

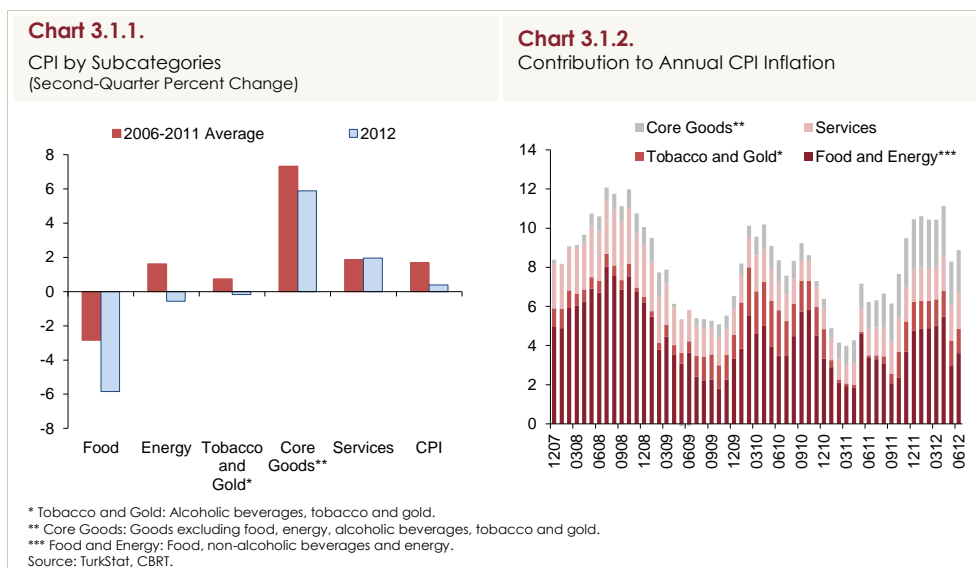
3. Inflation Developments

3.1. Inflation

In the second quarter of 2012, annual consumer inflation went down by 1.6 percentage points to 8.87 percent on a quarterly basis. This was driven by the decline in oil prices parallel to the favorable course of unprocessed food prices and international commodity prices. Annual inflation in core goods continued to trend downwards in this period, while services inflation edged up. Meanwhile, decelerating economic activity bolstered the inflation outlook and core inflation indicators trended downwards in line with the alleviation of cost-side pressures. Hence, in the second quarter of the year, inflation undershot the forecast presented in the April Inflation Report upon the higher-than-anticipated decline in unprocessed food and energy prices.

Across subcategories, quarterly price changes in main expenditure groups except for services were below historical averages in the second quarter (Chart 3.1.1). The decline in annual inflation in this period is attributable to plummeting food prices. The contribution of food group to inflation, which posted a year-on-year decline by 3.87 percentage points in the second quarter, went down by 1.08 percentage points on a quarterly basis (Chart 3.1.2). Despite the high-rated adjustments in electricity and natural gas tariffs in April, the contribution of energy group to inflation fell by 0.33 percentage points amid the decline in fuel prices. Meanwhile, the contribution of services to inflation rose by 0.22 percentage points in tandem with the rise in catering and communication services inflation.

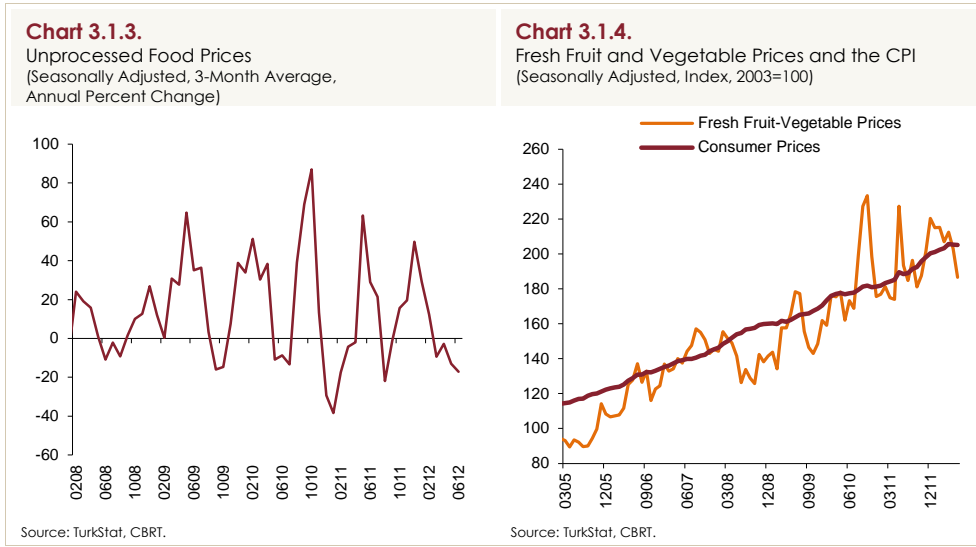
As a result, the course of unprocessed food and oil prices were instrumental in the recent deceleration in consumer inflation. Unprocessed food prices are expected to remain modest throughout the year. On the other hand, processed food prices bear an upside risk depending on the developments in bread prices besides the recent international food commodity prices. Moreover, following low levels, the upward trend in oil prices in late June keep upside risks on the short-term inflation outlook brisk.



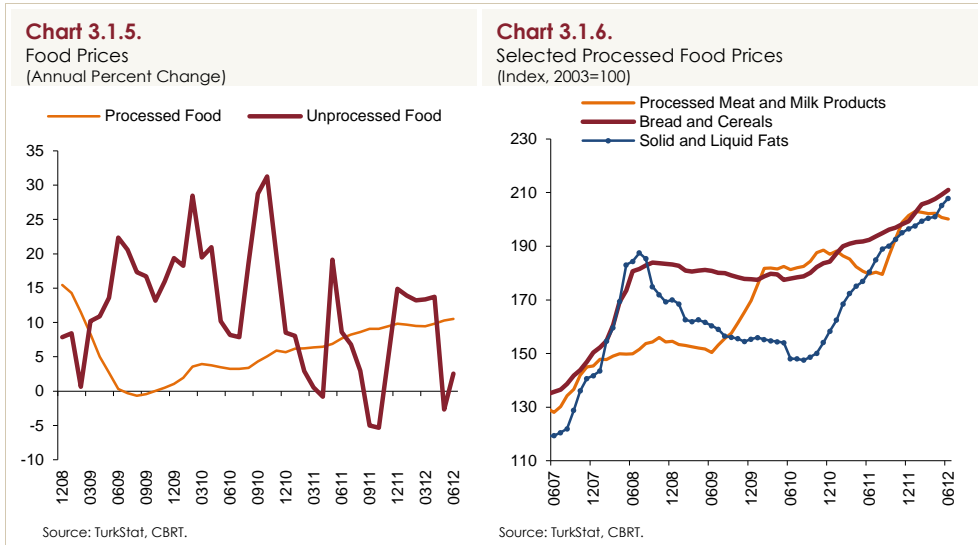
The unprocessed food prices continued to trend upwards in the second quarter (Chart 3.1.3). Due to seasonal effects, prices plummeted by 14.76 percent in the second quarter, which is the largest quarterly decline in the index history. This period saw falling vegetable prices close to historical averages, driven by the decline in fruit prices contrary to the seasonal trend of increase. Therefore, prices of fruits and vegetables recorded a notable decline in comparison with the overall consumer prices (Chart 3.1.4). Analysis of price increases in fruits suggests that the rate of increase in the second quarter displayed a less volatile course compared to previous years. This is also attributable to the adjustment made in the inclusion of new seasonal products under the coverage of the index.¹ The Box 3.1 discusses the impact of CPI volatility led by the strong seasonality in prices of fresh fruits and vegetables.

Upon the decline in prices of unprocessed food items excluding fruit and vegetable as well, unprocessed food group prices followed a more favorable course than envisaged in the April Inflation Report. Thus, annual inflation in unprocessed food excluding fruit and vegetable went down to 2.55 percent by end-June (Chart 3.1.5).

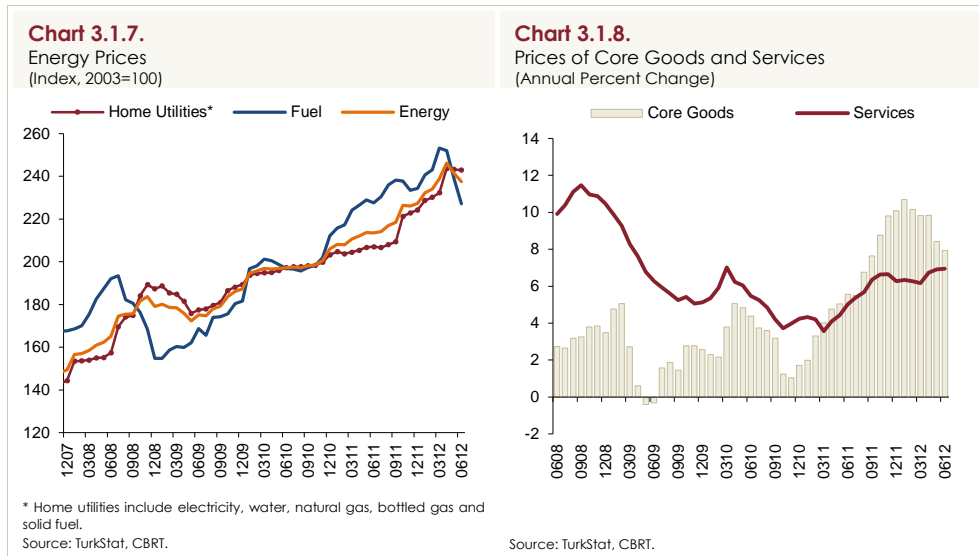
¹ For example, some products, which were included in indices in May 2011 considering the consumption patterns of past years and led to an upsurge in fruit and consumer inflation due to troubles in supply, were included in the index in June 2012. Thus, excessive and short-term price movements to stem from probable supply-side problems and that are adjusted by consumption amounts were partly prevented to reflect on the CPI.



Contrary to this favorable outlook of unprocessed food prices, processed food prices surged above projections. Accordingly, annual inflation in processed food prices rose by around 1 percentage point to 10.51 percent on a quarterly basis (Chart 3.1.5). In this period, prices of bread and cereals continued to trend upwards (Chart 3.1.6). Cumulative increase in the first six months especially in bread prices neared 8 percent, which was driven by the arrangements on weight in grams introduced by the Communique on Bread and Bread Varieties of the Turkish Food Codex. Thus, bread prices may rise further in the third quarter, which constitutes a notable upside risk on processed food prices in the second half of the year. Moreover, prices of fats and oils, which accelerated upon domestic and international developments as of the last quarter of 2010, maintained a negative outlook in this quarter with a sharp increase (Chart 3.1.6). Meanwhile, prices of processed meat and dairy products, which accelerated in the second half of 2011, recorded a decline in this period and put a cap on the rise in processed food prices. As a result, annual food inflation fell approximately by 4 percentage points to 7.38 percent, and remained below the level projected in the April Inflation Report amid the ongoing favorable outlook in unprocessed food prices.



In the second quarter of the year, energy prices went down by 0.57 percent notwithstanding the high-rated adjustments in electricity and natural gas tariffs (Table 3.1.1). Parallel to the plunge in international oil prices in this period, fuel prices fell by 10.27 percent and went back to June 2011 levels (Chart 3.1.7). On the other hand, upon the developments in oil prices within the housing group, all items saw price hikes in the second quarter, excluding bottled gas that plummeted by 8.63 percent. Price increases in water tariffs persisted, albeit at a slower pace compared to the first quarter, and electricity and natural gas tariffs soared in April by 9.28 and 16.24 percent, respectively. Thus, annual energy inflation posted a quarter-on-quarter decline by 2.16 percentage points to 11.23 percent. The contribution of energy group to annual inflation went down to 1.65 percentage points in this period, all of which stemmed from prices of home utilities. Although energy inflation lost momentum in the second quarter, it is still high and is among the primary subcategories directing consumer inflation towards a relatively high course (Box 3.2). Following the second quarter, international oil prices trended upwards in late June, still keeping the upside risks on consumer prices brisk.

**Table 3.1.1.**Prices of Goods and Services
(Quarterly and Annual Percent Change)

	2011					2012	
	I	II	III	IV	Annual	I	II
CPI	1.57	1.83	1.07	5.66	10.45	1.55	0.39
1. Goods	1.53	2.05	0.73	7.29	11.97	1.54	-0.19
Energy	2.27	1.37	2.34	4.03	10.36	5.08	-0.57
Food and Non-Alcoholic Beverages	3.77	-2.46	1.18	9.57	12.21	2.89	-5.85
Unprocessed Food	5.08	-5.79	-1.00	17.23	14.89	3.66	-14.76
Processed Food	2.61	0.57	3.03	3.30	9.82	2.25	1.55
Goods (excl. energy and food)	-0.68	6.32	-0.36	6.93	12.51	-1.14	4.78
Core Goods	-1.08	7.73	-1.55	4.92	10.09	-1.32	5.88
Durable Goods (excl. gold)	4.26	1.85	3.69	1.90	12.19	1.41	-0.05
Alcoholic Beverages, Tobacco and Gold	0.81	1.05	4.38	14.46	21.70	-0.33	-0.17
2. Services	1.67	1.22	2.02	1.22	6.27	1.57	1.96
Rent	1.08	0.99	1.35	1.21	4.71	0.89	1.27
Restaurants and Hotels	1.65	1.80	2.37	2.14	8.20	1.99	2.62
Transport	2.28	2.10	3.07	1.73	9.49	2.12	1.79
Communication	1.96	-1.71	0.35	0.47	1.04	0.06	2.07
Other Services*	1.61	2.14	2.56	0.65	7.12	2.24	2.00

* Services excluding rents, restaurants, hotels, transport and communication.
Source: TurkStat, CBRT.

Having trended downwards since February, annual core goods inflation, went down by 1.89 percentage points to 7.93 percent in the second quarter (Chart 3.1.8). This decline was driven by the decrease in commodity prices besides the appreciation in the Turkish lira. Seasonally adjusted data also indicate that the underlying trend of core goods inflation has plummeted by the end of the second quarter (Chart 3.1.9). Across subcategories, the decline in annual core goods inflation was attributed to the fall in durable goods inflation (Chart 3.1.10). Clothing prices was another factor that supported this outlook by decelerating both on an annual basis and in seasonally adjusted terms. Core goods prices excluding clothing and durable goods continued to soar in the second quarter (Table 3.1.2).

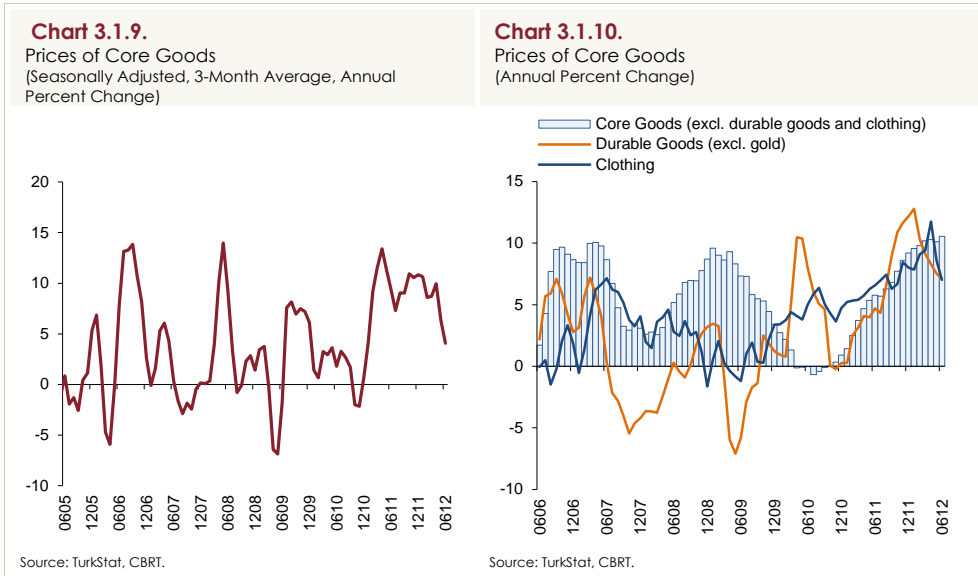
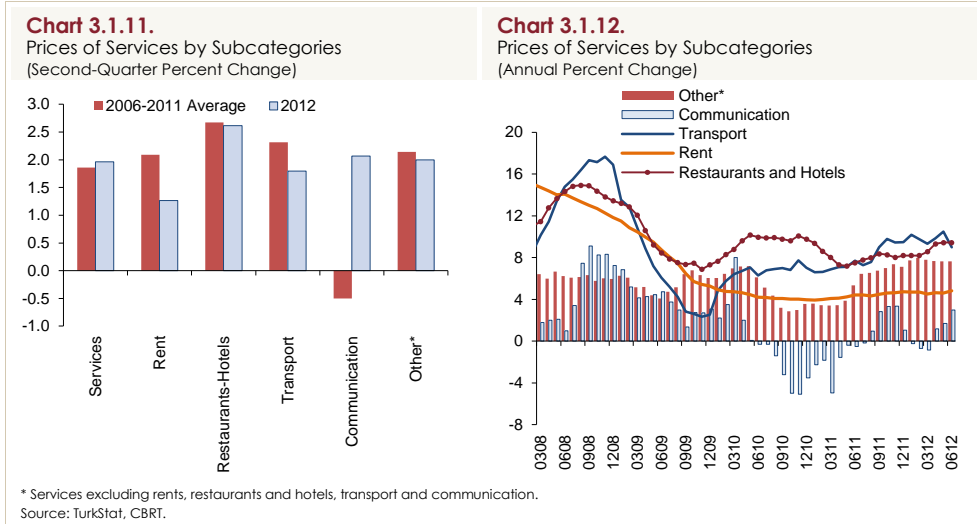


Table 3.1.2.
Prices of Core Goods
(Quarterly and Annual Percent Change)

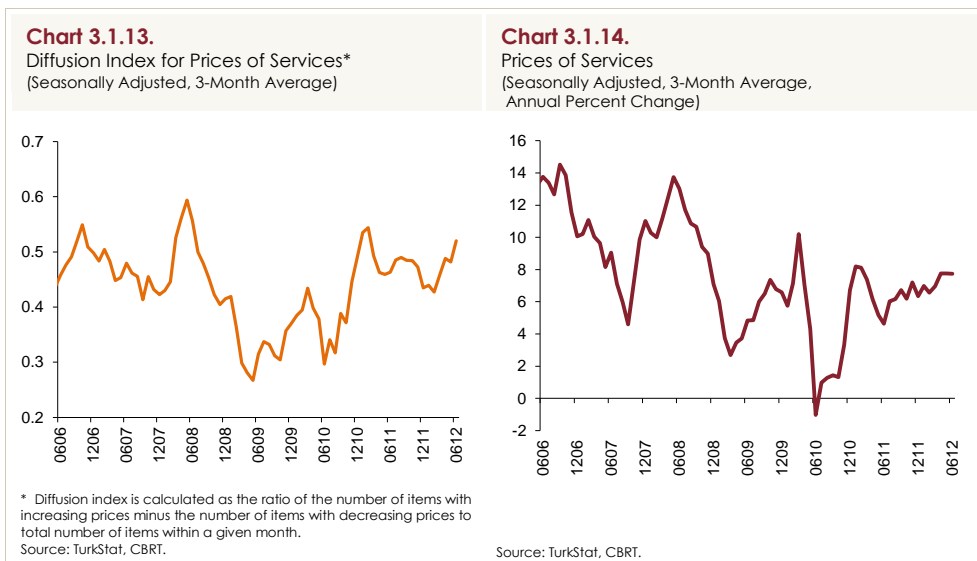
	2011					2012	
	I	II	III	IV	Annual	I	II
Core Goods	-1.08	7.73	-1.55	4.92	10.09	-1.32	5.88
Clothing and Shoes	-12.04	25.08	-12.13	11.72	8.01	-10.90	22.34
Durable Goods (excl. gold)	4.26	1.85	3.69	1.90	12.19	1.41	-0.05
Furniture	0.75	5.04	2.88	4.01	13.25	3.19	1.76
Electrical and Non-Electrical Appliances	2.87	-1.26	0.34	3.29	5.27	0.94	-2.75
Automobile	6.31	2.29	5.68	0.52	15.52	1.09	0.42
Other Durable Goods	2.15	2.71	1.85	3.00	10.06	1.22	3.13
Other	1.82	2.09	1.54	3.44	9.18	2.76	2.42

Source: TurkStat, CBRT.

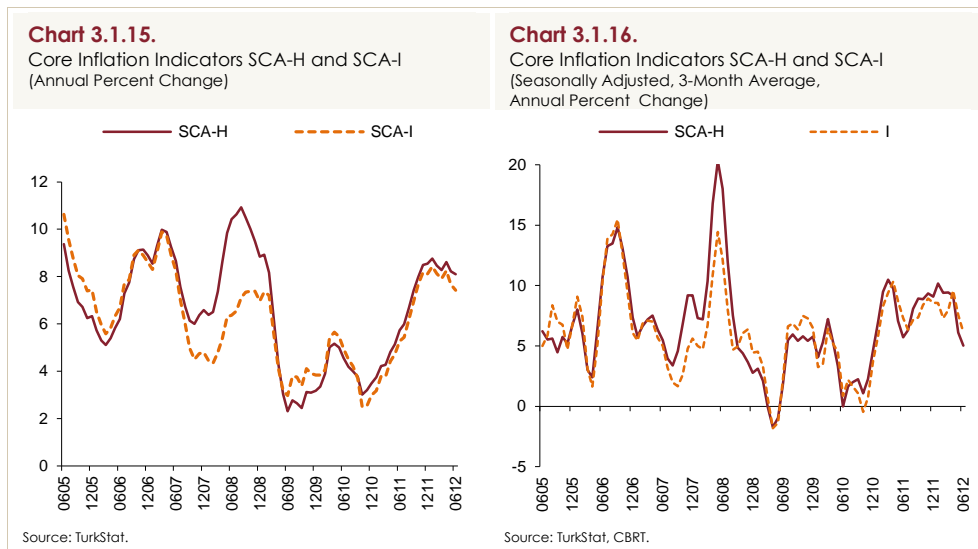
Having recorded a quarterly rise by 0.78 percentage points, annual services inflation gradually increased to 6.94 percent in the second quarter of 2012 (Chart 3.1.8). Therefore, the second-quarter-rise in prices of services was slightly above the averages of past years (Chart 3.1.11). In April and May, prices of services went up mainly upon the increases in transport and catering services (Chart 3.1.12). This was driven by cumulative increases in fuel prices recorded in previous years besides the hikes in processed food prices. In the last month of the quarter, rents and prices of communication services, in particular fixed line communication fees, were influential on the rise in annual inflation. In sum, prices of services reflected the recent developments in input costs. In line with this outlook, the upward trend in the prices of services dispersed into the group as a whole in the second quarter more than the other periods (Chart 3.1.13).



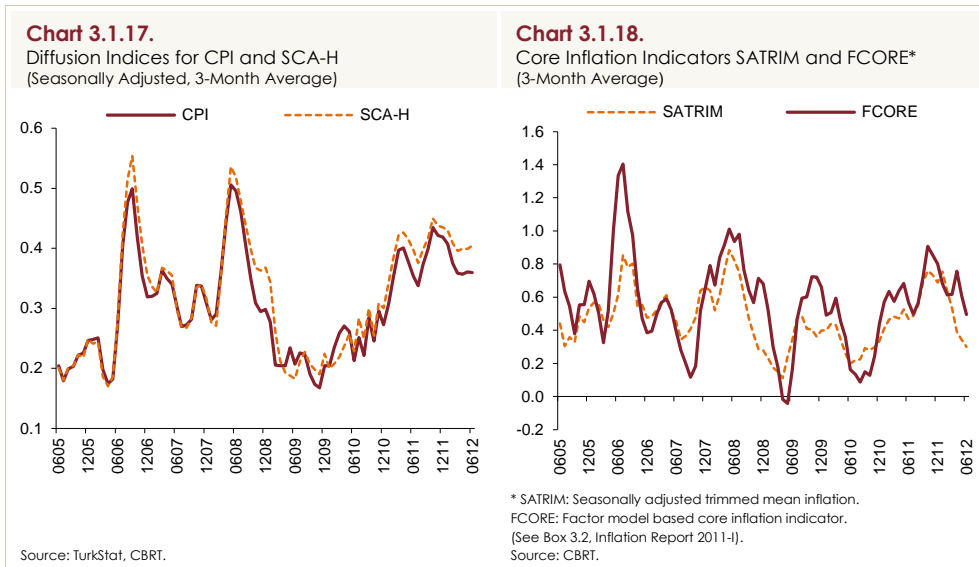
In seasonally adjusted terms, having remained flat in the first quarter of 2012, services inflation edged up in early second quarter, and remained unchanged during the period (Chart 3.1.14). The inflation trend implied by seasonally adjusted prices of services, which remained below the averages of the post-crisis recovery period, is considered to be mild. The upsurge in TL-denominated import prices throughout 2011 accompanied by the lagged effects of robust economic activity pushed inflation upwards; but reflections of this on the prices of services were limited. In fact, in the first half of the year, consumer inflation hovered around 10 percent due to said reasons and services added less to annual inflation than food, energy and core goods.



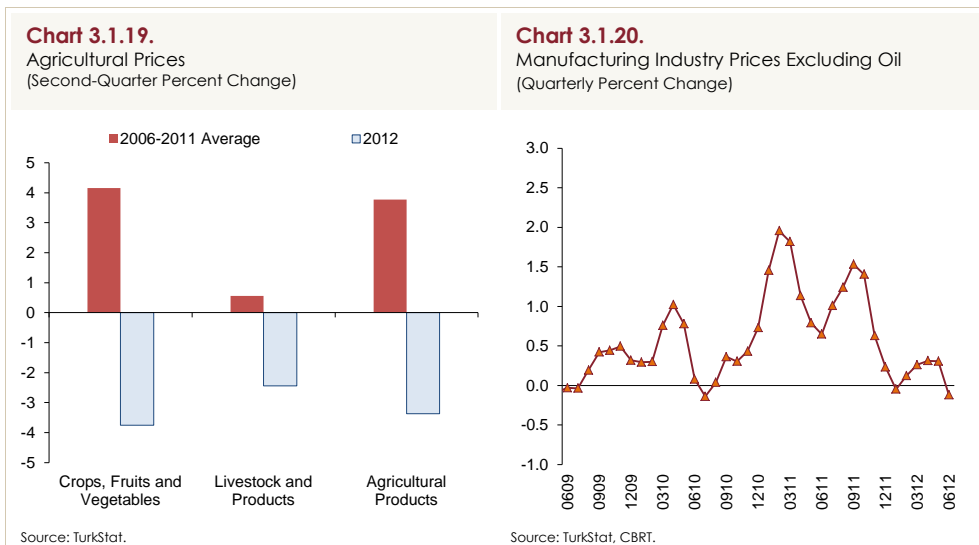
Annual inflation in core indicators SCA-H and SCA-I went down to 8.10 and 7.43 percent, respectively, in the second quarter (Chart 3.1.15). In this period marked by high annual inflation in services, the deceleration in core goods inflation was influential on the said decline. Seasonally adjusted data show that the underlying trend of both indicators decelerated in the second quarter (Chart 3.1.16). The second-quarter-rise especially in clothing prices, which remained below seasonal averages, played a great role in this slowdown; however, prices excluding clothing maintained the same trend.



Diffusion indices for CPI and SCA-H remained flat in the second quarter (Chart 3.1.17). On the other hand, alternative core inflation indicators monitored by the CBRT also declined parallel to the seasonally adjusted underlying trend of SCA-H and SCA-I (Chart 3.1.18). In this period marked by a lower trend in seasonally adjusted price increases, flat courses in diffusion indices were seen, which can be regarded as price raising trend persists in the economy, while the size of increases is going down. In fact, diffusion indices hovered above historical averages; whereas core inflation indicators remained below those averages.



Due to the decline in agricultural and manufacturing industry prices, producer prices fell by 0.89 percent in the second quarter, and annual producer price inflation went down by 1.78 percentage points to 6.44 percent (Table 3.1.3). Upon the fall in livestock and animal product prices besides prices of fresh fruits-vegetables being relatively more evident, quarterly change in agricultural prices lagged far behind the averages of the past quarters (Chart 3.1.19). This downward trend, which is maintained also in seasonally adjusted terms, also reflected into consumer food prices and played a significant role on the slowdown in consumer inflation.



Manufacturing industry prices stayed modest in the second quarter of 2012 (Chart 3.1.20). Notwithstanding the effect of the robust course of the Turkish lira, role of the fall in international commodity prices was more influential in this outlook (Chart 3.1.21). Manufacturing industry prices fell by 0.83 percent in the said period mainly upon the decline in oil and base metal prices (Table 3.1.3). Accordingly, manufacturing prices of intermediate goods also went down in the second quarter. Manufacturing industry prices excluding oil and base metal remained unchanged in this period, while group prices saw a decline for the first time since March 2005, albeit at a limited rate. In the said period, the rate of increase in producer prices of durable goods tumbled compared to the previous quarters. Price increases in sunflower, which is among inputs of manufacturing industry bolstered the upward trend in processed food inflation, while the inflation in manufacturing of food products realized close to seasonal averages without any major changes. Meanwhile, prices of textile products decreased amid the plunge in cotton prices, which has been persisting since last year. Therefore, domestic cost pressures on consumer prices of the clothing group were partially eased. Overall, producer price developments in the second quarter showed that cost effects on consumer prices followed a weak course in this period.

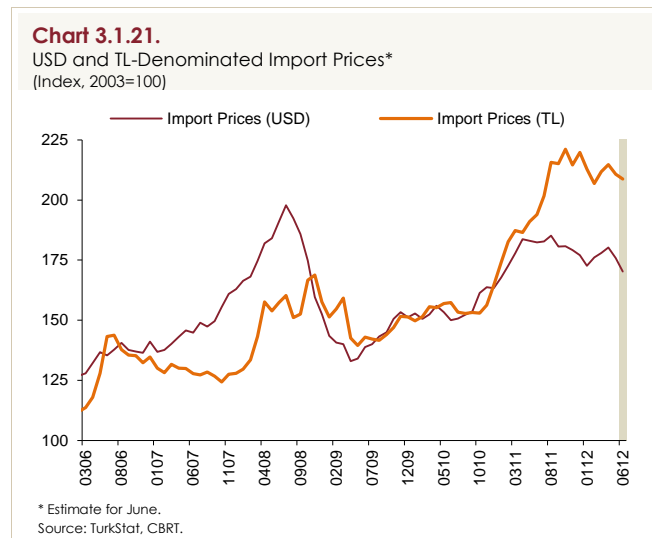


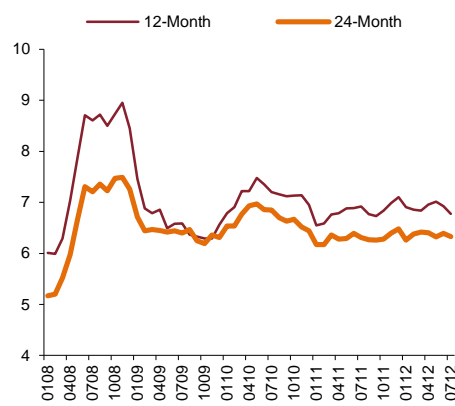
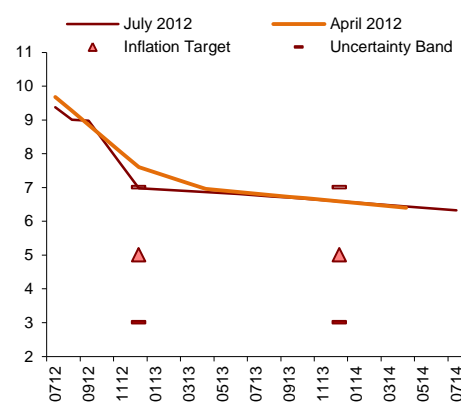
Table 3.1.3.PPI and Subcategories
(Quarterly and Annual Percent Change)

	2011					2012	
	I	II	III	IV	Annual	I	II
PPI	5.40	0.77	3.31	3.28	13.33	0.65	-0.89
Agriculture	5.84	-1.73	-6.03	13.09	10.53	1.65	-3.36
Crops, Fruits and Vegetables	6.81	-2.67	-9.84	17.18	9.83	0.76	-3.75
Livestock and Animal Products	-1.26	-0.39	2.68	5.51	6.56	-0.28	-2.44
Industry	5.31	1.30	5.24	1.48	13.92	0.45	-0.37
Mining	9.70	1.08	4.94	2.93	19.76	0.90	2.24
Manufacturing	6.27	1.98	4.98	0.72	14.59	1.06	-0.83
Manufacturing (excl. oil)	5.55	1.95	4.67	0.70	13.42	0.79	-0.36
Manufacturing (excl. oil and base metals)	4.85	1.53	4.12	1.39	12.38	0.93	-0.09
Electricity, Gas and Water	-4.08	-4.73	7.89	7.91	6.38	-4.64	2.57

Source: TurkStat, CBRT.

3.2. Expectations

Inflation expectations continued to remain flat in the second quarter (Chart 3.2.1). On the other hand, upon the stabilization of the downward trend of core inflation indicators, medium-term expectations posted a slight quarterly decline in the early third quarter. Compared by maturities, inflation expectations for April and July suggest that short-term expectations were slightly revised downwards, while long-term expectations remained broadly unchanged (Chart 3.2.2).

Chart 3.2.1.12- and 24-Month Ahead CPI Expectations*
(Annual Percent Change)* CBRT Survey of Expectations, second survey period results.
Source: CBRT.**Chart 3.2.2.**Inflation Expectations Curve*
(Annual Percent Change)* Calculated by linear interpolation of expectations for different time spans using the CBRT Survey of Expectations, second survey period results.
Source: CBRT.

The distribution of survey respondents for 12-month ahead inflation expectations remained virtually unchanged, while the distribution of survey respondents for 24-month ahead inflation expectations diverged compared to April figures (Charts 3.2.3 and 3.2.4).

Chart 3.2.3.
Distribution of 12-Month Ahead Inflation Expectations*

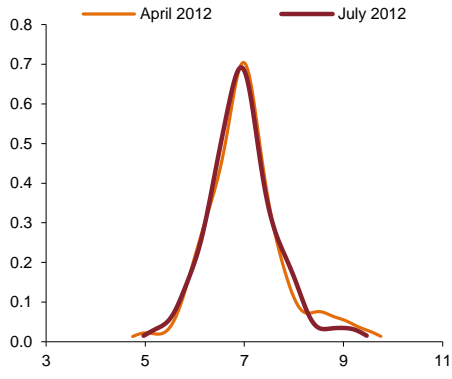
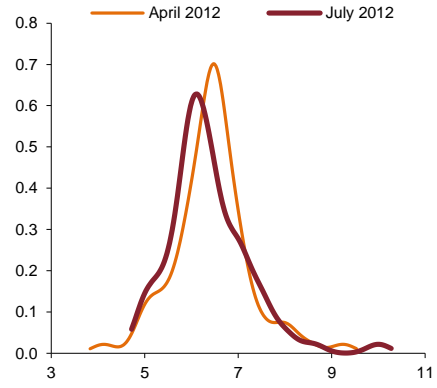


Chart 3.2.4.
Distribution of 24-Month Ahead Inflation Expectations*



* Horizontal axis depicts inflation rates, while the vertical axis indicates the Kernel forecast. CBRT Survey of Expectations, second survey period results. Source: CBRT.

Box
3.1

Seasonal Products in CPI and Unpredicted Volatility

This Box discusses the sources and the size of volatility caused by seasonal products in the consumer price index. First, strong seasonality, the fundamental feature which differentiates the prices of seasonal products from other prices is displayed. Consequently, the heterogeneous structure of the effect of strong seasonality across products to unpredicted volatility is presented along with the effect of seasonal irregularities to the measurement quality of the living cost. Lastly, the volatility caused by strong seasonality is discussed with respect to its monetary policy implications in the context of inflation-targeting regime.²

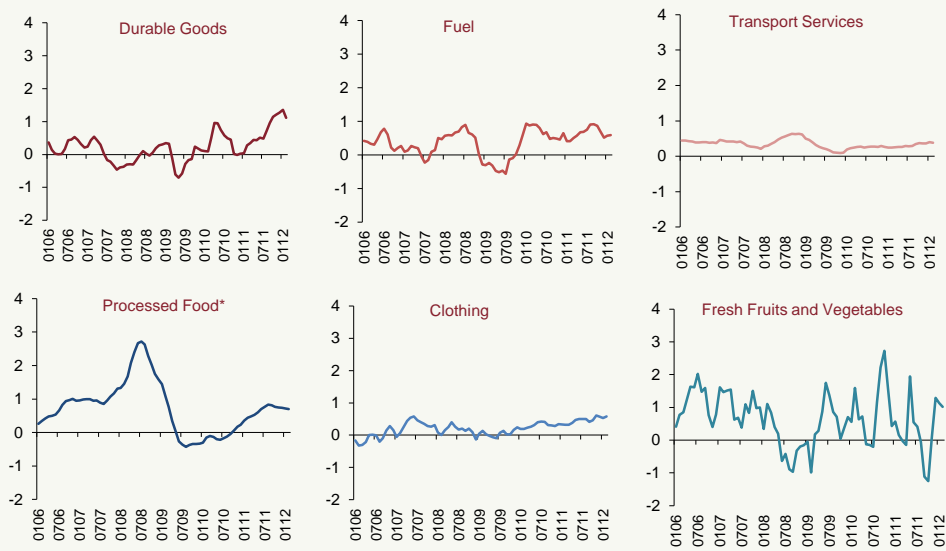
Prices of many products may not display strong seasonality. The price changes in these products are mostly determined by cost factors independent from seasonal effects. Hence, price volatility in these products is higher only in times of cost shocks and prices are stable at other times. On the other hand, the effect of seasonality on price volatility is more apparent and regular in some products. These products which are available only in certain times of the year, with their prices thus being determined according to seasonal conditions, feature strong seasonality. For example, tomato which is available throughout the year has a seasonal price pattern, whereas peach which is available only in summer is classified as a product featuring strong seasonality. Therefore, products with strong seasonality may be included in price indices only in certain months of the year.

A structural difference exists between products with strong seasonality and others in terms of price volatility. Price shocks to products with non-seasonal pattern are caused by changes in input prices or demand, while prices of products with strong seasonality are affected mostly by weather conditions. Price changes in other products are less frequent while products with strong seasonality are subject to sudden price increases or decreases which are reversed in few weeks (Özmen and Sevinç, 2011). However, this should not be interpreted that prices of products with strong seasonality are not determined by supply and demand conditions. On contrary, an additional volatility other than implied by fundamental economic behavior is created when these products are included in the price index by ignoring their structural features. Hence, taking into account of the irregular price movements in products with strong seasonality is critical in order for an accurate analysis of price movements. In this respect, it should be underlined that rather than analyzing prices which exhibit seasonal patterns, this study tackles with a special form of seasonality which causes excessive price volatility and hence measurement bias.

² The analysis is based on Atuk, Özmen and Sevinç (2012).

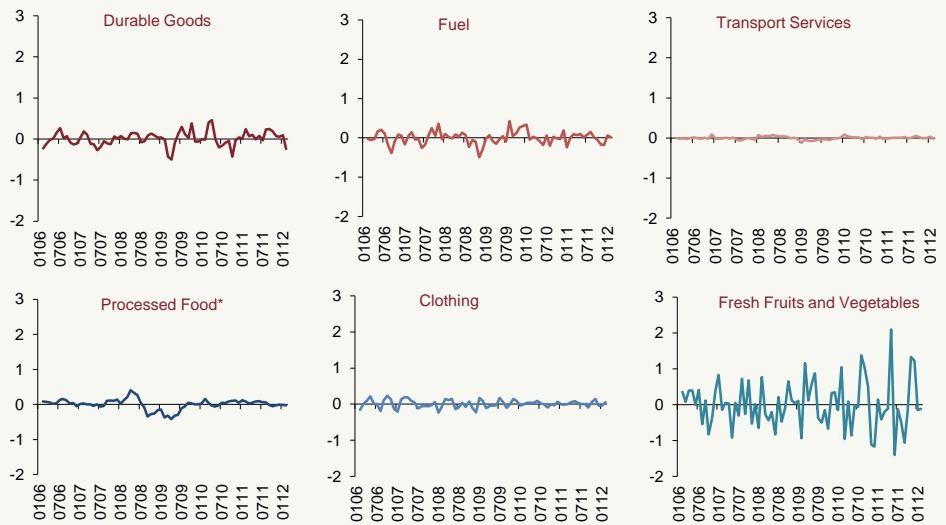
This study concentrates on the prices of clothing as well as fresh fruits and vegetables, which are strongly seasonal products. In order to evaluate the size and the course of price volatility caused by strong seasonality rather than other factors; durable goods, fuel, transport services and processed food which are comparable to strongly seasonal products in terms of their weights in the consumption basket are selected for comparison. Comparisons are based on the contributions to annual inflation. Accordingly, periodic and net monthly contributions of the selected groups to annual inflation are displayed in Charts 1 and 2.

Chart 1. Contributions of the Selected Groups to Annual Inflation (Percentage Point)



* Processed food includes bread, cereals, fats and oils.
Source: TurkStat, CBRT.

Chart 2. Net Monthly Contributions of the Selected Groups to Annual Inflation (Percentage Point)



* Processed food includes bread, cereals, fats and oils.
Source: TurkStat, CBRT.

Chart 1 displays that contributions to annual inflation change over time depending on sectoral characteristics. Durable goods and fuels, products with no strong seasonality, have both high imported input content, whereas processed food, despite having low import dependence, may be subject to international price shocks (Başkaya, Gürgür and Öğünç, 2008). Thus, the time-varying nature of the contributions of these groups to annual inflation can be attributed to international price changes and exchange rate developments. On the other hand, the relatively competitive transport services, with a low input price to final price ratio, may occasionally be affected adversely from fuel price hikes, yet provide the most stable contribution to annual inflation among selected groups.³

As for the products with strong seasonality, there is a notable difference in terms of their contribution to annual inflation. The contribution of clothing, which has highly volatile prices due to strong seasonality, to annual inflation is low. On the other hand, fresh fruits and vegetables have the most volatile contribution to inflation. This difference points to the fact that strong seasonality may not solely suffice to explain excessive variation in inflation.

The differing of product groups with strong seasonality is caused by sectoral differences in market structures. The high number of firms in the clothing sector as well as pre-season production enables accumulation of inventories, and thus making it possible to counterbalance potential demand shocks by supply. On the other hand, fresh fruits and vegetables are produced seasonally, thus causing a possible supply shock to drive prices higher. Hence, due to this sectoral structure, strong seasonality may lead to excessive inflation volatility only in fresh fruits and vegetables sector.⁴

Compared to other groups, the contribution of fresh fruits and vegetables to annual inflation is relatively high in terms of both the size and the volatility. The structural difference of the price volatility in fresh fruits and vegetables is remarkable in terms of the changes in contributions. The monthly change in contributions to annual inflation may be interpreted as the net contribution in the relevant month (Atuk and Sevinç, 2012). The analysis of the net monthly contributions displays that the contributions to annual inflation is limited except for fresh fruits and vegetables. On the other hand, the contribution of fresh fruit and vegetable prices to annual inflation may change by 2 percentage points from one month to the other.

³ For details on the definition of contributions, see Atuk, Özmen and Sevinç (2012).

⁴ For further discussion, see Atuk, Özmen and Sevinç (2012).

This fundamental analysis sheds light on how the structure and the extent of consumer price volatility differ by various product groups. Strong seasonality affects consumer prices depending on the sectoral structure. Hence, fresh fruit and vegetable prices exert a notable and unpredictable volatility on the CPI even beyond the seasonal pattern.

Strongly seasonal products like clothing do not affect annual consumer inflation adversely when their prices display a predictable seasonal pattern (prices change at similar rates in the same period of each year). Thus, a stable monthly course of prices points to a stable path for consumption weights, indicating that past weights might be valid also in the future. On the other hand, when the strong seasonality displays an irregular pattern like in fresh fruits and vegetables (especially in the month of entry to the index), the assumption of constant weight for consumption of such products is highly unrealistic. The assumption of constant consumption weight at the current year of the high price level leads to dispersing of high price volatility to CPI when weight is measured according to previous year prices. Thus, consumption weight measured by historical seasonal averages, like variable weights, ignores the fact that consumers may adjust their consumption against short-lived and excessive price changes. Under current circumstances, due to the absence of real-time data on the consumer prices reflecting information on both quantity as well as the price, assumptions on consumption weights are critical in indexing strongly seasonal products for a better measurement of the cost of living.

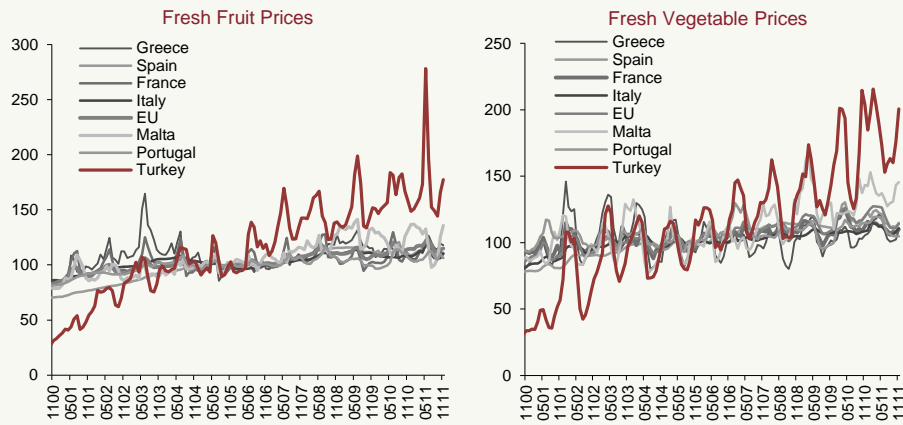
Inflation reflects the movements of the general price level in the economy. Regular and high volatility due to strong seasonality in the prices of fresh fruit and vegetables directly affects the information content of the price index regarding the general price level. The unpredictable nature of this volatility has some monetary policy implications. First, more frequent emphasis on core indicators is needed for communicating the monetary policy. Second, the unpredictable nature of seasonal irregularities caused by random weather conditions constitutes a high risk for an inflation-targeting central bank, thus necessitating a wider band of uncertainty around the inflation target. Third is the uncertainty created by intertemporal differences in adjustments to contracts due to indexation in the economy.

The country-specific nature of these risks may place an even heavier burden on the monetary policy as well as its communication. Chart 3 depicts that fresh fruit and vegetable prices in Turkey differ not only from the EU countries in general, but also from the Mediterranean countries with similar weather conditions.⁵

⁵ This finding is previously presented in Öğünç (2010).

Monetary policy stance against shocks like exchange rate and commodity price movements, which notably affect inflation volatility and are also felt across peer countries, can be more effectively communicated. However, given its low sensitivity to monetary policy, the relatively higher incidence of the country-specific food price shock in Turkey may adversely affect expectations by implying a higher uncertainty of inflation relative to other countries.

Chart 3. Fresh Fruit and Vegetable Prices in EU
(Harmonized Index of Consumer Prices, 2005=100)



Source: Eurostat.

In sum, the analysis of the prices in clothing as well as fresh fruits and vegetables depicts that strong seasonality does not solely determine the excessive volatility of annual inflation. When sectoral features are considered, strong seasonality leads to high volatility of inflation only through fresh fruits and vegetables prices. The different nature of fresh fruits and vegetables prices in Turkey compared to even similar countries signifies the need to account for this apparent difference in price volatility while developing methods for inclusion of seasonal products to the consumer price index.

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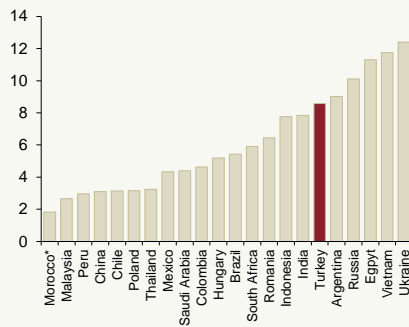
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Box
3.2

High Course of Inflation in Turkey by Prominent Subcategories

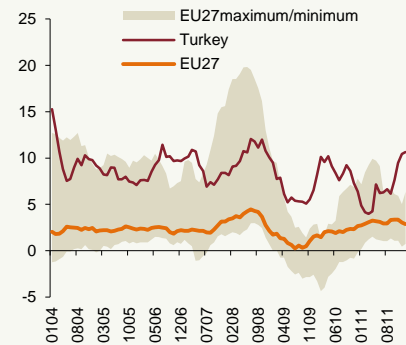
Despite having reached single-digits in 2000s, Turkey's inflation is still high compared to emerging countries. Annual inflation in selected emerging countries averaged 6 percent during 2004-2011, while average annual inflation in Turkey was 8.6 percent in the same period (Chart 1). As for the convergence of Turkey to EU, the comparison of consumer inflation in Turkey to EU countries over time reveals that Turkey's inflation hovered near or above the highest inflation rate in EU (Chart 2). This Box analyses the high course of inflation in Turkey by subcategories and presents findings on some factors that cause this high course.⁶

Chart 1. Average Inflation in Emerging Countries during 2004-2011*
(Annual Percent Change)



* The average inflation for Morocco is measured between 2004 and 2010.
Source: Bloomberg.

Chart 2. Inflation in Turkey and EU-27*
(Annual Percent Change)



* The lowest and the highest monthly frequency of inflation in EU27.
Source: Eurostat.

Both domestic as well as international relative price movements (with respect to EU) are analyzed in order to determine the subcategories of inflation that cause a high course in headline inflation (Chart 3). The reason for analyzing international relative price movements is the possibility that subcategories with a domestic price hike may in fact follow a similar course internationally. In that case, rather than being structural, a domestic price change in a subcategory may be due to an external factor. The ratio of the price of a subcategory to the general price index denotes the domestic relative price, while the ratio of the price of a subcategory to the EU price of the relevant subcategory shows the international relative price. In order to avoid possible divergences with respect to measurement and subcategory definitions, comparisons are based on Harmonized Index of Consumer Prices (HICP) instead of CPI. A subcategory is placed on the upper right hand corner in Chart 3 as its price increases relatively higher

⁶ For further analysis and discussion, see Başer, Kösem and Öğünç (2012).

compared to both general prices as well as the relevant international prices, hence indicating that this sector, also depending on its share of consumption, may be effective on the high course of inflation in Turkey.

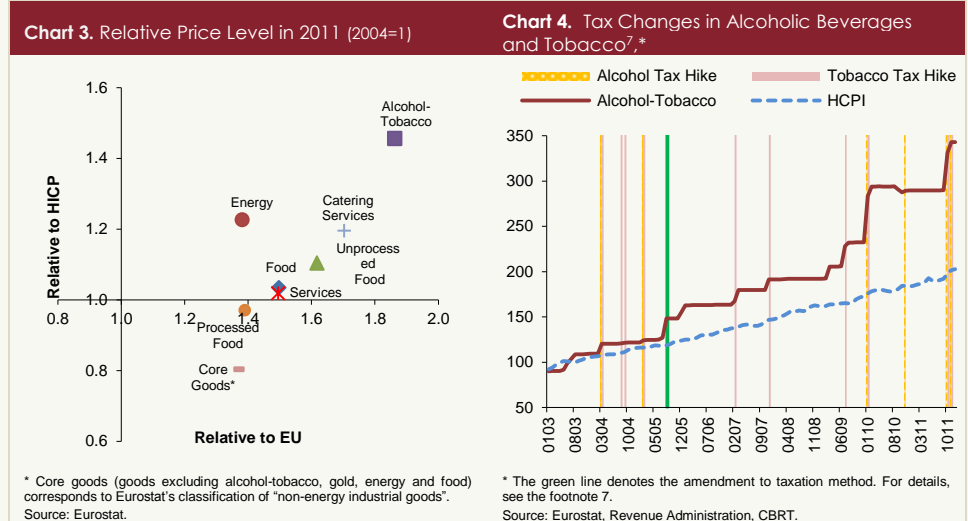


Chart 3 displays that the fastest price hikes relative to HICP inflation occurred in alcoholic beverages and tobacco, energy and catering services as of 2011. Meanwhile, the prices of food and services have not notably diverged from the general price index and increases in core goods prices have been lower relative to general prices. Prices increased faster than EU across all subcategories in the said period, while price increases in energy, processed food and core goods have lagged behind the other sectors. A detailed analysis of subcategories depicts a heterogenous structure in the subcategories of services, with the prices of catering services increasing rapidly relative to both the general price level and the EU. In this respect, subcategories with remarkable price increases compared to the domestic general prices as well as international sectoral prices are **alcoholic beverages and tobacco products, unprocessed food and catering services**. The first two of these subcategories draws the attention to administered prices, whereas the other two signifies the role of agriculture and livestock policies, thus demonstrating the importance of developing public policies with a medium to long-term perspective.

7 Proportional and fixed SCT rates were amended by the decision of the Council of Ministers No. 2004/7674 of August 9, 2004. Accordingly, the proportional SCT rate was lowered from 55.3 percent to 28 percent and fixed tax on cigarettes was determined according to oriental tobacco content. However, this regulation was abolished on July 28, 2005 by the decision of the Council of Ministers No. 2005/9145 of July 25, 2005 and fixed tax was introduced per unit. The proportional SCT rate was raised from 28 percent to 58 percent in this period and payment of proportional tax was decided upon, which is to be calculated over 58 percent provided that it will not be less than the fixed tax per pack. This amendment, which was put into effect as of July 28, 2005 and is currently in effect, is denoted by the vertical green line in Chart 4.

Observations and Evaluations on the Leading Subcategories

(i) Prices of Alcoholic Beverages and Tobacco Products: Tax rates in Turkey vary frequently for alcoholic beverages and tobacco. Hence, this subcategory is crucial for analyzing the fiscal policy and inflation relationship. In recent years, adopted measures to raise tax revenues are led by SCT rate adjustments to alcoholic beverages and tobacco products, which adversely affected the consumer inflation (Chart 4). More specifically, alcoholic beverages and tobacco products added 1.31 and 1.09 points to inflation in 2010 and 2011, respectively; with these contributions comprising a nearly 20 percent of the inflation target in the relevant year. In this respect, a tax adjustment especially to tobacco products is critical in terms of its inflationary effects.

(ii) Energy Prices: The international dependence of Turkey especially on oil and natural gas causes sensitivity to international prices and exchange rate developments as well. The raising USD-denominated prices of oil and natural gas and the high pass-through from exchange rate to domestic energy prices in the context of automatic pricing mechanism stand out as a factor to account for the high course of inflation in the analyzed period.

The energy group is also a significant revenue source for the budget. Taxes in Turkey comprise an important share of fuel prices with tax rates being adjusted upwards in general.⁸ In fact, in international comparisons, Turkey ranks among the highest with Norway in the USD-denominated price of fuel per liter (IEA, 2012).⁹ However, it is noteworthy that as of the last quarter of 2011, Turkey also ranks the highest in the before-tax price of fuel (unleaded gasoline) per liter (IEA, 2012). This points to the significance of the tax burden on fuel in addition to the steps in supply chain and the pricing behavior.¹⁰

Lastly, another factor to explain the energy price developments is the sectoral competitiveness. The completion of planned privatization in energy sector, which is dominated by public enterprises, and thus to bring in relative sectoral competitiveness is crucial with respect to enhancing the domestic energy production and its effectiveness.

⁸ Turkey ranks among the middle among OECD countries in terms of the proportion of taxes in electricity and natural gas prices for household consumers (IEA, 2012).

⁹ Comparisons are based on regular unleaded gasoline prices for Australia, Canada, South Korea, Japan, Mexico, New Zealand and US, while for other OECD countries, 95-octane grading unleaded gasoline prices are used.

¹⁰ IEA (2010) states that the distribution margin measured as the spread between non-tax fuel price and CIF (cost, insurance and freight) import price is twice the EU average in Turkey.

iii) Food Prices: Another significant sector causing high course of inflation is the food sector with the developments in unprocessed food prices, fresh fruits and vegetables standing out in particular. IMF (2011) mentions that Turkey's imports of unprocessed food products are limited compared to its exports, and hence Turkey does not benefit from international trade in smoothing out domestic prices. The study also criticizes the protection of farmers by levying high import duties and strict quotas. In addition to import protection, OECD (2011) also mentions low agricultural productivity and slow increases in productivity. According to WTO (2012), prices of agricultural products in Turkey hover above world prices due to these mentioned effects. In general, all of the above-mentioned studies conclude that domestic competitiveness should be enhanced in agriculture and food sectors.

(iv) Prices of Catering Services: Parallel to the rising per capita income, the share of catering services in the consumer price index increased from 2.8 percent in 1994 to 3.3 percent in 2003 and 5.3 percent during 2007-2012. This fact also gives rises to the possibility that price increases may also be related to changes in consumption.

The analysis of input-output table for 2002 in catering services for understanding the cost structure shows that the share of food and agricultural products is the highest among inputs with 52 percent. In this respect, food price increases are heavily felt also in the prices of catering services. Minimum wage developments stand out as another factor to affect the course of prices given the 15 percent share of payments to employees as well as the structure of the labor force employed in the sector. Other important cost factors are electricity, energy, rent and payments to financial intermediaries. This signifies the role of structural regulations, some of which are also mentioned above, in sectors which are input to catering services.

In sum, country-specific structural factors are significant for the high course of inflation in Turkey. Taxing policies in the alcoholic beverages and tobacco products, international dependence and the competitiveness of the energy sector in addition to taxing, production and distribution chain of the fuel products as well as the competitiveness and low productivity of agricultural products and food stand out.

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