APPROVED Resolution of the Board of the National Bank of Ukraine <u>No. 148 dated 10 December 2019</u> (with amendments)

#### Regulation

On Setting the Official Exchange Rate of the Hryvnia against Foreign Currencies and Calculating the Reference Exchange Rate of the Hryvnia against the U.S. Dollar and Accounting Prices for Investment Metals

(as amended by Resolutions of the Board of the National Bank of Ukraine No. 70 dated 1 June 2020 No. 140 dated 7 October 2020)

I. General Provisions

1. The Regulation has been developed pursuant to Articles 7, 15, and 36 of the Law of Ukraine *On the National Bank of Ukraine* and regulates the issues of setting and using by the National Bank of Ukraine (hereinafter - the NBU) of the official hryvnia exchange rate against foreign currencies, and of calculating the reference exchange rate of the hryvnia against the U.S. dollar and accounting prices for investment metals.

2. The terms used herein shall have the following meaning:

1) BFIX quote means the BGN's (Bloomberg Generic Price) weighted average spot-market exchange rate/price quotes of foreign currencies/precious metals against the U.S. dollar (or those of the U.S. dollar against foreign currencies/precious metals), which are calculated daily by the trading information system BLOOMBERG (hereinafter – TIS BLOOMBERG) as of 3:30 p.m. Kyiv time, and the information on which comes to the NBU from TIS BLOOMBERG using customized data transfer solutions

2) the FX market indicators oversight means the NBU's activities aimed at ensuring continuous, reliable, and effective definition, calculation and publishing of the indicators specified in paragraph 4 hereof. The FX market indicators oversight shall cover monitoring, analysis and decision-making on any issues related to determining, calculating and publishing the FX market indicators.

(Section 1 paragraph 2 in the wording of NBU Board Decision No. 140 dated 7 October 2021)

3. The NBU shall:

1) set the official hryvnia exchange rate against foreign currencies and the international accounting unit ( the official hryvnia exchange rate) on a regular basis in line with the lists of foreign currencies specified in Section II paragraph 5 subparagraphs 1 and 2 hereof

2) calculate accounting prices for investment metals on a regular basis in line with the list of investment metals specified in Section II paragraph 5 subparagraph 3 hereof

3) sets the updated official hryvnia exchange rate against Special Drawing Rights (SDRs) on a monthly basis (on the second business day of a month as of the last business day of the previous month).

4) calculates the reference UAH/USD exchange rate based on FX market deals as of 12 p.m. (hereinafter – the reference UAH/USD exchange rate) in order to provide the market players with a real-time indicator of the UAH/USD exchange rate.

(Section I paragraph 3 was supplemented with subparagraph 4 in accordance with NBU Board Resolution No. 140 dated 7 October 2020)

4. The NBU shall perform oversight of the following FX market indicators: official hryvnia exchange rate against foreign currencies, accounting prices for investment metals, and hryvnia reference exchange rate against the U.S. dollar.

4<sup>1</sup>. The official hryvnia exchange rate against foreign currencies and accounting prices for investment metals are used by residents and nonresidents of Ukraine:

1) to reflect FX and investment metal transactions in accounting records

2) to conduct FX transactions between the NBU and the State Treasury Service of Ukraine

3) in other cases as specified in the laws of Ukraine.

The revised official hryvnia exchange rate for SDRs specified in Section III paragraph 7 subparagraph 4 hereof is used to compile the NBU's monthly balance sheet and other accounting and statistical statements.

The NBU and Ukraine residents and nonresidents shall have the right to apply the official hryvnia exchange rates against foreign currencies, accounting prices for investment metals, and hryvnia reference exchange rate against U.S. dollar when entering into deals in the money and FX markets but shall not be obliged to do so.

### (Section I was supplemented with paragraph 4<sup>1</sup> in accordance with NBU Board Resolution No. 140 dated 7 October 2020)

II. Procedure for Approving and Publishing the Lists of Foreign Currencies for Which the NBU Sets and Publishes the Official Hryvnia Exchange Rate and of Investment Metals for Which the NBU Calculates Accounting Prices

5. The NBU, on an annual basis and within two weeks following the date of publishing the Balance of Payments of Ukraine for the previous year on the NBU official website, approves and publishes on the NBU official website the following:

1) list of foreign currencies for which the NBU daily sets the official hryvnia exchange rate The list includes the foreign currencies included in the first group of the Classifier of foreign currencies and investment metals approved by NBU Board Resolution No. 34 dated 4 February 1998 (in the wording of NBU Board Resolution No. 269 dated 19 April 2016 (as amended)) (hereinafter – the Classifier), and the foreign currencies issued by the countries which – according to the data of the Balance of Payments of Ukraine for the year preceding the establishing of this list – are among 30 countries whose goods turnover with Ukraine is the highest

2) list of foreign currencies against which the NBU sets the official hryvnia exchange rate on a monthly basis This list includes the foreign currencies (other than those included in the list of foreign currencies specified in Section II paragraph 5 subparagraph 1 hereof) whose issuers are the countries emerging from the dissolution of the USSR, as well as the countries that – according to the data of the Balance of Payments of Ukraine for the year preceding the establishing of this list – rank from the 31st to 60th based on their goods turnover with Ukraine

3) list of investment metals for which the NBU daily calculates accounting prices This list includes the investment metals included into the first group of the Classifier.

6. The lists specified in Section II paragraph 5 subparagraphs 1-3 of the Regulation shall be in force until the NBU publishes new lists.

#### III. Procedure for Calculating, Publishing, and Using the Official Hryvnia Exchange Rate for Foreign Currencies and Accounting Prices for Investment Metals, and Their Validity

7. The official hryvnia exchange rate for the foreign currencies specified in Section I paragraph 3 subparagraphs 1 and 3 hereof is calculated as follows:

1) against the U.S. dollar – in line with the calculation of the hryvnia official exchange rate for the U.S. dollar and the reference hryvnia exchange rate for the U.S. dollar (Annex 1), or the calculation of the official exchange rate of the hryvnia against the U.S. dollar under special conditions (Annex 2).

The calculation of the official UAH/USD exchange rate under special conditions shall be applied in the following cases:

the number of TOD, TOM, and SPOT deals on the purchase/sale of the U.S. dollar that were concluded by banks with other banks and with the NBU on the FX market of Ukraine on the day of the official exchange rate being calculated, and were reported to the NBU by trading information systems (hereinafter referred to as the TIS) through relevant information exchange channels before 12 p.m. on the same day – is equal or less than 10% of the average daily value of a similar indicator in the previous month

due to the operational risk event at the stages of receiving and/or processing the information from TIS on the deals specified in Section III paragraph 7 subparagraph 1 indent three of this Regulation, the number of deals, the information on which is available as of 12 p.m., is equal or less than 10% of the average daily value of a similar indicator in the previous month

Between 12:15 p.m. and 1:00 p.m. the NBU requests from the banks – that enter into deals on Ukraine's interbank FX market – their quotes related to the purchase/sale of USD 1 million via the TIS functionality in case there are grounds for using the calculation of the official UAH/USD exchange rate under special conditions specified in Section III paragraph 7 subparagraph 1 indents two to four of this Regulation. The request is sent to 20 banks included in the list compiled based on NBU regulations (hereinafter – the List). The banks comprising the list are eligible to participate in a best-exchange-rate intervention, which is conducted by requesting the quotes on the purchase/sale of foreign currency from market participants.

The NBU sends a request that is identical to the request outlined in Section III paragraph 7 subparagraph 1 indent five of this Regulation via telephony to 10 banks from the List if less than five banks have provided exchange rate quotes for the purchase and/or sale of the U.S. dollar in response to the previous request, or if none of the TIS is operating, for whatever reason. The request is sent to the first 10 banks from the List if the day of making said request is an even date. Otherwise the request is sent to the other 10 banks from the List.

If responses containing exchange rate quotes on the purchase and/or sale of the U.S. dollar following the requests sent pursuant to Section III paragraph 7 subparagraph 1 indents five and six of this Regulation were obtained from not less than five banks, the NBU shall have the right to use the quotes so received to calculate the official UAH/USD exchange rate according to the calculation of the official UAH/USD exchange rate under special conditions (Annex 2)

2) against foreign currencies (except for the U.S. dollar and SDRs):

based on the data on hryvnia exchange rate for the U.S. dollar calculated in accordance with Section III paragraph 7 subparagraph 1 hereof, and on the BFIX quotes of foreign currencies for which TIS BLOOMBERG publishes the BFIX quotation on the day when the official hryvnia exchange rate is calculated

based on the data on hryvnia exchange rate against the U.S. dollar calculated in accordance with Section III paragraph 7 subparagraph 1 hereof and the latest available information as of the moment of the official hryvnia exchange rate calculation on foreign exchange rates against the U.S. dollar (or the U.S. dollar against foreign currencies) that are set by the respective central (national) currency-issuing banks, or on current exchange rates of foreign currencies against the U.S. dollar (or the U.S. dollar (or the U.S. dollar (or the U.S. dollar (or the U.S. dollar against foreign currencies) in international FX markets that are received through TIS: for currencies for which on the day the official exchange rate of the hryvnia is calculated TIS BLOOMBERG did not calculate BFIX quotes or if these quotes were unavailable as of the moment of the official hryvnia exchange rate calculation due to an operational risk event at the stages of receiving and/or processing information from TIS BLOOMBERG

3) against SDRs (daily), based on information about the UAH/USD exchange rate that was calculated in accordance with Section III paragraph 7 subparagraph 1 hereof, and about the estimated SDR exchange rate for the U.S. dollar that is calculated using the approaches outlined on the *SDR Valuation* page of the official website of the International Monetary Fund (hereinafter referred to as the IMF), using BFIX currency quotes as exchange rate values included into the SDR basket

If on the day the official hryvnia exchange rate is calculated, TIS BLOOMBERG did not publish a BFIX quote for the currency included into the SDR basket, or if the information on that quotation was not available as of the moment of the official hryvnia exchange rate calculation, due to an operational risk event at the stages of receiving and/or processing the information from TIS BLOOMBERG, then to calculate the estimated SDR exchange rate against the U.S. dollar, the latest available information as of the moment of the official hryvnia exchange rate calculation about the exchange rate of that currency against the U.S. dollar (or that of the U.S. dollar against that currency) that is set by the central (national) bank that issues that currency

4) against SDRs (this method has been clarified) – on the second business day of the month, based on the information on the UAH/USD exchange rate on the last working day of the previous month, which was calculated in accordance with Section III paragraph 7 subparagraph 1 hereof, and on the information on the SDR exchange rate against the U.S. dollar that is set by the IMF on its last working day of the previous month

8. An accounting price for investment metals as specified in Section I paragraph 3 subparagraph 2 hereof is calculated as follows:

1) based on data on the UAH/USD exchange rate calculated in accordance with Section III paragraph 7 subparagraph 1 hereof, and on BFIX-quoted U.S. dollar prices for investment metals for which TIS BLOOMBERG publishes the BFIX prices for investment metals in U.S. dollars on the day the official hryvnia exchange rate is calculated

2) based on data on the UAH/USD exchange rate that was calculated in accordance with Section III paragraph 7 subparagraph 1 hereof, and on the information about the last available price for investment metals quoted on the official website of the London Bullion Market Association (LBMA) or TIS – for investment metals for which TIS BLOOMBERG did not publish BFIX price quotations in U.S. dollars on the day the accounting price for investment metals was calculated, or if no information on these price quotations was available as of the moment of the accounting price calculation due to an operational risk event at the stages of receiving and/or processing information from TIS BLOOMBERG.

9. The numeric value of the official UAH/USD exchange rate is determined as a hryvnia amount per unit of foreign currency, while the values of the official hryvnia exchange rates for foreign currencies other than U.S. dollars, as well as the accounting price for investment metals, are determined in accordance with the lists of foreign currencies and investment metals referred to in Section II paragraph 5 hereof.

The official hryvnia exchange rate for foreign currencies is set to four decimals, except for the revised official hryvnia exchange rate against SDRs, which is set to six decimals. The accounting prices for investment metals are calculated to two decimals.

(Section III paragraph 9 in the wording of NBU Board Decision No. 70 dated 1 June 2020)

10. The official hryvnia exchange rate against foreign currencies and accounting prices for investment metals referred to in Section II paragraph 5 subparagraphs 1 and 3 hereof shall take effect the next business day following the day of setting and/or settlement.

The official hryvnia exchange rate for foreign currencies and accounting prices for investment metals that:

1) are set/calculated on the last business day of the week or on the eve of a holiday and are valid on the following weekends or holidays

2) are set/calculated on the last business day of the week or on the eve of a holiday and take effect on the first business day of the following week or on the first business day following the holiday

The official hryvnia exchange rate against foreign currencies specified in Section II paragraph 5 subparagraph 2 hereof is set on the last business day of a month and takes effect from the first day of the next calendar month and is valid till the end of that month.

11. The NBU is entitled to set the official hryvnia exchange rate against foreign currencies and to set the accounting prices for investment metals on a specific date at the level of the previous business day if the business days were transferred.

#### 12. Section III paragraph 12 deleted

(Section III paragraph 12 in the wording of NBU Board Decision No. 140 dated 7 October 2020)

13. The information on the official hryvnia exchange rate against foreign currencies and the calculated accounting prices for investment metals are published on the NBU's official website not later than at 4:00 p.m. on the day of setting/calculation and is sent to subscribers of the NBU's email system.

If the official UAH/USD exchange rate was calculated using the calculation of the official hryvnia exchange rate against the U.S. dollar under special conditions (Annex 2), the NBU informs on it on its official website at the same time when it publishes the information on the set official hryvnia exchange rate against foreign currencies and the calculated accounting prices for investment metals.

### IV. Procedure for Calculating and Publishing the Reference UAH/USD Exchange Rate

14. Section IV paragraph 14 deleted

#### (Section IV paragraph 14 deleted pursuant to NBU Board Decision No. 140 dated 7 October 2020)

15. The calculation of the reference UAH/USD exchange rate is performed each business day in accordance with the calculation of the official UAH/USD exchange rate and the reference UAH/USD exchange rate (Annex 1).

The reference UAH/USD exchange rate is published on the NBU's official website not later than at 12:30 p.m. on the day of calculating.

16. The calculation of the reference UAH/USD exchange rate is not carried out in the following cases:

the number of TOD, TOM, and SPOT deals on the purchase/sale of the U.S. dollar that were concluded by banks with other banks and with the NBU on the FX market of Ukraine on the day of the official exchange rate being calculated, and were reported to the NBU by trading information systems (hereinafter referred to as the TIS) through relevant information exchange channels before 12 p.m. on the same day – is equal or less than 10% of the average daily value of a similar indicator in the previous month

due to the operational risk event at the stages of receiving and/or processing the information from TIS on the deals specified in Section IV paragraph 15 subparagraph 1 indent three of this Regulation, the number of deals, the information on which is available as of 12 p.m., is equal or less than 10% of the average daily value of a similar indicator in the previous month.

In the information to be published on the NBU's official website the symbol "–" shall be indicated in the appropriate position.

Annex 1 to the Regulation On Setting the Official Hryvnia Exchange Rate against Foreign Currencies and Calculating the Reference Hryvnia Exchange Rate against the U.S. Dollar and Accounting Prices for Investment Metals (Section III paragraph 7 subparagraph 1)

# Calculation of the Official UAH/USD Exchange Rate and the Reference UAH/USD Exchange Rate

1. The calculation of the official UAH/USD exchange rate and the reference UAH/USD exchange rate (hereinafter referred to as the Calculation) takes into account the information on all TOD, TOM, and SPOT deals on the purchase/sale of U.S. dollars that were conducted on the FX market of Ukraine by banks with other banks and with the NBU on the day of calculating the official exchange rate and reference hryvnia exchange rate, and which were reported to the NBU via TIS through relevant information exchange channels:

1) by 12 p.m.: for the purpose of calculating the reference UAH/USD exchange rate

2) by 3:30 p.m.: for the purpose of calculating the official UAH/USD exchange rate.

2. The calculation is performed as follows:

1) from the available series of deals identified in accordance with paragraph 1 of the calculation, deals are excluded being based on exchange rates that deviate by more than 2 percent ( $\pm 2\%$ ) from the arithmetic mean of the exchange rates series;

2) after paragraph 2 subparagraph 1 of the Calculation has been fulfilled, the standard deviation of the exchange rate is calculated by the following formula:

$$\sigma_k = \sqrt{\frac{\sum_{i=1}^n (X_{ki} - \overline{X_k})^2}{n}}$$

where  $\sigma_k$  is the standard deviation of the exchange rate

 $X_{ki}$  is the exchange rate in the i-th deal

 $\overline{Xk}$  is the arithmetic mean of the series of exchange rates

n is the number of deals

3) after paragraph 2 subparagraph 1 of the Calculation has been fulfilled, the standard deviation of the volume is calculated by the following formula:

$$\sigma_o = \sqrt{\frac{\sum_{i=1}^n (x_{oi} - \overline{x_o})^2}{n}}$$

where  $\sigma_0$  is the standard deviation of the exchange rate  $X_{oi}$  is the exchange rate in the i-th deal  $\overline{Xo}$  is the arithmetic mean of the series of exchange rates n is the number of deals

4) after paragraph 2 subparagraph 1 of the calculation has been fulfilled, the deals:

with exchange rates deviating from the arithmetic mean value of the exchange rates  $\overline{Xk}$  by more than two standard deviations of the exchange rate  $\sigma_k$ ;

with volumes deviating from the arithmetic mean value of the volumes  $\overline{Xo}$  by more than two standard deviations of the volume  $\sigma_o$  –

are excluded from the series.

5) the deals series obtained upon fulfillment of paragraph 2 subparagraph 4 of the calculation is used as the base series for calculating the official UAH/USD exchange rate and the reference UAH/USD exchange rate.

The values of the official UAH/USD exchange rate and the reference UAH/USD exchange rate are calculated as the weighted average exchange rate of the base series by the following formula:

$$\overline{K} = \frac{\sum_{i=1}^{n} (K_i \times O_i)}{\sum_{i=1}^{n} O_i}$$

where  $\overline{K}$  is the weighted average of the exchange rate

 $O_i$  is the volume of the i-th deal

 $K_i$  is the exchange rate in the i-th deal

n is the number of deals.

Annex 2 to the Regulation On Setting the Official Hryvnia Exchange Rate for Foreign Currencies and Calculating the Reference Hryvnia Exchange Rate for the U.S. Dollar and Accounting Prices for Investment Metals (Section III paragraph 7 subparagraph 1)

## Calculation of the Official Hryvnia Exchange Rate for the U.S. Dollar Under Special Conditions

1. The official UAH/USD exchange rate (hereinafter referred to as the official exchange rate) is calculated as follows:

1) in line with the calculation given in Annex 1 to the Regulation, On Setting the Official Hryvnia Exchange Rate for Foreign Currencies and Calculating the Reference Hryvnia Exchange Rate for the U.S. Dollar and Accounting Prices for Investment Metals (hereinafter referred to as the Regulation), if the number of TOD, TOM, and SPOT deals on the purchase/sale of U.S. dollars that were concluded in the FX market of Ukraine by banks with other banks and with the NBU on the day of the official exchange rate being calculated, and that were reported to the NBU via TIS through relevant information exchange channels before 3:30 p.m. on the same day – is equal or more than 10% of the average daily number of said deals in the previous month

2) as the simple arithmetic mean of all exchange rate quotes to buy and/or sell U.S. dollars that were received under Section III paragraph 7 subparagraph 1 indents five or six of the Regulation – if the number of TOD, TOM, and SPOT deals on the purchase/sale of U.S. that were conducted on the FX market of Ukraine by banks with other banks and with the NBU on the day of the official exchange rate being calculated, and that were reported to the NBU via TIS through relevant information exchange channels before 3:30 p.m. on the same day – is equal or less than 10% of the average daily number of such deals in the previous month and if the conditions stipulated in Section III paragraph 7 subparagraph 1 indent seven of the Regulation are complied with

3) as a value that equals the official UAH/USD exchange rate effective as of the day of the calculation – if none of the calculation conditions stipulated in Section III paragraph 7 subparagraph 1 indent two to five of the Regulation are complied with