National Bank of Ukraine

Approaches to stage three of bank resilience assessment in 2023

Underlying approaches to banks’ indicators forecast in 2023

- Banks’ indicators will be projected under a baseline scenario only. The scenario is developed on the basis of NBU macroeconomic forecast over the three-year horizon.
- Even under the baseline scenario, the key risks – credit, interest, and FX one – materialize for banks.
- Prudent conservatism principle dominated in the scenario development. The baseline scenario is not an optimistic one.
- Modelling principles of past years are maintained. The principles are in line with international practices. Scenario parameters are supplemented and recalibrated to fit current environment.
- Credit risk materializes through migration of loans into NPL category. Loans to large borrowers are assessed at individual basis, the rest – on portfolio basis.
- Interest rate risk materializes through change in interest rates on assets and liabilities in line with the projected change in the NBU key policy rate, adjusted for transmission velocity.
- FX risk materializes through revaluation of economic value of banks’ net open FX positions.
- Non-interest components of operational results are projected with regard to their current dynamics as well as forecasts of main macroeconomic indicators.
- Estimated financial results (profit or loss) defines change in banks’ capital and status of banks’ compliance with threshold capital ratio requirements over the forecast horizon.
- Given the change in capital over the forecast horizon, required capital ratios are set for the banks.

Baseline scenario builds on NBU's macro forecast

Key parameters of the baseline scenario build on NBU macroeconomic forecast:

- Gradual recovery of real GDP after a fall in 2022 because of the full-scale invasion
- Inflation gradually declines and reaches 6% in 2025.

FX rate change is projected in line with "Focus Economics" consensus forecast of May 2023: the hryvnia weakens against US dollar, by 11.2% yoy in 2023, and gradually afterwards.

Indicator	2022	Baseline scenario		
		2023	2024	2025
		NBU estmations		
Real GDP, % (yoy)	-29.1	2.9	3.5	6.8
Nominal GDP, % (yoy)	-4.8	25.7	16.8	15.9
Consumer price index, % (end of period)	26.6	10.6	8.5	6.0
		«Focus Economics» estimations		
Weakening of UAH against USD, % (yoy)	25.4	11.2	1,7	0,9
UAH/USD exchange rate (end of period)	*36.6*	*41.2*	*41.9*	*42.3*

Large exposures are analyzed on individual basis

The analysis covers 20 largest corporate borrowers of each bank: their debt burden is analyzed to assess their capacity to service their debt.

To this end, the NBU projects EBITDA for each bank and assess its ratio to interest payments on debt to produce modified interest coverage ratio, ICR_M. If ICR_M is below the threshold, borrower's loan is classified as NPL.

The NBU projects EBITDA based on ratios that rely on macro-indicators (GDP change, GDP deflator, CPI, etc.) and vary by industry cluster.

… the rest of loans are stress tested on portfolio basis

- Credit risk remains the major one for banks. Under the baseline scenario, the risk is moderate, but scenario parameters account for wartime economy risks.
- Credit risk is assessed on portfolio basis for most of the loans (except for loans to large corporate borrowers).
- NBU also assumes minimum loss-given-default (LGD) rates, also for NPLs.
- NPL migration rate is based on bank survey on parameters for credit risk assessment (including probability of default) according to the IFRS.
- No NPL recovery to performing loans is assumed.

Rates of migration of loans into NPLs, %

Segment	Currency	Forecast periods		
		1st	2nd	3rd
Other corporate loans	UAH	5.9	4.2	4.2
	FX	6.9	3.2	3.2
Retail loans secured with real estate	UAH	7.3	2.9	2.9
	FX	100.0	0.0	0.0
Other retail loans	UAH	10.6	7.3	7.3
	FX	100.0	0.0	0.0

Interest rates are to decline over the forecast horizon

- Change in yields on hryvnia assets and cost of liabilities depends on key policy rate and transmission rate, adjusted for difference in change of rates on new instruments and stocks of instruments.
- Banks' rates are projected as proportionate to change in interest rates at macro level, starting from average cost of assets and liabilities of banks for the last six months prior to reporting date (October 2022 – March 2023).
- Interest rates on assets and liabilities in FX remain virtually unchanged over the whole forecast horizon.
- Rates on retail loans and liabilities with maturity over three years do not change.
- Interest rate spreads in most segments gradually narrow: the fastest in hryvnia corporate segment, and slower for FX business loans.
- Given banks' loan structure, net interest margin will also gradually contract.

Forecasting items of profit & loss statement

Interest income: estimated at lower of two rates: on actual inflow of payments or accrued interest. The rate is calculated separately for performing loans and NPLs by segments of loan portfolio. The interest rate on NPLs is capped at 25% of rate on performing loans.

Interest expenses: projected at different rates for short-term (up to three months), medium- (three to six months) and long-term deposits.

Fee and commission income and expenses: estimated on the basis of current dynamics and forecasts of major macroeconomic indicators.

Administrative costs: projected on the basis of current dynamics and forecasts of macroeconomic indicators, including GDP deflators.

Annual change of income and cost indicators of banks, %

Item	Forecast periods		
	1st	2nd	3rd
Annual change in commission income and expenses	-10.0	-5.0	0.0
Annual change in administrative costs	0.0	12.8	8.5
Annual change in profit/loss from FX trading	-50.0	-10.0	0.0

Expenses on provisioning: defined by credit risk level.

FX revaluations: are product of revaluation of FX position of a bank.

One-off components of income and expenses are not accounted for in forecast periods.

Setting required capital adequacy ratios

- Required capital adequacy ratios are set with regard to the largest deviation of ratios over the forecast horizon as compared to AQR results.

Stylized example