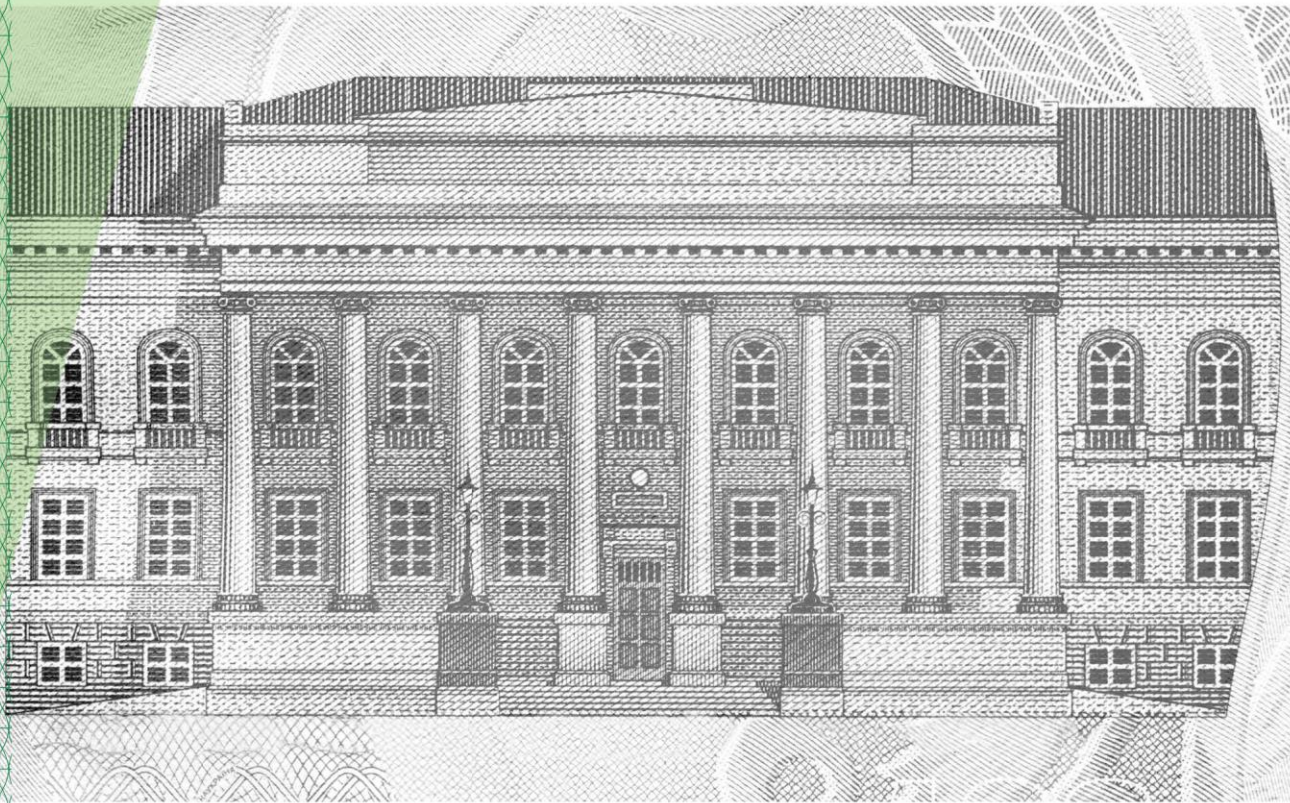




National Bank
of Ukraine

Financial Stability Report

June 2019



The Financial Stability Report (hereinafter the report) is a key publication of the National Bank of Ukraine. It aims to inform about existing and potential risks that can undermine stability of Ukraine's financial system. The report primarily focuses on banking risks. The report makes recommendations to the authorities and banks on measures to mitigate risks and to enhance the resilience of the financial system to those risks.

The report is primarily aimed at financial market participants, and all those interested in financial stability issues. The report helps to understand better challenges that Ukrainian economy and financial system are facing as well as the impact that these challenges might have on financial stability in Ukraine. Publication of the report promotes higher transparency and certainty of macroprudential policy, helps to boost public confidence in the policy, and thus facilitates National Bank's management of systemic risks.

The report was approved for publication by the Financial Stability Committee of the NBU on 14 June 2019.

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Summary

Systemic risks in the financial sector are at historic lows. The environment is conducive to banking, the funding base is rising steadily, lending to households is surging, while the banking sector remains well-capitalized and highly liquid.

Currently, the key risk to financial stability stems from unfavorable for the state developments around PrivatBank. In April – May, courts passed several rulings challenging the legality of, and need for, the nationalization of PrivatBank in December 2016. These rulings are currently being appealed. The NBU, together with the Finance Ministry and the Deposit Guarantee Fund, is preparing an action plan that covers any potential developments. In taking action, the NBU and its partners will be guided by the need to safeguard financial stability and to protect depositor rights.

Although the Ukrainian economy is slowing, macroeconomic conditions remain beneficial for banks' operations. The key macroeconomic risk to financial stability is any halt in cooperation between Ukraine and the IMF. This would make public debt refinancing more expensive, in particular on international private capital markets. Having access to those markets is critical for Ukraine as the country faces a period of peak debt repayments. In the coming months, once the elections are over, the existing cooperation program may be revised or a new program could be launched.

The financial standing of both households and businesses is improving. Real household income has been rising rapidly for three consecutive years. Improved consumer sentiment and higher income are encouraging households to take out more loans. Corporate income has also grown rapidly, profitability has returned to normal following a sharp revival after the crisis, and leverage has mostly remained at an acceptable level. Businesses are more clearly announcing plans to borrow more to invest in their fixed and working capital. Meanwhile, banks have said they are ready to ramp up corporate lending.

The share of domestic funding in the banks' total liabilities keeps rising, with external foreign currency borrowing accounting for just about 11% of the sector's total liabilities. While continuing to repay their external debts, banks are not attracting new external loans, because of relatively high interest rates and low demand for foreign currency loans. Although funding remains very short-term, banks have large volumes of high-quality liquid assets on their balance sheets on which they can rely to stave off any potential liquidity problems.

Consumer lending continues to rise quickly: unsecured consumer loans have been growing at above 30% yoy for eight consecutive quarters. The segment still has high potential to develop: in general, the debt burden of the household sector is small, at slightly below 10% of annual income, although the debt burden of low-income individuals is much higher. Consumer lending is highly lucrative, which makes it very attractive to banks. However, banks should not fail to appropriately account for the risks that segment brings.

An NBU's analysis of the consumer lending segment showed that under current macroeconomic conditions most banks are adequately assessing their potential losses from consumer loans, and making appropriate provisions. However, estimates of expected losses in a crisis are too optimistic for the most part. In estimating the amount of required provisions, banks use models that are insensitive to a sharp deterioration in macroeconomic indicators. Therefore, if an adverse scenario materializes, banks may not have formed sufficient provisions in advance. To prevent this, the NBU may increase risk weights for unsecured consumer loans in the future. This will ensure that banks have a sufficient capital cushion to absorb potential losses from this segment if a crisis arises.

At present, the banking sector is generating record profits. The return on equity (ROE) was above 30% in Q1, thanks to a high operating performance and low cost of credit risk. Although risks to profitability are currently low, banks should assume that profitability will normalize (decrease) in the medium term. The NBU believes banks should use current profits to form capital cushions. In the years to come, the NBU will significantly increase capital requirements

by introducing a capital conservation buffer and a buffer for systemically important banks. The central bank will also require other banks to set aside capital to cover operational and market risks (currently only credit risk is covered). As a result, banks will have to hold more capital to cover potential losses. It is important to ensure that those state-owned banks that are currently meeting capital requirements with only a tiny margin retain their profits to comply with new capital requirements, rather than distribute them as dividends.

Establishing independent supervisory boards at state-owned banks was an important development in recent months. Ukreximbank and Oschadbank will for the first time have supervisory boards, made up mostly of independent members. This will enable a change to the principles for operating state-owned banks, taking them completely out of the state's direct control. The key tasks for supervisory boards are to clean balance sheets of nonperforming loans, draw up strategies and business models, and enhance operational efficiency, to ultimately maximize the state's profit. In the current stage, the new supervisory boards are aiming to make state-owned banks more attractive for investors. The effective operation of the supervisory boards will ensure that state-owned banks will no longer cause losses to the state, as has been the case in previous decades.

The high dollarization of bank balance sheets remains a source of systemic risk. The share of foreign currency assets and liabilities shrank by over 10 pp from a 2015 peak. As of today, foreign currency deposits and loans account for slightly over a 40% share. Nevertheless, many bank customers still have foreign currency loans, even though they generate income almost exclusively in hryvnia. Banks should take a conservative approach to assessing the risks from these borrowers. The NBU expects that the dollarization level of the sector's balance sheet will continue to fall, provided financial stability persists and inflation slows down. The NBU estimates the natural dollarization level at about 20% for banking systems similar to Ukraine's. The dollarization rate of Ukraine's public debt exceeds two-thirds of its total debt, which is a source of macroeconomic risks. Growth in nonresident investment in hryvnia-denominated domestic government bonds will gradually increase the share of hryvnia-denominated debt, boosting the financial resilience of public finances.

The percentage of nonperforming loans on bank balance sheets is still higher than 50%. Although it is gradually declining, the decline is due to the statistical effect caused by growth in the total portfolio. The NBU expects that the cleansing of balance sheets of nonperforming loans will pick up noticeably, as practically all legal and tax obstacles have been removed. Since the banks are resolving nonperforming exposures extremely slowly, the NBU plans to approve a regulation on NPL resolution. The regulation will encourage banks to set a clear time frame for decreasing the volumes of these exposures. The government is expected to issue an additional decree that will govern the handling of nonperforming exposures by state-owned banks. The new supervisory boards of these banks are expected to deal with this issue as their top priority.

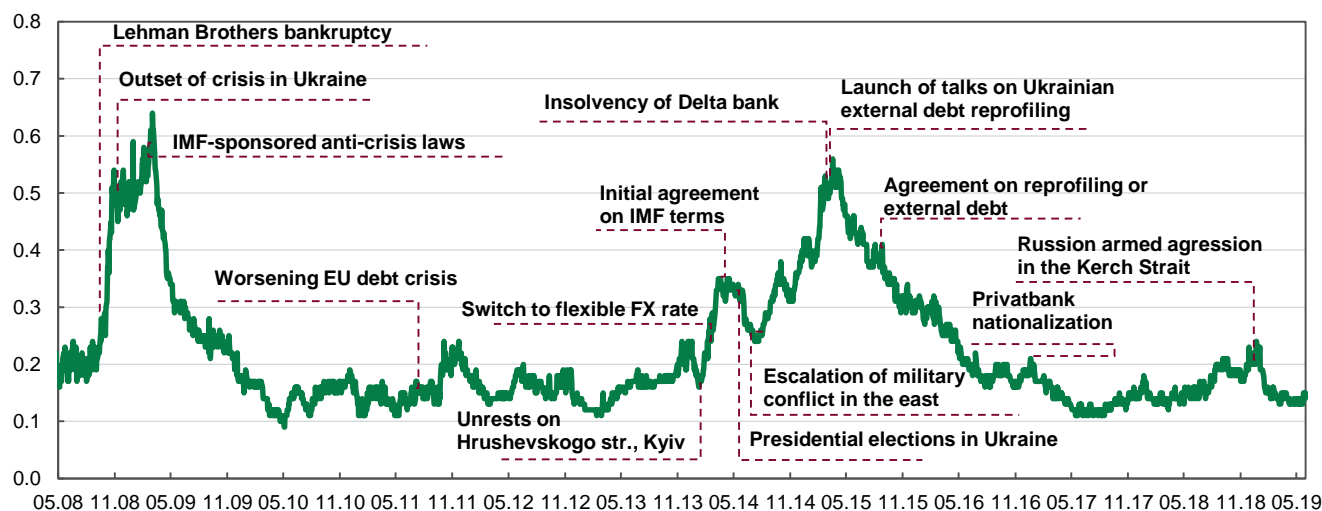
The NBU makes further efforts to harmonize banking regulation and supervision with European acquis. Work is underway to set up new rules for calculating regulatory capital, capital to cover operational risk, and the net stable funding ratio (NSFR). The NBU is expected to approve these documents by the end of this year after discussing them with the banking community.

Financial Stress Index

After rising temporarily in the wake of Russia’s aggression in the Strait of Kerch and the martial law imposed for a month in Ukraine, the Financial Stress Index (FSI)¹ declined to near a historical low. All sub-indices gradually edged down. The level of stress in the banking sector declined noticeably, especially its liquidity component. The sub-index of government securities dropped, as the liquidity of Ukraine’s Eurobonds increased. The FX sub-index declined due to a stronger hryvnia. In recent weeks, the FSI has shown no signs of any significant changes in financial market conditions.

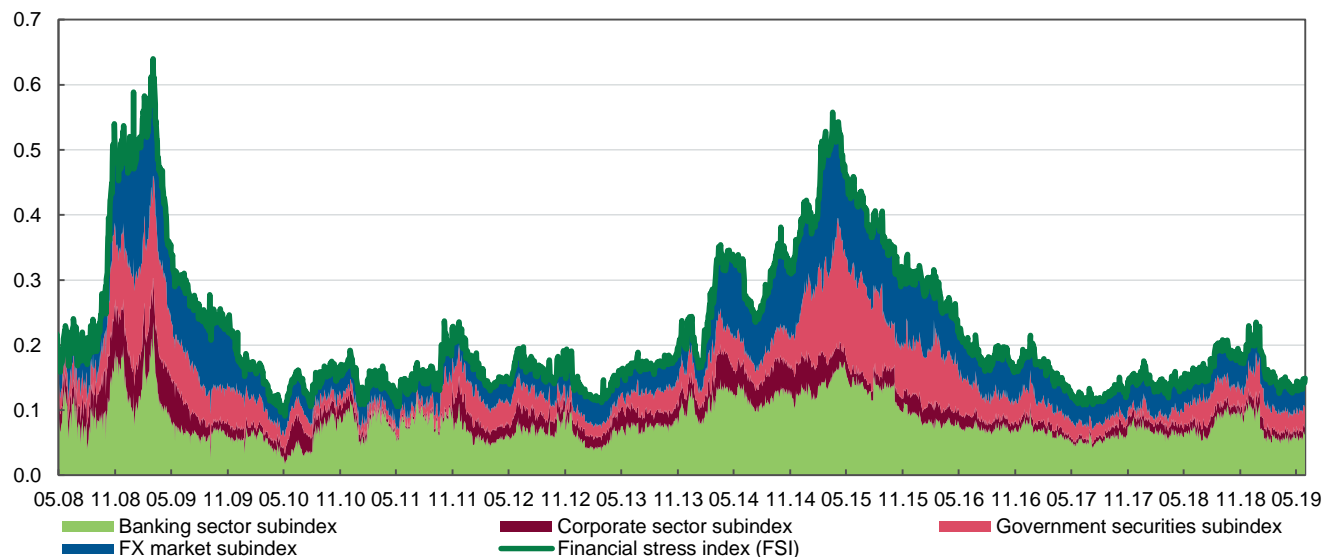
The index only reflects current conditions in the sector; it does not reflect any short- or long-term prospects.

Figure FS11. Financial Stress Index



Source: NBU.

Figure FS12. Contributions by sub-indices to the Financial Stress Index



Source: NBU.

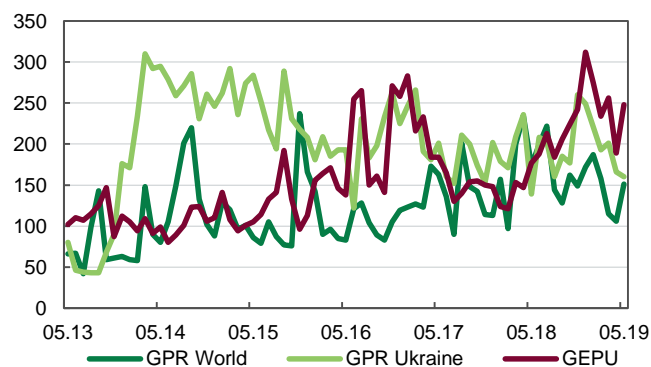
¹ The calculation method for Ukraine’s Financial Stress Index is outlined in the [December 2016 Financial Stability Report](#).

Part 1. External Conditions and Risks

1.1. External Developments

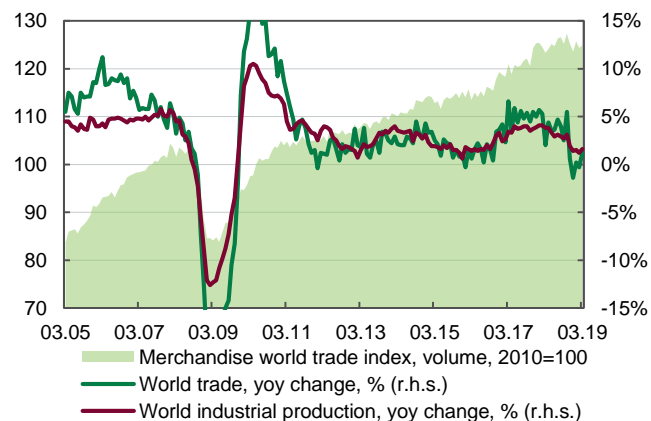
Geopolitical and geoeconomic risks are high and rising. Growth is slowing in most economies of the world, in some of them sharply. These are the consequences of protectionism, which has led to a stagnation of international trade, as well as the US Federal Reserve's tight monetary policy last year, which caused capital outflow from emerging markets. The Fed and the ECB have tightened monetary policy slower than they previously planned. However, emerging markets are still at risk, including through commodity prices. Russia maintains pressure on Ukraine, although the hostilities in the Donbas have not escalated substantially. Economic ties between Ukraine and Russia are weakening.

Figure 1.1.1. Geopolitical Risk (GPR) Index² and Global Economic Policy Uncertainty (GEPU) Index³



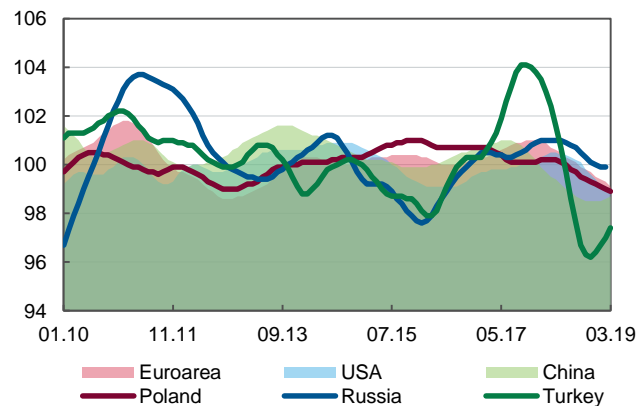
Source: Dario Caldara and Matteo Iacoviello; Davis, Steven J.

Figure 1.1.2. Global trade and industrial production



Source: Centraal Planbureau (CPB), the Netherlands.

Figure 1.1.3. Trends of the OECD's composite leading indicators (CLI) for Ukraine's main trading partners



Source: OECD.

Global geopolitical risks remain high and geoeconomic risks are very high

Over the last six months, a number of geopolitical risks have emerged that threaten the global economy. US sanctions against Iran boosted black market exports of Iranian crude oil. This caused military tensions in the Strait of Hormuz. Venezuela is collapsing into an internal conflict, with the involvement of global geopolitical players. Europe also faces many challenges, including the ongoing Brexit proceedings, widespread riots in France, and more.

However, the biggest risk lies in the protectionism that has been used to attain noneconomic goals. The trade war between the US and China is on the verge of geopolitical tensions. This trade war entered a new phase on 10 May: the US hiked tariffs from 10% to 25% on USD 200 billion worth of Chinese goods. China retaliated by hiking tariffs from 5%–10% to 10%–25% on USD 60 billion worth of US goods. The US is also considering taxing all imports from China. At the same time, the unrealized so far threat of a trade war between the US and Mexico was supposed to reduce the number of migrants crossing the US–Mexican border. Both of these issues are long-term and need time to be resolved; quick and direct solutions would have an adverse effect on global trade.

Global trade has shown signs of stagnation

The geopolitical risks are slowing the growth in global trade. The year-on-year growth rate turned negative in December and February. Growth resumed in Q1, although it was very weak. The stagnating global trade slows the pace of industrial development. In March, industrial output declined in annual terms in more than half of all G20 countries. According to the World Bank, industrial production accounted for around one-quarter of added value created in the global economy. Therefore, the persistence of these trends will have a strong impact on global economic growth.

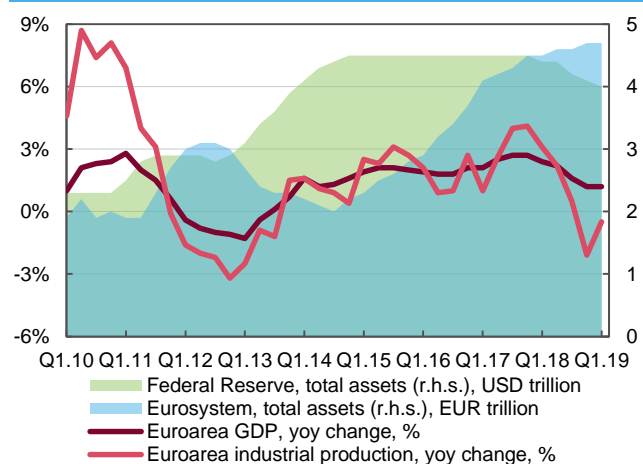
Global economic growth is slowing

The IMF estimates that global economic growth decelerated from 3.8% in 2017 to 3.6% in 2018. The slowdown occurred across all groups of countries, but especially in Europe. In Q4, recession began in Turkey, while Italy's economy barely grew. As a result, in its April World Economic Outlook, the IMF revised down its forecast for global GDP growth in 2019 for the second time in a row to 3.3%. The IMF expects economic growth in the euro area at 1.3% (-0.5 pp yoy), 3.8%

² For more details, see the December 2017 Financial Stability Report. <https://www2.bc.edu/matteo-iacoviello/gpr.htm>

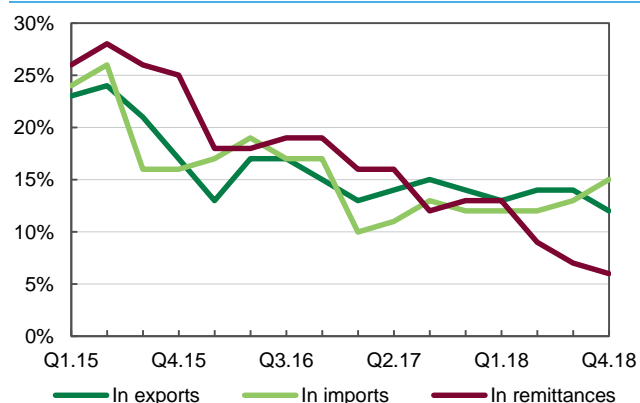
³ For more details, see the December 2018 Financial Stability Report. http://www.policyuncertainty.com/global_monthly.html

Figure 1.1.4. Change in the ECB's and the Fed's assets, GDP, and industrial production in the euro area



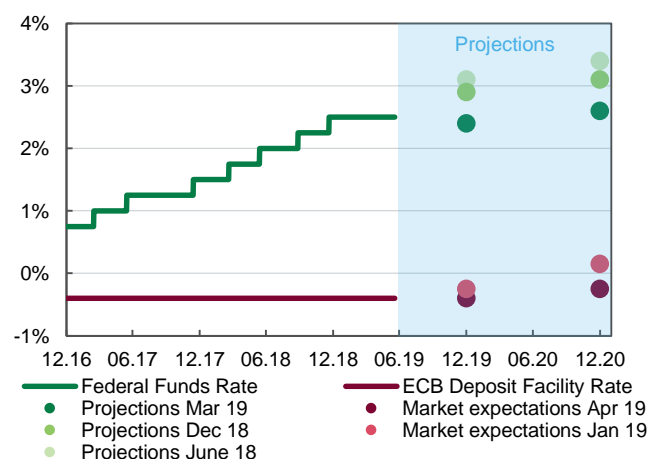
Source: Eurostat, ECB, Fed.

Figure 1.1.5. Russia's share in Ukraine's foreign transactions



Source: NBU.

Figure 1.1.6. Trajectory and forecast of the Fed's benchmark rate (the upper bound) and the ECB's deposit facility rate



Source: Federal Reserve Board, ECB, Bloomberg.

in Poland (-1.3 pp), 1.6% in Russia (-0.7 pp), and 6.3% in China (-0.3 pp). The IMF sees Turkey's real GDP dropping 2.5%.

Economic growth in Ukraine's major trading partners is likely to continue slowing. According to the OECD, in March, composite leading indicators (CLI)⁴ of all these countries (except India and Russia) were the lowest since the Great Recession (the European debt crisis for EU states) and continued to drop. The euro area is exposed to an additional risk from the imposition of stricter environmental standards in the German auto industry, which had a major impact on the industry's performance. All of this poses a threat to the real sector and financial stability in Ukraine.

Russia continues to confront Ukraine, although economic ties are gradually weakening

Effective 1 June, Russia banned exports of crude oil, coal, and petroleum products to Ukraine. The list of Ukrainian goods banned from being imported to Russia was expanded to include machinery, metalworks, and light-industry products of USD 250 billion worth in total. This is a direct although manageable risk for Ukraine's economy.

On 24 April, the Russian president signed a decree streamlining the process of obtaining Russian citizenship for residents of certain districts of Donetsk and Luhansk regions and former residents of Crimea who moved after the peninsula was annexed.

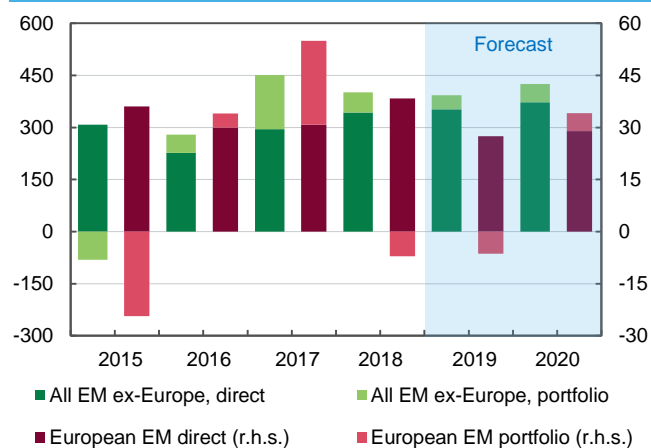
On 25 May, the UN's Maritime Tribunal obliged Russia to release the Ukrainian sailors and vessels Russia captured in the Sea of Azov. Russia has refused to comply with that ruling. On 10 June, hearings on that same case will start at the Permanent Court of Arbitration in the Hague.

As long as the conflict in the Donbas does not escalate significantly and Ukraine defends its interests, the status quo will remain and the main confrontation will take place in the courts. In the meantime, economic ties between Ukraine and Russia are weakening, which reduces Russia's influence on the Ukrainian economy.

On 17 May, the majority of the members of the Committee of Ministers of the Council of Europe voted to restore Russia's right to vote, of which it was stripped because of the annexation of Crimea. On 25 June, the Parliamentary Assembly of the Council of Europe is going to consider that decision. The risk of Russia's unconditional return is high. That could herald the loosening of EU sanctions against Russia. At the same time, a bill was submitted to US Congress to designate Ukraine a major US non-NATO ally until Ukraine accedes the alliance. The adoption of that bill will help balance the threats that Ukraine is facing.

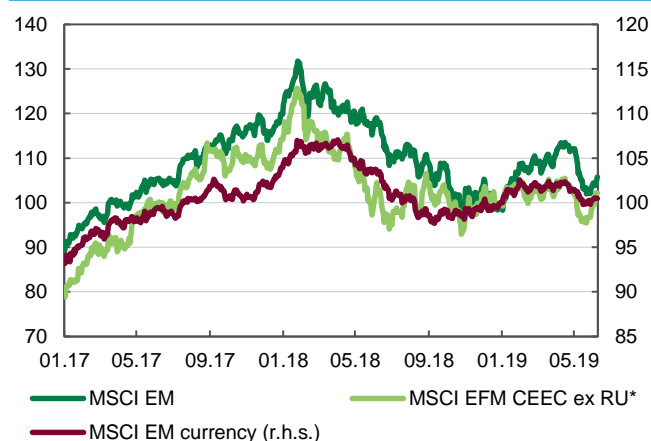
⁴ The OECD calculates the CLI based on expected GDP trends, for example, consumer confidence; the list of components differs for each country. The indicators point to a coming change in the phase of a business cycle, usually 6–9 months ahead.

Figure 1.1.7. Net foreign investment in developing economies, USD billion



Source: IMF, World Economic Outlook of April 2019.

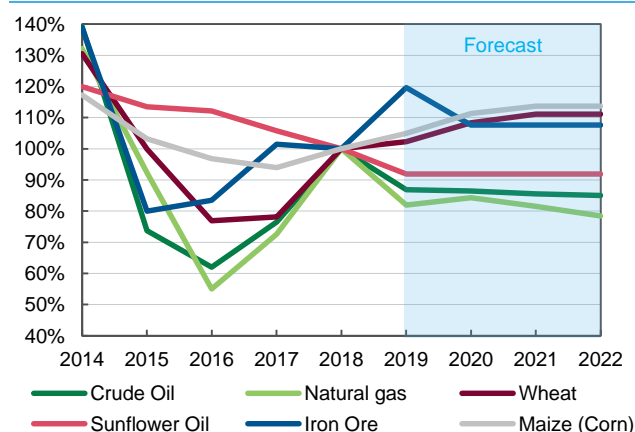
Figure 1.1.8. Indices of currencies and assets of developing countries, 01.01.2019=100



* CEE – Central and Eastern Europe.

Source: Thomson Reuters.

Figure 1.1.9. Global commodity prices*, 2018=100



* Brent oil; Russian natural gas; iron ore concentrate, China; wheat, corn, and sunflower seed oil on the US international markets.

Source: IMF, World Economic Outlook of April 2019.

Moderate risk of gas transit cut-off through Ukraine

The construction of Nord Stream-2 bypassing Ukraine is continuing with support from Germany. The positions of the US, Denmark, and the European Commission may delay the project's launch beyond the initially scheduled end of 2019. In addition, Gazprom was forced to revise its gas pipeline projects through Turkey to the Balkans and Central Europe and start implementing them behind schedule. Russia will therefore have to negotiate with Ukraine over a new agreement on transporting natural gas to Europe.

Policy easing by the Fed and the ECB has offered a breather for emerging markets

Last year, the interest rate hike and balance sheet reduction by the Fed and a wind down of the quantitative easing program by the ECB caused capital flight from emerging countries. The capital flight worsened in Q4, which pushed the Fed and ECB to adjust their monetary policies. The Fed stopped raising its rate and decided to reduce its balance sheet by USD 35 billion per month instead of USD 50 billion. It is planning to stop unwinding of its balance at the end of September 2019 and may resume it in December 2020. Some developments indicate that the Fed may cut its key rate this year. The ECB decided not to raise its key rate at least until H2 2020.

These measures by the Fed and the ECB have led to a temporary improvement for emerging markets' assets. However, the signs of stagnation in global trade have offset this effect. The IMF forecasts that last year's decline in inflows of portfolio investment to emerging markets will continue in 2019. In May, markets responded negatively to the new round of the US–China trade war. The persistence of these trends strongly affects the economies and financial markets of emerging markets.

Global commodity prices are not expected to grow

Crude oil prices rebounded over the first four months of the year as supply from Iran and Venezuela shrank because of US sanctions and a production cut by OPEC+ countries. However, prices started to drop sharply in May due to deceleration of the global economy and geopolitical risks. The IMF projects that oil prices will decline 13.4% in 2019. In June, the OPEC+ meeting may impact the oil market, but the risk of oil prices remaining depressed are high.

Iron ore prices have grown, driven by the dam disaster in Brazil, unfavorable weather in Australia, and strong demand in China. Iron ore prices will remain high, but lower than current levels. The expensive ore will keep steel prices at near current levels.

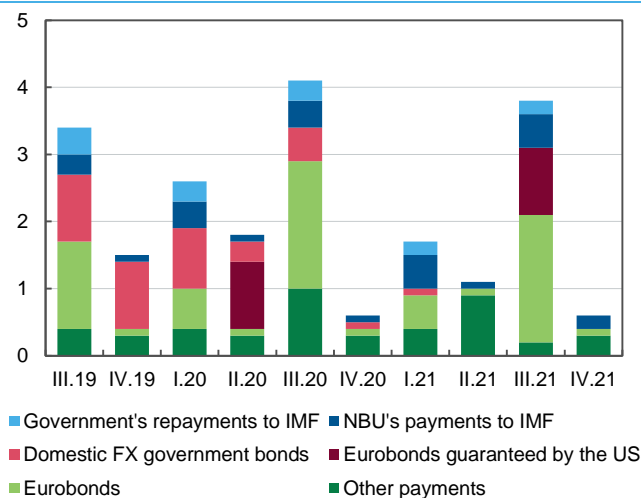
Food prices were high last year. However, they have dropped considerably since the start of the year. In May, a seasonal recovery started. Nevertheless, food prices are unlikely to come back to levels seen last year, as the cost of food will be under pressure from weak economic growth in emerging markets.

Part 2. Domestic Conditions and Risks

2.1. Macroeconomic and Fiscal Risks

Risks to financial stability persist. Ukraine is going through a period of peak repayments on its external debt. With limited access to international capital markets, these repayments have already led to a reduction in international reserves. In these circumstances, ongoing access to lending from the IMF and other creditors is critical. Other risks include a slowdown in GDP growth, underperformed tax receipts, and a high likelihood that Russia will reduce gas transit through Ukraine beginning in 2020.

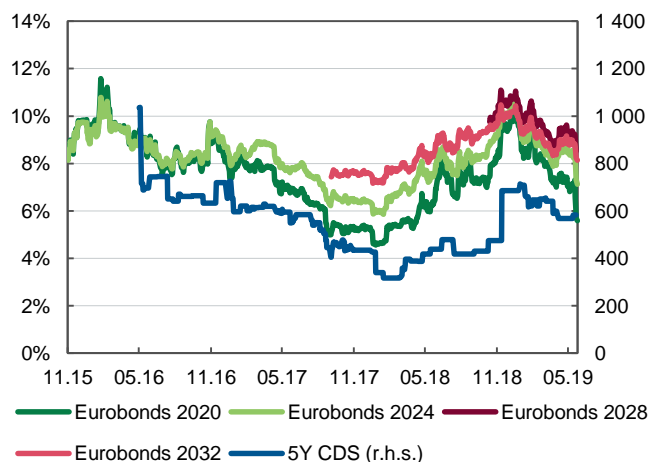
Figure 2.1.1. FX repayments on public and publicly guaranteed debt, USD billion*



* Including interests.

Source: NBU calculations.

Figure 2.1.2. Ukrainian sovereign Eurobond yields by year of redemption (%), and the price of Ukraine's 5-year CDS (bp)



Source: Bloomberg.

External debt repayments pose a key risk

In the first five months of 2019, the NBU's international reserves fell by USD 1.4 billion due to high repayments on external debt. In May, the government bought from the NBU almost the entire amount of foreign currency required to repay USD 1 billion of sovereign Eurobonds guaranteed by the US. However, the recent placement of EUR 1 billion in Eurobonds will allow Ukraine to replenish its international reserves.

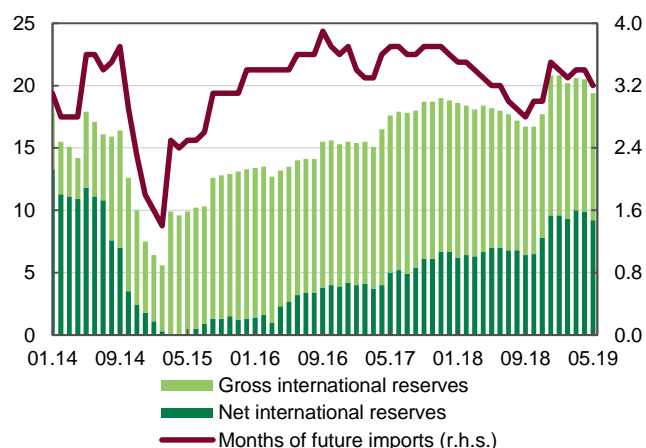
FX repayments will remain high. In the next five quarters, Ukraine will spend an average of USD 2.6 billion per quarter, and from mid-2019 through the end of 2021, the government and NBU have to repay a total of over USD 20 billion in FX debt. Unless Ukraine takes on more external debt, its international reserves will decrease. Thus, the repayment of interest and principal on external public debt will be a source of potential risk to financial stability in the coming years.

Typically, the government has met part of its financing needs by borrowing from abroad. The Ukrainian debt market (which includes both hryvnia and FX segments) lacks the depth to finance the deficit in full. Opening direct access for nonresidents to the domestic government bond market through Clearstream will significantly increase the potential to attract hryvnia financing from foreign investors. However, Ukraine will still need to raise FX debt on external markets.

Thus, the key objective is to ensure permanent access to external debt markets and gradually reduce the cost of debt. Ukraine's cost of raising external and internal debt is one of the highest in the world now, and the yield on dollar-denominated sovereign Eurobonds was 7%–9% in early June, depending on maturity. In these conditions, the government benefits from reducing the budget deficit. A smaller deficit will, on the one hand, reduce current financing needs and, on the other hand, contribute to a faster disinflation and, hence, induce the NBU to cut the key policy rate. As a result, the cost of hryvnia and FX debt will decline.

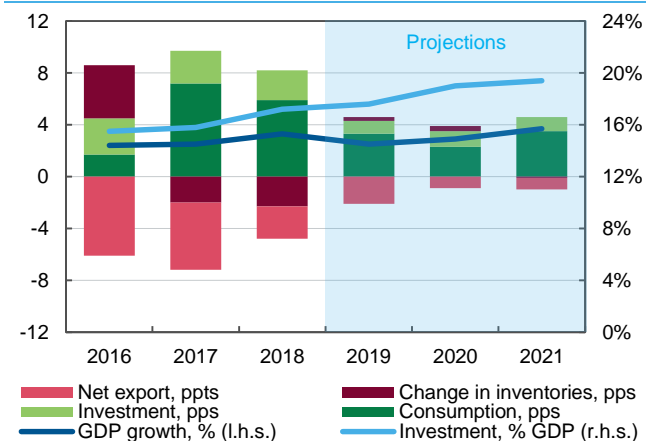
The stabilization of macroeconomic conditions, GDP growth, the slowdown in inflation, the moderate current account deficit, and the reduction in public debt to 60% of GDP establish preconditions for market-based bond placements. But in the short run, the key task is to undertake the necessary reforms and to resume cooperation with the IMF and other IFIs. The current pause of several months in the implementation of the IMF program is not crucial for financial stability. At the same time, in early fall after the parliamentary elections and the formation of a new government, the

Figure 2.1.3. Gross and net international reserves, USD billion



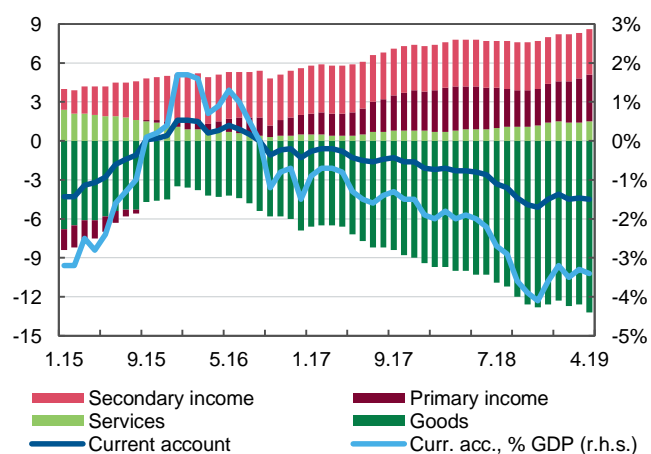
Source: NBU.

Figure 2.1.4. GDP growth, expenditure approach



Source: SSSU, NBU.

Figure 2.1.5. Current account balance, USD billion*



* TTM – Trailing Twelve Months.

Source: NBU.

continuation of cooperation with the IMF will become a key underlying factor in maintaining financial stability.

Taking into account the ambitious IMF-approved reform agenda and the economy's high vulnerability to external risks, it is expedient to launch a new long-term program of cooperation with the IMF, possibly before the end of the current Stand-By program.

Since 2015, international reserves have increased significantly, to USD 19.4 billion in early June 2019. According to the NBU's latest projections, international reserves will mostly stay within the range of USD 21-22 billion in 2019–2021, provided Ukraine retains the support of IFIs, access to international capital markets, and investor interest in hryvnia domestic government bonds.

GDP growth has decelerated

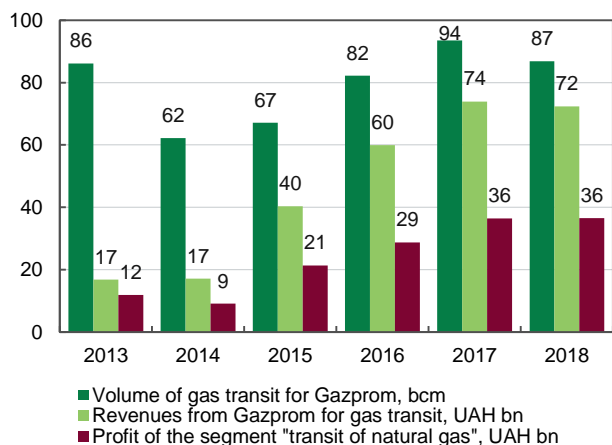
In Q1, real GDP growth decelerated to 2.2% yoy, primarily due to sluggish growth in industry. Meanwhile, construction, animal breeding, retail trade, and transportation supported growth. The NBU sees GDP growth slowing to 2.5% this year from 3.3% last year. The slowdown in growth will be driven by tight monetary and fiscal policies and lower growth rates in Ukraine's major trading partners. However, domestic demand remains robust, fueled by retail trade, which rose 7.9% yoy in the first four months of this year. The increase in domestic consumption was driven by higher real wages, indexation of pensions, and significant remittances from abroad. But the combined impact of these factors will likely wane, slowing the rise in domestic demand.

Current account deficit in a safe range

According to early data, the current account deficit in January–April 2019 stood at a comfortable USD 388 million, thanks to significantly higher grain exports and moderate energy imports. However, financial account inflows were higher (USD 682 million) due to nonresident investment in government bonds and public sector borrowing. Over the next few months, global growth may slow considerably, curbing the growth in Ukrainian exports. On the other hand, maintaining sustainable domestic demand and increasing energy purchases will further stimulate the growth of imports. This puts the current account deficit at risk of expansion. However, for the time being, the NBU expects the 2019 current account deficit will remain at last year's level of 3.3% of GDP. Should cooperation with the IMF continue, inflows of foreign direct investment and external debt will almost completely offset the current account deficit in 2019–2021, the NBU projects. Otherwise, the deficit will be reduced after an exchange rate correction.

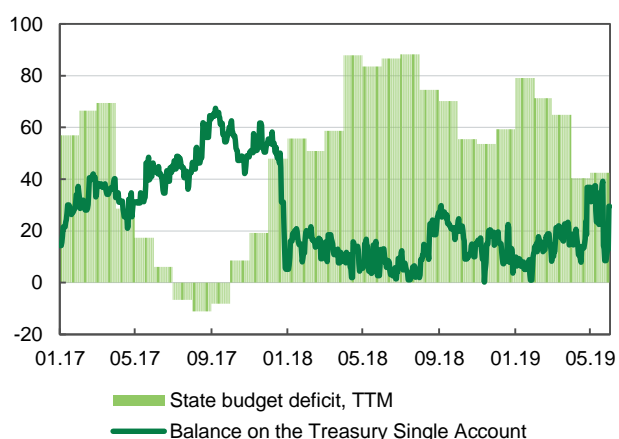
Another medium-term risk to the balance of payments is a reduction in the transportation of Russian natural gas through Ukraine after the launch of the Nord Stream 2 gas pipeline. This risk may materialize as soon as 2020, potentially triggering a pronounced drop in exports of transportation services.

Figure 2.1.6. Operations of Gazprom and NJSC Naftogaz of Ukraine



Source: Naftogaz of Ukraine (Stand-alone financial statement).

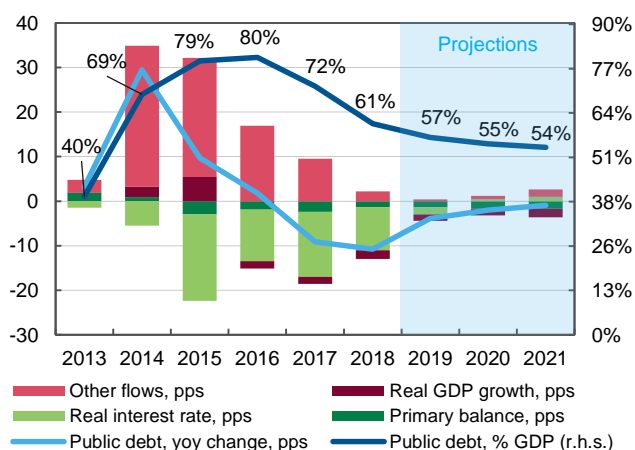
Figure 2.1.7. The State budget deficit* and the balance of the Treasury Single Account in 2017–2019



* TTM – Trailing Twelve Months.

Source: STSU, NBU.

Figure 2.1.8. State and guaranteed debt to GDP and factors of its change*



*Other factors: the aggregate contribution of changes in the amount of guarantees, assets, and exchange rate fluctuations; positive values represent growth in the debt-to-GDP ratio, while negative values represent decreases.

Source: NBU.

Risks of failure to meet budget objectives are significant

According to early data from the State Treasury, the tax and customs authorities were UAH 28.2 billion short of meeting the budget plan in the first five months of this year. Revenue from tax authorities rose by just 4.8% yoy, compared with the 13.8% as budgeted. Revenues contributed by customs authorities increased 2.2% yoy (compared to a planned increase of 12.8%). The slow pace of revenue growth was driven by a 28.0% yoy spike in VAT refunds, the strengthening of the hryvnia exchange rate, and the drop in global prices for key imported goods. The lack of tax receipts was temporarily balanced out by borrowings, as well as by the UAH 64.9 billion the NBU transferred to the budget ahead of schedule (including UAH 17.3 billion in unplanned transfers). However, if budget revenues continue to grow at this rate, the likelihood of budget cuts will increase, as the short-term need to make significant repayments of interest and principal on public debt will limit the government's ability to finance the budget deficit.

Planning the liquidity of public finances is another important issue. The government should improve the planning of budget revenues in line with the economy's potential, in particular by increasing the accuracy of forecasting the Treasury single account receipts and by extending the forecast horizon to six months. Doing so will greatly simplify the management of public finances and increase the effectiveness of fiscal and monetary policy coordination.

Debt-to-GDP ratio will decline

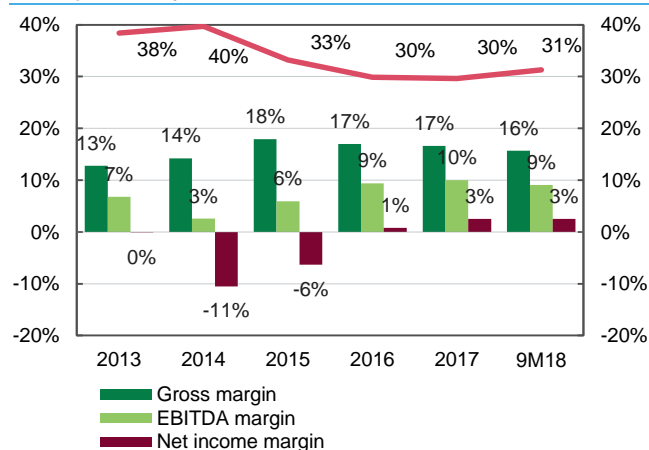
Ukraine's public debt is vulnerable to currency risk: in late April, the share of FX debt stood at 68% and has not fallen below 59% since 1993. In 2014–2015, the change in the hryvnia exchange rate inflated the debt-to-GDP ratio and is now one of the main factors in driving up debt under adverse scenarios. Due to last year's strengthening of the hryvnia, however, the exchange rate factor has led to a reduction in public debt for the first time since 2010. But in order to mitigate currency risk going forward, the share of FX debt should decline significantly.

If economic reforms and IMF cooperation continue while macroeconomic shocks are avoided, then the public and publicly guaranteed debt will have decreased to 57% of GDP by the end of 2019 and to 54% by late 2021 under the baseline scenario. In this case, the main factors in reducing the debt burden will be GDP growth and a positive primary balance of budget.

2.2. Real Sector and Related Risks

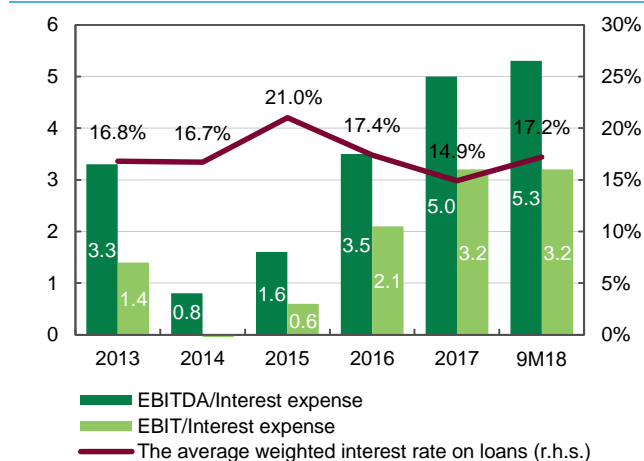
The decline in real sector profitability is continuing. The debt load is acceptable for most sectors. The largest real sector borrowers have normalized their indebtedness. Growth in interest expenses on loans poses the main risks to real sector profitability. The largest state-owned enterprises are going to take out new loans to meet the need for investment in fixed and working capital.

Figure 2.2.1. Share of companies with operating losses, and real sector profitability



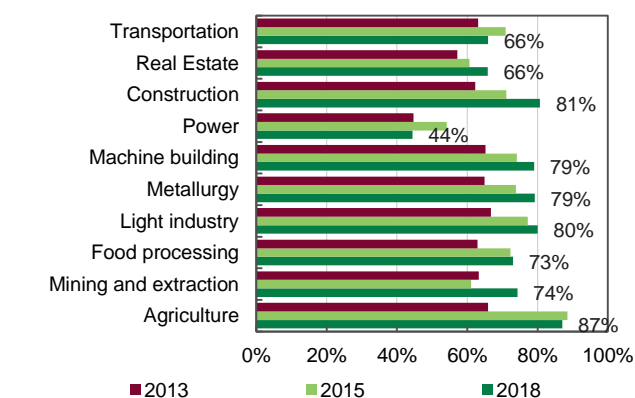
Source: SSSU, NBU estimates.

Figure 2.2.2. Coverage of nonfinancial corporations' interest expenses by operating profit and EBITDA, interest rates on new loans



Source: SSSU, NBU, NBU estimates.

Figure 2.2.3. Share of profitable companies calculated on the basis of their profit/loss before tax



Source: SSSU, NBU estimates.

Real sector profitability has slightly decreased, but the debt load was almost unchanged

During the first three quarters of 2018, the real sector's revenue grew 18.3% yoy. However, the EBITDA margin declined slightly, due to faster growth in production costs, administrative costs, and other operating costs⁵. EBITDA margin will continue to decline if no macroeconomic shocks occur.

The real sector's earnings before tax increased 22% yoy last year to UAH 278 billion. The highest growth was reported by companies in mining and extraction (+41%) and machine building (+60%). The increase in profits in machine building was mainly driven by the financial performance of electrical equipment manufacturing companies. The profits of mining and extraction companies increased due to higher natural gas prices. For the first time since the crisis, real estate operations generated positive operating profit. Losses in the transportation were caused by a revaluation by Ukrtransgaz of its fixed assets and by provisioning for bad receivables. Overall in the first nine months of 2018, the share of loss-making companies increased by 1 pp yoy to 31%.

The real sector's debt load did not change, with the debt-to-EBITDA ratio at 2.2x in the trailing 12 months to the end of September. However, the debt-to-EBITDA ratio increased in construction, oil and fat production, power industry, and transportation. The debt load in machine building and real estate declined.

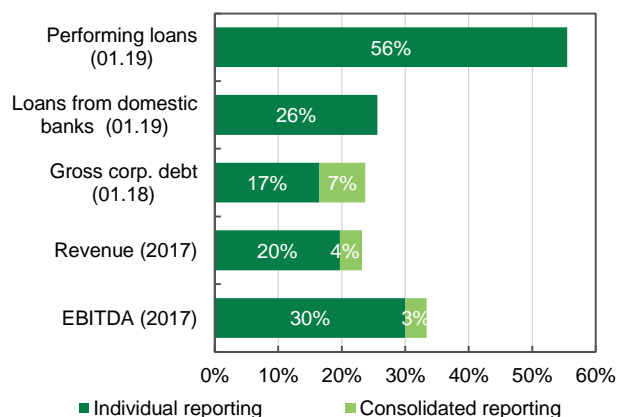
Growing financial expenses pose the greatest risk to real sector profitability

Operating profit decreased 6% in the first three quarters of 2018, compared to a 44% increase in the same period of 2017. At the same time, financial expenses increased, as the interest rate on bank loans rose by 2.3 pp yoy to the end of September of 2018. These two factors led to a drop in interest coverage ratio from 3.5x in January–September 2017 to 3.2x in the same period in 2018.

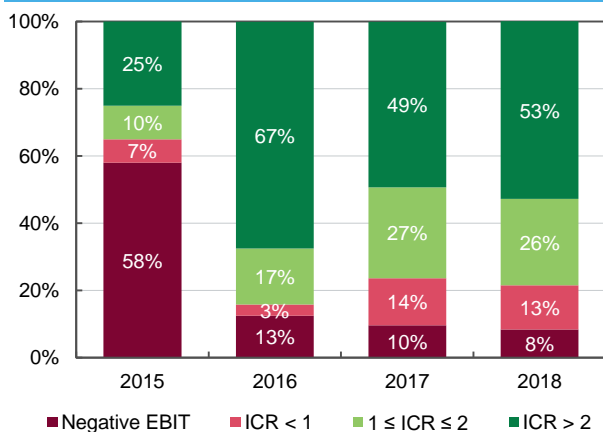
Enterprises in most sectors have sufficient operating profits to cover a possible increase in the cost of lending. However, the energy sector, construction, and some metallurgical companies may struggle with the increased interest costs. At the same time, some large state-owned enterprises need additional funding to modernize fixed assets or to replenish working capital. External borrowing is too expensive⁶, meaning funding sources will have to be found in the domestic market, mainly at Ukrainian banks.

⁵ The data exclude small businesses.

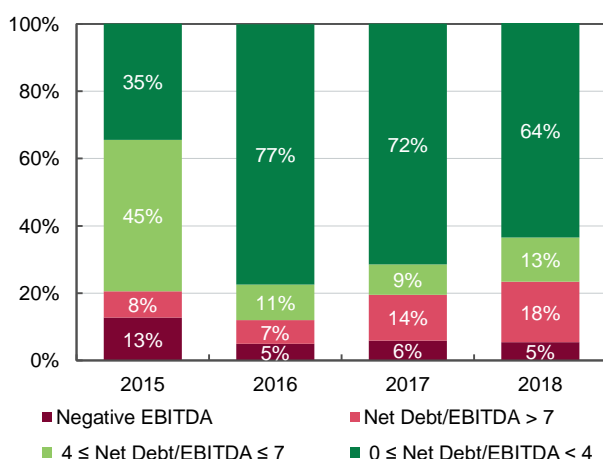
⁶ See page 17, [Box 1. Ukrainian Listed Companies: Profitability is Not Key to Receiving Financing.](#)

Figure 2.2.4. Share of the sample of large borrowers by individual indicators

Source: SSSU, NBU, NBU estimates.

Figure 2.2.5. Breakdown of largest borrowers' loans by ICR

Source: bank's data, NBU estimates.

Figure 2.2.6. Breakdown of largest borrowers' loans by Net Debt/EBITDA

Source: bank's data, NBU estimates.

The largest real sector borrowers have normalized their debt burden

The NBU analyzed a sample of large borrowers from the Ukrainian banks that are undergoing stress testing this year⁷. The NBU did not take into account the debtors with NPLs and financial companies. The sample included 383 enterprises, which at the end of 2018 accounted for more than half of all performing loans. Of the sampled companies, 59 belonged to 38 groups under joint control. To analyze these companies, the NBU used their consolidated statements. As for subsidiaries of foreign corporations, the NBU evaluated them based on their individual financial statements.

Following the crisis, banks recognized the real quality of these debts. The banks made provisions for a great majority of NPLs. The portfolio of performing loans had quality borrowers whose financial standing the banks expect to improve upon restructuring.

In 2017–2018, the share of borrowers with high net-debt-to-EBITDA ratios in the sample increased slightly, driven by the following factors. Firstly, the profitability of the largest agricultural traders that are subsidiaries of international groups decreased. This does not pose a threat to banks, as debt is usually covered entirely by guarantees from parent companies. Secondly, banks lent intensively to commerce and renewable “green” energy companies. Trading companies take out loans to replenish current assets and they repay these loans from revenue after the sale of goods. Renewable energy companies borrowed during the construction phase, but they have not yet reached full capacity and profitability since launch.

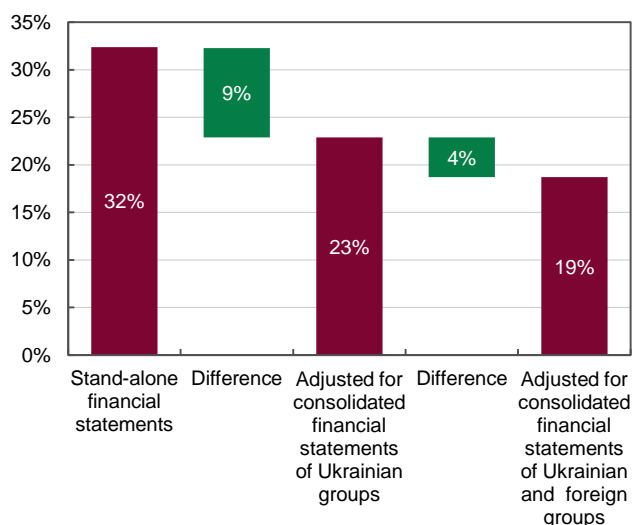
Operating profit for the sample grew to UAH 152 billion last year (+11% yoy). However, the EBITDA margin declined by 1 pp yoy to 12%. The performance of the large borrowers contradicts the real sector's prevailing trend, which is seeing operating profit increase alongside incomes.

Some borrowers belong to large Ukrainian and foreign groups. After bringing standards for credit risk calculation in alignment with international standards, banks should take into account the financial standing of groups under joint control when determining the quality of exposures. This approach allows for an objective assessment of the financial performance of sampled borrowers, which is better today than the stand-alone financial statements show.

The debt burden of large borrowers is within acceptable limits, the only exceptions being machine building, oil and fat production, the food industry, renewable energy, and commerce. A decrease in global prices is negatively affecting the food industry, and oil and fat production in particular. Over the past four years, the EBITDA margins of oil and fat producers have decreased by 7 pp and those in the food industry have decreased by 12 pp. Low profits have already affected the quality of debt in the system: banks recognized

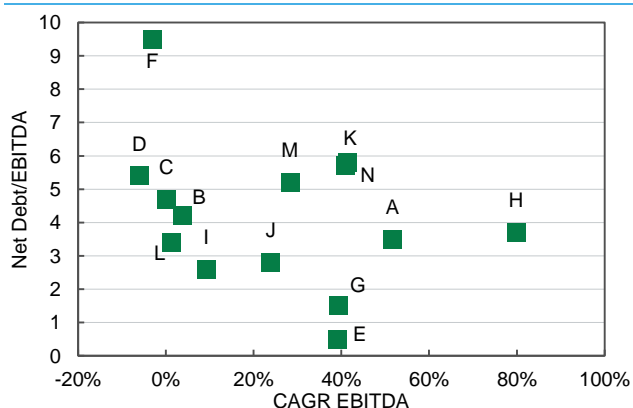
⁷ The sample was formed using the 29 largest banks. The sample includes between 20 and 40 legal entities that are the largest borrowers of those banks.

Figure 2.2.7. Share of loans with Net Debt/EBITDA > 7 or EBITDA < 0 in all sample loans, depending on consolidated statements



Source: bank's data, NBU estimates.

Figure 2.2.8. Net Debt / EBITDA* for 2018 and CAGR ** EBITDA 2015-2018 by sectors⁸

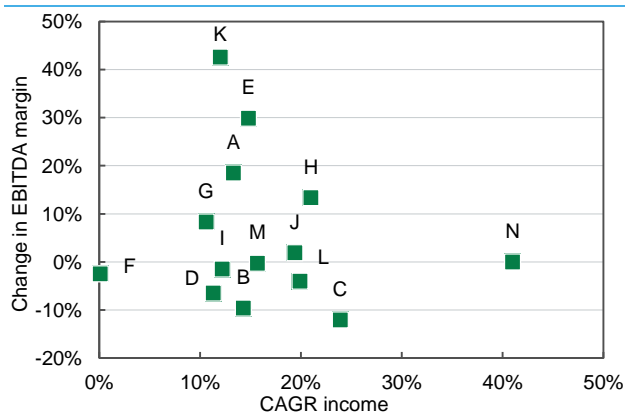


* Net Debt-to-EBITDA ratios weighted by loan amounts as of 01.01.2019.

** CAGR – Compound Annual Growth Rate for a given indicator.

Source: NBU, NBU estimates.

Figure 2.2.9. CAGR* for income and change in EBITDA margin in 2015–2018 by economic sector



* CAGR – Compound Annual Growth Rate for a given indicator.

Source: banks, NBU estimates.

⁸ Sectors: A – agriculture, B – cereals, C – food industry, D – vegetable oil and fat production, E – mining and extraction, F – machine building, G – electricity, H – metallurgy, I – transportation, J – construction materials production, K – renewable energy, L – wholesale fuel trade, M – trade, N – chemical industry.

that some borrowers defaulted on their loans. However, the situation improved in Q1 2019. For instance, the EBITDA of Kernel's oil production segment grew 83% yoy. Nevertheless, credit risks for this segment remain significant.

In 2018, the loan portfolio of the largest exposures in the renewable energy sector increased 80% yoy to approximately UAH 7.3 billion. Currently, the green energy sector boasts the fastest growth in profit margins. However, the fact that most companies in the renewable energy sector take out loans during the construction stage poses additional risks.

Last year, the machine building sector had a high debt load of 9.5x. Despite the general revival of the industry, some of its subsectors are stagnating. The profits of energy engineering companies declined over the course of last year. Large enterprises in the sector were able to partially switch to new markets after they lost the Russian market, but regular orders are lacking.

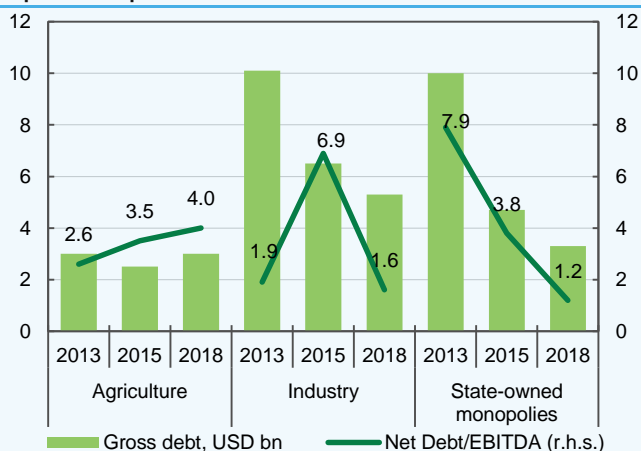
Traditionally, trade companies use significant leverage in their operating activities. When lending to these companies, banks count on the liquidity of their current assets and take into account its rapid growth. However, financial institutions should take a more conservative approach to assessing the risks associated with trade companies, given their high default rate in past crises.

Box 1. Ukrainian Public Companies⁹: Profitability is Not Key to Securing Financing

Since 2015, public companies have been decreasing their indebtedness, while their profitability varied. Most of public companies restructured their debts and were able to make timely repayments. These companies now plan to raise financing to fund investment programs. However, only companies with high-quality corporate governance are ready to borrow. Access to financing is limited for other companies.

The total indebtedness of Ukrainian public companies has been decreasing since 2015; the weighted average Net Debt/EBITDA has decreased to 2.1x in 2018 from 5.2x in 2015. Those companies have mainly focused on repaying old debts: many of them restructured debt during the crisis, while some companies are still negotiating with bondholders. Only agricultural holdings have managed to attract new borrowings.

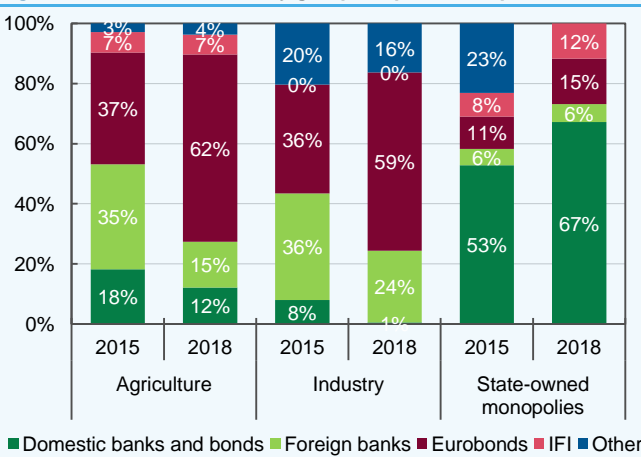
Figure B.1.1. Gross debt and Net Debt/EBITDA for 2018 by groups of public companies



Source: corporate financial reports, NBU estimates.

The structure of debt has also changed. Private companies have been repaying bank loans. As a result, the share of Eurobonds grew substantially to account for a half of their liabilities. For state-owned enterprises, Ukrainian banks remain the main source of financing.

Figure B.1.2. Debt structure by groups of public companies

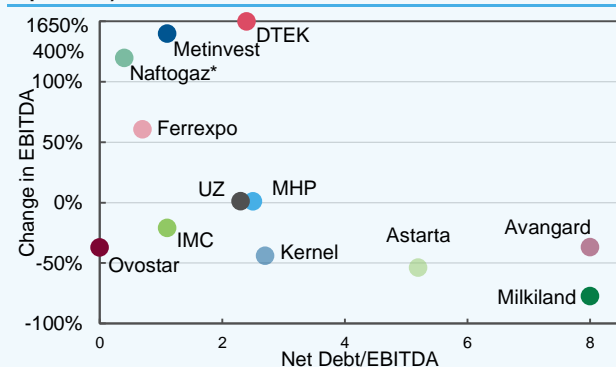


Source: corporate financial reports, NBU estimates.

Public companies have seen their average profitability decrease over the last three years. That said, the EBITDA of state-owned monopolies, metals and mining companies has risen substantially thanks to higher tariffs and favorable global commodity prices. At the same time, agricultural

companies' profits have been negatively affected by prices for grain and oil crops, which caused the sector's weighted average Net Debt/EBITDA to rise to 4x in 2018.

Figure B.1.3. Indebtedness in 2018 and change in EBITDA (USD equivalent) in 2015–2018

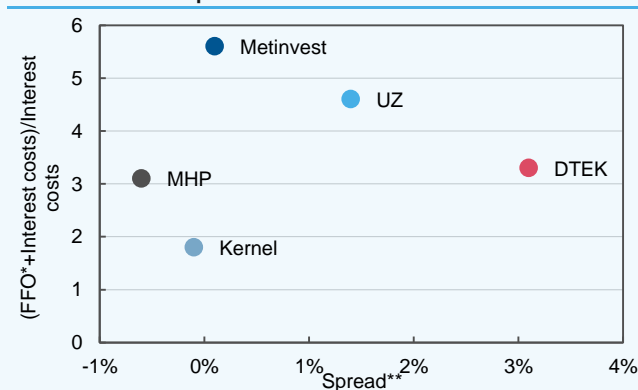


* Data for the first 9 months of 2018.

Source: corporate financial reports, NBU estimates.

Only MHP and Kernel have placed new Eurobonds in recent years. The weak EBITDA and higher indebtedness have not been obstacles: the agricultural holdings have strong corporate governance, which makes them understandable and attractive for creditors. The yields on Eurobonds of these companies are low despite their increasing leverage. Ukrainian banks are also offering these companies better loan conditions than to other borrowers.

Figure B.1.4. Eurobond yield spreads and indebtedness for selected listed companies



* FFO (Funds from Operations) are cash flows from operating activity before changes in working capital.

** The weighted average spread between yields of corporate and sovereign Eurobonds.

Source: corporate financial reports, Bloomberg, NBU estimates.

The public companies currently face a need for financing. Both Naftogaz and Ukrainian Railways plan to invest in fixed and working capital. Private industrial holdings plan to renew their fixed assets. However, at the moment, only agricultural holdings are ready to attract large borrowings, and this is evident in their activity on the capital markets.

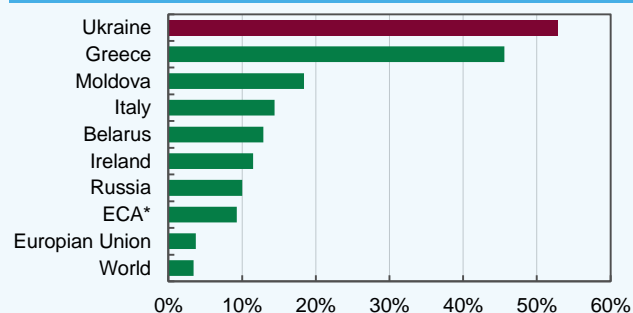
⁹A public company is a one with shares listed or Eurobonds placed on a foreign exchange. The sample includes companies with public financials.

Box 2. Nonperforming Loans Are the Consequence of the Crisis and Low Lending Standards

The NBU has analyzed the factors behind defaults of corporate borrowers. The results showed that external shocks, war, and the loss of territories and markets affected the quality of debt extremely negatively. However, internal problems in the banking system were decisive for turning loans into NPLs. Low underwriting standards, neglect of debt concentration limits, lending to related parties, and the high volume of FX lending were key factors driving massive corporate defaults on debts to Ukrainian banks.

Ukrainian banks lead the world in terms of the NPL ratios. As at 1 April, NPLs stood at 51.7% of the loan portfolio of solvent banks, or UAH 599 billion. 85% of NPLs are corporate loans.

Figure B.2.1. NPL ratio

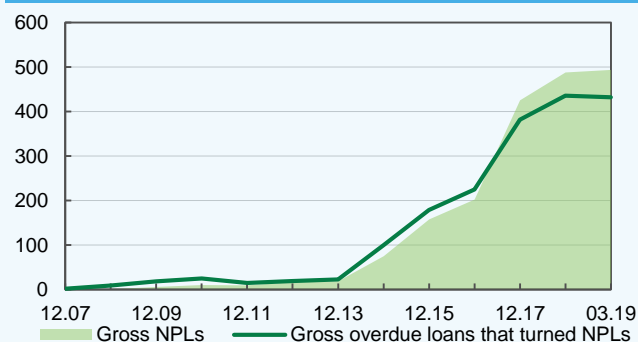


* Europe and Central Asia (excluding high income) as at 1 January 2018, Ukraine as at 1 January 2019.

Source: World Bank, NBU.

NPLs started to grow rapidly in mid-2014. In 2017, there was a nominal hike due to the transition to international standards for defining nonperforming exposures. Banks' recognition of the real quality of loans was belated. This is evidenced by the growth of past due loans that subsequently became NPLs. In a bid to delay losses to shareholders, financial institutions conducted short-term restructuring and capitalized interest.

Figure B.2.2. Recognition of defaults and occurrence of past due loans that turned NPLs, as of 1 April 2019, UAH billions



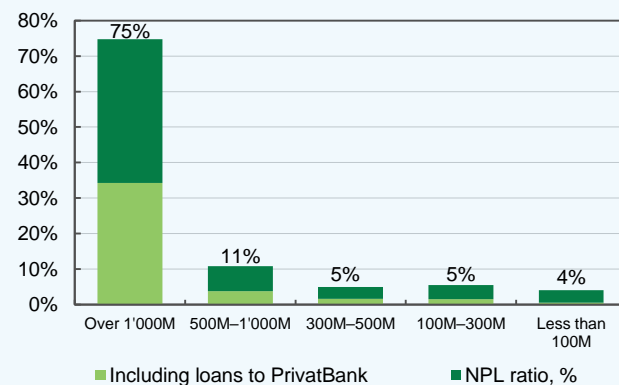
* Corporate borrowers with debts of more than UAH 2 million.

Source: NBU.

In these circumstances, the NBU actively pushed for more transparency in the system: it enhanced control over the calculation of credit risk, introduced international standards for its assessment, and conducted stress testing of large exposures.

Most of the NPLs are large loans: as of 1 April 2019, loans of more than UAH 100 million accounted for 96% of all NPLs, while three-quarters of the NPLs are concentrated on the balance sheets of 128 corporates.

Figure B.2.3. Breakdown of NPLs by amount of borrower's loan as at 1 April 2019



* Corporate borrowers with debts of more than UAH 2 million.

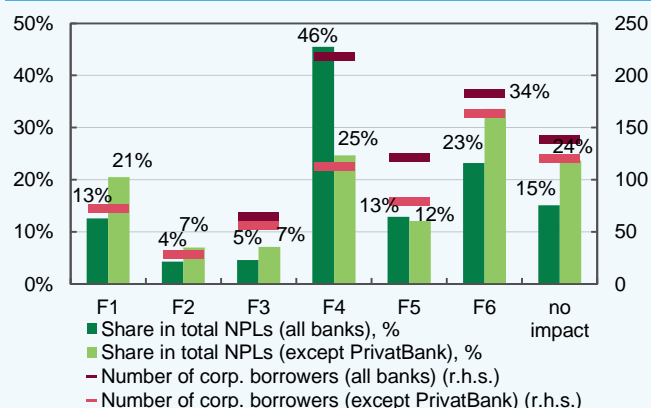
Source: NBU.

The NBU evaluated the factors behind the loans turning into NPLs for a sample of 699 corporate borrowers. On at least one of the reporting dates since the beginning of 2017, all of them had NPLs of over UAH 100 million. The factors in question are related to external shocks (F1–F3) or to the quality of banks' credit risk management (F4–F6), as shown in Figure B.2.4:

- Borrower's incorporation in the nongovernment-controlled area or the areas damaged during the antiterrorist operation/joint forces operation (the factor is labeled F1).
- The debtor belongs to industries that suffered from the loss of the Russian market (machine building, pipe production, dairy products, etc.).
- Significant losses from falling domestic demand during the crisis (real estate operations, construction, production of construction materials, cars, etc.).
- Lack of operating activities when taking out a loan. Criteria: in the year of the loan origination, the debtor had no revenue or the debtor's net debt exceeded its revenue more than fivefold, and the indicator did not significantly decrease subsequently.
- The borrower was operational but had an unacceptable debt load when taking out the loan. Criterion: in the year of the loan origination, the corporation's net debt was more than 2.5 times its revenue and more than 7 times its EBITDA.
- The borrower had an excessive debt when receiving a loan (except for borrowers with signs of factors 4 or 5). Criterion: the borrower's net debt is more than 5 times its EBITDA.

Debtors that were not directly exposed to any of the mentioned factors are marked NI (no influence) on Figure B.2.4.

Figure B.2.4. Estimated impact of these factors on debtors with NPLs

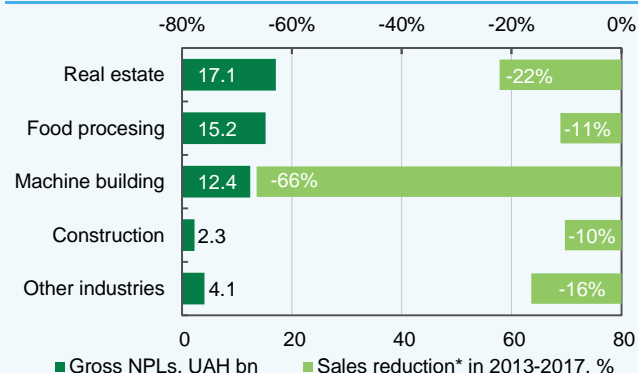


* Debtors may have been affected by one or several factors. In the second case, the amount of the borrower's debt was taken into account based on several factors simultaneously. Thus, the share of the factors in the amount of debts exceeds 100%.

Source: NBU, SSSU, company data.

The banking system crisis was triggered by an external shock. Overall, 17% of NPLs are associated with the loss of territories, markets, or with falling domestic demand. In state-owned banks in particular, arrears on loans to companies in nongovernment-controlled areas exceed UAH 30 billion.

Figure B.2.5. NPLs of industries that suffered most from reduced domestic demand and the loss of the Russian market

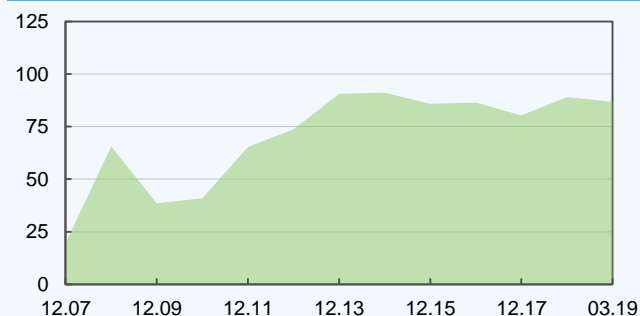


* Changes in sales volumes in terms of certain types of economic activity included in the NPL sample, indexed for of industrial producer prices: real estate operations (68), construction (41, 43), food industry (10.1, 10.3, 10.5, 10.8), machine building (30.2), and others (08.1, 22.2, 23.1, 23.3, 23.4, 24.2, 25.1, 45, 71.1). Real estate transactions took into account the weighted average revenues from the rental of commercial and office real estate.

Source: NBU, SSSU, Cushman&Wakefield.

However, the defining factors for the growth of NPLs were imbalances in the banking system accumulated over the years. A lack of operational activities by a borrower was the most important factor. For the most part, these companies were members of opaque groups that benefitted from structuring their loans in this way. In dealing with these clients, banks evaluated risks based on management reporting and hoped for collateral quality or certain arrangements between the bank's and the borrower's owners. Often, non-operating companies received loans from affiliated banks. Usually, these loans were not secured with acceptable collateral. Most of these loans were originated long before the crisis. After the NBU enhanced its control over lending to related parties and the calculation of credit risk provisions, new debtors replaced some of the non-operating debtors.

Figure B.2.6. Loans* granted to non-operating companies with NPLs (excluding PrivatBank), UAH billions

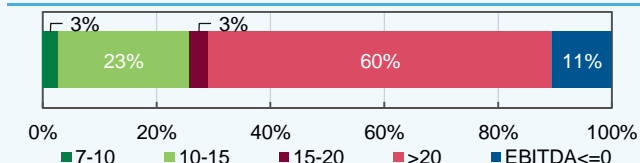


* The FX-denominated portion of the loans is calculated in the hryvnia equivalent using the exchange rate as of 1 April 2019.

Source: NBU.

Even when they lent to operating companies, banks often did not rely on official financial statements. In the year they received their loan, 121 debtors had bad credit metrics. This approach had a negative effect on the quality of credit decisions.

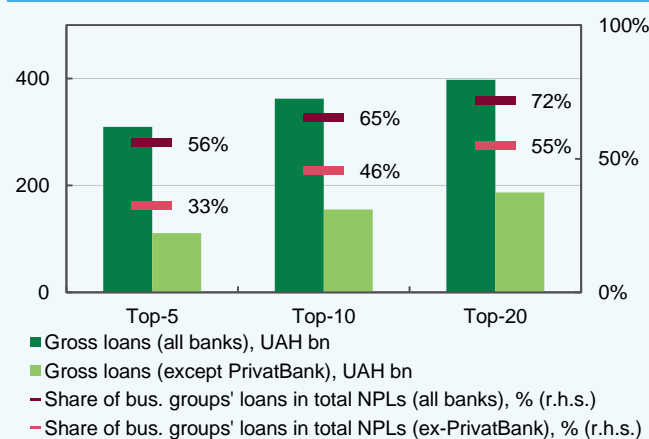
Figure B.2.7. Breakdown of debtors influenced by factor 5, by Net Debt/EBITDA in the year the loan was granted



Source: NBU, SSSU, company data.

One of the key imbalances in the banking system is the level of debt concentration. Two-thirds of the sample NPLs are loans to the largest business groups.

Figure B.2.8. Debt of business groups for NPLs with at least UAH 100 million as at 1 April 2019



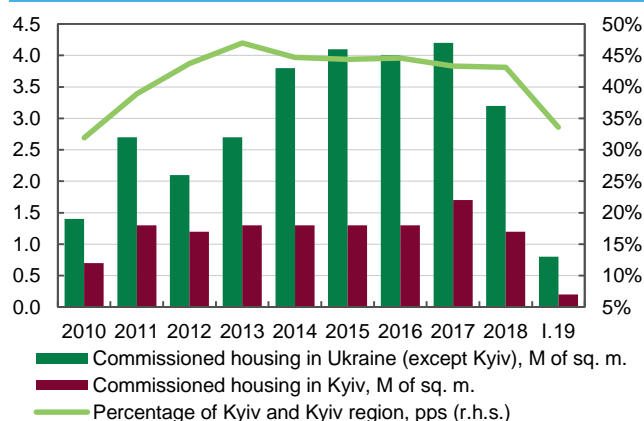
Source: NBU.

Currently, banks have sufficiently provisioned for NPLs and are gradually reducing the proportion of bad debts on their balance sheets. However, it is important for the NBU to prevent the emergence of new imbalances and to ensure the healthy functioning of the system. To that end, the regulator requires banks to take into account the audited financial statements of large debtors and groups when determining credit risk and continuously monitors debtors' credit risk calculations and holds annual stress testing of their largest borrowers.

2.3. The Real Estate Market and Related Risks

With household incomes on the rise and rather stable prices, housing is becoming more affordable. As a result, housing demand has started to rise gradually. Meanwhile, the supply of new housing has declined temporarily. However, the housing market is currently near its equilibrium, meaning there is little risk of a sharp price increase or to financial stability. Although mortgage lending is growing, volumes are too insignificant to have a noticeable impact on the housing market. On the commercial real estate market, the vacancy rate is falling dramatically, the activity of developers is reviving, and rental rates are returning to pre-crisis levels.

Figure 2.3.1. Supply of new residential apartments



Source: SSSU, Kyiv Main Statistics Office.

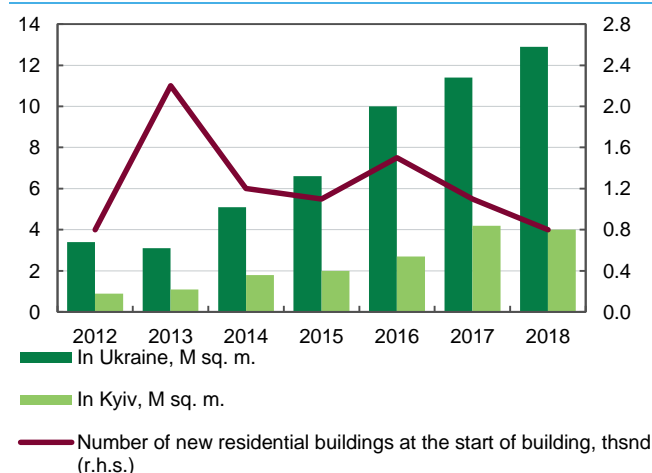
The housing supply is approaching historical averages

Last year, the volume of commissioned residential housing in Ukraine dropped 25.3% yoy. That marked the end of a period in which temporary factors had a large impact on the market. Those factors included excess demand from internally displaced persons in 2014 – 2015 and an oversupply in 2016 – 2017 because of regulatory changes. Housing supply dropped at an even faster pace in Kyiv (28.6% yoy). The correction in the supply of new housing was expected. It means the market is returning to the normal state, which is determined by Ukraine's macroeconomic situation.

In 2018, the total area of new residential housing at the start of building grew 13.2% yoy in Ukraine. In Kyiv, however, residential permits decreased slightly from the record high of 2017. This means the decrease in the growth in new housing coming onto the market is temporary, and it poses no threat of turning into a long-term decline. The average number of stories in buildings for which permits were issued is on the rise. The growth in the number of stories accelerated significantly in 2017 – 2018. As a result, the length of the construction cycle is likely to increase. This partly explains why the number of commissioned buildings dropped last year and it could bring a large supply of new housing to the market in the years to come.

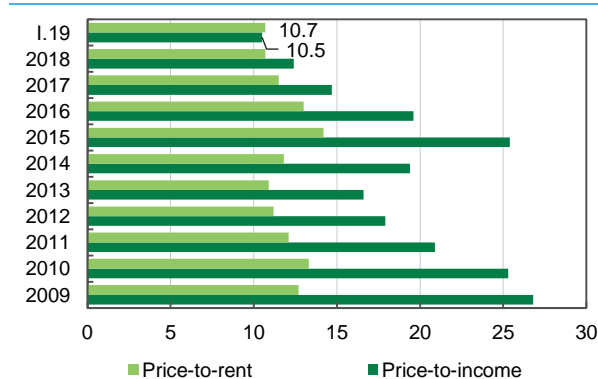
LUN, a residential real estate on-line search service, reported that about 60 apartment complexes were in the design phase and around 180 were under construction at the end of Q1. In 2019, 142 apartment complexes are expected to be commissioned. All this shows that housing construction in Kyiv remains robust and that the supply of new residential housing will remain high.

Figure 2.3.2. New construction projects (issued permits)



Source: SSSU.

Figure 2.3.3. Price-to-income ratio and price-to-rent ratio in 2009 – 2019



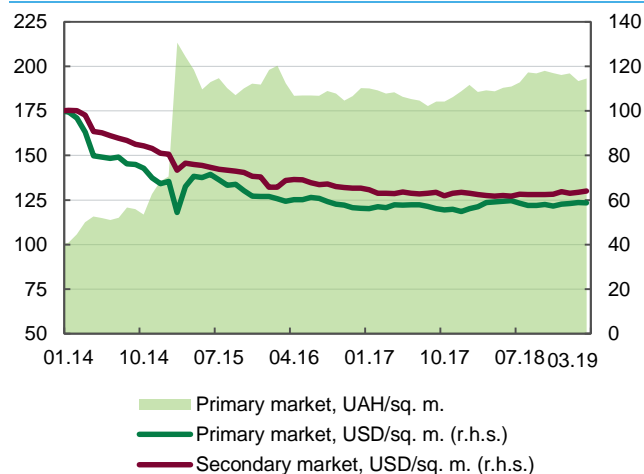
Source: SSSU, real estate agencies, NBU estimates.

Demand for housing is rising gradually from low levels

According to notaries, last year the number of home purchase and sale agreements (primary and secondary markets) grew 8.3% yoy and 5.0% yoy in Q1 2019. That growth in demand helped end the price slide in USD terms of the past few years. As of late March, primary market prices were flat in USD terms and 3.5% higher yoy in UAH, while secondary market prices grew 3.5% yoy.

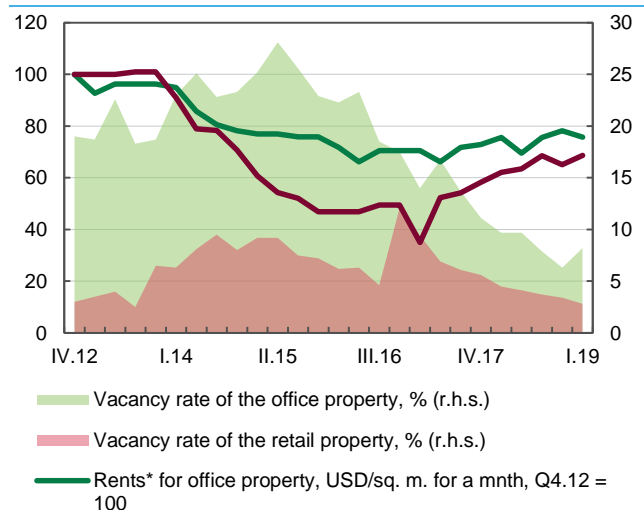
Growth in household income was the major driver of the higher demand. According to market participants, bank loans financed only 7% to 8% of primary market purchases and even less for secondary market deals. This segment is growing gradually: households took on new mortgage loans worth UAH 583 million (+5.4% yoy) in Q1. Nevertheless,

Figure 2.3.4. Kyiv housing prices, December 2013 = 100



Source: real estate agencies, NBU estimates.

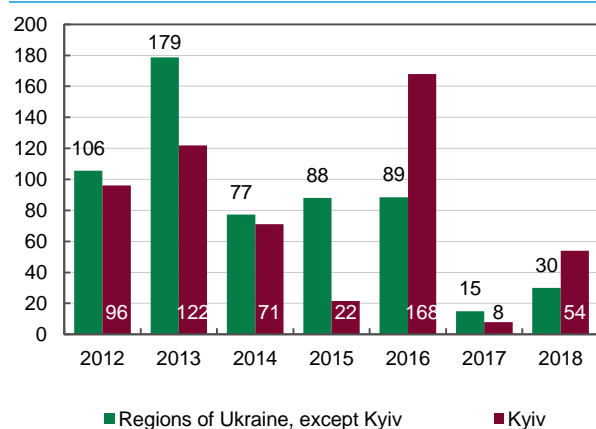
Figure 2.3.5. Average vacancy rate and rent for Kyiv commercial real estate



* Rents for the highest quality commercial real estate.

Source: consultancies, NBU estimates.

Figure 2.3.6. Commissioned sales premises, thousands of square meters



Source: consultancies, NBU estimates.

mortgages are unlikely to play a decisive role on the residential market in the medium-term.

Meanwhile, the long-term drivers of housing demand continue to sit at their lowest levels in many years. The price-to-income ratio¹⁰ came in at 10.5 in late March, driven by higher household income. Meanwhile, the price-to-rent ratio¹¹ was little-changed over the year, as rental rates, along with purchase prices per square meter in USD terms were quite stable over that period.

The minimum price per square meter in newly built buildings in Kyiv, based on data by the LUN website, was only 15.5% higher than the average construction cost per square meter of housing estimated by the Ministry for Regional Development, Building, and Housing. As a result, many developers in the lower-price segment are operating just on the verge of profitability. Nevertheless, prices for construction and installation works are rising (+13.4% yoy as of the end of March). Given that increase and taking into account the growing demand, hryvnia-denominated housing prices are likely to rise. If macroeconomic conditions remain stable, home prices in USD terms could also increase. However, since the market is in a state of relative equilibrium, any price growth will be neither significant nor rapid.

The commercial real estate market is rebounding fast

The total area of commercial real estate commissioned in Ukraine last year doubled from the depressed 2017. According to CBRE Ukraine, the amount of commercial real estate commissioned in Kyiv grew 6.9 times in 2018, to account for 5.0% of the available stock in the city. Nonetheless, the vacancy rate fell, as the retail goods turnover increased. This pushed up rents in Kyiv by 19.0% yoy in USD. This trend has continued into Q1 – rents grew 18.8% yoy in USD terms, with the supply of new housing in Kyiv almost at the half of the total for all of 2018.

Cushman & Wakefield, a consultancy, reported that the amount of office space commissioned in Q1 in Kyiv almost equaled the figure for all of 2018. The supply of new commercial real estate is expected to more than double by the end of the year. Hence, the vacancy rate edged up from 7.2% to 8.2% in Q1, but it remained 1.5 pp below last year's level. The rapid growth in supply failed to prevent rents from rising (+8.7% yoy in USD).

Cushman & Wakefield reported that investment in the secondary commercial real estate market grew by about 2.5 times yoy in 2018 to a record USD 330 million. The NBU expects that investment activity will continue to pick up this year, thus promoting new projects. If macroeconomic conditions continue to be stable, demand for commercial real estate is likely to rise in the medium term, decreasing the vacancy rate and pushing rents up.

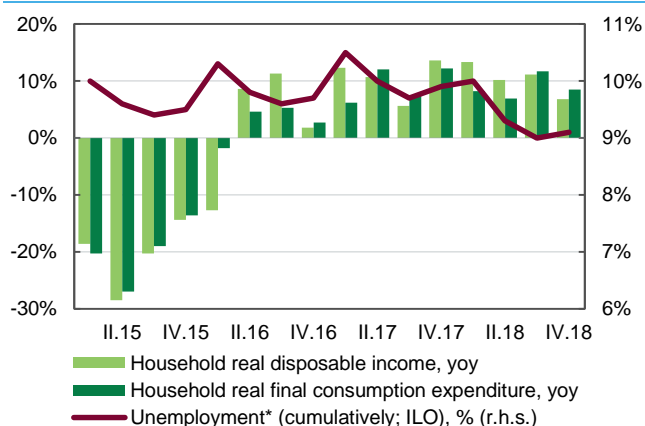
¹⁰ The price-to-income ratio shows price per square meter multiplied by the standardized flat area and divided by the average annual wage.

¹¹ The rent-to-income ratio shows purchase price per square meter divided by rental price per square meter (in USD).

2.4. Households and Related Risks

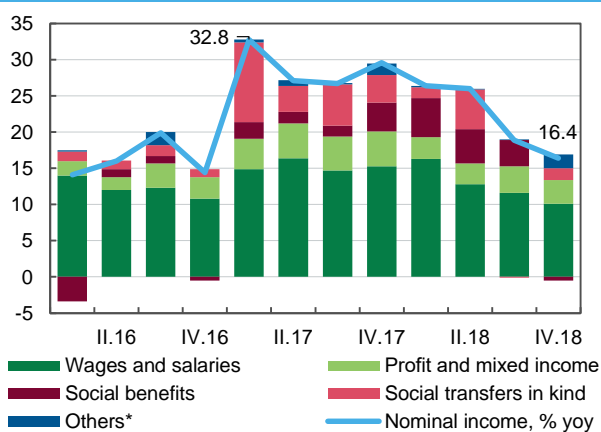
Household income is growing, although the growth has been slowing for two consecutive years. Higher current expenditures are limiting the rebound in savings. Households mostly deposit money on current accounts and short-term deposits. However, consumer lending is surging. Over the last year, aggregate household debt relative to income and GDP has been little-changed and remains at historical lows. Households are likely to remain net creditors of the banking sector for a long time.

Figure 2.4.1. Change in real disposable income, consumer spending, and the unemployment rate



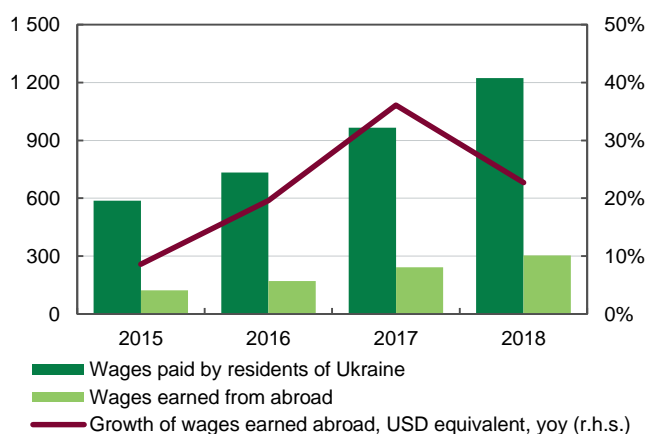
* Percentage of the economically active working age population.
Source: SSSU, NBU estimates.

Figure 2.4.2. Nominal household income growth factors, pp



* Including property income and other current transfers received.
Source: SSSU, NBU estimates.

Figure 2.4.3. Wages earned by Ukrainians domestically and received from abroad, UAH billion



Source: SSSU, NBU estimates.

The growth in real disposable income has slowed

In 2018, real disposable household income rose by 9.9%, only 0.6 pp slower than in 2017. The growth was mainly driven by a nearly 25% increase in wages, along with a disinflation. Wages grew the most in the real sector and in public administration. However, wage growth was restrained by slower growth in the minimum wage and weaker labor demand in industrial production, social services, and public administration. Indexation of social benefits also contributed to income growth: pension reform drove an average increase in pensions of 35.6% yoy. In particular, pensions for military personnel grew 50% and pensions paid to working pensioners were revised.

The slower income growth in 2018 was largely the result of weak growth in wages received from abroad. These wages grew 12.8% yoy in H2 2018, down from 34%–36% in 2017. A decrease in labor migration caused that slowdown. Last year, Poland, which accounts for 30% of wages received by Ukrainians from abroad, made the process for hiring foreigners more complicated for employers. That led to a decrease in the number of registered declarations of assignment to work in Poland. Other European countries simplified foreign worker hiring rules. However, the growth in the number of labor migrants from Ukraine is likely to continue to slow as EU economies cool and the wage gap in Ukraine and Europe narrows.

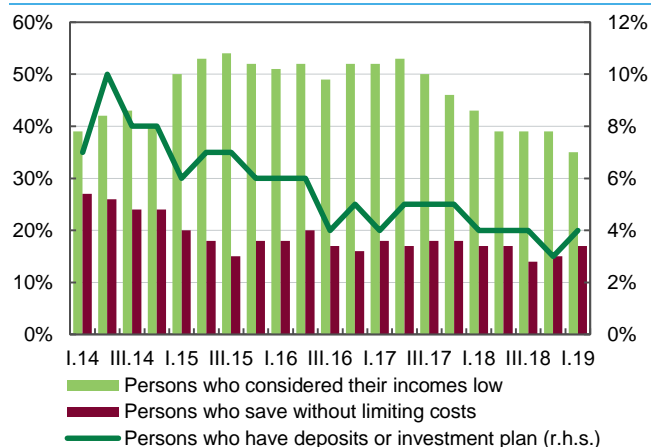
Higher incomes improve households' perception of their living standards. In Q1 2019, the percentage of individuals who described their income as low continued to decline, decreasing to 35%. This marked a historical low since GfK Ukraine began its surveys in 2014.

Household income continues to grow in 2019, although at a slower pace. That trend is being driven by slower economic growth in Ukraine and weaker competition for Ukrainian workers among local and foreign employers. Combined with a slight (12%) increase in the minimum wage starting 1 January 2019, this brought wage growth to 20.8% in nominal terms and 10.9% in real terms. The NBU expects the growth in real wages to decelerate notably by the end of the year. However, households' solvency will improve thanks to higher incomes by employed individuals, as well as to revised pensions.

Improved consumer confidence leaves household propensity to save at all-time lows

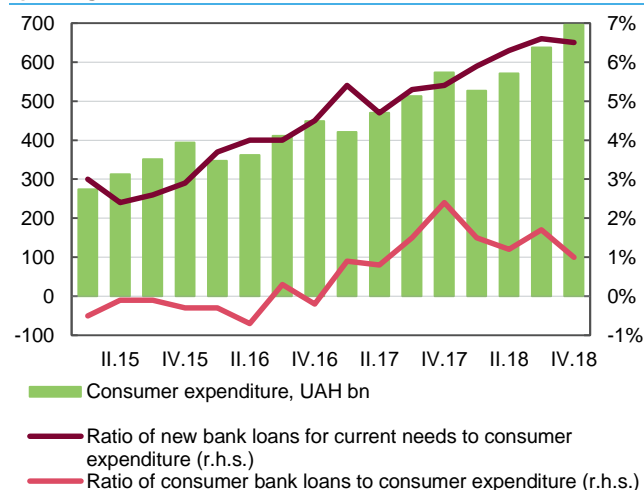
Three years of growth in nominal household income coupled with disinflation has boosted consumer demand. Last year, current expenditures grew somewhat faster than nominal income. As a result, in annual terms, households' propensity for financial savings stood at just 1.5% of their disposable

Figure 2.4.4. Households' ability to save



Source: GfK Ukraine, monthly surveys of households.

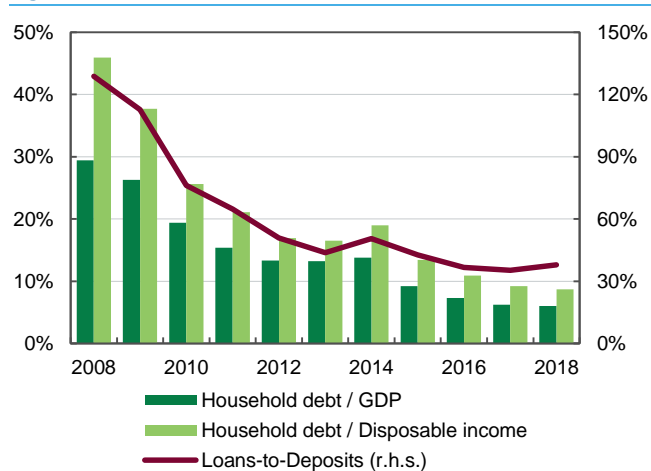
Figure 2.4.5. Impact of bank consumer lending* on consumer spending



* Gross consumer loans issued by solvent banks.

Source: SSSU, NBU estimates.

Figure 2.4.6. Household debt burden



Source: SSSU, NBU estimates.

income. That was the lowest level in more than 15 years of observations and 7–8 times less than the level in EU countries and in Ukraine in non-crisis years (about 12% on average).

The surveys by GfK Ukraine confirm the low propensity to save among households. According to the surveys, in Q1 2019, only 17% of individuals were able to save without cutting consumption. Only 3% of individuals had term deposits or planned to open deposit accounts. Higher consumer confidence has triggered growth in current consumption and halved the pace of growth in term deposits to 3% yoy. Households' propensity to consume is expected to remain high at least through 2019, which will leave room for only moderate growth in term deposits. However, the deposit base will increase on the back of growth in current account balances and short-term deposits.

Demand for retail loans is rising

Household consumption has grown, supported by cash savings and loans. In 2018, the issuance of new hryvnia consumer loans (excluding repayments) grew 45.2%, a much faster pace than the growth in consumption (22.9%). As a result, the ratio of new consumer loans to consumption rose to 6.6%. At the same time, the growth in outstanding consumer loans (loans granted less loans repaid) was as low as 1.0% of consumer spending. Thus, consumer lending is having an insignificant impact on consumption at the moment, but the NBU expects it will grow on the back of the high consumer confidence.

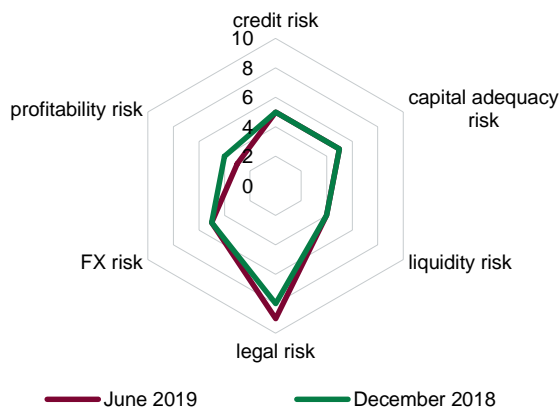
In 2017–2018, total household debt burden stabilized, after having declined by 2.3 times since the start of the 2014–2015 crisis. As a result, household debt burden dropped to its lowest level in more than a decade at just 6.0% of GDP and 8.7% of annual disposable income. That was driven by the rapid growth in nominal household income and the slow, until recently, resumption of lending. This trend is likely to change this year and household debt burden is likely to return to growth relative to GDP and income. Growth in consumer lending will accelerate, while incomes will grow at a slower pace.

The household loan-to-deposit ratio (LtD) is also likely to increase. Over the last year, the LtD ratio grew by 3 pp to 38% as loan growth outpaced the growth in deposits by two times. Still, households will remain net creditors of banks.

Part 3. Banking Sector Conditions and Risks

3.1. Banking Sector Risk Map

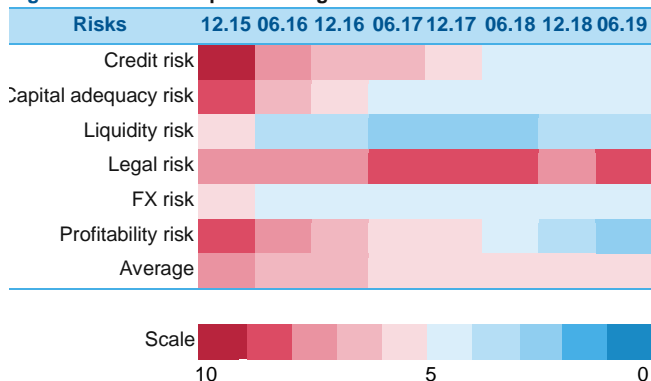
Figure 3.1.1. Banking Sector Risk Map*



* The NBU assesses risks on a scale from 0 to 10, where 0 is the lowest and 10 is the highest level of risk. The assessment reflects the outlook for the next six months.

Source: NBU estimates.

Figure 3.1.2. Heat map of banking sector risks



Source: NBU estimates.

Description:

- Credit risk reflects expected changes in the share of NPLs in bank loan portfolios and the need for extra provisions for those loans.
- Capital adequacy risk measures the ability of banks to maintain an adequate level of capital.
- Liquidity risk is a measure of the ability of banks to meet their liabilities to depositors and creditors in full and on time.
- Legal risk estimates the ability of banks to use legal instruments to effectively protect their rights.
- FX risk is the risk that foreign exchange market trends will impact the financial results of banks.
- Profitability risk reflects the ability of banks to generate net profit.

Credit risk remains unchanged

The relative household debt burden is low. The majority of loans are unsecured consumer loans with extremely high effective rates. New consumer loans typically associated with high payment discipline. Credit risk has started to decrease gradually in the corporate segment, an improvement since the end of the crisis. However, the market still lacks high-quality borrowers.

Capital adequacy risk is also unchanged

Overall, the sector is well-capitalized: the majority of banks will have sufficient capital even in the event of a crisis. However, the capital adequacy of some state-owned banks is close to the minimum level required. The requirement for state-owned banks to pay dividends to the state budget exposes them to additional risks. This year, 29 banks will be stress-tested, which will provide a fresh assessment of the banking sector’s capital adequacy.

Liquidity risk has not changed

Bank retail deposits are growing rapidly. However, the sector is still at risk from the short-term structure of liabilities. At the moment, there are no catalysts that would drive a change in the term structure of funding. Nevertheless, as long as banks comply with the new Liquidity Coverage Ratio (most banks exceed the minimum ratio by a comfortable margin), they will be able to fully cover obligations even under adverse conditions.

Legal risk has increased

A number of controversial court rulings on the PrivatBank nationalization pose additional risks. If the appeal courts also rule against the state, the elevated legal risks will be prolonged and can undermine the trust households and businesses have in banks.

No change to foreign exchange risk

The high risk is related to the high dollarization rate of assets and liabilities in the banking sector; those indicators are changing very slowly. The open currency positions of banks currently do not pose significant risks to financial institutions. The volatility of the FX rate has been moderate. The NBU does not expect any turbulence on the FX market, provided that Ukraine’s cooperation with the IMF resumes soon.

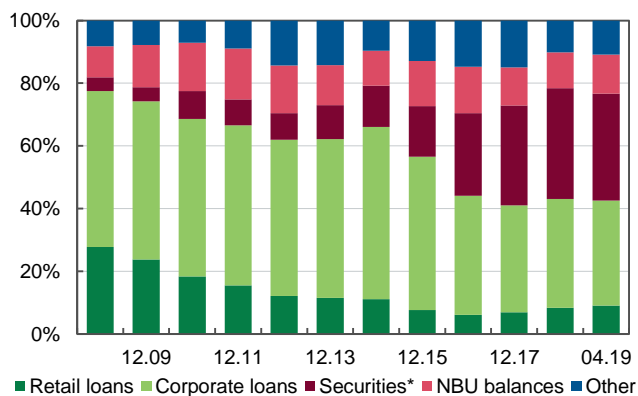
Profitability risk has decreased

Currently, the sector’s profitability exceeds the NBU’s expectations: operating profits are on the rise and provisioning remains rather low. The high profitability is expected to last through the next few quarters. The operating performance of state-owned banks has improved.

3.2. Bank Asset Structure

The 2014–2016 crisis led to an increase in the share of domestic government bonds in banking sector assets and to an increase in the weight of state-owned banks in the banking sector. Since the beginning of 2017, the revival of consumer lending has led to an increase in the share of retail loans. The latter will continue to grow. The de-dollarization of assets is underway: in late April, the share of the FX assets was the lowest in the past decade and will likely continue to decline.

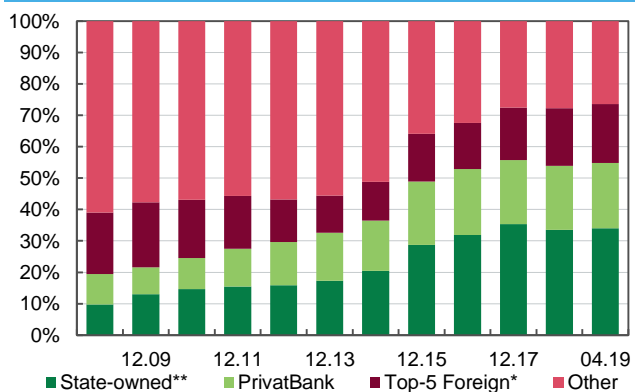
Figure 3.2.1. Sector's net assets by component



* From 2015, this has included long-term investments.

Source: NBU.

Figure 3.2.2. Banking sector's net assets by bank group

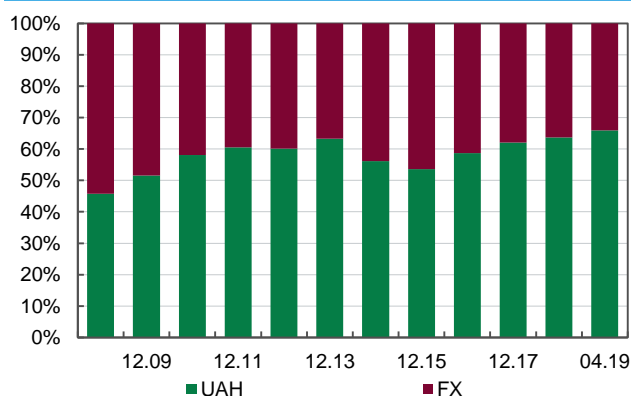


* Top five foreign banks, except Russian financial institutions, by net assets as at 1 May 2019.

** Oschadbank, Ukreximbank, Ukrgasbank.

Source: NBU.

Figure 3.2.3. Sector's net assets by currency



Source: NBU.

From the beginning of the crisis, the share of the corporate loan portfolio in banks' net assets shrank by 17.2 pp to 33.5% in late April, primarily driven by provisions against loans, which companies ceased to service. Most of the provisions were made by PrivatBank after it was nationalized, as well as by other state-owned banks.

To remain solvent after provisioning for NPLs, state-owned banks repeatedly attracted capital from the government in the form of domestic government bonds. Thus, the banking sector's holdings of government securities exceeded the volume of corporate loans today. The share of government securities in the banking sector's assets soared to 34.1% in late April 2019 from 10.8% in 2013. Currently, domestic government bond holdings make 86.2% of this amount, while NBU certificates of deposits account for 11.0% of it.

The capital injection into state-owned banks in the form of domestic government bonds led to a fourfold increase in the share of these bonds in banks' assets since 2013. The bonds now represent 47.5% of state-owned banks' net assets. Most of these domestic government bonds have long maturities, so they will remain a significant component of state-owned banks' assets until their redemption in 2025–2032. A sale of government bonds in the market is unlikely. Meanwhile, foreign and private banks with Ukrainian capital have significantly lower shares of domestic government bonds in their assets: 6.0% and 9.3%, respectively.

In late 2016, the share of retail loans spiked to record high of 6.1% and has since increased by 3.0 pp to 9.1%, driven by intensive consumer lending. In the next few years, the growth in volume of retail loans will outpace other bank assets. Therefore, the share of retail loans in bank assets will rise.

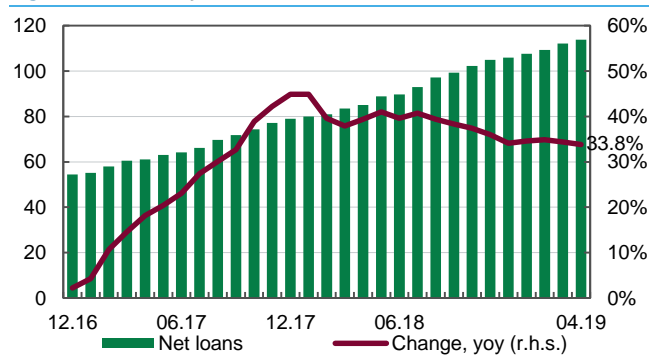
The share of state-owned banks in the banking sector's assets has changed most notably. During the crisis, state-owned banks turned into a safe haven, to which households and businesses transferred large amounts of deposits. The state has repeatedly recapitalized these banks thus maintaining the volume of their assets. At the same time, in 2012–2014, the share of the top five foreign banks shrank, as they did not lend actively. Thanks to their diligence, they went through the crisis with relative ease, and so their share in net assets began to expand to 18.8% at the end of April.

After falling in 2014–2015, the share of hryvnia assets in the sector has returned to pre-crisis levels and now stands at 65.3%, the highest in over a decade. The key drivers of de-dollarization of assets were a spike in hryvnia consumer lending and injection of hryvnia government bonds into state-owned banks, which diminished the share of provisioned FX loans.

3.3. Consumer Lending Risk

Consumer lending is continuing to pick up and remains attractive to banks. Consumer loans already make up over half of the credit portfolios at some banks. In order to discover specific details and identify risks, the NBU surveyed the most active banks in the consumer lending segment. These banks plan further rapid expansion of their portfolios by increasing their client base and developing scoring systems. However, at times, they underestimate credit risk, as their models for calculating required provisions are generally insensitive to macroeconomic parameters. As a result, those banks may fail to form the necessary provisions in time if macroeconomic conditions deteriorate. In light of this, the NBU may increase risk weightings for unsecured consumer loans in the future.

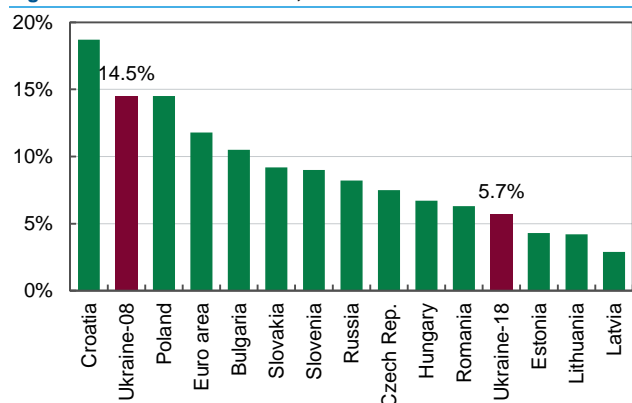
Figure 3.3.1. Net hryvnia* retail loans, UAH billion



* Issued by banks solvent as of 1 May 2018.

Source: NBU.

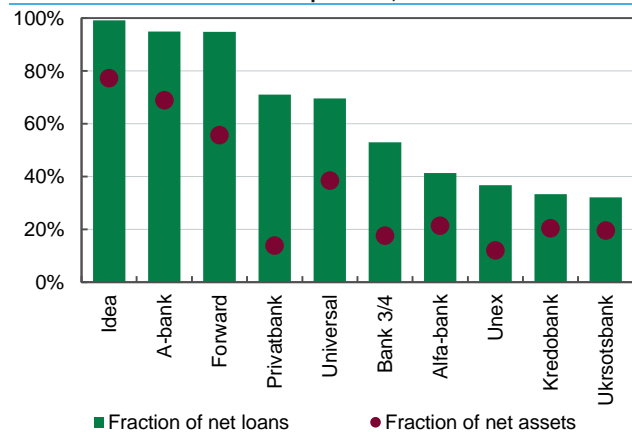
Figure 3.3.2. Consumer* loans, % of GDP



* In Ukraine, these include consumer and other loans, but exclude real estate loans (purchase and renovations).

Source: ECB, Bank of Russia, NBU.

Figure 3.3.3. The top ten banks with the highest percentage of consumer loans of the net loan portfolio, %



Source: NBU.

The steady growth in consumer lending will continue

Consumer lending has been growing rapidly for over two years. Following a jump from a low comparison base, the pace of growth has slowed, but it remains above 30% yoy. Consumer loans dominate the portfolios of some banks. The ratio of gross consumer loans to GDP is the lowest in the region, at 5.7%. The debt burden of households is moderate – only 8.7% of annual disposable income. That said, the debt burden of the lowest-income households is much higher (see Box 3. Results of a survey of consumer lending by banks: borrowers with low income are mostly indebted). Consumer loans account for 70% of the retail portfolio, with another 20% for real estate purchases, 7% are car loans, and 3% are loans for other purposes.

The lending growth that took place immediately after the crisis was primarily due to pent-up consumer demand. Today, this factor is less important. Strong consumer sentiment and buoyant growth in household income are the most significant factors. The former factor encourages households to spend future income to meet current needs. The latter creates confidence that a loan will not burden the family budget. Robust demand for loans is keeping interest rates high. Lending standards have also eased, as evidenced by lending survey results showing that banks noticeably relaxed lending standards after the crisis (Figure 3.3.4). Although they have tightened since mid-2018, lending standards are still considerably looser than they were at the end of 2015.

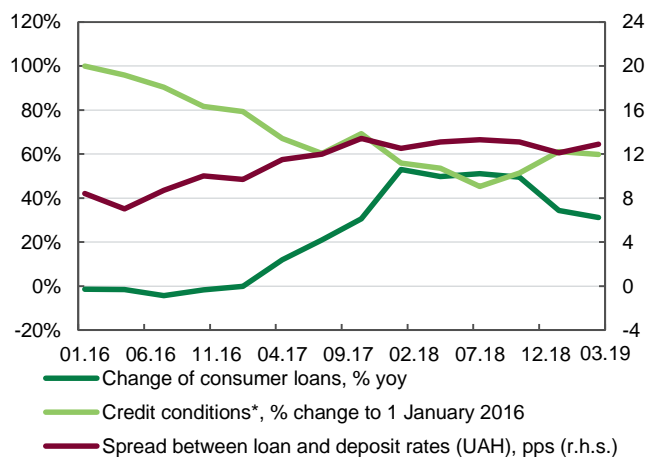
In order to learn more about the nature of consumer lending and to identify related risks, the NBU surveyed seven banks and interviewed representatives of the five financial institutions that are most active in this segment. Those banks say that when issuing consumer loans, they use three main channels / instruments: credit cards (including overdrafts), cash loans¹², and loans for purchasing goods. The purpose of a loan is indicated only for the third loan type, and it is usually for purchasing household appliances. In most cases, however, the purpose of a loan is impossible to establish, as loans are only a part of the total pool of resources that households use to finance their current consumption.

Banks intend to grow together with the market, if not faster

Most respondents think that the current rate of growth in consumer lending will continue for the next few years. The banks expect that the average size of a loan will grow 20%

¹²A cash loan is a loan issued by a bank as a one-off contractual amount, either as cash or as a cashless transfer.

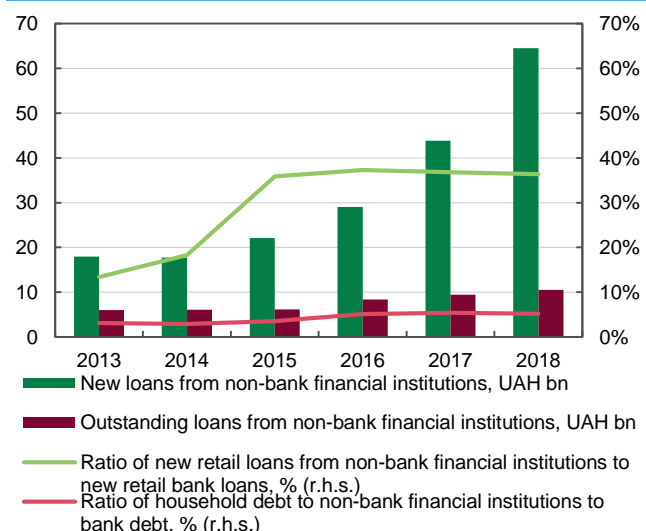
Figure 3.3.4. Lending standards and consumer lending growth



* Reflects the cumulative change in the balances of responses to the lending survey question about how the criteria for approving loan applications by households changed during the current quarter (higher values indicate tighter criteria).

Source: NBU.

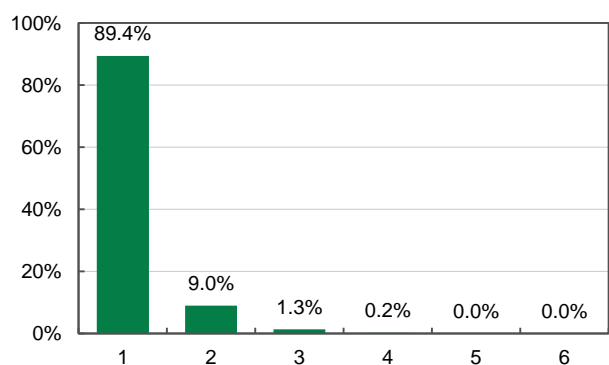
Figure 3.3.5. New retail loans issued by nonbank financial institutions, UAH billion*



* Including (a) change in loans issued to members of credit unions; (b) loans issued by credit institutions (until 2016); (c) financial loans issued by pawnshops against collateral; and (e) lending by financial institutions, including financial loans.

Source: NBU, National Commission for the State Regulation of Financial Services Markets.

Figure 3.3.6. Non-defaulted customers with debt of over UAH 50,000 by banks where they have loans



Source: NBU.

yoy, while the number of borrowers will increase 10% to 15% yoy.

The banks say they are ready to meet demand for loans as long as it comes from borrowers with reasonably acceptable solvency. The approval rate of loan applications varies significantly across banks and products. While it is the highest for loans issued in the trading network, often exceeding 80%, it can be considerably lower for credit card loans, at about 30%.

Only the largest banks have determined which market shares to target. Despite that, almost all banks plan to grow at least at the same pace as the market. This could signify that the banks are probably guided by their business goals, such as maximizing profits in the short-run, rather than by managing credit risks.

Competition for borrowers is becoming more intense

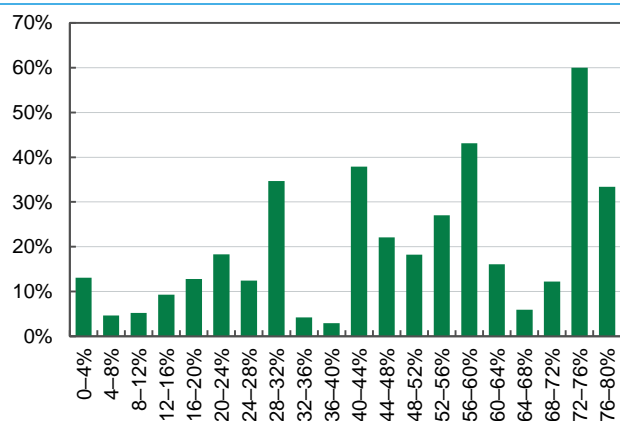
The banks say they target different borrower groups than do nonbank financial institutions (NBFIs), and that the two almost never overlap. NBFIs attract customers by offering more readily available services, low requirements, and quick loan processing. On the flip side, they charge high loan rates. NBFIs customers usually take out more than one loan, often to repay loans they took out earlier. However, large loan payments to NBFIs can make payment discipline worse, both at banks and NBFIs. Banks often believe that customers with NBFIs loans pose a higher risk and they try to limit lending to those borrowers.

Meanwhile, the banks are competing with one another within the segment of more reliable borrowers, where credit limits and the average loan size are higher. These borrowers take out loans to repay other loans less frequently, as they mostly have sufficient credit lines at one bank. The main factors of competition here are the convenience of services, the simplicity of products, and sometimes the price.

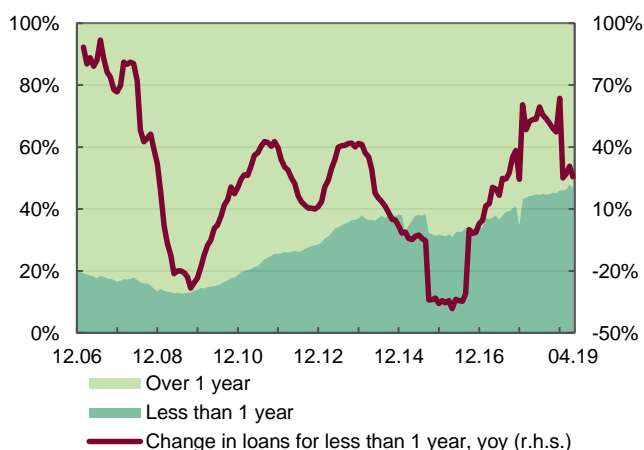
Official income does not determine lending decisions

Consumer lending requires attention to risk management because consumer-lending products are complex, consumer loans are unsecured, and scoring has to be done quickly and for a large number of borrowers.

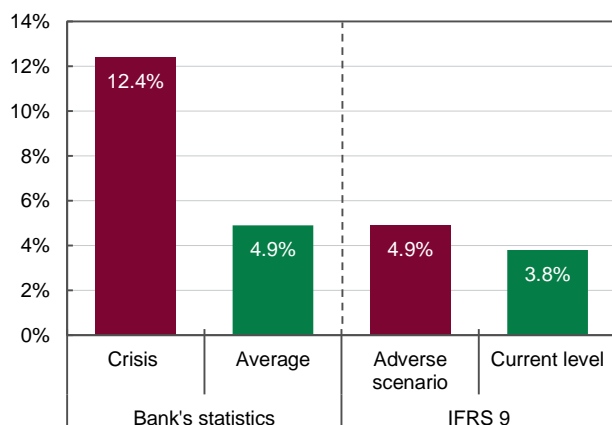
The first stage of risk measurement occurs when a loan is originated. Poor credit history is the he main indicator of risk. Banks can obtain this information from their own sources or from credit bureaus. Loan application data like place of employment, marital status, number of children, and so on, is also used to measure credit risk. Banks also consider a borrower’s past expenses and whether they have an international passport and travel abroad. Since banks gain an advantage from processing loan applications quickly, they try to obtain as little information from customers as possible. The banks say they regularly assess default risk using the most up-to-date data. Their scoring systems often detect fraudsters and increase the efficiency of handling clients who

Figure 3.3.7. Percentage of past due loan by loan rates in % per annum

Source: NBU.

Figure 3.3.8. Retail consumer loans, by maturities

Source: NBU.

Figure 3.3.9. Average PD estimates according to banks' statistics and models developed under IFRS 9

Source: banks, NBU estimates.

are showing early signs of being in breach of payment discipline.

Although the banks do not usually require customers to provide proofs of their income, they sometimes check the amount indicated in a loan application using indirect methods. Banks require customers to provide official proofs of their income only for large loans, with each bank setting the threshold for that requirement. If a creditor lacks information about a borrower's debt servicing sources and real debt burden, additional risks for the creditor arise.

Banks sometimes underestimate credit risk and do not provision enough for retail loans

After issuing a loan, banks must apply a conservative approach to estimating credit losses if credit risk were to materialize. To cover these losses, the banks set aside provisions, which are either calculated as a percentage of the relevant portfolio (expected losses, EL) or by multiplying two parameters: the probability of default (PD) and loss given default (LGD)¹³. When calculating EL and the PD, banks should consider the current stage of the economic cycle. Thus, estimates of credit losses from credit risk materialization vary based on a bank's macroeconomic expectations.

To calculate EL, PD, and LGD under different macroeconomic conditions, banks use models or simpler statistical methods. Respondents reported that the average probability of default (PD) for consumer loans¹⁴ over the next 12 months was 3.8%, with LGD at 74.3%. Therefore, banks on average set aside 2.5% of their portfolio as provisions to cover credit risk¹⁵. At most banks, estimations of expected losses are in line with their know-your-customer rules and the current macroeconomic conditions. Since the estimates of some banks are not conservative enough, the NBU plans to hold consultations with these banks to identify the reasons behind their estimates.

However, the NBU is much more interested in expected losses under adverse macroeconomic conditions. Since IFRS 9 requires banks to make provisions for expected losses, the banks should be able to make reliable estimates of loan quality in a crisis. It is important that these estimates are more sensitive to macroeconomic indicators. With a view to testing this, the NBU asked the banks to estimate expected losses under two adverse scenarios. The estimates showed that a deterioration in assumptions lead to practically no changes in PD parameters, with some banks even reporting an improvement in these parameters.

Real data, however, are quite different: the banks' aggregated statistics reveal that in a crisis, 13% of loans could default in a year and almost 21% in two years. All the banks showed a significant increase in the percentage of

¹³Expected losses (EL) are either calculated directly, or by using the following formula: $EL = PD \times LGD$.

¹⁴This applies to loans that are in the first assessment stage, i.e. those for which credit risk has not increased substantially.

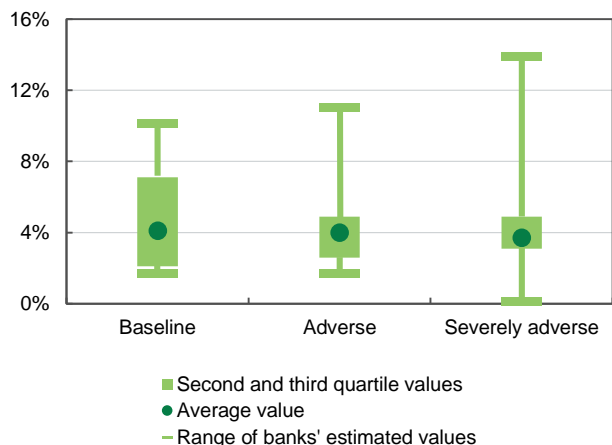
¹⁵The average expected losses (ELs) here do not equal the average PD multiplied by the average LGD and are instead calculated as the median value of the EL parameters provided by the banks.

Table 3.3.1. Parameters of NBU scenarios*

Indicators	Scenarios		
	baseline	adverse	extremely adverse
Real GDP, % yoy	3.3	-4.1	-7.6
Nominal GDP, UAH, billion	3,559	4,177	4,733
Exchange rate**, % yoy	7.5	23.2	31.7
CPI, % yoy	9.8	15.8	32.8

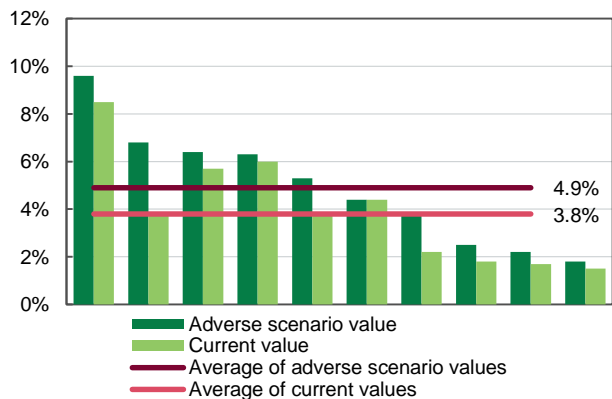
* Scenarios constructed on the basis of 2019 stress test.
 ** UAH/USD exchange rate; under a baseline scenario – Focus Economics projections.
 Source: NBU.

Figure 3.3.10. Banks' estimated PD parameters according to NBU scenarios, %



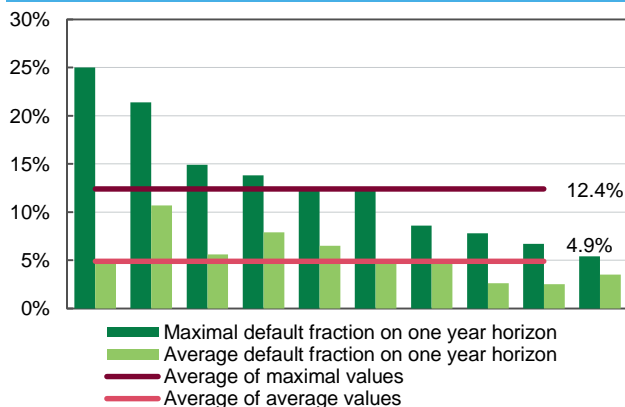
Source: banks, NBU estimates.

Figure 3.3.11. PD parameters banks use to make provisions under IFRS 9, %



Source: banks, NBU estimates.

Figure 3.3.12. Default statistics for 2014 – 2018 provided by banks that have had their internal rules for estimating PD (to measure credit risk) approved by the NBU



Source: banks, NBU estimates.

defaults in a crisis. Because the conditions of the suggested scenarios were similar to those seen during the latest crisis, the results of the banks' tests are counter-intuitive. It is possible that they were generated by the banks using data for a short period that excludes crises. Another possibility is that the banks have built flawed models.

The banks do not expect adverse macroeconomic scenarios to materialize in the medium-term. Nevertheless, they say they have action plans for crisis events. Most respondents claim they would be able to survive a crisis and incur significantly smaller losses than the sector in general, or even no losses. Their potential responses to a crisis include revising loan limits and reducing the approval rate for loan applications. Most banks do not foresee a scenario under which they slash lending. However, this optimism runs counter to historical experience. Usually, loan quality has deteriorated and lending volumes have decreased during a crisis.

As a result, the NBU has concluded that the approach the banks used to estimate losses from unsecured consumer loans in a crisis was, for the most part, not conservative enough. This means banks would likely not provision sufficiently to be properly prepared for macroeconomic shocks. In response, the NBU may impose additional risk weightings for these loans. This would force banks to hold more capital to cover unexpected losses in a crisis.

Rapid growth in consumer lending is common during the economic recovery that follows a crisis. That offers banks the opportunity to generate large profits. At the same time, it carries risks:

- low-income households take out more loans, which quickly increases their debt burdens
- with strong competition, banks ease underwriting criteria to maintain the same pace of lending, which deteriorates the profile of the average borrower
- banks sometimes underestimate credit risks (PD and ELs) under both baseline and adverse scenarios
- consumer lending spurs demand for imports, creating additional risks to the balance of payments.

In light of those risks, the NBU plans to:

- monitor models that calculate parameters (PD and LGD) for provisioning under IFRS 9. Banks will be required to make these models more sensitive to macroeconomic conditions
- encourage banks to regularly revise scoring models and approaches to measuring credit risk. Banks will be required to gather high-quality statistics on their loan portfolios
- revise regulatory requirements for calculating prudential provisions for unsecured consumer loans
- consider introducing higher risk weightings for unsecured consumer loans.

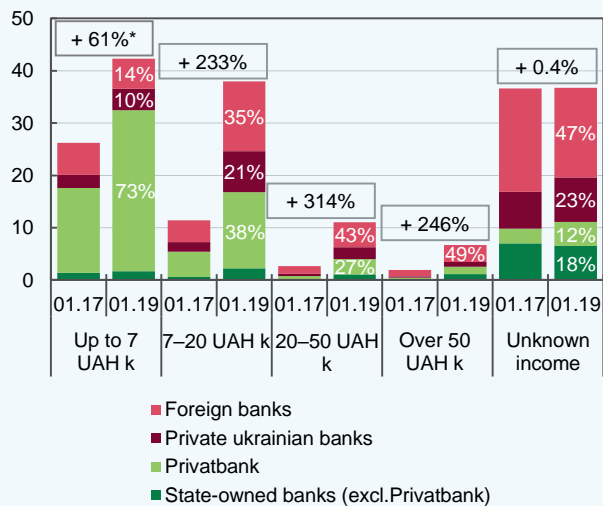
Box 3. Results of a Survey of Consumer Lending by Banks: Borrowers with Low Income Are Mostly Indebted

Retail lending has been picking up rapidly for three years in a row, driven mainly unsecured consumer loans that borrowers repay using their own income. To carefully assess the risks from this segment, in Q1 2019 the NBU surveyed banks on the income of their customers. Twenty-three banks responded. They account for 86% of retail loans, mostly consumer loans, including car loans. The results showed that although the banks' consumer loan portfolios were not homogeneous, the bulk of those portfolios were loans to low-income borrowers with heavy debt burdens and borrowers for whom no income information is available. Both groups pose certain risks to banks. Loans to middle- and high-income households account for a small portion of the portfolio and carry high growth potential.

Consumer loans almost doubled in 2017 – 2018. Although this was primarily due to 50% increase in the number of borrowers, the average amount per loan also increased moderately. Both factors resulted from household income growth, in particular the higher wages of hired workers who make up two-thirds of all borrowers.

Loan debts are not equally distributed by borrower incomes. The banks have information about the income of 81% of borrowers, the bulk of which are borrowers with an income of up to UAH 7,000. This group comprises half of all customers and accounts for one-third of all debt. That said, the growth in the loan portfolio of this group is relatively slow. This group constitutes high risk for banks. Data from the respondents show that one-third of these borrowers are pensioners and other recipients of social benefits, whose solvency is low and unstable.

Figure B.3.1. Consumer loan debt broken down by household groups in terms of income in early 2017 and 2019, UAH, billion ¹⁶

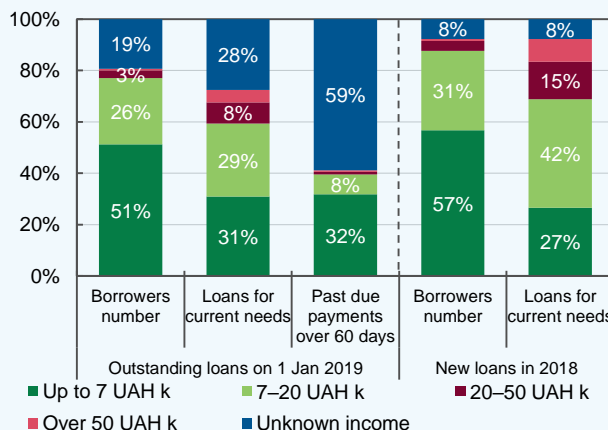


* Debt as of 1 January 2019 as a percentage of debt as of 1 January 2017 for the relevant household income group.

Source: banks, NBU estimates.

The most popular banking products for households with an income of up to UAH 20,000 are those with short maturities and small amounts, such as credit cards and small cash loans¹⁷ (up to UAH 10,000). Significant portion of this group loans are overdue for more than two months. Payroll and social projects decrease risks of lending to this group.

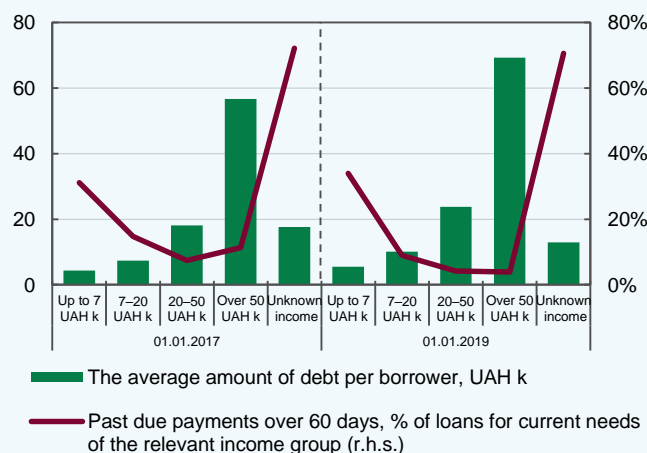
Figure B.3.2. Consumer loan portfolio by income groups



Source: bank financial statements, NBU estimates.

The profile of customers with an income of over UAH 20,000 differs significantly from that of other customers. These borrowers mostly take out loans to buy durable goods, such as vehicles, and these loans account for about one-third of outstanding debt. Over the last two years, the number of borrowers in this group has risen most of all, more threefold. Although, as the average size of loans to these borrowers is increasing only slowly, the share of this group in the total portfolio remains insignificant (4% of the total number and 13% of the total amount).

Figure B.3.3. The average size of a consumer loan per borrower in terms of household income groups



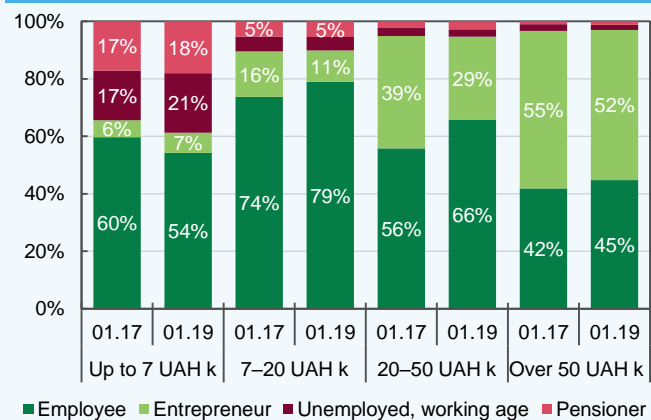
Source: bank financial statements, NBU estimates.

Hired workers constitute two-thirds of those in the borrower group with an income from UAH 20,000 to UAH 50,000, while

¹⁶ Here and below, data are given for 23 banks.

more than a half of the borrowers in the over UAH 50,000 income group are sole proprietors. Borrowers from these two groups service their loans best of all, with the share of past-due loans significantly lower than the average across banks.

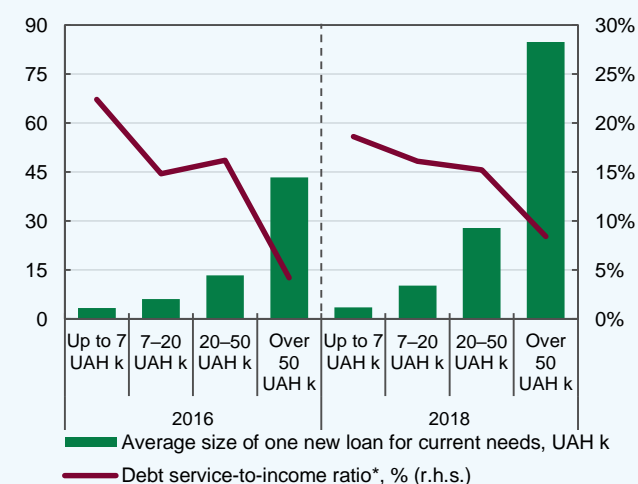
Figure B.3.4 Borrowers broken down by type of employment, %



Source: banks, NBU estimates.

Finally, there is the group of borrowers for whom no income information is available. Although still significant, this group's share of total debt is declining. These loans account for no more than 8% of new loans. The outstanding debt of this group mainly consists of old loans, most of which were issued by foreign and state-owned banks, aside from PrivatBank. These loans have the lowest quality, with over 70% of them being more than 60 days overdue.

Figure B.3.5. Debt burden on groups of borrowers in terms of their income



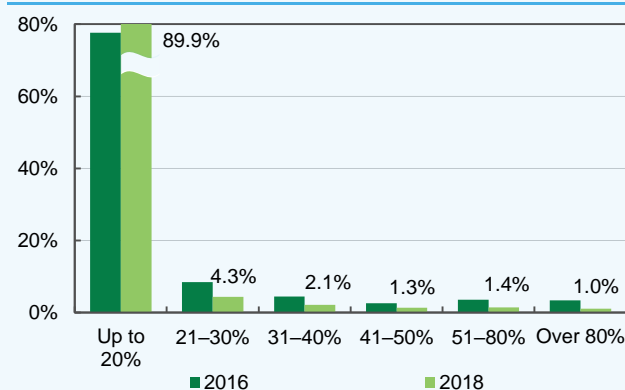
* The debt service-to-income ratio (DSTI) is the ratio of monthly loan payments to average monthly income.
Source: banks, NBU estimates.

To minimize credit risk when drawing up a loan agreement, banks assess the financial standing of their customers by calculating the debt service-to-income ratio, among other things. The NBU sees an inverse relationship between borrower income and the debt service-to-income ratio in the

consumer lending segment: an average 19% for the group with an income of up to UAH 7,000 and 8% for borrowers with an income of over UAH 50,000. These readings are lower than in other countries in our region. However, spending one-fifth of their income on loan payments puts a significant burden on low-income borrowers. Therefore, the lowest-income customers have a relatively high debt burden.

The survey revealed that for almost 90% of loan agreements the DSTI ratio is below 20%. When factoring in the customer's other debts (to other banks or on other products), this ratio could be much higher. In particular, this ratio even exceeds 50% for 2.4% of all loan agreements. This shows that some banks are ready to lend even despite high debt burden on customers. In an attempt to compensate for related risks, banks require collateral, surety agreements, or impose considerably higher interest rates (60% to 140% per annum). However, this only increases the debt burden of borrowers and creates additional risks.

Figure B.3.6. Loan agreements by debt service-to-income ratios



Source: banks, NBU estimates.

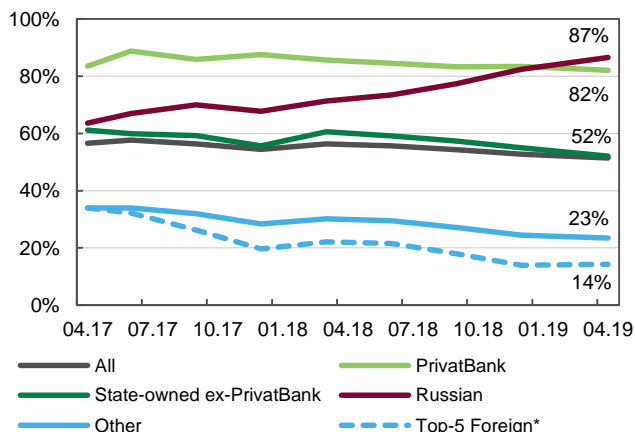
The pick-up in consumer lending poses several risks. These risks need to be controlled to prevent future threats to financial stability. The largest source of risk arises from the debts of low-income households. The growth in consumer demand from this group is mainly driven by loans. Nevertheless, loan payments account for a significant portion of the income of borrowers from this group. Borrowers that do not declare and do not confirm their income constitute another risk group. Meanwhile, more reliable borrowers with an income of over UAH 20,000 enjoy low debt burden and can borrow more.

With rising competition for customers, lending standards could be eased further, which would increase consumer lending risks. Therefore, banks should pay special attention to the measurement of these risks using available data sources, including their own statistics. Additional information about borrowers can be found in the NBU's credit register. Credit risk will remain appropriate only if the banks apply a conservative approach to consumer lending and adequately assess the solvency of borrowers.

3.4. Loan Portfolio Quality

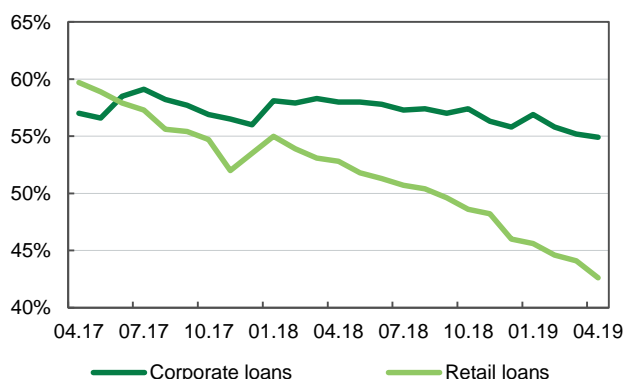
The nonperforming loans (NPLs) ratio continues to decline, albeit very slowly. This is mainly due to the rapid growth of retail consumer lending, which is statistically diluting the percentage of legacy NPLs. Most banks have almost fully recognized losses from their NPLs, with provisions for these loans exceeding 90%. Still, the banks are cleaning their balance sheets of nonperforming loans very slowly. To speed up this process, the NBU will in the near future approve a regulation on NPL workout at Ukrainian banks. This regulation will require banks to resolve NPLs more actively. In turn, the government may establish general rules for NPL resolution at state-owned banks.

Figure 3.4.1. NPL ratio by bank groups



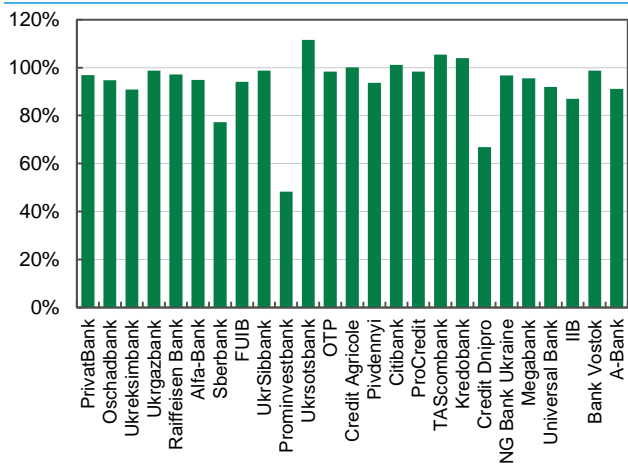
* The largest banks by net assets as of 1 May 2019 (except banks with Russian capital).
Source: NBU.

Figure 3.4.2. NPL percentages by types of borrowers



Source: NBU.

Figure 3.4.3. Ratio of received to accrued interest income, by top 25 banks in terms of assets



Source: NBU.

The NPL ratio is decreasing gradually, but the volume of those loans remains practically the same

Since the start of 2019, the NPL ratio has been gradually declining. The main driver has been the statistical effect from loan portfolio growth. This is especially noticeable in the retail segment, where the NPL ratio has dropped over the last two years by 17 pp to 42.6%. In contrast, over the same period, the NPL ratio in the corporate segment has declined by only 2 pp to 54.9%. This segment has seen weaker lending growth, while also seeing significant restructuring of debts at state-owned banks. These banks reclassified restructured loans as performing after the borrowers made regular repayments on those loans for six months.

Both the NPL ratio and volume of NPLs decreased markedly at foreign-owned banks: over the last two years, the top five foreign banks have seen their NPL ratio fall from 34.0% to 14.3%. This shows that an active NPL management can yield strong results over a relatively short period of time.

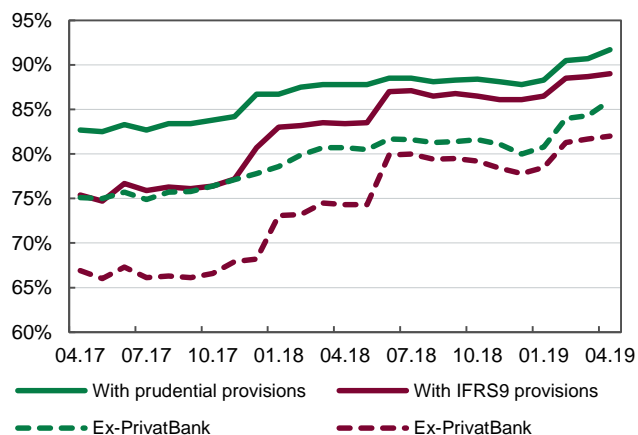
Banks receive almost all accrued interest income

The ratio between received and accrued interest income is a reliable indicator of the quality of a loan portfolio and the adequacy of provisions made. 2018 financial statements show that this indicator is close to 100% at most banks, meaning that these banks are getting practically all of the accrued interest. However, this indicator stood at below 80% at three banks. These banks should assess the fair value of some of their assets more adequately.

The introduction of new regulatory requirements is likely to force banks to recognize additional losses from NPLs

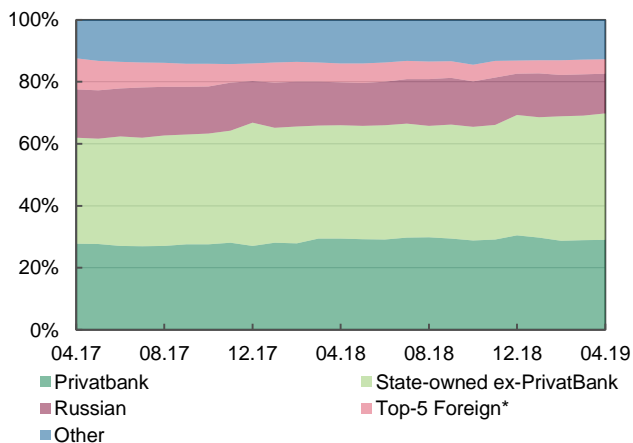
Overall, the NPL ratio remains extremely high across the sector. For the most part, however, the banking system has already recognized losses from asset impairment. Over 90% (85% excluding PrivatBank) of nonperforming corporate loans have been covered by prudential provisions (under Resolution No. 351) or financial provisions (under IFRS 9). NPL coverage rate should increase with time. The collateral depreciation rule, which came into effect on 1 February, increased prudential provisions. This rule prevents banks from factoring in collateral when calculating prudential provisions for any loan that has not been performing for over four years. For loans that have not been performing for over two years, collateral can be factored in only partially. Over the next two years, this rule may significantly affect the capital of some banks, if borrowers do not resume servicing these secured loans. The NBU estimates that the complete

Figure 3.4.4. Provisioning and credit risk levels of corporate NPLs



Source: NBU.

Figure 3.4.5. NPLs by bank groups



* The largest banks by net assets as of 1 May 2019 (except banks with Russian capital).
Source: NBU.

depreciation of collateral could increase prudential provisions by over UAH 30 billion.

The NBU will tighten requirements for how banks manage nonperforming exposures

The high NPL ratio is a source of systemic risk in Ukraine. Over the last three years, the progress in NPL resolution was hardly noticeable. The NBU plans to speed up the process by approving a regulation on the workout of nonperforming exposures at Ukrainian banks. The regulation will impose the following key requirements on the banks:

- looking into the possibility of establishing a board committee on nonperforming exposures (NPEs) work-out, and setting up a permanent NPE work-out unit at banks that have large volumes of NPEs
- separating the NPE work-out unit from those responsible for handling other exposures and handing it responsibility for NPE work-outs
- introducing an early-warning system designed to identify early and mitigate any deterioration in loan quality. To that end, banks will have to identify any potential NPEs and carefully scrutinize them
- drawing up and introducing a strategy for NPE work-out, together with a supporting action plan. The strategy should have clear-cut goals for the next three years and include key performance indicators and steps to reduce the NPE ratio.

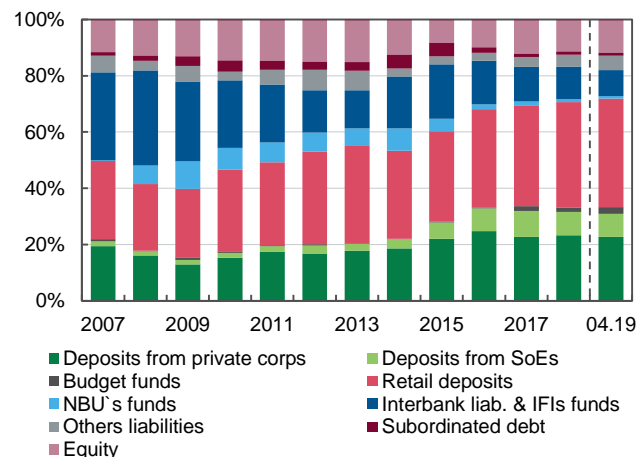
The regulation's provisions will be in line with best European practices and will be based on the ECB's guidance to banks on nonperforming loans (March 2017) and the EBA's guidelines on management of nonperforming and forborne exposures (EBA/GL/2018/06). However, many banks have already established NPL workout practices that are in line with the above requirements.

State-owned banks are facing the biggest NPL-related problems, with NPL ratio in their portfolios hitting about 66.2%. These banks account for 69.8% of the total percentage of NPLs in the sector. PrivatBank accounts for 40.7 pp of that share. In light of this, the Ministry of Finance, as the representative of the shareholder (the state), plans to require state-owned banks to draw up plans for NPL resolution, and to implement the plans within a specified timeframe.

3.5. Funding and Liquidity Risk

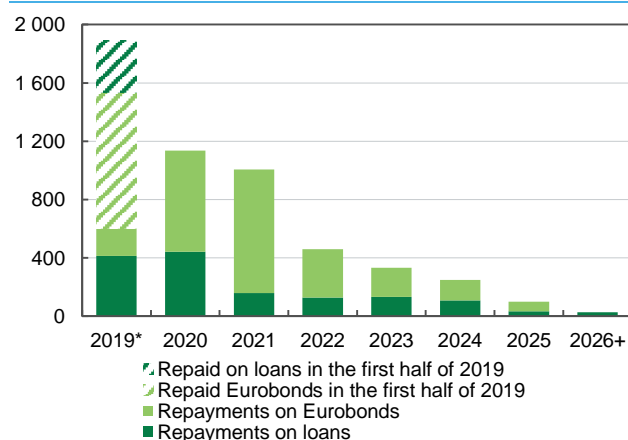
At the end of April, client deposits exceeded 80% of the banking sector's total funding and continued to grow. Banks mainly raise funding – even FX funds – from the domestic market, as they are now much cheaper to attract domestically than abroad. The growth rates of household funds in hryvnia current accounts remain high. Over the past six months, the maturity structure of funding has remained virtually the same: liabilities are still dominated by instruments with maturity of up to one month. The banking sector is highly liquid: most banks comply with the new LCR requirement, exceeding the minimum required level by a significant margin.

Figure 3.5.1. Bank liabilities by instrument



Source: NBU.

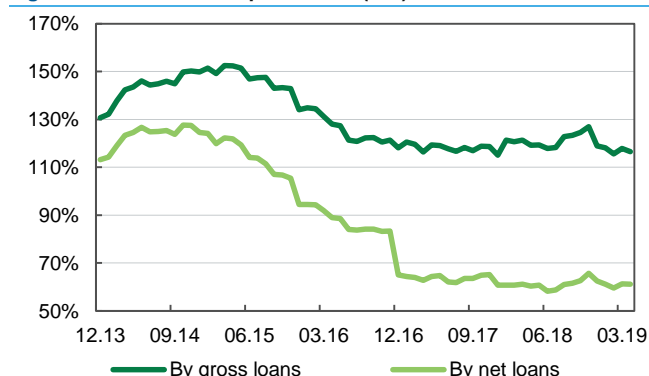
Figure 3.5.2. Scheduled repayments of banks' external debt, USD million



* During H2 2019.

Source: NBU.

Figure 3.5.3. Loans-to-Deposits ratio (LtD)



Source: NBU.

Funding from the domestic market dominates

At the end of April, the share of funding raised in the domestic market from households, businesses, and state and local budgets amounted to 81.7% of all banking sector liabilities. It has been growing for more than a decade and has once again reached new record highs. Retail deposits make half of all liabilities to clients. For the third year running, share of state-owned enterprises' and budget funds have stood as high level as around 11% of total liabilities, driven by the improved financial standing of state monopolies and by the growth in the liquidity of local budgets due to decentralization. Share of NBU loans shrank to 0.9%, the lowest since 2008.

The weak demand for FX liabilities brought down interest rates on them and limited external borrowing

Demand for FX funding is low due to the slow recovery of FX lending. This pushes down interest on FX deposits. The rates have been at historical lows for three years now. Currently, 12-month dollar retail deposits yield an interest rate of 3.2%. However, this does not impede inflows of foreign currency from the domestic market. At the end of April, FX funds from residents were three times the amount of those raised from non-residents. Currently, clients' FX deposits fund 88% of financial institutions' FX assets.

The cost of FX funding in the domestic market is two to three times lower than on external markets. Thus, the banking sector's liabilities to nonresidents have been shrinking for the fourth year running. Following the partial repayment of USD 0.9 billion in Eurobonds by Ukreximbank and Oschadbank, the banking sector's gross external debt decreased to approximately USD 5 billion – the lowest in more than 13 years.

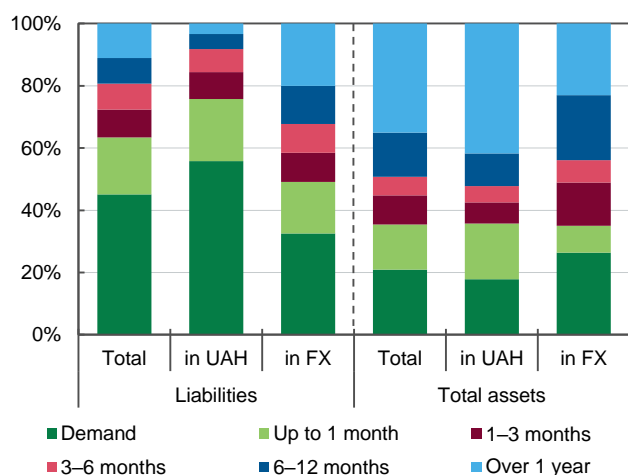
At the end of April, FX liabilities were 1.2 times FX assets. However, state-owned banks closed their short-term currency positions with domestic government USD-indexed bonds. Taking into account these securities, the sector's FX position was practically balanced.

For the third year running, the net loans-to-deposits ratio stays close to 60% after declining on the back of restructuring, write-offs, and loan repayments, along with an increase in deposit volumes. This is a fairly low reading in the international context. This is due to the temporary replacement of provisioned exposures at state-owned banks, in particular PrivatBank, with domestic government bonds received as part of their capital injections.

Most of the growth of funds is in current accounts

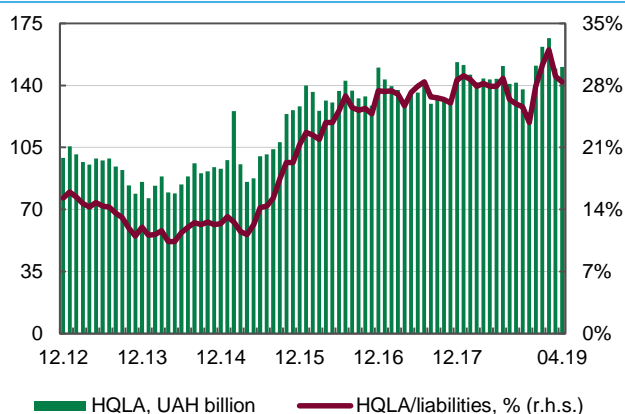
Intensive hryvnia lending, especially consumer lending, is driving the high demand for hryvnia funds. Thus, at the end

Figure 3.5.4. Breakdown of total bank assets and liabilities by time to maturity, as at 1 May 2019



Source: NBU.

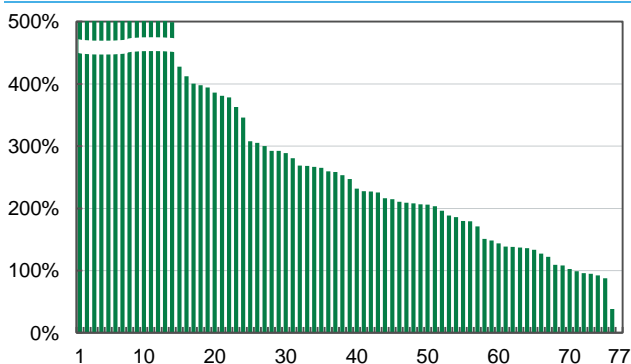
Figure 3.5.5. High-quality liquid assets* (HQLA) at private banks, UAH billion



* Includes domestic government bonds, certificates of deposit, cash, correspondent accounts with the NBU, with the exception of mandatory reserves, and correspondent accounts in foreign banks with an investment-grade rating.

Source: NBU.

Figure 3.5.6. Compliance with the all-currency LCR* as at 1 May 2019



* 100% is the minimum acceptable value of the LCR with which banks must comply beginning in December 2019.

Source: NBU.

of April, the volume of hryvnia household deposits increased 13.8% yoy, and since the beginning of the year – by 6.3%. Meanwhile, businesses' hryvnia deposits have been more volatile. Their volume has grown 4.2% yoy but has fallen in seasonal terms by 4.3% since the beginning of the year. In response to this, banks have kept deposit rates high for large corporations and the government, which have the potential to provide significant amounts of funding in short order.

At the end of April, the volume of on-demand hryvnia retail deposits grew 20.5% yoy, while term deposits increased only 8.5% yoy. The reason for the difference in growth rates is the significant regular cashless receipts in payroll accounts, pension accounts, and other revenues, which account for 45% of the total inflow of retail deposits. Thus, the share of current accounts in retail deposits remains high at 37.4%. Another third of the proceeds credited to retail accounts is in cash. This is a rather volatile, hard-to-predict source of funding. The development of cashless payments and the gradual de-shadowing of the economy will help increase the volume of funds in household accounts. However, this is always a short funding resource that creates risks.

At this time, there is a 12 pp spread between hryvnia and FX annual deposit rates. That encourages households to save in hryvnia, rather than in foreign currencies. Meanwhile, there is less than a 1 pp difference in short- and long-term deposit rates. That is too little for households to opt for longer-term deposits. As a result, there have been no fundamental shifts in the term structure of deposits over the past few years. 6-month deposits remain the most widespread of all term deposits. At the end of April, liabilities with a residual maturity of up to 1 month accounted for 63% of all liabilities and 76% of hryvnia liabilities. This is high, because, as before, 65% of the assets have a residual term of more than 1 month.

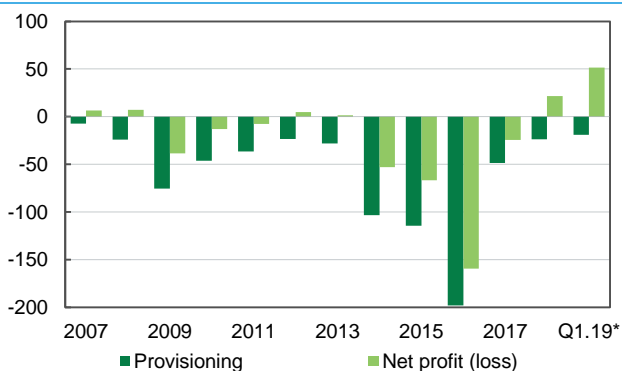
Investments in government bonds currently make increasingly attractive alternative to deposits, especially by households holding large deposits. Government bonds yield higher interest income than deposits, and coupon payments are not taxed. So far, the volumes of these investments are insignificant, at UAH 9.5 billion, but growing rapidly: as of the end of May, they grew 3.2 times yoy.

The current structure of liabilities makes the sector vulnerable to potential liquidity shocks. Therefore, banks should keep sufficient amounts of high quality liquid assets to cover possible outflows of funds. At the end of April, private banks' ratio of HQLA to liabilities stood at 28.4%. Effective June 1, the liquidity coverage ratio (LCR) grew to 90% in all currencies and in FX. As of 10 June 2019, only one small bank did not comply with the LCR in all currencies, while all banks complied with the LCR in FX. At this time, the LCR ratio exceeds 200% for banks accounting 57% of sector's net assets. Thus, the sector is highly liquid and has a sufficient safety margin to fully meet its obligations in the event of shocks.

3.6. Profitability Risks

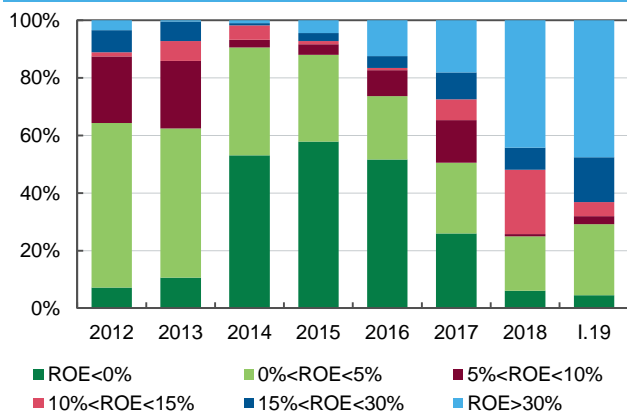
The banking sector’s operating efficiency has improved materially, with robust profits for two consecutive years. Banks that account for more than half of the sector’s net assets have ROA of more than 3% and ROE of over 30%. For Ukraine, these are record highs. The strong results have been driven mainly by a high net interest margin and growth in fee and commission income on the back of stronger demand for banking services. Net interest income is soaring due to the rapid growth in retail lending. Cost of credit risk is low. Administrative expenses are on the rise but do not pose a threat to the sector’s profitability. The banking business will likely continue to benefit from the favorable conditions in the coming quarters. However, profitability will normalize over time, declining from current high levels. Banks should include this development in their forecasts and plans.

Figure 3.6.1. Profit or loss of the banking sector, UAH billion



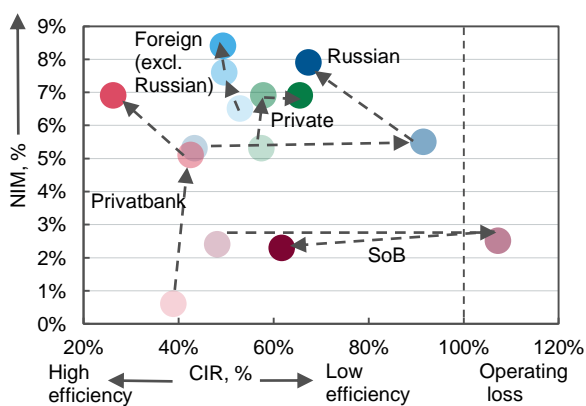
* Annualized.
Source: NBU.

Figure 3.6.2. Banking sector’s assets by return on equity (ROE) of banks



Source: NBU.

Figure 3.6.3. Operating Cost-to-Income Ratio (CIR) and net interest margin by bank groups*



* The start of the arrow shows data for Q1 2017, the arrow’s midpoint shows data for Q1 2018, and the arrow’s endpoint arrow shows data for Q1 2019.
Source: NBU.

Banks have been profitable and efficient for two consecutive years

In Q1, the banking sector’s net profit increased 48.8% yoy to UAH 12.9 billion. Out of 77 banks on the market, 69 generated profits. Twelve financial institutions had ROE of over 30%. Cumulatively, these banks accounted for nearly half of the sector’s assets. That group includes PrivatBank and mostly international financial groups. Banks with ROE above 10% held almost 70% of the banking sector’s assets. These profitability rates are record-breaking for Ukrainian financial institutions. The results have been driven by improved operating efficiency and a substantial drop in provisioning.

However, as of the end of Q1, 10 banks still reported operating losses before provisioning. Those banks accounted for less than 2.7% of the sector’s net assets, and therefore did not pose significant risks. In addition, half of these financial institutions were able to generate net profit after releasing provisions.

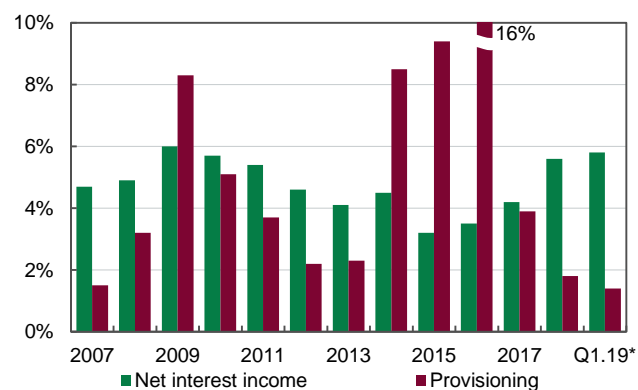
Net interest income and net fee and commission income made up 84.3% of banks’ operating income. The sector’s overall operating efficiency increased considerably from last year, with a 47.6% ratio of operating costs to income (CIR) in Q1. The improvement came across all groups of banks, except banks with private Ukrainian capital. The improvement at PrivatBank was substantial. Two other state-owned banks generated operating profits after reporting operating losses last year.

Conditions are currently favorable for the sector: the penetration level of banking services and the share of cashless payments are growing rapidly, and the economy is coming out of the shadows. Moreover, after the banking system cleanup of 2015–2017, there are few underperforming financial institutions. All of this has facilitated the growth in the banking sector’s profitability. According to the NBU, the high operating efficiency and profitability will last over the medium term. However, profitability will normalize and decrease over time, and banks should include that development in their forecasts and plans.

Net interest income is at historic highs, while provisioning is at around its lowest levels

The net interest margin of Ukrainian banks widened to 5.8% in Q1 2019 from 3.2% in Q1 2015. It has exceeded 5% for two consecutive years. Three factors underpin that trend: a wide spread between interest rates on retail loans and

Figure 3.6.4. Ratio of net interest income and provisions to net assets



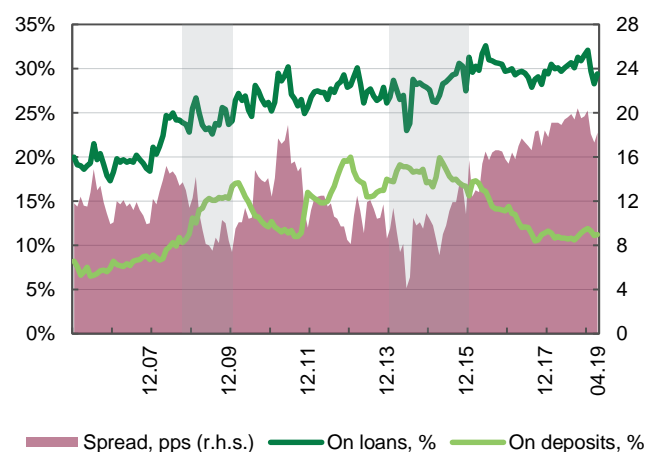
* Annualized.

Source: NBU.

deposits, strong demand for retail loans, a high share of domestic government bonds in bank assets.

Since the crisis of 2014–2015, bank funding has been growing steadily. Funding is enough to cover all the needs related to loan portfolio growth. This has enabled large cuts in interest rates on retail deposits and in the overall cost of funds. In the meantime, financial institutions have not reduced retail loan rates due to the robust demand for those loans. As a result, the interest spread remains at a record high in the retail segment, and this is expected to continue at least for a few more quarters. Over the medium term, that spread is likely to narrow as price competition for quality borrowers between banks rises. However, the current conditions are typical: historical data show that spreads rise after crises and then decline.

Figure 3.6.5. Interest rates on new hryvnia retail loans and deposits

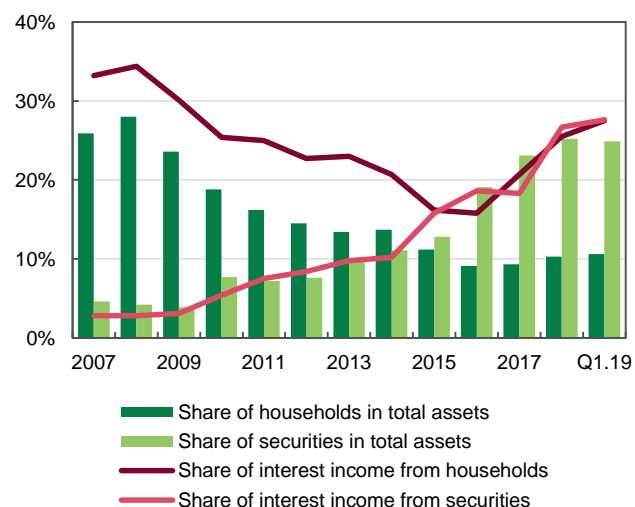


Crisis periods (when real GDP declined both in quarterly and annual terms) are marked in gray.

Source: NBU.

The effective rates on unsecured consumer loans are above 30% at practically all banks. As of the end of Q1, retail loans accounted for 18.4% of the banking sector’s loan portfolio, generating 39.2% of loan interest income. Retail lending is growing faster than corporate lending, and this trend is likely to continue for at least the next two years. That is driving an increase in the share retail loans have in total loan portfolios. As a result, the interest margin will remain high even if the overall level of interest rates declines. However, consumer lending does bring risks: short-term loans may be quickly repaid in crisis periods with no possibility to replace them immediately with loans in other segments. This would lower interest income.

Figure 3.6.6. Impact of retail lending and investment in securities on the structure and profitability of banks’ portfolios, %

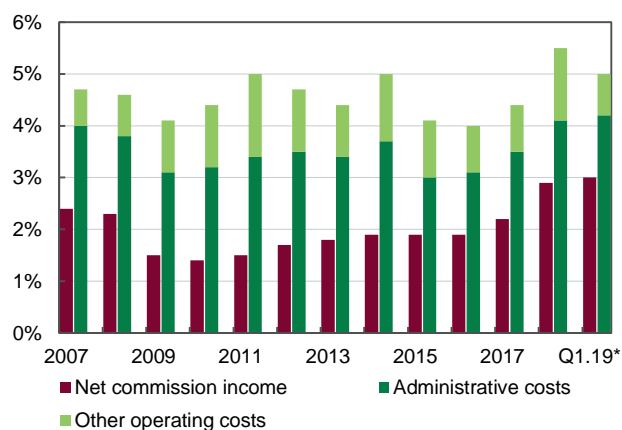


Source: NBU.

Ukrainian banks hold large amounts of domestic government bonds in their portfolios. The lion’s share of the bonds are held by PrivatBank, Oschadbank, and Ukreximbank, which received government securities under public capital injection. For that reason, domestic government bonds currently account for almost half of assets at state-owned banks and only about 10% at private banks. Coupon payments on domestic government bonds generate approximately 40% of interest income at state-owned banks and 17% at private financial institutions. Since the start of 2019, PrivatBank has turned profitable even excluding income from domestic government bonds. On the other hand, the net profit at both Oschadbank and Ukreximbank relies on this type of income. In the future, the share held by domestic government bond coupon payments in the interest income of state-owned banks will decrease as the government securities are gradually redeemed.

At the moment, the cost of credit risk for Ukrainian banks is near its historical low. In Q1, provisions accounted for around 1.5% of net assets in annual terms. Banks have almost fully provisioned for legacy NPLs, while the quality of new loans is higher. As long as macroeconomic conditions remain stable, the cost of credit risk will remain near the current level. However, banks should be ready to provision more in case of a macroeconomic deterioration. Financial institutions should

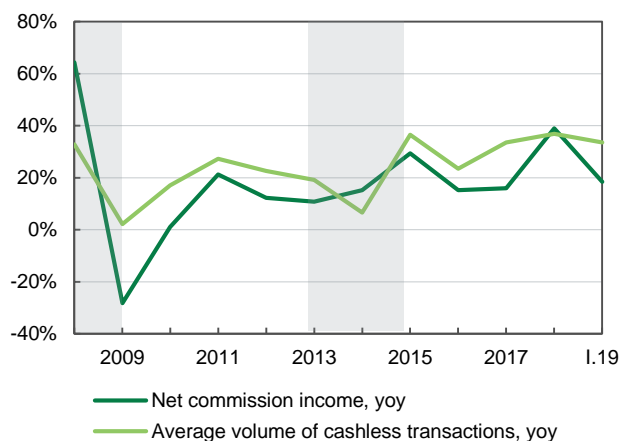
Figure 3.6.7. Ratio of net fee and commission income and operating expenses to net assets, %



* Annualized.

Source: NBU.

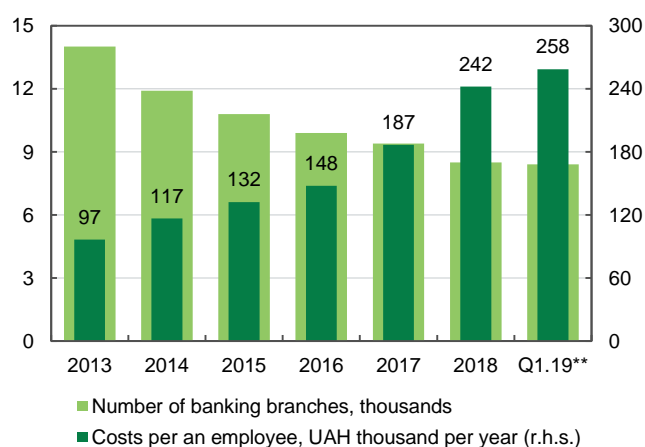
Figure 3.6.8. Impact of the increase in cashless transactions on the change in banks' net fee and commission income, %



Crisis periods (when real GDP declined both in quarterly and annual terms) are marked in gray.

Source: NBU.

Figure 3.6.9. Number of bank branches and personnel costs*



* At banks solvent as of 1 April 2019.

** Annualized.

Source: NBU.

also be conservative in assessing the quality of consumer loans despite the current good debt servicing discipline.

Net fee and commission income covers over 70% of administrative costs

Last year, the banking sector's net fee and commission income was almost two times higher than in 2013. In Q1 2019, that income grew 17.7% yoy. The rapid growth has been driven by increased demand for banking services, growth in the volume of cashless payments, and the surge in consumer lending, which generated substantial fees and commissions. As a result, over the last five years, the ratio of net fee and commission income to net assets has grown by 1.1 pp to 3.0%. This trend is favorable for banks, as fee and commission income typically remains stable even in times of crisis. For example, the crisis of 2014–2015 caused only a slowdown in the growth in fee and commission income; it still grew at nearly 15% in 2016. In Q1, fee and commission income covered 70.8% of administrative expenses, the highest level in more than a decade.

Administrative expenses grow, despite the optimization of bank networks

From the start of the 2014–2015 crisis, banks have optimized their branch networks: the number of branches of banks currently operational has fallen by more than a third. State-owned banks (excluding PrivatBank) have been most active, having closed 51% of their branches. Nevertheless, administrative expenses have increased significantly at financial institutions and now make up around 4.2% of the sector's net assets. They were last seen at similarly elevated levels prior to the crisis of 2008–2009. The increase in administrative expenses is mainly due to two factors:

- wage growth on the back of fierce competition for highly skilled labor (in Q1, the average salary in the banking sector almost doubled from 2016);
- substantial investments in information technology aimed at improving the quality of banking services and introducing new algorithms into the risk management system.

Administrative expenses will continue growing rapidly, but their correlation with banking sector assets is already close to the long-term equilibrium.

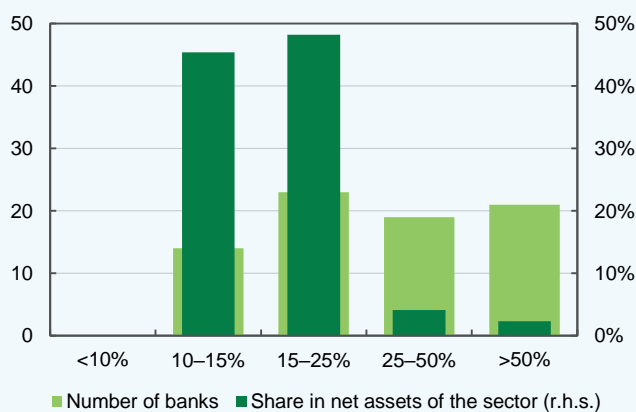
Box 4. Banks Should Use High Current Profits to Increase Capital

Capital requirements for banks will rise significantly in the future. The capital conservation buffer will come into force first, and other buffers will be introduced later. The regulatory capital structure will change and the list of risks to be covered with capital will expand. Banks should start increasing capital now to ensure compliance with the looming new requirements. As the banking sector has been posting record profits for two years running, it is the right time to raise capital requirements in 2019 and the coming years. Banks will be able to freely accumulate capital using current profits.

A bank's capital adequacy is the main sign of its solvency. Capital is of much greater importance for banks than for nonfinancial companies. That is because banks take deposits from households and businesses, few of whom are professional investors, meaning they may not be able to properly assess investment risks. Therefore, the regulator sets minimum capital requirements for banks as a way to protect depositors.

In line with the current requirements, banks must maintain the core capital adequacy ratio at 7% of risk-weighted assets and the regulatory capital adequacy ratio at 10%. Presently, banks are on the safe side in general: as of the end of May, the banking sector had an average common equity adequacy of 13% and a 18% regulatory capital adequacy. More than half of all banks had the latter ratio of over 20%.

Figure B.4.1. Breakdown of banks' capital adequacy as of 1 May 2019



Source: NBU.

However, the high capital adequacy does not mean that banks have a capital surplus. Those requirements will be raised significantly in the future. For example, a number of buffers based on core capital elements (elements of tier 1 capital after the change in capital structure) will be added to the minimum capital adequacy requirements. The first buffer to be introduced will be a capital conservation buffer of 0.625%. It will be introduced from the start of 2020 and will apply to all banks. The buffer will grow gradually to 2.5% by the start of 2023.

Later, the systemic importance buffer will be launched. The list of systemically important banks is to be expanded this

year. Those banks will have to ensure a buffer of up to 2% depending on the degree of their systemic importance.

If needed, the NBU can introduce the countercyclical capital buffer. Its size will vary depending on the stage of the financial cycle: it will rise in periods of intensive lending and debt accumulation and decline during recessions. This way banks will use accumulated capital to absorb losses without breaching requirements. The NBU has no plans to activate the countercyclical capital buffer in the coming years, as the economy's debt burden is currently low and the lending recovery is progressing at a moderate pace. However, the NBU could set this buffer at up to 2.5% in the future.

Another change in banking regulation will see the list of risks that are to be covered with capital expanded. According to current requirements, banks must maintain capital to cover unexpected credit risk losses and potential losses from open currency positions. However, these requirements will change as well. First, banks will have to take into account the need to cover operational risk when calculating capital needs. Later, the NBU will require banks to also cover market risk, in line with Basel recommendations. Assets weighted on operational risk can account for up to 20% of all risk-weighted assets. That would mean that core capital adequacy could decline materially for some banks as they account for this risk.

The regulatory capital structure will also be brought in line with international requirements. Capital will be divided into Common Equity Tier 1, Additional Tier 1 Capital, and Tier 2 Capital, all based on capital quality. The transition to the new capital structure will also bring additional prudential filters: capital will be adjusted for components that cannot absorb losses and which do not improve a bank's financial resilience. The new prudential filters may have a major impact on the capital adequacy of some banks.

All else being equal, all the changes mean banks will have to maintain more capital (given no change in assets). This is needed to make banks more resilient to crises and to allow them to absorb large losses. The NBU encourages banks to use their high current profits to accumulate capital. Top managers and shareholders must carefully assess the distribution of earnings via dividend payments. Prudent dividend policies and long-term capital planning will help the majority of banks to meet the new requirements easily.

Box 5. The Dividend Policy of State-Owned Banks Needs to be Revised

The NBU plans to raise capital requirements gradually. That may make it more difficult for state-owned banks to meet the requirements, as their capital adequacy is currently close to minimum levels. This means state-owned banks will need to increase capital. However, increasing capital with profit is problematic for state-owned banks as they are required by law to transfer profits to the state budget. In addition, two state-owned banks are just barely profitable. Therefore, the current approach of dividend distribution by state-owned banks should be revised.

In previous years, state-owned banks needed large capital injections from the state. In 2014–2017, the government spent 8.7% of GDP to support state-owned banks. Two-thirds of that was spent on the PrivatBank nationalization. The rest was mostly used to increase capital at Oschadbank and Ukreximbank. Stress testing in 2018 revealed the need for additional capital at those banks under an adverse scenario. This is a sign that they need to build an additional capital cushion.

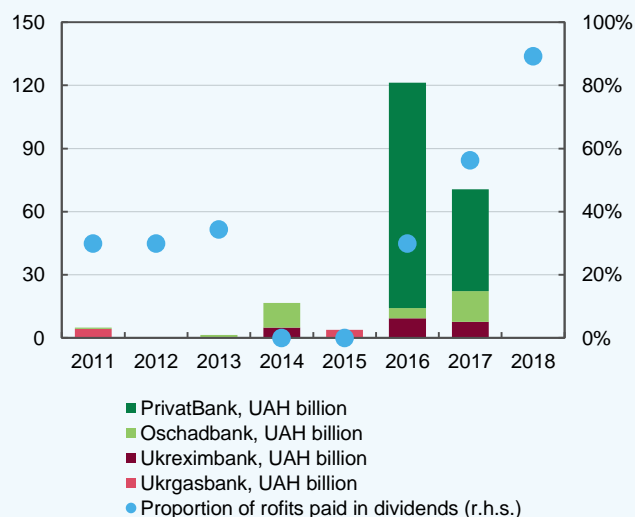
At the moment, the three largest state-owned banks have core capital adequacy ratios at 8%–10%. This meets the current requirement of 7%. However, requirements for bank capital will change dramatically over the coming years (see Box 4. Banks Should Use High Current Profits to Increase Capital). In particular, the minimum requirements for core capital adequacy at state-owned banks will rise to 11.5% due to introduction of buffers. Changes in the structure of regulatory capital and a wider range of risks to be covered with capital will also drive the increased need for capital.

This will require state-owned banks to boost capital. This is most easily done using profits. Last year, state-owned banks earned UAH 14.6 billion, with PrivatBank accounting for 90% of that total. However, the Cabinet of Ministers approved a decision to transfer almost all of last year's profit to the budget via dividends. That means state-owned banks will not be able to increase capital using earnings.

According to the Law of Ukraine *On State Property Management*, they must pay out at least 30% of profits in dividends. In past years, after generating profits, state-owned banks diligently transferred dividends to the budget as required. Until 2016, around 30% of profits were required as dividends to the budget. That figure doubled in 2017 and grew to 90% in 2018.

Even in those years when they needed to increase capital, state-owned banks still continued to transfer dividends to the budget. This served as a redistribution of funds between banks and the budget: banks received capital in the form of domestic government bonds and paid dividends in cash to the state budget.

Figure B.5.1. Cost of increasing capital at state-owned banks and the proportion of their profits distributed as dividends



Source: NBU.

The Law of Ukraine *On Banks and Banking* provides that dividend payments by banks can be restricted if they threaten the financial stability of the financial institutions. However, the dividend policy at state-owned enterprises is also regulated by law. This explains the different logic behind the profit distribution at state-owned banks.

Not only does withdrawing profits from a financial institution in the form of dividends affect its financial resilience, it also limits its growth potential. Business expansion and investment in new projects both require a sufficient supply of capital. Therefore, operating at close to minimum capital requirements reduces the development potential of banks.

As any other bank owner, the state is interested in the profitability of its financial institutions and in receiving income from equity ownership. However, it is no less important to maintain their solvency in order to avoid incurring additional costs to support them in the future. Therefore, capital at state-owned banks should be increased. This is crucial because the state-owned banks are among the five largest banks in Ukraine, with three of them currently classified as systemically important. Financial stability in Ukraine depends on those banks being sufficiently capitalized. For that reason, the profit distribution approach for state-owned banks must be changed to require them to distribute profits only if they generate excess capital.

3.7. Changes in the Regulatory Environment

An entirely new currency regulation system was introduced in H1 2019, aimed at gradually liberalizing the FX market. A risk-based approach was introduced in currency supervision. The Bankruptcy Code of Ukraine came into force, establishing a legal framework to resolve existing problems related to insolvent legal entities and individuals.

The FX regulatory framework has fundamentally changed

The Law of Ukraine *On Currency and Currency Operations* came into force on 7 February. The law introduced a completely new liberalized system for currency regulation made of eight foundational resolutions by the NBU, which replaced 56 previous regulations. The system deregulated investment, simplified cross-border currency transactions, and allowed a wider range of currency transactions. A number of FX market restrictions were eased. However, the NBU reserved the right to introduce safeguard measures if the stability of the financial system is threatened. Since the start of the year, the NBU has eased around 30 currency restrictions, including the following:

- doubled the maximum settlement period for export/import transactions to 365 days and eliminated the previous sanctions for violating that requirement (loss of the right to conduct foreign trade)
- canceled the requirement for businesses to form hryvnia reserves prior to purchasing foreign currency
- increased the limit on the repatriation of dividends from USD 7 million to EUR 12 million
- reduced the foreign currency surrender requirement from 50% to 30%
- lifted restrictions on the use of foreign accounts by resident legal entities
- allowed individuals to purchase up to UAH 150,000 in foreign currency online per day
- increased the limit on FX remittances by individuals out of Ukraine without opening a bank account from UAH 15,000 to UAH 150,000 per day
- canceled the requirement to register foreign borrowings
- replaced individual currency licenses with a convenient system of e-limits that requires no permissions from the NBU
- canceled currency licenses for stock market participants and eased currency license requirements for life insurance companies

The NBU has transitioned from a system of broad controls over each transaction to a system of currency supervision that operates on a principle of “more risk, more scrutiny; less risk, less scrutiny.” This means that the procedure for determining corrective measures for violations identified by the NBU during inspections will become more flexible and transparent. The currency liberalization is to continue and all currency restrictions will be gradually lifted, conditional on an improvement in macroeconomic conditions and the adoption of the “Split” and BEPS laws.

New mechanisms were introduced to deal with borrower insolvency

The Bankruptcy Code of Ukraine entered into force on 21 April and will become fully operational from 21 October. The code introduces a procedure for restoring the solvency of individuals. From now on, borrowers in a poor financial situation can file for bankruptcy. This triggers a procedure to restore the solvency of an individual borrower, under which a bankruptcy trustee helps the borrower resolve his or her financial problems. It is noteworthy that the borrower – not the creditor – initiates the bankruptcy procedure.

The restructuring of FX bank loans has also been addressed. In December 2014, a moratorium was imposed on foreclosing on real estate from borrowers who defaulted on their obligations under FX mortgages. The moratorium will be lifted one year after the code fully enters into force.

The bankruptcy procedure for legal entities will become more effective and transparent; it will take less time and the assets of bankrupt companies will be sold exclusively through electronic auctions. The mechanisms introduced by the code will reduce creditors’ cost of debt recovery. This will encourage the development of bank lending.

Bank registration and licensing procedures have also been improved

In December 2018, the NBU completed a comprehensive review of licensing processes and adopted the new *Regulation on Bank Licensing* (No. 149). It broadens the scope of the NBU’s ability to employ professional judgement when licensing banks. The regulation introduced the following key changes:

- defined detailed criteria for assessing the financial standing of legal entities and personal property
- granted the NBU the right to deem an entity’s business reputation as flawed even if it finds no sign of the indications explicitly defined in Regulation No. 149 but finds other factors that can be judged as a sign of the entity’s flawed business reputation
- defined the specifics for approving different types of increases in or acquisitions of qualifying holdings in banks
- banned banks from managing their own shares and the shares or stakes of legal entities in their ownership structures (any such management activities must cease within one year)
- sets additional requirements on the professional aptitude of bank top managers and additional independence criteria on independent supervisory board members.

Improved procedures for assessing bank ownership structures

In April, the NBU approved amendments to the Regulation on the Procedure for Submitting Information on Bank Ownership Structure. The amendments expanded the list of conditions under which a bank's ownership structure can be recognized as nontransparent. That includes when entities recognized by the NBU as owners of qualifying holdings are part of a bank's ownership structure but have not received the NBU's approval to acquire those holdings. In addition, the regulation was supplemented with criteria for assessing the financial standing/property of entities that belong to the ten largest ultimate beneficial owners within a bank's ownership structure.

Banks must disclose a wider range of data

Since the start of 2019, banks must publish the following on their websites: the LCR value; credit risk broken down by borrower class; the corporate loan portfolio, including NPLs, broken down by economic activity; and the retail deposit portfolio broken down by amount and potential compensation from the Deposit Guarantee Fund. In addition, at the end of last year, the NBU for the first time posted information about the results of its annual assessment of resilience for every bank on its official website.

Implementation of the procedure for banks to use information from the Credit Register

When measuring credit risk, a bank will be required to assign the lowest borrower class to an individual borrower who has defaulted with other banks based on information from the Credit Register. Also, a bank must downgrade a legal entity borrower to the lowest class if the Credit Register has information about the entity's default with another bank or if there is a high probability of default. The new requirements will improve the quality of credit risk assessment by banks. From 1 July, banks will apply them in test mode and the requirements will become mandatory from 1 December.

Improved accessibility to hryvnia government securities for foreign investors

In March, Clearstream and the NBU signed an agreement to open an international depository account with the NBU depository. Thus, the Ukrainian securities market joined the international market on 27 May. Providing foreign investors with more access to Ukrainian government securities will foster long-term investment in hryvnia instruments, increase inflows of foreign currency to the country, and reduce FX risks. Making settlements via Clearstream will guarantee compliance with international standards and cut operating costs for investors.

Recommendations

Financial stability requires smooth cooperation between all financial market participants – the NBU, banks, nonbank financial institutions, and market regulators – as well as the active support of state authorities. Below, the NBU makes recommendations to state authorities and banks and communicates its goals and plans for 2019. Most of the recommendations from the previous financial stability reports remain relevant.

Recommendations for state authorities

Speed up the adoption of top-priority laws for the financial sector

In H1, parliament did not adopt any law that was deemed a priority for the development of the financial sector. The bills mentioned in the previous Financial Stability Report are still pending at the parliament: the bill *On Consolidating the Regulation of the Financial Services Market* No. 2413a, which is designed to enhance the overall effectiveness of financial market regulation, and the bill *On the Protection of the Rights of Financial Services Consumers* No. 2456-д, which aims to bolster the confidence of financial services consumers in the banking system.

The NBU also seeks improvements in the AML law, the settlement and money transfer law, and in the banking law (amended Law *On Banks and Banking*). The NBU is ready to work with the parliament to ensure that the required draft laws are passed.

Resume full-scale cooperation with the IMF

The IMF's monitoring mission that visited Ukraine in May positively assessed Ukraine's monetary and fiscal policies and reiterated its willingness to continue to work with Ukraine once the parliamentary elections are held and a new government is formed. Taking into account the large list of reforms that Ukraine needs to enact and the high vulnerability of the Ukrainian economy to external risks, the NBU deems it appropriate to launch a new long-term program of cooperation with the IMF, probably before the current Stand-By program is completed.

Pass legislation that will govern profit distribution at state-owned banks

This year, state-owned banks must transfer 90% of last year's profit to the state budget, even though the capital adequacy at some of the banks are just slightly above the minimum required ratio. In 2020-2021, these banks will be required to build up capital conservation buffers and buffers for systemically important banks. After paying dividends, state-owned banks will not be able to form these buffers, which creates a risk that they will not be able to meet capital adequacy requirements in the future.

The government should adopt a regulation to govern the handling of NPLs by state-owned banks

In December 2018, the Financial Stability Council approved the recommendations (guidelines) for state-owned banks on NPL work-out. In early January, these recommendations were published on the websites of the NBU and the Ministry of Finance. The NBU plans to adopt required regulation on management of nonperforming exposures. After that, the Cabinet of Ministers will have to issue an additional decree that will govern the resolution of nonperforming exposures at state-owned banks and launch a mechanism for clearing their balance sheets of NPLs.

Bring down the ratio of FX-denominated public debt

The ratio of the FX-denominated public debt is still high at 68%, although it saw a decrease since the start of this year. According to IMF criteria, this level is associated with high risks. Under depreciation scenario, the cost of servicing that debt soars in hryvnia terms, thus requiring raising additional financing. Therefore, public debt dollarization is a substantial risk for both public finance and financial stability in general. The government should set targets for borrowings in foreign currency, gradually decreasing them to levels observed in Central and Eastern Europe. The government should also develop secondary market for hryvnia-denominated debt instruments.

Recommendations for banks

The most important recommendations that were issued to banks in previous financial stability reports remain relevant. These include:

- Speed up the NPL resolution
- Adequately assess borrower credit risk and use the NBU's credit register
- Decrease the dollarization of loan portfolios
- Actively attract and retain more stable, longer-term funding.

Introduce a system of risk management according to the schedule outlined in Resolution No. 64

Last year, the NBU adopted Resolution No. 64, approving a regulation on the system of risk management at Ukrainian banks and groups of banks. The regulation imposes mandatory minimum requirements for the functioning of a comprehensive, adequate, and effective system of risk management based on the principles established by the Basel Committee on Banking Supervision and best international practices.

In Q1 2019, the banks brought the organizational structure of their risk management systems in line with the resolution's requirements. They issued a number of internal regulations that aim to strengthen their risk management systems. The regulations covered behavioral (ethical) issues, prevention of conflicts of interest and related party transactions, confidential reporting about inappropriate behavior, training of staff and improvement of their risk management skills. The NBU expects that by the end of 2019, banks will have implemented a risk management strategy, policies, procedures and processes for managing each type of significant bank risk, and will have completed the preparation of information systems before introducing new risk management systems.

Require banks to allocate robust current profit to build up capital

Capital requirements for banks will gradually increase. From the beginning of 2020, the NBU will introduce a capital conservation buffer of 0.625%. All banks will have to build this buffer, which will gradually increase to 2.5% by 2023. The central bank plans to launch other capital buffers in the future. In addition, the capital structure will be adjusted and the list of risks to be covered with capital will be expanded, as set forth in CRD IV. At first the operational risk will have to be, and with time also market risk. Higher capital requirements to banks will enhance their resilience to crises and ability to absorb large losses.

Adequately assess credit risk from consumer loans

An analysis of consumer lending trends showed that banks were not conservative enough in estimating potential losses from these loans. Banks should make their models for calculating provisions according to IFRS 9 more sensitive to changes in macroeconomic parameters. They should also regularly revise their scoring models and approaches to measuring credit risk. To that end, banks should compile detailed statistics for credit portfolio quality. At the same time, when assessing credit risks, banks should take into account the solvency of borrowers and their debt burden, which is already significant for low-income borrowers.

The NBU's plans and goals

Regulate the NPL resolution

In the near future, the NBU will approve a regulation on resolution of nonperforming exposures at Ukrainian banks. Its provisions will be in line with best European practices and will be based on the ECB's guidance to banks on nonperforming loans (March 2017) and the EBA's guidelines on managing nonperforming and forbore exposures (EBA/GL/2018/06). These requirements are necessary for the effective management of nonperforming exposures. Banks will be required to draw up and implement a strategy and an action plan for management of nonperforming exposures, which will decrease their share and volume.

Finalize requirements for the introduction of a new capital structure

The NBU is finalizing its new regulation on capital structure, in line with the CRR and CRD IV, which are based on Basel III recommendations. The NBU plans to approve the document by the end of 2019. Currently, the NBU and banking community's task force is developing the

methodology for calculating regulatory capital and is conducting test calculations based on the new requirements. However, the full implementation of the regulation requires the Law of Ukraine *On Banks and Banking* to be amended.

Finalize the methodology for calculating the NSFR

Another task force, composed of representatives from the NBU and the banking community, is developing the methodology for calculating another liquidity ratio, the net stable funding ratio (NSFR). This work continues the works-tream of introducing liquidity indicators in accordance with Basel III. The NBU plans to approve the NSFR calculation methodology by the end of 2019 and introduce the new ratio in 2020, taking into account the results of a quantitative impact study. The initial value of the ratio and the period during which the ratio will be introduced will be determined based on test calculations.

Regulate the methodology for calculating capital needs to cover operational risk

According to Basel III, banks must build up capital to cover not only credit but also operational and market risks. In order to take into account all these risk types when calculating capital adequacy ratios, the NBU in 2019 started working on amendments to the methodology for calculating these ratios. By the end of the year, banks will receive new requirements for calculating the capital required to cover operational risk. This methodology will be based on the standardized approach the Basel Committee approved in December 2017. Once this approach is introduced internationally in 2022, it will replace all current methods. In Ukraine, the calculation of capital ratios that capture operational risk will begin in test mode in early 2020. Requirements to hold enough capital to cover operational risk will be fully imposed from 2021 onwards. The NBU plans to establish a long transition period so that banks have plenty of time to raise the required capital without violating regulatory requirements.

Hold the second annual assessment of bank resilience and make these assessments on an ongoing basis

In 2019, the NBU is stress-testing the 29 banks that account for over 93% of banking sector assets. This year, the stress tests are focused on banks' consumer loan portfolios, which have been growing rapidly over the past two years. Consumer credit risks are currently insignificant, but their underestimation and looser lending standards could have a noticeable negative impact. Based on the findings of the stress test, the regulator will determine the required levels of the regulatory capital adequacy ratio (N2) and the common equity adequacy ratio (N3).

Revise the methodology for identifying systemically important banks

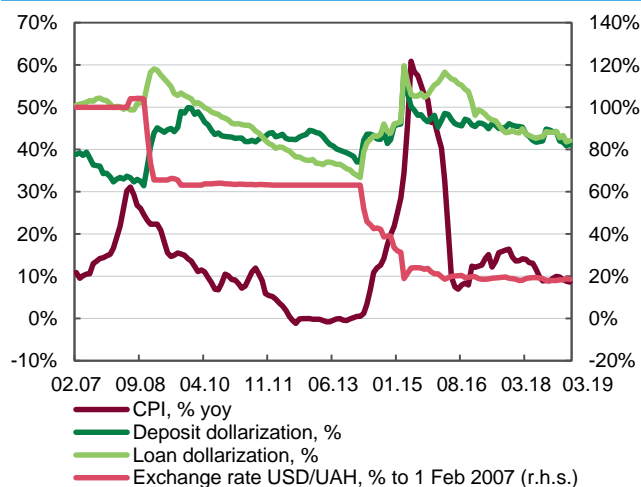
The NBU will soon publish the new approach and criteria it will use annually to determine systemically important banks. The changes take into account the international practice for defining systemic importance. In line with the new criteria, the list of systemically important banks is to be expanded, and the implementation of the systemic importance buffer will be delayed until 1 January 2021.

Special Focus

De-dollarization Is a Prerequisite for Reducing Systemic Risks

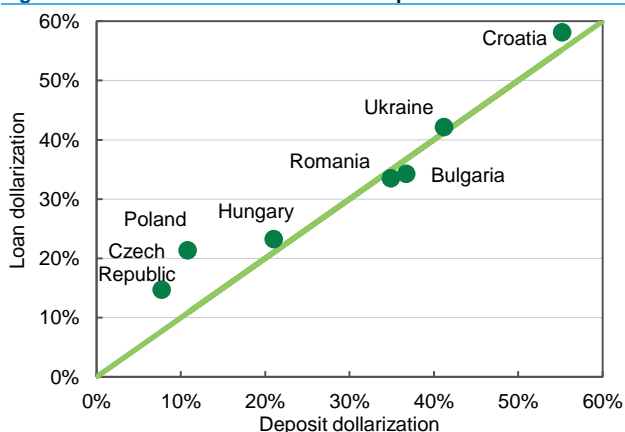
Past economic crises that were accompanied by a depreciation of the hryvnia made foreign currencies a more attractive to the households and to businesses. That promoted high dollarization of Ukrainian economy. Dollarization poses a number of risks. First of all, it reduces the efficiency of monetary policy. The NBU estimates that in economies that are similar to Ukraine's, the natural dollarization level stands at about 20%. Ukraine will approach this level if it maintains its financial stability, and if inflation and interest rates decline. In order to prevent an accumulation of systemic risks associated with high dollarization, the NBU may deploy macroprudential instruments. The large share of public debt denominated in foreign currency poses a significant risk to public finances. In recent months, sales of hryvnia domestic government bonds to nonresidents have been increasing. This will improve the currency structure of public debt.

Figure 4.1.1. Dynamics of the banking sector's dollarization



Source: NBU.

Figure 4.1.2. Dollarization of loans and deposits in March 2019



Source: ECB, NBU.

High dollarization carries significant systemic risk

A high dollarization is characteristic for Ukraine's economy. The share of foreign currency on banks' balance sheets, in public debt, in corporate debt, in households' cash savings, in real estate market settlements is significant. Indirect dollarization is widespread as well. In particular, numerous companies measure wages in foreign currency but pay them in hryvnia.

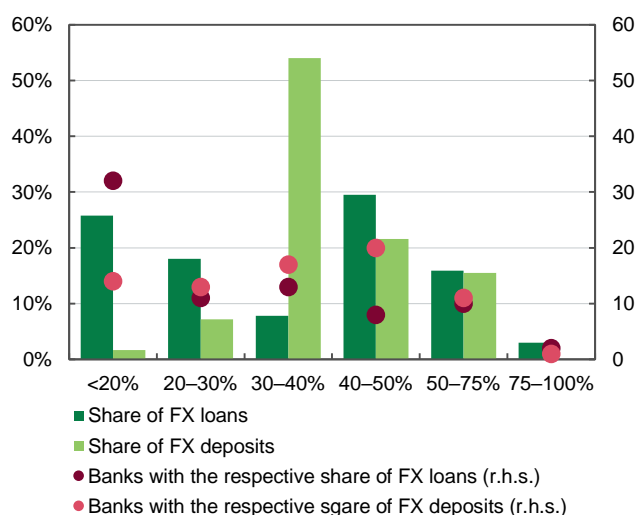
The significant dollarization is a product of frequent periods of macroeconomic instability, volatile inflation, and exchange rate fluctuations. Thus, relying on more stable foreign currencies has been the natural response from households and businesses to crisis-related phenomena.

High dollarization brings a number of negative consequences:

- the monetary policy transmission mechanism weakens, as the key policy rate directly and quickly affects only the hryvnia segment of the financial market. Thus, the effectiveness of the central bank's influence on the economy, in particular that of inflation targeting, is reduced
- the impact of depreciation on inflation intensifies. If prices and wages are pegged to the exchange rate, then depreciation amplifies the effect of the price-wage spiral, which is difficult to stop
- the vulnerability of borrowers and creditors to changes in the exchange rate rises. After a depreciation, borrowers may find themselves facing a significantly higher debt load: banks that lend in FX see credit risk materialized, while the government faces increased risk of sovereign default
- the market risk pertaining to an open currency position increases. Banks and companies with significant currency mismatches suffer losses due to sharp exchange rate fluctuations
- banks experience an increase in their vulnerability to liquidity risk. In crisis times, foreign currency rapidly flows out of the system: in 2014–2015 alone, households withdrew about half of their FX deposits.

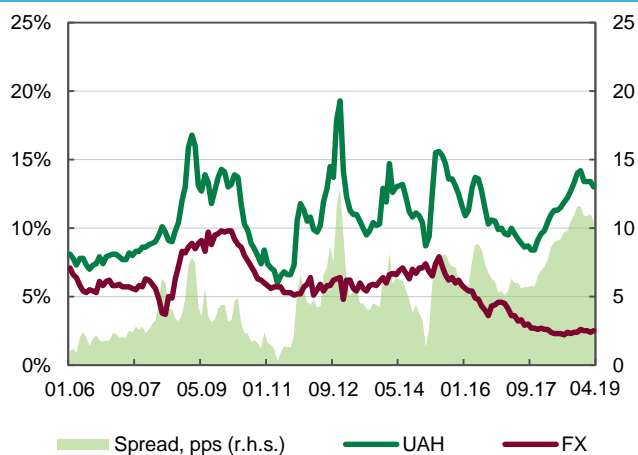
Therefore, when dollarization becomes excessive, central banks and governments are eager to reduce it. However, FX

Figure 4.1.3. Breakdown of banks by share of net loans and deposits in FX



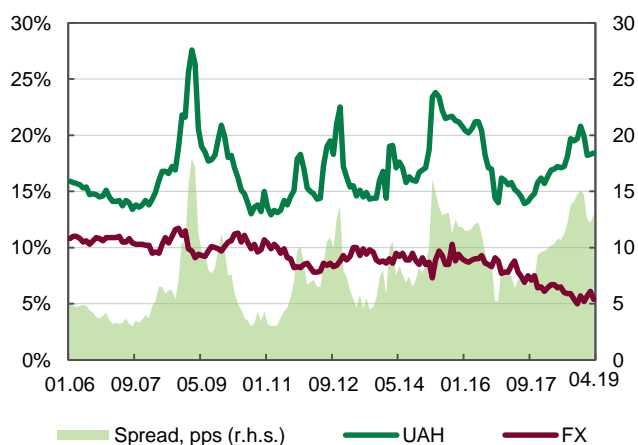
Source: NBU.

Figure 4.1.4. Rates on deposits in domestic and foreign currencies



Source: NBU.

Figure 4.1.5. Rates on loans in domestic and foreign currencies



Source: NBU.

assets facilitate external economic activity, hedging of risks, and diversification of savings. Therefore, policymakers should only aim to reduce dollarization to a certain natural long-term level, rather than eliminate it entirely. According to the NBU, the dollarization of the Ukrainian economy and the financial sector is close to 20% (see Box 6. Estimating the Natural Level of Financial Dollarization).

Following the crises, the banking sector's dollarization declined but is still far from optimal

During the last wave of depreciation, the rate of dollarization of loans and deposits peaked at 60%. It then declined and has remained within the range of 41 - 45% for more than a year. Clients keep funds in foreign currency to avoid losses from depreciation. They prefer to take out foreign currency loans, as they carry much lower interest than hryvnia loans.

Dollarization spiked following each episode of monetary crisis and gradually declined during periods of macroeconomic stability. Today, foreign currency loans and deposits account for 30%–40% of the total portfolio at most banks. Small financial institutions have almost no household and corporate deposits denominated in foreign currency. More than 30 banks practically never issue loans in foreign currencies.

The dollarization rate varies considerably from one bank to another (Figure 4.1.6). Banks with Russian state capital have the highest dollarization rate, but their presence in the market is gradually shrinking. State-owned banks have a massive percentage of foreign-currency loans. Banks that are part of foreign banking groups have the lowest share of foreign currency loans: the share has declined by 15–20 pp since 2014 to near 30% now. The share of foreign currency loans in private banks with Ukrainian capital has gradually fallen below 40%. However, banks still have among their clients many companies that have foreign currency loans, but whose revenues are almost exclusively in hryvnia.

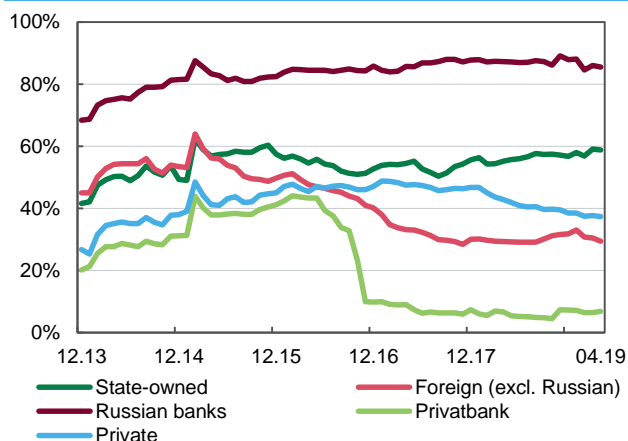
Currently, the dollarization of bank liabilities is declining, driven by a record-high spread between rates on hryvnia and foreign currency deposits. Due to the ban on lending in foreign currency to households and the revival of demand for consumer loans, banks are more interested in hryvnia funds, which raises rates on those funds. Hryvnia deposits will remain attractive, as the difference in rates offsets the risk of a moderate depreciation of the hryvnia. Over time, however, the rate gap will narrow.

If macroeconomic stability is preserved and inflation slows, the natural de-dollarization of loans will continue. Low and stable inflation will significantly reduce the cost of hryvnia loans, and their appeal to borrowers will increase. Meanwhile, the NBU does not expect a significant decline in rates on foreign currency loans to businesses, as they are already at historical lows.

Dollarization of public debt carries a significant risk to public finances

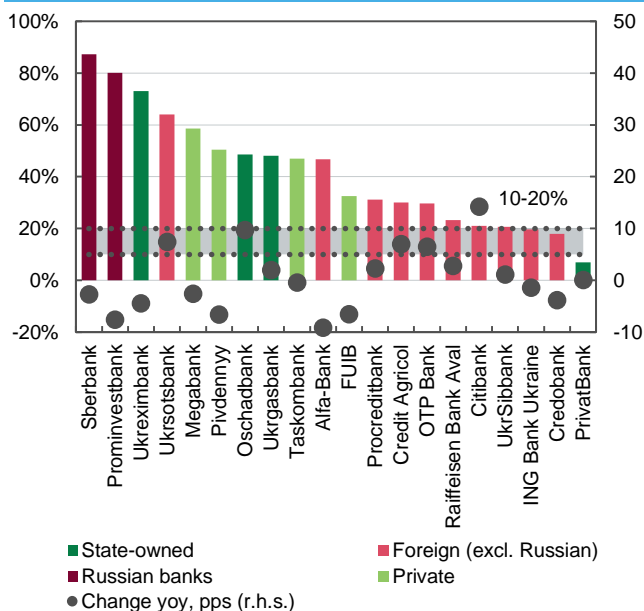
As of the end of April, 68.2% of public and publicly guaranteed debt was denominated in foreign currency. At the

Figure 4.1.6. Dollarization of the net loan portfolio, by bank group



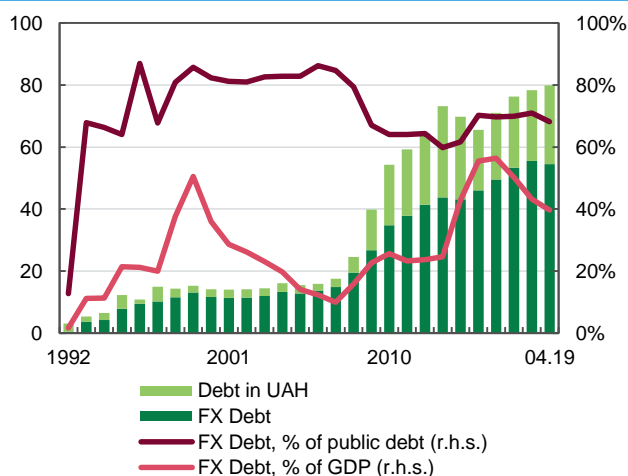
Source: NBU.

Figure 4.1.7. Dollarization of the net credit portfolio by bank as at 1 May 2019



Source: NBU.

Figure 4.1.8. Trend of public and publicly guaranteed debt in terms of repayment currencies, USD billion equivalent



Source: SSSU, MFU, NBU.

end of last year, the foreign currency component amounted to 43.2% of GDP. This poses a significant risk to public finances, as in the event of depreciation, the Debt-to-GDP ratio and the cost of servicing debts in hryvnias increase sharply. As a result, government investment declines, sovereign ratings fall, and the ensuing imbalances have to be eliminated through fiscal consolidation.

Countries set targets for their shares of public debt denominated in foreign currency. The target share is 15-25% in Hungary, no more than 15% in the Czech Republic, no more than 30% in Poland, and 40%–55% in Romania, which plans to join the euro area soon. The IMF uses its own approach¹⁸, under which it has defined the following guidelines for the share of foreign currency debt for emerging markets: low risk – less than 20% of GDP, average risk – 20%–60%, high risk – more than 60%.

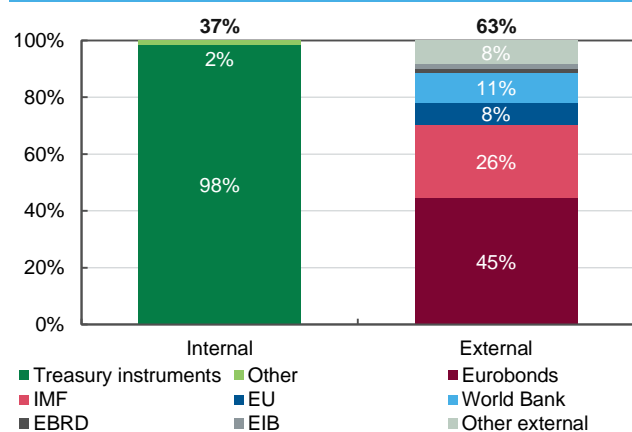
In the past, the government was forced to rely on foreign currency borrowing. In the domestic market, it was impossible to attract sufficient funds, and foreigners' access to it was complicated by currency regulation. Foreign currency debts were considered a more favorable alternative because of a nominally lower interest rate than on hryvnia loans. But due to the materialization of currency risk, the real cost of foreign currency debt may well exceed the interest rate on hryvnia debts. This was observed during all previous crises (1998–1999, 2008–2009, and 2014–2015), when the ratio of foreign currency debt-to-GDP soared.

In January–April, the share of foreign currency debt declined by 2.7 pp yoy, in particular due to the participation of nonresidents that bought hryvnia domestic government bonds. Ukraine's accession to Clearstream further simplifies access for foreign investors to the market for hryvnia-denominated securities. As of 13 June, their portfolio grew to UAH 48 billion – the highest in Ukraine's history. At an auction two days earlier, the government managed to place UAH 3.3 billion of six-year hryvnia domestic government bonds carrying a yield of 15.84%. Nonresidents bought more than half of the issuance.

The arrival of nonresidents in the domestic market for hryvnia debt contributes to a reduction in the cost of that debt, activates the secondary market for government bonds, and leads to an increase in trading volumes in the FX market. The key risk is a massive flight of nonresidents from these securities in the event of a worsening of expectations or the emergence of turbulence in global capital markets. The consequences include additional pressure on the FX market and the growth of yields on government bonds.

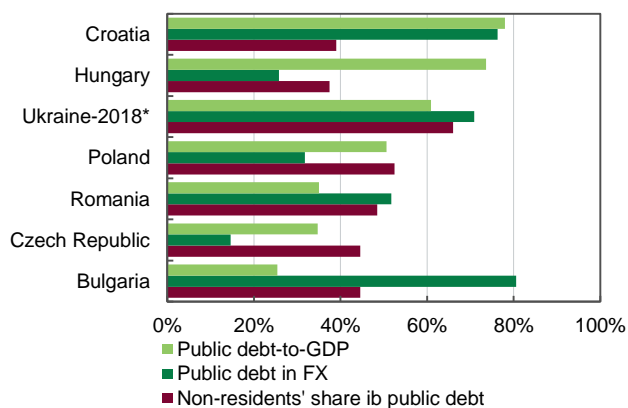
It is extremely important to use the high demand for hryvnia-denominated government debt to replace foreign currency debt while maintaining a moderate budget deficit. The

¹⁸The IMF uses the signaling approach developed by Graciela Kaminsky, Carmen Reinhart, and other authors after the Mexican and Asian crises of 1994–1995 and 1997–1998. This approach calculates threshold values for an indicator that best predicts the emergence of a debt crisis.

Figure 4.1.9. Structure of Ukraine's public and publicly guaranteed debt*

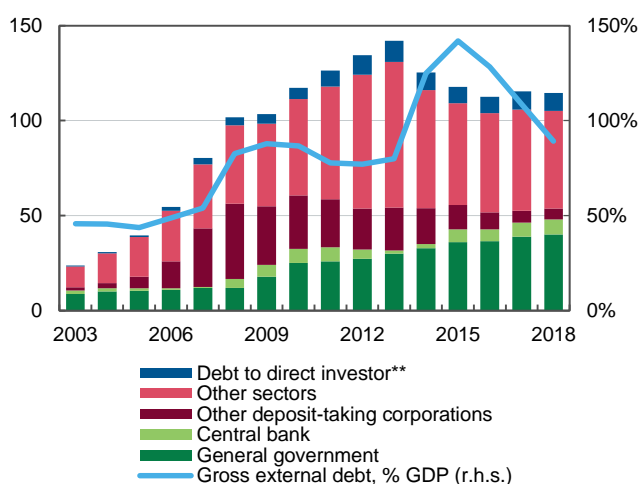
* As of 30 April 2019, total debt amounted to UAH 2,125 billion (USD 79.8 billion); domestic debt held a 37% share and external debt held a 63% share. FX debt accounts for 68% of the total.

Source: NBU, NBU estimates.

Figure 4.1.10. Share of FX public debt and nonresident participation in it in CEE countries, 2017, %

* Public and publicly guaranteed debt.

Source: Eurostat, MFU.

Figure 4.1.11. Structure of gross external debt, USD billion*

* According to the IMF's methodology, Balance of Payments Manual 6, the adjustment of data for 2014 is related to the revaluation of debt securities of companies. From the beginning of 2014, the data exclude statistics for the Autonomous Republic of Crimea, ** Intercompany debt.

Source: NBU.

government should not use the high demand by nonresidents for domestic public debt to increase expenditures.

The share of nonresidents in domestic debt markets in CEE varies across countries: 19% in Romania (in 2018), 19% in Hungary (2019), and 29% in Poland (2018). Nonresidents now account for close to 29% of Ukraine's marketable domestic government bonds¹⁹ (6.3% of all domestic government bonds in circulation).

The private sector's gross external debt has decreased

Over the past few years, Ukraine's gross external debt, unlike its public debt, declined both in absolute terms and relative to GDP. The trend started after 2013, driven by a reduction in corporate and banking debt. If in the future the cost of external borrowing declines, the external debt of the corporate sector can return to growth. Therefore, it is important to create currency risk hedging instruments.

The NBU expects de-dollarization to continue but can stimulate it with its macroprudential instruments

Maintaining macroeconomic and financial stability will largely eliminate the root causes of dollarization. Decreasing this indicator to the natural level of 20% requires time and a successful implementation of inflation targeting, prudent macroprudential policy, and the development of the financial market, in particular the introduction of new, local currency instruments in capital markets.

In order to avoid an accumulation of systemic risks caused by dollarization, the NBU may apply macroprudential instruments in the future. Possible measures include:

- increasing risk weights for FX assets
- tightening requirements for credit risk assessment based on FX assets
- regularly stress-testing banks based on an assumption of a significant depreciation of the hryvnia
- increasing the mandatory reserve requirements for FX deposits
- increasing the LCR in FX.

The NBU believes that the ban on FX lending to individuals, introduced as law in 2009, should remain.

In order to mitigate risks in the public finance sector, the government must continue to reduce the share of FX public debt (primarily through the continuation of tight fiscal policy and the development of the hryvnia debt instruments market). The simplification of nonresidents' access to the market for hryvnia domestic government bonds helps meet this goal. It is important to create a placement schedule avoiding a concentration of redemptions in specific time periods, that may pose risks to the FX market if unfavorable events develop.

¹⁹According to [The Medium-Term Strategy for the Management of Public Debt for 2019–2022](#), the estimated volume of marketable domestic government bonds is UAH 223.8 billion as at the end of the first quarter of 2019. The term *marketable domestic government bonds* refers to all domestic government bonds in circulation except for bonds owned by the NBU and received by state-owned banks as a capital increase.

Box 6. Assessing the Natural Level of Financial Dollarization ²⁰

Some dollarization is normal for an open economy. It supports foreign trade and facilitates reduction in FX risks. The natural level of financial dollarization is the share of financial assets and liabilities in FX that corresponds to the structure of the economy under conditions of macroeconomic stability. The NBU estimates that Ukraine’s natural level is around 20%.

Currently, actual dollarization exceeds 40%. This is driven by a number of legacy factors: the low quality of governance and lack of trust in state policy, prolonged periods of a de facto fixed exchange rate, geopolitical tensions, and macrofinancial instability.

If these factors were to be eliminated, dollarization would mostly depend on macroeconomic factors, especially inflation and the exchange rate. Their impact is measured by the minimum variance portfolio (MVP) model. This model assumes uncovered interest rate parity, while the spread between yields on hryvnia and FX financial instruments meets depreciation expectations. The yields on hryvnia and FX instruments are therefore expected to be equal. When portfolio is built, there remains the risk of future deviations in actual inflation and the real exchange rate from expected ones. According to Ize and Yeyati (2003), this risk is minimized by maintaining the foreign-currency component of the deposit (and loan) portfolio at the following level:

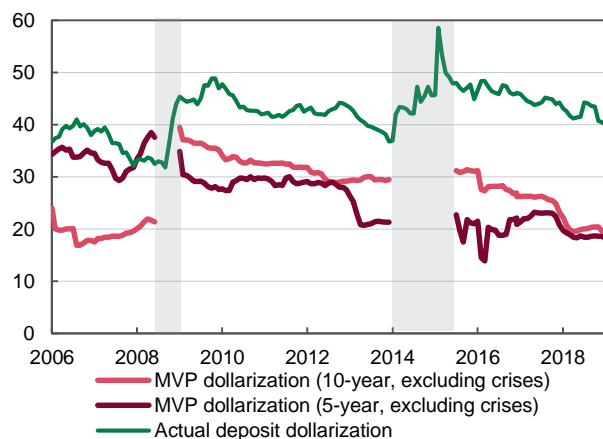
$$\lambda = \frac{(S_{\pi\pi} + S_{\pi s})}{(S_{\pi\pi} + S_{ss} + 2S_{\pi s})}$$

where λ is MVP dollarization, π is inflation, s is the real exchange rate, S_{xy} is the variance-covariance operator. Pursuant to the MVP model, portfolio dollarization declines as inflation volatility decreases in relation to the real exchange rate volatility and vice versa.

MVP dollarization is driven by expected volatility in the real exchange rate and inflation as well as their correlation. Each economic agent has their own expectations, but historical data provides a good reference for the materialization of inflation and exchange rate risks in the future. The calculation of MVP dollarization for Ukraine is based on data for five and ten years, excluding three crisis periods. As a result, the current natural level of dollarization for deposits and loans was estimated at 18%–22%.

The actual level of dollarization was close to the estimated MVP value only in 2006–2008. However, in 2009, its actual level increased on the back of revaluation of FX deposits and loans due to the exchange rate changes. After that, the decline in loan dollarization was held back by a large amount of FX NPLs. Before 2015, there was another factor that made the actual dollarization level deviate from the estimated one: the fixed exchange rate regime that drove expectations for a depreciation of the exchange rate.

Figure B.6.1. MVP dollarization* and actual dollarization, %



* MVP is the minimum variance portfolio model. Crisis periods are marked in gray.

Source: NBU estimates, IFS.

The latest studies estimate the natural level of dollarization in Ukraine at 10%–20%. Even if the necessary economic reforms are implemented and macroeconomic stability is maintained, the high geopolitical risks, the economy’s openness, and other factors will drive the estimates of the natural level to the upper bound at closer to 20%.

Table B.6.1. Assessment of the natural level of dollarization in Ukraine

Source	Result
Actual dollarization in peer countries	An overview of peer countries that apply inflation targeting proves it is possible to attain a dollarization level of 10%–20% (Poland, the Czech Republic, Hungary)
Literature review	For Ukraine, the optimal level of deposit dollarization is 15%. That reflects the hypothetical dollarization under favorable macroeconomic conditions, provided constant structural factors. Della Valle et al. (2018) The autonomous euroization of deposits in Europe and Central Asia (including Ukraine) is 15%–20%. That reflects factors that are not related to MVP, high inflation in the past, and quality of institutions. Geng et al. (2018)
MVP model	FX deposits and loans hold an 18%–22% share.

Source: NBU.

Ukraine can reach this level if macroeconomic and financial conditions remain stable, financial markets develop (in particular, hedging instruments and the stock market), and governance improves on the back of progress in economic reform.

²⁰ A summary of a study by K. Khvedchuk, V. Sinichenko, and B. Topf to be published in the next Visnyk of the National Bank of Ukraine.

Abbreviations and terms

AML	Anti-money laundering	LCR	Liquidity coverage ratio
BEPS	Base erosion and profit shifting	LGD	Loss given default
CAGR	Compound annual growth rate	LtD	Loan-to-deposit ratio
CDS	Credit default swap	LTV	Loan-to-value ratio
CEE	Central and Eastern Europe	MFU	Ministry of Finance of Ukraine
CIR	Cost-to-income ratio	MVP	Minimum variance portfolio
Clearstream	International central securities depository based in Luxembourg and Frankfurt	Naftogaz	National Joint Stock Company Naftogaz of Ukraine
CPI	Consumer price index	NBFI	Non-bank financial institution
CRD IV	Capital requirements directive	NBU	National Bank of Ukraine
CRR	Capital Requirements Regulation	NFSR	Net stable funding ratio
DSTI	Debt service to income ratio	NPE/NPL	Non-performing exposure / loan
EBA	European Banking Authority	OECD	Organisation for Economic Co-operation and Development
EBITDA	Earnings before interest, taxes, depreciation and amortization	OPEC	Organization of the Petroleum Exporting Countries
EBRD	European Bank for Reconstruction and Development	Parliament	Verkhovna Rada of Ukraine (Supreme Council)
ECB	European Central Bank	PD	Probability of default
EL	Expected losses	PFU	Pension Fund of Ukraine
EM	Emerging markets	PrivatBank	Public Joint-Stock Company Commercial Bank "PrivatBank"
EU	European Union	Regulation No 351	Regulation of the NBU of 30 June 2016 No 351 approving Regulation on credit risk calculation by Ukrainian banks
Fed	US Federal Reserve System	ROA	Return on assets
FSI	Financial Stress Index	ROE	Return on equity
FX	Foreign currency/exchange	SoE	State-owned enterprise
GDP	Gross Domestic Product	SSSU	State Statistics Service of Ukraine
HQLA	High-quality liquid assets	STSU	State Treasury Service of Ukraine
IFI	International Financial Institutions	TTM	Trailing Twelve Months
IFRS	International Financial Reporting Standards	VAT	Value added tax
ILO	International Labor Organization	US	United States of America
IMF	International Monetary Fund		
k	thousand	yoy	year-on-year
M	million	qoq	quarter-on-quarter
bn	billion	mom	month-on-month
EUR	euro	r.h.s.	right hand scale
UAH	Ukrainian hryvnia	Q	quarter
USD	US dollar	H	half-year
pp	percentage points		