



# NATIONAL BANK OF UKRAINE

## December 2016 Inflation review

In 2016, headline inflation fell sharply to 12.4% while in 2015 the consumer prices rose by 43.3%. In monthly terms, the CPI increased by 0.9% in December 2016.

Consumer price developments were close to NBU forecasts published in Inflation Reports in 2016, suggesting annual inflation at 12% by the end of the year. Therefore, the inflation target of 12% ± 3 pts for 2016 defined in the Monetary Policy Guidelines for 2016-2020 was achieved.

The rapid inflation slowdown in 2016 can be attributed to easing underlying inflation pressures. This is evidenced by a sharp decline in core inflation. Besides, favorable supply-side factors produced a significant positive effect for raw food prices. Meanwhile, the increase in administered tariffs and higher global oil prices were the main drivers behind the price increase.

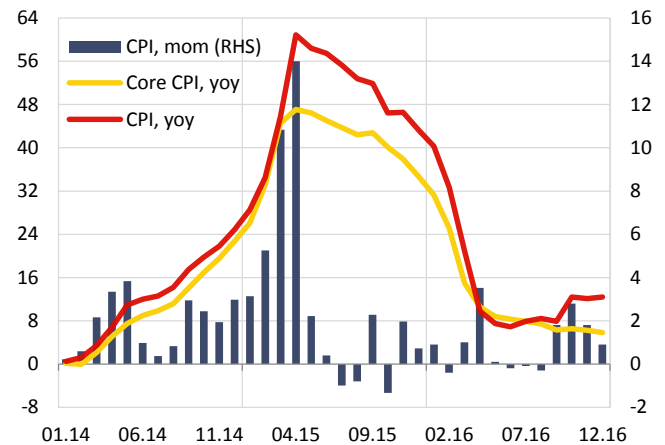
Core inflation for 2016 fell to 5.8% yoy (from 34.7% in 2015), virtually in line with most recent NBU forecast (5.6% yoy). The decline in core inflation and overall inflation pressures were facilitated by appropriately tight fiscal and monetary policies, lower intensity of military conflict in the East of Ukraine, second-round effects from raw food supply-side factors.

Thus, the strengthening the role of the key policy rate, a series of policy rate cuts throughout the year, and the government's effort to meet the fiscal deficit targets contributed to a substantial improvement in inflation and exchange rate expectations and contained demand-pull inflation pressures. The slowdown in inflation was also underpinned by moderate exchange rate volatility observed throughout most of the year amid favorable external environment, inflows of FX proceeds from high grain and sunflower oil exports, and NBU measures to smooth the excessive exchange rate volatility in the interbank FX market.

In 2016, prices for commodities predominantly imported from abroad, such as household appliances, clothes and footwear, slowed down to 5.7% yoy and 5.5% yoy (compared to 36.4% yoy and 35% yoy in 2015, respectively). The prices for selected products even decreased in annual terms, including audio and video equipment, information processing equipment (by 1.8% yoy and 0.4% yoy, respectively). Prices for the processed foods decelerated significantly to 5.7% yoy (from 42.3% yoy in 2015) due to second-round effects from slower raw food inflation. Meanwhile, disinflationary trends slightly abated late in 2016 due to higher costs of certain raw materials (milk), as well as moderately higher inflation expectations due to increased depreciation pressure and a government decision to sharply increase the minimum wage effective January 2017.

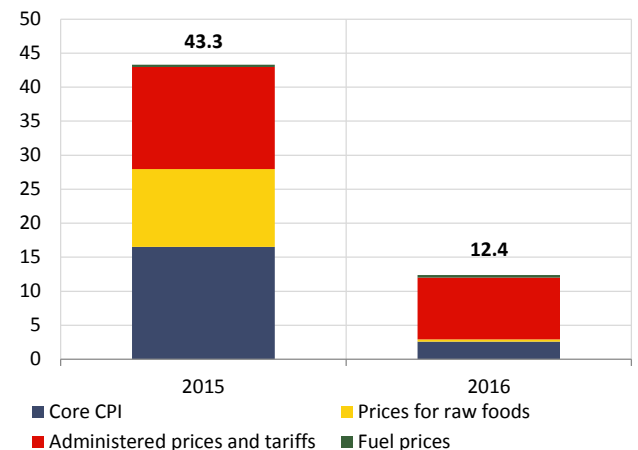
The growth of raw food prices slowed down to 1.2% yoy in 2016 (from 40.7% yoy in 2015). In addition to the above - mentioned factors, a sharp deceleration in their price growth was attributable to a number of supply-side factors which effects were more powerful and prolonged than expected. This, in particular, included the high harvests of: grains, vegetables, and some fruits (apples, specifically) in Ukraine and citrus fruits in other countries.

Inflation Indicators, %



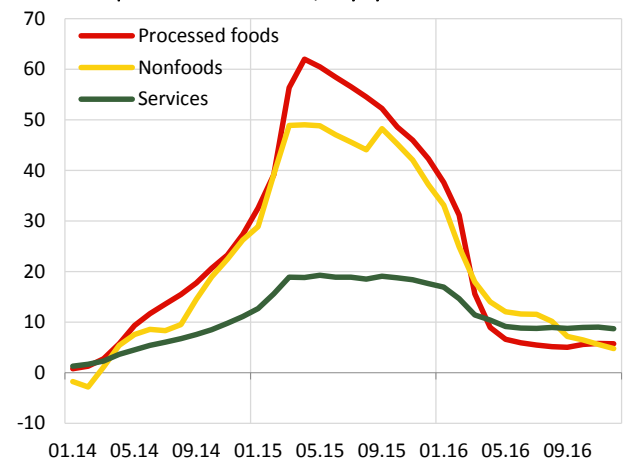
Source: SSSU.

Contributions of Annual CPI Growth by Main Components, pts



Source: SSSU; NBU staff estimates.

Main Components of Core CPI, % yoy



Source: SSSU; NBU staff estimates.

Particularly, prices for “borsch<sup>1</sup> vegetables” decreased by 43.1% yoy (rose by 78.2% yoy last year). In addition, trade policy of the Russian Federation with respect to Ukraine (e.g., embargo on food products from the beginning of 2016) and other countries reinforced a descending inflation trend. Thus, the trade restrictions of the Russian Federation with regard to the supply of selected agricultural products of Turkish origin resulted in increased supply of vegetables and fruits to the Ukrainian market and, respectively, a decline in prices, specifically, on oranges and mandarins by 13.6% yoy (up by 43.2% yoy in 2015), on cucumbers and tomatoes – by 45.8% and 35.1% (from 24.6% and 28.5% in 2015, respectively). Prices for meat grew moderately (by 5.0% yoy compared to 22.5% yoy in 2015) due to export restrictions for pork and chicken in the wake of an unfavorable epizootic situation. Meanwhile, in 2016, prices for milk and dairy products kept rising at a faster pace (by 21.1% in 2016 vs. 26.4% yoy in 2015) amid higher demand from processing enterprises amid high export volumes of dairy products.

**Administered prices and tariffs in 2016 grew by 34.6% yoy.**

Although price and tariffs rose at a much lower pace than in 2015 (64.4% yoy), they were the main driver of headline inflation in 2016. Over the course of the past year, tariffs grew within a broad range of utility services: electricity (by 60.0% yoy); cold water (by 42.0% yoy); sewage (by 28.3% yoy); natural gas (by 42.0% yoy); heating (by 89.3%); hot water (by 82.9% yoy). Prices for tobacco products (22.9% yoy) and alcoholic beverages (21.6% yoy) kept on rising including due to higher excise taxes (up by 1.5-2 times for alcoholic beverages and by 40% for tobacco products), minimum prices for alcoholic beverages (up by 27% on average) and tobacco producers price settings.

**In 2016, fuel prices went up by 19.5% yoy (by 12.3% yoy in 2015).**

The acceleration reflected rising world oil prices and moderate hryvnia depreciation. Besides, in 2016 prices for liquefied gas were growing faster than for other fuels due to its mid-year shortages amid lower imports from Russia and Belarus.

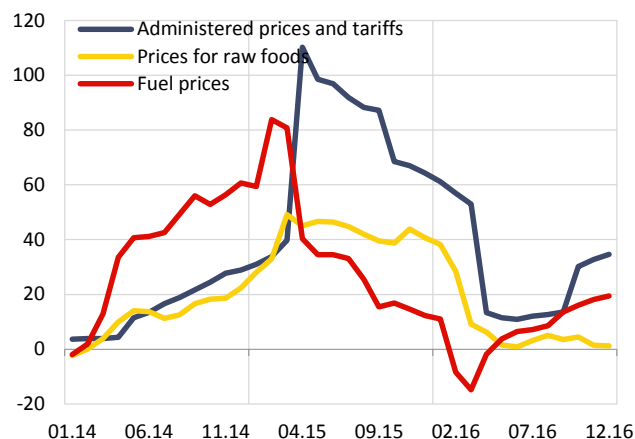
**In 2016, the producer price index accelerated to 35.7% yoy (from 25.4% yoy in 2015).**

Producer price developments predominantly reflected price trends on world commodity markets. In particular, higher world iron ore prices during the last quarter of 2016 resulted in a significant increase in annual terms of prices in iron ore production. Prices in the extraction of crude oil and natural gas accelerated in response to a surge in world oil and natural gas prices.

As a result, in 2016, price growth in the mining industry gained a sharp momentum (were up by 85.1% yoy compared to a 17.6% yoy increase in 2015). Along with a pick-up in demand for finished goods, this pushed up prices in the next stages of production, particularly in metallurgy, production of coke and refined products.

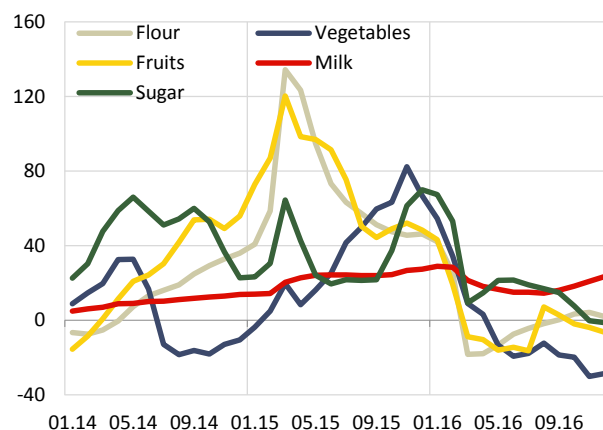
The price developments in other processing industries were more moderate. Thus, in 2016 prices in the chemical industry even decreased (by 1.4% yoy), including due to the competitive pressure from imported fertilizers.

Main Components of Non-Core CPI, % yoy



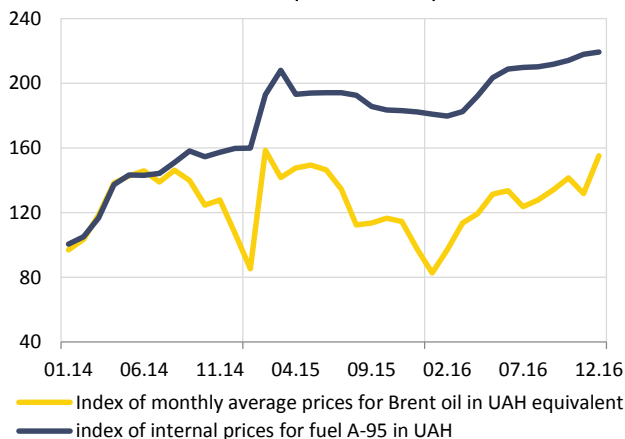
Source: State Statistics Service of Ukraine; NBU staff estimates

Raw Food Prices, % yoy



Source: State Statistics Service of Ukraine

Price Indexes for Fuel and Oil (12.2013=100)

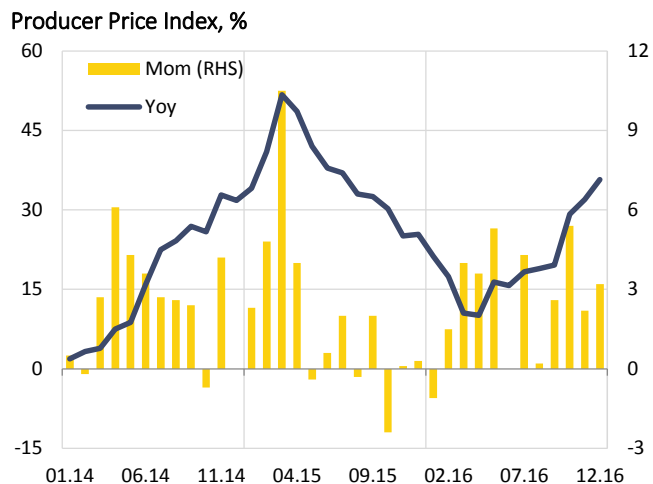


Source: State Statistics Service of Ukraine; Thomson Reuters Datastream.

<sup>1</sup> Borsch is a traditional soup in Ukrainian cuisine. While recipes for borsch vary, vegetables are the main ingredients: beet, potato, carrot, cabbage, and onion.

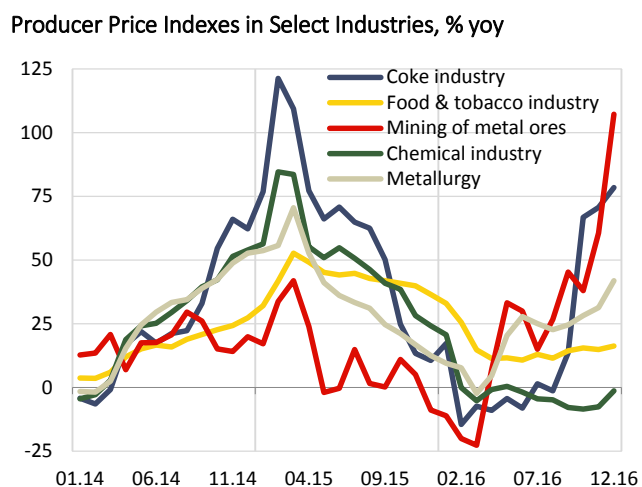
Prices in food industry slowed down to 16.2% yoy (by 36.4% yoy in 2015). In particular, price growth in bread and sugar production moderated amid high crop harvests. A slowdown in the growth of prices for meat and meat products and production of dairy products was more contained. This can be attributed to increased production costs, declining number of livestock, and external market pressures.

Price growth in the supply of electric power, natural gas, steam, and conditioned air accelerated to 51.5% yoy (33.2% yoy in 2015) due to higher costs of selected raw materials, specifically, coal and natural gas. The electricity price developments were determined also by changes in the production structure of electricity, in particular, by a share of cheaper nuclear power generation.



Source: State Statistics Service of Ukraine

*The Review is a translation of the original Review in Ukrainian. In case of any discrepancies between the original document and its English translation, readers should consider the Ukrainian version of the Review as correct.*



Source: State Statistics Service of Ukraine

| CPI and PPI growth by components in 2015 - 2016  |                   |              |              |              |              |             |             |             |             |             |             |             |             |             |                 |
|--|-------------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------|
| CPI (NBU classification)   |                   |              |              |              |              |             |             |             |             |             |             |             |             |             |                 |
|  | Share in CPI, %   | yoy, %       |              |              |              |             |             |             |             |             |             |             |             |             | December, mom % |
|  |                   | 2015         | 2016         |              |              |             |             |             |             |             |             |             |             |             |                 |
|  |                   |              | January      | February     | March        | April       | May         | June        | July        | August      | September   | October     | November    | December    |                 |
| <b>Consumer Price Index</b>  | <b>100.0</b>      | <b>43.3</b>  | <b>40.3</b>  | <b>32.7</b>  | <b>20.9</b>  | <b>9.8</b>  | <b>7.5</b>  | <b>6.9</b>  | <b>7.9</b>  | <b>8.4</b>  | <b>7.9</b>  | <b>12.4</b> | <b>12.1</b> | <b>12.4</b> | <b>0.9</b>      |
| <b>Core inflation</b>  | <b>46.8</b>       | <b>34.7</b>  | <b>31.3</b>  | <b>25.1</b>  | <b>15.0</b>  | <b>10.6</b> | <b>8.8</b>  | <b>8.3</b>  | <b>7.9</b>  | <b>7.4</b>  | <b>6.3</b>  | <b>6.5</b>  | <b>6.2</b>  | <b>5.8</b>  | <b>0.0</b>      |
| <b>Non-core inflation*</b>   | <b>53.2</b>       | <b>49.7</b>  | <b>46.9</b>  | <b>38.5</b>  | <b>25.2</b>  | <b>9.4</b>  | <b>6.4</b>  | <b>5.9</b>  | <b>7.7</b>  | <b>9.0</b>  | <b>9.0</b>  | <b>17.2</b> | <b>16.9</b> | <b>17.5</b> | <b>1.6</b>      |
| Raw foods  | 28.3              | 40.7         | 38.3         | 28.4         | 9.2          | 6.2         | 1.6         | 0.8         | 3.2         | 5.0         | 3.5         | 4.5         | 1.4         | 1.2         | 2.2             |
| Administered prices and tariffs  | 22.5              | 64.4         | 61.2         | 57.0         | 53.0         | 13.3        | 11.4        | 10.9        | 12.0        | 12.7        | 13.6        | 30.1        | 32.8        | 34.6        | 1.1             |
| Fuels  | 2.4               | 12.5         | 11.1         | -8.2         | -14.7        | -1.9        | 3.7         | 6.5         | 7.2         | 8.6         | 13.6        | 16.0        | 18.1        | 19.5        | 0.6             |
| CPI (State Statistics Service of Ukraine classification)   |                   |              |              |              |              |             |             |             |             |             |             |             |             |             |                 |
| <b>Food and non-alcohol</b>  | <b>50.8</b>       | <b>41.5</b>  | <b>38.1</b>  | <b>29.7</b>  | <b>11.4</b>  | <b>6.9</b>  | <b>3.9</b>  | <b>3.2</b>  | <b>4.4</b>  | <b>5.1</b>  | <b>4.2</b>  | <b>4.9</b>  | <b>3.4</b>  | <b>3.3</b>  | <b>1.6</b>      |
| <b>Alcohol, tobacco</b>  | <b>6.9</b>        | <b>22.7</b>  | <b>15.1</b>  | <b>9.8</b>   | <b>7.7</b>   | <b>8.8</b>  | <b>9.9</b>  | <b>10.2</b> | <b>11.0</b> | <b>12.4</b> | <b>12.3</b> | <b>14.2</b> | <b>16.4</b> | <b>22.5</b> | <b>3.2</b>      |
| <b>Clothing and footwear</b>   | <b>7.1</b>        | <b>35.0</b>  | <b>31.5</b>  | <b>26.1</b>  | <b>23.0</b>  | <b>19.6</b> | <b>18.4</b> | <b>18.2</b> | <b>19.7</b> | <b>17.1</b> | <b>9.2</b>  | <b>8.1</b>  | <b>6.7</b>  | <b>5.5</b>  | <b>-2.8</b>     |
| <b>Housing, water, electricity, gas and other fuels incl.:</b>   | <b>11.3</b>       | <b>103.0</b> | <b>103.4</b> | <b>100.8</b> | <b>104.3</b> | <b>17.0</b> | <b>13.3</b> | <b>12.1</b> | <b>13.8</b> | <b>14.3</b> | <b>15.8</b> | <b>44.4</b> | <b>47.2</b> | <b>47.2</b> | <b>0.0</b>      |
| Imputed rentals for housing  | 1.3               | 5.4          | 5.3          | 5.3          | 5.4          | 6.6         | 6.8         | 6.1         | 7.6         | 7.1         | 10.4        | 10.6        | 11.1        | 11.5        | 0.4             |
| Water supply   | 0.0               | 23.0         | 36.5         | 36.3         | 37.0         | 37.2        | 28.6        | 19.9        | 17.7        | 27.9        | 29.8        | 37.1        | 40.9        | 42.1        | 0.6             |
| Hot water  | 0.4               | 55.8         | 55.8         | 55.6         | 55.5         | 55.5        | 8.0         | 0.5         | 59.5        | 61.0        | 60.8        | 69.9        | 81.0        | 82.9        | 1.1             |
| Natural gas  | 2.3               | 273.0        | 273.0        | 273.0        | 273.0        | 0.0         | -4.3        | -4.3        | -4.3        | -4.3        | -4.3        | 42.0        | 42.0        | 42.0        | 0.0             |
| Central heating  | 1.8               | 78.7         | 77.8         | 77.5         | 77.7         | 77.8        | 78.2        | 78.2        | 78.4        | 78.4        | 78.4        | 82.1        | 89.6        | 89.3        | -0.1            |
| <b>Transport</b>   | <b>5.1</b>        | <b>20.4</b>  | <b>18.5</b>  | <b>1.8</b>   | <b>-4.2</b>  | <b>2.5</b>  | <b>5.1</b>  | <b>5.2</b>  | <b>5.4</b>  | <b>6.0</b>  | <b>8.5</b>  | <b>10.0</b> | <b>10.5</b> | <b>11.4</b> | <b>0.7</b>      |
| <b>Communication</b>   | <b>3.3</b>        | <b>7.0</b>   | <b>6.7</b>   | <b>5.8</b>   | <b>4.2</b>   | <b>4.7</b>  | <b>4.2</b>  | <b>4.1</b>  | <b>3.9</b>  | <b>3.7</b>  | <b>3.2</b>  | <b>1.5</b>  | <b>1.2</b>  | <b>4.0</b>  | <b>2.8</b>      |
| <b>Education</b>   | <b>1.3</b>        | <b>24.2</b>  | <b>24.2</b>  | <b>20.5</b>  | <b>19.2</b>  | <b>17.5</b> | <b>16.5</b> | <b>16.1</b> | <b>15.9</b> | <b>15.5</b> | <b>13.8</b> | <b>13.8</b> | <b>13.8</b> | <b>13.7</b> | <b>0.1</b>      |
| PPI  |                   |              |              |              |              |             |             |             |             |             |             |             |             |             |                 |
|  | Share in PPI, %** | yoy, %       |              |              |              |             |             |             |             |             |             |             |             |             | December, mom % |
|  |                   | 2015         | 2016         |              |              |             |             |             |             |             |             |             |             |             |                 |
|  |                   |              | January      | February     | March        | April       | May         | June        | July        | August      | September   | October     | November    | December    |                 |
| <b>Producer Price Index</b>  | <b>100.0</b>      | <b>25.4</b>  | <b>21.2</b>  | <b>17.4</b>  | <b>10.5</b>  | <b>10.1</b> | <b>16.4</b> | <b>15.7</b> | <b>18.3</b> | <b>18.9</b> | <b>19.6</b> | <b>29.2</b> | <b>32.0</b> | <b>35.7</b> | <b>3.2</b>      |
| <b>Mining and quarrying</b>  | <b>12.3</b>       | <b>17.6</b>  | <b>12.7</b>  | <b>11.8</b>  | <b>8.7</b>   | <b>10.3</b> | <b>37.9</b> | <b>35.3</b> | <b>27.9</b> | <b>34.5</b> | <b>44.6</b> | <b>46.8</b> | <b>56.2</b> | <b>85.1</b> | <b>13.5</b>     |
| Manufacturing of coal  | 2.6               | -0.8         | 3.5          | 21.5         | 20.7         | 21.2        | 20.7        | 11.0        | 9.9         | 7.9         | 2.5         | 15.3        | 15.5        | 40.4        | 18.6            |
| Extraction of crude petroleum and natural gas  | 3.9               | 120.3        | 89.4         | 98.2         | 70.4         | -11.5       | 47.5        | 51.0        | 51.0        | 52.2        | 65.3        | 72.4        | 68.4        | 76.5        | 1.6             |
| Mining of metal ores   | 5.7               | -8.9         | -11.2        | -20.1        | -22.7        | 6.9         | 33.2        | 29.9        | 15.0        | 26.6        | 45.2        | 38.0        | 60.6        | 107.2       | 18.9            |
| <b>Manufacturing</b>   | <b>68.4</b>       | <b>23.8</b>  | <b>21.3</b>  | <b>13.2</b>  | <b>6.2</b>   | <b>7.2</b>  | <b>12.0</b> | <b>13.1</b> | <b>14.0</b> | <b>13.0</b> | <b>15.4</b> | <b>18.1</b> | <b>18.9</b> | <b>22.6</b> | <b>2.9</b>      |
| Manufacture of food products, beverages and tobacco products   | 23.6              | 36.4         | 32.9         | 25.5         | 14.7         | 11.3        | 11.6        | 10.7        | 13.0        | 11.5        | 14.4        | 15.5        | 14.8        | 16.2        | 1.8             |
| Manufacture of coke, and refined petroleum products  | 3.5               | 4.7          | -2.3         | -20.6        | -10.1        | -13.4       | -8.6        | -6.6        | 8.8         | 5.9         | 23.2        | 52.5        | 59.4        | 61.7        | -1.3            |
| Manufacture of chemicals and chemical products   | 4.3               | 24.2         | 20.6         | -0.1         | -5.3         | -0.9        | 0.4         | -1.9        | -4.5        | -4.9        | -7.9        | -8.5        | -7.7        | -1.4        | 5.9             |
| Manufacture of rubber and plastics products, and other non-metallic mineral products   | 5.2               | 29.6         | 26.1         | 17.9         | 9.1          | 7.7         | 7.1         | 7.7         | 7.5         | 8.2         | 9.8         | 10.2        | 9.9         | 9.5         | 0.3             |
| Manufacture of basic metals and fabricated metal products, except machinery and equipment  | 18.5              | 12.4         | 9.4          | 7.7          | -2.4         | 4.6         | 20.4        | 27.8        | 25.0        | 22.6        | 24.5        | 28.1        | 31.3        | 41.8        | 6.8             |
| Manufacture of transport equipment   | 2.6               | 15.5         | 22.1         | 13.0         | 11.9         | 13.3        | 15.2        | 10.3        | 11.3        | 11.3        | 12.1        | 11.5        | 8.5         | 11.4        | 3.4             |
| <b>Electricity, gas, steam and air-conditioning supply</b>   | <b>19.3</b>       | <b>33.2</b>  | <b>24.5</b>  | <b>32.5</b>  | <b>23.6</b>  | <b>17.8</b> | <b>18.9</b> | <b>14.4</b> | <b>24.4</b> | <b>27.0</b> | <b>19.8</b> | <b>51.2</b> | <b>57.5</b> | <b>51.5</b> | <b>-0.3</b>     |
| * Revised NBU staff estimates based on the State Statistics Service of Ukraine data. The sum of contributions of CPI components may deviate from the total CPI through the use of dynamic weights according to the methodology of the SSSU and rounding. |                   |              |              |              |              |             |             |             |             |             |             |             |             |             |                 |
| ** The shares of PPI components are NBU staff estimates based on the SSSU data on volume of industrial production by type of activity for 2015.  |                   |              |              |              |              |             |             |             |             |             |             |             |             |             |                 |