CHAPTER 18

PRICE TRENDS

In 2020/21, the average Consumer Price Index (CPI) of goods and services in urban areas and the Producer Price Index (PPI) registered growth rates of respectively 47.1 and 55.2 percent. A comparison of these figures with the respective figures in 2019/20 (41.2 and 37.5 percent) indicates rises of respectively 5.9 and 17.7 percentage points in the growth rate of the CPI and PPI.

18.1. General Level of Prices

After the US unilateral withdrawal from the JCPOA in May 2018 and the subsequent reimposition of economic sanctions against Iran's key economic sectors (including the oil and gas sector, the automotive industry, the banking system, and maritime transport), the exchange rate as well as the costs of international trade increased substantially. This ultimately caused the inflation rate of the CPI to face an upsurge. Previously, the inflation rate had been experiencing relatively long periods of downtrend. Thus, the CPI inflation soared from 31.2 percent in 1397 year-end (March 2019) to 41.2 percent in 1398 year-end (March 2020). Owing to the intensification of sanctions and limited access to foreign resources, the CPI inflation further increased to 47.1 percent in 2020/21. Meanwhile, the PPI inflation, affected by the rise in the exchange rate as well as that in the costs of the imports of essential goods, increased by 17.7 percentage points in March 2021. Thus, the PPI inflation rose from 37.5 percent in March 2020 to 55.2 percent in March 2021.

Figure 18.1. Annual Inflation of CPI and PPI
(base year 2016/17)

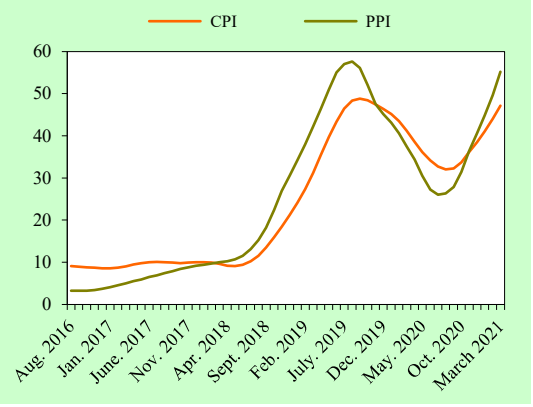


Table 18.1. Growth in Price Indices and GDP Deflator (percent, base year 2016/17)

	March 2020	March 2021
Consumer Price Index (CPI) of goods and services in urban areas	41.2	47.1
Producer Price Index (PPI)	37.5	55.2
Export Price Index (EPI)	16.3	62.4
GDP deflator [1]	30.3	44.4
Non-oil GDP deflator	35.5	49.0

[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 2020/21, indicates that "transport" had the highest growth rate by 87.1 percent. The lowest growth rate by 17.9 percent was related to "education". The major group of "food and non-alcoholic beverages", with a relative weight of 25.5 percent in the general CPI, had the lion's share of 38.1 percent in growth of the general CPI. After the major group of "food and non-alcoholic beverages", growth in the price index of "transport" had the most direct effect on raising the general index. Transport, with a relative weight of 8.9 percent in the general CPI, grew by 87.1 percent and contributed by 19.4 percent to growth in the general CPI. Therefore, the two mentioned major groups, with a total relative weight of 34.4 percent, accounted for 57.5 percent of the inflation in 2020/21. Among the other major components of the CPI, the price index of "housing, water, electricity, gas, and other fuels", with a growth rate of 31.3 percent, had a share of 18.5 percent in raising the general index. The price index of "furnishings, household equipment, and routine household maintenance" group, with a growth rate of 58.7 percent compared with 2019/20, accounted for 7.0 percent of the rise in the general CPI. Meanwhile, a review of the CPI changes in 2020-2021 in each month compared with the immediate month before points to the fluctuating trend of this index. The highest rise by 7.7 percent was related to November 2020 compared with October, while the lowest growth rate by 1.5 percent was related to April 2020 compared with March. The average monthly inflation of the CPI stood at 4.3 percent in 2020-2021, indicating higher fluctuations compared with 2.1 percent in 2019-2020.

18.2.1.2. Tradable and Non-Tradable Goods

Following the intensification of economic sanctions, the upward trend of the exchange rate continued in 2020/21. This increasing trend of the exchange rate, having started as of October 2017, ultimately led to the rise in the inflation of tradable goods, bringing it to 57.5 percent by March 2021. The special group of non-tradable goods, which includes mostly services and is only slightly affected by the exchange rate fluctuations, registered an inflation rate of 34.3 percent in March 2021.

Figure 18.2. Share of Major Groups in CPI Inflation in 2020/21

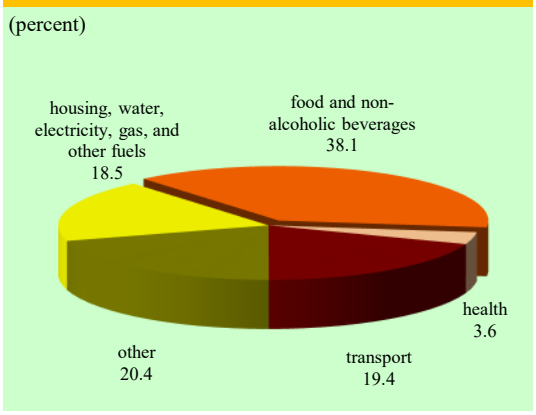


Figure 18.3. CPI Inflation by Tradable and Non-tradable Goods (base year 2016/17)

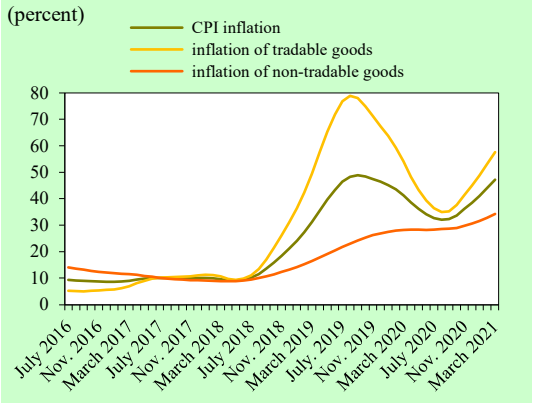


Table 18.2. Consumer Price Index (CPI) in Urban Areas (2016/17=100)

	Relative weight in base year (percent)	2019/20	2020/21	Percentage change 2019/20	Percentage change 2020/21	Contribution to growth of CPI[1] in 2020/21 (percent)
Special groups						
Goods	48.5	244.5	380.9	51.7	55.8	69.3
Services	51.5	164.0	221.2	28.7	34.9	30.7
General index	**100.0**	**203.2**	**298.9**	**41.2**	**47.1**	**100.0**
Major groups and selected subgroups						
Food and non-alcoholic beverages	**25.5**	**254.2**	**394.2**	**52.7**	**55.1**	**38.1**
Meat and meat preparations	5.3	256.3	318.5	48.9	24.2	3.6
Fish and aquatic invertebrates' preparations	0.6	331.0	560.3	81.6	69.3	1.5
Cereals and cereal preparations, bread	4.4	202.3	305.0	43.9	50.8	5.0
Animal and vegetable oils and fats	0.8	194.6	285.9	32.7	46.9	0.8
Fruits, oilseeds and oleaginous fruits	5.5	303.7	569.3	56.3	87.5	16.4
Vegetables, pulses, and vegetable products	3.5	299.6	446.9	74.7	49.2	4.9
Dairy products and birds' eggs	3.0	203.1	307.5	34.5	51.4	3.2
Tobacco	**0.4**	**253.5**	**340.3**	**23.6**	**34.2**	**0.4**
Housing, water, electricity, gas, and other fuels	**37.1**	**155.0**	**203.4**	**26.5**	**31.3**	**18.5**
Rental value of non-owner-occupied housing	7.7	156.6	206.4	27.5	31.8	4.0
Imputed rental value of owner-occupied housing	25.4	156.5	205.3	27.1	31.2	13.0
Maintenance and repair services	1.7	182.6	276.4	38.6	51.4	1.6
Water	0.5	108.0	126.4	1.6	17.1	0.1
Electricity, gas, and other fuels	1.8	110.9	114.7	3.7	3.4	0.1
Clothing and footwear	**4.6**	**219.1**	**308.6**	**53.4**	**40.9**	**4.2**
Furnishings, household equipment, and routine household maintenance	**4.3**	**268.6**	**426.2**	**56.8**	**58.7**	**7.0**
Transport	**8.9**	**241.1**	**451.1**	**56.7**	**87.1**	**19.4**
Communication	**2.3**	**163.1**	**213.5**	**16.8**	**30.9**	**1.2**
Health	**7.8**	**162.3**	**205.0**	**26.0**	**26.3**	**3.6**
Recreation and culture	**2.1**	**271.5**	**370.1**	**50.2**	**36.3**	**2.1**
Education	**2.0**	**156.2**	**184.2**	**20.1**	**17.9**	**0.6**
Restaurants and hotels	**1.8**	**212.5**	**284.2**	**50.3**	**33.7**	**1.4**
Miscellaneous goods and services	**3.2**	**234.9**	**346.1**	**44.2**	**47.3**	**3.6**

[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 Kurdistan, Golestan, and Bushehr, with rises of respectively 61.1, 59.7 and 57.8 percent in the CPI, had the highest inflation rates. Qazvin, Zanjan, and South Khorasan Provinces, with growth rates of respectively 56.6, 56.4 and 55.0 percent, were next. Lorestan, Alborz, and Hormozgan, on the other hand, accounted for the lowest inflation rates by 42.8, 42.8 and 39.2 percent, respectively. Inflation rate in Tehran Province was 44.3 percent in 2020/21.

18.2.1.4. CPI in Rural Areas [1]

The CPI in rural areas increased by 37.7 percent in 2020/21. Inflation in rural areas was the result of growth in the price index of "goods" with 41.8 percent and that in the price index of "services" with 25.0 percent.

18.2.2. Producer Price Index (PPI)

In 2020/21, the Producer Price Index (PPI) increased by 55.2 percent compared with 2019/20. The growth rates of the general PPI were 42.2 percent in 2018/19 and 37.5

[1] Source: "Consumer Price Index of Goods and Services in Rural Areas" published by the SCI (base year 2016/17).

percent in 2019/20. Among the major components of the PPI, "manufacturing" and "transportation and storage" groups made the greatest contribution to raising the PPI general index by 53.0 and 29.9 percent, respectively. The price index of manufacturing group enjoyed a growth rate of 57.6 percent in 2020/21. Manufacturing, with a relative weight of 47.1 percent in the general PPI, had a share of 53.0 percent in growth of the general PPI in 2020/21. 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 88.6 percent, made a contribution of 29.9 percent to the rise of the general PPI. Meanwhile, reviewing the PPI changes in 2020-2021 in each month compared with the immediate month before (monthly PPI inflation) indicates that the highest rate of inflation by 12.4 percent was related to July 2020 compared with June 2020, while the lowest rate by -0.9 percent was related to April 2020 compared with March 2020. The average monthly inflation of the PPI was approximately 5.5 percent in 2020-2021, which was 3.7 percentage points higher than the average monthly inflation of the PPI in 2019-2020 (1.8 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 62.4 percent in 2020/21, as against rises by 137.9 and 16.3 percent in 2018/19 and 2019/20, respectively. The price indices of "minerals" and "basic metals and articles of basic metals" (considering their relative weights) had major impacts on the rise of the export price index by 39.2 and 15.7 percent, respectively.

Table 18.3. Producer Price Index (PPI)[1]

(2016/17=100)

	Relative weight in base year (percent)	2019/20	2020/21	Percentage change 2019/20	Percentage change 2020/21	Contribution to growth of PPI[2] in 2020/21 (percent)
General index	**100.0**	**215.1**	**333.8**	**37.5**	**55.2**	**100.0**
Major groups						
Agriculture, forestry, and fishing	18.6	208.7	285.4	34.6	36.8	12.0
Manufacturing	47.1	231.7	365.2	36.1	57.6	53.0
Transportation and storage	16.9	237.1	447.1	58.8	88.6	29.9
Information and communication	1.5	117.7	119.8	10.4	1.8	*
Restaurants and hotels	0.8	212.5	284.2	50.3	33.7	0.5
Education	2.5	157.1	184.5	20.6	17.4	0.6
Human health and social work activities	11.6	155.4	192.0	21.6	23.5	3.6
Other service activities	0.9	168.0	221.1	24.8	31.6	0.4
Special groups						
Services[3]	34.3	195.7	316.9	41.7	61.9	35.0

[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 the rate of inflation reveals that except for the rental value of non-owner-occupied housing, the provisional profit rate of participation papers issued by municipalities, and the provisional profit rate of one-year deposits (highest approved rate), which experienced increases of respectively 31.8, 18.0 and 16.0 percent, rates of return on other assets were higher than the inflation rate (47.1 percent). The TEPIX and "price of full Bahar Azadi gold coin (new design)" experienced the highest growth rates compared with the rate of inflation. These two variables registered growth rates of respectively 155.0 and 132.7 percent in 2020/21, which were much higher than the inflation rate of 47.1 percent in the year under review.

Table 18.4. Export Price Index (EPI) (2016/17=100)

	Relative weight in base year (percent)	2019/20	2020/21	Percentage change 2019/20	Percentage change 2020/21	Contribution to growth of EPI[1] in 2020/21 (percent)
General index	**100.0**	**327.2**	**531.4**	**16.3**	**62.4**	**100.0**
Major groups						
Animal products	3.5	321.7	512.7	22.2	59.4	3.3
Vegetables	8.0	357.8	538.2	26.1	50.4	7.1
Animal and vegetable fats and oils	0.2	306.6	564.5	25.5	84.1	0.2
Food and live animals; beverages and tobacco	3.5	293.4	448.3	24.1	52.8	2.7
Minerals	40.4	336.1	532.7	20.1	58.5	39.2
Chemicals and related products, not elsewhere specified	14.5	314.9	492.2	9.4	56.3	12.6
Rubber manufactures	12.1	286.4	494.3	7.1	72.6	12.4
Hides, skins and furskins, raw	0.2	492.6	786.1	52.9	59.6	0.3
Wood manufactures	0.1	194.4	266.0	-1.2	36.8	*
Paper, paperboard and pulp	0.1	292.0	455.5	47.9	56.0	0.1
Textile yarn, fabrics and articles	2.5	249.4	418.8	10.8	67.9	2.2
Footwear	0.2	162.0	285.2	-2.8	76.0	0.1
Articles of stone	2.3	267.0	414.8	14.6	55.4	1.6
Basic metals and articles of basic metals	10.0	379.2	696.7	9.9	83.7	15.7
Mechanical and electrical machinery, apparatus and appliance	2.0	323.6	506.0	29.3	56.3	1.8
Road vehicles; other transport equipment	0.4	357.6	635.8	21.2	77.8	0.7
Special groups						
Petrochemical products	38.5	337.8	551.4	14.9	63.3	40.3

[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 2018/19	2019/20	2020/21	Average rate of return[1]	Standard deviation	Sharpe Ratio[2]
Price of residential units in Tehran per square meter[3]	67.0	64.3	86.4	71.9	12.0	4.5
TEPIX	85.5	187.1	155.0	135.4	51.9	2.3
Rental value of non-owner-occupied housing	13.4	27.5	31.8	22.7	9.6	0.5
Nominal value of the US dollar (unofficial market)	155.6	25.0	77.1	66.9	65.7	0.7
Nominal value of the euro (unofficial market)	150.2	20.0	84.9	63.4	65.1	0.7
Price of full Bahar Azadi gold coin (new design)	168.0	29.9	132.7	87.4	71.7	1.0
Provisional profit rate of participation papers issued by municipalities[4]	18.0	18.0	18.0	18.0	0.0	null
Provisional profit rate of one-year deposits (highest approved rate)	15.0	15.0	16.0	15.3	0.6	N/A
CPI of goods and services (inflation rate)	**31.2**	**41.2**	**47.1**	**39.3**	**8.0**	**2.7**

[1] The average rate of return on assets is calculated using the geometric mean method over the 2018-2021 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 municipalities" group (considering the risk-free nature of participation papers) from the average rate of return for that asset and dividing the result by the standard deviation for that asset (risky asset). [3] Source: Statistical Center of Iran. [4] Includes papers whose first date of issuance was in the year under review.