Monthly Update For Current Year 2020 Exchange Rate Forecast

Ukraine Economic Outlook

06.05.2020

Content

Summary

We stick by our exchange rate forecast for the end 2020 in the UAH 27.5 -29.0 UAH/USD corridor, taking into consideration **the results of April** - the first month after the exchange rate "bounce" following the "March rally" and stabilization of Ukraine's interbank currency market.

Our group's forecast calculations, which will be presented in more detail in this report, show that during the first two weeks of May the hryvnia will continue the "soft" revaluation trend that began in April - from UAH 26.85 to UAH 26.60/USD. There is one proviso, however. If on May 20-23 receipt of the first tranche from the IMF is delayed, expectations in the foreign exchange market will deteriorate significantly and the hryvnia may "unravel" to UAH 27.7/USD by the end of May and the first week of June. The general mood among investors could be "exacerbated" by payment of UAH 3 billion in hryvnia-denominated domestic government loan bonds (OVDPs) on May 27-30 if they are used to shore up to a noticeably "weakened" (in terms of volume) foreign exchange market and to make payment on $1.1 billion on government Eurobonds scheduled on May 29

The foreign exchange market will further be unsettled due to the fact that the government had about $1.67 billion in foreign currency accounts at the end of April. Repayment on May 13 of $334 million in foreign currency bonds and $1.1 billion in Eurobonds will force the Finance Ministry to urgently raise foreign currency at auctions. This, in turn, will lead to an even greater skew of demand over supply in the foreign exchange market.

It is more likely, however, that by this date a public announcement will be made on the IMF's "final decision" on tranche allocation. If affirmatory, this would maintain the smooth rate revaluation trend. Under this scenario, the exchange rate (Scenario "B") will strengthen against the backdrop of positive news for the National Bank to UAH 26.2 UAH/USD.

The most probable calculated value of the exchange rate on June 1, 2020 is UAH 26.1-26.3/USD.

Our group also analyzed all fundamental factors known to us which could influence the exchange rate to a changed, opposite balance (with a trend towards strengthening of the hryvnia exchange rate) of supply and demand of foreign currency in the country. This includes analysis of external payments, obtaining external loans (primarily from the IMF), and new terms of foreign trade (both for export-import of goods and services and for transfers of "labor migrants").

We also looked at new fundamental factors that became apparent this month - capital inflow and outflow to/from Ukraine and, most importantly, National Bank (NBU) monetary policy. This is the basis on which we present two probabilistic scenarios of the hryvnia exchange rate movement until the end of the year, depending on a "harder" or a "softer" NBU monetary policy (Scenarios"A" or "B").

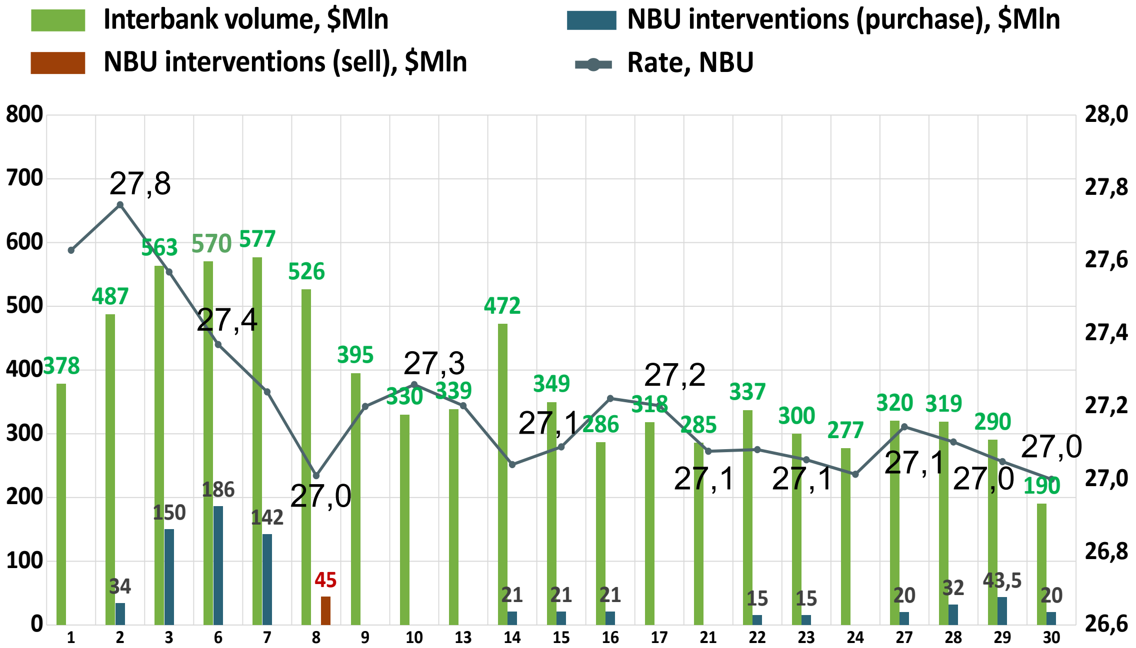
Under the most probable scenario, according to which the NBU conducts a "tougher" monetary policy, the budget deficit will be financed mainly due to external borrowings (Scenario "A"). Under this scenario, we forecast that the hryvnia exchange rate on December 31, 2020 will be UAH 28.2/USD (with probable deviations in the UAH 27.7-28.7/USD currency corridor).

Under the less likely scenario, according to which the NBU conducts a "softer" monetary policy (if the regulator has to "take over" the bulk of the financing of the budget deficit, instead of using IMF currency, by providing more than UAH 60 billion to banks for refinancing OVDPs (Scenario"B"), we forecast that the hryvnia exchange rate on December 31, 2020 will be UAH 31.8/USD (with probable deviations in the UAH 31.3-32.3/USD currency corridor).

We are also changing our March assessment of the forecast of the consolidated balance of payments of Ukraine in 2020 from "negative" at $1.5 billion to "positive" at $900 million, according to the results of the year (taking into account external financing from the IMF in the amount of $8 billion) and the balance sheet of the NBU's foreign exchange reserves at the end of the year in the amount of $26.4 billion.

Foreign exchange market: April, "depreciative" revaluation of the exchange rate and "buyback" to NBU reserves of $700 million through interventions to bring the exchange rate to the UAH 27/USD

Interbank And Exchange Rate, April



As indicated in our previous forecast, March became the month of "depreciation of the exchange rate" to the support level of UAH 27/USD with a trend toward strengthening. This followed the exchange rally in March to the levels of UAH 28.1-28.2/USD.

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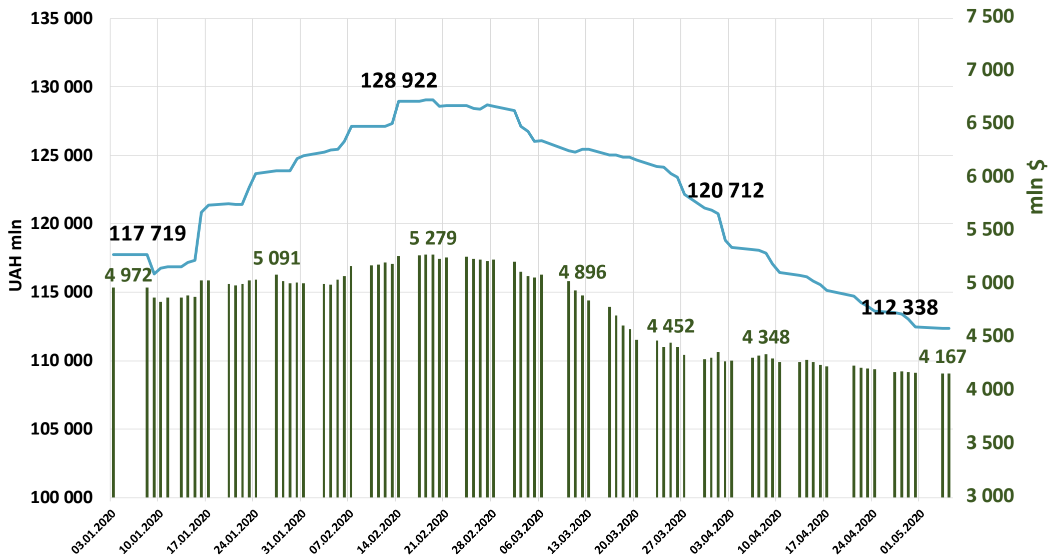
Our previous forecast miscalculated the "support level" of the exchange rate at the end of April at UAH 27.5/USD as the limit value for the depreciation of the exchange rate. The NBU allowed the hryvnia at the end of the month to revalue to UAH 26.95/USD. Throughout the second half of April, the central bank intervened to maintain the hryvnia strengthening at UAH 27/USD. We were the only forecast group to identify clearly the trend and the start of the redemption of surplus supply of the NBU currency in order to maintain the exchange rate within that range.

Our March forecast that "non-resident" owners of Ukrainian OVDPs nominated in hryvnias would not be able to "exit" through the secondary market was also justified. Non-residents, after trying to sell OVDPs at discounts, assuming an effective yield of 23%-25% per annum and not finding counterparties on the secondary market for the necessary volumes, as well as seeing a "persistent trend" toward the strengthening of the hryvnia, ceased their "panic exit." By the end of April, the level of "effective profitability" in the secondary government bonds market almost approached pre-crisis levels (see the section "Reducing the NBU discount rate from 10% to 8% and resuming the primary government bonds market")

Throughout March, non-residents were able to "withdraw" $181 million from current OVDPs through the interbank market and only $128 million through the secondary market.

In April, the "exit" of non-residents, according to our estimates, amounted to $192 million in the secondary market and $107 million in the primary OVDP market. In other words, they managed to withdraw only UAH 17.4 billion during the "March-April" crisis, or $610 million out of $4.2 billion of their investments in government bonds for 2018-2019.

OVDP's portfolio of non-residents (-$610 mln march-april), UAH mln



In March, banks acted within the limits of their "open foreign exchange position" and importers sought to "buy" cheaper dollars on the eve of what they expected to be a deeper revaluation. Medium-sized businesses, meanwhile, preferred to transfer free working capital in hryvnia to a long dollar position during the "exchange rate turbulence."

April was the month of "amortization" during the March panic. According to preliminary data, banks from their "position" sold $200 million, and nostro accounts of bank customers (settlement) decreased by $650 million. The population sold cash dollars bought during the March panic for $100 million.

The main trend of the month was the "sale" by exporters of previously "held" foreign exchange earnings. Throughout the beginning of April, the volume of the interbank market was at an overestimated mark of $500 million per trading day. By the end of the month, it predictably "dropped" to the usual market volumes - $250-$300 million per trading day.

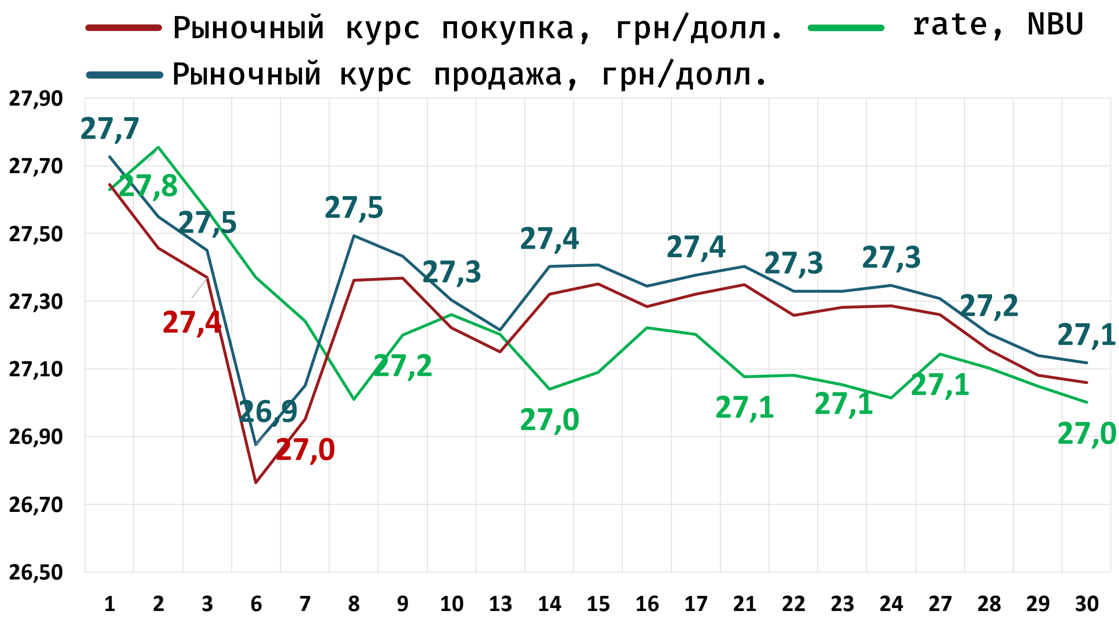
The Finance Ministry, having blocked about UAH 9-10 billion, was forced to realize exporters' foreign exchange earnings week-to-week in VAT refunds. Recall that on April 29, the Treasury immediately reimbursed UAH 6.4 billion of earlier accumulated VAT.

Market participants we interviewed highlighted the low activity of importers in the foreign exchange market: their bids accounted for 50% of the usual monthly volume. As with the "growing market" in March, the main trend was the "deferred supply" of currencies by exporters (at a rising rate), so in April the low activity of importers became the dominant trend.

It is difficult to judge how much their decline in activity was dictated by a decrease in sales of imported retail goods (which, of course, made them adjust their plans for new import purchases) and how much by the expectation of a further cheapening of the dollar against the hryvnia in May.

The dynamics of the "hryvnia cash exchange rate" only confirmed the factor of market stabilization - the spreads between cash/cashless returned to the pre-crisis range of UAH 0.1-0.2, and the decreased volumes of both interbank trading and the decrease in the turnover of the "cash" market (estimated at $1.1 billion, against $1.3 billion in March) - once again confirm this trend.

Cash Exchange Rate, Interbank Exchange Rate, April



At the same time, the population made a net sale of cash foreign currency (after rush purchases in March of $642 million) in April (estimated) amounting to $100 million.

The amount is not significant, but clearly indicates the trend that will shape the exchange rate policy in May, as was the case in 2016-2017, when cash foreign exchange savings were used by the population to support a higher standard of living.

All subjects of the foreign exchange market - exporters, the population, enterprises and the banks themselves - intend to continue to "sell" dollars bought in March. None of them is able to "organize" or provoke again a "game to increase." There simply are no fundamental reasons for this, and any attempts to "disperse" the rate above the normal level of devaluation will be leveled by NBU interventions.

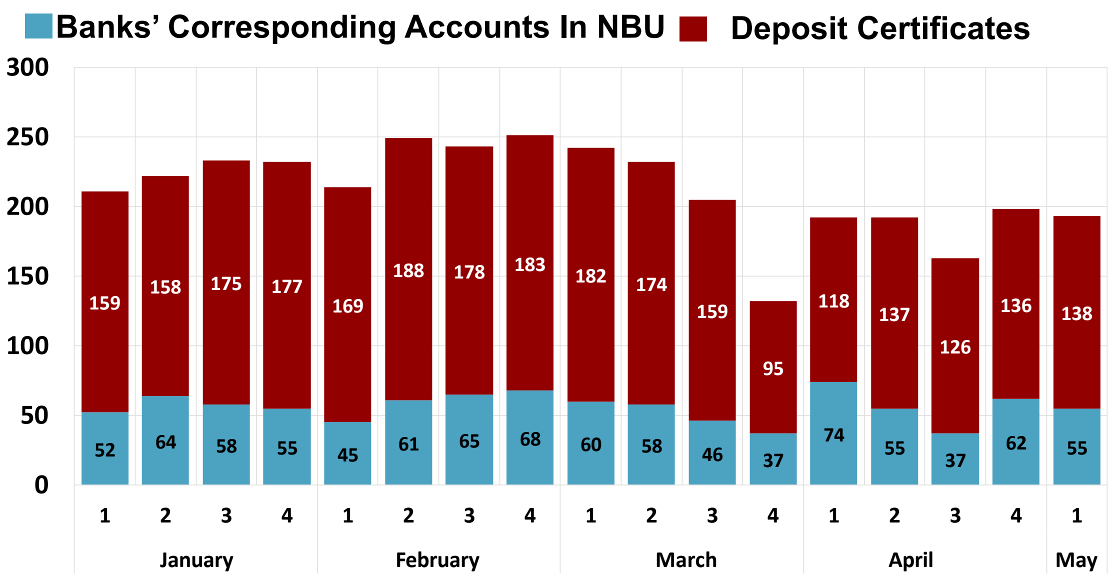
At the same time, if the NBU does not interfere with revaluation through its interventions (and it will, smoothing out fluctuations), then the only factor that can "break" the smooth revaluation trend of May is external payments.

Market factor of deposit certificates

In the last week of March, we observed an abnormal decrease in free liquidity in the banking system by almost UAH 100 billion both for liquid balances in the banks' total bank account with the NBU and for "free" balances associated with certificates of deposit.

By the mid-end of May, banking hryvnia liquidity recovered. The short-term decline was associated with the purchase of foreign currency by banks at the request of customers. Recall that in March net sale of foreign currency to bank customers amounted to $1.7 billion in non-cash and $642 million in cash. The second factor accounting for the decrease in liquidity was the "artificial" implementation of the budget plan in March due to the purchase of Naftogaz 3-month foreign currency bonds for $800 million.

Bank System Liquidity, January-May, UAH bln



As we noted in the previous review, banks accumulated more than UAH 150 billion of "excess liquidity" exceeding the normative value of the "aggregate correspondent account of banks in the NBU estimated at UAH 55 billion. These were "linked" by the NBU through certificates of deposit.

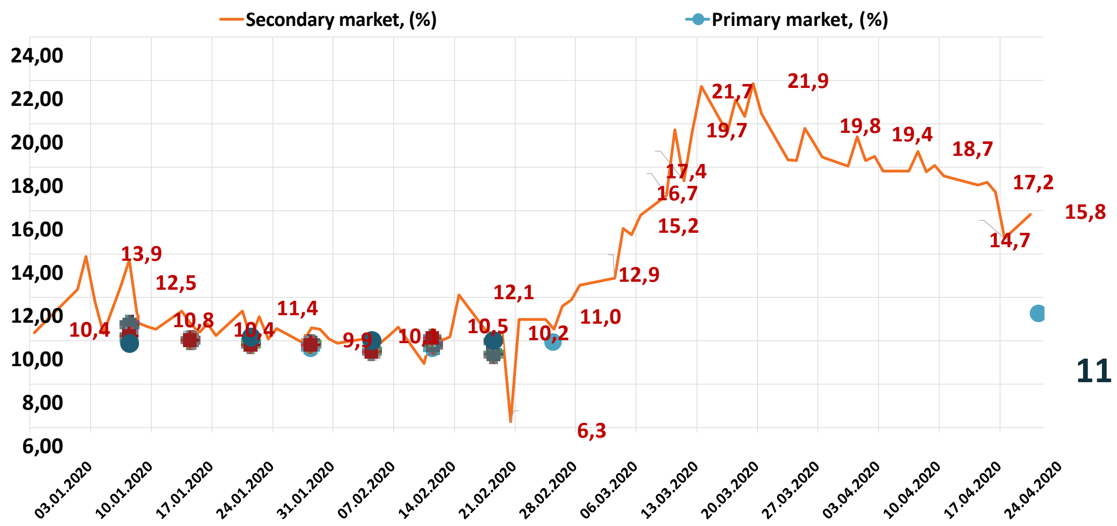
NBU discount rate reduction. Resumption of the primary government bonds market. Fixed income market prospects for banks before the end of the year.

During the last two weeks of April, the NBU made an unexpected decision to reduce the discount rate from 8% to 10%. As we noted previously, the market of Ukrainian domestic government bonds denominated in hryvnias, after an attempt by non-residents to leave the papers en masse during the exchange rally in March, lost liquidity and for a month and a half completely blocked the Finance Ministry's initial placements.

The bonds were offered at discounts, assuming an effective yield for the buyer to maturity (for various terms) at the level of 23%-25% per annum at the peak of the March rally. By April 20, secondary market quotes had fallen to 15%.

It was obvious that this is a new indicator of the money market profitability for short-term fixed-income instruments (Yield Market Money for Fixed Income). If the Finance Ministry wants to resume holding primary auctions on the government bonds market (which has stopped since the March crisis began), then, of course, it would have to "start" with new profitability benchmarks in order to compete with the "secondary" market.

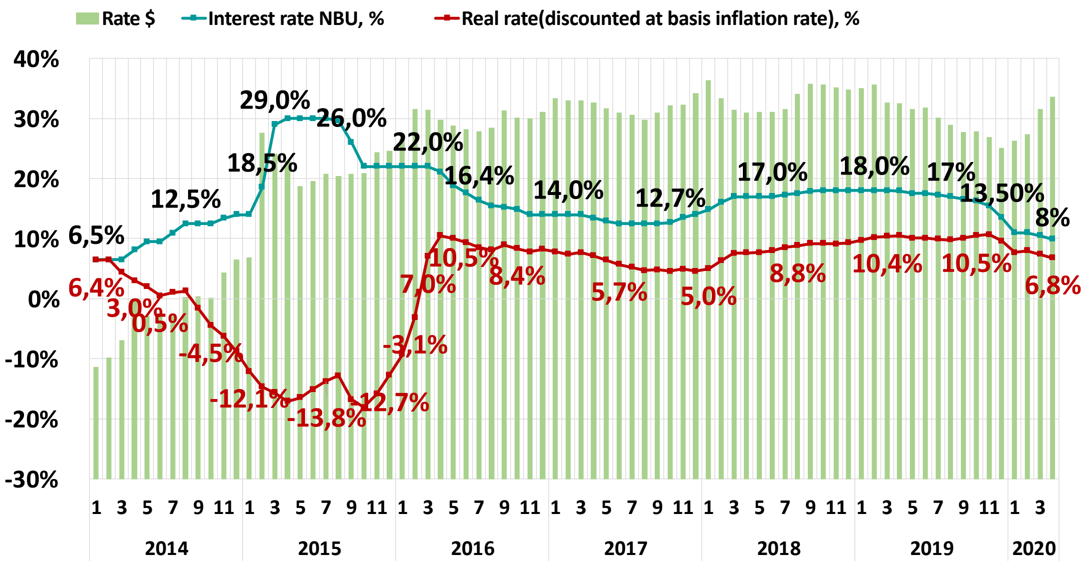
Secondary And Primary Market of UAH OVDP, average weighted yield, %



Under the conditions described, the decision to raise or lower the discount rate from 10% was the decision of the National Bank about what "margin" it would consider necessary to give the financial instruments market for this year. If the NBU raised the rate to 13%, it would enable the banking sector to earn the difference between 13% (refinancing cost) and 15% (return on the secondary, and in the future, primary hryvnia OVDPs market). If the NBU reduced the rate to 8%, it would thereby create an almost twofold gap between the base and market rates for hryvnia instruments.

The NBU followed the second scenario and reduced the discount rate from 10% to 8%. On April 28, the Finance Ministry held the first primary auction after one and a half months of the crisis. It "collected" a small amount of money – UAH 5.1 billion, but again showed the market a benchmark of 11% per annum in UAH (as was the case before the crisis). On May 5, the Finance Ministry fixed the achieved benchmark by the second placement of hryvnia government bonds - already at UAH 10 billion at 11.3%.

NBU Interest And Exchange Rate(2014-2020)



The answer to this was the reduction of the secondary market quotes to 12.5%-13%, that is, the "convergence" of the rates of the two segments of the government bonds to the level of acceptable spreads until the Finance Ministry entered the "primary market". But the Finance Ministry did not give the market the rates that the participants expected. It artificially generated "demand" for understated benchmarks (all the major players agree with this conclusion). Therefore, it cannot be said "unequivocally" that the primary market "came to life" following the 45-day crisis. Rates remain "anti-market" and therefore the position of the Finance Ministry, which must refinance a debt of UAH 120 billion by the end of the year, remains shaky.

Summarizing the current situation, we would like to point out four factors that will determine the development of the domestic capital market by the end of the year:

1) The NBU is calm about the fact that its discount rate may be in the current year in the "zone of negative or zero values" in relation to inflation. (The NBU easily went for similar measures in the crisis of 2014-2015, see the chart "National Bank's discount rate and exchange rate - 2014-2020).

2) The Finance Ministry and the NBU are ready to artificially keep low (non-market) rates on government bonds, while at the same time creating high spreads on transactions with them - by offering cheap hryvnia resources for banks at a "low" refinancing rate.

3) The NBU and the Finance Ministry see as their strategy a "way out" of a part of UAH 150 billion of excess banking system liquidity in certificates of deposit and their replacement of the share of non-residents in the government bonds market, as well as increasing debt to finance the budget deficit.

4) Banks receive a model of essentially risk-free (except exchange rate risk) arbitration before the end of the year in the government bonds market in refinancing limits by the NBU at the discount rate.

The only factor that is holding back the full launch of this new fixed-income instrument market in its architecture is the "mismatch in terms" of assets and liabilities. The NBU provides refinancing for 60 days, and government bonds are sold with maturities of 90, 180, 270 days.

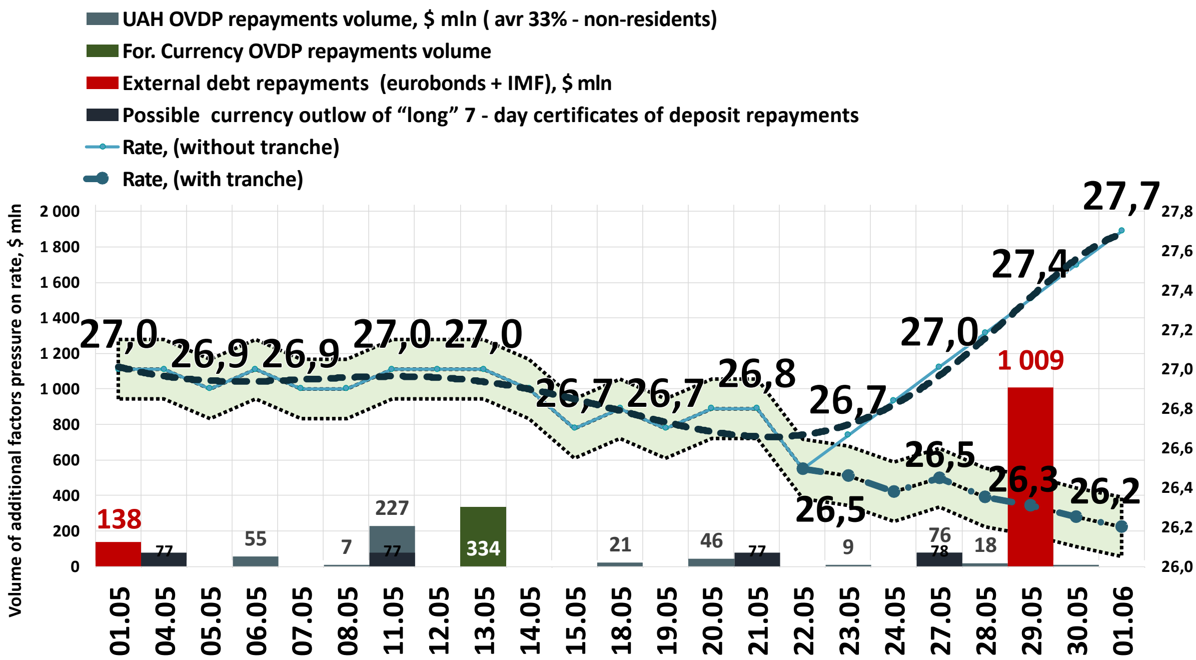
From public sources and according to information from NBU insiders, we know that a special program is currently being developed to expand the "refinancing line" in terms of time, and a program is being developed to launch a new financial instrument for "percentage" swaps, with which the NBU will most likely create market segment described above.

Exchange Rate Forecast, May

In view of the factor of "critical" "fiscal gaps" in the state budget of Ukraine in May and June, as well as uncertainty involving IMF tranches at the end of May or beginning of June (which should be announced on May 22) this month will set a "key trend" for the current year. We will know in the last two weeks of May whether the exchange rate will move until the end of the year within the UAH 26-27/USD or UAH 27-28.5/USD corridor

The basic premise of our macroeconomic (as well as exchange rate) forecast for the year 2020 is the scenario of maintaining the full "lockdown" in the labor market until June 1. It also contemplates partial lockdown easing in June and complete lockdown end in July. Violation of this basic premise, which sets the key parameters for the current analysis of budget revenues (including emission financing of the budget deficit by the NBU), the dynamics of business activity, employment, and export-import may lead to significant changes to the scenario forecast for 2020.

Exchange Rate Forecasts Scenarios, May



Key factors in May that will determine the "delta" of further exchange rate fluctuations for the rest of the year are:

1) Repayment of hryvnia government bond portfolios on May 27-30 in the amount of UAH 3 billion (market entry of excessive hryvnia liquidity).

2) Payments on $1.1 billion in Eurobonds on May 29. This will lead to a significant "drawdown" of the government's currency accounts below the minimum safe level.

3) The decision of the IMF Board of Directors on the allocation to Ukraine of a tranche of $4 billion (two tranches of $1.75 and $1.85 billion in May and August-September)

In accordance with the "mask of behavior" of the National Bank in the interbank market in "turbulent March" and "depreciatory April," we adjusted the work of our forecast model ("Mathematical mask of behavior and decision-making by the NBU Board on the course and interventions" (c)).

The NBU stopped responding "ferociously" in the 3-5 day trend on rescheduling external debt payments, pursuing a "smoother" policy of gradual devaluation/revaluation with levels of "support" and "resistance" (in March-April within the UAH 28.0-27.0 UAH/USD corridor).

However, as before, the NBU reactions to "distortions" of the external balance of payments in the amount of $500 million -$1 billion "closing with the exchange rate," rather than using its reserves to "smooth out" the trends.

Therefore, our forecast for May suggests both scenarios:

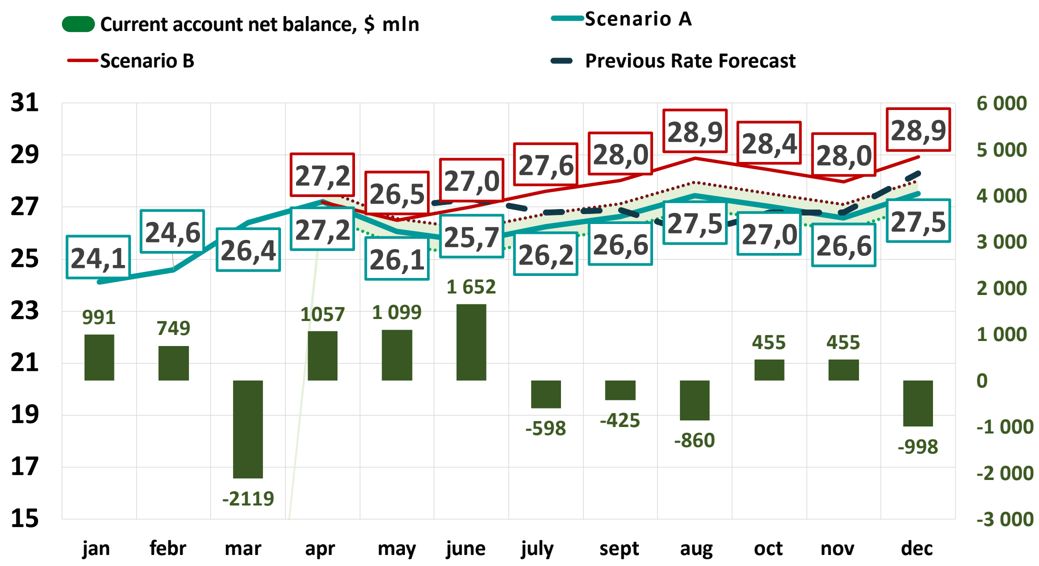
A) Receipt of the IMF tranche. The rate moves smoothly along the revaluation trend down to UAH 26.2 UAH/USD, because all external payments are covered by the tranche.

B) If on May 22 it becomes known that Ukraine will not receive as expected at the end of May-June $1.75 billion in tranche from the IMF. The Finance Ministry will then manage to cover the payment of $1.1 billion (May 29) on Eurobonds from its own accounts, but the issue of payments on foreign currency debts in June-July will remain open.

Since these months it is necessary to pay $2.4 billion, and the Finance Ministry will not be able to buy foreign currency from the National Bank due to the lack of an "uncritically important hryvnia," the currency will have to be borrowed on the external or domestic market as soon as possible. In the foreign exchange market, expectations will worsen significantly and the currency will begin to rise in price, which will again set the revaluation trend to UAH 27.7/USD by May 31.

Scenario Exchange Rate Forecast 2020

Exchange Rate Forecast, 2020



As we mentioned in the previous section, what happens in May will determine according to which scenario (A – UAH 26.2/USD or B – UAH 27.7/USD) the situation will develop until the end of the year.

Our (April) exchange rate forecast indicated that a significant (up to 20%) expansion of the monetary base was unlikely. As we expected, based on the "fork" in the exchange rate scenario of May (see the previous section), changes in 2020 will be predominantly determined by the influx/outflow of currency into the country (balance of payments), rather than the by "pressure" from additional hryvnia emission over reasonable 7%-10% limits.

The key months that will determine the exact scenario of the year (both in relation to the course and in relation to economic growth) are May and June. In May, the allocation/non-allocation of the IMF tranches to Ukraine will be decided, and in June the Finance Ministry and the National Bank will have to bridge a record "fiscal gap" in budget revenues and expenditures, exceeding the sum of all taxes collected in the country for the month.

The "fiscal gap" factor. Calculation of budget expenditures and deficit financing needs.

As we emphasized in our extraordinary **"Closed Client Report"** dated 20/03/2020, the NBU, through its interventions to sell foreign currency in March, carried out the absorption (withdrawal) of about UAH 60 billion from circulation (monetary base, base money) in order to create a "minimal" effect on retail inflation (CPI) to finance both the lack of tax revenues and additional budget expenditures.

Our assumption that this trend (the "clean withdrawal" of the hryvnia from circulation, albeit at a slower rate) will be the main source of financing the budget deficit - supplemented by a change in the NBU's position on deficit financing. The regulator approved a program of providing UAH 60 billion in bank refinancing. Despite the fact that the purpose of these funds is not regulated, it is assumed that state-owned banks will lend to capital investments of state-owned companies. For example, Ukreximbank, which received UAH 6 billion from the NBU in refinancing on May 5, provided loans to the state-owned Road Agency of Ukraine (Ukravtodor).

The NBU, as the "lender of last resort," may have been ready to refinance the entire current payment schedule for hryvnia government bonds for 2020 and social expenses, but this could jeopardize the IMF cooperation program. At the same time, financing the budget deficit under the scheme: provision of refinancing to commercial banks (if necessary, also selling them "interest rate swaps" to hedge liquidity gap risks by maturity) – government purchases of banks bonds - profit taking by banks – the "linking" of NBU excess liquidity in certificates of deposit (we expect their portfolio to increase in banks for the current year), in no way goes beyond the standard "structural memorandum framework" necessary for receiving an IMF tranche.

As for the absorption from the hryvnia market through the sale to the private sector of the currency, the negative balance of payments of the population and business, according to our estimates, will total $4.3 billion. This "delta" will be closed by the Finance Ministry through IMF currency tranches and other borrowings from financial institutions – by non-inflationary means. The net emission of the hryvnia through the currency channel will be equal exclusively to the growth of reserves by the end of the year - $900 million or UAH 25 billion (+ 5.2%).

It is also worth noting that in April the NBU and the Ministry of Economic Development and Trade (MEDT) published its official forecasts for the development of the Ukrainian economy until the end of 2020.

According to the NBU forecast scenario, it will be able to keep consumer inflation (CPI) in the amount of 6%-7% this year. The decline in GDP will be 5% within the year, and the budget deficit will be higher than the 7.5% of GDP approved by the Law - by 0.5%. The main emphasis in financing the budget deficit in the NBU is also on IMF loans. The increase in primary emissions (which in a certain proportion, depending on the purpose, will put pressure on the exchange rate) under this scenario, will reach 7.5% by the end of the year. Despite the fact that the National Bank does not publish an exchange rate forecast, according to indirect indicators, they are much more optimistic compared to those of the for the MEDT.

More pessimistic figures were presented by the MEDT. If the decline in real GDP in 2020 is indicated in the same range of -4.8%, then by the end of the year inflation will accelerate to 11.6%, against the 6% target and forecast of the National Bank. What will set the hryvnia devaluation trend to a value of UAH 29.5/USD by the end of the year, the average annual rate is indicated in UAH 30/USD.

At the same time, we repeat, we believe that the main variable in the current year will be precisely the balance of demand and supply of currency in the market (consolidated balance of payments) and the minimum effect will have monetary proportions, if they, of course, remain within reasonable limits. Due to the fact that the balance of payments at the end of the year (albeit due to the increase in public debt) is forecasted at a positive level, we also take a more optimistic position, compared with MEDT.

The constant in our forecast for the current year remains the forecast of the external balance of payments of the country (presented in the last section of this note). We already know most of the variables from it. We calculated the impact of the "cheapening" of energy imports in 2020 due to the medium-term drop in oil, gas and thermal coal prices. This gives the country "savings" of $5.7 billion in foreign trade balance. (UEO provided a detailed analysis in its monthly macroeconomic update). The pace of import of services is halved, and transfers from labor migrants are discounted by no more than 20%.

Even according to the moderately pessimistic scenario for 2020, Ukraine reaches a positive balance of payments of the current year in the amount of $900 million.

And the key risk factor that will predetermine the monetary and, therefore, exchange rate policy of this year is the issue of covering the fiscal gap of the budget in critical May-June, when this gap will amount to almost half of the budget of the month.

Therefore, we compiled a fiscal model that took into account tax collection factors from the beginning of the year, possible critical implementation of government spending (taking into account the IMF's 7.5% GDP budget deficit this year to UAH 298 billion), as well as the need for refinancing of hryvnia and foreign currency government bonds (taking into account the prerequisite for refinancing 50% of payments of hryvnia government bonds by new hryvnia government bonds, and the remainder - currency with rollover , all currency government bonds will be refinanced in full).

The conditions of our modeling proceeded from the premise that the coverage of "fiscal gaps" is the base value from which we can calculate the minimum necessary expansion of the "monetary base" in 2020. From this we can build a model for the exchange rate and impact on GDP.

Generalized modeling indicators are presented in the table:

FORECASTING OF THE "FISCAL GAP" IN THE BUDGET 2020

UAH bln	1	2	3	4	5	6	7	8	9	10	11	12	Total 2020	Plan	Deviation
State budget income	50	71	87	94	69	55	62	75	62	66	78	100	868	975	-11%
Expenditures	65	78	104	107	115	118	80	74	81	78	85	126	1 110	1 282	-13%
Deficit	15	7	17	14	46	63	18	-1	19	12	7	26	242	298	-19%
Non-tax and other sources of income	1	2	2	44	14	13	13	12	12	11	10	31	166	195	-15%
Tax income	41	60	76	43	44	31	39	52	39	45	58	58	586		
Special Fund	8	9	10	7	10	10	10	10	10	10	10	10	116	120	
Tax income implementation rate (%)	75%	94%	90%	69%	60%	60%	65%	70%	70%	75%	75%	80%			

This above table illustrates the enormous burden (determining, among other things, the need for additional emission from the National Bank and the impact of the "surge" of additional hryvnia liquidity on the exchange rate) falling in May and June, the last month of the lockdown, and the first month after the lockdown, according to our model.

Taking this into account, we calculated the most probable factors for compensating for the fiscal gap in May-June obviating the central bank (that is, other refinancing needs, such as prolongation of deposit certificates, banks refinancing OVDPs through NBU refinancing and "exit" from accounts, et cetera.)

CALCULATION OF THE EMISSION TO COVER THE "FISCAL GAP" IN BUDGET 2020

UAH bln	1	2	3	4	5	6	7	8	9	10	11	12	Total 2020	Plan
Deficit	15	7	17	14	46	63	18	-1	19	12	7	26	242	
UAH OVDP payments	21	13	11	8	18	9	8	9	9	3	14	2	124	
Net current account balance forecast, private sector (bln $)	-956	564	-1439	47	325	-439	-133	17	-738	-55	8	-1538	-4	
UAH equivalent (bln)	-23	14	-38	1	9	-12	-4	0	-20	-2	0	-44	-118	
Adjusted with NBU interventionsСкорректированное с учетом интервенций НБУ	-23	14	-38	17	-8	-12	-4	0	-20	-2	0	-28	-118	-4,3
Banks' refinancing for budget deficit financing (UAH bln.)					30	47	10	-5	-6	9	0	-3	82	2,99
Refinancing of OVDPs with UAH OVDP - 50%	19	10	1	6	9	5	4	4	5	1	7	1	71	
Currency/hryvnia OVDPs refinancing - 50%				4	9	5	4	4	5	1	7	1	40	1,5
Increase in foreign currency OVDPs: hryvnia refinance with twofold rollover				-4	-18	-9	-8	-9	-9	-3	-14	-2	61	2,2
Absorption through certificates of deposit				-20	-20	-30	0	0	0	0	0	0		
Real emmision (m)				10	10	17	10	-5	-6	9	0	-3	42	
Cummulative				10	20	37	47	42	37	45	45	42		
Monetary Base			485	495	504	522	532	527	521	530	530	527	527	10.4%

According to our estimates, the resulting minimum indicator for the growth of the monetary base this year was 10.4%. This is not an increase in emissions that is not critical for pressure on the exchange rate and inflation. Moreover, with the scale of use of certificates of deposit as instruments for linking liquidity, it will not be difficult to artificially "squeeze" the growth of the monetary base into a "safe corridor."

This "stress test" illustrates the exchange rate corridor until the end of 2020 (even with this expanded emission) does not predict exchange rate values outside of the UAH 27.5-28.9/USD corridor by the end of 2020:

Statistics Appendix

Description	2020											
	jan	febr	mar	apr	may	jun	july	aug	sep	oct	nov	dec
A.Current account	728	-90	-388	414	536	-365	-405	-241	-1214	21	298	-859
Goods and services (net)	32	-587	-342	231	187	-605	-726	-450	-767	-369	-422	-974
Goods (net)	-142	-833	-779	-591	-658	-1257	-1428	-1168	-1463	-1052	-1182	-1756
Exports of goods	3 809	3 622	3 836	3 402	3 664	2 998	3 216	3 578	3 400	3 822	3 592	3 379
Imports of goods	3 951	4 455	4 615	3 992	4 322	4 255	4 644	4 747	4 863	4 875	4 774	5 135
Services (net)	174	246	436	822	846	652	702	718	696	683	760	782
Exports of services	1307	1360	1342	1422	1517	1474	1596	1570	1601	1478	1535	1665
Imports of services	1133	1114	906	601	671	823	894	852	905	794	775	883
Primary income (net)	414	241	-297	-39	112	15	64	-7	-685	98	489	55
Compensation of employees (net)	1057	1058	975	710	753	711	858	831	1 126	1 176	1 164	1 171
Investment income (net)	-643	-817	-1272	-749	-641	-696	-794	-838	-1811	-1078	-675	-1116
Credit	45	33	62	37	45	32	72	37	55	32	34	46
Debit	688	850	1 334	786	686	728	866	875	1 866	1 110	709	1 162
Secondary income (net)	282	256	252	223	237	225	258	217	237	292	231	60
Credit	398	373	372	361	374	367	412	363	389	464	401	226
Debit	118	120	121	138	137	142	154	146	152	171	170	165
B. Capital account	1	2	1	2	2	2	2	2	2	2	2	2
Net lending (+) / net borrowing (-) (balance from current and capital account)	729	-88	-387	415	538	-364	-403	-239	-1213	22	299	-857
C. Financial account	-179	-824	1 390	226	-1 168	-2 017	193	184	-354	-434	-158	706
Portfolio investment: private sector	1 684	-654	1 051	367	211	74	-271	-258	-476	76	290	680
Direct investment (net)	-201	-314	-25	-25	-25	-50	-100	-150	-250	-250	-250	-250
Portfolio investment	51	-518	272	169	169	159	47	47	32	6	31	41
Portfolio investment: assets	22	-72	-64	15	15	5	5	5	-10	-15	10	20
Portfolio investment: liabilities	-29	446	-336	-154	-154	-154	-42	-42	-42	-21	-21	-21
Equities	6	1	11	0	0	0	0	0	0	0	0	0
Debt securities	-35	445	-347	-154	-154	-154	-42	-42	-42	-21	-21	-21
Banks	-50	-63	-285	-21	-21	-21	-26	-26	-26	-21	-21	-21
Other sectors	15	508	-62	-133	-133	-133	-17	-17	-17	0	0	0

Other investment (net)	**1 834**	**178**	**804**	**223**	**67**	**-35**	**-219**	**-155**	**-259**	**320**	**509**	**889**
Other investment: assets	1 421	330	593	-179	-400	-300	-300	-300	-300	-200	0	200
Banks	1 088	284	-63	-500	-100	0	0	0	0	100	300	500
Other sectors	333	46	656	321	-300	-300	-300	-300	-300	-300	-300	-300
o/w:												
foreign cash outside the banking system	269	19	642	321	-300	-300	-300	-300	-300	-300	-300	-300
Other investment: liabilities	-413	152	-211	-402	-467	-265	-81	-145	-41	-520	-509	-689
Central bank	0	0	0	0	0	0	0	0	0	0	0	0
Banks	-61	78	-263	-33	-33	-33	-44	-44	-44	-36	-36	-36
Other sectors	-352	74	52	-370	-435	-232	-38	-101	2	-484	-473	-653
Long-term loans	-38	-343	-289	-439	-439	-439	-301	-301	-301	-726	-726	-726
Short-term loans	-314	417	341	69,6	4,8	207,2	263,2	200	303,2	241,6	252,8	72,8
Errors and omissions												
Balance of state financing												
Repayment	-790	-1 023	-1 025	-204	-1 551	-962	-1 427	-1 152	-2 371	-186	-137	-152
Foreign state debt	107	525	943	28	1 161	74	597	597	2 308	137	137	137
Currency state bonds	602	417	0	121	334	833	767	492	0	49	0	15
Currency equivalent repayment to non-residents on state bonds (UAH)	82	82	82	55	55	55	63	63	63	0	0	0
Borrowing	1 401	347	890	346	2 930	3 053	963	709	2 249	696	584	125
Through currency denominated state bonds, USD		202	1 183	166	1 000	1 173	1 063	809	349	146	534	75
State bonds to non-residents	301	145	-293	-150	-150	-150	-150	-150	0	0	0	0
IMF	0	0	0	0	1 750	500			1 850	500		
Technical assistance	0	0	0	330	330	330	50	50	50	50	50	50
EU macro financial assistance	0	0	0	0		1 200	0	0	0	0	0	0
Euro bonds	1 100	0	0	0	0	0	0	0	0	0	0	0
IFO credits under state guarantee	888	624	-420	200	200	200	200	200	200	200	200	200
Net liabilities by month	1 681	59	-447	142	1 380	2 091	-464	-442	-122	510	447	-27
Technical errors (NBU report)	182	111	108	-								
D. Account balance (A + B - C)	908	736	-1 777	190	1 706	1 653	-596	-424	-859	456	457	-1 563
E. Reserve and interrelated items	908	736	-1 777	190	1 706	1 653	-415	-242	-677	456	457	-1 563
Reserve assets	908	600	-2186	190	1706	1653	-596	-424	-859	456	457	-1563
IMF credits	0	-136	-409	0	0	0	-182	-182	-182	0	0	0
Estimated value of NBU reserves	26 293	27 200	25 423	25 613	27 319	28 973	28 376	27 953	27 094	27 550	28 007	26 444
Estimated value of rate under Scenario A	24,3	24,57	26,6	27,20	26,06	25,66	26,24	26,63	27,45	27,03	26,60	27,51
Estimated value of rate under Scenario B	24,3	24,6	26,6	27,20	26,50	27,00	27,61	28,02	28,88	28,44	27,98	28,95

Statistics Appendix

Comments on the table of Ukraine's balance of payments (scenario tolerances and a description of background calculations):

Foreign trade balance of goods and services.

Raw materials (including finished food products), directly or indirectly, account for 70% of Ukraine’s total exports, and we therefore "bound" UEO's Ukraine Commodity Price Index (derived from the World Commodities Price Index, weighted by real densities in Ukraine's commodity index structure) until the end of 2020, according to three export categories: agribusiness, metals, wood, chemical industry and energy. To extend the forecast series until the end of 2020, current quotes of futures for these categories traded on the Chicago Mercantile Exchange were used.

The remaining 30% of exports with relatively high added value was extended by regression with the forecast growth rates of our main trading partners in 2020 (based on the April IMF forecast).

Import Energy imports (relative weight- 16%) by price series were similarly extended until the end of the year based on futures quotes showing their smooth recovery until December. Physical volumes of energy imports were discounted due to the lockdown: for gas by 7% with a sharp recovery in injection volumes in August, and for petroleum products - by 25% with a smooth recovery before the end of the year to pre-crisis values. Ukraine's total savings on energy imports in 2020 will amount to approximately $5.7 billion.

Investment and consumer imports were discounted according to two components: the average devaluation for the previous quarter (to the corresponding period of the previous year) and the predicted decline in physical goods turnover (both retail and wholesale) from -8% during the lockdown period with a smooth recovery up to +7%-10% by the end of the year.

The negative trade balance in the year 2020, calculated on the basis of these assumptions, will be $11-$12 billion.

We left the 50% decline in Russian gas transit in the Ukrainian route in our balance of payments forecast (according to the moderately pessimistic scenario of the balance of payments and exchange rate for 2020).

We discounted 100% "export of services" under the article of tourism of non-residents to Ukraine in 2020 (as the most pessimistic tolerance for the country's balance of payments).

As we see in the example of March, the majority of the population used package travel services of agencies with at least a month of prepayment. Therefore, in March, "import of tourism services showed a decline of only 20%. However, we expect a steeper decline in April-June (50% of the previous year) with a smooth recovery to 65% by the end of the year). So, based on the study of the world agenda, tourism (including business or business trips) and free trade in previous volumes of the day will undergo an extremely deep and prolonged decline until complete vaccination against COVID-19. Estimated amount - $10.3 billion.

Balance of primary income/expenses: We discounted by 25% the income from income of labor migrants (taking into account the "return" of 500,000 Ukrainian migrant workers from Europe and the partial or complete loss of their income in Q2-Q3 2020, based on the recessions projected in European countries by the IMF in 2020.

It is important to note that Ukrainian migrants are already an integral part of the production chains in the EU (contrary to popular myth, Ukrainians are mainly employed in industry, agriculture and industry - the most stable sectors). Employers will require assistance from their governments, respectively, to return Ukrainian workers. This explains our improved expectations for the "wage balance" line item.

At the same time, as shown in March, the reinvestment rate for all types of assets fell from 60% to 100%, which significantly increased the load on the line item "investment income: payments." In total, during 2020 we expect payment of dividends to foreign parent companies and interest on financial instruments in the amount of $10.9 billion, compared to $7.7 billion a year earlier.

Secondary income balance. This is one component of income from Ukrainian migrants who draw up their transfers as "private transfers to relatives" and are fully tied to the line "wage balance."

Financial account (private sector). Our model is based on the premise of the resumption of "direct foreign investment" in already launched projects in Ukraine totaling $1.25 billion in Q3-Q4 compared to $2.5 billion in 2019 (according to net inflow methodology - reflected in the financial account with a minute sign and vice versa). Our knowledge of the "private equity market" (exclusively) on projects well-known to us suggests that this is the minimum amount of already started "investments" on long-term projects that will be continued only after Ukraine "emerges" from the crisis in Q4 2020.

Portfolio investments. Our moderately pessimistic and realistic forecasts (Scenarios "A" and "B") are based solely on the premise of "zero" reinvestment by non-residents in Ukrainian government bonds with their outflow when "cheap refinance" appears on the market.

The "early" exit of non-residents through the limited liquidity of the secondary market (by analogy with statistics with the "panic" exit in March of $150 million) in Q2-Q3 in the same volume ($150 million per month, as an extremely pessimistic scenario, given the limited liquidity of the "secondary market" of government bonds).

"Private sector"/banks: Using the example of what happened in March, banks, although they retain the ability to violate the standards of an open foreign exchange position and try to "play up" by at least UAH 0.3-0.5, try to avoid such a strategy if possible. In contrast to 2014-2015, when the level of NBU reserves did not allow "cutting off" speculative trading, the regulator today keeps its course in the established corridor and has the highest "margin of safety" on the market. Moreover, on average, 70% of the banking system's assets are concentrated in state-owned banks, whose management cannot afford such actions because of political responsibility. Thus, the nostro position of the banking system will be correlated with foreign trade turnover and the movement of funds in the foreign currency accounts of their customers. As was the case in March, an increase of $1.6 billion in the middle of the month in the foreign currency balances of banks was client money that paid for imports.

We do not see any reason for the influx of currency from the parent structures for the recapitalization of the Ukrainian subsidiaries, as it was in 2016-2017, and we do not see the possibility of raising capital on the Eurobond market.

"Cash foreign exchange market." We expect a regression of the decline in interest in buying foreign currency in cash on the part of the population, along the path of $500-$300-$100 million in March-April-May. Due to the unprecedentedly deep recession in the first quarter, we expect the population to sell cash from savings before the end of the year.

State Finance Balance (Payments) -2020. Based on the premise of a moderate-pessimistic scenario in 2020, we took into account all payments for servicing state external debt and 0% refinancing from non-resident holders of "currency government bonds." Moreover, as mentioned above, we have laid the average "outflow" of "non-residents" in the amount of $150 million/month. until August through the secondary market. All foreign currency government bonds (payments on which amount to $3.6 billion will be refinanced with a rollover of up to 2-2.2, which compensates for the possible lack of sufficient demand for hryvnia government bonds for refinancing according to the payment schedule).

State Finance Balance (income) -2020. Our forecast model is based on the unconditional receipt of two tranches from the IMF - in May and August-October, in the amounts of $1.75 and $1.85 billion, respectively (a total of $ 3.6 billion), sent to the Ministry of Finance to finance the budget deficit. In addition to this amount, it is highly probable that the National Bank will receive money from the IMF, but in this conservative forecast, we considered it correct not to take it into account yet.

Also, we rely on information currently available to us on the receipt of irrevocable international/bilateral "technical assistance" to Ukraine in the amount of $1.5 billion in 2020.

Our moderate-pessimistic forecast includes the receipt of two tranches from the World Bank for $500 million within a month after the IMF tranches and the receipt of the already considered $1.2 billion from the European Commission.

At the same time, Ukraine, as the practice of 2016, 2017 and 2019 shows, has good chances to enter the private borrowing market (Eurobonds) with a higher rate, but in the same volume. As of today, Ukrainian securities are traded with an effective yield of 10%-12%, depending on the period of circulation.

In total, during the second half of 2020, according to our model, even in the case of the "worst-case scenario" (not receiving the second tranche from the IMF), will allow the Finance Ministry and National Bank to "sustain" the external balance of payments presented in the table in the forecast's framework.

CONCLUSION:

Based on the sum of factors of "pressure" on the exchange rate and "compensators" in the form of all the sources of currency inflow into the country that we analyzed (taking into account seasonality and the payment schedule), we do not see fundamental reasons for the devaluation of the hryvnia exchange rate above the "psychological barrier" of UAH 29-30/USD.

However, today we consider the most likely scenario to be the hryvnia exchange rate to 31/12/2020 at an indicative level of UAH 28.3 UAH/USD (within the range of the "currency corridor" 27.5-28.5 UAH / USD.)