NATIONAL BANK OF UKRAINE

FINANCIAL STABILITY REPORT

June 2016

Contents

Introduction

The National Bank of Ukraine is proud to present its first Financial Stability Report (FSR). It aims to identify risks to financial stability in Ukraine, analyze their impact on the financial system and the economy of the country, and to provide recommendations for strengthening financial stability.

The FSR, along with the Inflation Report, represents key public document of many central banks around the world. The National Bank of Ukraine (NBU) shall prepare the Financial Stability Report and post it on the official NBU website twice a year.

The key feature of the FSR is that it focuses on risks and recommendations. Even if the probability of a shock occurrence is low but its potential negative impact is significant, the risk and its implications should be reflected in the FSR.

We structured the first issue of the FSR according to a classical pattern that most central banks adhere to: step-by-step analysis of key sectors of the economy (real, fiscal, households, real estate market, banking, and external) in order to detect risks to the financial system. Risks that arise directly in the banking system (credit, capital adequacy, liquidity, and profitability risks) receive the most attention.

Like most central banks, the NBU prioritizes the achievement and maintenance of price stability in the country. According to the Law of Ukraine *On the National Bank of Ukraine* the regulator, within its powers, shall contribute to financial stability, including stability of the banking system. Therefore, close attention is paid to the state of the financial system in general and to the analysis and countermeasures for risks that might impair its stability.

The NBU produces the FSR for financial market participants and audiences interested in the financial stability agenda. The FSR enables economic agents to assess the situation on the markets in a more balanced way and refrain from assuming unforeseen risks. The FSR also contains a number of recommendations to the state authorities on actions and measures implementation of which, in the opinion of the NBU, is essential for strengthening financial stability and minimizing risks.

The NBU based its analysis on data available at the date of the FSR preparation, so the cut-off dates for certain indicators may differ.

Key conclusions

In 2014-2015 Ukrainian economy and banking sector went through the deepest crisis since independence. It was caused by both the military conflict and Russian annexation of Ukrainian territories and large-scale structural imbalances that had been building up during the last decade. The fact that banking sector was lacking adequate regulation and efficient supervision for a long time was an additional source of problem. That led to a rapid growth of number of institutions that had no intention to perform functions of classical financial intermediation and were viewed by their shareholders merely as a tool for funding of their related businesses. Legal exposure of creditors contributed negatively to financial state of banks. Financial sector restructuring and banking system re-launch, which are in progress now, unveil many fundamental problems. They also show how costly are the delays in taking socially unpopular but necessary decisions.

Financial sector remains vulnerable to potential external and internal shocks. The resilience of banking sector is being gradually restored in 2016 yet paces of improvement depend greatly on materialization of external risks and ability to minimize them.

External conditions for economy and financial sector are still complicated due to an on-going Russian aggression on the East, deteriorating terms of trade for Ukraine, highly volatile and unpredictable prices for Ukrainian exports, which provokes pressure on foreign exchange market. Macroeconomic risks for financial stability subside. National Bank and independent forecasters expect economic growth in 2016 and in medium-term prospects, yet they emphasize that economic revival is going to be slow this year.

Lower macroeconomic risks facilitated partial normalization of banking sector functioning. Trust to domestic banks gradually restores – increase in retail deposits in hryvnia is observed since April 2015; FX deposits have been growing since December. We expect the trend to continue through 2016 and banks' deposit base to increase by 10% in total. The rebalancing of commercial banks' resource base will last for a few more years. Banks are going to rely less on external funding and will focus instead on deposits from corporates and households.

Bank lending will be limited in 2016 in spite of the fact that banking sector liquidity is at the historically highest level. Key risks that hold back the revival of bank lending are large indebtedness of corporates, still weak solvency of most sectors of the economy and high legal risks. Operational profits of business and households' ability to repay debt should improve this year. This should allow banks to expand lending to economy in the next quarters. However, we still expect insignificant reduction of banks' credit portfolio during 2016 (with regard to exchange rate effect).

In 2015, the National Bank undertook a large-scale and detailed diagnostics of top-20 banks in its history. It comprised:
(i) Asset Quality Review;
(ii) Stress-tests, that is analysis of banks' capacity to withstand economic shocks.

For the first time such diagnostic study was done by the National Bank with its own personnel and resources (previously external consultants were attracted for this). The diagnostics helped to uncover loopholes in banking regulation and to identify practices for (artificial) overstating of credit portfolio quality by banks in order to minimize provisions against credit operations. Based on the diagnostics results, 16 out of top-20 banks required additional capital. This year the National bank holds diagnostics of next 40 banks. Thus, we will have a detailed analysis of assets of 60 banks that make up in total more than 97% of banking sector.

The quality of banks' credit portfolio was at its historical minimum in 2015. According to diagnostics results share of loans falling in categories 4 (51-99% probability of default) and 5 (default) in credit portfolios of top-20 banks reached 53%. In 2016, banks are obliged to report real information on the state of their assets as it was or will be identified in the course of diagnostics.

Banking sector will be still making losses in 2016 because of substantial provisioning for losses from credit operations. Its return to profitability is expected no sooner than in 2017.

Since the beginning of 2014, almost 80 banks – more than a third of total – were declared insolvent. In total, they counted for 30% of banking sector assets as of early 2014. The Deposit Guarantee Fund's payouts related to refunding of guaranteed personal deposits have already exceeded UAH 70 billion. At the same time, UAH 16 billion were recovered via repayment of loans and sales of assets of these banks.

With regard to the banking sector losses, the National Bank in agreement with IMF developed a soft schedule for capitalization of banks. In 2016, top-20 banks will have to ensure core capital adequacy ratios at 4% and regulatory capital adequacy ratios at 5%. They are allowed to delay full compliance with 10% regulatory capital adequacy ratio requirement until the end of 2018. Banks that will fail to ensure full and in-time implementation of recapitalization program will be declared insolvent. Banks that went through diagnostics have already started to raise additional capital as defined by stress tests. In the aftermath of the diagnostics, some of top-20 banks have already complied with all National Bank recommendations and raised capital necessary for the entire projected period. Banks increase capital mostly by conversion of loans from shareholders into equity.

In parallel with diagnostics, the National Bank monitors banks' transactions with related parties. High concentration of loans to related parties was the reason behind bankruptcies of several banks in the last two years. The National Bank obliged banks to bring the indicators related to lending to related parties (taking into account recently discovered facts) in line with requirements during three years. Unwinding lending to related parties will free up considerable resources for lending to companies on market terms.

Since early 2015, the National Bank requested banks to disclose their real owners. The banking system today is fully transparent in terms of availability of information of final beneficiaries and depositors understand who should be held responsible in case of bank's bankruptcy. Three banks that failed to disclose in time their real owners went out of business early this year.

The National Bank sets itself three tasks until the end of 2016:

- to implement new approaches to credit risks assessment by banks;
- to design a roadmap for harmonization of regulations with Basel committee recommendations and EU directives;
- to launch development of concept for macroprudential regulation.

The National Bank expects banks to finalize the clean up of balances – full recognition of impaired assets and making necessary provisions. Banks have to adhere to agreed capitalization plans / restructuring programs and programs for unwinding related party lending. The National Bank also stresses the need for the parliament to adopt several laws aimed at protection of creditor rights and completion of restructuring of FX mortgages.

Map of banking sector risks

Credit risk began to diminish. The level of NPLs reached their historical highs. The increment considerably slowed down since the beginning of 2016, and was largely due to belated recognition of such loans by banks. The solvency of companies and households remains low, although it began to recover in the first half of 2016.

Capital adequacy risk remains high due to the significant losses of banks caused by deteriorating assets quality. The risk gradually reduced as most large banks already have raised capital fully or partially after completion of the diagnostic study.

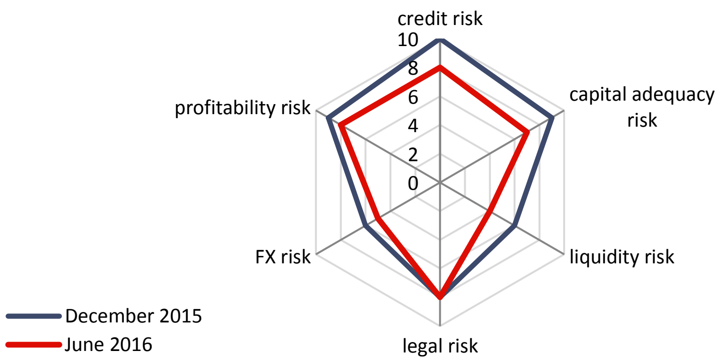
Liquidity risk has significantly diminished and continues to decrease as the deposit base recovers further. From December 2015, the banks enjoyed a net inflow of retail FX deposits. The liquidity within the banking sector is still distributed unequally.

Legal risk has remained virtually unchanged over the past six months. Presently some bills are brought to the Verkhovna Rada of Ukraine, which, in case of their adoption and practical implementation, will significantly reduce the risks for the sector. There are many court rulings that weaken the protection of banks as the parties to the loan agreement.

FX risk has significantly subsided over recent months due to a recovery in prices in global commodities markets and smaller fluctuations in the exchange rate of the hryvnia. The NBU was a net buyer of FX on the interbank market in the period from January to May 2016.

Profitability risk is gradually decreasing. The sector will still be making losses throughout 2016 as banks continue to make significant provisions against assets. Deterioration of the quality of loan portfolio will hold back growth of net interest income.

Banking sector risk map*



** Risk levels range from 0 to 10, where 10 is the highest risk level.*
The estimation reflects the expected risk level over the next six months.
Source: NBU estimates

Explications:

Credit risk – reflects prospective changes in the NPL share in banks' credit portfolios and need for additional provisioning against these loans.

Capital adequacy risk – estimation of banks' capability to comply with regulator's requirements on capital adequacy.

Liquidity risk – capability of banks to meet in time and in full their liabilities to depositors and creditors.

FX risk – risk of impact of FX market trends upon financial result.

Profitability risk – ability of banks to generate net profit.

Legal risk – ability of banks to use efficiently legal instruments to protect their rights.

External conditions and risks

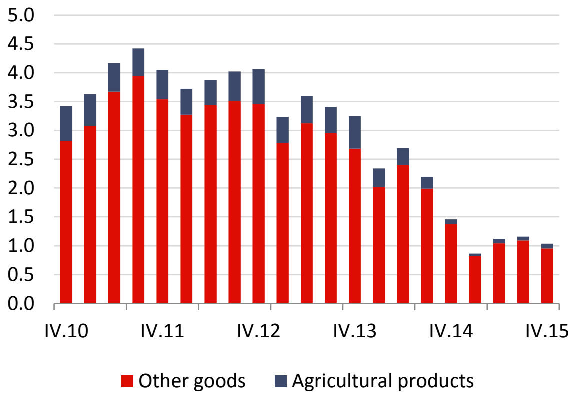
External conditions and risks

Among the external risks, the possibility of escalation of the conflict in Eastern Ukraine remains the major one. There are no clear prospects for conflict resolution so far. Other risks related to unfriendly Russian policies include the restrictions on Ukrainian imports and a fall in remittances from Ukrainian labor migrants. High volatility of international prices for key Ukrainian exports and imports may also have a negative impact on financial stability in Ukraine.

The risks of escalating Russian aggression in Eastern Ukraine persist

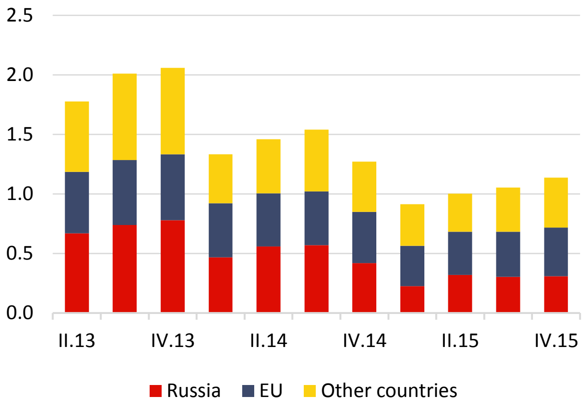
The Minsk agreements are not observed in full and reports about fire engagements are coming almost daily. The industrial capacities in the ATO zone were mostly lost, which caused a drop in FX proceeds in 2014-2015 and led to significant increase in NPLs. The prolongation of the conflict contributes to uncertainty and affects negatively expectations of businesses and households. Further diplomatic efforts and enhanced military capacity are needed to mitigate this risk. There are no clear prospects today for final settlement of the conflict.

Export of goods from Ukraine to Russia, USD billion (quarterly)



Source: NBU

Remittances inflow to Ukraine, USD billion



Source: NBU

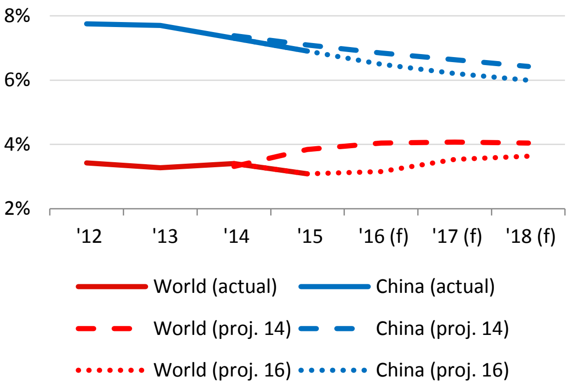
At the end of 2015, conditions for Ukrainian labor migrants in Russia deteriorated. Ukrainian citizens who do not have a permit for permanent residence or a work permit will be allowed to stay on the Russian territory for no more than 90 days within half a year. This means a further reduction in the number of labor migrants there, falling remittances to Ukraine, and certain deterioration on Ukrainian labor market. In 2015remittances fell to USD 1.16 billion – almost halved compared to 2014, though it can be partially attributed to devaluation of the Russian ruble.

The global economic growth will be slow and uneven. Prices for key Ukrainian exports remain volatile

According to the April IMF forecasts update, the global economy will grow by 3.2% y-o-y in 2016, almost at the same rate as in 2015 (+3.1% y-o-y). The IMF described the prospects of the world economy for the next few years by the name of its report *Too slow for too long*. Escalation of conflicts across the world could threaten global growth. The developed economies are expected to be the drivers of global recovery, while the developing economies will recover at rates substantially below the potential. The greatest risks in 2016 are posed by slowdown of China's economic growth to a level below 7%, recession in Russia and Brazil, as well as the possible global stagnation.

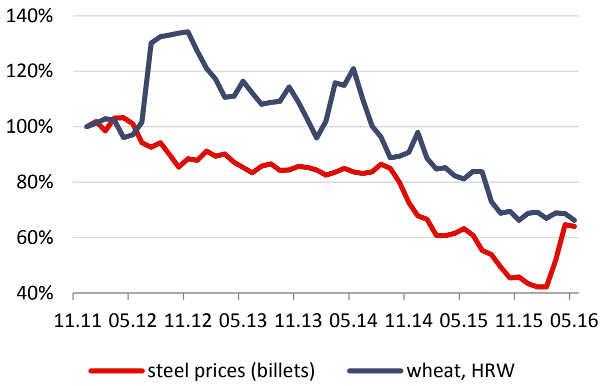
These trends of global economic growth result in high price volatility for key Ukrainian exports (primarily ferrous metals and soft commodities). Global prices for these commodities were falling through 2015 to minimums in early 2016, and then recovered in February–April 2016 to the end-2015 levels, but a correction again took place in May.

Real GDP growth, % y-o-y (IMF estimations)



Source: IMF World Economic Outlook

Wheat and steel prices, December 2011=100%

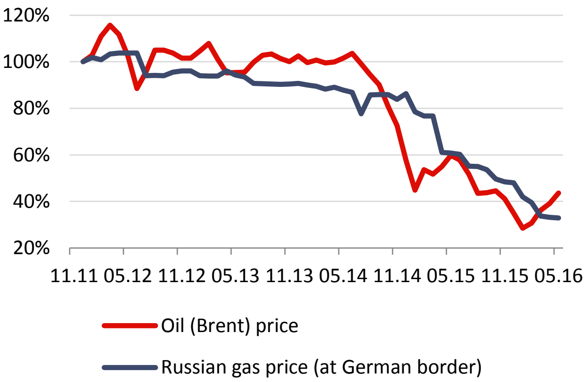


Sources: IMF, Bloomberg

Fuel price remain volatile

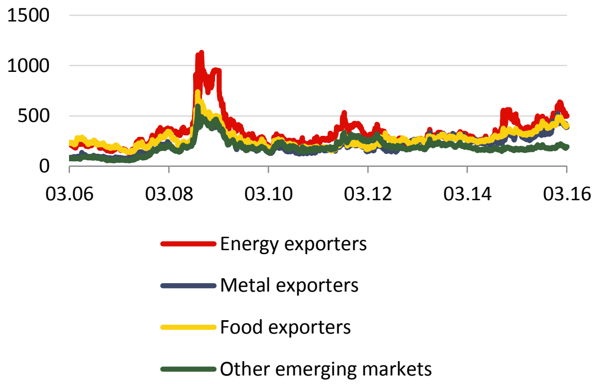
Fuel prices were falling for most of 2015, with the oil prices hitting a more than ten-year lows in early 2016. Despite the partial recovery since the second half of February, prices remain relatively subdued. Lifting economic sanctions from Iran, the decision of the USA to end the forty-year embargo on export of oil, and the determined policy of certain Arab countries to lower the cost of oil gives grounds to believe that the period of low oil prices will last long, albeit high volatility may persist through 2016. However, certain factors may contribute to the growing energy prices in the mid-term, in particular, significant reductions in investment into the oil industry and related fall in production volumes. The resumption of upward trend in fuel prices will most likely lead to increase in prices for Ukrainian exports as the commodity prices tend to move in the same direction. Ukraine faces moderate risks for 2016.

Oil and natural gas prices, December 2011=100%



Source: IMF

Bond Spreads Across Commodity-Exporting Emerging Market Economies, basis points



Source: IMF Global Financial Stability Report

US Fed shifts from its accommodative monetary policy

In December 2015, the Fed increased the interest rate for the first time in the last nine years. Analysts expect a few more hike cycles during 2016 and thereafter. Janet Yellen, the Fed chair, stated in late May that the Fed would increase "gradually and cautiously" its interest rates. This can lead to a draining of cheap liquidity on international markets and more expensive dollar-denominated credit. Traditionally, these factors reduce investors' interest in potentially more profitable, but also riskier projects and instruments of emerging markets. However, the risks for Ukrainian economy from potential new Fed hike cycles are low.

Lower investors' appetite for commodity exporting emerging markets

A number of international investment companies note possible further fall of investors' interest in emerging markets, especially in commodity exporters, in the second half of 2016 (primarily in China, Brazil, Russia). The reasons behind it are slow recovery of their economies, volatile commodity prices, and expectations for a stronger US dollar. This trend is reflected in growing risk premia for investing in emerging markets. At the same time, more technologically advanced emerging market economies, in particular in Eastern Europe, remain attractive for foreign capital. Direct risks for Ukraine from these trends are very low, as the interest of foreign investors in the Ukrainian economy is restrained mostly by high domestic risks.

Domestic conditions and risks

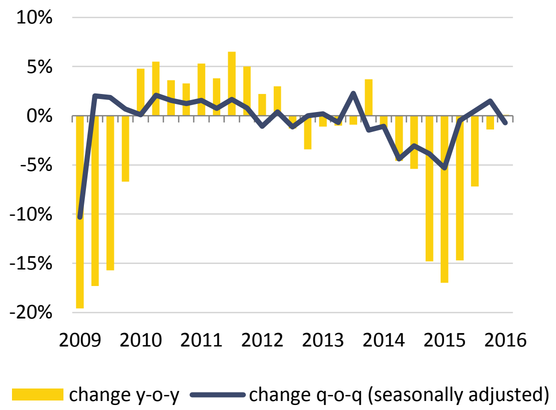
Macroeconomic conditions and risks

During the first five months of 2016, the macroeconomic environment continued to improve, which has contributed to more stable operations of the banking sector and a reduction of key risks. After a long recession period, economic growth resumed and inflation has slowed down rapidly. The key macroeconomic risks that may significantly affect financial stability in the second half of 2016 include volatile terms of foreign trade and barriers to access to international private capital markets. It is critical for Ukraine to maintain cooperation with IFIs, which allows the NBU to restore international reserves and minimize the risks of sharp exchange rate fluctuations.

Economic growth will resume in 2016 but it will remain quite slow at 1.1% y-o-y in the NBU estimates (see the NBU *Inflation Report* for a detailed analysis of macroeconomic trends). The slow recovery of real incomes of households, weak external demand, and persistent trade restrictions from Russia hold back a more rapid economic recovery.

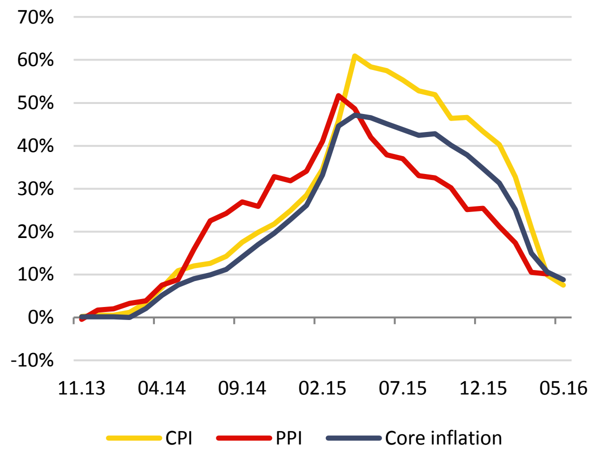
Inflation decelerated significantly to 7.5% y-o-y in May 2016, after reaching its highs of 60.9% in April last year. The NBU forecasts the CPI at 12% by the end of the year, which meets the inflation target for 2016. Certain acceleration of inflation by the end of the year will be mainly caused by further reviewing of administered prices. In the mid-term, a slowdown in inflation is expected as the impact of most economic shocks to prices will be exhausted. Furthermore, on the back of low private demand, the proportion of production capacity standing idle has significantly increased, thus also weakening inflation pressure. The inflation target set by the NBU for 2017 is 8%.

Real quarterly GDP



Source: SSSU

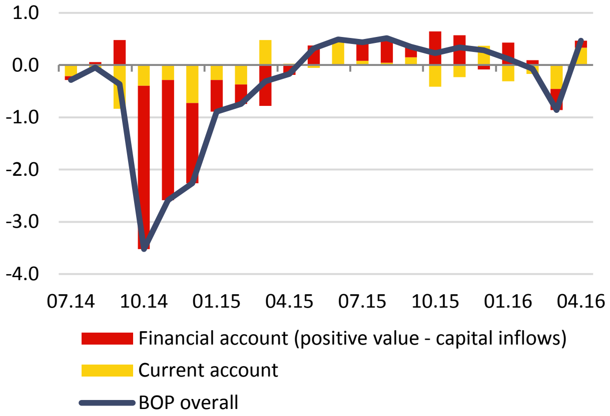
Inflation trends



Source: SSSU

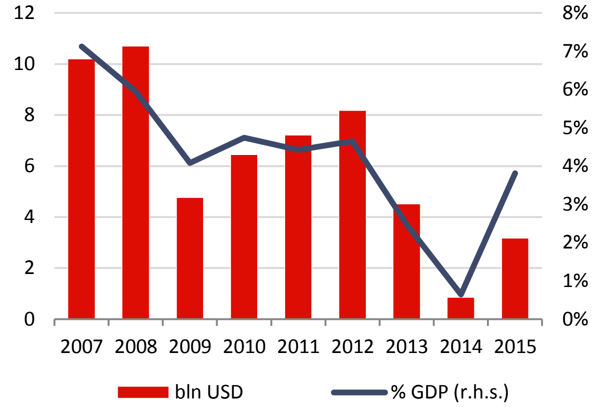
The main macroeconomic risks this year come from the external sector. According to NBU forecasts, the current account deficit will widen to USD 2.3 billion in 2016 (compared to USD 0.2 billion in 2015), primarily due to worsening terms of trade. Although since February 2016 the prices for metals has recovered, the dynamics is not yet sustainable. This level of the current account deficit is typically not critical for the economy, and could be financed through external borrowing and FDI. Ukrainian companies and the Government have limited access to external capital markets and such financial borrowing will not be large-scale in 2016. FDI inflow increased to USD 3 billion in 2015, and, according to NBU forecasts, may decrease in 2016. The FDI increase this year, as in the past year, mainly depends on raising of capital by the banking sector, mostly through conversion of debt to shareholders into equity, but such operations have a neutral impact on the balance of payments. Privatization may become an additional factor in attracting FDI, but probability of holding successful privatization tenders remains low.

Balance of payments, USD billion



Source: NBU

Foreign direct investment inflows



Source: NBU

Over 2015 and the first four months of 2016, the NBU increased international reserves to USD 13.2 billion due to cooperation of Ukraine with the IMF and other international creditors, as well as through FX purchase interventions. In February 2015, the international reserves fell to a critical level – USD 5.6 billion, as the NBU had to make active interventions to stabilize the exchange rate and to support Naftogaz in meeting its obligations. Under such conditions, the NBU resorted to stringent administrative restrictions, having obliged exporters to sell 90% of FX proceeds (reduced later to 75% and then 65%) and introduced a ban on the repatriation of dividends and early repayment on external liabilities. Administrative measures, along with tough monetary policy, have played a decisive role in stabilization of the FX market. The NBU plans to relax them further should the conditions allow. Starting from the second half of 2015, Naftogaz has been buying the FX to pay for imported gas only on the interbank FX market. The NBU does not provide and does not plan to provide direct support to the company through targeted interventions.

According to the current forecast, the NBU reserves will rise by 41% y-o-y by the end of 2016 to reach USD 18.7 billion, enough to finance future imports for 4.7 months. Although such a level would be far from historical maximums, it will be comfortable and will contribute to the formation of positive sentiment of banks and corporates.

Return to full cooperation with the IMF under the EFF program is a critical prerequisite for macroeconomic and financial stability of Ukraine. Any delay in the implementation of the program generates serious reputational risks for Ukraine and undermines the possibility of return of the Government and private borrowers to international capital markets over the next few years.

The NBU expects that the FX market will remain balanced in general in the second half of 2016 and it will be possible to avoid risks of substantial volatility in the exchange rate provided that:

- there will be no military escalation in the east of Ukraine;
- funding from the IMF and other official creditors will resume with clear compliance under agreements reached and according to the agreed schedule;
- there will be no significant negative shocks of terms of trade;
- there will be no drastic changes to fiscal policy, including through unplanned revision of social standards and wages.

The NBU stays on market to smooth down sudden temporary moves in supply and demand for FX, but allows for certain volatility of the exchange rate during the year due to fundamental factors. Overall in the second half of 2016, the NBU plans to remain a net FX buyer on the interbank FX market.

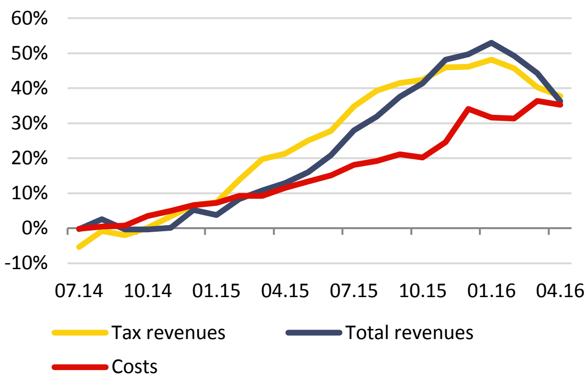
Fiscal sector risks

Execution of the budget with a moderate deficit in 2015 reduced fiscal risks for financial stability. However, the high level of public debt caused mainly by the hryvnia depreciation requires strict control over fiscal indicators in the future. The risks for the budget deficit financing may arise in the case of a delay in restoration of lending from IFIs and foreign governments. The Government should largely rely on borrowings from the domestic market to secure a more balanced budget financing. The role of the «fiscal dominance» factor for the monetary policy diminished almost to none, and the NBU does not plan to purchase domestic government bonds to cover the quasi-fiscal deficit.

The situation in the fiscal sector significantly improved in 2015. The budget deficit was 1.6% of GDP, compared to 4.6% of GDP in 2014. The rapid growth of revenues on the back of inflation and depreciation effects led to a deficit reduction. Furthermore, the expenditure planning was conservative, and the average minimum wage increased only by 4% y-o-y in 2015.

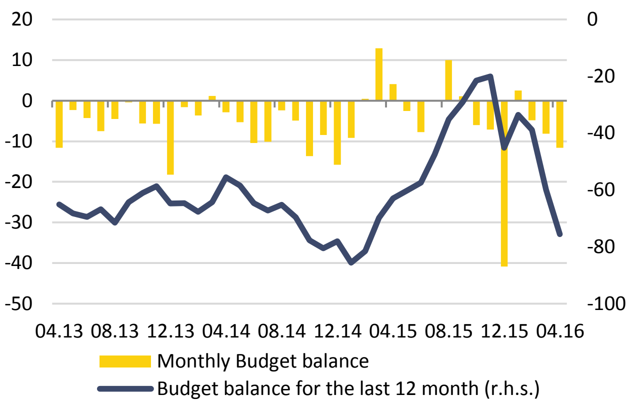
The expected slowdown in average annual CPI from 48.7% in 2015 to 12.1% in 2016 does not give grounds to anticipate the same prompt growth of the State Budget revenues as in the past year. In addition, the Government dared to cut drastically the rate of the single social contribution beginning from 2016, which will increase the Pension Fund deficit and generate the need to increase significantly the transfers from the State Budget to the Fund. Given these factors, expenditure planning of the State Budget remained conservative. According to the Law of Ukraine *On the State Budget of Ukraine*, the scheduled increase of the minimum wage for 2016 will be effected in two stages – by 5% from May and by 7% more from December. The growth of State Budget expenditures is planned at an acceptable rate of 16% y-o-y. According to NBU estimates, given such circumstances, it is realistic to finance the State Budget deficit of 3.7% of GDP (the maximum level set by the cooperation program with the IMF).

State budget revenues and expenditures for 12 months, change y-o-y



Source: STSU

State budget balance, UAH billion

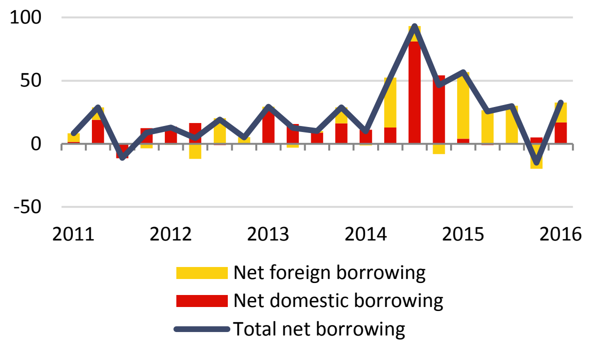


Source: STSU

The budget deficit and the debt service were mainly covered by external borrowings from “official” sources in 2015. Raising funds on the domestic market through the issuance of FX and hryvnia government bonds was negligible compared to the external borrowings. In order to intensify the debt market and reduce dependence on external funding, it is highly desirable to redirect the borrowings from the external market to the internal. Availability of excessive hryvnia liquidity at banks gives an opportunity for this. Restoring the FX liquidity of banks on the back of limited FX lending also provided an opportunity for a more than 100% rollover of FX domestic government bonds (the total amount for the repayment in 2016 – USD 1.6 billion). From the beginning of the year, the Government has already managed to raise USD 1.625 billion at auctions. However, in the mid-term the Government should rely more on hryvnia borrowings.

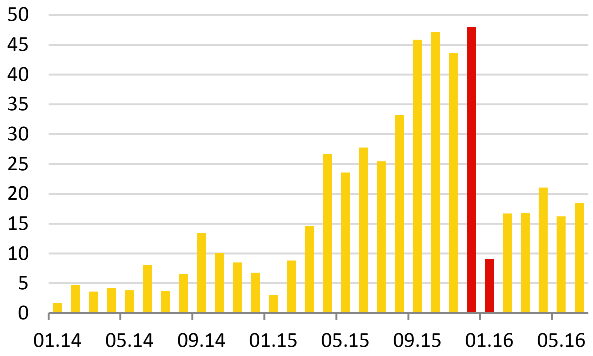
Sharp fluctuations of the public funds balances at the Single Treasury Account (STA) may pose a risk for financial stability and undermine the efficiency of the monetary policy. For example, during December 2015, the amount at the STA decreased from UAH 48 billion to UAH 9 billion, which led to increase in cash in circulation and an upsurge in demand for FX. To absorb extra liquidity, the NBU decided to disregard cash while determining the amount of mandatory reserves. That allowed tying up about UAH 15 billion. To minimize the risks, we recommend to design a more moderate schedule for movement of funds at the STA and to prevent the accumulation of large amounts during a year.

State budget net borrowing, UAH billion



Source: STSU

Single Treasury Account balance, UAH billion



Source: STSU

The fiscal dominance factor is a matter of the past

Over 2015, the NBU was buying government debt securities (government domestic bonds) solely to support Naftogaz to the total of UAH 29.7 billion (for further purchase of FX by Naftogaz) and the liquidity of the DGF to the amount of UAH 51.6 billion. According to legislative requirements, the NBU also transferred UAH 61.8 billion of revenue to the State Budget during 2015. After approval of the annual financial statements for 2015 by the NBU Council, UAH 38.2 billion will be transferred in 2016.

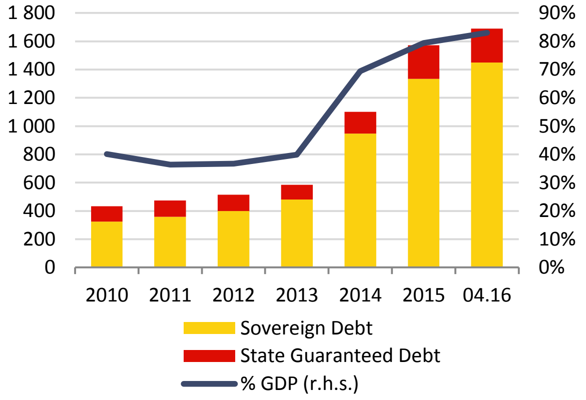
From the beginning of 2016, the NBU completely stopped buying government domestic bonds for its own portfolio. The NBU baseline scenario assumes that there will be no liquidity support for Naftogaz, state-owned banks or the DGF through buying Government bonds. The NBU expects that the amount of government bonds in the NBU portfolio will change only as a result of transactions for the purposes of monetary policy and due to bond redemptions by the Government.

The public debt has significantly increased

The public and state-guaranteed debt rose by 43% to UAH 1.57 trillion during 2015 and by 7% more to UAH 1.69 trillion during the first four months of 2016 – mainly due to the hryvnia depreciation. In the US dollar equivalent, the debt decreased by 6.2% to USD 65.5 billion during 2015 (+2% to USD 67.1 billion during the first 4 months of 2016). The debt to GDP ratio stood at 79% of GDP at the end of 2015. This is lower than foreseen by the IMF program, due to smaller than expected borrowings from 'official' creditors and lower than initially anticipated capital injections into state-owned banks.

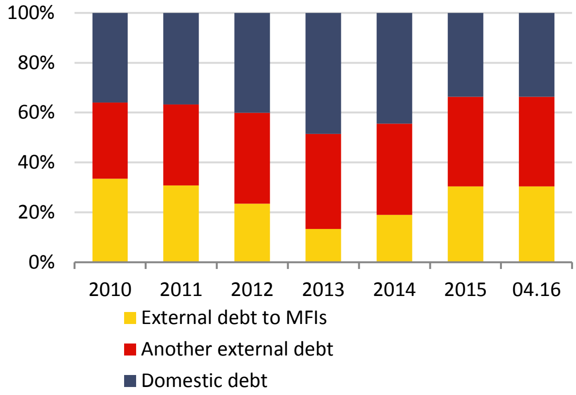
Due to successful restructuring of the government's external bonds and state-guaranteed obligations (Financing of infrastructure projects SE, Ukravtodor, Pivdenne CB), the schedule of repayment for the external debt is now acceptable and does not pose risks to financial stability. Repayments totaling to about USD 15 billion, initially due in 2015 - 2018, were postponed to 2019 and subsequent years. Furthermore, creditors agreed to write-off 20% of the nominal amount of the debt in exchange for a value recovery instrument (VRI). Today, a key risk factor for public debt management is Eurobonds issue for USD 3 billion, which Russia refused to restructure on general terms. It is expected that court proceedings will be long-lasting, but the position of Ukraine is well grounded and constructive. In December 2015, the IMF decided that the unsettled issue of official debt should not block further cooperation with the IMF.

Sovereign and State Guaranteed Debt, UAH billion*



**Data for 4 months of 2016 relative sliding GDP for the last four quarters.*
Source: MFU

Sovereign and State Guaranteed Debt structure



Source: MFU

Corporate sector risks

The corporate sector passed the trough: profitability of non-financial corporations has been improving for four quarters in a row since Q2 2015. Yet the real sector in general is still far from stability, its solvency is weak as operating incomes in most industries are not sufficient for on-schedule servicing and repayment of their debts. Impaired debts of Ukrainian companies doubled over the past year and will most likely continue to grow in 2016. The diagnostic study of the top-20 banks by the NBU indicated that banks often overestimated borrowers' financial stance and made all possible to delay the recognition of NPLs.

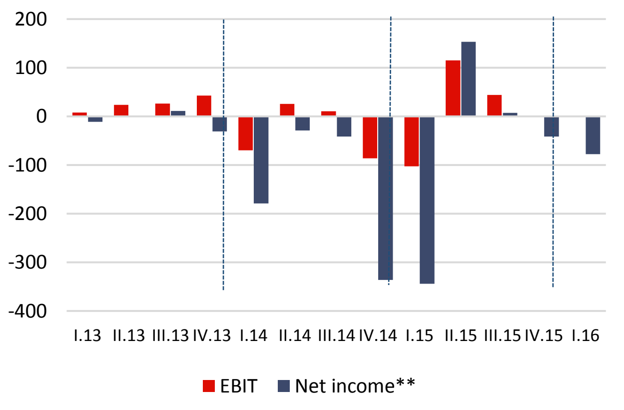
Construction, real estate, and machine building have the largest solvency risks; they have the highest leverage coupled with relatively low profitability or even loss-making status. Companies and sectors that are dependent on government regulation are also financially unstable, e.g. production and supply of energy and gas, utilities.

The high leverage of state-owned enterprises also poses risks for the banking sector. Since these enterprises cannot raise additional capital, the State, in case of delayed privatization, would have to settle the debt problems of state-owned enterprises with public funds. The export-oriented industries that mostly produce low added-value goods, such as agriculture and mining, are the least risky within the real sector, which is in line with expectations.

The financial results of the real sector are improving

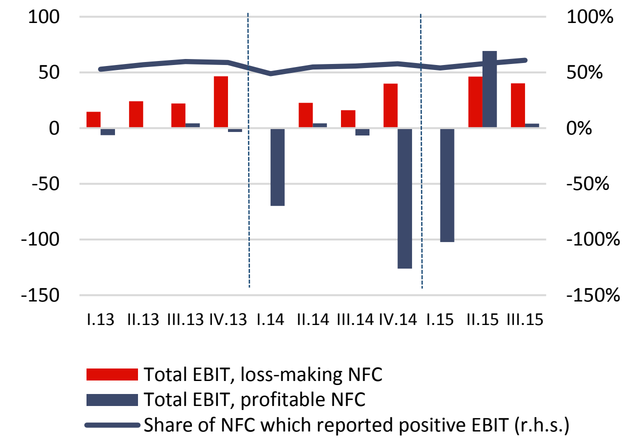
The financial state of Ukrainian enterprises[1] has been improving for four consecutive quarters starting from Q2 2015 due to partial macroeconomic stabilization, in the absence of significant external shocks, and on the back of increased prices for key export commodities in 2016. The aggregate financial result of the enterprises in each of these quarters was better than in the same quarter of the preceding year. Total operating profits of the enterprises returned to a positive value (UAH 13 billion) in the first half of 2015 and increased 4.5 times by the end of Q3 2015. Share of operationally profitable companies increased by 7 ppts to 61% from Q1 to Q3 2015. If macroeconomic stability persists, we expect further improvement in real sector solvency.

Performance of non-financial corporations, 2013 – Q1 2016*, UAH billion



** for 2015 Q12016 - profit before taxes*
Source: SSSU, NBU estimates

Operating results for profitable and loss-making non-financial corporations, 2013 – 9M2015, UAH billion



Source: SSSU, NBU estimates

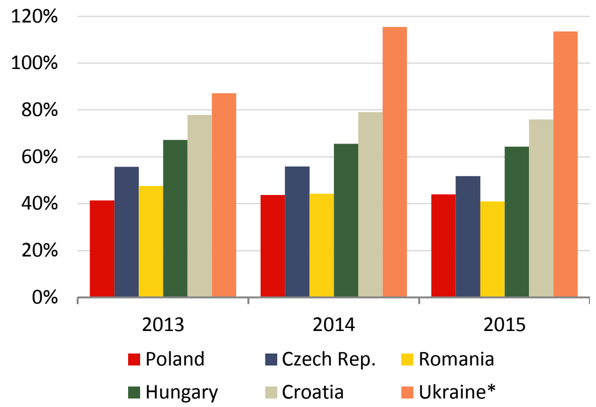
Enterprises' leverage increased significantly on hryvnia depreciation

FX risk shaped by enterprises' heavy FX borrowing before the crisis fully materialized throughout 2014-2015. Real sector debt in UAH equivalent increased by 61% from early 2014 to the end of Q3 2015 mostly due to hryvnia depreciation. Around 60% of real sector

[1] In this section we used primary impersonal data from the financial statements of enterprises (non-financial corporations) from forms No 1, 1-m, 1-ms, 2, 2-m, 2-ms (balance sheet and profit and loss report for large, medium and small enterprises) submitted to the SSSU on annual and quarterly basis. The quarterly data however does not include small businesses, as well as crop production, livestock, and mixed farming. The most relevant are indicators of financial statements of enterprises, submitted to the SSSU as of the date of the Report release – for 9 months of 2015.

debt comes from external borrowings, though a significant portion of such borrowings is intra-group financing. Overall, more than 80% of the total debt of non-financial corporations in Ukraine is in FX. Debt-to-GDP ratio for Ukrainian non-financial corporations was 114% at the end of Q3 2015, much higher than in other CEE countries.

Debt of non-financial corporations, % of GDP

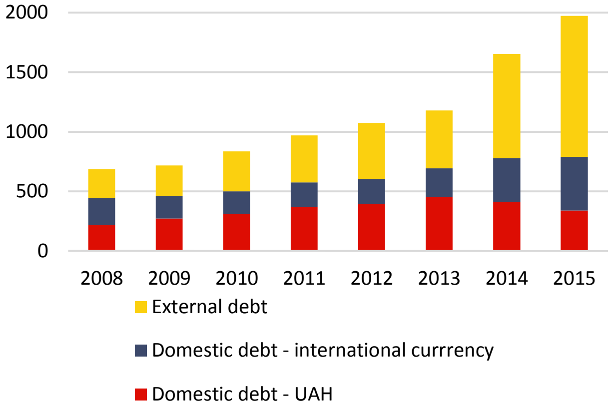


** as of end of Q3 2015*

Note: debt including bank loans and debt securities (according to ECB methodology)

Source: ECB, SSSU, NBU estimates

Debt of non-financial corporations*, UAH million



** debt to banks and non-residents*

Source: NBU

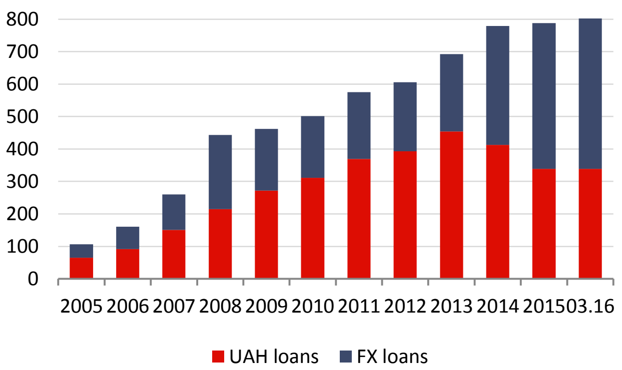
Real sector solvency remains low

The significant portion of Ukraine's NFCs are not able to service their debt in full. For most industries, debt-to-EBIT (over 12 months) ratio at the end of Q3 2015 exceeded 5x, (a safe level, depending от industry, falls in the range of 3x to 5x), or was even negative, thus indicating negative operating income for the industry as a whole. Only mining, food-processing industries, and agriculture were exceptions and may be considered as industries whose solvency is reasonable now.

Average interest coverage ratio for Ukraine's NFCs (calculated as total EBIT for 9 months of 2015 divided by total interest expenses over the same period) was 0.53x. Thus, real sector operational profits were not even enough to service its interest payments. The same indicator for operationally profitable companies was 2.9x, which might still be insufficient for full and timely loans repayments.

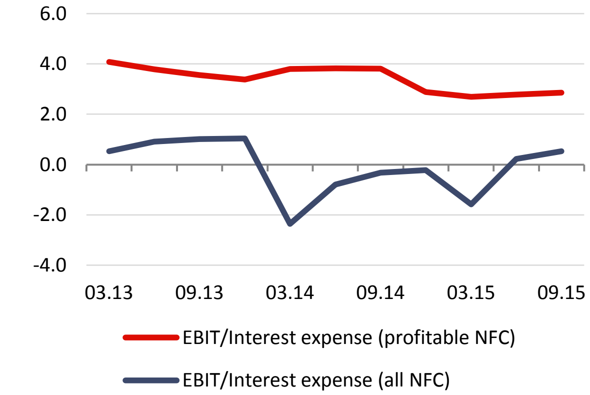
These poor solvency indicators came partly because of incorrect reflection of FX losses in enterprises' financial statements – many companies account such losses as operating expenses. However, the financial state of enterprises of most industries is extremely poor.

Loans from banks to non-financial corporations, 2005-Q12016, UAH billion



Source: NBU

Interest coverage ratio, non-financial corporations, 2013-Q32015*



** per year*

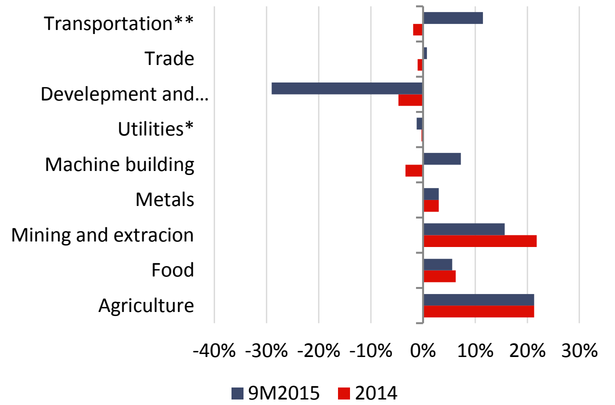
Source: NBU, SSSU

Real estate, utilities, and machine building are the riskiest industries
In terms of industries, the highest risks are inherent to real estate operations, development and construction companies, and to industries heavily exposed to state regulation, like utilities, including distribution / supply of energy and water. Companies in these sectors have the highest leverage while their solvency is poor due to sectorial regulations, which give little incentive for efficiency, and also because of the low quality of management at many companies. Utility tariff increases of 2015–2016 will have a limited (or even negative) effect on profitability of the companies of this sector in the short run because of possible worsening of the consumers' payment discipline. The positive effect of tariff's hike is only possible in the mid-term and is conditioned upon changed approaches to the tariffs regulation for natural monopolies. Keeping the current approaches to tariff setting in utilities sector - i.e. nontransparent pricing based only on declared costs and disregarding company's efficiency, inadequate investment component in tariffs, etc. – poses the risk of further deterioration of the financial state of energy and gas distribution and power producing companies.

Significant improvement was lately observed in the financial situation in machine building: the total operating profit for 9 months of 2015 amounted to UAH 5.5 billion (vs 3.4 billion loss in 2014). However, as the industry historically depended heavily on Russian market and orders from public sector, there is a significant risk of financial state deterioration because of Russian market closure for Ukrainian producers.

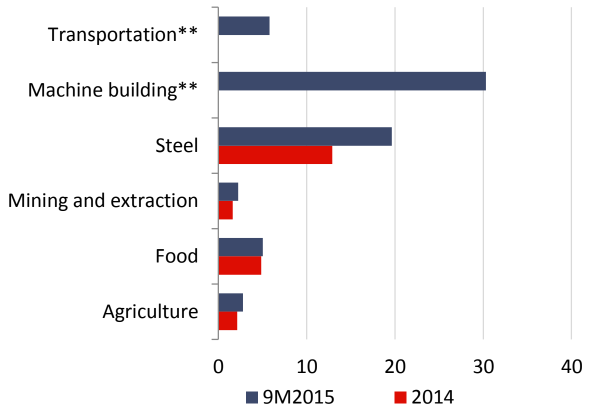
At the same time the profitability of the service sector, including trade, transportation, and communications, increased throughout Q2–Q3 2015, due to accelerated growth in nominal households' incomes. The most financially sustainable industries remain agriculture, mining, and food -processing.

Operational margin (for 12 months) (EBIT/Net sales) by industry, 2014 – 9M2015



** electricity, water and gas production and distribution, waste recycling*
*** transportation, warehousing, post and courier service*
Note: Operating margin is defined as total operating profit (loss) to total net income by industry.
Source: SSSU, NBU estimates

Debt to operating profit (for last 12 months) ratio by industries, 2014 and 9M2015*

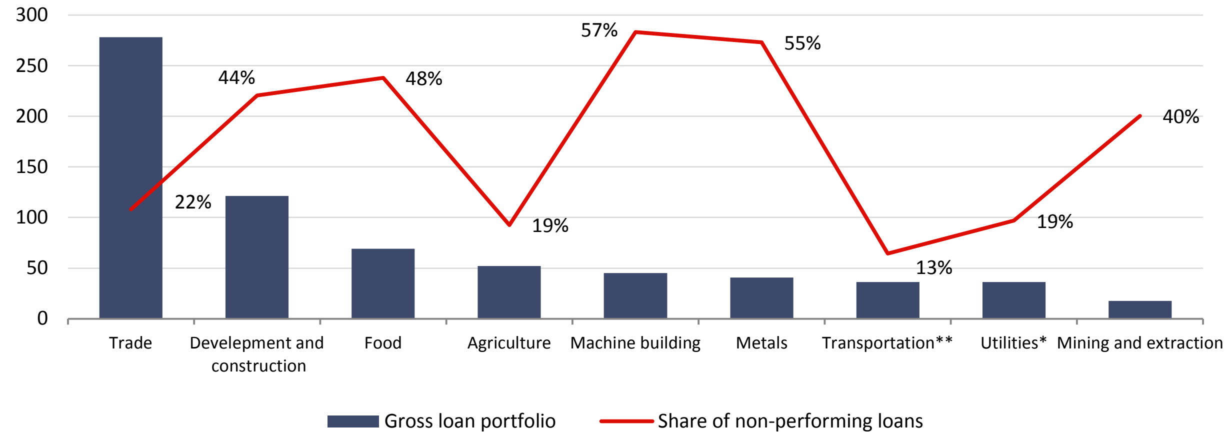


** annualized figures*
*** for "Machine building" and "Transportation" sectors, the ratio was negative in 2014. For "Utilities", "Development&Construction", and "Trade" sectors, the ratios were negative in 2014-2015.*
Source: SSSU, NBU estimates

Despite the fall in commodity prices on international and domestic markets (gas, iron ore, coal), as well as increased taxes on extraction in 2014 and 2015, the mining industry remained the leader in terms of operating profits, and the second in terms of profitability, next to agriculture. For example, EBITDA margins of two largest producers and exporters of iron ore in 2015 were 8% and 33%, respectively. The significant increase in commodity prices on global markets over the first five months of 2016 makes an increase in profitability possible for most mining companies in 2016.

The leverage by industries is high (debt-to-EBIT ratio over 5x) for all sub-sectors, except for agriculture and mining. These two, with regard to relatively good profitability, have a potential for development with new borrowings. In metallurgy and machine building, on the contrary, the debt rates are too high yet (in steel production, it increased notably the last year due to FX effects). Attracting long-term borrowing is a challenge for companies in these industries in 2016. At the end of March-2016, impaired loans to the machine building, metallurgy, and food processing amounted to 57%, 55%, and 48% of the total outstanding loans to these industries, respectively. The lowest shares of impaired loans were in transportation, agriculture, and utilities - 13%, 19%, and 19%, respectively. The high share of bad loans in machine building and metallurgy was primarily the result of these industries' concentration in the ATO area; another important factor was impeded access to Russia's market. Given the weak solvency of industries and individual companies, we expect an increase in bad loans, particularly in the energy, transport, and trade sectors, as well as in machine building.

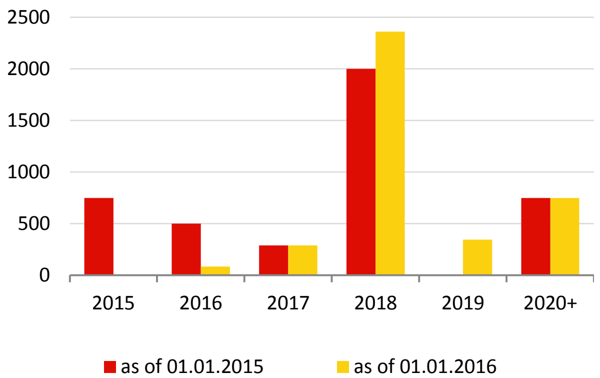
Bank loans to non-financial corporations , March 2016, UAH billion



** electricity, water and gas production and distribution, and waste recycling.*
*** transportation, warehousing, post and courier service.*
Source: NBU

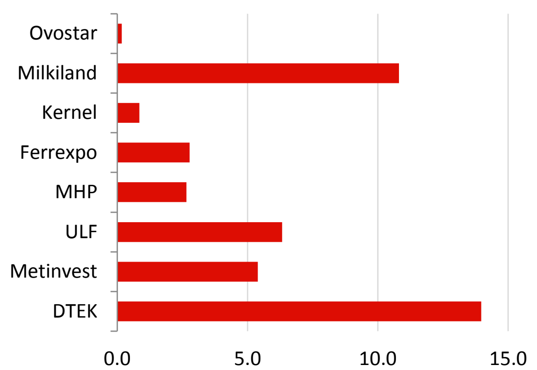
Public companies managed to restructure debts successfully
Ukrainian publicly listed companies have successfully restructured the last year most of their Eurobond debt due in 2015-2016. After restructuring of about USD 800 million and repayments of USD 450 million, further repayments on Eurobonds of public companies was delayed for two to three years, thus significantly improving the debt-servicing schedule.

Eurobond redemption schedule for Ukrainian foreign-listed companies, USD billion



Source: company data, Bloomberg, NBU

Debt/EBITDA ratio for Ukrainian foreign-listed companies, in 2015



Source: company data, Bloomberg, NBU

Real estate market risks

While the demand for real estate is weak, the supply is increasing due to the completion of projects that started before the crisis. Competition under limited demand encourages developers to keep the prices down and offer discounts and instalment systems. This trend will persist through 2016. Risks of deterioration in the quality of mortgage loans have largely materialized. These factors will contribute to the recovery of mortgage lending in medium term, but in 2016, there will be no radical changes in the real estate market. Investment activity in commercial real estate in Kyiv has slightly revived, but completion of construction is mainly funded by investment, not through borrowings.

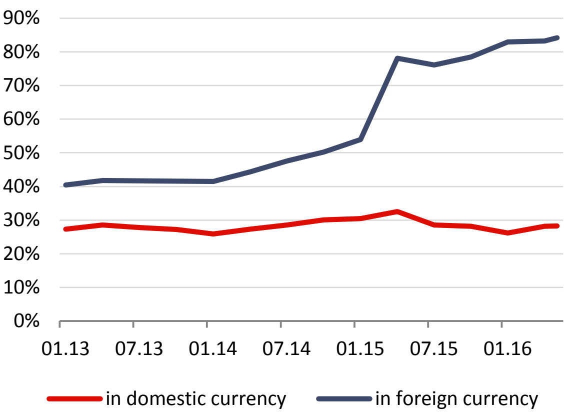
Mortgage lending is stagnating. According to market participants' estimates, over the past two years the share of loan-financed housing purchases amounted to less than 5%. Due to the rising cost of the FX loans servicing, the share of non-performing housing loans is now at its highest historical level. Due to restructuring processes, it is set to decrease in the mid-term period.

Despite the fact that the prices for residential real estate in US dollars terms dropped to ten-year minimum, in hryvnia equivalent they grew faster than households' income. This resulted in a decline of demand for housing on primary and especially on secondary market. According to data from the SV Development consulting company, in 2015, the number of transactions on the secondary market decreased by 30% in Kyiv compared to 2014, and more than three times compared to 2013.

In 2014, buyers and sellers took wait-and-see attitude amidst the price uncertainty and fears that the ATO may spread outside the occupied territory. Only in Q3 2014 did the demand for economy class rental flats slightly intensified simultaneously with escalation of military operations. This was mostly relevant for the regions adjacent to the ATO area – Zaporizhia, Dnipropetrovsk, and Kharkiv, as well as for the cities of Kyiv and Lviv. Thereafter, the displaced persons began to move from large cities to satellite towns for economic reasons. Therefore, the shortage of one-room apartments was observed.

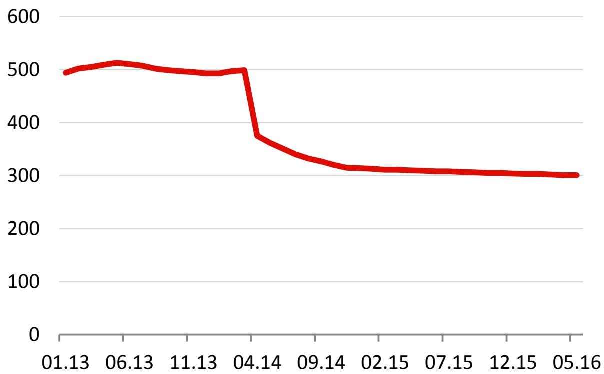
In 2015, the market began to grow. According to preliminary data, the number of transactions for the sale and purchase of apartments and houses and their exchange has increased in almost all regions of the country except the ATO zone. Since the expectations for a quick resolution of the conflict did not come true, demand for housing by displaced persons increased. The largest is the demand for small economy class apartments. At the same time, as estimated by intermediaries, even in the capital city one buyer could choose from dozens of offers. On the residential rental market, migration of people and businesses from annexed Crimea and the eastern part of the country fueled the demand.

Share of NPLs to individuals



Source: NBU

Rental rates for one-room apartments in Kyiv, USD



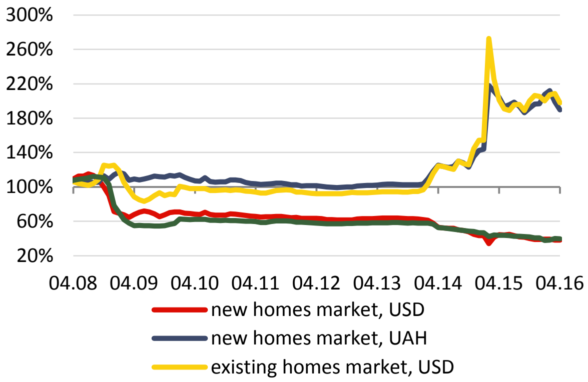
Source: SV Development

Primary housing market has grown

In 2015, the new supply of houses with at least two apartments has increased by 5.3% compared to 2014; in Kyiv it decreased by 3%.

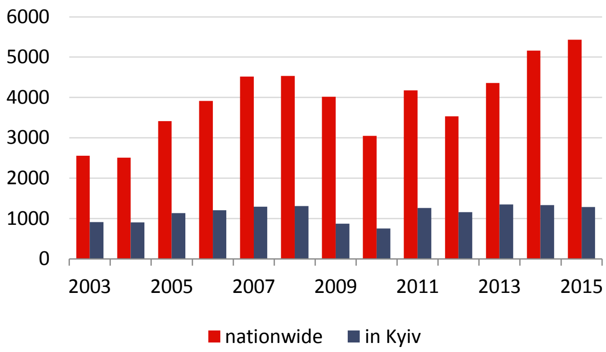
While prior to the crisis, the housing transactions in Kyiv were settled mainly on the secondary market, since 2015 transactions on the primary market prevailed. The lower average price per square meter and prices denominated in hryvnia encouraged households to assume investment risks, investing in housing under construction. Persisting demand was fueled by internal migration and the crisis of confidence in the banking sector – a part of deposits withdrawn from banks moved to the real estate market. Funds accumulated before the crisis were used to both for improving housing conditions and acquisition of housing for lease or resale. According to estimates of the City Development Solutions consulting company, investments accounted for more than 30% of transactions in the primary real estate market in the capital city during 2015.

Housing price index in Kyiv, December 2007 = 100%



Sources: real estate agencies, own calculations

New supply of houses with at least two apartments, thousands of sq. m.



Source: SSSU

If the current pace of construction on the primary housing market is maintained, a significant imbalance between supply and demand may emerge. Already in 2015, the high competition and drop of demand forced the capital's developers to offer discounts and instalment programs. In 2016, the trend is going to persist. Under adverse circumstances, the number of uncompleted construction projects and “frozen” sites will increase.

Supply of new commercial real estate dropped to the lowest in a decade

According to the estimates of specialized companies, the new supply of retail, industrial, and office spaces in 2015 was the lowest since 2002. Lower rental rates and higher vacancy than after the crisis of 2008-2009 are also characteristic for the market. The largest decrease of rental rates occurred in the retail segment. While in 2013 the cost of renting premises in the main streets of Kyiv and in the high quality shopping malls was considerably higher than in capitals of some EU countries[2], the rental rates in Kyiv (in the US dollar terms) ranked one of the lowest among the capitals of Central and Eastern Europe countries in 2015.

The highest investment activity during 2015 was observed in the commercial real estate segment in the regions. The focus of interest of developers shifted from Kyiv and the eastern regions to the western ones. In Lviv, where at the beginning of 2015 the stock of modern retail space was the lowest among the five largest Ukrainian cities according to the data of DTZ Research consulting company, a new shopping mall opened with the participation of foreign investors, and another one is about to open. Due to the unavailability of bank loans, investor funds constitute the main source of financing for uncompleted construction.

[2] *Warsaw has the highest rental rates of 90-95 EUR/m^2 per month. Kyiv – USD 105 and USD 240/m^2 per month in shopping malls and on the main shopping streets, respectively, according to the data from Colliers.*

In Kyiv, the openings of previously announced large-scale projects are postponed from year to year. This situation is primarily caused by the lack of funds by the developers, most of which are encumbered by debts, and by the growth of budgets for the completion of the construction. Demand from retail operators for new premises is limited by the falling purchasing power of households. The completion dates of many shopping malls will depend on the ability of their owners to find investors; the bank lending to the industry, which makes a significant share in NPLs in the portfolios, will be limited in the coming years.

Box: restructuring of FX mortgages – need for compromise

On the back of hryvnia devaluation and reduction in the real disposable income, the servicing of housing mortgages in FX extended prior to the crisis of 2008-2009 deteriorated sharply. As of the beginning of 2013, the share of NPLs in the total debt of households on housing mortgages in FX amounted to 43%, as of 1 January 2016 – 76%, as of 1 April 2016 – 77%.

To prevent the mass eviction of borrowers from housing purchased on credit, the Verkhovna Rada of Ukraine adopted in June 2014 a law that introduced a moratorium on foreclosure on the property of Ukrainian citizens provided as collateral for securing FX loans. The moratorium was to last until the enactment of a law that would regulate the restructuring of the debt concerned.

Terms and conditions of the restructuring were laid down in the Memorandum on restructuring of consumer loans in FX, agreed to in May 2015 by the representatives of the NBU Public Council and the banking community. The document provided for the conversion of the debt in FX into hryvnia at the official exchange rate on the day of the restructuring and relief of at least 25% of the restructured debt in case of timely fulfillment of the new obligations by a borrower. For borrowers, who bought social housing (of an area up to 60 sq.m. for apartments and up to 120 sq.m. for houses), the relief of 50% of the restructured debt was provided.

As of 1 January 2015 there were 51,900 housing mortgages totaling more than USD 2 billion. Even after the Memorandum became effective, the debt reduction and restructuring were slow as not all signatory banks complied with the agreed terms of the debt relief. During 2015, decisions were made on restructuring of more than 1,600 housing mortgages, and on restructuring of 192 loans in Q1 2016. As of 1 April 2016, the total of such mortgages at viable banks decreased to USD 1.03 billion primarily due to liquidation of banks with large mortgage portfolios.

The introduction of provisional administrations to some banks that are large mortgagees and the adoption by the Verkhovna Rada in July 2015 of the populist Law No 1558-1 *On the Restructuring of Liabilities on Loans in Foreign Currency* became substantial obstacles for debt restructuring. Law No 1558-1 provided for the forced conversion of the remaining FX debt of individual borrowers into hryvnia at the official exchange rate at the date of signing the loan contract, in most cases at the rate of 5.05 UAH/ 1 USD. Following the adoption of Law No 1558-1, the monthly amount of restructuring deals has significantly decreased.

This initiative ran against the conditions of cooperation with the IMF and posed risks for financial stability:

- Risk for the banks to breach the limit of their open FX positions and regulatory capital ratio, which would have caused an urgent need for significant "injections" of capital into the banking system and banks buying significant amounts of FX.
- The risk of increasing deficit of the State Budget of Ukraine related to the use of a mechanism for compensation of losses to financial institutions, which had to be developed by the Cabinet of Ministers.
- The moral hazard – conversion of loans would encourage the borrowers to assume excessive financial risks in the future and would not contribute to the payment discipline in the banking sector as a whole.

Given the risks posed by the Law No 1558-1, the President of Ukraine exercised his veto right and returned the draft for revision on 18 December 2015.

Instead of the populist draft law, the Independent Association of Ukrainian Banks and the banking community supported by the NBU prepared a socially fair solution for the problem of FX borrowers. The Draft Law *On Restructuring of Obligations of Citizens of Ukraine Under Loans in Foreign Currency Obtained for the Purchase of a Single Residence (Mortgage Loans)* was developed with regard to the international obligations of Ukraine and has been approved by 19 banks that are large mortgage lenders. According to the draft law, both the loans at existing banks and loans transferred to factoring companies and other institutions are subject to the restructuring. For borrowers who obtained the loans in FX to purchase their single residency, the draft provides for the following conditions of restructuring:

- Conversion of a FX debt into hryvnia at the official exchange rate at the day of the restructuring.
- Relief of at least 25% of the restructured debt in the case of timely fulfillment by the borrower of the new obligations; at least 50% of the restructured debt if the loan is secured by single social residence.
- Additional support for group 1 disabled persons, war veterans, families with many children, families raising a child with special needs, and veterans of ATO. For these groups of borrowers, the relief of at least 70% of the restructured debt is offered, if the loan is secured by single social residence and at least 50% in the case of other housing. In the event that an ATO veteran is a person with level 1 disability, 100% of the debt under the loan for the purchase of social residence is forgiven (80% in the case of other housing).

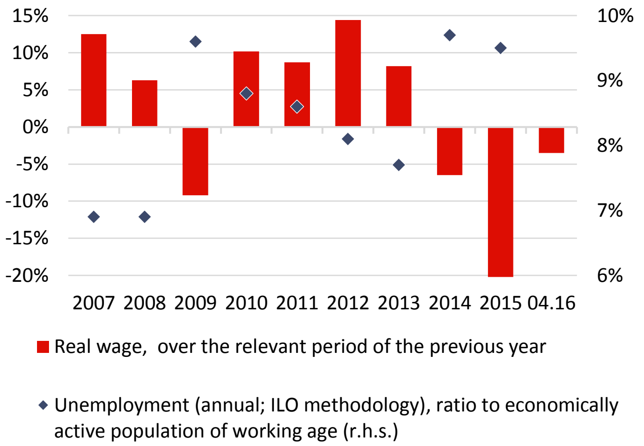
Cancellation of the moratorium on the foreclosure on the property of FX borrowers is expected after six months from the date of enactment of the law.

Households' risks

Real disposable incomes fell by 22% in 2015 due to output decline, high rates of inflation and unemployment. This reduced considerably the ability of households to pay and declined their propensity to save. The households had to use their savings to finance expenses. Positive trend in real disposable incomes is expected to restore in 2016, although at a very moderate pace. Mainly the wealthiest households will return deposits to banks on the back of returning confidence in the banking sector.

Due to high inflation and lack of indexation of wages and social benefits (which made in combination 58.5% of nominal incomes of households), the rate of decline of real disposable income of households in 2015 was two times higher than in 2014. Real wages decreased throughout January-February 2016, and began to recover slowly only from March 2016. The situation is further aggravated by a high unemployment rates, which was 9.5% of the economically active population of Ukraine of working age[3] in 2015, with maximum of 10% had passed in Q1 2015. The income "gap" was somewhat mitigated by a 25.8% increase of profit and mixed income (18.3% of nominal income) – income of individuals from business activities, mainly from trade, agriculture, construction, and operations with real estate. The 22.8% increase in social benefits and subsidies to the poorest population groups (13.8% of nominal income) and FX remittances[4] were also important compensators. These factors contributed to the increase of the nominal income of households by 15% in 2015 (against its decrease by 2.1% in 2014).

Wages and Unemployment rate



Source: SSSU

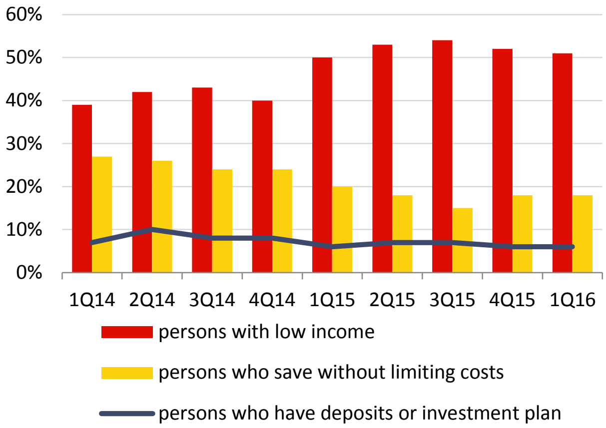
At the same time, consumer expenses last year increased faster than nominal income – by 16.9% compared to 15%. This led to a decrease in the overall households' propensity to save. Investment into financial and non-financial assets[5] rose by mere 0.5% of the received disposable income of households for 2015 – the worst result since 2008.

The proportion of households that are short or almost short of money to cover current consumption has increased. This brings down possibilities to save. According to the survey by GfK Ukraine research company, the proportion of households that stated that their personal income was low reached 51% in Q1 2016 (compared to 39% in Q1 2014), and only 18% of the households could save without limiting consumption (27% in Q1 2014).

[3] According to the methodology of the International Labor Organization (ILO).
[4] Because of depreciation of the hryvnia, remittances increased in hryvnia terms in 2015 by 44.1% over 2014, despite of reduction in US dollar equivalent to USD 1.7 billion from USD 2.2 billion.
[5] According to the international methodology of SNA'2008, financial assets include cash, deposits, securities, loans, insurance technical reserves (insurance funds, particularly in the part of the funds – insurance premia of households) and receivables; non-financial assets are fixed assets, tangible current assets, valuables, intangible assets.

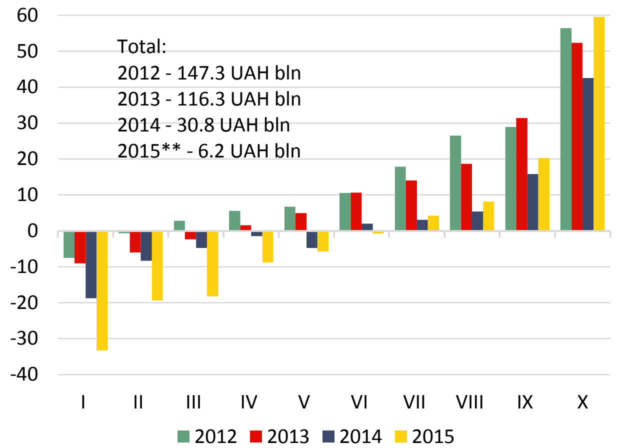
An important additional source of households' funds is personal savings, primarily deposits and cash. In 2013, a third of the households compensated lack of income by recourse to savings or through borrowing to cover current expenditures on consumer goods and services. By 2015, already half of them did so. Among the richest households, the proportion of those wishing to keep free funds on bank deposits also slightly decreased.

Savings possibilities of the population of Ukraine



Source: GfK Ukraine

The increase of household savings by decile groups, UAH billion*



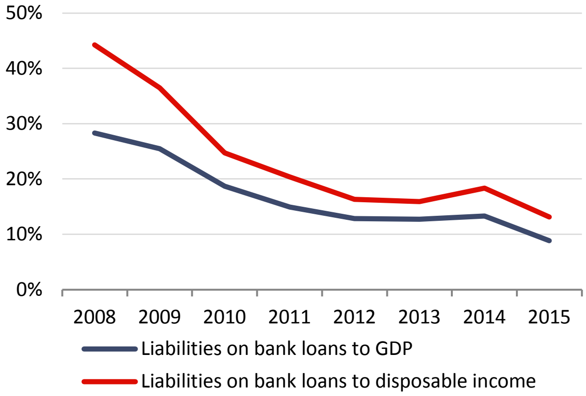
** the difference between households' nominal income and expenditures that are distributed by decile groups according to relevant structures.*

*** estimated data.*

Source: SSSU, NBU

The debt burden on households significantly decreased after the 2008-2009 crisis mainly due to a significant slowdown in retail bank lending in 2008-2010. At the same time, solvent households gradually repaid the loans. The total retail loans decreased from 28% of GDP (44% of the disposable annual income) at the end of 2008 to 9% of GDP (13% of income) in 2015.

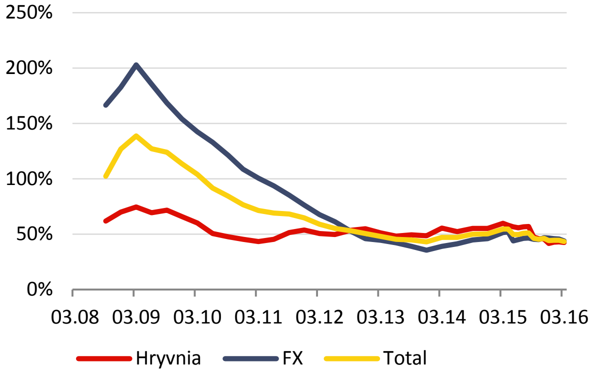
The debt burden on households



Source: NBU, SSSU, own estimates

Today, the households are a net creditor of the banking sector. The loans to deposits (LtD) ratio for households in hryvnia historically varied within 50%-75% range. The ratio in FX exceeded 200% for a brief period in 2009, but then has been rapidly reducing to 44% at the end of Q1 2016. In 2015, the LtD of households continued to decrease due to the withdrawal of insolvent banks from the market, and restructuring/repayment of FX mortgages while the deposit base in hryvnia was gradually recovering.

Ratio of retail loans and deposits



Source: NBU

The households' role of a net creditor of banks will strengthen over the next three years. As confidence in banks restores the households return their savings to banks. The potential for the deposit comeback is high. Between 2014 and Q1 2016, net outflow of deposits amounted to UAH 68 billion (hryvnia deposits) and to USD 14.9 billion (FX deposits) or 27% and 64% of the total as of the early 2014, respectively. Part of these deposits has been already used for financing of expenses, but most of the funds withdrawn are still kept under the matrasses and may be returned to the banking sector in 2016–2017. Meanwhile, retail bank lending will be limited in the short run and will be concentrated mainly in the segment of consumer loans (see Lending Survey). There are reasons to expect the inflow of retail deposits to banks to exceed significantly the increase in the banks' portfolio of retail loans.

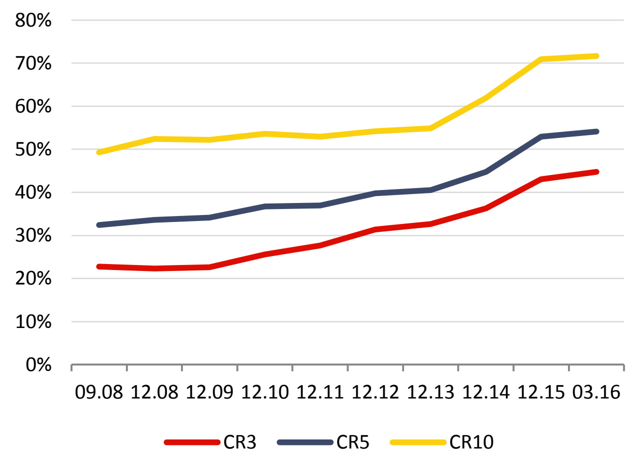
Banking sector conditions and risks

Structural changes

The structure of the banking sector was significantly changed by the two past large-scale crises. After 2008, foreign banks suspended active lending and brought down their presence on the market. In between the crises, the banks with domestic private and state capital actively developed. Since the beginning of 2014, nearly 80 banks with Ukrainian private capital were declared insolvent or were withdrawn from the market for other reasons, thus the institutions with foreign capital partly restored their positions on the market. Increasing concentration in the banking sector will continue in the short term due to the migration of customers to the most reliable banks, including the state-owned ones.

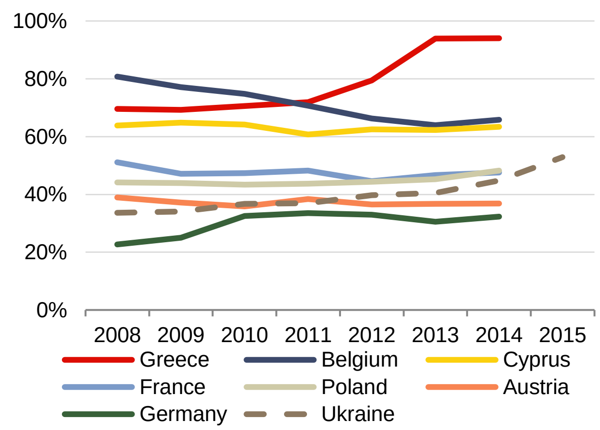
The share of the largest five banks in total assets (CR5) increased significantly since the 2008-2009 crisis to 54% in March 2016. This is higher than the average asset-weighted indicator for the EU member states. In the breakdown to main items of the balance sheet, the highest concentration was in retail deposits – the share of CR5 was 62%. Higher concentration is the sign of stronger confidence of depositors in the large banks and reflects the process of withdrawal of insolvent institutions that previously attracted significant amounts of retail deposits. Concentration in the sector will increase on as further migration of customers to large banks (also to the state-owned ones) is expected as they are perceived to be safer by businesses and households.

Shares of the 3, 5, and 10 largest banks in total assets (CR3, CR5, CR10)



Source: NBU, own calculations

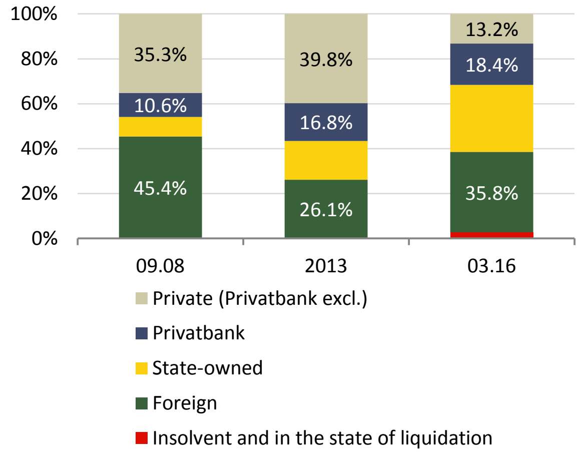
CR5 in selected European countries



Source: ECB, NBU

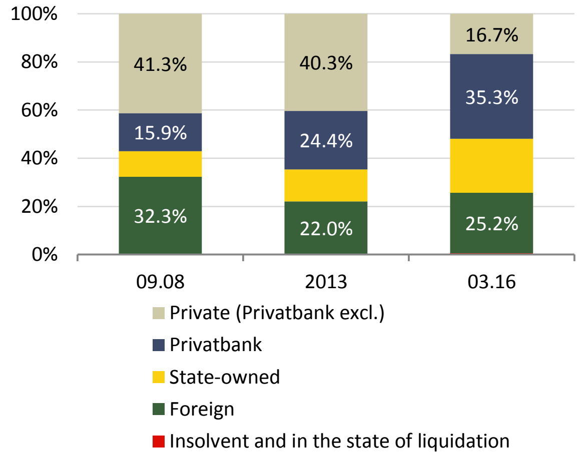
During 2009-2013, significant structural shifts shook the banking sector. The interest of European banking groups in developing of business in Ukraine significantly declined due to losses and lack of protection of creditor rights. Initially, the foreign parent banks virtually suspended lending to subsidiaries in Ukraine. Thereafter, a mass exit of European banking groups from the Ukrainian market began – about 10 banks with foreign capital left Ukraine in 2009-2013, and two banks, parts of international financial groups, entirely wound down their retail businesses. The share of banks with foreign capital in total assets plunged from 45% in September 2008 to 26% by the end of 2013. However, the mass bankruptcies of the banks with Ukrainian capital from the beginning of 2014 (over 70 banks were declared insolvent) led to the partial restoration of the share of banks with foreign capital (up to 36% in March 2016). In the aftermath of the 2008-2009 crisis, the share of state-owned banks increased rapidly due to their active lending to large enterprises. A significant proportion of loans granted by state-owned banks during this period turned out to be problematic (for details, see material "State-owned banks: large-scale reforms cannot be avoided").

Group structure of bank assets



Source: NBU

Group structure of household deposits



Source: NBU

Funding

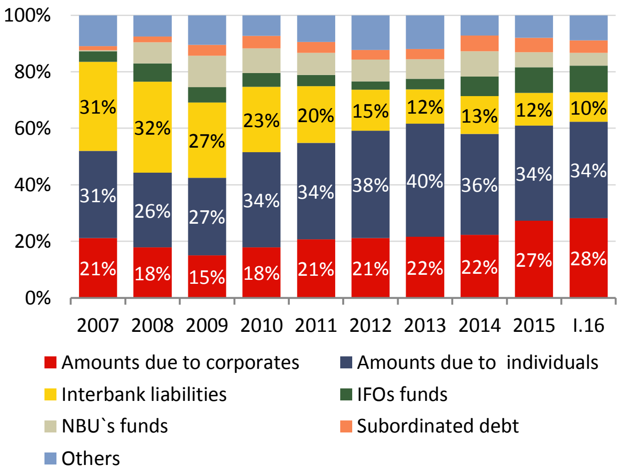
Prior to the 2008-2009 crisis, the banking system mostly funded itself with FX resources raised on external markets. The structure of banks funding has undergone significant changes after closure of external capital markets in 2009; another driver was diminished support of domestic banks by the EU parent holdings. The banks are increasingly relying upon domestic funds, primarily from households. Although the current crisis interrupted this trend temporarily, it is likely to recover in the course of 2016.

Funding risks have started to amass in 2006-2008, when Ukrainian banks rushed to attract significant funding from foreign markets at affordable prices. External borrowings were driving the funding base growth and loan portfolio financing.

Since 2010, the structure of banks' liabilities gradually re-balanced in favor of the clients' funds (corporates and households). Their share increased to 62% by the end of 2016 (vs 44% in 2008). Loss of access to external capital markets by domestic banks, diminishing support from parent companies, and conversion of existing interbank loans into the capital led to a reduction in weight of interbank liabilities from 32.2% (peak value in 2008) to 10% in March 2016. In nominal terms, the gross external debt of the banking sector dropped by 59% from of its highest level of USD 42 billion (in September 2008) to USD 12.8 billion by the end of 2015. The amounts of external borrowings of the banking sector will probably decline further in the course of this year. This trend will be partly related to the conversion of external debt into equity.

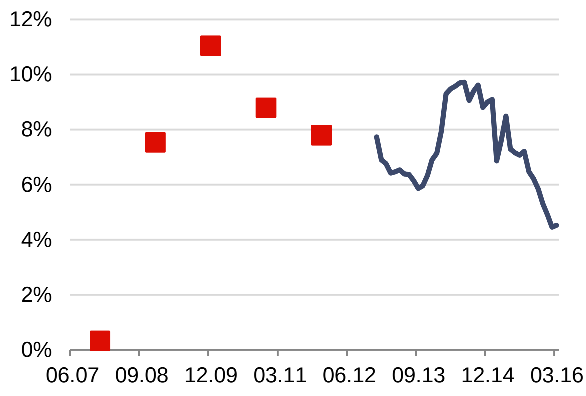
The share of loans from the NBU in the banks' liabilities peaked in July 2014 (9.7%). The reason behind this spike was issuance of stabilization loans to banks to allow them meeting their obligations to depositors. The role of the NBU in banks' funding have been diminishing for the last year and a half. In the end of Q1 2016, the share of NBU loans in liabilities was 4.5%.

Structure of bank liabilities,%



Source: NBU

The share of the NBU`s funds in liabilities of banks,%



Source: NBU

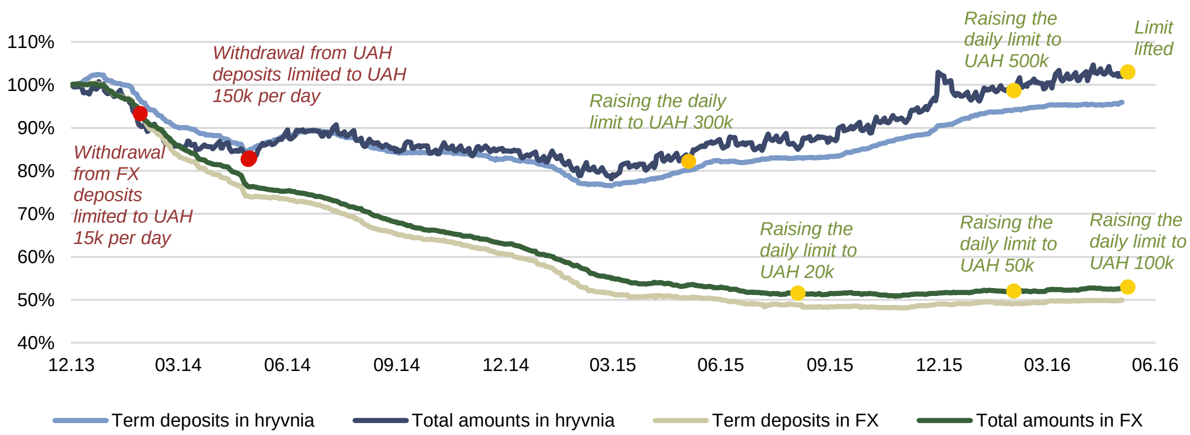
Deposits from households were and still are the core of banks' funding
The trigger and the driver of the banking crisis of 2014 was the outflow of funds from clients' accounts, especially outflow of retail deposits. Public panic triggered by the military escalation and sharp hryvnia depreciation caused the loss of 33% of retail deposits in domestic currency and 50% of deposits in FX (in dollar equivalent) at solvent banks over 2014-2015.[6] Total hryvnia retail deposits at solvent banks plunged to their minimum in March 2015 and have been recovering since then. Outflow of FX funds lasted for almost

[6] as of 1 April 2016

two years and reversed only in December 2015 – January 2016. As of the end of Q1 2016, hryvnia deposits at solvent banks returned to a pre-crisis level while the FX deposits were 50% lower. The NBU expects total deposits to increase by 10 % (net of the FX effect) in 2016.

During the crisis, the NBU introduced administrative restrictions on retail deposits withdrawal: UAH 15,000 daily for FX and UAH 150,000 for hryvnia deposits. The stabilization of the FX market and recovery of liquidity in the banking sector allowed relaxing the restrictions and raising daily limits up to UAH 300,000 for hryvnia deposits from June 2015, and up to UAH 20,000 for FX deposits from September 2015. In March 2016, the NBU relaxed restrictions on withdrawal further - up to UAH 500,000 daily for hryvnia deposits and UAH 50,000 daily for FX deposits. In June 2016, the NBU removed the daily limit on withdrawals for hryvnia deposits and increased the limit for FX deposits up to UAH 100,000.

The outflow of funds from individuals in insolvent banks since the crisis, 2013 = 100%

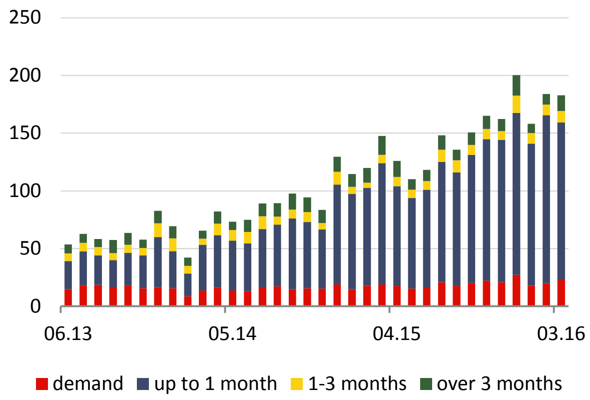


** Including savings (deposit) certificates*
Source: NBU

The economic losses from geopolitical events and systemic banking crisis forced corporations to keep their funds on current deposits opting for liquidity rather than yield. From the beginning of 2014, current accounts of the corporates at solvent banks swelled by 85%, while term deposits decreased by 12%. FX balances of corporates decreased the most due to the fall in export proceeds – by 25% (in US dollar equivalent) at solvent banks. Recovery of balances of corporate hryvnia deposits started earlier and was more dynamic than for retail deposits: the rise in demand deposits started in the second half of 2014, and term deposits in the second half of 2015. As of the end of March 2016, corporate deposits in hryvnia at solvent banks went up by 67%.

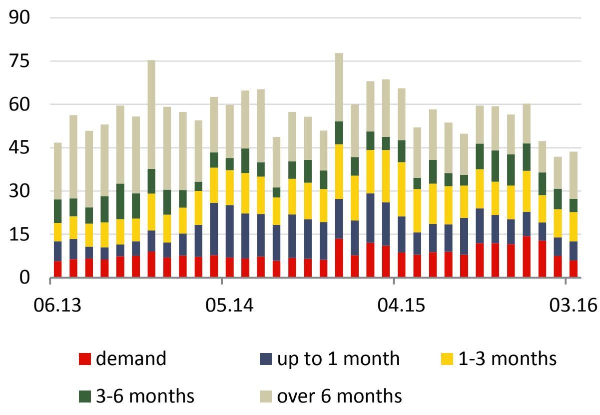
During the crisis, most corporates deposited money for up to one month and then were rolling them over continuously. Their share in new corporate deposits rapidly increased from 47% to 75%. Thanks to the gradual restoration of confidence to the banking sector, the share of the ultra-short deposits (maturity up to one month) in new retail deposits decreased from its maximum of 30% in May 2014 to 15% in March 2016. Instead, the share of term deposits for 6 to 12 months increased during this period from 9% to 21%. Households remain cautious about depositing money for more than one year; recovery to pre-crisis levels for new long-term agreements is expected not earlier than in 2017.

New business on deposits from non-financial corporations, UAH billion



Source: NBU

New business on deposits from households, UAH billion



Source: NBU

Credit risks

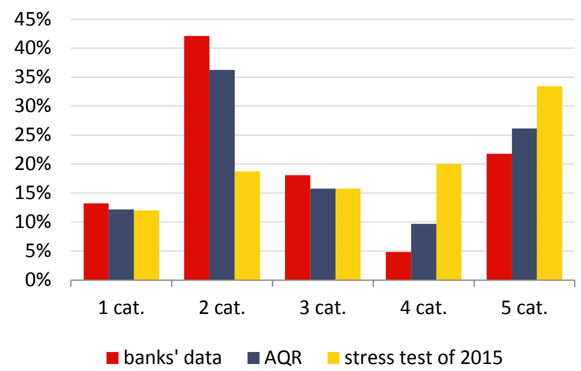
The NBU received the most accurate and reliable information on the real quality of the loan portfolio of the banking sector during the diagnostics of the top-20 banks. According to the stress test results, the share of loans that fall into categories 4 and 5 (default loans and those with a probability of default exceeding 50%) amounts to 53%. The NBU also found that the banks were supposed to more than double provisions against losses on loans compared to provisions as of 1 April 2015. In order to mitigate credit risks and to avoid making additional provisions, banks can also receive additional high-quality collateral from their borrowers. The quality of collateral held by the banks at the time of diagnostics was low – property rights for goods made up about a third of the total collateral value against banks' credit portfolio.

The diagnostics of the top-20 banks gave the comprehensive insight into the quality of the banks' credit portfolio. The share of these banks in the total loan portfolio of the banking sector was 73% as of the date of diagnostics (1 April 2015). The data obtained by the NBU differs to some extent from the regular financial statements published by the banks as some banks misreported the quality of assets. While implementing capitalization plans and restructuring programs, the banks are also required to report the real quality of the loan portfolio.

The diagnostics exercise comprised two components – asset quality review and stress testing (for details see "Results of stress testing the largest banks: key findings" in appendix). Upon the first stage (the asset quality review), the share of loans of categories 4-5 (impaired loans) went up from 27% as claimed by the banks to 36%. Category 4 includes loans with estimated probability of default in the range of 51 to 99%, and category 5 is for loans in default. The calculations under the stress test scenario raised the estimated share of loans of categories 4-5 to 53%. Across the segments, the quality of retail FX loans was the worst – 88% of them belong to category 4-5 after the stress testing. The extremely weak quality of the retail loan portfolio was caused by the depreciation of the hryvnia and the significant deterioration of households' financial conditions.

Corporate loan portfolio was subject to the most significant reclassification during the diagnostics exercise. Banks initially reported that NPLs constituted only 20% of the corporate portfolio as of diagnostics date. The share of NPLs went up to 31% after AQR and surged to 51% based on stress-test.

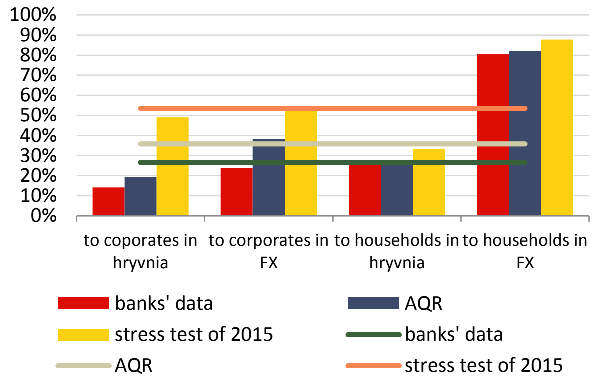
Quality of credit broken down by category*



** here in after data for top-20 banks, which went through diagnostics in 2015*

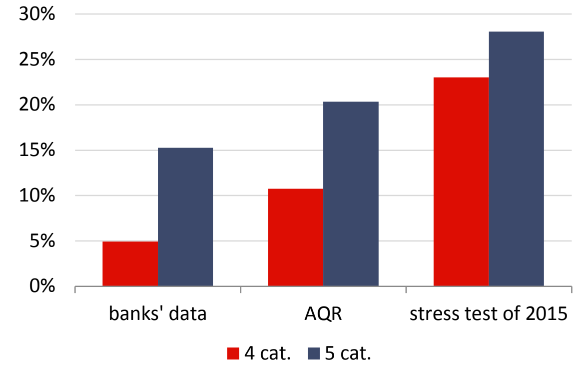
Source: NBU

Share of NPLs in bank portfolios



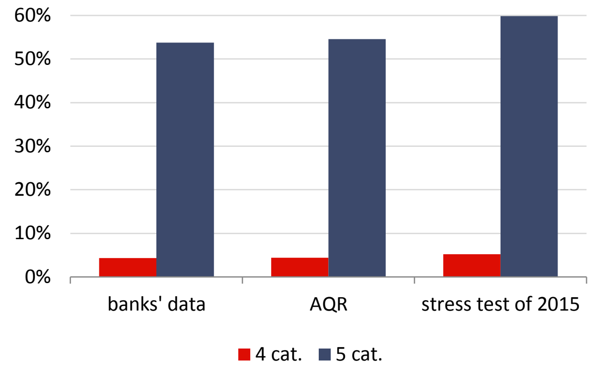
Source: NBU

Share of loans of category 4 and 5 credits to corporates



Source: NBU

Share of loans of category 4 and 5 credits to individuals

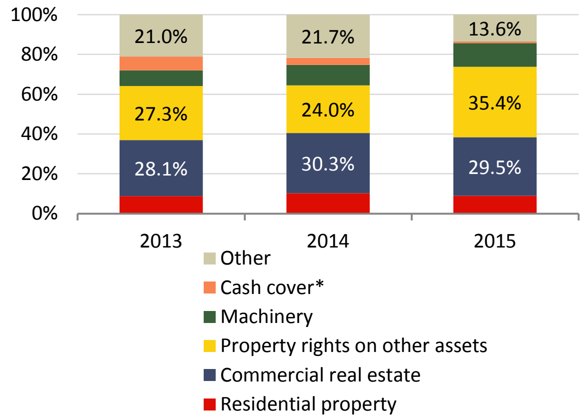


Source: NBU

According to NBU estimates, banks needed a significant increase of provisions against the loan portfolio as of the diagnostics date. The need for additional provisions against FX loans to corporates was the largest across all segments.

The key factor behind an identified gap in provisions was reassessment of collateral quality. The property rights for goods made up 27-33% of the banks' total collateral value over the past three years. This type of collateral is of the least quality and leaves has close to zero recovery ratio in the event of a borrower's bankruptcy. The banks and the borrowers often abused this type of collateral with aim of lowering the estimated risks in their financial statements.

Collateral taken into account in assessment of credit risk under asset-side operations



** deposited at creditor bank for a term at least equal to maturity of the asset*

Source: NBU

The banks are required to cover properly credit risks revealed by the diagnostics. According to NBU requirements, banks may take three main options for action: 1) make additional provisions and raise additional capital; 2) secure additional collateral from the borrowers, thus reducing the amount of uncovered exposure and the need for additional capital; or 3) seek repayment of impaired debts by debtors, thus reducing the need for additional provisions.

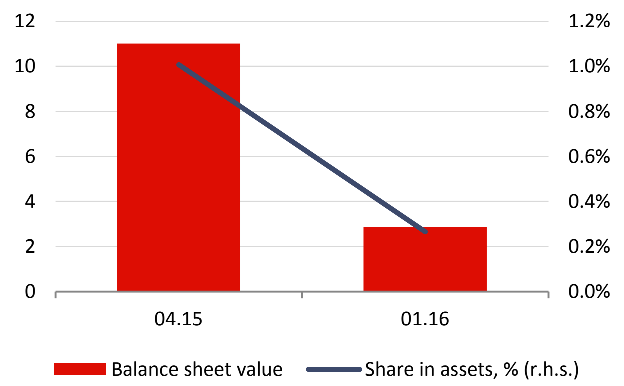
After the drastic fall in incomes and the significant hryvnia depreciation in 2014-2015, households and businesses are gradually restoring the solvency and the loan servicing discipline. However, the process of improvement of the loan portfolio quality would be extremely slow. It may take several years for NPL rate to return to the pre-crisis level.

The diagnostics also revealed several instances of buying "junk" securities and holding them on balance sheet. The securities of most issuers that were held by the banks were risky. The signs of their riskiness:

- the securities issuers and the bank's shareholders were identified as related parties;
- issuers' non-transparent activities and ownership structure;
- poor financial results of the issuers;
- signs of manipulation with securities quotations on stock exchanges.

Despite unacceptable quality of securities, banks recognized only 15% of provisions against them as of 1 April 2015. In the course of the diagnostics, the ratio of recognition of losses increased to 75%.

Private sector securities on balance sheets of top 20 banks, UAH billion



Source: NBU

Legal risks

The judicial system remains non-transparent and poorly controlled by society. Controversial legislation in the field of credit relationships and bankruptcy poses significant risks to financial stability. Legal provisions and court practice in the area of creditors' rights protection do not provide for efficient work of banks with distressed debts. In order to accelerate clean-up of banks' balance sheets, it is necessary to speed up the adoption of draft laws that will give way to restructuring of distressed debts and facilitate foreclosure.

There is no legal mechanism to encourage banks to clean off NPLs from their balance sheets quickly. In fact, any restructuring or write-off of impaired debts by a bank causes additional expenses for both banks and borrowers and has a negative impact on the bank's capital. Under such conditions, most banks try to avoid recognition of impaired debts. Banks only recognize it after long delays and under pressure from the regulator.

Ukrainian tax legislation also does not support restructuring and writing off the debt. Relief of a debt leads to taxable profit formally occurring for the debtor. There is no mechanism for reorganizing and restoring the solvency for viable enterprises. In 2014, out of 3,324 bankruptcy cases that resulted in court proceedings, only 4 were ended up in a borrower financial recovery, and only 3 out of 1,078 cases in the first half of 2015. Most of bankruptcy cases end up in company liquidation.

The low level of creditor rights protection and the legal framework shortcomings leave room for manipulations. A common reaction of debtors to lawsuits from banks or their liquidators is filing counter lawsuit requesting to declare credit, mortgage, or warranty agreements null and void. This significantly delays the process of debt collection and foreclosure on the collateral.

Borrowers manipulate collateralized property and hinder foreclosure on this property. In particular, the Law of Ukraine *On Mortgages* allows creditor to acquire mortgaged property only after holding three public sale tenders and only at the starting price of the first public bidding. The rights of creditors are not protected in case of unauthorized construction – reconstructed properties are almost impossible to foreclose. During the sale / purchase and the registration of motor vehicles, legislation does not oblige notaries and law enforcement officers to check for private encumbrances in favor of banks. This leads to illegal alienation of vehicles pledged to a bank without the consent of the bank itself.

Quick foreclosure and sale of collateralized property is almost impossible because of abuse of the bankruptcy procedure by unscrupulous debtors. The foreclosure procedure and the system of enforcement proceedings do not allow returning the lent money even in the case of a forced debt collection. According to legislation, the state executor is obliged to execute the decision of a court within six months from the day of a decision delivery by opening enforcement proceedings. In practice, these terms are often not respected due to debtors contesting the executors' actions in court.

Another problem is the abuse of bankruptcy procedure by corporate borrowers, non-transparency, and a lack of control over the official receivers and liquidators. According to the Independent Association of Ukrainian Banks (NABU), in 2015, some corporate borrowers re-registered in a different region to seek the appointment of a specific official receiver by the courts in that region. Abuses also occur at the stage of liquidation. According to NABU, there were cases of the sale of property to a person agreed to with the liquidator, or the sale of the property at below market price.

Progress achieved in protecting the creditor rights. During 2015, a few problems were resolved for creditors. In particular, creditors are exempt from VAT on the sale of collateral; the tax obstacles to writing off bad debts of corporates were lifted; and banks and credit bureaus received real-time access to information from the Unified State Register of legal entities, individual entrepreneurs, and public organizations of Ukraine.

An important improvement of the legal framework in the field of credit relationships in 2015 and the first half of 2016 was the adoption of the following draft laws:

- the draft Law of Ukraine *On Financial Restructuring* (No 3555) was passed in the first reading. It introduces a mechanism for out-of-court debt restructuring and recovery of corporate debtors with participation of financial institutions. Adoption thereof shall contribute to *bona fide* borrowers who are temporarily unable to service the debts under the terms of loan agreements. On 1 June 2016, the Committee on Financial Policy and Banking has decided to recommend to the Verkhovna Rada of Ukraine to adopt the draft Law in general;

- the Laws of Ukraine *On Bodies and Persons Carrying Out Forced Execution of Court Decisions and Decisions of Other Bodies* and *On Enforcement Proceedings* have been adopted. They provide in particular for a mixed system of executing court decisions by both State and private executors. This shall facilitate more effective execution of decisions of courts and other competent authorities, as the collectors will be able to choose on their own the person that will ensure restitution of their breached rights.

However, the Verkhovna Rada of Ukraine did not support several drafts aimed at resolving situations with NPLs:

- the Draft Law of Ukraine *On the Restoration of Confidence Between Borrowers and Creditors* (No. 2286a), which eliminates a number of legal gaps used by debtors to avoid meeting their obligations. Instead, the Verkhovna Rada registered a draft Law *On Amendments to Some Legislative Acts of Ukraine (on Encouraging Lending in Ukraine)* (No. 4529). Its provisions are similar to the provisions of Draft Law No. 2286a except for amendments to the Law of Ukraine *On Restoring Debtor's Solvency or Declaring It Bankrupt*. On 26 April 2016, the Committee on Financial Policy and Banking decided to recommend the Verkhovna Rada of Ukraine to adopt Draft Law No. 4529 as a basis;

- the Draft Law of Ukraine *On the Restructuring of Liabilities of Citizens of Ukraine Under Foreign Currency Loans Borrowed for the Purchase of a Single Residency* (No. 4004) was returned for revision to the Committee on Financial Policy and Banking. The Cabinet of Ministers of Ukraine introduced this draft law. Its adoption shall facilitate restructuring the debts for the owners of a single residency and is a prerequisite for the lifting of the moratorium on foreclosure for FX borrowers. Currently a relevant Committee considers filing the revised draft law for registration.

Certain court decisions in 2015 also posed additional risks for creditors. In particular, last year the Supreme Court of Ukraine concluded that individuals who are being evicted from their collateralized housing have to be offered a replacement housing if the pledged housing was not purchased on credit. A separate problem is the frequent refusal of courts to settle claims to warranty providers; therefore one of the major banks appealed to the Constitutional Court for an official interpretation of the respective provisions of the Civil Code.

In view of these problems, it is important to take the following steps to effectively deal with impaired loans and to resume lending:

- establishing a mechanism for voluntary debt restructuring and pre-court recovery of potentially viable corporate borrowers;
- establishing a mechanism for restructuring and debt relief for FX borrowers – owners of a single residency;
- settling tax issues arising from restructuring and debt relief;
- ensuring equal access of debtors and creditors to the bankruptcy procedure, inter alia allowing secured creditors to initiate debtor bankruptcy, and giving them equal rights with other creditors;
- strengthening the control functions of the creditors within the procedure of disposal of the property of a corporate debtor in order to prevent abuse on the part of the enterprise managers and appointed official receivers.

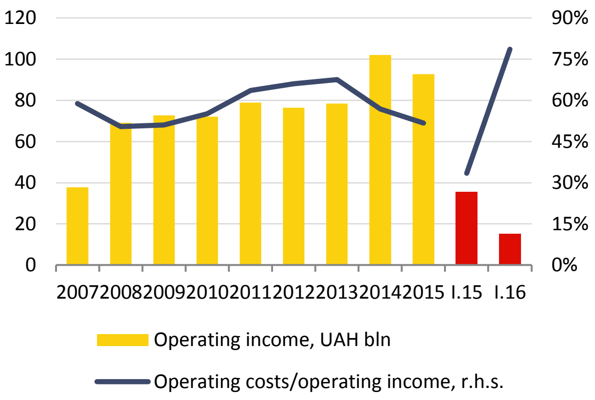
Financial results and capitalization

During 2015, the operating income of most banks remained relatively high, and Cost to Income Ratio (CIR) decreased, although this was largely due to the effect of the hryvnia depreciation. At the same time, the cost of credit risk (the ratio of provisioning to the loan portfolio value) in 2015 increased 3.6 times comparing to 2013. That caused significant losses for the banking sector. The banking sector will be still making losses through 2016 as banks clean up their balance sheets of problem debts. This requires significant additional provisions against credit operations. The return to profitability is expected only in 2017. The capital adequacy ratio of many banks will be temporarily below 10% in 2016. Such a reduction is acceptable, as the banks that passed the diagnostics were allowed three years to fully comply with this capital ratio.

The operating income of the banking sector (income before loss provisions) significantly increased during 2014-2015 despite decrease in the number of banks. This came primarily due to the hryvnia depreciation, which led to the growth of net interest income in hryvnia equivalent and trading income. In Q1 2016, operating income declined in annual terms due to a negative FX revaluation impact at several large banks.

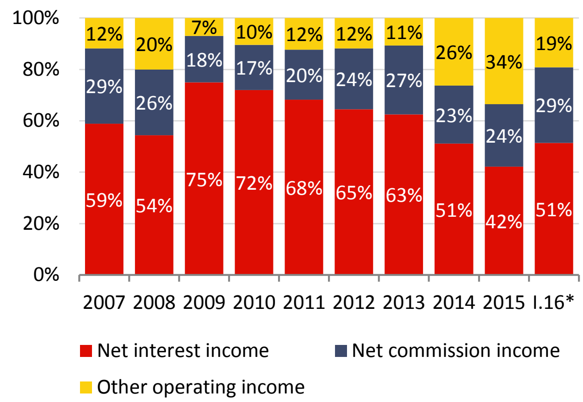
Over the past two years, the structure of the operating income has changed significantly. The share of net interest income decreased to 42% in 2015. The share of "other income" increased mainly due to trade income. CIR decreased from 68% in 2013 to 52% in 2015.

Operating income and operating efficiency of banks



Source: NBU

Structure of operating income for banks

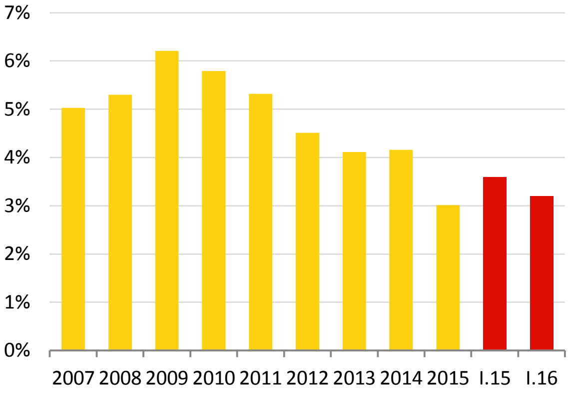


**trailing twelve month*
Source: NBU

The interest margin of Ukrainian banks decreased slightly due to intensified competition for deposits during the crisis. Its gradual recovery is expected in 2016 on the back of improved liquidity and the expected reduction in the cost of deposits.

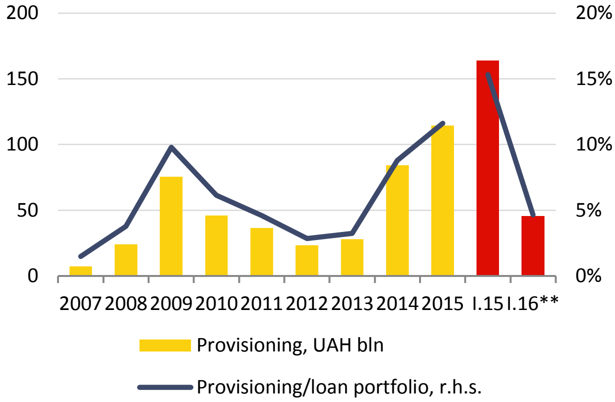
Growth in operating income was entirely offset by increased provisions due to the deterioration of the quality of the banks' loan portfolio. The cost of credit risk increased to 9–12% (relative to the total loan portfolio) in 2014-2015 compared to a relatively moderate 2-3% in 2012-2013. A high provisioning will persist through 2016 as banks recognize losses on asset-side operations that have been revealed in the course of the diagnostic study.

Net interest margin



Source: NBU

Provisioning*

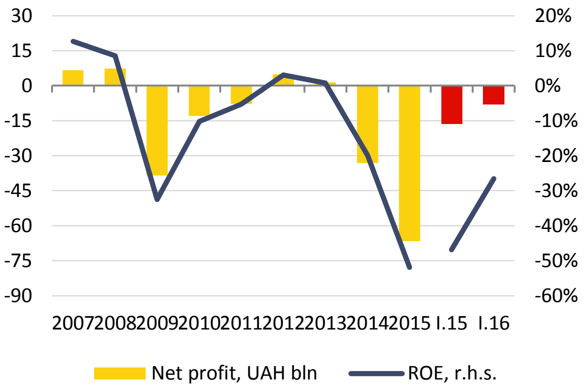


** provisioning/loan portfolio*
*** at Q1 2016 according to ISFR*
Source: NBU

It took four years after the 2008-2009 crisis for banks to return to profitability. Only in 2012 did the total financial result of Ukrainian banks become positive. During 2009-2011, cumulative losses of the banking sector amounted to UAH 59 billion. Such a lengthy period of losses was primarily due to the gradual and belated recognition by banks of losses from the deterioration of the quality of the loan portfolio.

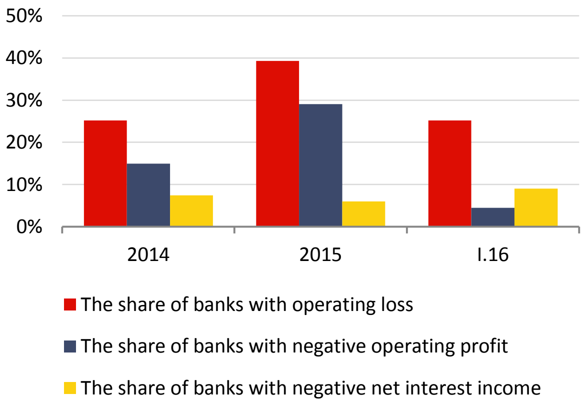
In the first half of 2016, banks recorded significant losses on active operations. In order to reflect the real quality of the loan portfolio, the NBU requires that banks report asset quality fully in line with diagnostics results. That is why during 2016 the aggregate provisioning against losses for assets will still exceed operating income. A return to positive net income may be expected only starting from 2017.

Net profit and ROE of banks



Source: NBU

The share of banks with an operating loss



Source: NBU

By the end of Q1 2016, 28 solvent banks were loss-making (vs. 37 in 2014 or 46 in 2015). The number of banks that had negative operating income declined significantly: 5 compared to 34 banks in 2015. However, 10 banks got negative net interest income in Q1 2016 (compared to 7 banks in the same quarter of 2015).

The capitalization of banks substantially worsened during 2015 on the back of the growing losses of the banking sector. A temporary decline of the capital adequacy ratio to below 10% level is expected for many banks during 2016 due to high provisions against bad assets. Until 2018, the NBU will adhere to a regulatory forbearance approach and lower temporarily capital requirement if capitalization/restructuring programs are approved in accordance with the diagnostics results and are fully implemented.

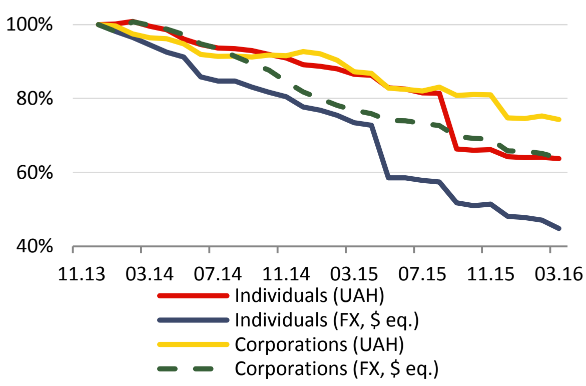
Prospects for restoring lending

Despite the historically high liquidity level in the banking sector, lending to the corporate sector and households will recover slowly. The main obstacles to increasing loan portfolio by banks is poor protection of creditors' rights and the extremely high business indebtedness against the backdrop of shrinking incomes. Today only short-term loans for the replenishment of working capital are in demand. Households temporarily ceased to be a significant category of borrowers. In 2016, solvent banks may reduce the gross corporate loan portfolio by 1-2%, while loans to households may decrease by 2-3% (net of FX effect). However, lending may recover already in 2017. The cost of credit will reduce as inflation decelerates. That, in the absence of new shocks, should allow the NBU to continue reducing its key interest rate further.

The loan portfolio of Ukrainian banks is shrinking for the second year in a row. During 2014-2015 and Q1 2016, the outstanding credit to corporates and households in hryvnia decreased by 26%, in FX – by 36%. Reduction in the loan portfolio was also a result of the statistical effect as insolvent banks left the market and they do not report their outstanding credit since their licenses were revoked. At the same time, corporate and retail loans from solvent banks decreased moderately in the first five months of 2016.

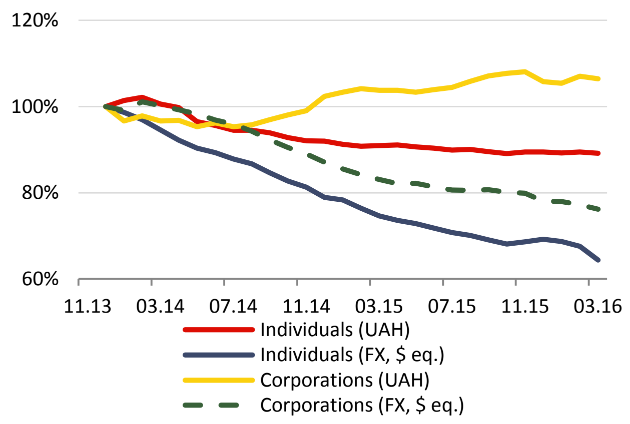
Bank new lending is almost entirely focused on corporate segment. Its share in the total loan portfolio of banks has grown from 64% in September 2008 to 83% in March 2016. The share of corporate loans in total performing loans (quality categories I-III according to NBU classification) was 89% as of the end of Q1 2016.

Total loans (2013 = 100%)*



** abrupt changes in volumes associated with the withdrawal of insolvent banks from the market.*
Source: NBU

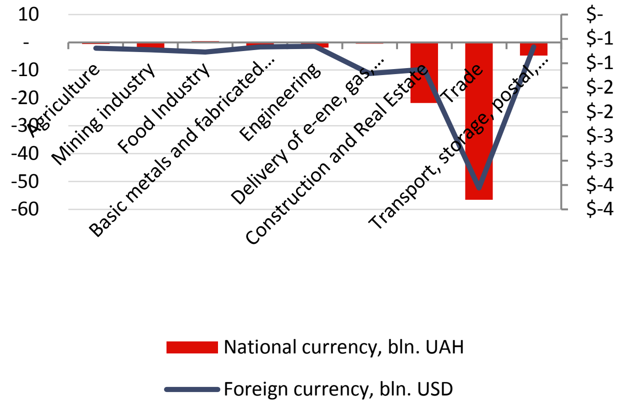
Change in loans to solvent banks as of 1 April 2016 (2013 = 100%)



Source: NBU

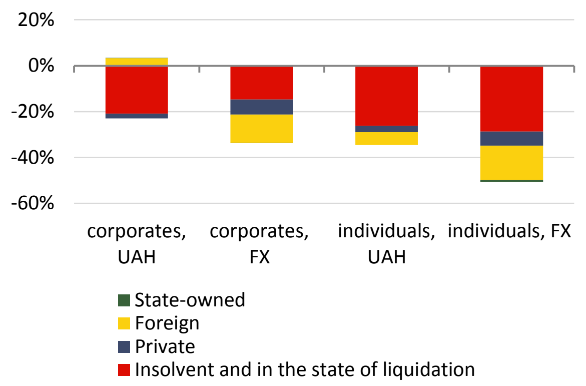
The biggest drop in the hryvnia loan portfolio was for loans for trade, construction, and real estate operations. The reason behind this is shrinking domestic market Decrease of loans to commerce was more pronounced than for other industries due to the high proportion of loans for a term of up to one year.

Change in outstanding loans by industry - the largest borrowers in 2014-2016*



** from 01.01.2014 to 01.04.2016.*
*** transportation, warehousing, postal and courier activities.*
*** electricity, gas, water and waste management.*
Source: NBU

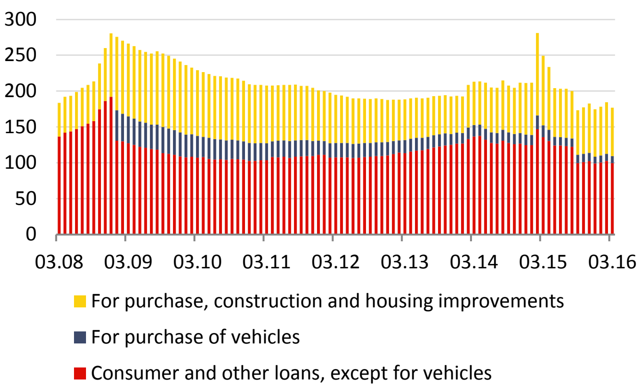
Change in outstanding loans in 2014-2016, billion UAH.*



** since 01.01.2014 to 01.04.2016.*
*** change in the debt equivalent of USD*
Source: NBU

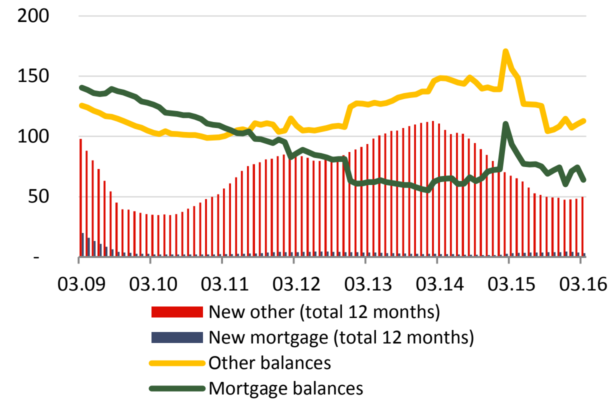
The reduction in retail lending that began in the aftermath of the 2008-2009 crisis continued in 2014-2015. Since 2009, banks were in fact prohibited to lend to households in FX. Thus, the FX debt of households dropped 7.3 times by the end of Q1 2016 from September 2008 maximums. An additional important driver of reduction in the households' debt was the processes of its restructuring. Consumer lending, which boomed under stable prices for imported goods in 2011-2013, grew by inertia in the first half of 2014, but decreased in 2015. During Q1 2016, it increased slightly again.

Loans to households by purpose, UAH billion



Source: NBU

Loans to households, UAH billion*

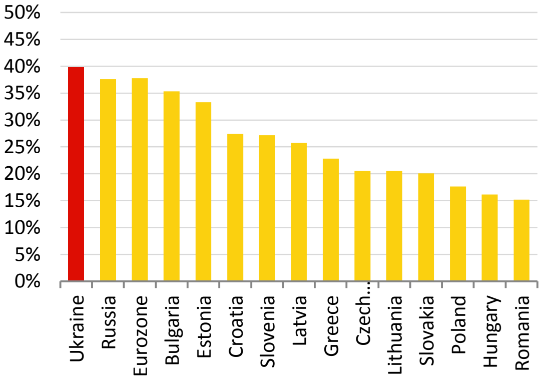


** new loans in the past 12 months*
Source: NBU

Recovery of bank lending will be slow despite the sufficient liquidity in the sector. The main facts restricting lending are:

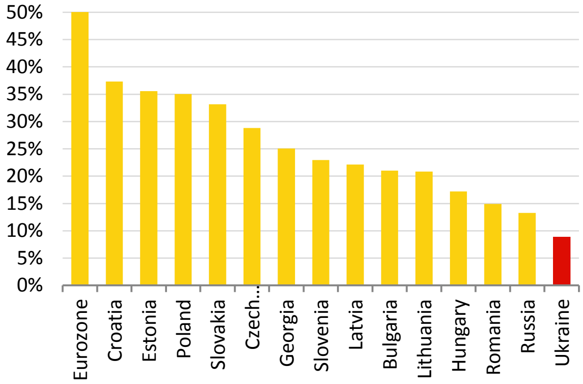
- The high indebtedness of the real sector. Ukraine ranks first in Eastern Europe by the ratio of corporate loans to GDP. Most borrowers are highly leveraged, which does not allow them raising new debt. At the same time, indebtedness of Ukrainian households (relative to GDP) is the lowest in the region.
- The level of protection of the creditor rights is extremely low. Most banks are not ready to assume new credit risks, as they are not sure that they will be able to protect effectively their rights *vis-à-vis* borrowers in the future.
- A number of existing legal restrictions and the regular emergence of new legislative initiatives that prevent efficient workout of retail loans. This includes the moratorium on the alienation of housing pledged to secure the loans, and the forced conversion of FX loans under the historical rate.

NFC Loans to GDP



Source: ECB, IMF, Eurostat, Central banks, NBU

Households Loans to GDP



Source: ECB, IMF, Eurostat, Central banks, NBU

According to NBU estimates, the reduction in the gross corporate loan portfolio of solvent banks may amount to 1-2% in 2016. The retail loans may decrease by 2-3% (with regard to FX effect). The NBU expects that lending will resume in 2017, and credit portfolio growth may reach 10%.

Changes of the regulatory environment in 2015 - the first half of 2016

During 2015 and the first half of 2016, important changes took place in the approach to regulation and supervision over the financial sector of Ukraine. The most numerous and drastic changes were implemented in the banking sector. The new rules primarily focused on strengthening the institutional and financial independence of the NBU, strengthening the institutional capacity of the DGF, enhancing the transparency of the banking sector, and improving the regulation of the banks solvency.

The institutional and financial independence of the NBU was enhanced

The procedure for distribution of NBU profit has changed. The NBU may only transfer its profit to the State Budget of Ukraine within amounts stated in the annual financial statements, confirmed by an external audit and approved by the NBU Council. The number of members of the NBU Council and the NBU Board reduced to nine and six people, respectively. The NBU Board transformed into a collegial body with equal rights for all members. An increase is planned in the number of meetings of the NBU Board and in scope of its mandate. The NBU Board has the right to set up specialized committees and delegate certain powers thereto.

The Council of Financial Stability was established (hereinafter the Council)

The interagency body was launched for sharing information, timely identification of systemic risks to the financial system of Ukraine, and coordination of measures required if unstable state of the banking system is detected. The Council comprises the NBU Governor (and one Deputy Governor), the Minister of Finance of Ukraine (and one Deputy Minister), the Chairman of the National Securities and Stock Market Commission, the Chairman of the National Commission for State Regulation of Financial Services Markets, the Managing Director of the Deposit Guarantee Fund. The Council's decisions are advisory in nature. In accordance with the Article 7^1 of the Law of Ukraine *On the National Bank of Ukraine*, the Council confirmed the signs of instability in the financial and banking system, which empowered the NBU to set imposed special mode of regulation and supervision of banks or other entities. The Council held seven meetings since its establishment.

The institutional capacity of the DGF was enhanced

The guaranteed compensation to depositors is paid out swifter: the compilation of the register of depositors shall take only one working day (instead of three as before) and its approval – three days (instead of six). The criminal penalty was provided for executives and officers of the bank for filing false information on a depositor if the latter impedes identification of the depositor and delays the repayments. The DGF was entitled to set up a "consolidated office" for dealing with the assets of insolvent banks. This should increase the effectiveness of property sale. The funding sources of the DGF expanded by including proceeds from the DGF property management (including disposal, lease). From 1 January 2017 the DGF guarantees of up to UAH 200,000 will also apply to deposits of individual entrepreneurs.

Deposits without early termination possibility were introduced

The legal amendments cancelled requirements to banks to pay back term deposit on first depositor demand. This made banks' funding base more sustainable and predictable. Depositors may choose between deposit types: "term" or "on demand". This means that withdrawal of a deposit or its part on the first demand is possible only for "on demand" bank deposits. Early withdrawal of the term deposit and accrued interest thereon is possible only if this was envisaged by the terms of the deposit contract.

The disclosure of information on acquisition of a substantial stakes in banks and information on the structure of banking groups was launched

The NBU started to disclose detailed information on the approval or prohibition of acquisition of substantial stakes in banks. The information contains the name of the target bank; the applicant's name; information on the stake in the target bank that the applicant intends to acquire; and the essence of resolution. Such reports shall be published semiannually.

The additional supervision over banking groups was introduced. The NBU has the right to set requirements for a banking group on a consolidated and sub-consolidated basis to ensure effective corporate management, risk management, adequacy of regulatory capital, prudential requirements, etc. These steps help to limit the risks of banking groups and contribute to stable performance of the banking system.

The responsibility of persons related to the banks was enhanced

Amendments to legislation enhanced the civil, administrative, and criminal liability of bank's related persons for bringing the bank into insolvency. Intentional (fraudulent) bank bankruptcy shall be punishable by restriction of liberty or confinement for a term from one to five years. The requirements for disclosure of the ownership structure of the banks were also enhanced. Banks were obliged to disclose the information on individuals who directly, or indirectly through other legal entities, own stakes in a bank. The list of persons affiliated with a bank is expanded and banks are required to report information on them to the NBU.

The banks moved to International Financial Reporting Standards (IFRS)

From 1 December 2015, the NBU obliged all banks to switch to IFRS.

The criteria for categorizing banks as insolvent were enhanced

The grounds for declaring a bank insolvent is its failure to meet two or more percent of its liabilities to depositors and other creditors over five consecutive business days. Whereas previously, the NBU declared a bank insolvent in the case of failure to meet 10 per cent of the relevant liabilities over 10 days. A problem bank can be declared insolvent if it is caught entering / re-entering contracts, which may increase the DGF expenditures related to withdrawal of the bank from the market.

The procedure of reorganization of banks and the terms for bank capitalization was streamlined

The simplified reorganization procedure may apply only to banks that need additional capitalization according to a diagnostic study results. The decision on issuing a banking license, or a general license for FX operations to a bank, which was established as a result of a merger, should be taken within two weeks from the day of filing the documents by the bank (instead of two months as stipulated in the Law of Ukraine *On Banks and Banking Activity*). The NBU also streamlined terms for additional capitalization of banks by foreign investors.

The procedure for disclosure of information on NBU loans to banks with a maturity of over 30 calendar days was launched

The disclosed information shall contain the name of the bank, the amount and type of the loan, type of the collateral provided, and the date of the relevant NBU decision.

The right of the NBU to not categorize a bank temporarily as problematic / not to declare it insolvent was clarified

The Law of Ukraine *On Amendments to the Law of Ukraine On Measures Aimed at Encouraging the Capitalization and Restructuring of Banks* was adopted in late December. It allows the NBU not to declare a bank insolvent (in spite of significant drop in regulatory capital) and not to categorize it as problematic (in spite of NPL share of 40% or more in the total assets amount). Such mitigation applies only to those banks that implement capitalization programs/ restructuring plans approved by the NBU.

The schedule for increase in the minimum amount of banks' authorized and regulatory capital was refined

All banks must comply with requirement of minimum amount of authorized and regulatory capital of UAH 120 million before 17 June 2016. The following intermediate stage is the increase in the minimum amount of authorized and regulatory capital to UAH 200 million by 11 July 2017. The schedule provides that the minimum level of UAH 500 million will be reached by banks before 11 July 2024.

The liberalization of anti-crisis FX restrictions started

The NBU has cancelled the mandatory sale of funds incoming to Ukraine as foreign investments. It has also shortened the period in which the authorized banks have to deposit hryvnia funds for FX purchase on behalf of the customers. The banks will be able to purchase the FX for the customers starting from the operating day next to the day of making the hryvnia deposit. The procedure for receiving a license for FX operations was simplified (the customers of the authorized banks will not be required to submit documents that are publicly available and to provide translation for SWIFT messages). FX operations under loan agreements of residents with IFIs were also streamlined. In addition, steps were taken to relax restrictions on the cash market, in particular the limit increased for withdrawal from FX deposit was increased (up to the equivalent of UAH 100,000 per day) and FX purchase on cash market (up to the equivalent of UAH 12,000).

Recommendations

One of the purposes of the FSR is to recommend measures aimed at mitigation of systemic risks to the financial sector. The NBU also outlines in this report its objectives and plans for a short-term prospect.

Recommendations to public authorities

Continue cooperation with the IMF

A necessary precondition for reducing systemic risks and ensuring financial stability is resuming comprehensive cooperation with the IMF. Public authorities should steadily meet the benchmarks under the cooperation program with the IMF.

Enhance the protection of creditor rights

The risks of fraud and borrowers' delinquencies are the major factors holding back the resumption of bank lending in the short and medium term. The deterioration of the loan portfolio quality of banks during the past few years was largely caused by the reluctance of many borrowers to meet their liabilities and their fraudulent actions. In the short run, laws that will enhance the rights of creditors in litigations with unscrupulous borrowers need to be drafted and adopted (for more detailed information see "Legal risks” section).

Simplify the mechanisms for credit restructuring– adopt the law on financial restructuring

Now, there are no legal mechanisms to restructure bank loans without initiating a bankruptcy procedure for enterprises that are ready to service loans under softer schedule of repayment. The adoption of the Draft Law *On Financial Restructuring* (the so-called "Kyiv approach") would create legal preconditions for productive negotiations between creditors and borrowers.

Ensure adoption of the law on FX mortgages

A draft law on restructuring FX mortgages was developed to allow the conversion of such loans into hryvnia and a partial loan forbearance for individual borrowers. This draft law is a compromise – it represents a voluntary consent of banks to restructure mortgages to distressed borrowers who lost jobs or whose income fell. The expected loss of the banking sector from the implementation of the law will amount to about USD 370 million, but it will allow resolving the problems that remained unresolved for years.

To set the DGF consolidated sales office properly going

Transfer to the DGF of almost 80 banks since early 2014 with total nominal assets of UAH 396 billion[7] revealed the low institutional capacity of the DGF to work in times of a systemic crisis. The share of guaranteed deposits compensated with proceeds from the sale of assets is meagre; the repayment of deposits is mostly covered by funds borrowed from the Government or the NBU. The launch of the consolidated office shall contribute to the transparency of procedures of sale of assets of insolvent banks. Thus, the circle of potential buyers of the assets will expand and include *inter alia* foreign investors.

[7] as of the date of withdrawal of banks from the market

Reform state-owned banks as soon as possible, reduce the presence of the State in the banking sector

Further operations of state-owned banks without fundamental changes in their corporate governance standards will entail substantial fiscal costs. This will pose significant additional risks to financial stability (for more information see thematic article "State-owned banks: large-scale reforms are inevitable"). The NBU recommends changing quickly the principles of appointment of the supervisory boards members and the executive bodies of the state-owned banks. It is necessary to start the implementation of business strategies for state-owned banks and to enhance specialization of Oschadbank and Ukreximbank. The State has to abandon within the next two years the full guarantee coverage of retail deposits at the Oschadbank; the bank should become a member of the DGF. Withdrawal of the guaranties will in no way affect the readiness of the State to support the bank if necessary. It is critically important for the State to attract of private investors/IFIs to Oschadbank and Ukreximbank and divest from all other banks.

Recommendations to banks

Recognize and report incurred and expected losses

The results of the diagnostic study of the top-20 banks showed that banks in many cases avoided recognition of impaired debts (even for debts de-facto past due for over 90 days) and did so only under pressure from the regulator, and not always in full. Given the fact that delay in recognition of impaired debt slows resumption of lending, the NBU recommends banks to recognize the impaired debt and NPLs and to make all the required provisions in time and in full.

Raise risk management standards

The risk management standards at many banks (both private and state-owned) are inadequate and require substantial enhancement. The NBU's diagnostic study of the top-20 banks in 2015 revealed that making loan decisions was extremely inadequate, and the "risk appetite" was unreasonably high even in times of economic stagnation. A lot of corporate and retail lending took place without proper assessment of borrowers' financial condition, which led to a significant deterioration of quality of the banks' loan portfolios during the last two years. Banks are advised to adhere to conservative standards of risk management, to make comprehensive assessment of financial condition of potential borrowers and to analyze in detail the business reputation of the management and shareholders of corporate borrower.

Improve the quality of financial reporting and audit

The diagnostic study showed that some banks intentionally misreport statistical and financial information to the NBU. Such misreporting often leads to underestimation of credit exposure and the actual undercapitalization of the banks. Furthermore, financial statements of certain banks, confirmed by auditors, sometimes do not reflect their real financial condition. The NBU will employ vigilant control over the quality of banks financial statements and will enhance the responsibility for invalid disclosure of information.

Coordinate actions on loan repayment by potentially viable companies

The availability of legal mechanisms for restructuring of bank loans cannot help borrowers and creditors if they do not act in a coordinated manner. Banks should not initiate the bankruptcy of a borrower if the loss for the system as a whole resulting from this bankruptcy will exceed the benefits for a single bank from the sale of collateral. If a corporate debtor is potentially viable, then rehabilitation of its solvency, saving jobs, and repayment of debts to all creditors should be a priority.

Plans and objectives of the NBU

Further improvement of the regulatory framework with regard to the recommendations of the Basel Committee and the requirements of the EU Directives

In 2016, the NBU plans to intensify its work on improvement of the regulatory framework based on the recommendations of the Basel Committee and further harmonization towards the EU norms. In particular, during 2016 the NBU plans to develop a roadmap for implementation of a new regulatory capital structure, and requirements on capital coverage of market and operational risks, LCR and NSFR liquidity requirements. The introduction of these new requirements will not be fast and it will only be possible after the re-launch of banking sector.

Introduction of new approaches to credit risks assessment

The NBU plans to change fundamentally the approaches to assessment of credit risk at banks. A new regulation outlining new approaches to the credit risk assessment should be approved by the end of June 2016 and implemented from the beginning of 2017. Current approaches to credit risk assessment are based on regulations that allowed banks to misreport to some extent the quality of the loan portfolio. Today, the loan quality category is determined both by the financial condition of the borrower and the debt servicing discipline. These rules allowed upholding artificially the category of loans by servicing old loans through raising financial assistance or from new loans. As to securities, certain banks propped up their quotations on stock exchanges, thus avoiding provisioning for securities even if the issuer's financial condition was poor. The NBU plans to implement new approaches to credit risk assessment with primary focus on the financial condition of the borrower/issuer.

The launch of instruments of macroprudential supervision

Macroprudential regulation is the new area of activity for financial regulators in the aftermath of the global financial and economic crisis of 2008-2009. Today, the NBU only fragmentarily applies some instruments for macroprudential regulation, such as setting specific rules for credit exposure assessment for FX loans. The regulations also provide for the possibility to activate capital buffers for banks from 2020; these are a classic instrument of macroprudential policy in international practice. In 2016, the NBU will start designing a concept of macroprudential regulation for the banking sector.

The gradual relaxation of administrative restrictions

In 2016, the NBU plans to relax further the administrative restrictions imposed at the height of the crisis. The dynamics of the process will depend mainly on macroeconomic indicators and external risks to financial stability. In particular, the NBU plans to increase further the limit on cash withdrawal from retail FX deposits and the limit on the FX purchase by individuals.

Thematic articles

State-owned banks: large-scale reforms are inevitable

State-owned banks account for about a third of total banking assets and are a source of significant systemic risk for the financial sector. They have not become an engine of economic growth, and they often focused on lending to companies within the range of business interests of certain politically exposed persons.

The reliance of state-owned banks on budget funds gives rise to a problem of moral hazard and does not promote better corporate governance or introduction of efficient risk management. As a result, total fiscal expenditures on additional capitalization of state-owned banks exceeded UAH 74 billion in 2008 - 2015, or 6.4% of combined GDP of these years. In late January 2016, the government again provided budget funds to increase the capital of Oschadbank and Ukreximbank by almost UAH 14.3 billion in total upon the NBU diagnostics of banks of 2015. It is also safe to say today that that the nationalization of three banks in the midst of the 2008-2009 crisis is an example of non-optimal government decisions.

For a long time, state-owned banks remained inefficient because of poor corporate governance, lack of clear business models, and historical reliance on objectives set by public authorities. Continuation of their operations in the current format leads to significant risks, primarily fiscal. That is why in 2016 the standards of corporate governance at the state-owned banks should change drastically. Their specialization has to be enhanced and the banks have to move to business based exclusively on principles of maximization of return on invested capital. A strategic investor must be attracted to Oschadbank and Ukreximbank as soon as possible. In addition, the State should divest from all other banks as soon as possible.

State-owned banks are a safe haven for depositors

Six banks with a significant (over 85%) share of state ownership in the capital operated in Ukraine as of the end of Q1 2016. The recent noteworthy developments are the merger of Kyiv JSCB with Ukrgasbank and declaration of Rodovid Bank insolvent.

State-owned banks

	share of the State in the capital
Systemically important state-owned banks	
1. Ukreximbank	100%
2. Oschadbank	100%
Banks recapitalized with participation of the State	
3. Ukrgazbank	95%
Other banks (–special-purpose)	
4. Settlement Center[8]	86%
5. Derzhzembank (State Land Bank)	100%
6. Ukrainian Bank for Reconstruction and Development	100%

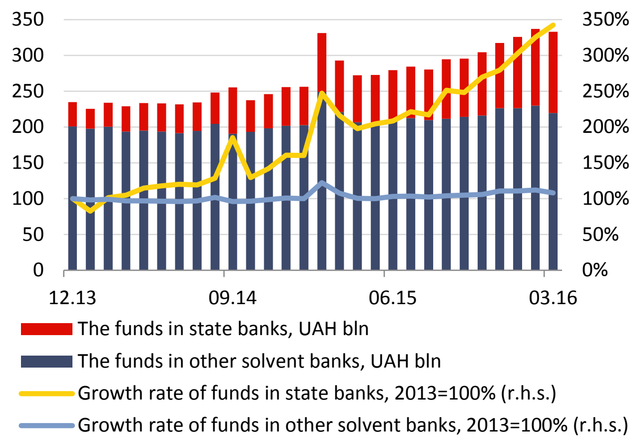
Source: NBU

During the crisis, state-owned banks played a positive role of safe haven for retail depositors and even more so for corporate funds that were not covered by the deposit guarantee system. The main reason for funds inflow to state-owned banks was the confidence that the government will support such banks under any circumstances, and therefore the risks of funds loss are very low. This created a major competitive advantage for state-owned banks - their funding base was (and remains) more stable compared to private banks.

[8] Public joint stock company "Settlement Center for Servicing Contracts on financial markets" is a new element of Ukrainian financial market infrastructure. The Law of Ukraine "On depository system of Ukraine" stipulated its establishment. PJSC "Settlement Center for Servicing Contracts on financial markets" was set up on the basis of PJSC "All-Ukrainian Securities Depositary" - http://www.ausd.com.ua/pro-bank/

During 2014-15, corporates were transferring their current and saving accounts to state-owned banks. Corporate deposits in hryvnia at the three largest state-owned banks increased 2.4 times (UAH 31 billion) from early 2014 by the end of Q1 2016, while in other solvent banks - by only 51%. FX deposits increased by 54% (in USD equivalent), while they decreased by 48% in other banks. Total retail deposits in hryvnia at the state-owned banks returned to pre-crisis levels in mid-2015 while they decreased by 2% in other banks by the end of Q1 2016.

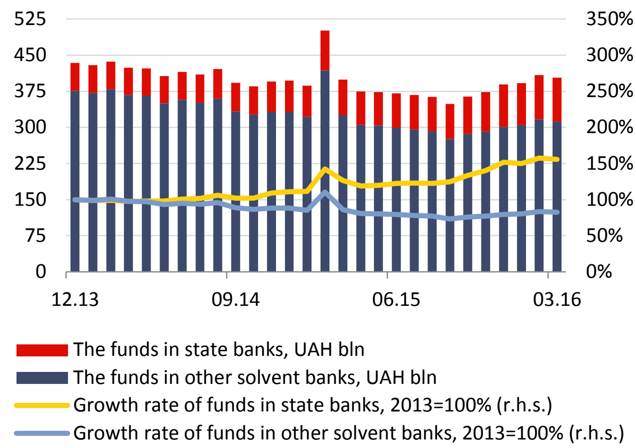
Corporates' funds at solvent banks*



** as of reporting date*

Source: NBU

Households' funds at solvent banks*

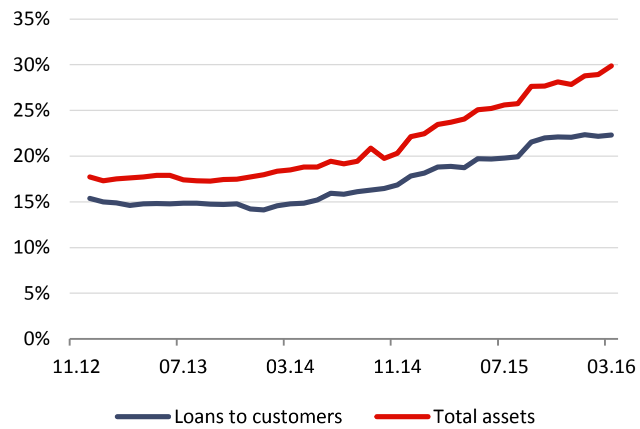


** as of reporting date*

Source: NBU

In 2014-2016, state-owned banks increased their total assets by UAH 249 billion; as a result, a third of the banking assets in Ukraine belonged to banks with state capital as of 01.04.2016. The increase was partly due to statistical effect related to withdrawal of insolvent banks from the market.

Share of Oschadbank, Ukreximbank, Ukrgazbank in banking sector



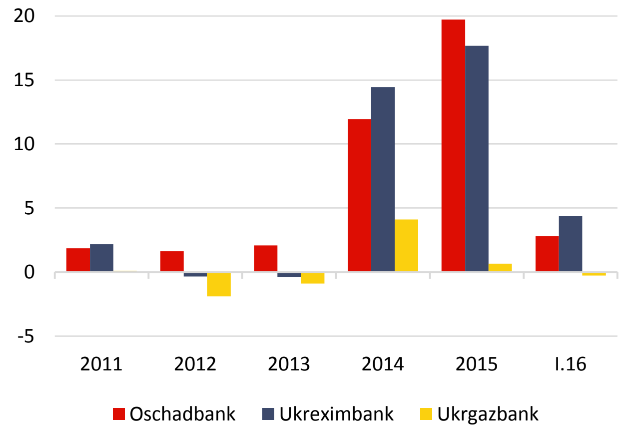
Source: NBU

Risk management standards are still low at the state-owned banks

The inertia of lending by state-owned banks during the crisis led to an increase in their share of the total loan portfolio of the banking system from 15% in 2013 to 23% at the end of Q1 2016. Such a substantial increase in their share indicates a continuing appetite for high risk despite the economy stagnation.

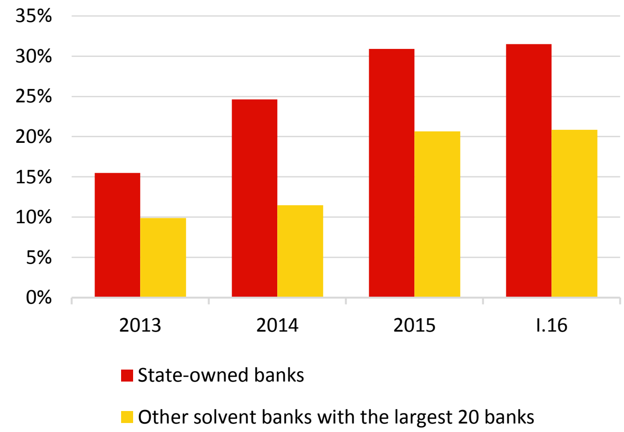
State-owned banks actively engaged on in lending and actively provisioned for impaired loans to poor-quality borrowers. As of the end of Q1 2016, the rate of provisioning for loan portfolio at the state-owned banks significantly exceeded the rates of private banks. This was largely the result of the loan portfolio build-up under pressure from politically exposed persons in the past. For instance, decisions made in the areas of alternative energy, chemical, construction, and real estate were extremely risky. The success of projects in those sectors depended critically on the businesses' owners being close to the authorities. Once the owners of such enterprises lost political influence, the financial standing of such corporate borrowers deteriorated significantly. Moreover, some corporate borrowers that did (or do) fall into the business interests of politically exposed persons refuse to service their loans, although they still efficiently operate.

Provisioning for deterioration of loans to clients, UAH billion



Source: Financial statements of banks under IFRS

Provisions for possible loss on asset-side operations to the loan portfolio, %

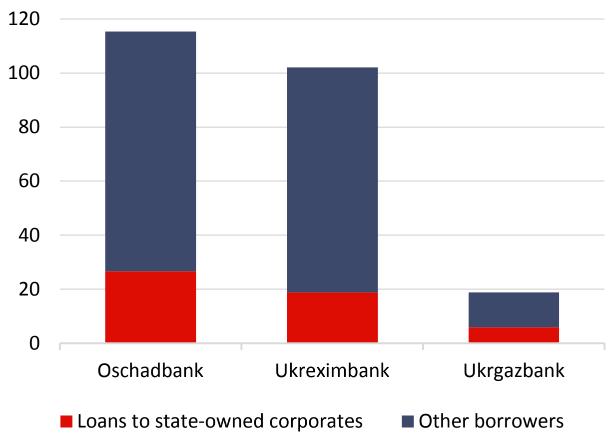


Source: NBU

An additional risk factor for state-owned banks is active lending to state-owned enterprises. Often the loans are extended to enterprises that cannot borrow from private banks because of poor financial standing. Lending to state-owned enterprises by state-owned banks was limited in practice only by the covenants in loan agreements with international financial institutions (IFIs) that set maximum share of state-owned companies in the banks' loan portfolio. This allowed limiting further extension of lending to the public sector.

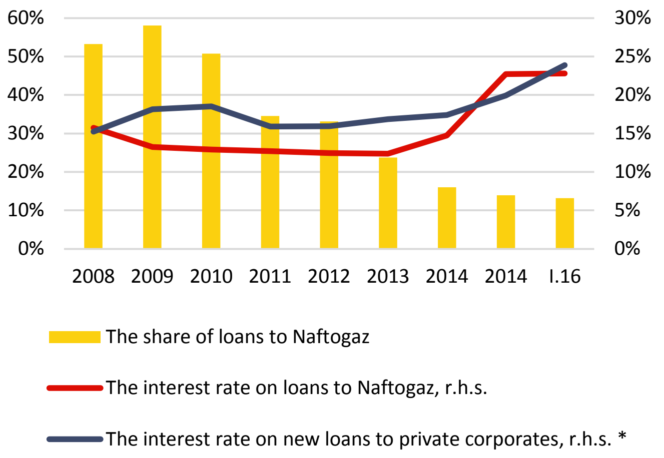
A large proportion of the loan portfolio of state-owned banks was formed on non-market terms. In particular, Naftogaz got a loan at below the market interest rate. Lending to Naftogaz by major state-owned banks was actually used as a tool to solve fiscal problems and significantly hurt the interests of banks.

Debt of state-owned clients to largest state-owned banks as of 1 April 2016, UAH billion



Source: Financial statements of banks under IFRS

Loans to Naftogaz in the portfolio of Oschadbank, %

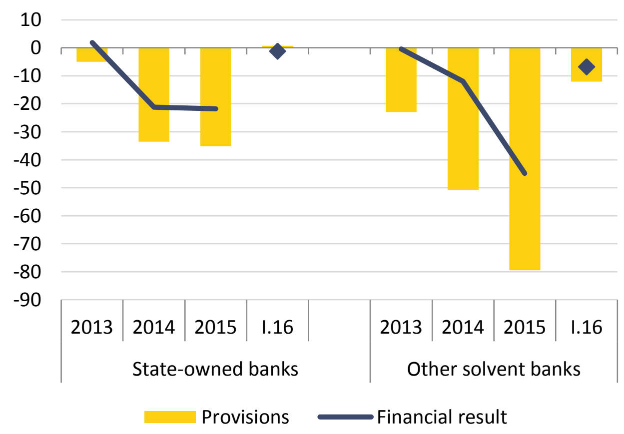


** extended by Oschadbank to private non-financial corporations in hryvnia according to monetary statistics data,% per annum*
Source: Financial statements of banks under IFRS, NBU

The poor risk management and lending to bad borrowers have been undermining the quality of the credit portfolios of the state-owned banks. Since 2008, state-owned banks have been requiring additional capital. From 2008 through the first quarter of 2016, a total of UAH 88.5 billion, or USD 8.7 billion at historical exchange rates, of additional capital was injected into the state-owned banks. Apart from that, as of late March 2016, the accrued interest payments on the domestic government bonds that were used to raise additional capital for these banks amounted to UAH 37 billion. The NBU diagnostics revealed in 2015 that Ukreximbank and Oschadbank would require additional capital in 2017.

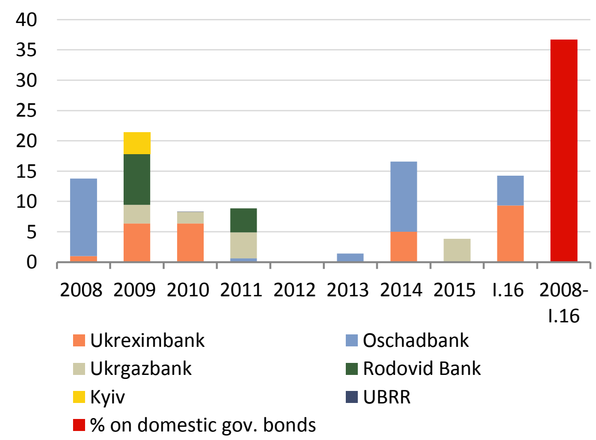
The key burden for public finance came from re-capitalization of the banks, including nationalized banks (Ukrgazbank, Kyiv Bank, and Rodovid Bank) in 2008-2011. A total of 30% of that capital was used to bail out Rodovid Bank and Kyiv Bank, which, however, were never able to resume normal operations. The decision to nationalize three banks during the 2008/2009 crisis is an example of non-optimal policy decision. The fiscal expenditures were several times higher than the losses that would have been incurred if the banks had been liquidated in due time.

Financial performance of banks, UAH billion



Source: NBU

Total capital injected, UAH billion



Source: NBU

State-owned banks need private investors/IFIs and radical changes in their business models

In February 2016, the government produced and made public a framework document on guidelines of strategic reforms of the state-owned banking sector. The document's top priority is a shift in approaches to corporate governance, enhancing the role of supervisory boards, and concentration of banks on core businesses.

Stated Government's plans regarding the largest state-owned banks

Bank	Prospects
Oschadbank	• Main business lines: providing services to retail customers, micro, small, medium, and partly large businesses • Enhancing independence of the bank's management and the effectiveness of corporate governance through establishing supervising boards on a competitive basis • Focusing on profit maximization • Selling at least 20% of shares to a qualified investor by mid-2018 • Making a policy decision on the timeframe and the terms of the bank joining the Deposit Guarantee Fund from 2017
Ukreximbank	• Main business lines: providing services to export-oriented enterprises, enterprises involved in investment projects, enterprises contracted to execute projects abroad, as well as servicing interstate trade/investment agreements • Enhancing independence of the bank's management and the effectiveness of corporate governance through establishing supervising boards on a competitive basis • Focusing on profit maximization • Selling at least 20% of shares to a qualified investor by mid-2018
Ukrgazbank	• Developing a strategy aimed at selling the state's share in the bank's capital before the end of 2017
Other partially state-owned banks	• Divestment from these banks in 2016

Political risk is the main risk to implementation of the development strategy and NBU recommendations regarding the state-owned banks. Today laws and by-laws govern these banks, and it takes a political consensus to amend them.

Box: international experience of state-owned banks' activity

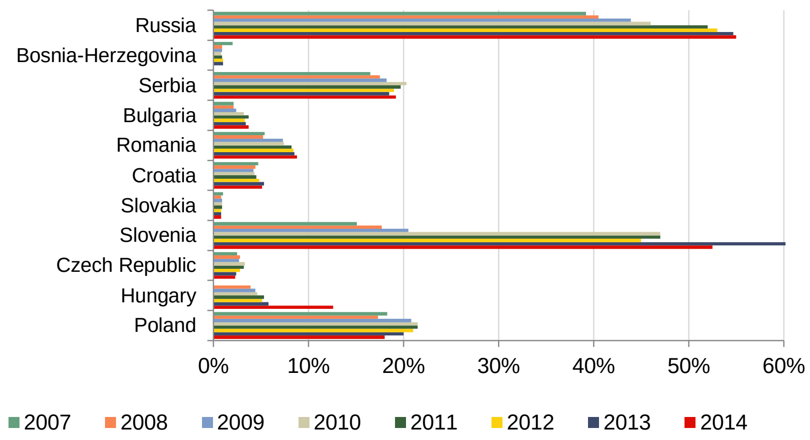
The role of state-owned banks in economies is ambiguous. The advantages of state-owned banks over private banks are offset by their disadvantages, first of all by distorted incentives in making loan decisions.

Advantages and disadvantages of the existence of state-owned banks

Advantages	Disadvantages
• Lending by state-owned banks is counter-cyclical, which stimulates the economy during a recession. This primarily concerns SMEs. • A safe haven for corporate and retail, as well as interbank deposits during banking crises → state-owned banks have a more stable funding base. • Provision of a better access to financial services in remote regions.	• Counter-cyclical lending often focuses on borrowers, which do not have a critical need for access to credit. • Lending decisions are often driven by non-economic factors • No sufficient incentives for banks' management • Insufficient control over assets quality → high fiscal expenditures for capitalization

International experience shows that, during unfolding crises, an increase in state participation in banks' capital is a common anti-crisis measure. An increase in the share of public banks in the total assets of the banking sector was typical for neighboring countries (Slovenia, Poland, Romania, Bulgaria, and Serbia). Promptness and timeliness of the state intervention was the key to success. In general, during a period of economic growth a state gradually divests from the capital of banks and rolls back its role of banks in the financial sector. In some CEE countries, the public share in the assets of the banking sector returned to pre-crisis rates in 2014 (Poland, Czech Republic). In the former Soviet area, two countries (Armenia and Georgia) completely rejected the idea of developing state-owned banks. In Russia, the share of state-owned banks in the assets of the banking sector is over 50%. However, the Russian government intends to reduce its share in the largest state-owned bank, Sberbank of Russia JSC, to 25% over the next few years.

The share of state-owned banks in total assets



Source: Based on Raiffeisen Bank International AG, CEE Banking Sector Report 2015: A Transition Year and *CEE Banking Sector Report 2012: Performing in Challenging Times*

The experience of neighboring countries shows that state-owned banks are almost never used as a tool for implementing the state's economic policy. Their positive role in the economy is reduced to smoothing credit cycles in the economy in times of crises. Almost all state-owned banks are public companies; their shares are listed on stock market, and the state's share in the capital is declining. The capital of the banks is increased through transfer of earnings or private capital injections, thus gradually eroding the state's share in the authorized capital of banks.

While there are examples of successful activity of the state-owned banks in developed countries (KfW in Germany, Bank Gospodarstwa Krajowego in Poland), these banks mainly play the role of development banks and have an insignificant share in sector. In general and in most countries, the state share in the financial sector is continuously declining.

Stress testing of the largest banks: methodological approaches

The stress testing of 2015 allowed to assess the solvency of the top-20 Ukrainian banks and to identify inherent systemic risks of the sector. Based on the findings of stress testing, the NBU plans to change the methodology for credit risk assessment and to improve its supervision over banks. The NBU also intends to make stress testing a regular exercise and to apply it further as a standard instrument of financial sustainability analysis of individual banks and the banking system in general. By the end of 2016, the next 40 banks will be stress tested.

Stress testing[9] and additional capitalization of top-20 banks based on its results was one of the key conditions of Ukraine's cooperation with the IMF and the World Bank. In 2014, the 34 largest banks were stress tested, and the top-20 banks in 2015. While in 2014 the stress-testing involved external consultants, in 2015 the banks were stress tested only by the NBU experts.

The NBU stress testing methodology is based on international practices. The methodology for 2015 stress testing was developed and changed based on the findings and observations of the methodology of 2014. Key changes were:

- the stress testing of large exposures on individual basis was introduced;
- an approach for additional capital need assessment was unified across all banks;
- the analysis of the collateral quality was deepened;
- the analysis of related party operations was deepened.

Comparison of the stress testing parameters in 2014 and 2015

	Stress testing of 2014	Stress testing of 2015
Performed by	9 audit companies	NBU: Department of on-site Inspections, Financial Stability Department
Sample of the largest banks	34 banks, 79% of the banking sector assets	20 banks, 86% of the banking sector assets
Diagnostic study date	1 January 2014	1 April 2015
Macroeconomic scenarios	Basic, pessimistic	Basic
Assets quality analysis	Yes	Yes
Individual stress testing of large exposures	No	Yes
Exposures stress testing on portfolio basis	Yes	Yes

In order to detect the real credit risks of borrowers in the course of the stress testing in 2015, the NBU followed several key principles, in particular:
(1) application of a formula for calculation of expected credit loss and provisions according to recommendations of the Basel Committee on banking supervision,
(2) critical assessment the collateral value,
(3) higher weight of financial health of corporate borrowers for the assessment of credit risk and probability of default, and
(4) the option to use consolidated statements of borrower's group while assessing borrower financial health.

[9] In order to match international practices, the term "stress testing" is used that includes the assets quality review to verify the historical data of the bank. In the NBU regulations, a similar set of measures is determined by the term "diagnostic study" of banks.

1. The application of the Basel formula for calculation of provisions. While designing methodology for the stress testing, the recommendations and practices were analyzed as to the formula for calculating provisions against loan losses. Inter alia this includes NBU regulations, the IFRS application practice, and the Basel Committee recommendations. In the methodology for stress testing of large exposures, the NBU adheres to the recommendations of the Basel Committee and provisions are estimated based on expected loss methodology.

Comparison of formulas for calculating the expected losses in 2014 and 2015.

According to the existing regulations of the NBU (NBU Board Regulation No. 23 of 25 January 2012)	Stress testing methodology in 2015
$\boldsymbol{LLP} = \mathbf{EAD} * \mathbf{PD} - \mathbf{ColVAdj}$	$\boldsymbol{LLP} = \mathbf{EAD} * \mathbf{PD} - \mathbf{ColVAdj} * \mathbf{PD}$
	Derived: $LLP = EAD * PD * LGD$ assessment of expected losses under the recommendations of the Basel Committee; $LGD = 1 - RR = 1 - \frac{\text{ColVAdj}}{EAD}$

LLP (loan loss provision) is the provision for impairment of the debt,
EAD (exposure at default) is the gross debt of the borrower,
PD (probability of default) is the indicator of risk, probability of default of the borrower,
LGD (loss given default) is the losses in the case of default on liabilities,
RR (recovery rate) is the level of recovery after the occurrence of default on liabilities,
ColVAdj – collateral value adjusted for the liquidity ratio.

2. Specification of the quality and eligibility of collateral. The stress testing revealed risks of the poor quality of collateral at many banks and concentration on high-risk types of collateral, such as property rights. This type of collateral includes, inter alia, collateralized property rights for future proceeds under the contracts and the collateralized property rights on future supply of goods. The diagnostics also detected cases of abuse of such type of collateral by banks, especially in case of lending to related parties. For example, the NBU revealed that some banks recognized future borrower’s income as appropriate collateral even though it had not been supported by historical evidence. Some banks also arbitrary interpreted the regulations on assessment of collateral while accepting property rights for future supply of goods. In particular, these collateralized property rights were often assessed at the contract value without due checks of risks of recovery for such collateral.

3. Refining the principles of assessment of risk indicator (probability of default) of a borrower. According to the NBU regulations, the category of the loan quality and, thus the risk of default of a corporate borrower is determined by repayment discipline rather than by borrower’s financial condition. This methodological approach led to the emergence of "loan pyramid schemes". In many cases, the NBU found that the main source of repayment of a borrower’s debt to the bank came from new loans, and only regular repayments with new borrowed funds ensured high quality of the loan portfolio. Banks avoided recognition of high credit risk of the borrowers even if their financial condition was unsatisfactory and they were not in a position to repay the debts with operational proceeds.

In international practice, the credit risk of corporate borrowers is primarily determined by the financial condition of the borrower (credit rating) based on its financial statements, while the delay of repayment to the creditor is one of the key triggers of impairment or default. To move closer to international practices, the methodology of stress testing envisaged assessment of whether borrowers would be in a position to service their loans in time and in full.

4. Re-assessing credit exposure based on the group consolidated financial statements. The methodology for the stress testing provided for possibility to assess credit exposure at the level of a group of companies taking into account consolidated financial statements. The practice of credit exposure assessment at the level of a group of companies varies significantly between banks. The biggest obstacle in analysis of credit exposure at the group level is the absence or poor quality of consolidated financial statements. Therefore, the banks' common practices are as follows:

- a bank does not analyze financial condition of a borrower's group because there are no consolidated financial statements;
- a bank compiles consolidated financial statements for the purposes of its own analysis; and
- a bank requires large borrowers to provide consolidated financial statements of the group on a mandatory basis, confirmed by a reputable audit company and assesses credit exposures based on the consolidated financial statements of the group.

When stress testing large exposures, the consolidated financial statements of the group were used to forecast sufficiency of cash flows to service the liabilities of the group. The group assessment improved the rating of the borrower if consolidated statements were better than standalone financial statements.

The results of the stress test also revealed the problems in internal risk management systems at banks. While assessing credit exposures, banks tend to comply just formally with the regulator's requirement and therefore often concealed the essence of the operation and the fair value of its credit exposure. This allowed active lending to borrowers in unsatisfactory financial conditions, accepting risky collaterals, and operations with related persons. The NBU will extensively apply professional judgment norms to enhance the efficiency of prudential regulation and to ensure the compliance in substance.

The asset quality review also helped to discover ethat some banks reflected of borrowers' information their debt servicing in the accounting system incorrectly. In some cases the number of days past due on certain loans was misreported.

The stress test of large exposures detected a low level of credit standards and low quality of credit analysis at some banks. The most significant signs of these deficiencies are:

- the high level of concentration of the loan portfolio on lending to large borrowers, to borrowers from certain sectors or regions, and lending in foreign currencies;
- a small proportion of large borrowers have financial statements confirmed by an external audit;
- a small proportion of large borrowers use consolidated financial statements;
- no or little attention to borrower's cash flow statements in credit analysis;
- a high acceptance of risky collaterals (goods in turnover, property rights for other goods);
- disbursement of loans to companies with poor financial conditions.

The quality of the loan decisions and credit risks assessment directly depends on quality of borrower's accounting and reporting. The analysis of financial statements of large borrowers detected material misreporting of financial results. One big example is reporting of losses related to revaluation of FX debt as part of operating expenses (instead of non-operating expenses). Another problem is banks' making large loans to legal entities operating on simplified reporting system. This greatly limits the credit analysis and can lead to misleading assessment of the financial condition and credit risk.

The credit analysis under the stress test has identified and confirmed the high level of risks of operations with related parties. The NBU's comprehensive approach to the analysis of the assets of the largest banks also included the diagnostics of operations with the bank's related parties. As a result, the NBU identified cases of lending to related parties on non-market terms.

The results of the 2015 stress test outlined the benchmarks for future improvements of the NBU supervisory function. In particular, the need for transition from rule-based supervision to risk-based supervision was confirmed. The main advantages of risk-based supervision is the imperative forward-looking risk assessment and active application of professional judgment.

In view of the above, the NBU intends to hold regular stress testing, as well as to continue the development and implementation of other instruments of risk-based supervision. The finding of the diagnostic study will be addressed in NBU's new regulation on credit risk assessment.

Abbreviations and notes

JSCB	Joint-Stock Commercial Bank
ATO	Anti-Terrorist Operation
GDP	Gross Domestic Product
HH	Households
STSU	State Treasury Service of Ukraine
SSSU	State Statistics Service of Ukraine
DTEK	Donetsk Fuel and Energy Company
TSA	Treasury Single Account
EU	European Union
FSR	Financial Stability Report
BOI	Business Outlook Index
CPI	Consumer price index
PPI	Producer price index
Parliament	Verkhovna Rada of Ukraine (Supreme Council)
IMF	International Monetary Fund
MEDT	Ministry of Economic Development and Trade
MoF, MFU	Ministry of Finance of Ukraine
MoJ	Ministry of Justice of Ukraine
SME	Small and medium enterprises
IFRS	International Financial Reporting Standards
IFI	International Financial Institution
MHP	Myronivsky Hliboproduct
Naftogaz	National Joint Stock Company Naftogaz of Ukraine
NBU	National Bank of Ukraine
NFC	Non-financial corporation
OP	Operating Profit
PJSC	Public Joint-Stock Company
VAT	Value Added Tax
FDI	Foreign direct investment
US	United States of America
PA	Provisional Administration

UBRD	Ukrainian Bank for Reconstruction and Development
DGF	Deposit Guarantee Fund
Germany	Federal Republic of Germany
CB	Central Bank
CAR	Capital adequacy ratio
CEE	Central and Eastern Europe
EAD	Exposure at default
EBA	European Business Association
EBITDA	Earnings before interest, taxes, depreciation and amortization
UAH	Ukrainian hryvnia
USD	US dollar
Q	quarter
FX	Foreign currency / exchange
mln.	million
bln.	billion
r.h.s.	right hand scale
ppts	percentage points
y-o-y	year-on-year