CHAPTER 18

PRICE TRENDS

In 2021/22, the average Consumer Price Index (CPI) of goods and services in urban areas and Producer Price Index (PPI) registered growth rates of respectively 46.2 percent (base year 2021/22) and 60.9 percent (base year 2016/17). A comparison of these figures with the respective figures in 2020/21 (47.1 and 55.2 percent) indicates a decrease of 0.9 percentage point and an increase of 5.7 percentage points, respectively, in the growth rate of the CPI and PPI.

18.1. General Level of Prices

In 2021/22, the CPI was impacted by various factors. The easing of the pandemic-related restrictions motivated a gradual return to relatively normal functioning in different economic sectors. Affected by these developments, the CPI recorded a noticeable growth rate of 46.2 percent, down by 0.9 percentage point compared with the year before. This rise was also owing to the limited access to foreign exchange resources caused by the imposition of sanctions on the banking and trade networks, heightened costs of global trade, limited access to basic goods, and increased uncertainty among economic players, which fueled the formation of high inflation expectations in 2021/22. Meanwhile, the PPI inflation recorded a growth rate of 60.9 percent, up by 5.7 percentage points compared with 2020/21. Similar to the CPI, the PPI registered a high growth rate, affected by the same factors as well as the increased costs of the imports of raw material and intermediate goods.

Figure 18.1. Annual Inflation of CPI and PPI

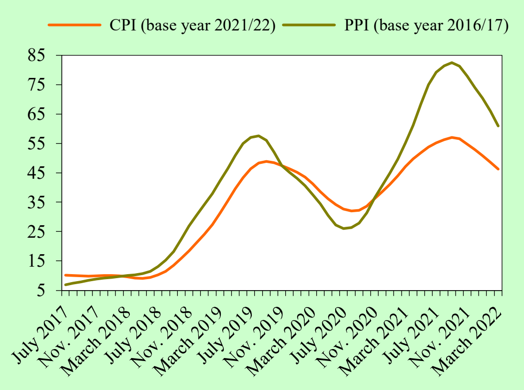

Table 18.1. Growth in Price Indices and GDP Deflator (percent)

	March 2021	March 2022
Consumer Price Index (CPI) of goods and services in urban areas (2021/22=100)	47.1	46.2
Producer Price Index (PPI) (2016/17=100)	55.2	60.9
Export Price Index (EPI) (2016/17=100)	62.4	63.6
GDP deflator[1] (2016/17=100)	44.4	57.1
Non-oil GDP deflator (2016/17=100)	49.0	52.5

[1] GDP deflator is calculated through dividing the nominal GDP by the real GDP, multiplying the result by 100.

18.2. Change in Relative Prices

18.2.1. Consumer Price Index (CPI)

18.2.1.1. CPI in Urban Areas by Major Components

A review of the major components of the CPI in 2021/22 indicates that the CPI of "restaurants and hotels" had the highest growth rate by 64.3 percent. The lowest growth rate of the CPI by 3.0 percent was related to "communication" (2021/22=100).

The major group of "housing, water, electricity, gas, and other fuels", with a relative weight of 37.6 percent in the general CPI, had the lion's share of 37.5 percent in growth of the general CPI, recording the inflation rate of 46.1 percent. After the major group of "housing, water, electricity, gas, and other fuels", growth in the CPI of "food and non-alcoholic beverages", with a relative weight of 32.5 percent and an inflation rate of 48.7 percent, had an effect of 33.6 percent on raising the general index. Therefore, the two mentioned major groups, with a total relative weight of 70.1 percent, accounted for 71.1 percent of the inflation in 2021/22.

Among the other major components of the CPI, the price index of "health", with a growth rate of 45.5 percent, had a share of 7.1 percent in raising the general index. The price index of "transport" group, with a growth rate of 43.2 percent compared with 2020/21, accounted for 5.9 percent of the rise in the general CPI.

Meanwhile, a review of the CPI changes in 2021-2022 in each month compared with the immediate month before points to the fluctuating trend of this index. The highest rise in the monthly inflation of the CPI was related to June 2021 by 4.3 percent. The average monthly inflation of the CPI stood at almost 3.1 percent in 2021-2022, indicating a decline of 1.2 percentage points compared with an average monthly inflation of 4.3 percent in 2020-2021.

18.2.1.2. Tradable and Non-Tradable Goods

Following the easing of oil sanctions and the building of stability in the foreign exchange market, the inflation of tradable goods declined from 57.5 percent in 2020/21 to 47.3 percent in 2021/22. The special group of non-tradable goods, which includes mostly services like the rental value of non-owner-occupied housing, rose from 34.3 percent in 2020/21 to 44.6 percent in 2021/22.

Figure 18.2. Share of Major Groups in CPI Inflation in 2021/22

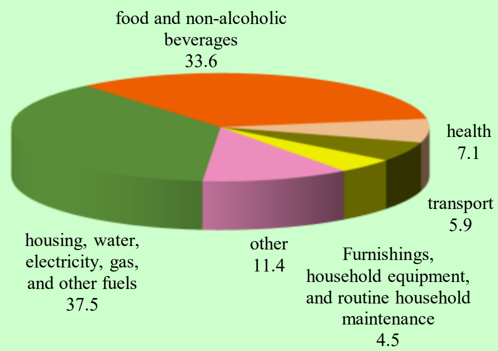

Figure 18.3. CPI Inflation by Tradable and Non-tradable Goods (base year 2016/17)

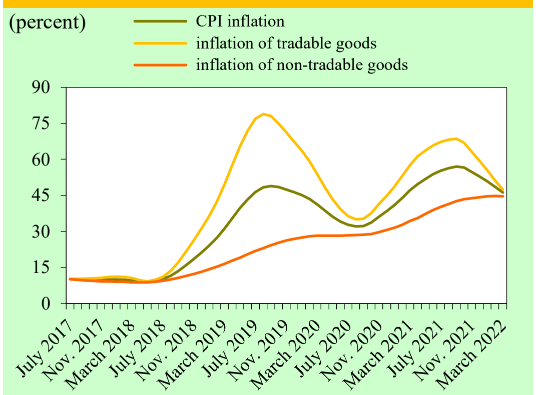

Table 18.2. Consumer Price Index (CPI) in Urban Areas (2021/22=100)

	Relative weight in base year (percent)	2020/21	2021/22	Percentage change 2020/21	Percentage change 2021/22	Contribution to growth of CPI[1] in 2021/22 (percent)
Special groups						
Goods	52.6	68.1	100.0	55.8	46.9	53.1
Services	47.4	68.9	100.0	34.9	45.1	46.6
General index	**100.0**	**68.4**	**100.0**	**47.1**	**46.2**	**100.0**
Major groups and selected subgroups						
Food and non-alcoholic beverages	**32.5**	**67.2**	**100.0**	**54.6**	**48.7**	**33.6**
Meat and meat preparations	6.6	70.6	100.0	24.2	41.7	6.2
Fish and aquatic invertebrates' preparations	0.6	67.9	100.0	54.9	47.3	0.6
Cereals and cereal preparations, bread	4.6	64.3	100.0	50.8	55.4	5.2
Animal and vegetable oils and fats	0.9	58.6	100.0	46.9	70.6	1.2
Fruits, oilseeds and oleaginous fruits	7.1	70.4	100.0	87.5	42.0	6.6
Vegetables, pulses, and vegetable products	5.7	67.5	100.0	49.2	48.0	5.8
Dairy products and birds' eggs	4.1	61.5	100.0	51.4	62.7	5.0
Tobacco	**0.5**	**75.0**	**100.0**	**34.2**	**33.4**	**0.4**
Housing, water, electricity, gas, and other fuels	**37.6**	**68.4**	**100.0**	**31.3**	**46.1**	**37.5**
Rental value of non-owner-occupied housing	6.1	68.2	100.0	31.8	46.7	6.1
Imputed rental value of owner-occupied housing	28.4	68.3	100.0	31.2	46.4	28.5
Maintenance and repair services	2.0	60.9	100.0	51.4	64.2	2.4
Water	0.3	87.9	100.0	17.1	13.8	0.1
Electricity, gas, and other fuels	0.8	96.6	100.0	3.4	3.6	0.1
Clothing and footwear	**3.7**	**63.8**	**100.0**	**39.7**	**56.6**	**4.2**
Furnishings, household equipment, and routine household maintenance	**4.4**	**67.6**	**100.0**	**58.5**	**47.8**	**4.5**
Transport	**6.2**	**69.8**	**100.0**	**71.9**	**43.2**	**5.9**
Communication	**2.2**	**97.1**	**100.0**	**30.9**	**3.0**	**0.2**
Health	**7.2**	**68.7**	**100.0**	**26.3**	**45.5**	**7.1**
Recreation and culture	**0.9**	**72.6**	**100.0**	**36.0**	**37.8**	**0.7**
Education	**0.9**	**78.6**	**100.0**	**17.9**	**27.3**	**0.6**
Restaurants and hotels	**1.4**	**60.9**	**100.0**	**33.7**	**64.3**	**1.7**
Miscellaneous goods and services	**2.8**	**70.3**	**100.0**	**47.3**	**42.3**	**2.7**

[1] For the calculation of this variable, rounded figures of relative weight and price index have been used.

18.2.1.3. CPI by Province

A review of the CPI developments in urban areas by province reveals that Lorestan, Fars, and Qazvin Provinces, with increases of respectively 50.3, 48.6 and 48.6 percent in the CPI, had the highest inflation rates. Gilan, West Azerbaijan, and Markazi Provinces, with growth rates of respectively 48.2, 48.1 and 48.1 percent, were next. Golestan, Kurdistan, Khuzestan, and North Khorasan, on the other hand, accounted for the lowest inflation rates by 42.2, 42.7, 43.0 and 43.0 percent, respectively. Inflation rate in Tehran Province was 45.9 percent in 2021/22.

18.2.1.4. CPI in Rural Areas [1]

The CPI in rural areas increased by 42.8 percent in 2021/22. Inflation in rural areas was the result of growth in the price index of "goods" with 46.1 percent and that in the price index of "services" with 31.4 percent.

18.2.2. Producer Price Index (PPI)

In 2021/22, the Producer Price Index (PPI) rose by 60.9 percent (2016/17=100). Growth rates of this index were 37.6 percent in 2019/20 and 55.2 percent in 2020/21.

[1] Source: "Consumer Price Index of Goods and Services in Rural Areas" published by the SCI (base year 2021/22).

Among the major components of the PPI, "manufacturing", "transportation and storage", and "agriculture, forestry, and fishing" groups made the greatest contribution to raising the PPI general index by 50.7, 25.4 and 17.1 percent, respectively.

The price index of the manufacturing group enjoyed a growth rate of 59.9 percent in 2021/22. Manufacturing, with a relative weight of 47.1 percent in the general PPI, had a share of 50.7 percent in growth of the general PPI in 2021/22. The price index of "transportation and storage" group, with a relative weight of 16.9 percent in the general PPI and a growth rate of 68.2 percent, made a contribution of 25.4 percent to the rise of the general PPI.

Meanwhile, reviewing the PPI changes in 2021-2022 in each month compared with the immediate month before (monthly PPI inflation) indicates that the highest rate of inflation by 5.8 percent was related to May 2021, while the lowest rate by 0.2 percent was related to February 2022. The average monthly inflation of the PPI was 2.4 percent in 2021-2022, indicating a decline compared with the average monthly inflation of the PPI in 2020-2021 (around 5.5 percent).

18.2.3. Export Price Index (EPI)

Export Price Index is used in Iran as an indicator of the change in the general price level of non-oil exports. For the calculation of this index, the price of exportable goods in foreign currency is converted into the Iranian rial to reflect both the change in the price of exportable goods in international markets and the developments in the exchange rate. The EPI indicated an increase of 63.6 percent in 2021/22, as against rises by 16.3 percent and 62.4 percent in 2019/20 and 2020/21, respectively. The price indices of "minerals" and "chemicals and related products, not elsewhere specified" (considering their relative weights) had major impacts on the rise of the EPI by 48.2 percent and 21.7 percent, respectively.

Table 18.3. Producer Price Index (PPI)[1] (2016/17=100)

	Relative weight in base year (percent)	2020/21	2021/22	Percentage change 2020/21	Percentage change 2021/22	Contribution to growth of PPI[2] in 2021/22 (percent)
General index	**100.0**	**333.8**	**537.1**	**55.2**	**60.9**	**100.0**
Major groups						
Agriculture, forestry, and fishing	18.6	285.4	472.0	36.8	65.4	17.1
Manufacturing	47.1	365.2	583.8	57.6	59.9	50.7
Transportation and storage	16.9	447.1	752.0	88.6	68.2	25.4
Information and communication	1.5	119.8	140.9	1.8	17.6	0.1
Restaurants and hotels	0.8	284.2	466.9	33.7	64.3	0.7
Education	2.5	184.5	235.9	17.4	27.9	0.6
Human health and social work activities	11.6	192.0	278.4	23.5	45.0	4.9
Other service activities	0.9	221.1	332.7	31.6	50.5	0.5
Special groups						
Services[3]	34.2	316.9	508.4	61.9	60.4	32.2

[1] The classification of groups is based on ISIC, Rev. 4.

[2] For the calculation of this variable, rounded figures of relative weight and price index have been used.

[3] Includes "transportation and storage", "information and communication", "restaurants and hotels", "education", "human health and social work activities", and "other service activities".

18.3. Price Trends and Return on Assets

Comparing "return on assets" with inflation reveals that except for the "rental value of non-owner-occupied housing" with a growth rate of 46.7 percent compared with the rate of inflation (46.2 percent), return on other assets was lower than the inflation rate. The TEPIX and "price of full Bahar Azadi gold coin (new design)" experienced the lowest growth rates compared with the rate of inflation. These two variables registered growth rates of respectively 4.6 and 8.0 percent in 2021/22, which was much lower than the inflation rate of 46.2 percent in the year under review (2021/22=100).

Table 18.4. Export Price Index (EPI)

(2016/17=100)

	Relative weight in base year (percent)	2020/21	2021/22	Percentage change 2020/21	Percentage change 2021/22	Contribution to growth of EPI[1] in 2021/22 (percent)
General index	**100.0**	**531.4**	**869.7**	**62.4**	**63.6**	**100.0**
Major groups						
Animal products	3.5	512.7	624.8	59.4	21.9	1.2
Vegetables	8.0	538.2	679.5	50.4	26.3	3.3
Animal and vegetable fats and oils	0.2	564.5	651.1	84.1	15.3	*
Food and live animals; beverages and tobacco	3.5	448.3	545.8	52.8	21.7	1.0
Minerals	40.4	532.7	935.3	58.5	75.6	48.2
Chemicals and related products, not elsewhere specified	14.5	492.2	996.6	56.3	102.5	21.7
Rubber manufactures	12.1	494.3	729.2	72.6	47.5	8.4
Hides, skins and furskins, raw	0.2	786.1	747.2	59.6	-5.0	*
Wood manufactures	0.1	266.0	412.6	36.8	55.1	*
Paper, paperboard and pulp	0.1	455.5	740.5	56.0	62.6	0.1
Textile yarn, fabrics and articles	2.5	418.8	444.5	67.9	6.1	0.2
Footwear	0.2	285.2	365.4	76.0	28.1	0.1
Articles of stone	2.3	414.8	479.9	55.4	15.7	0.4
Basic metals and articles of basic metals	10.0	696.7	1,167.8	83.7	67.6	14.0
Mechanical and electrical machinery, apparatus and appliance	2.0	506.0	721.7	56.3	42.6	1.2
Road vehicles; other transport equipment	0.4	635.8	785.9	77.8	23.6	0.2
Special groups						
Exported petrochemical products	38.5	551.4	1,074.1	63.3	94.8	59.6

[1] For the calculation of this variable, rounded figures of relative weight and price index have been used.

Table 18.5. Price Trends and Return on Assets

(percent)

	Growth during the year 2019/20▲	Growth during the year 2020/21▲	Growth during the year 2021/22	Average rate of return[1]	Standard deviation	Sharpe Ratio[2]
Average buying and selling prices of residential floor space in Tehran per square meter[3]	64.3	86.4	31.2	55.8	27.7	1.4
TEPIX	187.1	155.0	4.6	50.9	97.4	0.3
Rental value of non-owner-occupied housing	27.5	31.8	46.7	34.4	10.1	1.6
Nominal value of the US dollar (unofficial market)	19.8	77.7	14.1	27.9	35.2	0.3
Nominal value of the euro (unofficial market)	14.8	85.4	13.6	25.8	41.1	0.2
Price of full Bahar Azadi gold coin (new design)	29.9	132.7	8.0	31.6	66.6	0.2
Provisional profit rate of participation papers issued by the government[4]	18.0	18.0	18.0	18.0	0.0	θ
Provisional profit rate of one-year banking deposits (highest approved rate)	15.0	16.0	16.0	15.7	0.6	-4.1
CPI of goods and services (inflation rate) (2021/22=100)	**41.2**	**47.1**	**46.2**	**44.8**	**3.2**	**8.4**

[1] The average rate of return on assets is calculated using the geometric mean method over the 2019-2022 period. The geometric mean is the n^{th} root of the product of n numbers. [2] The Sharpe Ratio for each asset (risky asset) is calculated by subtracting the average rate of return for the "provisional profit rate of participation papers issued by the government" group (considering the risk-free nature of participation papers) from the average rate of return for that risky asset, and dividing the result by the standard deviation (unrounded figures) for that risky asset. [3] Source: SCI. [4] Includes papers whose first date of issuance was in the year under review.