National Bank of Ukraine

Assessment of resilience of banks and banking system in Ukraine in 2018

October 2018

Key facts about banks' resilience assessment

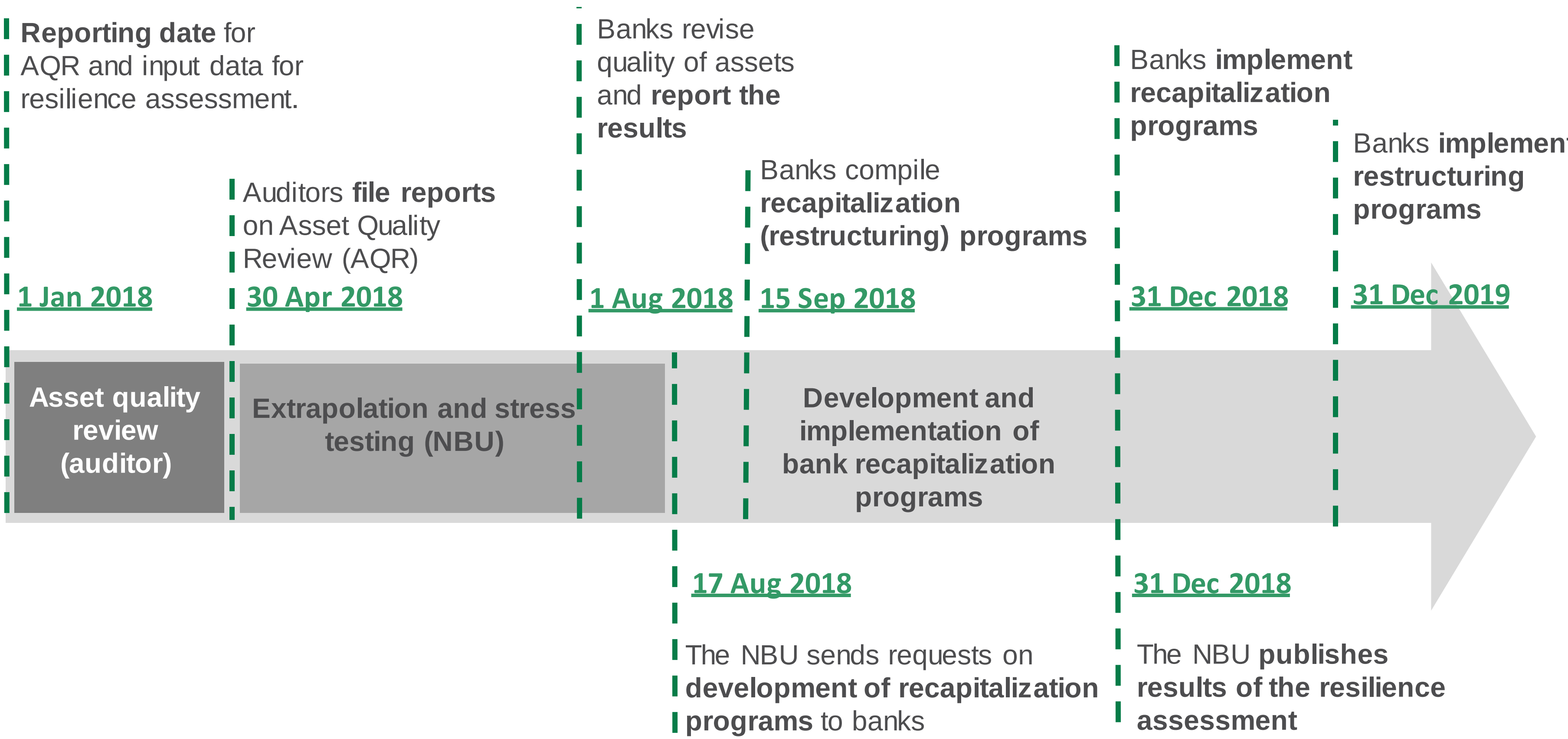
- The NBU has completed resilience assessment of banking sector in 2018.
- Resilience assessment proceeded in three stages:
  1. Asset quality review and assessment of collateral eligibility. External auditors made these assessments for all banks.
  2. Extrapolation of results of stage one, assessment of capital adequacy and of need for extra capital. The NBU proceeded with stage two if banks misreported their asset quality at stage one.
  3. Stress-tests (ST), assessment of adequacy and need for extra capital.
- Two macroeconomic scenarios are applied, baseline and adverse ones. The baseline scenario provided a comparison basis against the adverse scenario.
- 24 banks accounting for over 90% of the banking sector's assets were put to stress test. The NBU selected banks for stress test by highest average reading of two indicators: risk-weighted assets and retail deposits.
- The NBU stress-tested credit and market (interest rate and foreign exchange) risks.
- Results of banks' resilience assessment are to be published by the end of this year.

Scenarios for resilience assessment by the NBU: baseline and adverse

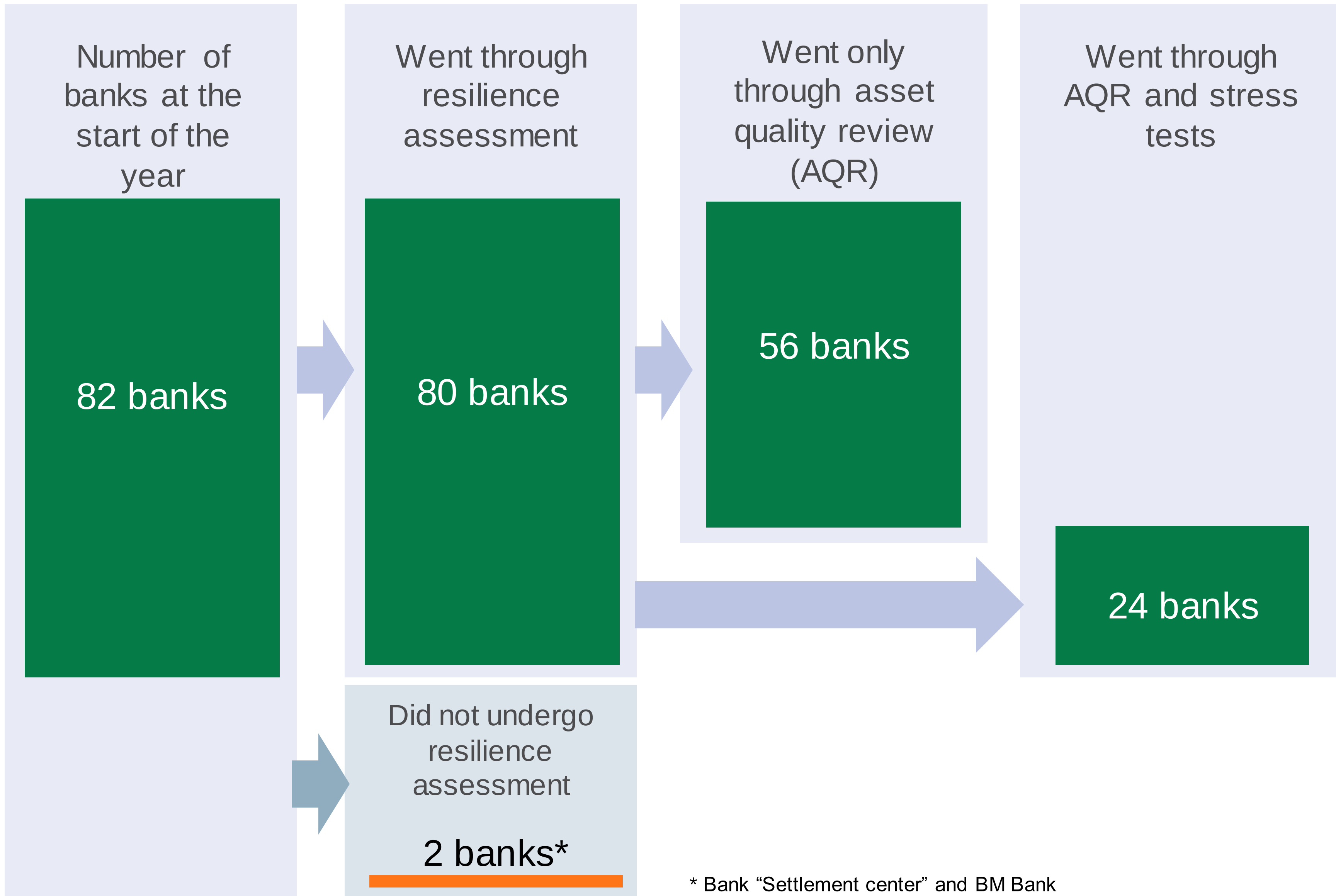
- Public NBU forecasts underlie the baseline scenario. The baseline scenario takes on board "Focus Economics" consensus forecast as forecast for hryvnia exchange rate movements.
- The NBU has designed the adverse scenario that builds on the following assumptions:
  - Real GDP declines by one standard deviation (calculated based on 2000 data) from the baseline scenario;
  - Hryvnia falls against US dollar by 23% yoy in 2019 (average depreciation rate for two previous crises) and gradually thereafter.

Indicator	2017	Baseline scenario			Adverse scenario		
		2018F	2019F	2020F	2018F	2019F	2020F
		NBU forecast					
Real GDP, %	2.5	3.4	2.9	2.9	-3.3	-3.7	1.0
Nominal GDP, %	25.1	15.7	11.3	9.0	18.8	13.3	11.6
Consumer price index, % (end of period)	13.7	8.9	5.8	5.0	18.7	14.8	9.3
		«Focus Economics» forecast			*NBU forecast*		
Hryvnia depreciation against US dollar, % yoy	3.8	5.4	2.7	1.5	23.1	11.1	5.6

Timeline for banks' resilience assessment



Distribution of banks by approaches to resilience assessment



* Bank “Settlement center” and BM Bank

Estimating needs for raising capital under recapitalization/restructuring plan

A need in capital arises in case if capital adequacy reading falls below required ratio.

Stylized example

	Asset quality review	2018	2019	2020
Baseline scenario	20	**100**	50	70
Adverse scenario		150	**200**	80

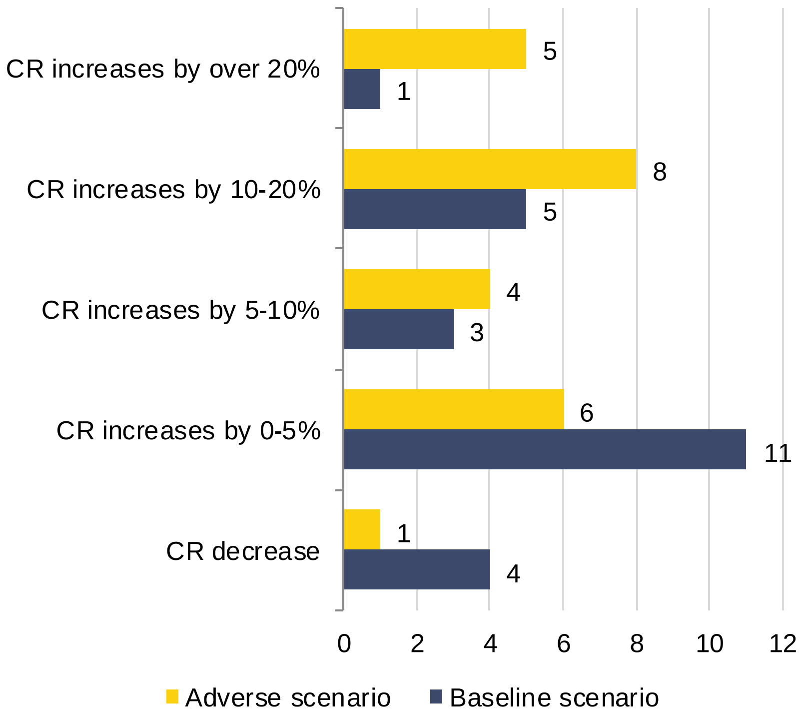
The highest of readings defines need for raising extra capital under a recapitalization plan until the end of 2018

The highest of readings defines need for raising extra capital under a restructuring plan until the end of 2019

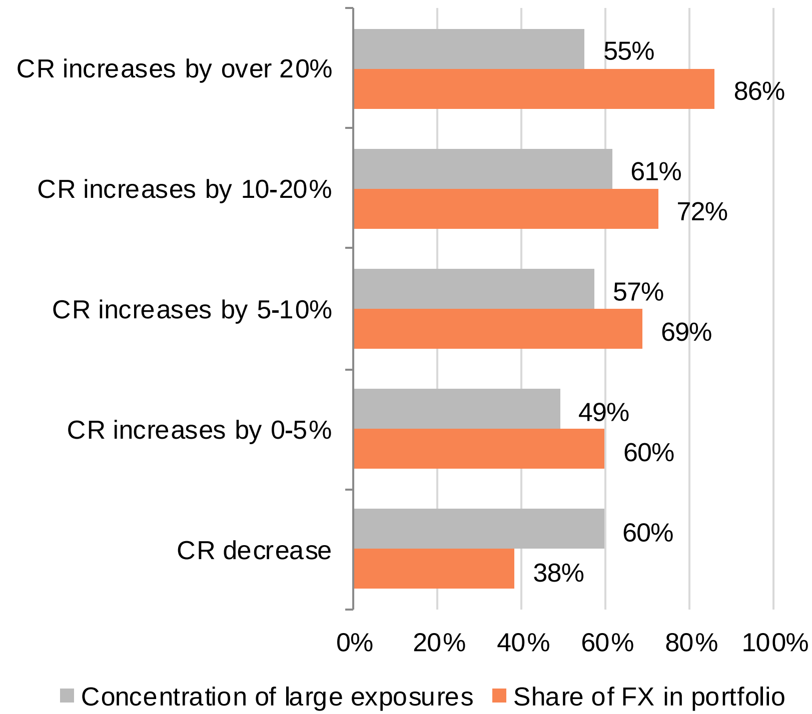
Key risks for banks are currency composition of debt and exposure concentrations

Most banks had no issues with stress tests of large exposures under the baseline scenario. However, under the adverse scenario, only 11 banks proved to be resilient to shocks.

Distribution of banks by results of stress tests of large exposures*



Impact of FX and concertation risks on stress test results*



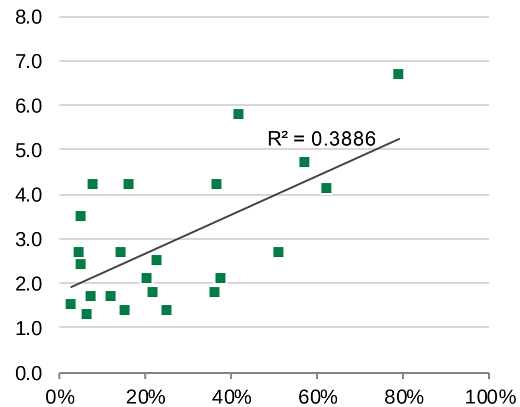
**CR stands for credit risk (prudential provisions)*

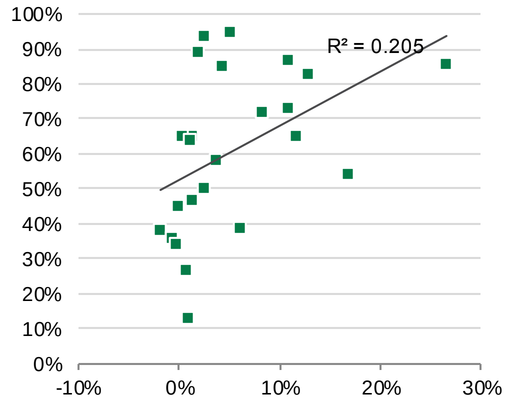
Banks that ignored foreign exchange risks and concentration risks had the worst results.

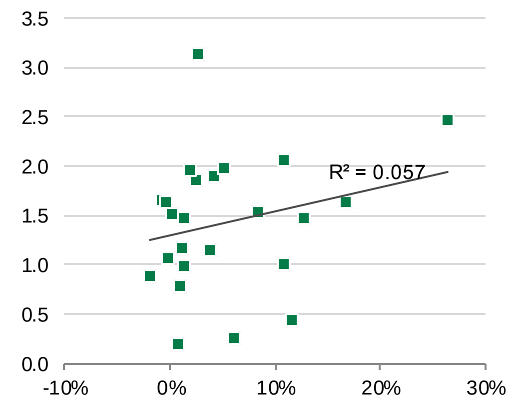
Factors that had impact on stress test results for large exposures

Average Debt-to-EBITDA ratio for a portfolio and PD increase	Dependence of credit risk increase on share of FX loans	Dependence of credit risk increase on LTV

Baseline scenario







Adverse scenario