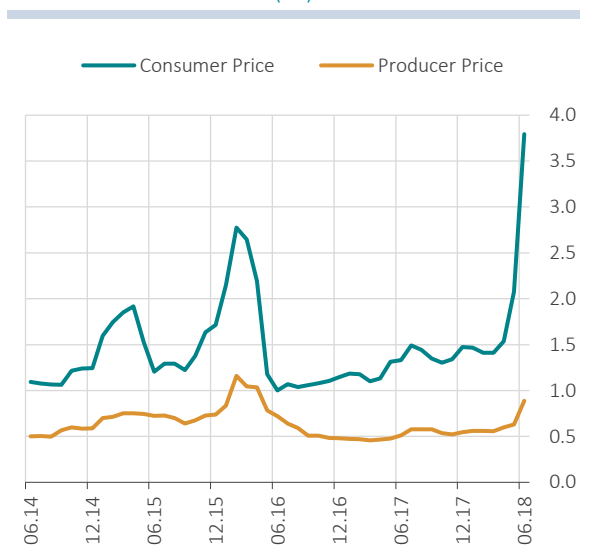
Source: TURKSTAT.

Chart 3.4.4. Potato Prices (TL)

Consumer price   Producer price
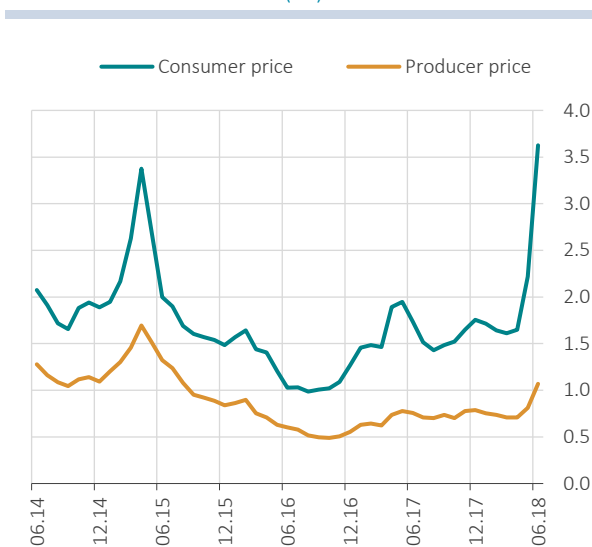
Source: TURKSTAT.

3.5 Expectations

Following a relatively flat course in the first quarter of 2018, inflation expectations increased remarkably in the second quarter of the year amid cost shocks and the overall inflation outlook. As of July, expectations for the next 12 and 24 months hit 11.07 and 9.54 percent, respectively (Chart 3.5.1). 5-year and 10-year-ahead inflation expectations increased as well and continue to hover above the inflation target (Chart 3.5.1).

Chart 3.5.1: CPI Inflation Expectations* (%)
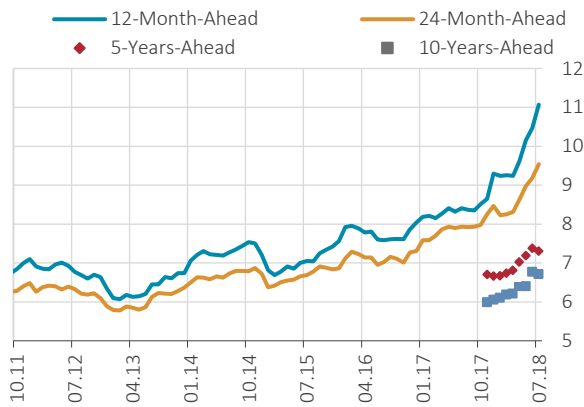
Source: CBRT.

* Second survey period results for the pre-2013 period using the CBRT Survey of Expectations, responded by the representatives from the corporate sector, the financial sector and professionals.

Chart 3.5.2: Medium-Term Inflation Expectations Curve* (%)

Source: CBRT.

* Calculated by linear interpolation of expectations for different time spans using the CBRT Survey of Expectations responded by the representatives from the corporate sector, the financial sector and professionals.
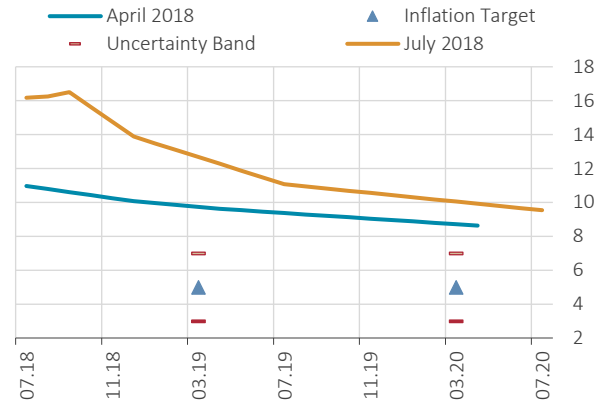
Inflation expectations were revised upwards quarter-on-quarter across all maturities, more markedly for the shorter term (Chart 3.5.2). In addition, the probability distribution of inflation expectations also exhibited a considerable deterioration compared to April (Charts 3.5.3 and 3.5.4). Deterioration in medium-term inflation expectations persists, posing upside risks to the inflation outlook through the pricing behavior.

Chart 3.5.3: Probability Distribution of 12-Month-Ahead Inflation Expectations* (%)
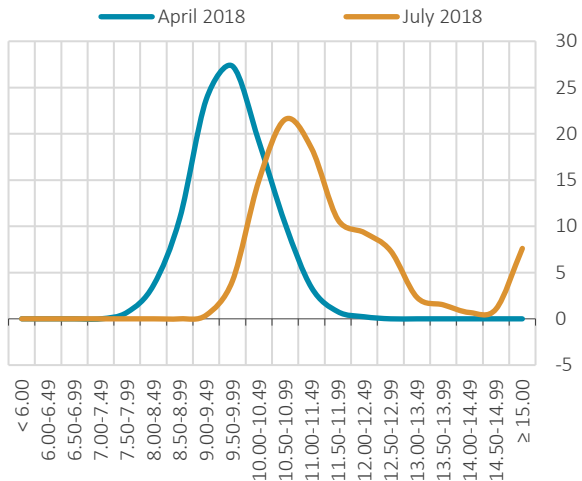
Source: CBRT.

* Horizontal axis denotes the expected inflation rate, while the vertical axis denotes the respective probability. For further details, see Statistics/Tendency Surveys/Survey of Expectations/Metadata at the CBRT website.
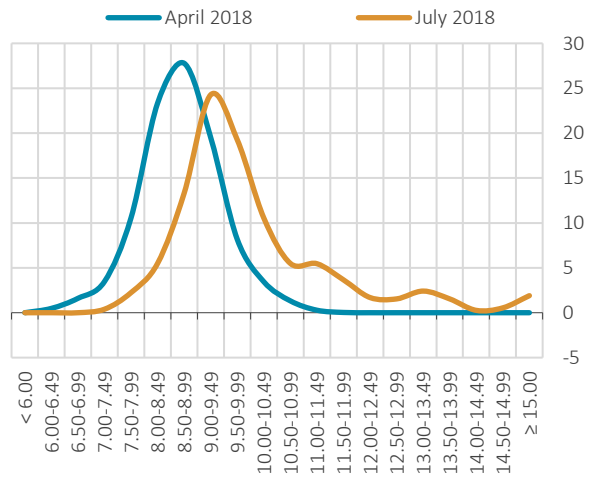
Chart 3.5.4: Probability Distribution of 24-Month-Ahead Inflation Expectations* (%)

Source: CBRT.

* Horizontal axis denotes the expected inflation rate, while the vertical axis denotes the respective probability. For further details, see Statistics/Tendency Surveys/Survey of Expectations/Metadata at the CBRT website.

Box 3.1

Tax Change in Tobacco Products and Its Repercussions on Inflation

In July 2018, tax rates applied to tobacco products were changed. This change constituted a step towards convergence of our tax structure to international averages. Moreover, significant gains were achieved in enhancing the coordination between monetary and fiscal policies in the struggle with inflation.

Differing from the general practice in products subject to Special Consumption Tax (SCT), the tax base employed to calculate the SCT on tobacco products is the final retail sales price of the product. This method reveals a relatively complicated taxation structure.[1] The final sales price in tobacco products (Y) is composed of the sum of the producer price (X), the dealer-distributor (retailer-wholesaler) share and the ad valorem and specific SCT and VAT amounts (Table 1).

Table 1: Price Setting Mechanism in Tobacco Products

Final Sales Price:	Y
Producer Price:	X
Dealer/Distributor Income (p= dealer-distributor share, %):	$Y * p$
Ad Valorem SCT Amount (SCT= ad valorem SCT rate, %):	$Y * SCT$
Specific SCT Amount per Packet:	M
Total SCT Amount:	$(Y * SCT) + M$
VAT Amount (vat= VAT rate, %):	$[X + (Y * p) + (Y * SCT) + M] * vat$

Final Sales Price = Producer Price+ Dealer/Distributor Income+ SCT Amount+ VAT Amount

$$Y = X + (Y * p) + [(Y * SCT) + M] + [X + (Y * p) + (Y * SCT) + M] * vat$$

$$Y = \frac{(1 + vat) * (X + M)}{1 - (1 + vat) * SCT - (1 + vat) * p}$$

Source: Atuk and Özmen (2016).

Price formation reveals that final sales price is non-linearly related to the VAT rate, the SCT rate and the dealer-distributor share; and as the level is elevated in these tax rates, a one-unit increase has a higher outcome on final prices (multiplier effect). The current tax structure relies mostly on ad valorem tax, and the ad valorem SCT rate, which is 65.25 percent in the first half of 2018, is significantly higher than the European Union average of 27 percent (Chart 1). Moreover, in comparison with the EU-28, the highest ad valorem SCT rate proved to be exerted in Turkey even after the revision introduced in July (Chart 2).

As the ad valorem SCT rate decreases, the multiplier effect declines as well (Chart 3). Prior to the recent tax change, the multiplier was around 8, implying that a 10-kurus increase in producer or specific SCT amount reflects on the final sales price as around 80 kurus. In other words, the high

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[1] For chronological development and further information on the subject, see Atuk, Çebi, Özmen (2011), CBRT (2013), Atuk and Özmen (2016).

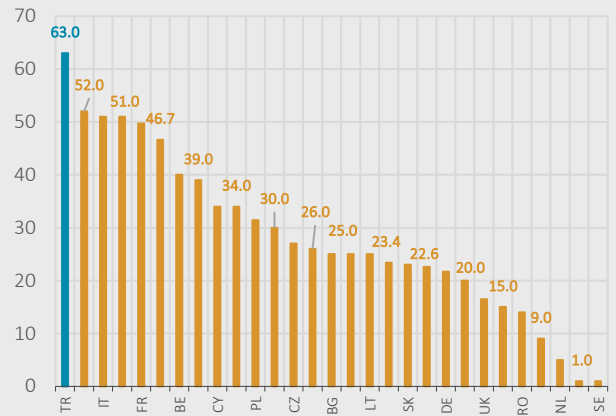multiplier renders a small increment in the specific tax amount or the producer price to have a higher impact on the final sales price.

**Chart 1: Comparison of Ad Valorem SCT Rates: Turkey and the European Union** (%)

Turkey (June.18): 65.25
Turkey (July.18): 63.00
EU-28 Highest: 52.00
EU-28 Average: 27.11
EU-28 Lowest: 1.00
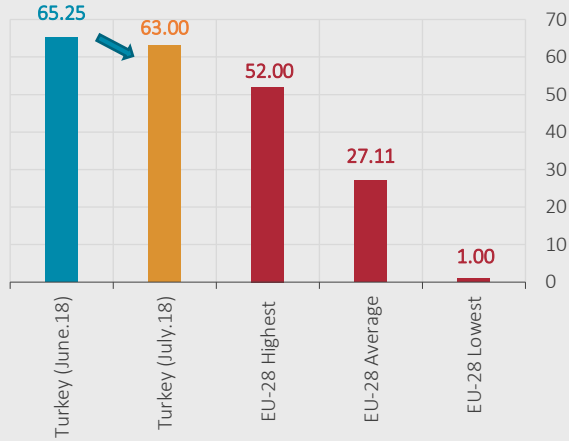
Source: EU Commission (2018).

Chart 2: Ad Valorem SCT rates in EU-28 (%)

TR: 63.0
IT: 52.0
FR: 51.0
BE: 46.7
CY: 39.0
PL: 34.0
CZ: 30.0
BG: 26.0
LT: 25.0
SK: 23.4
DE: 22.6
UK: 20.0
RO: 15.0
NL: 9.0
SE: 1.0

Source: EU Commission (2018).

Owing to the enhanced coordination between monetary and fiscal policies regarding administered prices and tax adjustments, the ad valorem SCT rate was reduced from 65.25 percent to 63 percent, and the specific SCT amount per packet was raised from 32.46 kurus to 42 kurus in July. This not only curbed short-term inflationary pressures, but also allowed the multiplier to recede to 6.8 from 8 (Chart 3). Thus, in the period ahead, the impact of a potential increase in producer prices or specific taxes on inflation is also restricted. Comparison with the EU countries signals that there is long way to go in this respect and this arrangement constitutes a starting point in harmonization with the internationally-exercised taxation.

Chart 3: Ad Valorem SCT Rate (%) **and Multiplier**

Ad Valorem SCT Rate (%)
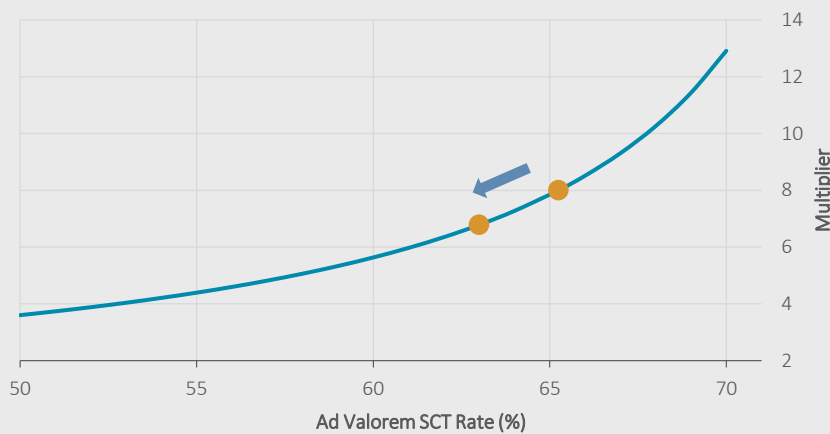
Source: CBRT Estimates.

As a result, from a medium/long term perspective, reducing the weight of the ad valorem tax within the final sales prices while increasing the share of the specific tax mitigates the impact of the multiplier effect of tax and producer price adjustments on final sales prices and gains importance in the convergence with EU averages. In this respect, this arrangement constitutes an example of an enhanced coordination between monetary and fiscal policies. In the meantime, a stronger coordination in areas other than administered prices and tax adjustments will also offer valuable contribution to the struggle for disinflation in the upcoming period.

References

Atuk, O. Çebi, C. and Özmen, M. U. (2011), "Special Consumption Tax on Tobacco Products", CBRT Research Notes in Economics No. 11/16.

Atuk, O. and Özmen, M.U. (2016), "Firm Strategy and Consumer Behavior under a Complex Tobacco Tax System: Implications for the Effectiveness of Taxation on Tobacco Control", Tobacco Control, 26(3), 277-283.

CBRT (2013), "Recent Changes to Taxing of Tobacco Products and the Effects of SCT Rate Hikes on Prices", 2013-I inflation Report, Box 3.1.

European Commission (2018), "Excise Duty Tables, Part III-Manufactured Tobacco", Directorate-General Taxation and Customs Union.

Box 3.2

Structural Problems in Unprocessed Food Inflation and Policy Recommendations

Driven by fresh vegetable products, the unprocessed food group stood out as the highest contributor to consumer inflation in the first half of 2018. Following a favorable outlook in the first quarter of 2018, unprocessed food prices increased well above seasonal averages in the second quarter due particularly to the notable acceleration in fresh vegetable prices (Table 1). The upsurge in fresh vegetable prices in the second quarter of the year is attributable to meteorological factors such as excessive rain, flood, and hail as well as production losses in various products such as potato and tomato due to diseases in plants.

The conjunctural reasons underlying the price hikes in unprocessed food products are evaluated from the perspective of structural problems, and policy measures that may solve structural problems are discussed in this box. In this respect, the structural problems that stand out are: cyclical supply shortages, stocking and price speculation behaviors, the excess number of intermediaries in the supply chain and underdeveloped logistic processes.

Table 1: Annual Inflation Across Product Groups (%)

Product Groups	March 2018	June 2018	2013-2017 March Averages	2013-2017 June Averages
Food and Non-alcoholic Beverages	10,37	18,89	9,89	11,12
Processed food	14,42	14,47	9,15	9,29
Unprocessed Food	6,31	23,23	10,61	13,47
Fresh Vegetable	-2,29	83,58	11,96	14,20
Fresh Fruit	4,79	4,15	12,06	17,40

Source: TURKSTAT.

In the second quarter of 2018, the sharp acceleration in unprocessed food prices is mainly attributable to the cyclical supply shortage in various fresh vegetable products. Occasional supply shortages in unprocessed food products in Turkey that lead to sudden and sharp price increases mainly stem from structural factors. Here, the inability to make an efficient and dynamic agricultural production plan is considered to be a significant structural problem. Developing a production plan requires strengthening of agricultural statistics, yield estimation and early warning system infrastructure. Accordingly, expanding the scope of agricultural statistics and enhancing their quality is of great importance. Moreover, establishing a systematic structure to facilitate a dynamic follow-up and estimation of agricultural yields will also contribute to the timely adoption of measures required to maintain sustainability of supply and price stability. Another structural problem causing cyclical supply shortages is the mismanagement of the field-greenhouse-field transition particularly in fresh vegetable products. Despite being short-lived, these transitions lead to supply shortages and enable the intermediaries who dominate the market to speculate on prices and achieve excessive gains. A holistic approach needs to be developed and enforced to ensure sustainable supply in field-greenhouse and greenhouse-field transition processes. Accordingly, rehabilitation of current greenhouses and encouraging the establishment of new and modern greenhouses is a priority.

In Turkey, occasional market failures may occur in the process of warehousing storable fresh fruits and vegetables like potato, lemon, onion and apple, and including these products in the supply chain. These market failures can lead to sudden and sharp price increases in the respective product particularly in periods of supply shortages. Accordingly, the importance of efficient functioning of licensed warehousing and a specialized commodity exchanges system needs to be underlined. This system allows for the storage of agricultural products such as grains and legumes that can be standardized and stored for a long time as well as trading them in a deep market. Licensed warehousing facilitates the access of the producer to financing, reduces unregistered activities, lays the ground for putting the product on the market in a proper balance in terms of timing and quantity, and thus contributes to a healthy and stable price formation in storable food products market (Songül ve Tümen, 2017). Moreover, arranging natural warehouses, in which products like potato and onions are stored, and registering warehousing activities are also of critical importance to avert market-distorting collective movements.

Another structural problem regarding unprocessed food products in Turkey is the excess number of intermediaries in the supply chain and logistic processes that lag behind the practices of advanced economies. In many advanced economies, production, distribution and marketing of food is mainly performed by producer unions, while the share of producer unions within the supply chain is rather limited in our country. Most of the functions regarding marketing such as the provision, transfer, preservation, packaging and classification of agricultural products in Turkey are undertaken by intermediaries. On the one hand, this increases the dependence of producers on intermediaries. On the other hand, it raises the final consumer price and distorts price stability by causing the marketing channels to get longer, costs to elevate and the share of marketing to increase (Songül, 2017). Meanwhile, small farmers being mostly indebted to the tradesmen and other intermediaries and being able to maintain agricultural activities through this unregistered indebtedness deprives the farmer of the deserved share from the agricultural value added. This deters production and exerts an upward pressure on prices.

Modernization of wholesale markets is of critical importance with regard to the improvement of logistic processes in the supply chains of unprocessed food. The 175 wholesale markets operating under impractical conditions in our country render the market structure shallow and fragmented. The current wholesale market management model and ownership structure relying on municipal management leads to imperfect competition. Moreover, current locations of wholesale markets (transport, logistics, technology etc.) are not suitable for changing infrastructural conditions and may fail to ensure efficient distribution between production and consumption points. In short, when the current status is compared to international standards and good practices, there are aspects to be improved in productivity and efficiency. As a result of all these, healthy and stable price formation cannot be ensured in unprocessed food products, and control and inspection services for food safety cannot be performed properly.

With a view to modernizing logistic processes in the supply chain of fresh fruit and vegetable products in Turkey, the communique on principles and procedures on standard practices to be obeyed in wholesale and retail trade of vegetables and fruits was published in 2017. According to this communique, new standards were set regarding fruit and vegetable products post-harvest packing with disposable and reusable packages compliant with international norms, transporting them by vehicles with cooling systems to enhance transportation, and displaying them on aisles with coolers in retail sales points. However, some lags are witnessed in practice.

As a result, although occasional, sudden and sharp price increases in unprocessed food products are considered to be natural consequences of meteorological and phenological factors, mainly structural problems are important in the production and storage of unprocessed food products as well as the supply chain. It is believed that the adverse impacts of meteorological and phenological factors on the prices of unprocessed food products can be minimized by efficient and dynamic production planning, arranging storage activities, modernizing logistic processes in the supply chain and reducing the number of intermediaries.

References

Songül, H. and Tümen, S. (2017). How Does the Licensed Warehousing System Contribute to Price Stability? CBRT Blog Post.

Songül, H. (2017). Price Formation in the Fresh Fruit-Vegetable Supply Chain CBRT Blog Post.