

NATIONAL  
BANK OF  
ROMANIA

# Financial Stability Report December 2019

Year IV (XIV), No. 8 (18)  
New series

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## NOTES

The *Financial Stability Report* was prepared by the Financial Stability Department under the coordination of First Deputy Governor Florin Georgescu.

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# OVERVIEW

The overall level of systemic risks to financial stability in Romania is on the rise, similarly to global developments, and the outlook for the years ahead shows the furthering of this trend.

Current assessments do not signal the presence of severe risks. However, three high systemic risks have been identified, as follows: (i) tensions surrounding domestic macroeconomic equilibria, (ii) weakening in investors' sentiment towards emerging economies, and (iii) the risk of an uncertain and unpredictable legislative framework in the financial and banking sector. The structure and cost of financing of the current account deficit and budget deficit carry a moderate risk, while the default risk for loans to the private sector is low. For the period ahead, risks are seen increasing overall, except for that of an uncertain and unpredictable legislative framework in the financial and banking sector and the default risk for loans to the private sector, which are expected to remain relatively unchanged (Table 1).

**Table 1.** Map of risks to financial stability in Romania

	Tensions surrounding domestic macroeconomic equilibria
	Weakening in investors' sentiment towards emerging economies
	Risk of an uncertain and unpredictable legislative framework in the financial and banking sector
	Structure and cost of financing of the current account deficit and budget deficit
	Default risk for loans to the private sector
	severe systemic risk
	high systemic risk
	moderate systemic risk
	low systemic risk

Note: The colour shows risk intensity. Arrows indicate the outlook for risk in the period ahead.

Similarly to the assessment in the previous *Financial Stability Report*, the risk of tensions surrounding macroeconomic equilibria has remained elevated. It is the main systemic risk to financial stability in Romania and it is anticipated to rise in the period ahead, amid ongoing pressures from the worsening twin deficits.

The general government deficit for January to October 2019 stood at 2.8 percent of GDP, up 0.6 percentage points from the same year-ago period. The public wage bill stayed on an upward path (up 20 percent year on year), given the implementation of the unified wage law. Moreover, social transfers rose by 11 percent against the period January-October 2018 and the new pension law will further boost such expenditure via increases in both the pension point and social allowances. Social transfers and the public wage bill would cumulatively account for 85 percent of tax revenues at

end-2022<sup>1</sup>, leaving the authorities with little room for manoeuvre should the business cycle enter a downturn. At the same time, Romania posted the second lowest tax revenues-to-GDP ratio at a European level (27 percent versus the EU average of 40 percent), pointing to ample room for enhancing collection capacity. Although Romania is subject to the preventive arm of the Stability and Growth Pact, the cash-based budget deficit (national methodology) is estimated at 4.43 percent of GDP for end-2019<sup>2</sup>, and the structural deficit is expected to worsen by 0.8 percentage points from 2018, at odds with the European Commission's recommendations for a structural adjustment of 1.8 percent of GDP in 2019 and 1 percent of GDP in 2020<sup>3</sup>, before reaching 4.4 percent of GDP in 2020<sup>4</sup>. Also related to macroeconomic stability, the worsening of external imbalance remains a matter of serious concern. The current account deficit as a share of GDP continued to widen at a swift pace compared to the same year-ago period (5 percent in 2019 Q3 from 3.9 percent, four-quarter cumulative data, mainly on the back of a larger trade deficit), Romania being one of the EU Member States with the highest values of this indicator, and the outlook shows a further worsening. An important source of the trade deficit, alongside trade in chemical products and fuels, is trade in agri-food items, the negative balance of which increased significantly in recent years.

Risk factors were to some extent mitigated by Romania's economic growth staying above the euro area average, which is supportive of the convergence process, and by the growth composition improving due to a higher contribution of investment, although the historical volatility of investment is still a matter of concern. Moreover, both the unemployment rate and employment rate continued to fare better and whole-economy labour productivity remained on an upward track (4.4 percent year on year in 2019 Q2), yet again outpaced by wage dynamics. Even though Romania reported one of the highest rises in productivity over the past 10 years at a European level, the increase in wage costs above that in productivity may trigger detrimental effects on corporate competitiveness both domestically and externally.

Keeping in place an expansionary public wage policy, with an impact on the increase in excess aggregate demand, is likely to compress the fiscal space in the event of an economic slowdown. Furthermore, any additional stimulus to household consumption to the detriment of investment could lead to a build-up of inflationary pressures and to a widening of the current account deficit. Therefore, the implementation of a balanced fiscal policy on both revenue and expenditure sides can mitigate macroeconomic vulnerabilities and underpin matching growth rates of wage earnings and productivity.

This domestic risk may interfere with the second high systemic risk, of external origin, i.e. a weakening in investors' sentiment towards emerging economies. World economic uncertainty is mounting and medium-term risks remain sizeable. Since the turn of the year, global economic growth has stayed on a downtrend, largely

<sup>1</sup> The Fiscal Council's Opinion on the Draft Budget Revision of 2019 and on the *Mid-Year Report regarding the Economic and Budgetary Situation*.

<sup>2</sup> Government Emergency Ordinance No. 71/2019 on the 2019 state budget revision.

<sup>3</sup> [https://ec.europa.eu/info/sites/info/files/economy-finance/com\\_2019\\_912\\_1\\_en\\_act\\_part1\\_v3.pdf](https://ec.europa.eu/info/sites/info/files/economy-finance/com_2019_912_1_en_act_part1_v3.pdf).

<sup>4</sup> According to the European Commission's Autumn 2019 Economic Forecast.

amid the developments in industrial production and flagging investors' sentiment, in view of the trade rows. Across the euro area, the slowdown in economic activity was attributed to a decline in exports and investment, reflecting a faster-than-expected deceleration in growth in certain economies, among which Germany and Italy. Considering that they are Romania's main trading partners, potential adverse developments may have stronger effects on our country as well. In turn, the UK's exit from the EU also contributed to economic and financial uncertainty further standing at a significant level. The new deadline for the UK leaving the Union was set for no later than 31 January 2020. These factors, together with those characteristic to the emerging economies in the region Romania is part of, may increase the likelihood of cross-border contagion in the event of a drop in investors' sentiment.

The uncertainty surrounding future economic developments prompted major central banks to further pursue accommodative monetary policies. The extremely favourable financial conditions paved the way for vulnerabilities to build up, especially as regards non-financial corporations. The increase in corporate indebtedness may become a drag assuming adverse macroeconomic developments, given that the debt level records all-time highs in both advanced and emerging economies. Low interest rates, combined with the flattening of yield curves, put pressure on financial institutions' profitability, foster search-for-yield strategies and fuel the repricing risk at the time monetary policy tightening resumes.

The above-mentioned factors led to the persistence of high risk of a weakening in investors' sentiment towards the emerging economies, yet the outlook is on the upside for the period ahead compared to the assessment in the previous *Report*. The authorities' capacity to manage this risk, also in terms of a potential capital flight from the emerging economies, will hinge on those countries' macroeconomic and financial conditions at the moment, and the use of monetary policy tools alone will fall short of countering the negative effects on the economy. Against this background, at national level, a balanced macroeconomic policy mix is called for, via fiscal policy corrections, along with the implementation of structural reforms designed to foster the growth potential. This is of the essence in preserving financial stability and strengthening the capacity of the Romanian economy to withstand potential adverse developments. The solution in this respect lies with carrying out the measures included in the "National Euro Changeover Plan".

Looking further on the domestic front, the risk of an uncertain and unpredictable legislative framework in the financial and banking sector was still manifest<sup>5</sup>, yet it tended to subside compared to the previous *Report*. The Parliament amended the regulatory framework on debt discharge in the course of 2019. Certain provisions of the new law envisaged defining the term "unforeseeability", but the Constitutional Court gave a ruling on their being unconstitutional in November 2019, together with the issues concerning the presumption of unforeseeability in favour of the consumer notifying the debt discharge, thus maintaining the more restrictive nature of this procedure, which is likely to limit moral hazard stemming from this legislative amendment.

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<sup>5</sup> For further details, see Section 3.2 and the June 2019 *Financial Stability Report*.

Against the background of developments in domestic macroeconomic equilibria, the structure and cost of financing of the current account deficit and budget deficit further carry a moderate systemic risk, amid overabundant liquidity on the international markets, this risk being assessed as prospectively on the rise in the following period. Stable, non-debt-creating capital flows have continued to ensure only part of the current account deficit financing. Unlike the years when the current account deficit was entirely funded by such flows (2013-2017), at end-September 2019, the ratio between stable sources and the deficit level fell to 81 percent. On the other tier of this risk, government bond yields went down to the levels recorded in the early months of 2018, but the developments of September 2019 point to yields and their volatility resuming the upward trend. The developments are in line with those seen across the region and reflect investors' concerns over escalating uncertainty about economic and trade policies and their consequences for the world economy. The government's financing requirement is estimated to grow by 28 percent<sup>6</sup> at the end of 2019 compared to the previous year, amid a rise in the public wage bill and social transfers and weaker-than-anticipated revenue collection, and it is seen hitting a 10-year high. A balanced fiscal policy and a predictable and transparent tax framework are required in order to take some pressure off the budget deficit and the current account deficit, as well as to preserve investors' confidence, given that Romania has already reported the most elevated financing costs in the region.

Default risk for loans to the private sector remained low. Bank asset quality consolidated, amid a currently low risk cost and a favourable economic environment. The NPL ratio decreased to 4.6 percent in September 2019, yet its pace of adjustment slackened gradually over the past two years, amid a less intense balance sheet clean-up. The indicator continues to run in the EBA-defined intermediate risk bucket, yet it is still above the EU average (3 percent in June 2019). The same evolution was also visible looking at the indicator's breakdown, i.e. the NPL ratios for corporate and household loans.

On the whole, the financial soundness of companies that took loans was further above that seen at the aggregate level of all firms in the economy. Banks' corporate loan quality continued to improve, falling for the first time ever below the EBA's alert threshold and thus entering the intermediate risk bucket. Similarly, households' financial position strengthened, amid positive developments in net wealth and disposable income. Following the prudential measures taken by the NBR and implemented since the beginning of this year, households' level of indebtedness declined significantly, which shows the effectiveness of the calibration of this instrument in putting lending onto a more sustainable path, while households' access to finance consolidated. Therefore, households' loan repayment capacity improved, with the NPL ratio coming in at 4.3 percent. In certain segments however, credit risk went up, with leu-denominated loans posting an increase in non-performing exposures both at aggregate level (7 percent) and by main type of products targeting households. The rise in non-performing exposures from leu-denominated loans to households is an early warning signal that needs to be monitored closely, especially as at end-September 2019 the annual default rate for consumer loans went slightly up

<sup>6</sup> Fiscal Strategy for 2020-2022.

compared to the similar year-ago period. Furthermore, this evolution is foreseen to continue next year, with the probability of default being estimated to expand by 0.44 percentage points for housing loans and 0.5 percentage points for unsecured consumer loans. In addition, similar dynamics are expected for non-financial corporations, as the forecasted probability of default shows a possible worsening of the repayment capacity, assuming a further rise in tensions surrounding macroeconomic equilibria (probability of default is estimated to increase, on average, up to 4.5 percent in September 2020, from the current 2.9 percent).

Prudential and financial indicators for the local banking sector are at adequate levels relative to risks and the sector's soundness remains above the EU average (Table 2).

**Table 2.** Risk indicators for the banking sector

Risk indicators	EBA-defined prudential range	Romania*				EU	
		2015	2016	2017	2018	Sep. 2019	Jun. 2019
<b>Solvency</b>							
Tier 1 capital ratio	>15%						
	[12%-15%]	16.72	17.55	17.95	18.64	17.88	16.2
	<12%						
CET1 capital ratio	>14%						
	[11%-14%]	16.72	17.55	17.95	18.64	17.88	14.6
	<11%						
<b>Asset quality</b>							
Non-performing loan ratio	<3%						
	[3%-8%]	13.51	9.62	6.41	4.96	4.58	3.0
	>8%						
Non-performing loan coverage by provisions	>55%						
	[40%-55%]	57.72	56.34	57.68	58.51	59.55	44.9
	<40%						
Ratio of restructured loans and advances	<1.5%						
	[1.5%-4%]	8.43	6.36	4.80	3.26	2.91	1.9
	>4%						
<b>Profitability</b>							
ROE	>10%						
	[6%-10%]	11.89	10.10	11.80	13.77	11.96	7.0
	<6%						
Cost-to-income ratio	<50%						
	[50%-60%]	58.46	53.19	55.30	53.81	53.12	64.1
	>60%						
<b>Balance sheet structure</b>							
Loan-to-deposit ratio for households and non-financial corporations	<100%						
	[100%-150%]	78.18	74.34	73.21	71.89	73.39	116.4
	>150%						

\*) includes only banks Romanian legal entities, according to EBA methodology

■ best bucket  
■ intermediate bucket  
■ worst bucket

Source: NBR, EBA

The total capital ratio (19.7 percent) and the liquidity coverage ratio (224 percent) continue to post levels in line with micro- and macro-prudential requirements. The results of liquidity and solvency stress tests provide evidence on the banking

sector's adequate capacity to withstand adverse developments. The balance sheet composition helps improve credit institutions' liquidity position. The loan-to-deposit ratio for the private sector is below one, and bank funding is dispersed and stems chiefly from retail deposits taken from households in particular. The persistently significant share of claims on the government sector is supportive of banks' liquidity, yet it may ease the pass-through of some unfavourable developments to the banking sector should sovereign risk worsen. The loan portfolio quality has stayed on the improving trend seen over the last years, and the non-performing loan coverage by provisions has increased and is further adequate, well above the EU average.

Households continued to be the main driver of bank asset expansion over the past year. The persistence of non-financial corporations' structural vulnerabilities coming from loose payment discipline and weak financial soundness, the lower intention of managers of bankable companies to extend their business relationships with credit institutions, the professional skills of bank employees, banks' lending procedures, and local firms' financing from non-resident entities have put a drag on local banks' lending to non-financial corporations. Moreover, risk-adjusted returns on household loans (especially on consumer credit) are higher than in other lines of business and, most likely, will continue to gear the business model of banks in Romania primarily towards the retail segment. On the other hand, the substantial financing of local companies by non-resident banks with affiliates in Romania, at interest rates similar to those applied domestically, triggers macroeconomic vulnerabilities for the financial stability in Romania. This causes the low financial intermediation to persist, alongside the pick-up in private external debt, without notable favourable effects at microeconomic level (at borrowers' level).

Banking sector profitability remained high in the first three quarters of 2019. Behind this stood the resumption in operating profit growth and the further historical low level recorded by net expected credit losses. Nevertheless, operational efficiency places the Romanian banking sector in a medium-risk bucket and leaves room for improvement, especially for small- and medium-sized banks. The structural features of the banking business such as low financial intermediation and polarisation of profit depending on the size of credit institutions are still present. The prospects for the currently favourable trend in profitability to continue are mitigated by the impact of a potential return of default rates to levels closer to the historical average.

Besides the above-mentioned risks, structural vulnerabilities (Table 3) add to the factors with a potential impact on future economic developments:

**Table 3.** Map of structural vulnerabilities to financial stability in Romania

<b>A.</b> Weak payment discipline in the economy and vulnerabilities in companies' balance sheets
<b>B.</b> Low financial intermediation
<b>C.</b> The demographic problem

**A.** Weak payment discipline in the economy and the vulnerabilities in companies' balance sheets are some of the main elements that affect both financial

intermediation and the development potential of non-financial corporations. In 2018, companies' payment discipline improved on the whole, yet this factor remains a vulnerability, given that overdue payments account for about 9 percent of GDP (down from 11 percent in 2017) and structural developments are still mixed. A significant number of firms do not comply with the capitalisation requirement (38 percent of total). The firms with equity below the regulatory threshold play a significant role in the worsening of payment discipline in this sector. They report a non-performing loan ratio of 22 percent in September 2019, generating more than one third of total non-performing corporate loans. These entities account for two thirds of total overdue payments other than those to banks and one third of the newly-insolvent firms. Moreover, even amid the favourable economic developments seen over the past years, the capitalisation needs of these firms continued to grow, especially for domestic and foreign private companies. At aggregate level, at end-2018, the companies in this category recorded capitalisation needs of lei 158 billion (up 3 percent year on year) in order to fulfil the minimum regulatory requirement.

**B.** Financial intermediation in Romania remains the lowest among EU Member States, the bank credit-to-GDP ratio standing at 27 percent<sup>7</sup> in September 2019. Although the banking sector has played a more important role in non-financial corporations' financing since the previous *Report*, there is still room for improvement in terms of a lending recovery in this segment, particularly as corporate loans from non-resident entities remain at a significant level (about 12 percent of corporate indebtedness). Specifically, the sustainable growth potential of financial intermediation for non-financial corporations is high and credit institutions have solvency and liquidity resources to raise their exposure to companies. The analysis of firms' financial soundness shows a borrowing potential of lei 166 billion for this sector, which would allow in time a more than doubling of the loan stock. This is associated with roughly 9,200 companies, mostly in manufacturing (27 percent), utilities (24 percent) or services (18 percent). Replacing firms' external debt with financing from local credit institutions, without affecting market conditions, could help boost the local financial intermediation and reduce Romania's external debt.

**C.** The demographic problem has continued to deepen since the previous *Report*. The country's resident population contracted, mainly due to the negative natural population change, as well as to the stepped-up emigration. These factors, coupled with the still relatively elevated unemployment rate among the youth aged 15-24 years and the faster population ageing (about 119 elderly persons, aged over 65 years, to 100 young people) that enhances intergenerational dependence, fuel labour market tensions, as finding adequately-skilled workforce poses a major challenge to companies. The persistence of this state-of-affairs will likely exert an adverse impact on future social and economic conditions in Romania.

The impact of climate change on the financial and real sectors is another significant factor for the future economic performance. In this respect, concerns are on the rise worldwide. The Special feature of this *Report* looks at the main consequences of climate risks on the real sector, as well as on the credit institutions in Romania. Climate

<sup>7</sup> A 4-quarter cumulative value was used until 2019 Q2.

risk carries the potential to create vulnerabilities in the financial system and the real economy over the medium and long term, given that firms in industries producing the most carbon dioxide are highly relevant for both sectors (accounting for about 45 percent of gross value added and 40 percent of the number of employees of non-financial corporations, and around 62 percent of banks' total exposure to firms). Nonetheless, although the importance of industry for the national economy is at a 25-year low (about 25 percent of GVA at mid-2019), it is still one of the most energy-intensive sectors. On the other hand, the share of energy from renewable sources in total energy consumption in 2017 stood at 24.5 percent, above the EU level of 17.5 percent, with Romania achieving the 2020 target of 24 percent (up 8 percentage points from 2004).

# 1. INTERNATIONAL AND DOMESTIC ECONOMIC AND FINANCIAL ENVIRONMENT

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World economic uncertainty is mounting and medium-term risks remain elevated. The main factors that can affect global financial stability are the adjustment of investors' risk appetite and the high level of indebtedness, especially in the non-financial corporations sector. The perception of possible changes in the loose financial conditions and the higher geopolitical tensions, together with uncertainties related to UK's withdrawal from the EU, can lead to periods of increased volatility, with risk premia adjusting on international financial markets.

The overall level of systemic risk to financial stability in Romania is on the rise, similarly to global developments, and the outlook for the following years shows the furthering of this trend. Economic growth in Romania stayed above the euro area's average level, underpinning the convergence process, and growth composition improved through a higher contribution of investment. Similarly to the assessment in the previous *Financial Stability Report*, the risk of tensions surrounding domestic macroeconomic equilibria has remained elevated. This continues to be the main systemic risk to financial stability in Romania and it is anticipated to rise in the period ahead, amid ongoing pressures from the worsening twin deficits. The general government deficit for January to October 2019 stood at 2.8 percent of GDP, up 0.6 percentage points from the same year-ago period, while Romania's current account deficit is among the highest in the EU (5 percent in 2018 Q4 – 2019 Q3), and may become even deeper.

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## 1.1. International economic and financial developments

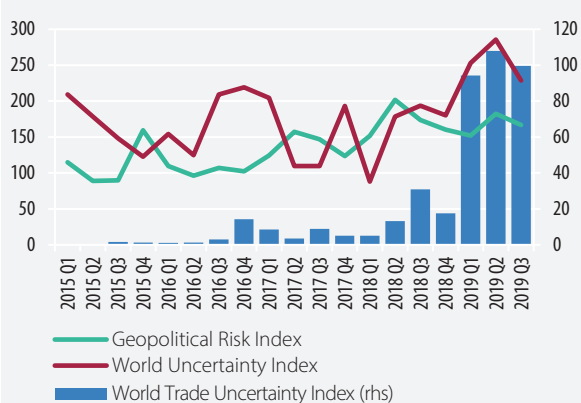
Worldwide, the modest economic advance and higher risks to future economic growth led to the persistence or even strengthening of accommodative monetary policy stances, and to expectations on this approach to continue for a longer-than-previously-anticipated period. Economic uncertainty, especially that arising from developments in international trade, is increasing (Chart 1.1) and medium-term risks remain elevated.

According to the IMF, the main risks that may weigh on financial stability worldwide are: (i) the high degree of indebtedness, particularly in the non-financial corporations sector, (ii) the adjustment of investors' risk appetite, with implications for emerging markets, especially amid the increase in holdings of less liquid and riskier assets, but also the higher reliance on foreign funding by emerging and frontier markets<sup>8</sup>.

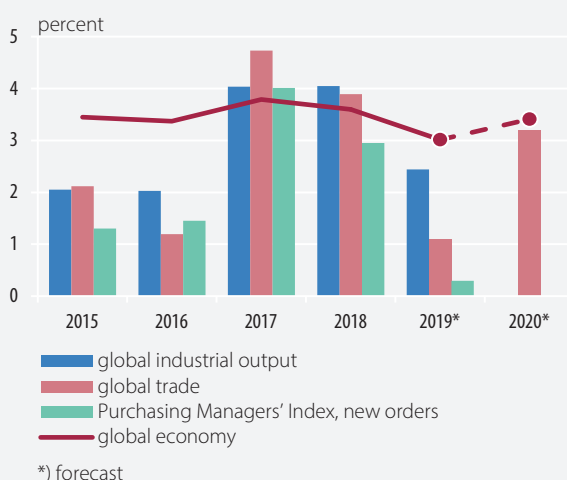
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<sup>8</sup> IMF, *Global Financial Stability Report*, October 2019.

Other risks that may have a negative impact on the economic growth outlook in the medium term are (iii) global trade tensions, (iv) geopolitical uncertainties, (v) cyber risks, amid technological innovations in the financial area and (vi) climate change<sup>9</sup>. At European level, the European Central Bank has identified the following risks<sup>10</sup>: (i) disorderly increase in risk premia, (ii) debt sustainability concerns, (iii) low profitability of the banking sector and (iv) increased risk-taking in the non-bank financial sector.

**Chart 1.1.** World uncertainty and geopolitical risk


Source: Caldara, D. and Iacoviello, M. (2018) – “Measuring Geopolitical Risk”, Fed, International Finance Discussion Papers 1222; Ahir, H., Bloom, N. and Furceri, D. (2018) – “World Uncertainty Index”, Stanford mimeo

**Chart 1.2.** Global economic developments


Source: IMF – *World Economic Outlook*, October 2019

From a regional perspective, estimates of central banks in the region<sup>11</sup> indicate the following risk factors: (i) the repricing of risk premia in global financial markets, along with the uncertain economic environment worldwide, (ii) a deterioration in debt repayment capacity for major economies, (iii) persistent vulnerabilities in the European banking sector, (iv) excessive credit growth and (v) real estate market developments.

Since the beginning of the year, the pace of global economic growth has embarked on a new downward trend, amid weaker industrial output and lower investor sentiment. The determinants of these developments relate to international trade uncertainty, a slowing demand from China and geopolitical tensions. The IMF forecasts on global economic growth were revised downwards<sup>9</sup> to 3 percent for 2019 (from 3.3 percent previously), the lowest level after the financial crisis, and to 3.4 percent for 2020 (from 3.6 percent), Chart 1.2. Major economies continue to slow down, marking the phasing out of the economic expansion, but in some cases adverse developments are stronger than expected. The latter include China, with economic growth prospects remaining weak, which reflects not only the effects of the trade dispute with the US, but also a slowdown in domestic demand

<sup>9</sup> IMF, *World Economic Outlook*, October 2019.

<sup>10</sup> ECB, *Financial Stability Review*, November 2019.

<sup>11</sup> Polish, Czech and Hungarian central banks.

after implementing debt reduction measures<sup>12</sup>. In the US, although trade-related uncertainty affected investment, consumption and employment rate remained robust, with unemployment hitting its lowest level in 50 years, due to the stimuli provided by public policies. Across the euro area, the slowdown in economic activity was attributed to a decline in exports and investment, reflecting a faster-than-expected deceleration in growth in certain economies, particularly Germany and Italy. Given that these two countries are Romania's main trading partners (details in Section 1.4), potential adverse developments could affect domestic economic activity as well. Economic growth in the euro area is forecasted to reach 1.1 percent in 2019 and 1.2 percent in 2020, respectively.

The UK's exit from the EU also contributed to economic and financial uncertainty further standing at an elevated level. The new deadline for the UK leaving the Union was set not later than 31 January 2020. Under these circumstances, the main EU institutions continued to adopt contingency measures for a no-deal Brexit and issued recommendations on their finalisation. However, should this risk become manifest, it may lead to increased volatility and risk premia adjustment on international financial markets in the period ahead.

The uncertainty surrounding future economic developments prompted major central banks to further pursue accommodative monetary policies. The Fed lowered the federal funds rate by 75 basis points in July, September and October<sup>13</sup>, whereas the European Central Bank adopted a series of measures among which the decrease of the deposit facility rate by 10 basis points in September 2019 and the resumption of the asset purchase programme as of November 2019<sup>14</sup>. The low inflation in advanced economies could become persistent, which would reduce the room for manoeuvre of monetary policy. In particular, low interest rates, combined with the flattening of yield curves, put pressure on financial institutions' profitability, foster search-for-yield strategies and fuel the repricing risk at the time monetary policy tightening resumes.

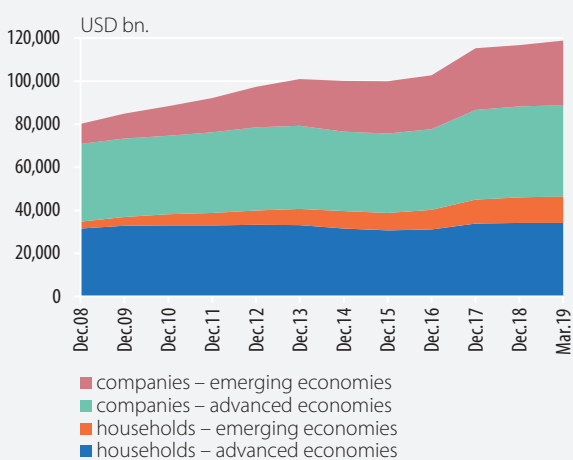
The favourable financial conditions paved the way for vulnerabilities to build up, especially regarding non-financial corporations. The increase in corporate indebtedness may become a drag assuming adverse macroeconomic developments, given that the debt level records all-time highs in both advanced and emerging economies (Chart 1.3). In addition, according to the IMF assessments<sup>15</sup>, balance sheet vulnerabilities are high and rising among non-bank financial institutions as well (a condition which affects approximately 80 percent of the systemically important economies). A cause for concern comes from larger holdings of riskier and more illiquid assets by institutional investors and from the increased preference of emerging and frontier economies for external loans.

<sup>12</sup> The campaign was launched in 2015 in order to reduce excessive borrowing. The debt-to-GDP ratio exceeded 200 percent, standing 90 percentage points above the level recorded in 2008.

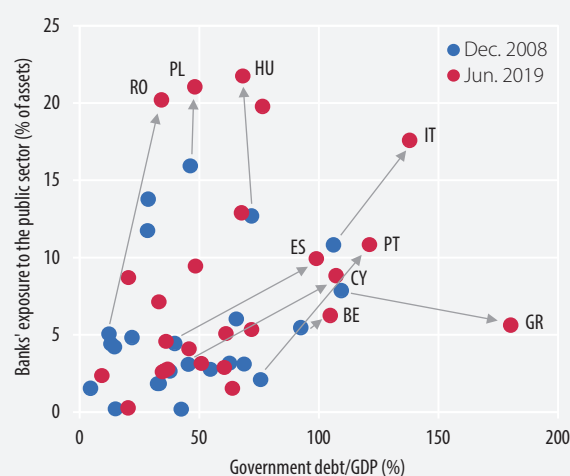
<sup>13</sup> Additional information regarding the Fed monetary policy is available at: <https://www.federalreserve.gov/monetarypolicy/fomccalendars.htm>.

<sup>14</sup> For further details and measures see: <https://www.ecb.europa.eu/press/pr/date/2019/html/ecb.mp190912~08de50b4d2.en.html>.

<sup>15</sup> IMF, *Global Financial Stability Report*, October 2019.

**Chart 1.3.** Developments in private sector debt in advanced and emerging economies

Source: BIS

**Chart 1.4.** Dynamics of the bank-sovereign nexus in the EU

Source: ECB, Eurostat

The high public sector debt is further a major source of risk at EU level. In 2019 H2, 14 of the euro area countries recorded a government debt-to-GDP ratio of over 60 percent, and nine of them ranked high on the list of the most heavily-indebted countries in the world (December 2018). The global financial crisis strengthened the links between the banking sector and the public sector, due to both resolution measures and prudential reasons, such as improving the resilience to systemic liquidity shocks. At EU level, two distinct trends of the bank-sovereign nexus have been identified (Chart 1.4). Firstly, there are countries where the cost of the international financial crisis reflected in a significant worsening of the fiscal position. This occurred either because they had high levels of public debt at the time the crisis broke out (Greece, Italy, Belgium) or because the government effort to support the real and financial sectors entailed a rise in public debt (Portugal, Spain). Most of these countries also recorded an increase in the banking sector's exposure to the public sector. Secondly, there are countries in which the banking sector's exposure to the public sector rose significantly (Romania, Poland, Hungary) during the last 10 years, while public debt grew moderately. When the banking sector holds a significant amount of public debt, its vulnerability increases to the risk of sovereign risk premium adjustment (details in Section 3.2).

The resilience of the EU banking sector to potential adverse developments is currently stronger compared to the onset of the 2007-2008 global financial crisis, given that solvency and liquidity ratios are considerably higher than the minimum values, asset quality has continued to improve, financing conditions have remained favourable and the competent authorities have implemented prudential measures. Nevertheless, the low yields and subdued economic growth, coupled with high operating costs, dampened expectations on the profitability of the European banking sector. Thus, profitability remains a high and rising risk<sup>16</sup> in an environment characterised by low interest rates and heightening competition from the non-bank sector, such as FinTech (Box 1), which generates new investment needs for infrastructure digitalisation.

<sup>16</sup> The European Banking Authority – *Risk Dashboard*, 2019 Q2.

**Box 1. Implications of FinTech for the financial system**

The changes brought about by technology development in the financial area are conducive to a fundamental makeover of this system. First, FinTech has evolved rapidly in recent years, underpinned by the lower costs of financial products and services, but also by financial system weaknesses, the most notable ones being: (i) the low degree of financial inclusion (1.7 billion individuals, accounting for almost one third of the adult population, do not currently have access to financial services, according to the World Bank) and (ii) the limitations in the cross-border functioning of financial services (payment services in particular). The services and products developed based on the novel technologies may generate new risks that financial institutions need to manage, many of them being closely linked to the operational risk (such as cyber risk or data collection and management risk). In most instances, these developments are beyond the authorities' supervisory and regulatory scope. This may pose risks to the financial system, also from a reputational point of view, if the new financial products and services lead to the materialisation of major losses in the economy.

Second, the new technologies call for a rethinking of the way in which the financial system operates. The best examples in this respect are cryptocurrencies and stablecoins (asset-backed cryptocurrencies). They are still in the early stages of implementation, but – if they were to be adopted on a large scale – they could change the modus operandi of monetary policy and even of the international monetary system. Other examples are the innovations that change the way in which central banks carry out their regulatory and supervisory tasks.

Some of the novel technological solutions have helped improve the functioning of the financial system (especially those in the area of big data collection and management or those based on artificial intelligence systems), while others have entailed swifter adjustments of the existing system (such as the introduction of the instant payment system). Many other FinTech developments continue, however, to be on the edge of the legal and prudential supervisory frameworks. Moreover, many of the FinTech products and services have a high degree of cross-border mobility, targeting individuals in several countries, enabled by the digitalisation of products and services provided and – at a European level – by the licensing system for financial institutions (European Passport). Under the circumstances, the authorities need to coordinate their actions with a view to securing an environment supportive of responsible innovations in the financial area.

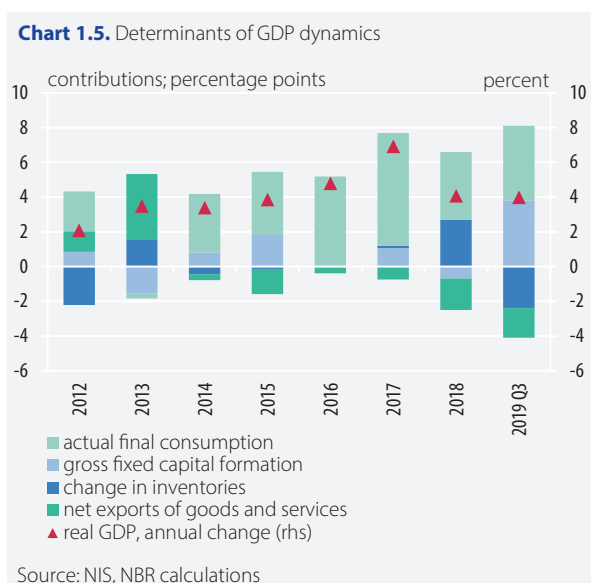
The impact of climate change on the real and financial sectors is another significant factor for the future economic performance. In this respect, concerns are on the rise worldwide<sup>8,10,17</sup> (for further details, see the Special feature). Implications are analysed in terms of: (i) the effects on the real economy (e.g. via a slowdown in the automotive industry's activity), (ii) the shift of funding to sectors with positive contributions to ESG (environmental, social and governance) factors and (iii) the potential fiscal measures aimed at reducing the effects of climate change.

<sup>17</sup> IMF, *Fiscal Monitor*, October 2019.

The above-mentioned factors led to the persistence of high risk of a weakening in investors' sentiment towards emerging economies, and the outlook is on the upside for the period ahead compared to the assessment in the previous *Report*. The authorities' capacity to manage this risk, also in terms of a potential capital flight from the emerging economies, will hinge on those countries' macroeconomic and financial conditions at the moment, and the use of monetary policy tools alone will fall short of countering the negative effects on the economy. Against this background, at national level, closer attention should be paid to the calibration of the macroeconomic policy mix, via fiscal policy corrections, along with the implementation of structural reforms designed to foster the long-term growth potential. This is of the essence in preserving financial stability and strengthening the capacity of the Romanian economy to withstand potential adverse developments.

## 1.2. Domestic macroeconomic developments

Similarly to the assessment in the previous *Financial Stability Report*, the risk of tensions surrounding domestic macroeconomic equilibria has remained elevated. This continues to be the main systemic risk to financial stability in Romania and it is anticipated to rise in the period ahead, amid ongoing pressures from the worsening twin deficits.



In the first three quarters of 2019, Romania's economic growth rate stood at 4 percent against the same year-ago period<sup>18</sup>. At end-2019, economic growth is projected to stand at a slightly lower level than that recorded a year ago. For 2020 as a whole<sup>19</sup> a slight slowdown is envisaged, in line with international developments.

The main contribution to GDP growth came from total final consumption (+4.3 percentage points), ahead of gross fixed capital formation (+3.8 percentage points), while the change in inventories and net exports had negative contributions (-2.4 percentage points and -1.7 percentage points, respectively). The larger weight of investment caused the growth composition to improve, yet this was mainly due to the recovery in

the residential buildings sub-sector, whereas equipment purchase and investment in infrastructure saw a relatively modest increase. The sectoral breakdown shows that the largest contribution to economic growth came from trade (+0.9 percentage points). The construction sector also had positive contributions (+0.6 percentage points) for the first time since 2016, followed by real estate transactions (+0.4 percentage points), reflecting the upswing in the residential buildings index and the high number of completed dwellings (for further information, see Section 2.3). The information

<sup>18</sup> As for the quarterly dynamics, the growth rate in 2019 Q3 came in at 3 percent, down 1.4 percentage points versus 2019 Q2 and 2 percentage points from 2019 Q1.

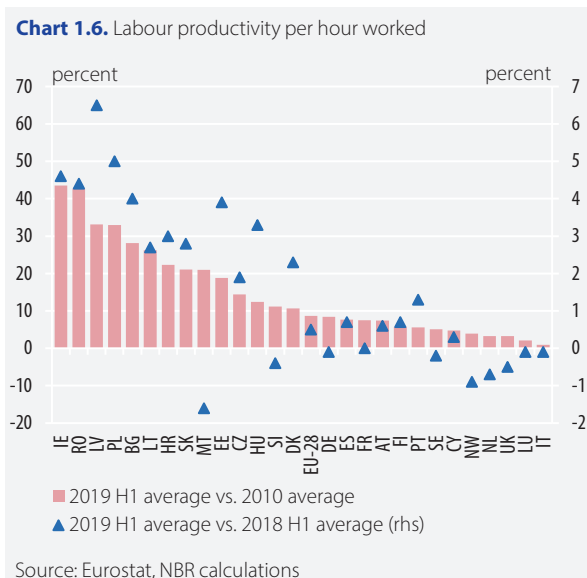
<sup>19</sup> According to the European Commission's Autumn 2019 Economic Forecast.

and communications sector also contributed +0.4 percentage points to economic growth, highlighting the strategic importance of this field. On the other hand, the industrial sector displayed a much weaker performance than in the past few years, its contribution to real GDP dynamics even falling slightly into negative territory in 2019 Q3 (-0.2 percentage points).

Even though the pace of increase remained above the euro area average, the domestic need for fiscal consolidation and the slowdown in economic activity at a European level will pose challenges to sustainably furthering the convergence process. Therefore, the need for implementing structural reforms, the increase in the EU funds absorption rate, the predictability of fiscal framework and the improvement in public services should be seen as priorities for ensuring sustainable economic growth in the period ahead. The solution for achieving the above-mentioned goals is to carry out the measures embedded in the “National Euro Changeover Plan”.

### Labour market

The labour market posted positive developments, but still faces a number of structural constraints, stemming from factors such as the shortage of workforce, skill mismatch, the high inactivity rate among young people and regional disparities.



Unemployment rate stays at a low level, i.e. at 3.9 percent in 2019 Q3, relatively unchanged from a year ago, which also had a favourable effect on borrowers' capacity to repay their debts. Labour market tightness is expected to persist over the period ahead, with the estimated unemployment rate remaining close to the currently low level<sup>20</sup>. The average monthly net nominal wage earnings rose by 14.6 percent in September 2019 versus the same year-ago period at aggregate level, with the highest pay rises being recorded in the public sector<sup>21</sup> (19 percent against 11 percent in the private sector). In the economy as a whole, labour productivity kept improving (up 4.5 percent in 2019 Q2 versus the same period of the prior year), yet its dynamics lagged behind wage growth, while significantly surpassing the EU average (0.3 percent).

Even though Romania reported one of the highest rises in productivity at a European level (Chart 1.6) in 2019 H1 compared with 2010, the increase in wage costs above that in productivity may trigger detrimental effects on corporate competitiveness both domestically and externally.

<sup>20</sup> According to the European Commission's Autumn 2019 European Economic Forecast.

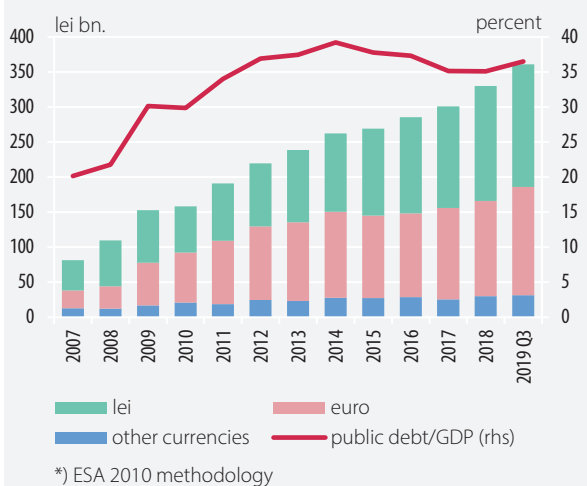
<sup>21</sup> Data for 2018.

Employment rate in Romania posted a positive performance in 2019 Q2, coming in at 66.4 percent<sup>22</sup>. At the same time, the youth unemployment rate (for the age group 15 to 24 years old) remained quite elevated, above the EU average, trending however downwards overall. The labour shortage economy-wide still lingers, with companies increasingly signalling the lack of skilled labour<sup>23</sup>. The shortfall is augmented by factors such as strong migration, population ageing or the applicants' skills level. Migration continued to gain ground, fuelling labour market tensions at regional level, in particular.

### Public sector

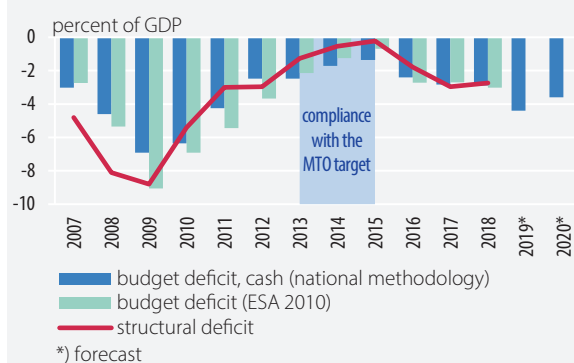
The public debt-to-GDP ratio increased by 1.5 percentage points in September 2019 from December 2018 to 36.5 percent (Chart 1.7), which is below both the European Commission's alert threshold and the critical threshold in terms of financial stability (see the Special feature in the 2015 *Financial Stability Report*). In absolute terms, public debt saw a 9 percent rise, driven by both external and domestic debt, up by lei 21 billion and lei 9.6 billion, respectively. The local banking system holds 45 percent of the public debt, accounting for 21 percent of credit institutions' assets, the second highest level in the EU after Hungary (for details, see Section 3.2). On the one hand, significant public debt holdings by local banks mitigate contagion risk on the non-resident creditors' channel, allowing easier management of liquidity risk. On the other hand, they may contribute to a pass-through of shocks onto the banking sector in the event of higher sovereign risk.

**Chart 1.7.** Public debt breakdown by currency\*



Source: MPF

**Chart 1.8.** General government deficit and structural deficit



Note: The structural deficit is the general government deficit adjusted for the cyclical component, net of one-off and other temporary measures, calculated as a percentage of nominal potential GDP, i.e. the highest economic output that does not create inflationary pressures.

Source: MPF, European Commission

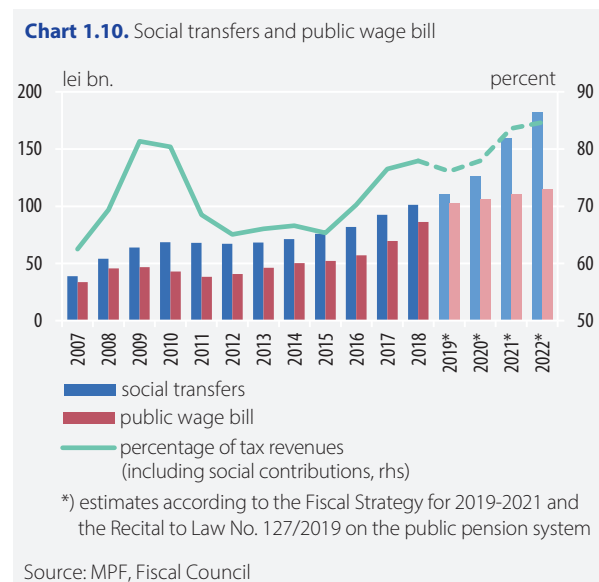
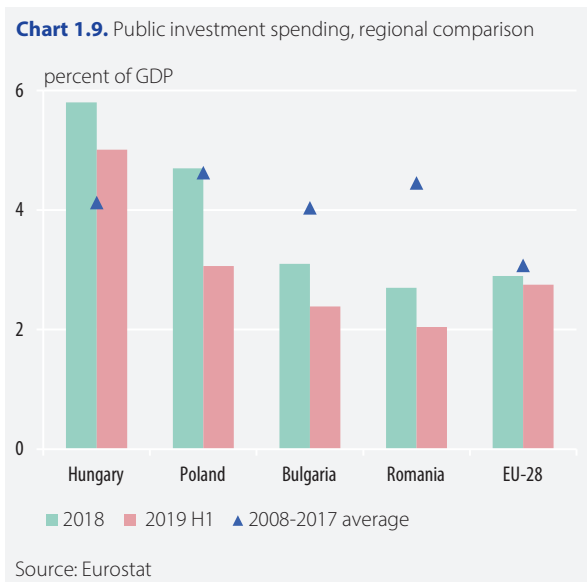
The general government deficit for January to October 2019 stood at 2.8 percent of GDP, up 0.6 percentage points from the same year-ago period.

<sup>22</sup> Employment rate for persons aged between 15 and 64 years old, seasonally unadjusted data. For the 20 to 64-year old age group, the seasonally adjusted employment rate ran at 71.6 percent, 1.6 percentage points above the target set in the Europe 2020 Strategy.

<sup>23</sup> NBR's *Survey on the access to finance of non-financial corporations in Romania*, June 2019.

Although Romania is subject to the preventive arm of the Stability and Growth Pact, the cash-based budget deficit (national methodology) is estimated at 4.43 percent of GDP for end-2019<sup>24</sup>, and the structural deficit is expected to worsen by 0.8 percentage points from 2018 (Chart 1.8), at odds with the European Commission’s recommendations to achieve a structural adjustment of 1.8 percent of GDP in 2019 and 1 percent of GDP in 2020<sup>25</sup>. These developments show a significant deviation from the required adjustment path toward the medium-term budgetary objective (MTO) of 1 percent of GDP and the 3 percent-of-GDP ceiling for the budget deficit, set by the Fiscal Responsibility Law and the Stability and Growth Pact. According to the 2019-2022 Convergence Programme, this medium-term objective will not be achieved in the next three years either, as a fiscal consolidation is envisaged no earlier than 2021. Moreover, consistent with the European Commission’s estimates, the structural deficit is foreseen to worsen further, reaching 4.4 percent of GDP in 2020, amid the commitments assumed under the new pension law<sup>26</sup>.

Keeping in place an expansionary public wage policy, with an impact on the increase in excess aggregate demand, is likely to compress the fiscal space in the event of an economic slowdown. Furthermore, any additional stimulus to household consumption to the detriment of investment may lead to a build-up of inflationary pressures and to a widening of the current account deficit. Therefore, the implementation of a balanced fiscal policy on both revenue and expenditure sides can mitigate macroeconomic vulnerabilities and underpin matching growth rates of incomes and productivity.



Public investment spending grew by 30 percent from the period January-October 2018, but remained below the last 10-year average (Chart 1.9). The cut in investment

<sup>24</sup> Government Emergency Ordinance No. 71/2019 on the 2019 state budget revision.

<sup>25</sup> Council Recommendation on the 2019 National Reform Programme for Romania that includes an endorsement by the Council on Romania’s 2019 Convergence Programme ([https://ec.europa.eu/info/sites/info/files/economy-finance/com\\_2019\\_912\\_1\\_en\\_act\\_part1\\_v3.pdf](https://ec.europa.eu/info/sites/info/files/economy-finance/com_2019_912_1_en_act_part1_v3.pdf)).

<sup>26</sup> Law No. 127/2019 on the public pension system.

spending will cause the suboptimal level of public services and infrastructure to persist, making Romania less attractive to international investors for raising new, high value-added investment, especially considering the higher investment rates of its peers in the region.

The public wage bill stayed on an upward trend (up 20 percent against the same year-ago period), given the gradual implementation of the unified wage law. Since the said law has come into force in 2017, staff costs have surged by 80 percent. Moreover, social transfers expanded by 11 percent against the period January-October 2018 and the new pension law will further boost such expenditure via increases in both the pension point and social allowances. Social transfers are expected to reach lei 180 billion at end-2022<sup>27</sup> (14.3 percent of GDP), compared with lei 110.6 billion in 2019 (10.7 percent of GDP). These expenditures and the public wage bill<sup>28</sup> would cumulatively account for 85 percent of tax revenues<sup>29</sup>, up from 77 percent at end-2018 (Chart 1.10). The fact that Romania posted the second lowest tax revenues-to-GDP ratio<sup>30</sup> at a European level (27 percent versus the EU average of 40 percent) is proof of ample room for enhancing collection capacity. The heightened share of rigid spending in tax revenues compresses significantly the room for manoeuvre in the event of unfavourable economic developments, rendering a procyclical fiscal consolidation unavoidable. The implementation of a fiscal consolidation during an economic upturn will allow a gradual narrowing of the government deficit, thereby mitigating the negative impact on the aggregate demand.

### 1.3. Non-financial sector indebtedness

Total debt of the private sector<sup>31</sup> declined by 2.2 percentage points over the first three quarters of 2019, reaching 36.6 percent as a share of GDP (in annual terms, Chart 1.11). In absolute terms, private sector debt recorded a 6.2 percent<sup>32</sup> annual increase, on average, in the first three quarters of 2019, amounting to EUR 78.3 billion (September 2019).

The first three quarters of 2019 saw some changes in the indebtedness trajectory, specifically: (i) the non-residents' exposure to the private sector re-entered positive territory (up 2.5 percent in the period under review versus the 21.9 percent decline in 2018), while (ii) NBFIs lending to households picked up significantly (14.8 percent on average against 0.6 percent in 2018; further details in Section 3.3). The foreign currency component of bank loans gained momentum as well, owing entirely to the non-financial corporations sector<sup>33</sup>. The credit standards set by the banking sector

<sup>27</sup> The Fiscal Council's Opinion on the Draft Budget Revision for 2019 and on the *Mid-Year Report Regarding the Economic and Budgetary Situation*.

<sup>28</sup> Estimated to reach lei 114 billion pursuant to the 2019-2021 Convergence Programme.

<sup>29</sup> Including insurance contributions.

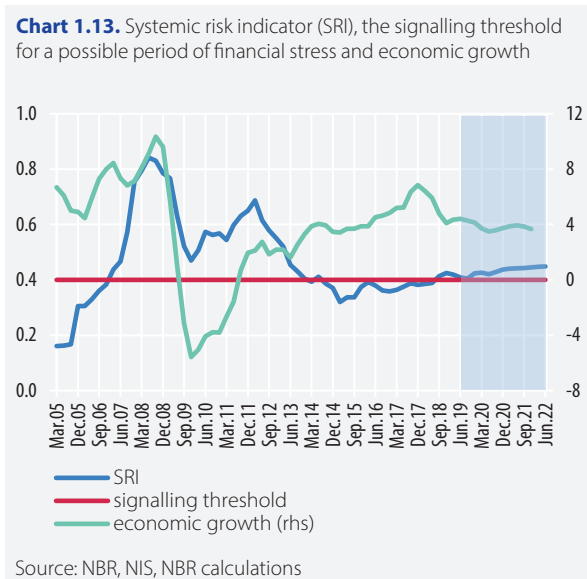
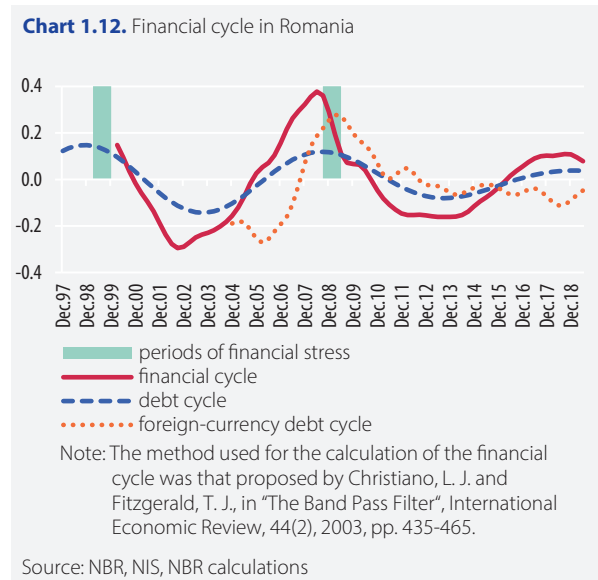
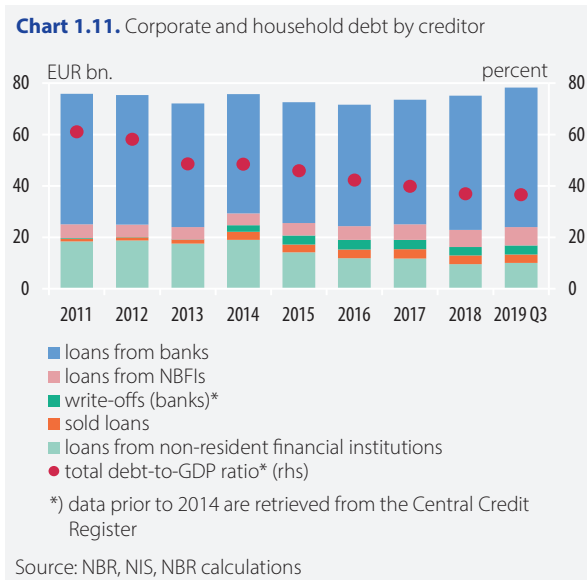
<sup>30</sup> Data for 2018.

<sup>31</sup> Total debt covers loans taken from resident or non-resident banks and NBFIs, loans written-off and loans sold by banks to residents.

<sup>32</sup> In this section, the dynamics of lending are calculated by incorporating the exchange rate effect, unless otherwise stated. Taking into account also the adjustment to inflation rate, total corporate and household debt rose by 1.4 percent.

<sup>33</sup> For further information on foreign currency lending to the private sector, see Box 2.

witnessed a temporary tightening on the household loan segment in 2019 Q1, due to the entry into force of the new lending conditions<sup>34</sup>, whereas for non-financial corporations they remained largely unchanged.



The Romanian financial system remained in the latter part of the expansion phase of the financial cycle<sup>35</sup> (Chart 1.12). The debt cycle seems to indicate a stagnation, whereas residential property prices have entered negative territory, recording a moderate decline (in real terms). Moreover, while previous developments reflected a synchronisation of the financial cycle with periods of financial stress, this is no longer the case for recent evolutions. Nevertheless, the overall level of systemic risk to financial stability in Romania is on the rise, currently posting values close to those indicating a possible period of financial stress. In addition, the projection of the systemic risk indicator over the next three years shows this trend will persist (Chart 1.13). The materialisation of a systemic risk may have significant consequences on the real economy. A 0.10-point increase in the systemic risk indicator (approximately 0.5 standard deviations) may lead

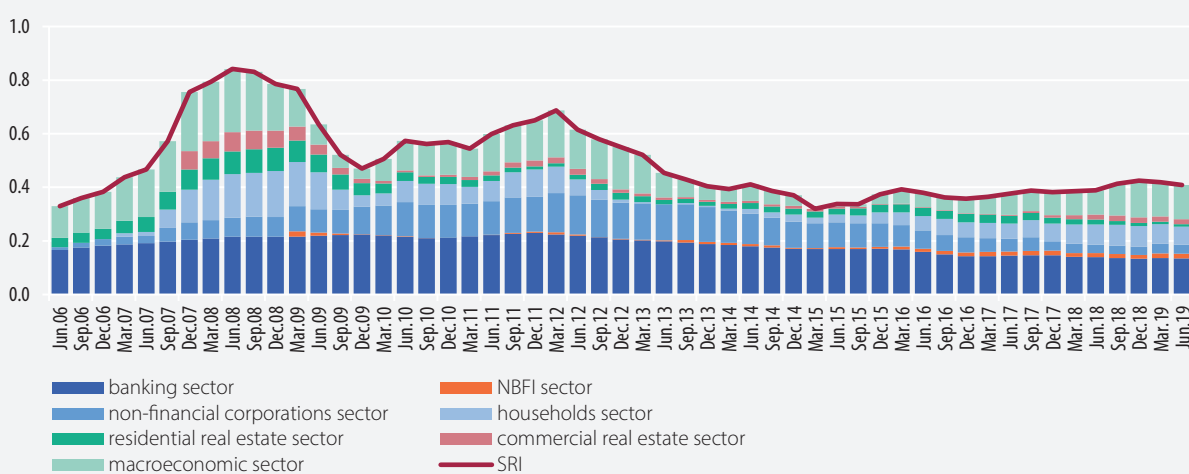
<sup>34</sup> NBR Regulation No. 6/2018.

<sup>35</sup> The financial cycle is calculated as the average of the real indebtedness and the real estate market cycles, assuming a medium-term financial cycle (lasting 8 to 14 years). The length is typical for a financial cycle in Romania and was determined based on the Bry and Boschan dating procedure for the period 2000-2018. For the real estate market cycle, a residential property price index was employed, reconstructed for Bucharest, due to data limitations. The fact that the financial cycle is in the latter part of its expansion phase results from evidence showing that the peak of the financial cycle has been reached, yet there is currently no proof of the financial cycle having entered the contraction phase. Nevertheless, these results should be interpreted with caution, given the reduced length of data series on the financial cycle in Romania (around 20 years).

to a deepening of economic recession, by values ranging from -0.3 to -1.3 percentage points (according to a methodology for assessing GDP-at-Risk<sup>36</sup>).

Systemic risk has followed an upward path since 2015, mainly on the back of tensions surrounding macroeconomic equilibria (details in Section 1.2), but also due to vulnerabilities building up in the NBFi sector (Chart 1.14). The effects induced by non-financial corporations and households have become less significant; in the case of households, the recent amendments to the prudential regulatory framework are expected to help lower the risks stemming from this sector (further information in Section 2.2).

**Chart 1.14.** Systemic risk indicator (SRI) and the SRI contribution at sectoral level



Source: NBR, NIS, NBR calculations

From a prudential perspective, systemic risk monitoring is further necessary, but it is desirable to have in place a more balanced mix of economic policies, given the tensions surrounding macroeconomic equilibria, as well as the persistently accommodative monetary policy stances at global level.

### Box 2. Foreign currency indebtedness and its risk to financial stability

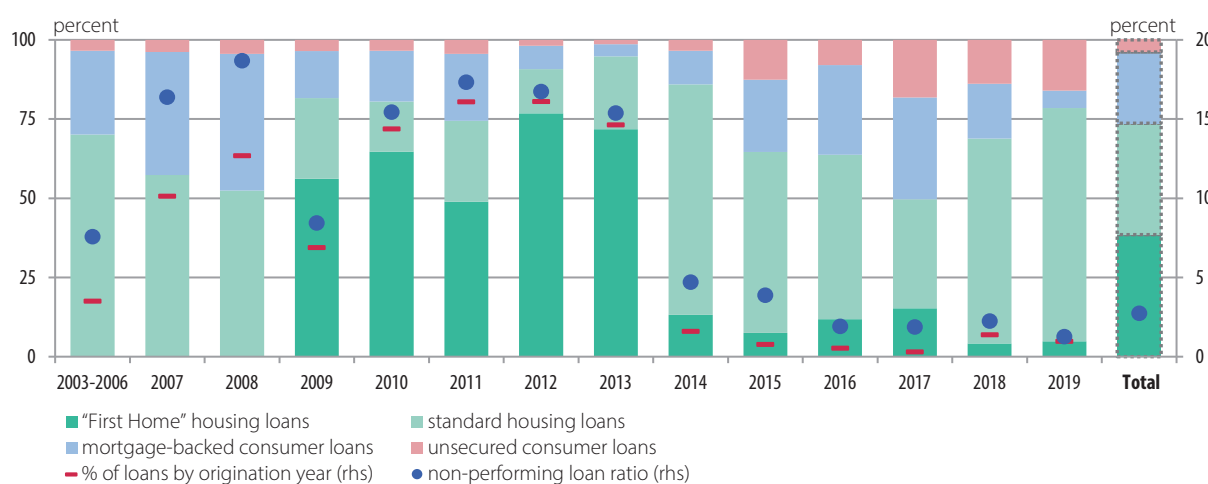
Borrowers' exposure to currency risk has dropped considerably after the financial crisis, the foreign currency debt<sup>37</sup> of the private sector reaching 161.8 billion in lei equivalent (September 2019) and a share of 44 percent of total debt. Specifically, the foreign currency-denominated financial debt accounts at present for about 65 percent of the all-time highest value of foreign currency debt (recorded in 2012). Moreover, the cycle of foreign currency debt has entered negative territory since 2018 (Chart 1.12).

<sup>36</sup> The GDP-at-Risk methodology involves estimating the impact of a change in the systemic risk level (quantified by means of the systemic risk indicator) on the 5th percentile of the distribution of the real GDP growth rate.

<sup>37</sup> In order to calculate foreign currency debt, bank loans (including off-balance sheet exposures and loans sold by banks), loans from NBFIs and loans from non-resident financial institutions were taken into account.

Looking at households, approximately 95 percent of their foreign currency debt comes from banks (including write-offs). The decline in household indebtedness in foreign currency (from an all-time high of 65 percent in 2012 to 25 percent in September 2019) was driven by the shift to leu-denominated lending under the “First Home” programme, as well as by the calibration of tighter lending conditions for foreign currency-denominated loans. Therefore, household lending in foreign currency remains, in essence, a legacy of the 2007-2013 period, when roughly 90 percent of the current outstanding loans were contracted. The analysis by type of bank loans to the households sector (Chart A) reveals no significant vulnerabilities: (i) housing loans account for 68 percent of the foreign currency loan portfolio, half of which were extended under the “First Home” programme and report an NPL ratio of 1.1 percent; (ii) the bulk of mortgage-backed consumer loans (27 percent of total loans in foreign currency) were granted during the 2007-2010 period (85 percent) and have a 13-year remaining maturity, on average; (iii) as for euro-denominated loans, which make up 90 percent of total foreign currency-denominated loans, about 60 percent of them were taken out in 2010-2013, largely under the “First Home” programme. Credit risk stemming from the foreign currency loan portfolio remained higher than that posed by domestic currency loans (9.2 percent versus 2.6 percent, September 2019), but followed the same downward trend. Furthermore, although the share of loans with a debt service-to-income ratio over 40 percent<sup>38</sup> stood at around 60 percent (September 2019), the vulnerabilities associated with loans contracted since 2016 have declined, the share of risky loans coming in at 30 percent on average in the period 2016-2019.

**Chart A.** Composition of foreign-currency loan stock, by origination year and type of loans – households sector (September 2019)



Source: CCR, CB, NBR calculations

Looking at non-financial corporations, the positive economic developments over the last years have enabled the consolidation of balance sheet positions via reducing financial debt in foreign currency. The stock has currently reached lei 121.5 billion (74 percent of the all-time high recorded in the previous financial

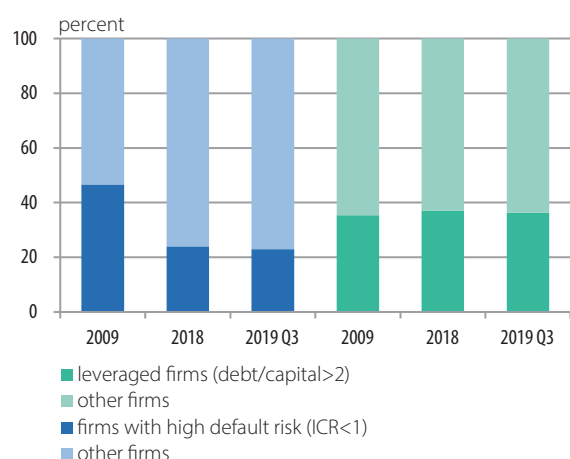
<sup>38</sup> The 40 percent level is considered the threshold for risky loans in case of unfavourable developments.

cycle, September 2012), while its share in total financial debt has dropped to 58 percent. Foreign currency debt declined in the context of the amendments to the prudential regulatory framework regarding the risks stemming from forex lending<sup>39</sup>. The analysis of the risk profile of companies having outstanding loans in foreign currency shows a decrease in the risks posed by this sector compared to the period after the global financial crisis. The debt stock of companies with high

default risk<sup>40</sup> has narrowed considerably since end-2009 (by 63 percent, Chart B). Moreover, firms with foreign currency loans have a significantly better capacity to cover forex exposures than they had during the crisis, their foreign exchange exposure-to-equity ratio dropping from 55 percent in 2009 to 35 percent in 2018. Nevertheless, significant vulnerabilities persist. Highly-indebted firms<sup>41</sup> further hold a significant share of foreign currency debt (36 percent), while the real estate sector still accounts for the highest forex exposure, despite its considerable adjustment (by 24 percent versus the end-2009 value). Firms with foreign currency loans play an important part both in the economy and in the Romanian banking system. The build-up of major vulnerabilities at the level of these non-financial corporations may produce contagion effects on the economy as a whole. The

latest data indicate a possible return of foreign currency debt onto an upward path, given that all its components have witnessed positive dynamics. A continuation of this trend is likely to generate risks to financial stability once the monetary policy normalisation process is resumed at global level, especially as firms' balance sheets still include, along with the foreign currency debt from financial institutions, a significant amount of foreign loans from their parent undertakings, i.e. intercompany loans (lei 156 billion, September 2019).

**Chart B.** Composition of foreign-currency financial debt by firms' risk level



Source: NBR, MPF, NBR calculations

## 1.4. External balance

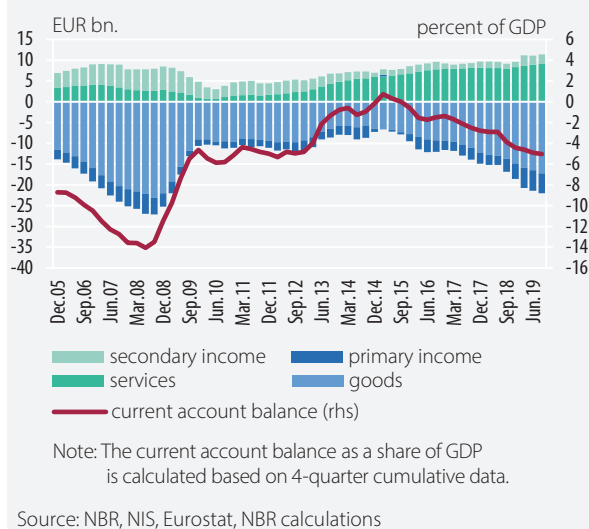
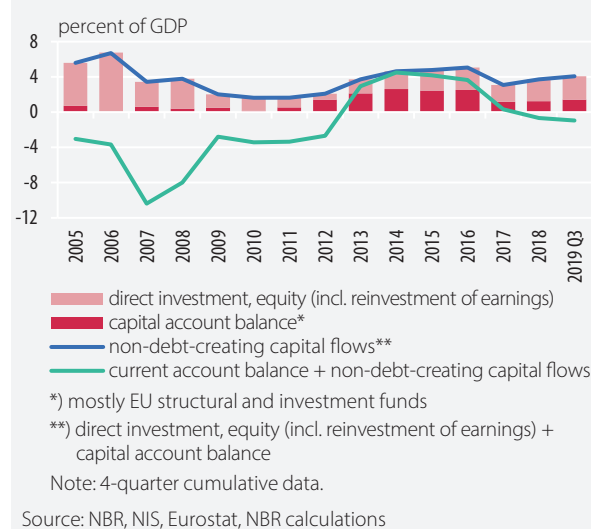
### 1.4.1. Current account

From the perspective of macroeconomic stability, the worsening of external imbalance remains a matter of serious concern. The current account deficit as a share of GDP further widened at a swift pace compared to the same year-ago period (from 3.9 percent to 5 percent in 2019 Q3, four-quarter cumulative data), mainly on the back of a larger trade deficit (Chart 1.15).

<sup>39</sup> NBR Regulation No. 17/2012 included more stringent conditions for foreign currency lending to unhedged non-financial corporations, in line with the recommendation of the European Systemic Risk Board on lending in foreign currencies (Recommendation ESRB/2011/1).

<sup>40</sup> The interest coverage ratio (EBIT/interest expenses) records values below 1.

<sup>41</sup> The debt-to-equity ratio posts values above 2.

**Chart 1.15.** Current account balance and its components**Chart 1.16.** Current account deficit financing

According to European Commission forecasts, pressures will persist over the period ahead<sup>42</sup>. The current account deficit worsening may have a significant impact on capital flows and lead to the deterioration of macroeconomic equilibria. This is a matter of concern particularly as Romania reports the highest current account deficit among the emerging economies in the region.

Unlike the previous years when the current account deficit was fully covered by stable, non-debt-creating capital flows (from 2013 to 2017), in the recent period, such flows ensure only part of the current account deficit financing (Chart 1.16). This change was driven mainly by the slower absorption of EU structural and investment funds<sup>43</sup>. In September 2019, the current account deficit coverage by non-debt-creating flows declined to 81 percent.

### The performance of foreign trade companies

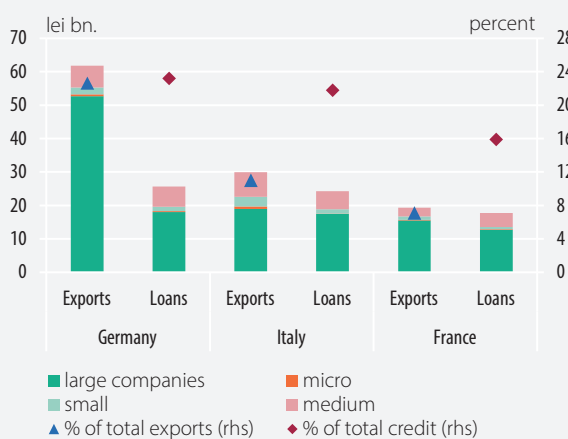
Foreign trade companies saw their business grow over the last year, despite a global macroeconomic environment surrounded by trade tensions. The sectors making the largest contribution to the favourable developments in foreign trade were manufacturing (82 percent of exports and 54 percent of imports) and trade (10.6 percent of exports and 38.5 percent of imports). The main manufacturing subsectors involved in foreign trade, such as the automotive industry, depend on the development of the transport infrastructure, as well as on the availability of skilled workforce. This highlights the importance of ensuring an appropriate environment for business development. The software industry is another important subsector for foreign trade, and its focus on the human factor, along with its lower dependency on infrastructure may indicate a significant potential. By technological intensity, the medium high-tech and high-tech goods accounted for 49 percent and 6.6 percent of exports, respectively, in the period from September 2018 to June 2019.

<sup>42</sup> The current account balance as a share of GDP is estimated at -5.1 percent for 2019 and at -5.3 percent for 2020.

<sup>43</sup> In 2014-2017, two multiannual financial frameworks for EU funds absorption overlapped (MFF 2007-2013 and MFF 2014-2020), which may account, to a certain extent, for the slower absorption of EU funds over the recent period.

Romania's external balance relies on a small number of firms that account for less than 1 percent of the corporate sector. Specifically, at mid-2019, there were 2.7 thousand net exporters and 5.1 thousand importers operating in the economy. Foreign trade companies<sup>44</sup> witnessed mixed developments in terms of performance, in the sense that financial indicators improved for exporters, while for importers they remained unchanged or even worsened. Compared to the corporate sector as a whole, foreign trade companies further reported below-average profitability rates at end-2018, with return on equity (ROE) coming in at 15 percent for exporters (up by 3 percentage points in annual terms) and at 16 percent for importers (down by 1 percentage point), values below the 19.5 percent average. According to the *Survey on the access to finance of non-financial corporations in Romania*<sup>45</sup>, foreign trade firms reported a decline in their profit margin and considered, to a greater extent than the average of respondents, their labour costs, loan expenses and other costs to be on the rise. The results also showed that importers perceived competition as a more pressing problem than exporters.

**Chart 1.17.** Export values and bank exposures of exporters to Romania's main trading partners: Germany, Italy, France (January-June 2019)



Source: Eurostat, NBR calculations

Firms exporting to Germany and Italy are relevant for both the real economy and the banking sector, accounting for 38 percent of banks' overall corporate portfolio and for 33 percent of Romania's exports (Chart 1.17). Compared to the economy-wide average, firms exporting to Germany and Italy reported lower profitability rates (with ROE standing at 15 percent in 2018, compared to 19.5 percent for the sector as a whole) and a weaker liquidity position. Nevertheless, their level of indebtedness is also lower, with a debt-to-equity ratio of approximately 100 percent versus 196 percent for firms overall. In addition, non-performing indicators show a lower probability of default for these firms compared to the economy as a whole (2.7 percent, compared to the 4.5 percent sector-wide average in September 2019), as well as a lower non-performing

loan ratio. Thus, despite the current lack of causes for concern, creditor banks may grow vulnerable to a sudden deterioration in the soundness of companies exposed to the economies of neighbouring countries.

Bank portfolio quality shows a persistence of the trends recorded in the previous *Report*. Specifically, the non-performing loan ratio of net exporters picked up at a swift pace in 2019 H1, from 2.9 percent at end-December 2018 to 5.4 percent in June 2019, remaining however below the average of non-financial corporations as a whole. For net importers, the above-mentioned indicator changed marginally, from 2.8 percent to 2.9 percent over the same period.

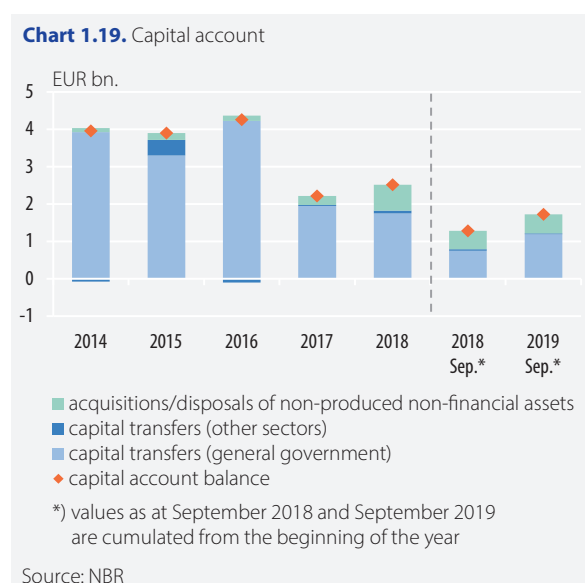
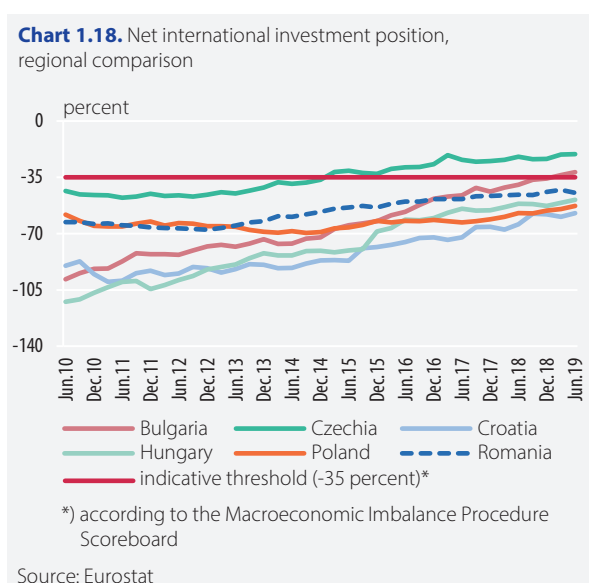
<sup>44</sup> These were grouped into net exporters (creating trade surplus) and net importers (creating trade deficit). Only the companies engaged in exports or imports exceeding EUR 100,000 in each quarter over a year were taken into account. The selected businesses accounted for 97 percent of the exports of non-financial corporations and 94 percent of their imports, respectively, in the period from October 2018 to June 2019.

<sup>45</sup> The June 2019 Survey.

Trade in agri-food products accounts for an important share of the trade deficit. This is largely due to the structural difficulties facing local agriculture and food industry in their efforts to cover the surge in consumption witnessed over the last years. The growth potential of agri-food producers at national level is undermined by their poor competitive position. This applies as well to products for which raw materials are available domestically<sup>46</sup>. Finding solutions for correcting this imbalance, such as technologically upgrading productive capacities and reducing excessive fragmentation of agricultural holdings, may help improve the balance on trade over the long term.

### 1.4.2. Capital flows

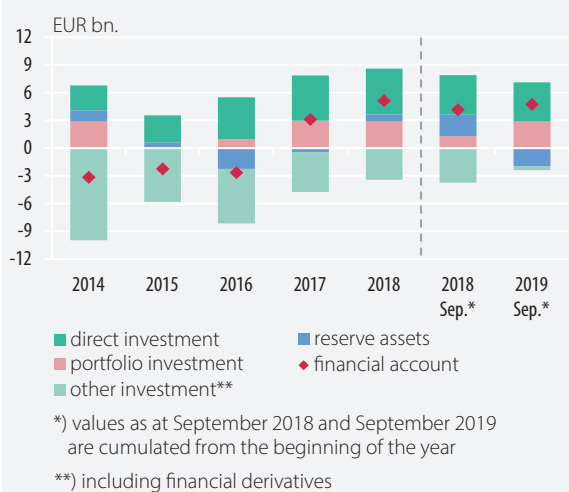
Macroeconomic vulnerabilities stemming from the external position remain a matter of concern. Romania's net international investment position (as a share of GDP) has witnessed positive developments in the recent period, but continues to significantly exceed the indicative threshold set by the European Commission, standing at -45.6 percent in September 2019, compared to the -35 percent threshold (Chart 1.18). At regional level, most countries face the persistence of the indicator on the net international investment position beyond the alert threshold, showing a higher vulnerability to a potential shock triggered by the withdrawal of capital flows.



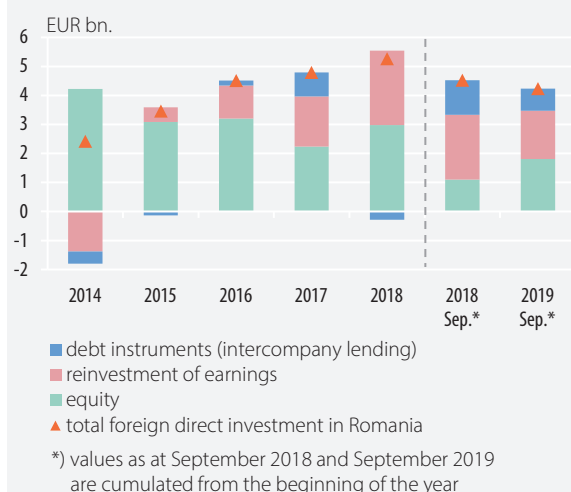
The capital account balance rose by around 35 percent in September 2019 versus the same year-ago period (cumulative data from the beginning of the year), against the background of an increase in capital transfers, particularly in the general government sector (Chart 1.19). From a historical perspective, despite recent positive developments, capital transfers accounted for mostly by EU structural and investment funds have decreased significantly since 2017.

<sup>46</sup> An in-depth review of this topic is available in the February 2018 *Inflation Report* (Box 2).

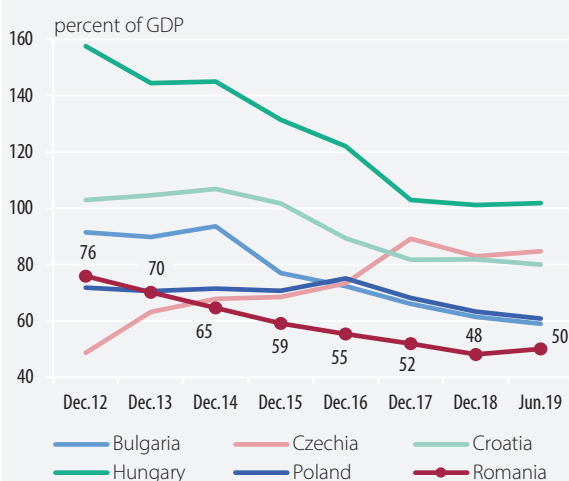
The financial account remained in positive territory, posting a 14 percent annual growth rate in September 2019<sup>47</sup>. The breakdown shows that portfolio investment contributed to this increase (Chart 1.20). In September 2019, direct investment declined slightly by 1 percent versus the same year-ago period (cumulative data from the beginning of the year), amid a significant pick-up in equity and a drop in reinvestment of earnings (Chart 1.21). Non-debt-creating flows (equity and reinvestment of earnings) are further the main component of direct investment, with a roughly 82 percent share as at September 2019.

**Chart 1.20.** Financial account


Source: NBR

**Chart 1.21.** Foreign direct investment in Romania


Source: NBR

**Chart 1.22.** External debt, regional comparison


Source: World Bank, NBR

External debt as a share of GDP remained on a downward path and recorded the lowest level among the countries in the region (51.7 percent in September 2019, Chart 1.22). In absolute terms, Romania's external debt increased, amounting to EUR 108.2 billion in September 2019, 8 percent higher than the stock at end-2018. The coverage of short-term external debt at remaining maturity by foreign exchange reserves held at the NBR stood at 75 percent in September 2019 against 74 percent at end-2018. Romania's foreign exchange reserves amounted to EUR 34.9 billion, while international reserves totalled EUR 39.4 billion in October 2019. The gold stock has held steady at 103.6 tonnes, worth EUR 4.5 billion in October 2019.

<sup>47</sup> Cumulative data from the beginning of the year.

## 2. REAL SECTOR

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The improving trend, on aggregate, in the financial position of firms in Romania continued during 2018, yet at a slower pace and with mixed developments in its composition. Looking at the turnover, the contribution to gross value added or net profit, the real sector moved in line with economic growth compared to the previous year, but financial indicators saw a worsening in certain segments. The increase in firms' equity over the last year failed to fully offset the advance in their debt. Therefore, their level of indebtedness went up to 196.3 percent at end-2018, counting further among the highest at a European level.

The banking sector has played a more important role in non-financial corporations' financing since the previous *Report*, but there is still room for improvement in terms of a lending recovery in this segment. Overall, the financial soundness of companies with outstanding loans was further above that of the corporate sector at aggregate level and, in this context, banks' corporate loan portfolio quality continued to improve, falling for the first time ever below the EBA's 8 percent alert threshold, and thus entering the intermediate risk bucket. Companies' payment discipline improved on the whole, yet this factor remains a vulnerability, given that overdue payments account for about 9 percent of GDP, while structural developments are still mixed. Moreover, there is a significant number of firms with a capitalisation below the regulatory threshold, posting significant recapitalisation needs.

The implementation of measures designed to solve the structural vulnerabilities facing non-financial corporations can reduce the general risk in this sector. In addition, this may exert positive effects on the companies' capacity to take loans from credit institutions. Among the policy elements considered in this respect is the amendment of Law No. 31/1990 on commercial companies or the revision of the insolvency framework. Furthermore, in order to improve domestic financial intermediation, it would be desirable for companies to replace their external debt with financing provided by local banks, without affecting market conditions. Turning to trade deficit, a source of its widening stems from trade in agri-food items. Finding solutions for mitigating this imbalance, such as technological investments in production capacities and the reduction of excessive fragmentation of agricultural holdings, could help improve the trade balance in the long run.

Households' financial position has continued to strengthen since the previous *Report* amid positive balance sheet developments. Following the prudential measures taken by the NBR and implemented since the beginning of this year, the sector's level of indebtedness declined significantly, which shows the effectiveness of the calibration of this instrument in putting lending onto a more sustainable path, while households' access to finance consolidated, with loans granted by both banks and NBFIs recording higher values. Households' loan repayment capacity improved amid favourable balance sheet developments, yet credit risk went up in certain segments,

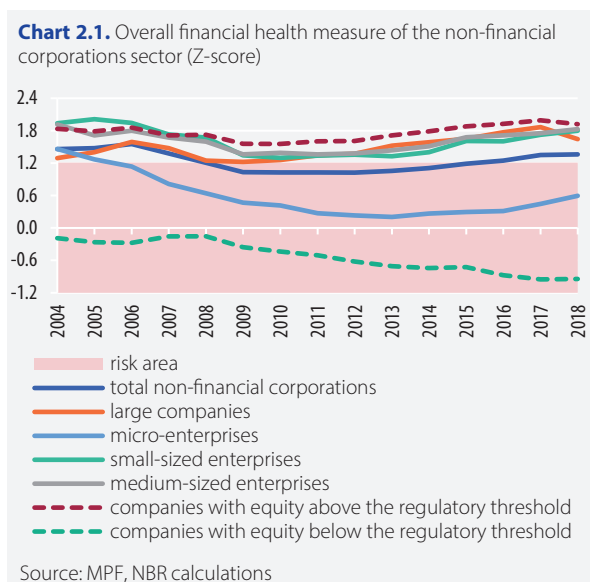
with leu-denominated loans posting an increase in non-performing exposures both at aggregate level (+7 percent) and by main type of products.

The residential real estate market saw a slowdown in activity, the same as in the previous *Report*, while the commercial real estate market witnessed an expansion. The analysis of the latest information on the two markets reveals no significant systemic risks. However, the structural vulnerabilities specific to real estate markets, highlighted also in the previous *Reports*, have persisted. The NBR closely monitors the developments on real estate markets and continues to improve its risk monitoring and assessment tools.

## 2.1. Non-financial corporations

### 2.1.1. Non-financial corporations' economic and financial performance

The improving trend in the financial position of firms in Romania at aggregate level continued into 2018, albeit at a slower pace and with mixed developments in its composition. Looking at the turnover, the contribution to gross value added or net profit, year-on-year increases of about 15 percent were recorded, these evolutions being in tandem with the economic growth dynamics, but financial indicators saw a worsening in certain segments.

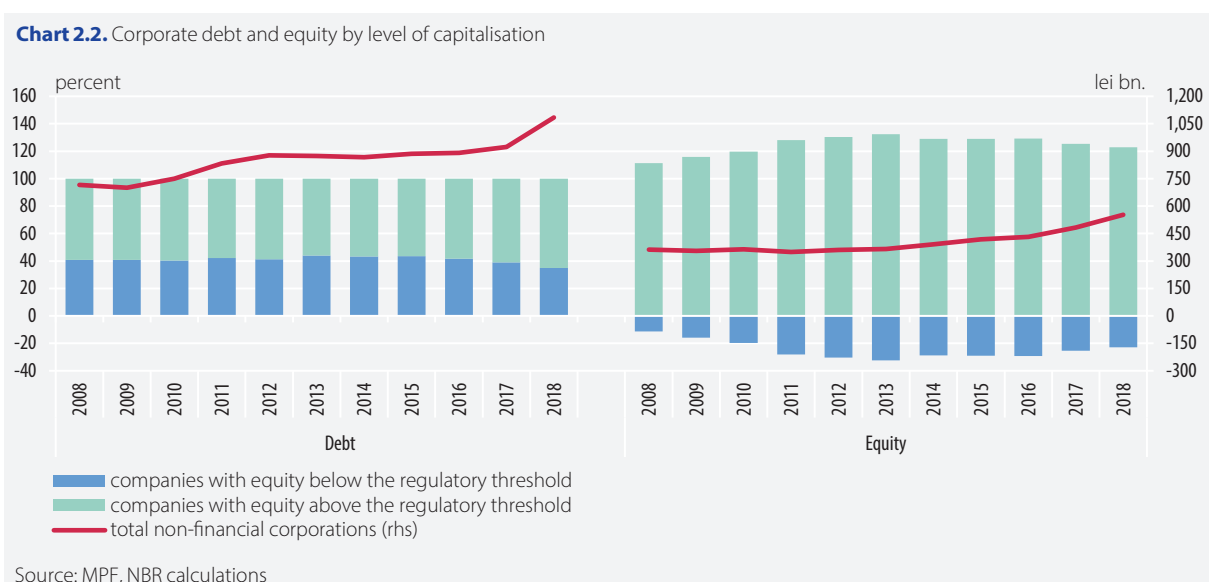


The overall financial health measure of the non-financial corporations sector<sup>48</sup> remains outside the risk area (Chart 2.1), similarly to the evolution seen over the last two years, but a mild flattening is visible amid higher indebtedness, the marginal decrease in asset use efficiency and relatively steady rates of return. Solving the issues facing firms with equity below the regulatory threshold would considerably improve the financial soundness of players in the economy. The breakdown by company size shows a deterioration of this measure for large companies, especially as a result of the rise in their debt, whereas its dynamics in the case of small and medium-sized enterprises were positive overall. The overall financial health indicator for micro-enterprises remains, however, in the risk area. In spite of its recent improvement, the negative impact in the aftermath of the financial crisis was not entirely reversed. This shows that firms should

<sup>48</sup> The overall financial health measure for non-financial corporations was determined based on the methodology developed by Edward I. Altman (2000), "Predicting Financial Distress of Companies: Revisiting the Z-score and ZETA Models". Considering that the non-financial corporations sector in Romania is overwhelmingly made up of unlisted firms, the indicator was calculated based on the method adapted for private firms. Z-score was built by using the following formula:  $Z' = 0.717(X1) + 0.847(X2) + 3.107(X3) + 0.420(X4) + 0.998(X5)$ , where: X1 – Net current assets/Total assets; X2 – Net retained earnings/Total assets; X3 – EBIT/Total assets; X4 – Equity/Debt; X5 – Turnover/Total assets. The principal component analysis (PCA) was used to check whether the model is suitable for the non-financial corporations sector in Romania and the results were positive.

step up their efforts to make the necessary balance sheet adjustments with a view to increasing their capacity to withstand potential adverse developments<sup>49</sup>.

Equity is a balance sheet item that is essential to improving firms' resilience to risk conditions and that backs the sustainable development of business. Although its value rose over the last years (Chart 2.2), the capitalisation level continues to count among the significant structural vulnerabilities facing non-financial corporations in Romania, as a considerable number of them record values below the regulatory threshold<sup>50</sup>. At end-2018, approximately 260 thousand firms (38 percent of total) had equity below the threshold of 50 percent of the share capital, down 1 percent compared to the previous year, with the overwhelming majority reporting negative equity (252 thousand firms, i.e. 37 percent of total). The companies that do not comply with the regulatory requirements in this field erode the capitalisation basis of the sector overall, reducing total equity by about 23 percent (lei 126.7 billion, Chart 2.2).



The implementation of measures designed to solve this vulnerability can reduce the general risk in the non-financial corporations sector (Chart 2.1). In addition, this may exert positive effects in terms of increasing companies' capacity to take loans from credit institutions, mitigating the contagion risk from spreading to the other business partners (companies with equity below the regulatory threshold hold 34.8 percent of the sector's total debt, Chart 2.2), and stimulating economic growth overall. Furthermore, the conditions can be put in place to improve payment discipline, by reducing the number of unviable firms, as well as to more efficiently allocate resources in the economy. The National Committee for Macro-prudential Oversight (NCMO) also shows a concern in this respect, owing to the systemic nature and implications these firms may have on the financial system<sup>51</sup>. Following the NCMO recommendation, the Ministry of Public Finance prepared a draft ordinance on taking

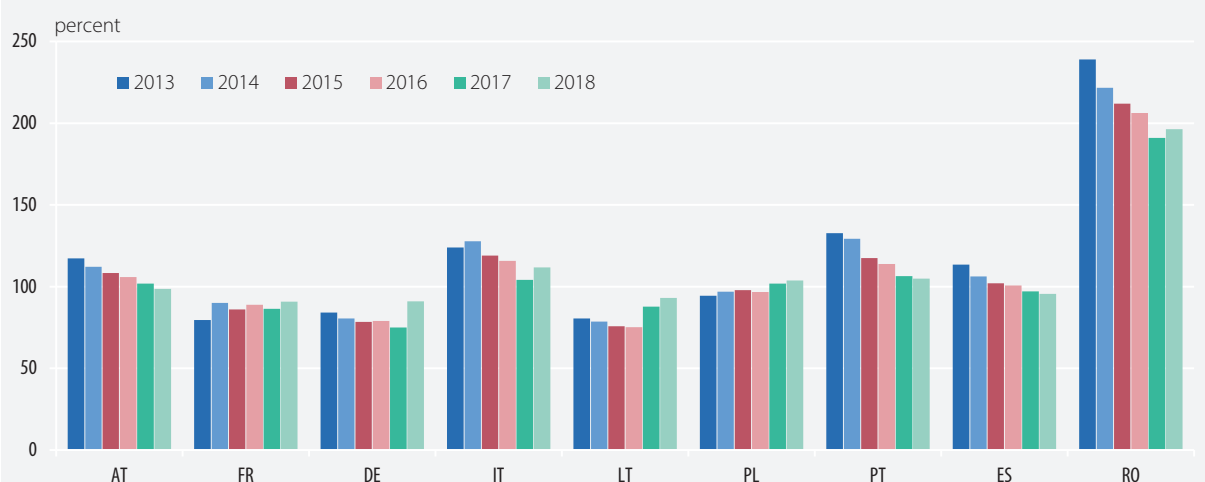
<sup>49</sup> Georgescu, F. – "Closing Remarks for the 13th Edition of the NBR-IMF Regional Seminar on Financial Stability", Bucharest, 2019.

<sup>50</sup> Law No. 31/1990 on commercial companies.

<sup>51</sup> NCMO Recommendation No. R/2/2018 on implementing some measures related to firms' financial soundness.

steps addressing undercapitalised companies, among the main propositions counting the explicit mention of the institution acting as a stakeholder on behalf of the state in order to discourage the undercapitalised companies (the National Agency for Fiscal Administration) and the possibility to increase the share capital by debt-to-equity swaps. However, in order for the measures on undercapitalised companies to be efficient it is also necessary to revise the regulatory framework on insolvency and, similarly to other EU countries, make a “blacklist” of the persons responsible for repeated mismanagement of a company.

**Chart 2.3.** Debt-to-equity ratio, international comparison



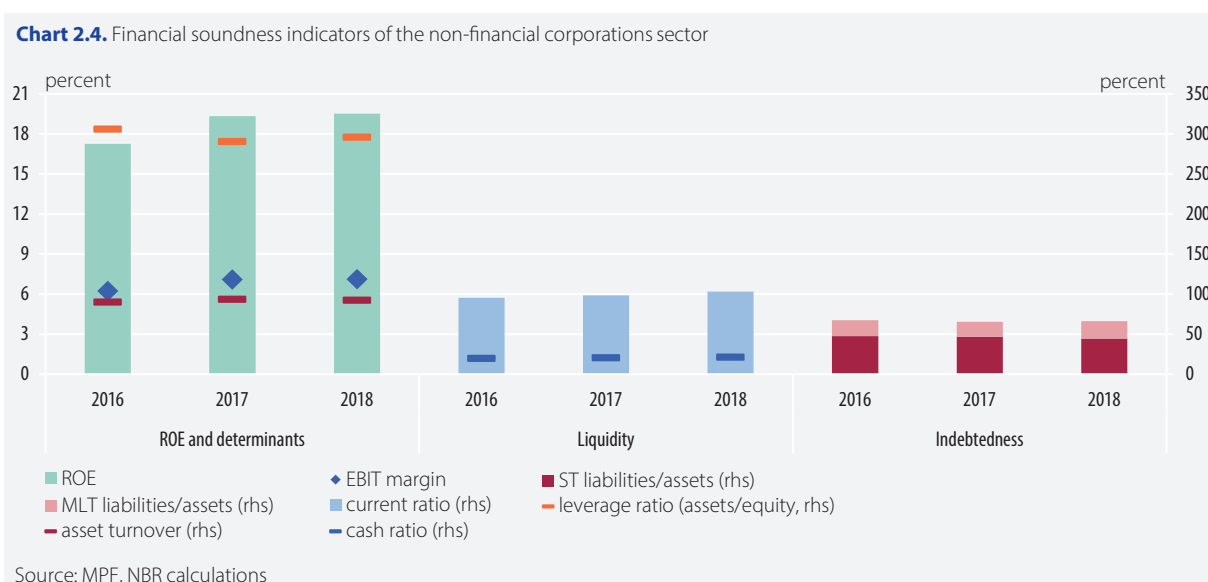
Source: IMF, MPF, NBR calculations

The increase in firms' equity over the last year (+14 percent) failed to fully offset the advance in their debt (+17 percent). Thus, their level of indebtedness climbed to 196.3 percent at end-2018 compared to 190.9 percent in 2017, remaining one of the highest levels in Europe (where the indicator is generally below 100 percent, Chart 2.3) and nearing the 200 percent signalling threshold. Behind the evolution of debt stood mainly medium- and long-term debt (+35 percent), in a context in which the investment ratio also posted a significant growth (from 6.4 percent to 10.1 percent in 2017-2018). It is, however, important that the level of indebtedness remain adequate, since firms' financial soundness can influence their likelihood to invest<sup>52</sup>. A more efficient use of capital and labour, illustrated by higher returns on equity (ROE) and greater productivity, alongside a low level of indebtedness, generates positive effects on firms' investment capacity. Maintaining a satisfactory financial standing can improve firms' access to finance and hence can have a significant favourable impact on the investment probability and, implicitly, on the economy's future evolution.

Apart from avoiding over-indebtedness, firms should also manage their liquidity carefully. The maturity mismatch between assets and liabilities can have a negative influence on firms' debt-servicing capacity. At aggregate level, the current ratio of firms in Romania improved, rising above one for the first time after the outbreak

<sup>52</sup> Pal, R., Wruuck P., Stamate A., Dumitrescu C., 2019 – “Investment: What Holds Romanian Firms Back?” EIB Working Paper 2019/08.

of the financial crisis (to 103.3 percent at end-2018, Chart 2.4). However, the breakdown shows that certain segments of firms are still vulnerable as concerns their liquidity position (micro-enterprises and companies in the real estate sector<sup>53</sup>). The cash-conversion capacity of firms in Romania continued to deteriorate in 2018 too (Chart 2.5), given that the inventory conversion period increased, the payables payment period decreased (98 days), while the receivables collection period remained relatively long (87 days)<sup>54</sup>. Considering that trade debt is the main external source of financing for firms (accounting for 18 percent or lei 292 billion, up 6.8 percent versus the previous year), the risk of contagion to the other partners is important. Therefore, adequate liquidity management for preventing overdue payments remains of the essence. Moreover, another important source of financing resorted to by firms refers to debts to shareholders and affiliates, that accounted for 12 percent of firms' liabilities and owners' equity at end-2018, on a slight decline versus 2017 (in absolute terms, the amounts owed to shareholders went up by 9 percent to lei 196 billion).



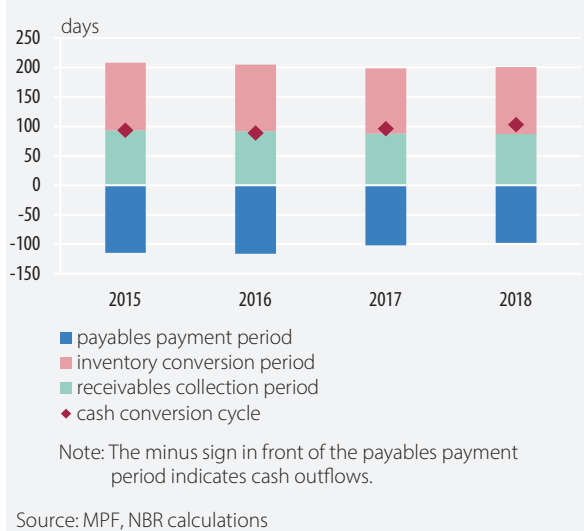
Turning to the profit and loss account, both revenues and expenses recorded increases. Firms' operating expenses continued to pick up (+14.9 percent in 2018), especially because of higher expenses on raw materials and consumables (+14.5 percent), goods for resale (+15.1 percent) and personnel (+15.9 percent), the growth rate being similar to that of operating revenues (+15 percent). Consequently, firms' profit-making capacity diminished versus the previous year, with ROE remaining relatively unchanged amid a less efficient use of assets, alongside a flat EBIT margin (Chart 2.4). Mention should be made that the analysis of profitability conceals significant differences between: (i) the category of profit-making firms (378 thousand units, i.e. 55 percent of total, generating positive results in the amount of lei 115.8 billion) and (ii) the segment of loss-making firms (228 thousand units,

<sup>53</sup> For further information on the real estate and construction sectors, see Section 2.3.

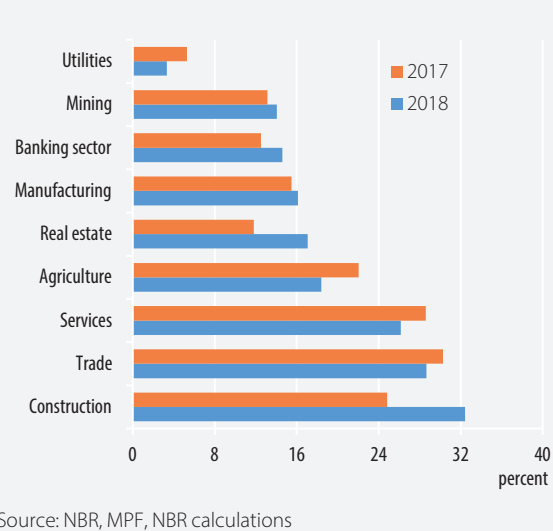
<sup>54</sup> Between professionals, the payment period cannot exceed 60 calendar days. By way of exception, parties may stipulate in their contracts longer payment periods, provided that this clause shall not be abusive (according to Art. 5 of Law No. 72/2013 on measures to combat late payment of the pecuniary obligations resulting from contracts concluded between professionals and between the latter and the contracting authorities).

i.e. 33 percent of total, causing negative results in the amount of lei 35.1 billion), while (iii) 77.8 thousand firms (12 percent of total) report zero profit/loss. Thus, at aggregate level, the net result amounted to lei 80.7 billion, up 14.8 percent versus the previous year.

**Chart 2.5.** Cash conversion capacity



**Chart 2.6.** ROE by business sector



By business sector, the real estate and construction sectors posted the largest increases in return on equity, with the latter reporting the highest ROE in 2018. As for the banking sector, its return on equity, albeit higher in annual terms, lagged behind the average ROE posted by the real economy (Chart 2.6).

The breakdown by ownership illustrates a gap between the performance of private firms and that of state-owned enterprises. In 2018, the capacity of state-owned companies to yield returns on equity and assets deteriorated markedly, whereas the level of indebtedness doubled.

In spite of the recent wage hikes, the negative effects generated by labour market tightening, particularly the difficulty in finding skilled staff, continue to be seen as a pressing issue by firms<sup>55</sup> (for details, see Section 1.2). However, the most important constraints firms deal with while carrying out their activity refer further to the unpredictability of the fiscal environment and the elevated level of taxation. Improving the predictability of measures targeting the business environment, enhancing institutional quality, alongside increasing investment in infrastructure can translate into higher competitiveness of the Romanian economy<sup>56</sup>. Moreover, containing bureaucracy together with supporting measures to boost entrepreneurship, especially in innovative or high value-added fields, as well as revising the insolvency framework can give a spur to the business environment<sup>57</sup>.

<sup>55</sup> NBR's Survey on the access to finance of non-financial corporations in Romania, June 2019.

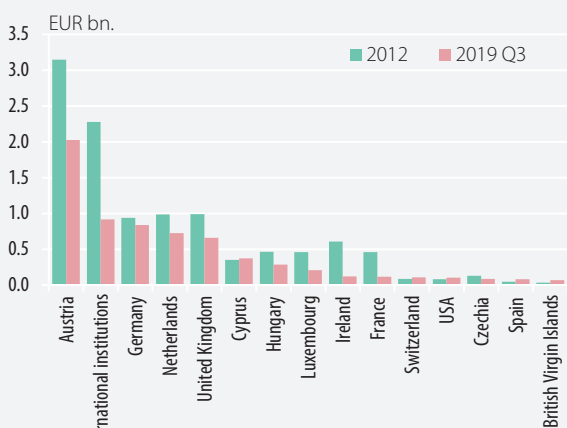
<sup>56</sup> According to *The Global Competitiveness Report 2019*, Romania ranks 51st out of 141 states.

<sup>57</sup> According to *Doing Business 2020*, Romania ranks 55th worldwide, three places down compared to the previous assessment.

## 2.1.2. Financial discipline of non-financial corporations

### Non-performing loans in relation to banks

**Chart 2.7.** Medium- and long-term external loans to Romanian companies by country of residence of the credit institution



Source: NBR, MPF, NBR calculations

The banking sector has played a more important role in non-financial corporations' financing since the previous *Report*, but there is still room for improvement in terms of a lending recovery in this segment, given that the loans taken by firms from institutions outside the country remain at a high level (approximately 12 percent of firms' total indebtedness), albeit on a downtrend in the long run. Financial institutions that finance companies in Romania are located especially in countries such as Austria, Germany and the United Kingdom (Chart 2.7). In order to improve domestic financial intermediation, it would be desirable for companies to replace their external debt with financing provided by local banks<sup>58</sup>, without affecting market conditions. Such an approach would help reduce firms' exposure to external unfavourable

developments and decrease Romania's external debt.

In this context, banks' total exposure to firms reached lei 117 billion (September 2019), adding 7.5 percent from the same year-ago period. The number of companies that took loans from credit institutions in Romania was also on the rise (+4 percent), but these account, however, for a minority share in total active businesses across the economy (11.6 percent). A positive signal comes from the fact that firms that take bank loans allocate significant funds to investment, as shown by the doubling of the investment ratio over the last year to 14 percent.

The sustainable potential to increase lending to non-financial corporations is high and credit institutions have solvency and liquidity resources to raise exposure to the former. The analysis of firms' financial soundness shows a borrowing potential<sup>59</sup> of lei 166 billion for this sector, associated with approximately 9,200 firms, mostly in manufacturing (27 percent), utilities (24 percent), services (18 percent), and trade (16 percent).

In the respondents' opinion, the terms and conditions applicable to outstanding loans or to loans taken from banks and NBFIs in the past 12 months witnessed slight changes<sup>60</sup>. Responses pointed to a marginal worsening in the financing cost, in terms of commissions, fees and other charges on loans, as well as the interest rate level.

<sup>58</sup> For further details, see the Special Feature. Foreign Financing of Non-financial Corporations in Romania in the June 2018 *Financial Stability Report* published by the NBR.

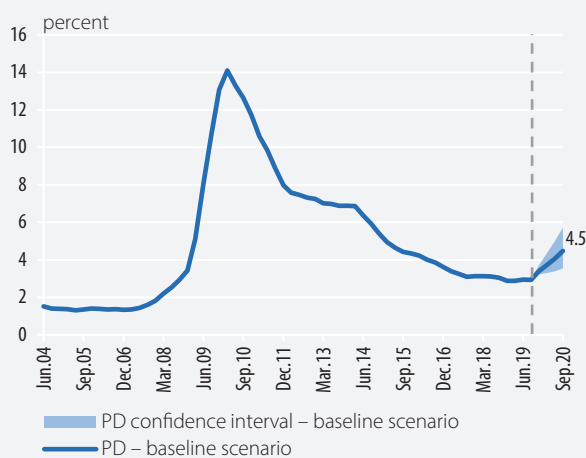
<sup>59</sup> The borrowing potential was determined by summing the potential for debt increase at the level of each firm that meets certain performance criteria so that the leverage ratio should be 1. For further details on performing firms and the manner to define them, see Neagu, F., Dragu, F., Costeiu, A. – „Pregătiți pentru viitor? O nouă perspectivă asupra economiei României”, NBR Working Paper No. 46/2017.

<sup>60</sup> NBR's *Survey on the access to finance of the non-financial corporations in Romania*, June 2019.

This evolution reflected also in firms' interest coverage capacity (measured by EBIT to interest expenses), which deteriorated slightly at end-2018. This indicator remains, however, way above the critical threshold of 100 percent (i.e. 665 percent).

Overall, the financial soundness of companies with outstanding loans was further above that of the corporate sector at aggregate level amid a significantly lower indebtedness level, higher liquidity, faster asset turnover and a rising ROE. Under the circumstances, banks' corporate loan portfolio quality continued to improve, falling for the first time ever below the EBA's alert threshold (8 percent) and thus entering the intermediate risk bucket. Specifically, the NPL ratio at aggregate level declined to 7.6 percent in September 2019, down 1.9 percentage points from the same year-ago period. Behind this evolution stood mainly the contraction in loans unlikely to be paid, whereas the contribution of loans overdue for more than 90 days lowered. In fact, the importance of the latter diminished over the last years amid the NPL resolution measures implemented by local banks. The share of loans past due by more than 90 days in total non-performing loans was of 42 percent in September 2019 (compared to a high of over 60 percent in August 2017), of which more than two thirds were more than 365 days past due.

**Chart 2.8.** Annual default rate in the non-financial corporations sector, according to the macroeconomic baseline scenario



Source: MPF, NBR calculations

In the space of one year, the forecast of the probability of default shows a possible deterioration of the debt servicing capacity of firms with outstanding bank loans, in the context of further tensions surrounding macroeconomic equilibria. Compared to the current default rate (2.9 percent at end-September 2019), the estimates indicate an advance to 4.5 percent (September 2020), given a baseline scenario assuming macroeconomic developments in line with expectations (Chart 2.8). By loan currency, the probability of default is similar for both firms with loans in lei and firms with loans in foreign currency. However, it is necessary to closely monitor risks from the foreign currency component, since, in the event of a domestic currency depreciation, they can put pressure on firms' debt servicing capacity<sup>61</sup>. In addition, the estimated

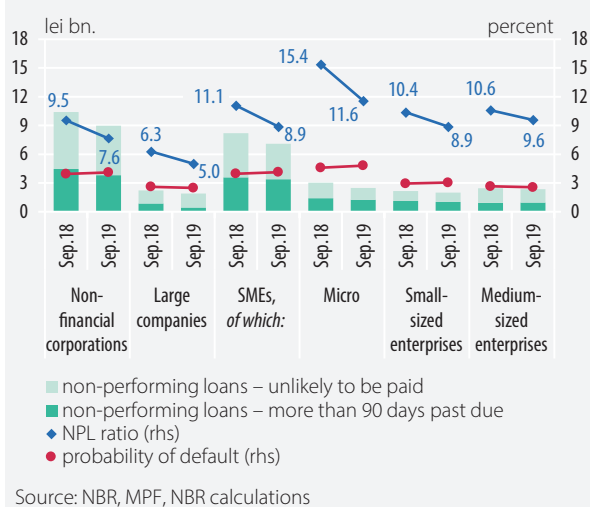
probability of default on a 12-month horizon is higher for low-tech companies (for instance, the trade sector) than in the case of medium- and high-tech companies. This points out a better borrowing capacity of technology-intensive firms, so that a more pronounced orientation towards these sectors of credit institutions could improve the current economic growth pattern.

By business sector, the NPL ratio saw a broad-based decline (Chart 2.10). However, the construction and real estate sectors continue to post the highest NPL ratio. By company size, the quality of the loan portfolios in banks' balance sheets improved

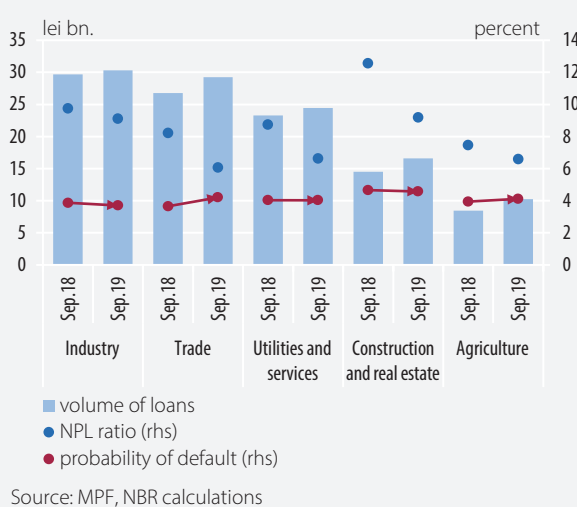
<sup>61</sup> Additional assessments on the foreign currency-denominated indebtedness of non-financial corporations are included in Box 2 in Section 1.3.

in all segments (Chart 2.9). Considering the existing vulnerabilities across micro-enterprises, as well as the fact that this category previously accounted for a significant share of non-performing loans, it is recommended that, in this case, access to finance should be extended in a sustainable manner. Moreover, structural reforms designed to mitigate balance sheet risks and improve payment discipline could lead to a better coverage of bank services for a wider area of SMEs, thus sustainably consolidating financial inclusion.

**Chart 2.9.** Non-performing loan ratio and the probability of default by company size



**Chart 2.10.** Distribution of NPL ratio and of the probability of default by business sector



Risk indicators, such as the probability of default or the level of indebtedness, influence the probability of access to finance of non-financial corporations, especially SMEs<sup>62</sup>. Thus, the probability of default is a good indicator of a firm's capacity to obtain loans. At the same time, an adequate solvency level is a necessary prerequisite for taking loans. In this context, firms view access to finance as a pressing issue when they report poor financial positions. However, maintaining a balanced financial standing at firm's level, by avoiding over-indebtedness, ensuring an adequate liquidity management and efficiently using available resources overall are essential when taking loans from credit institutions, as well as to a sustainable economic growth over the long term.

### Payment discipline

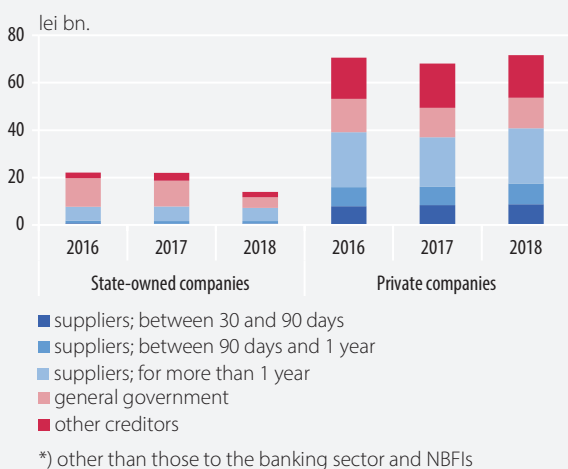
The payment discipline of non-financial corporations improved at aggregate level, yet this factor remains a vulnerability, given that overdue payments account for about 9 percent of GDP (down from 11 percent in 2017) and structural developments are still mixed. The 2018 financial statements show a 5 percent drop in total overdue payments to non-banks (to lei 85 billion), but the main driver behind this evolution was the decline in state-owned enterprises' arrears to the general government budget. Conversely, private firms' overdue payments to suppliers rose by 10 percent

<sup>62</sup> Neagu, M. (2019) – "SME's Access to Finance. A Financial Stability Perspective", <http://www.bnro.ro/Annual-Seminar-on-Financial-Stability-Issues-20293.aspx>.

(Chart 2.11), while their arrears to the general government budget increased by 4 percent.

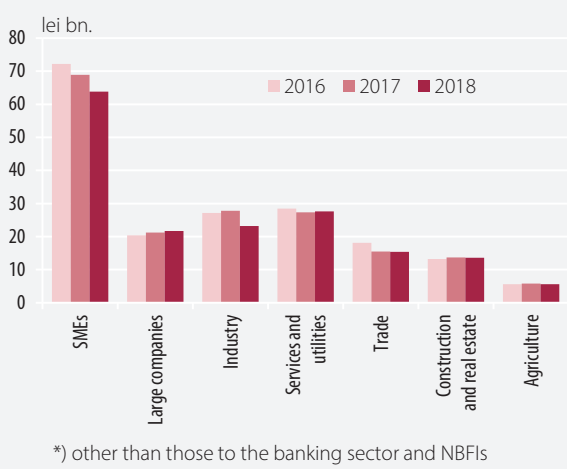
By company size, overdue payments other than to banks posted opposite developments, with SMEs, which account for three quarters of total overdue payments, reporting a decline, and large companies recording a slight rise (up 2 percent). By business sector, the most significant adjustment was made by companies in industry, the other sectors reporting marginal changes (Chart 2.12).

**Chart 2.11.** Breakdown of overdue payments\* in the economy by company ownership



Source: MPF, NBR calculations

**Chart 2.12.** Breakdown of overdue payments\* in the economy by company size and business sector



Source: MPF, NBR calculations

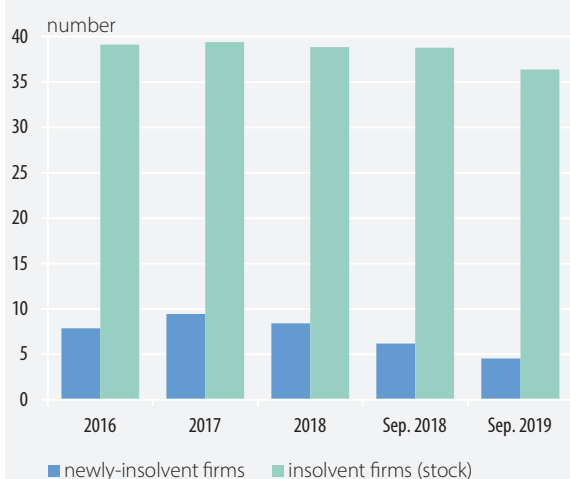
The rejected amounts<sup>63</sup> did not witness significant rises in the first nine months of the year. Insolvency continued to abate, with 36.4 thousand firms undergoing this proceeding at end-September 2019, down 6 percent in annual terms (Chart 2.13). The gap between the number of firms entering and those exiting from insolvency narrowed significantly amid a considerably lower number of firms entering insolvency proceedings (4.5 thousand in the first nine months of 2019, down by approximately 30 percent). The number of firms that became insolvent in the first nine months of 2019 amounted to 4,527, down 27 percent from the same year-earlier period. These firms have a low significance in the economy, generating 0.26 percent of total GVA and hiring 0.57 percent of the total number of employees. In 2019 Q1-Q3, out of the total number of insolvent firms, 243 recovered, the insolvency proceeding being closed without the companies being struck off (up 9.5 percent from the same year-earlier period). In the same period, 346 firms started reorganisation, whereas winding-up or bankruptcy proceedings were initiated against 10.3 thousand firms (moderately lower than in the previous year). It is worth mentioning, however, that the number of firms struck off rose significantly (in the first nine months of 2019, 83.4 thousand strike-offs were carried out, up 42 percent from the same year-earlier period).

The share of atypical companies in the economy decreased mildly. Companies with equity below the regulatory threshold take 38 percent of total firms, whereas the

<sup>63</sup> According to the data provided by the Payment Incidents Register.

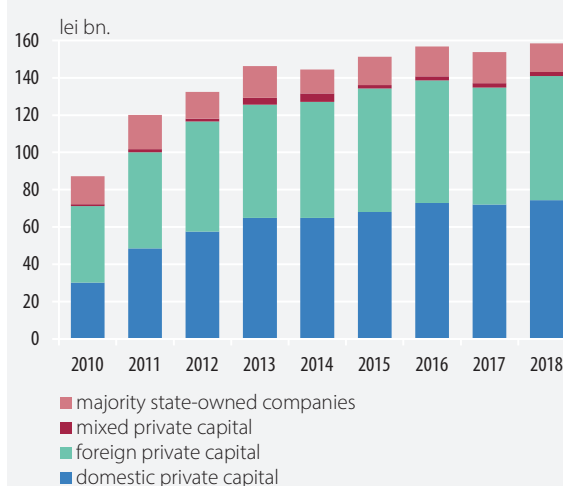
largest share is accounted for by companies with zero employees (42 percent in 2018, on a slight increase versus the previous year), while the share of firms with zero turnover remains at approximately 24 percent of the sector. Companies with equity below the regulatory threshold play a significant role in the worsening of payment discipline in this sector. They report a non-performing loan ratio of 22 percent (September 2019), generating more than a third of total non-performing corporate loans. In addition, these entities account for two thirds of total overdue payments other than those to banks and a third of the newly-insolvent firms. Moreover, even amid the favourable economic developments seen over the past years, the capitalisation needs of these firms continued to grow, especially for domestic and foreign private companies (Chart 2.14). At aggregate level, at end-2018, undercapitalised firms recorded capitalisation needs of lei 158 billion (up 3 percent year on year), accounting for 16.8 percent of GDP, in order to fulfil the minimum regulatory requirement. Private firms concentrated 90 percent of capitalisation needs (lei 143 billion), of which 47 percent were reported by companies with majority domestic capital (lei 74.4 billion) and 43 percent by firms with majority foreign or mixed capital (lei 68.6 billion).

**Chart 2.13.** Number of insolvent firms



Source: NTRO, MPF, NBR calculations

**Chart 2.14.** Firms' recapitalisation needs



Source: NTRO, MPF, NBR calculations

## 2.2. Households

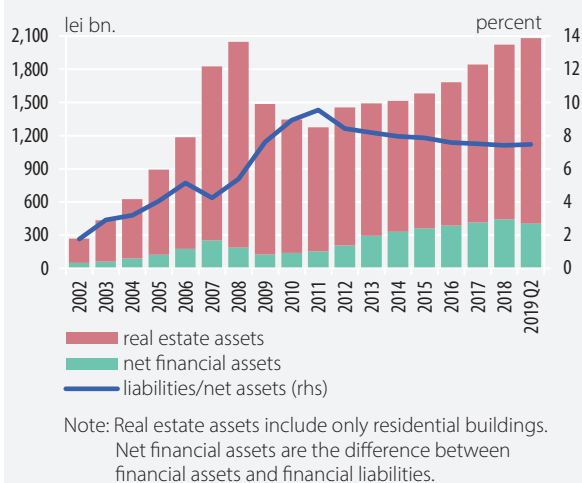
### 2.2.1. Households' balance sheet and saving behaviour

Households' financial position has continued to strengthen since the previous *Report*, amid positive developments in net wealth and disposable income. Following the prudential measures taken by the NBR and implemented at the beginning of this year, the sector's level of indebtedness declined significantly, which shows the effectiveness of the calibration of this instrument in putting lending onto a more sustainable path, while households' access to finance consolidated, with loans granted by both banks and NBFIs recording higher values.

## Households' net wealth and net creditor position

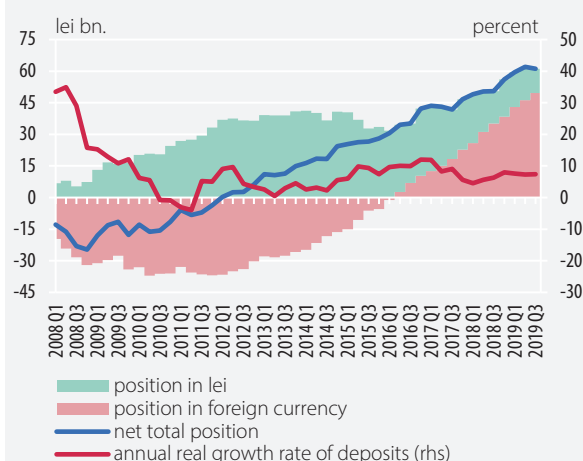
Households' net wealth reached a historical peak, after having risen by 8 percent in 2019 Q2 against the same year-earlier period (Chart 2.15), fully recovering the losses incurred after the financial crisis outbreak. The main driver behind these dynamics was the performance of real estate assets (up 11 percent), whereas financial assets declined by 0.4 percent in the period under review. Mention should be made of households' preference for safe investments (deposits and currency had a 43 percent share in total assets in 2019 Q2), followed by unlisted shares and other equity (24 percent). Listed shares and holdings of investment fund units account for a small proportion (6 percent), indicating a low participation in capital markets. In addition, contributions to pension funds make up 12 percent of households' financial assets, well below the EU average (39 percent), yet rose at a swift pace (up 23 percent in 2019 Q2 versus 2018 Q2) due to the positive dynamics of wage earnings.

**Chart 2.15.** Households' net wealth



Source: NBR, NIS, NBR calculations

**Chart 2.16.** Households' position vis-à-vis banks (sold loans included) and NBFIs



Source: NBR, NBR calculations

Households' net creditor position vis-à-vis the banking sector continued to grow in 2019 Q3 (Chart 2.16). The breakdown shows that the net foreign currency position further strengthened, reaching a post-2004 high. By contrast, the net domestic currency position is on a downward trend, due to loans increasing at a faster pace than deposits.

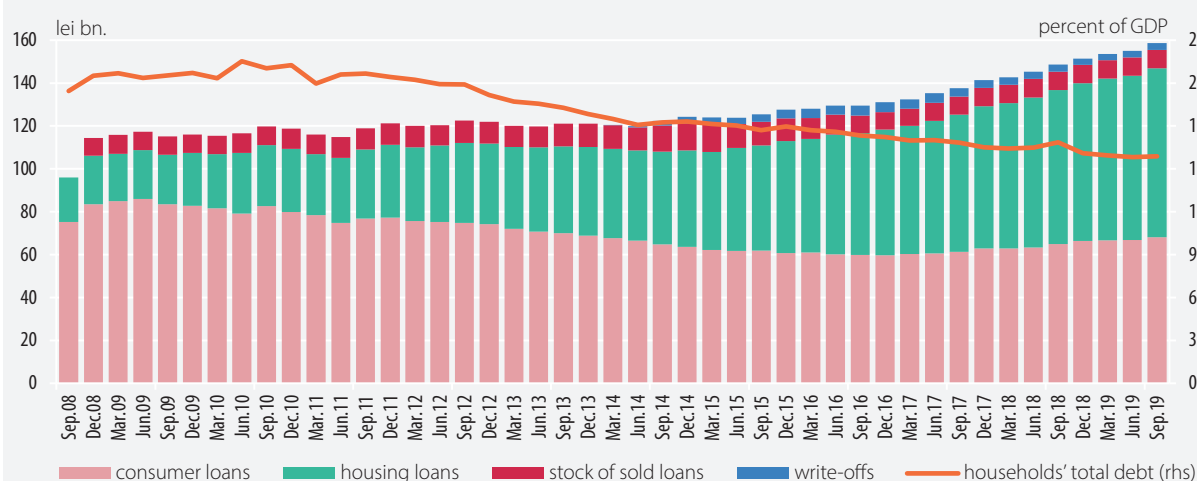
The previously highlighted inequalities in households' bank savings widened, the number of individual depositors<sup>64</sup> holding deposits exceeding the coverage ceiling of the BDGF went up by 16 percent in 2019 H1. Similar developments were recorded in terms of value as well, the amounts above the coverage ceiling rising by 13 percent, while deposits within the coverage limits increased by 10 percent. Therefore, 21 percent of the value of deposits is held by a low share of households (0.3 percent).

<sup>64</sup> According to the BDGF, the total number of depositors is determined as the sum of consolidated data reported by each credit institution, so that an individual with deposits in several credit institutions is taken into account more than once.

## Household debt

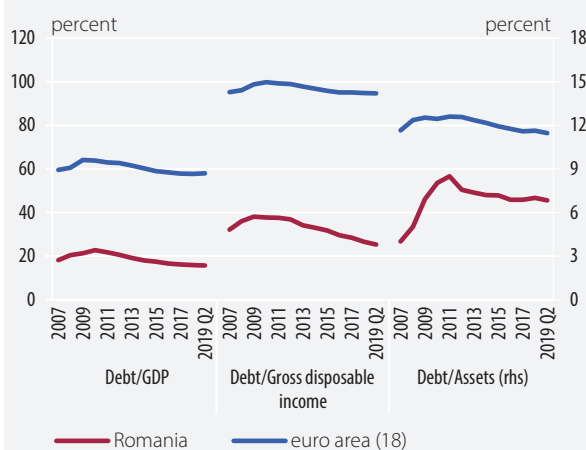
Household debt remained on an upward path in 2019 Q3, reaching lei 160.7 billion, after a 7 percent increase compared with the 2018 Q3 (Chart 2.17). The largest contribution to these developments came from the rise in housing loans (up 9.7 percent in the above-mentioned period) and, to a smaller extent, from that in consumer credit (up 5.9 percent).

**Chart 2.17.** Households' total debt



Source: NBR, NIS, NBR calculations

**Chart 2.18.** Households' level of indebtedness, comparisons with the euro area



Source: ECB, NBR, NIS, NBR calculations

As a share of GDP, households' total debt declined marginally (-1 percentage point), reaching 15.9 percent in September 2019. Across the euro area, the share of households' debt in GDP widened marginally, due to low interest rates supporting lending to households. Thus, a significant gap in the level of financial intermediation persisted between the euro area and Romania. The debt-to-gross disposable income ratio held steady for the euro area in 2019 Q2 versus end-2018, while at a national level, this indicator improved due to the fast rise in household income. The debt-to-assets ratio remains low (6.8 percent), given that 95 percent of households own mortgage-free property, while only 1.1 percent of owners have a mortgage<sup>65</sup>, compared to the EU average of 26.6 percent. Under the circumstances, for financial intermediation

to increase sustainably, structural reforms are necessary in order to address such challenges as the high share of people at risk of poverty or social exclusion, the significant level of the informal economy or the population's poor financial

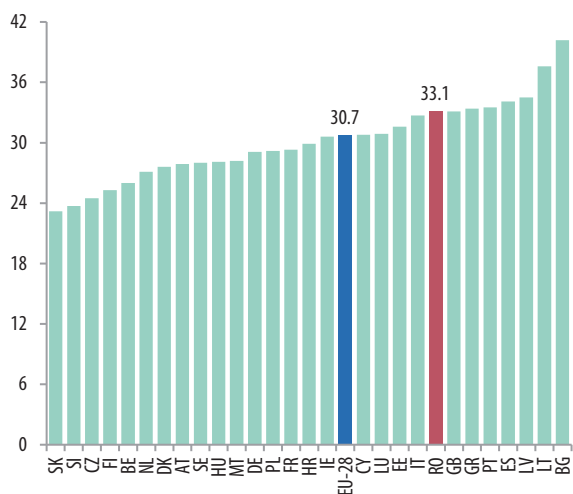
<sup>65</sup> Data at end-2018, according to Eurostat.

education<sup>66</sup>. These reforms may also be beneficial to reducing income inequality and to improving financial inclusion (for details, see Box 3).

**Box 3. Income inequality and financial inclusion**

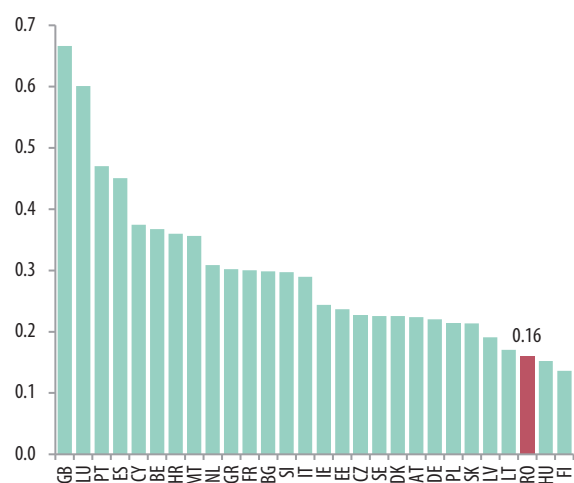
Income inequality remains a challenge both at a national and European level, given its impact on the momentum and sustainability of economic growth. Moreover, another point of interest is the link between the degree of financial inclusion and income inequality.

**Chart A.** Gini coefficient of inequality, 2017



Source: Eurostat

**Chart B.** Financial inclusion index



Source: NBR calculations

In Romania, the Gini coefficient points to high-income inequality, exceeding the EU average (Chart A). In order to assess the link between income inequality and financial inclusion, as well as to compare financial inclusion in Romania relative to the other EU Member States and to capture its many dimensions in a straightforward manner, an aggregate financial inclusion index (FII)<sup>67</sup> was developed. The results show that the degree of financial inclusion in Romania (Chart B) is among the lowest in the European Union and ranks low compared with regional peers, holding the third worst position after Hungary and Finland<sup>68</sup>. However, from a historical perspective, visible progress has been made in improving financial inclusion, the FII currently standing more than 10 times higher than 15 years ago. Financial inclusion in Romania is still negatively affected by the low confidence in financial institutions, increased preference for cash and poor financial education. In 2017, only 58 percent of adults held a bank account<sup>69</sup>, a percentage that had remained unchanged since 2014. In 2016, ATM withdrawals were 2.5 times more frequent than the EU average. Approximately 12 percent of adults use the mobile phone or the internet to access their bank account,

<sup>66</sup> World Bank, FSAP Romania 2018.

<sup>67</sup> Information on the methodology may be found in Iftimie, S. (2019) – “Income Inequality and Access to Credit”, Bucharest.

<sup>68</sup> In the case of Finland, the results should be interpreted with caution due to the lack of available data.

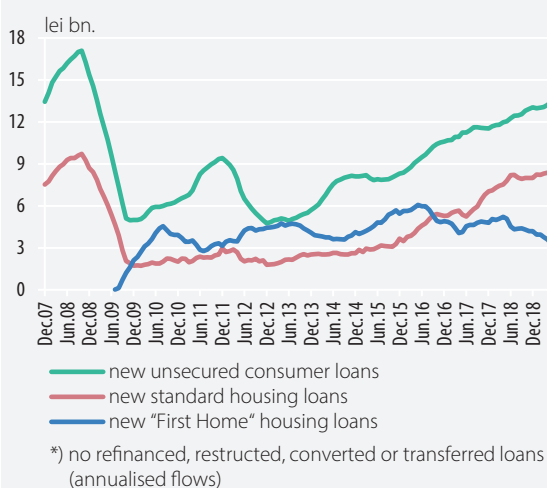
<sup>69</sup> IMF Global Findex database, 2017.

compared to 31 percent in the case of Romania's income peers, while around 80 percent of individuals with no bank account have access to and use a mobile phone.

Furthermore, an econometric analysis using random-effects panel regression with robust standard errors aimed at highlighting the drivers of income inequality, also taking into consideration financial inclusion or financial intermediation. The results reflected the following: 1) higher financial inclusion is associated with lower income inequality; 2) increased financial intermediation reduces income inequality, but to a lesser extent; 3) education policies are key, as rising skill levels, improving the quality of upper secondary and tertiary education are critical for reducing the dispersion of earnings; 4) economic growth has a positive impact on income inequality; 5) countries with an economic growth above the EU average tend to have lower income inequality; 6) by contrast, a higher age dependency ratio is associated with widening inequality.

Consequently, the increase in financial inclusion via households' broader access to credit should always consider the objective of preserving financial stability. Expansion in credit may entail a build-up of vulnerabilities in the financial system, as access to finance in the absence of prudent credit standards may lead to over-indebtedness of those vulnerable categories of population.

Chart 2.19. New loans\*



Source: NBR

New loans to households increased by 7 percent in annual terms, October 2018 through September 2019, reaching a 10-year high (lei 27.2 billion). The rise was chiefly underpinned by the advance in unsecured consumer credit (up 17 percent), especially during 2019 Q3 (up 31 percent versus 2018 Q3). The number of new consumer loans went up slightly (up 3 percent), while the median amount increased by 16 percent. The flow of new housing loans decreased by 4 percent, amid the lowering of the ceiling for the "First Home" government programme for 2019. Although the production of standard housing loans rose by 12 percent in the period under review, it was counterbalanced by the related evolution in the "First Home" segment, which contracted by 34 percent (Chart 2.19; for further details, see Section 2.3).

The number of new housing loans dropped by 10 percent, the evolution being partly offset by the increase in the median amount (up 6 percent).

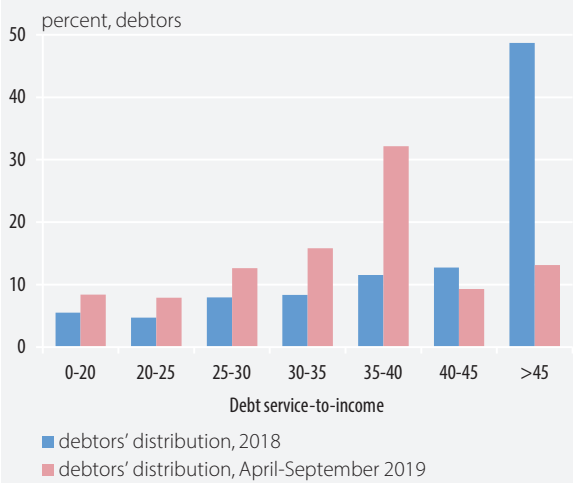
These developments prove that the introduction of the limit on the level of indebtedness as of 1 January 2019 did not hinder households' access to finance; there is still potential to increase sustainably the level of financial intermediation. In addition, the volume of refinanced and restructured loans remained unchanged, as the limit on the level of indebtedness did not apply to these types of credit.

This allowed debtors with a high level of indebtedness to access more attractive lending terms and conditions and fuelled competition in the banking system.

The median level of indebtedness, i.e. debt service-to-income ratio (DSTI), reported by banks<sup>70</sup> for new loans granted between March and September 2019 stood at 36 percent, down 9 percentage points compared with that for the loans granted throughout 2018, also showing the effectiveness of the measure to limit the level of indebtedness in preventing households’ over-indebtedness. Compared to 2018, the share of new loans granted to borrowers with an indebtedness level over 45 percent fell from 49 percent to 13 percent March through September 2019, while the share of loans to individuals with a DSTI between 30 percent and 40 percent increased by 28 percentage points (Chart 2.20). This change in the composition of the portfolio is likely to lower the probability of default for new loans and to improve debtors’ capacity to make repayments even in adverse economic conditions.

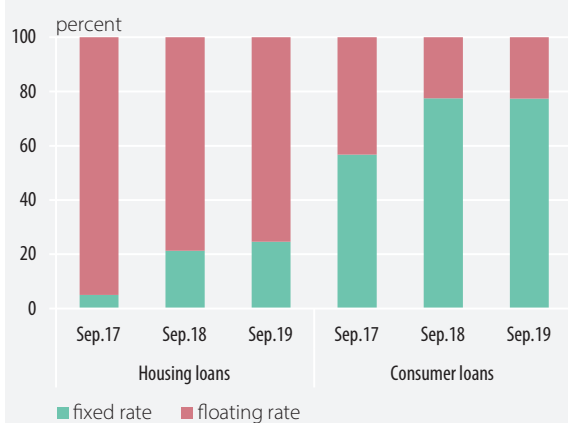
Beginning with April of this year, the new benchmark index for loans to consumers (IRCC) replaced the ROBOR as a reference rate for loans to households. Although the new rate is approximately 1 percentage point below the 3M ROBOR for the end of the quarter, the annual percentage rate of charge for new housing loans contracted by only 0.5 percentage points, indicating a partial increase in banks’ margins, while that for consumer credit held steady.

**Chart 2.20.** Distribution of debt service-to-income for new loans



Source: NBR, NBR calculations

**Chart 2.21.** Share of credit flows by type of interest rate



Note: Floating-rate loans also include loans with an initial rate fixation period of up to 1 year.

Source: NBR

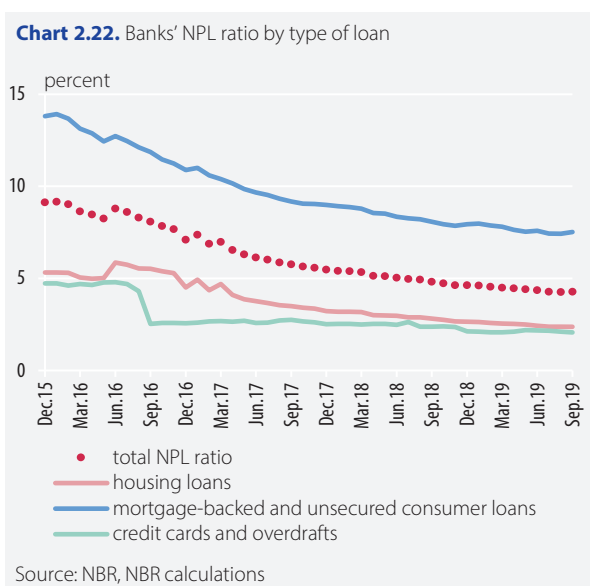
Debtors’ exposure to interest rate risk continued to improve. New fixed-rate housing loans held a 25 percent share in October 2018 – September 2019, up by 3 percentage points versus the same year-ago period, reaching the highest reported value. Nevertheless, in terms of stock, around 10 percent of loans were granted with a fixed rate. Given the favourable conditions in the past few years, characterised by robust income growth and declining unemployment rate, debtors had the capacity to absorb the increase in financing costs following higher inflation. Moreover, 77 percent of

<sup>70</sup> Only for loans over lei 20,000, according to the values reported by credit institutions in the Central Credit Register.

consumer loans were further granted at a fixed interest rate, their risk to an interest rate shock thus being very low. However, it is possible that debtors that took out loans in the low interest rate period might encounter difficulty in servicing debt when economic activity slows down.

Currency risk also subsided since the previous *Report*, the share of foreign currency-denominated loans was 25 percent of the total, down by 1 percentage point from March 2019. The breakdown shows that there are still significant differences depending on the type of loan: 31 percent of housing loans and 4 percent of unsecured consumer credit are foreign currency-denominated, while mortgage-backed consumer loans remain at 76 percent, the majority of this portfolio being granted in 2007-2008. The share of forex loans granted by non-bank financial institutions stands at approximately 10 percent. A share of 98 percent of new bank loans were granted in domestic currency, which indicates the effectiveness of the stricter limits on the level of indebtedness and the loan-to-value ratio in discouraging foreign currency financing.

### 2.2.2. Households' capacity to service debt



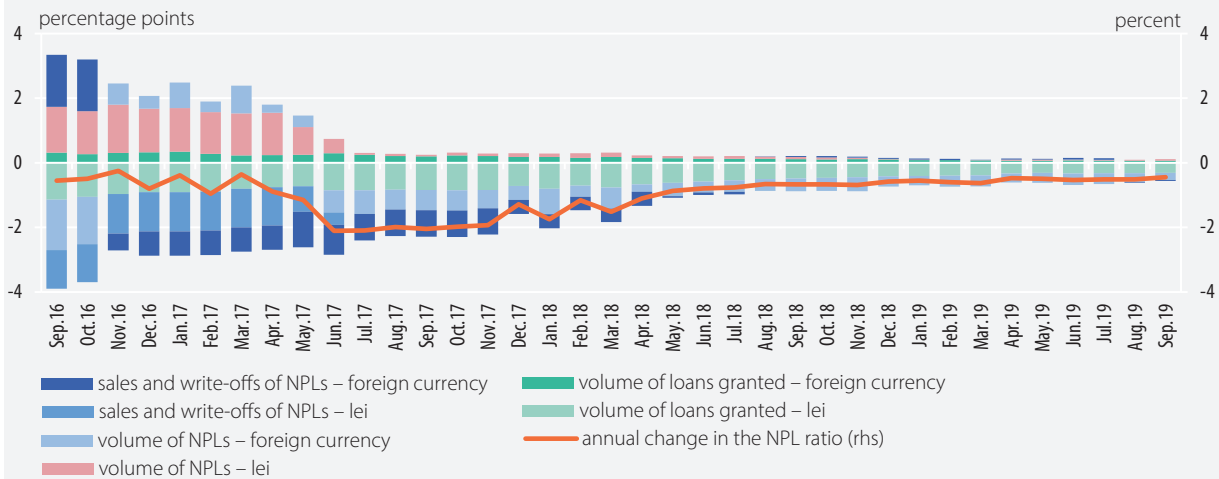
Households' loan repayment capacity improved, amid favourable balance sheet developments, yet credit risk went up in certain segments. The NPL ratio for loans to households fell to 4.3 percent in September 2019, 0.6 percentage points lower than in the same year-earlier period (Chart 2.22). The decline was attributable to both housing loans (down 0.5 percentage points) and consumer credit (down 0.6 percentage points). Looking at the breakdown, the NPL ratio for consumer credit is further high (7.5 percent versus 2.4 percent for the housing loan portfolio, September 2019 data). This is due to the still large volume of defaulted mortgage-backed consumer loans. As for foreign currency lending, the non-performing loan ratio for foreign currency loans is higher than that for domestic currency loans (9.2 percent compared to

2.6 percent, September 2019). Nevertheless, lei-denominated credit witnessed an increase in non-performing exposures both at an aggregate level (up 7 percent) and by main type of products (up 8.7 percent for consumer loans and up 6.8 percent for housing loans).

Banks continued the balance sheet clean-up, mainly for consumer credit, where sold loans contributed significantly to the decrease in the NPL ratio (-0.6 percentage points in September 2019 versus September 2018, Chart 2.24). Housing loan sales had no impact whatsoever on the evolution of the NPL ratio (Chart 2.23). Exerting an opposite influence, the change in non-performing exposures denominated in lei contributed to a rise in the NPL ratio by 1 percentage point compared to

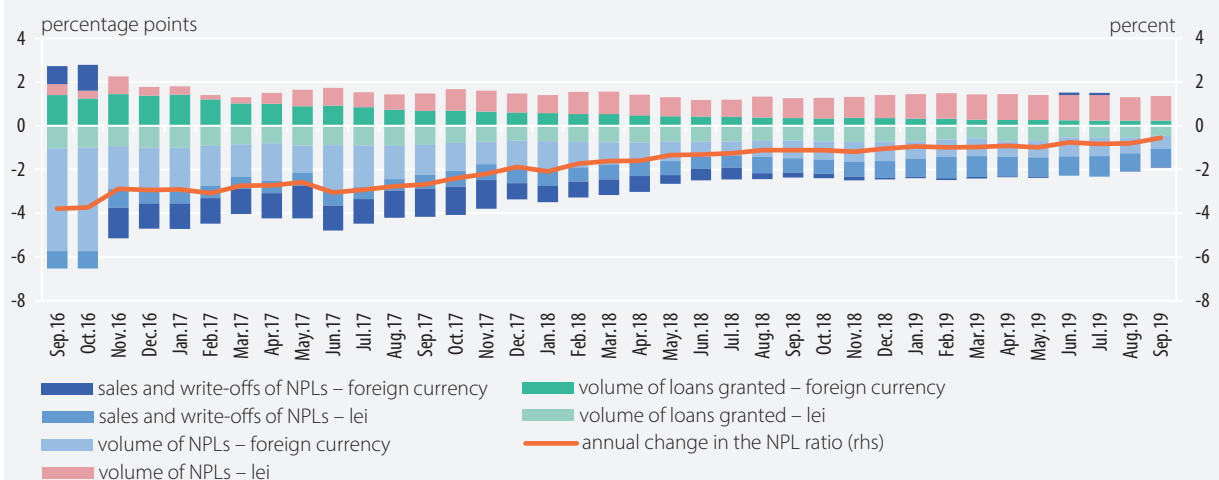
September 2018 for consumer loans, the effect being considerably lower for housing loans.

**Chart 2.23.** Decomposition of the annual change in the non-performing loan ratio of housing loans



Source: NBR, NBR calculations

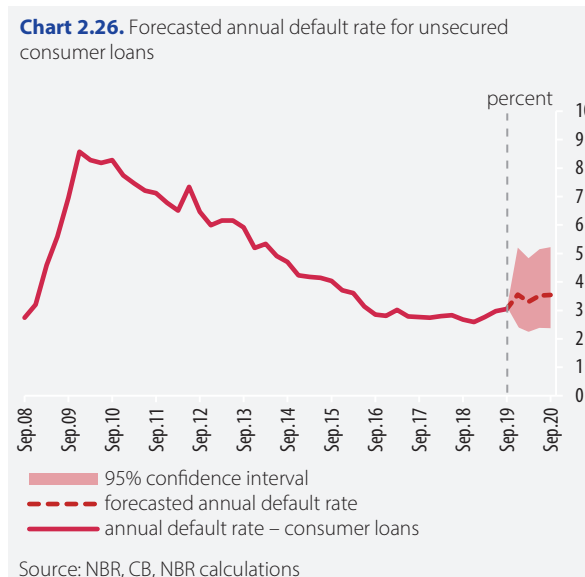
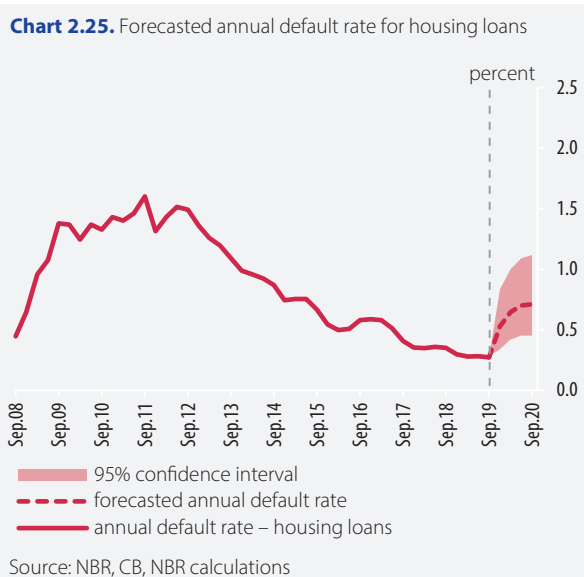
**Chart 2.24.** Decomposition of the annual change in the non-performing loan ratio of consumer loans



Source: NBR, NBR calculations

The rise in non-performing exposures from leu-denominated loans is an early warning signal that needs to be monitored closely, especially as at end-September 2019 the annual default rate<sup>71</sup> for consumer loans went up slightly compared to the same year-ago period. In addition, an upward trend is forecasted over a one-year horizon, the probability of default being expected to rise by 0.44 percentage points for housing loans (Chart 2.25) and by 0.5 percentage points for unsecured consumer credit (Chart 2.26).

<sup>71</sup> According to the 90 days past due criterion.



## 2.3. Real estate sector

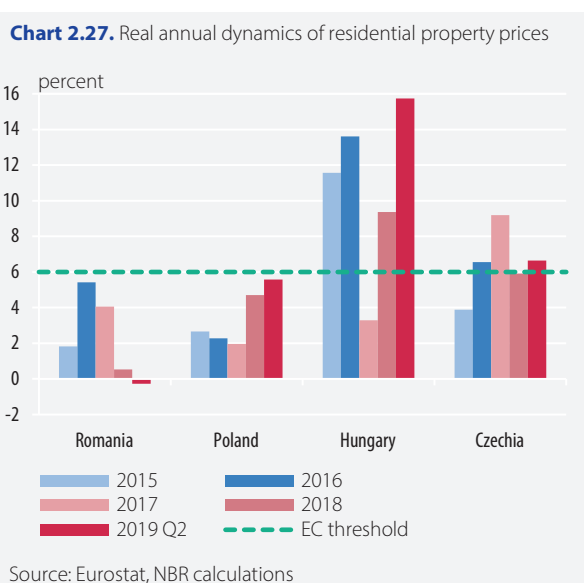
### 2.3.1. Residential and commercial real estate markets

The residential real estate market saw a slowdown in activity, a trend identified also in the previous *Report*, whereas the commercial real estate market witnessed an expansion. The analysis of the latest information on the two markets reveals no significant systemic risks. However, the structural vulnerabilities specific to real estate markets, highlighted also in the previous reviews, have persisted, i.e.: (i) in

the residential real estate market, highly divergent developments at regional level and by area of residence, as well as the concentration of the financial system's exposures in areas characterised by fast rising prices, and (ii) in the commercial real estate market, the opacity of the market, the small number of transactions and their high value, as well as the large exposures of the banking sector.

For the first time since 2015 Q1, residential property prices have recorded a negative average annual real rate of change, i.e. -0.3 percent (Chart 2.27). Moreover, the number of transactions fell by 29 percent in annual terms in June 2019. The decline in residential property prices also led to a slight improvement in the housing affordability index. Specifically, the price-to-income ratio declined from 7 in June 2018 to 6.5 in June 2019. According to this

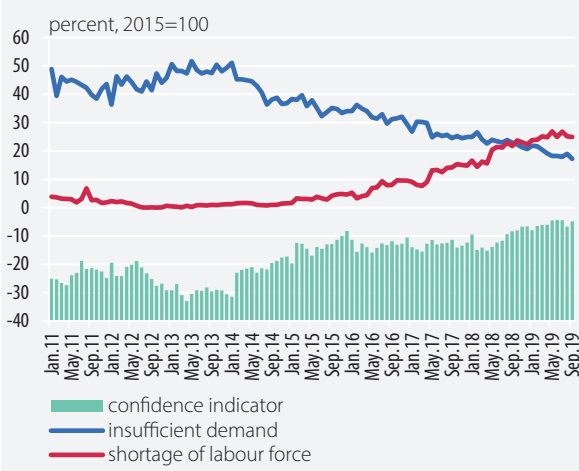
indicator, it takes the average wage earner approximately 6.5 years to buy a home, compared to 7 years, as previously reported.



The analysis of demand-side factors for the residential real estate market also shows a slowdown in activity. Households' intention to purchase a home increased at a slower pace compared to the previous period (3.7 percent in the period July 2018 - June 2019, from 5.1 percent in the preceding year), while the property selling time recorded the highest level since 2014 Q2, i.e. 86 days). Turning to supply-side factors, their analysis also reveals a deceleration. The residential construction index dropped by 2 percent in the period under review. In addition, the number of building permits for residential buildings decreased by 1.6 percent, whereas the built surface area expanded by merely 2.6 percent over the same period. Nevertheless, the number of completed dwellings at national level rose by 14 percent, in annual terms, July 2018 through June 2019. The residential real estate market witnessed highly divergent developments, both geographically and by area of residence. The number of completed dwellings in urban areas rose by 30 percent, whereas in rural areas it declined by 6 percent over the same period.

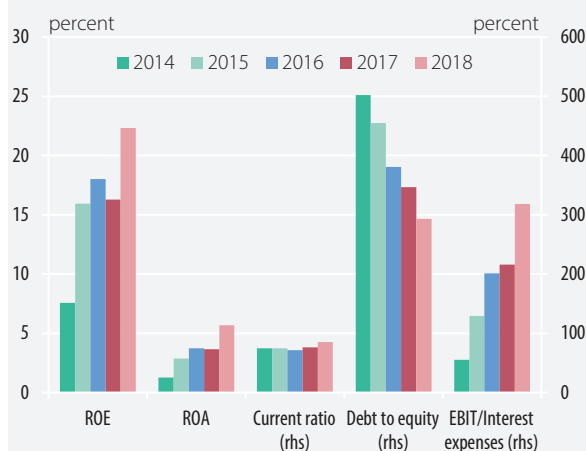
The commercial real estate market saw mixed developments in the first three months of 2019. Specifically, rents for all types of property (retail spaces, office spaces and industrial spaces), as well as industrial vacancy rates remained relatively unchanged, while office vacancy rates picked up slightly, signalling a possible reversal of the downward trend visible ever since mid-2012<sup>72</sup>. The supply of commercial property remained robust, standing above the values recorded in the euro area. The construction index for non-residential buildings increased by 8 percent in the period under review. Moreover, the building permits issued for this type of buildings point to a stronger supply in the period ahead, the built surface area expanding by 17 percent from July 2018 to June 2019. Behind this development stood the rise in the number of construction permits for non-residential buildings other than office spaces, which recorded an 8-percent increase. By comparison, across the euro area, construction permits for non-residential buildings (expressed in built square meters) went up at a 2.8 percent rate during the period under consideration.

**Chart 2.28.** Confidence in the construction sector and two main driving factors



Source: European Commission

**Chart 2.29.** Financial soundness indicators for the construction and real estate sectors



Source: MPF, NBR calculations

<sup>72</sup> According to Jones Lang LaSalle data.

The analysis of the activity in the construction and real estate sectors shows a slight improvement in the review period. These two sectors' contribution to GDP formation recorded a moderate advance from 12.9 percent in June 2018 to 13.3 percent at end-June 2019. Moreover, the outlook for the period ahead points to a further increase in activity in these sectors, mainly on account of demand expectations and anticipated financing of real estate projects. Conversely, expectations regarding workforce are a deterrent to activity (Chart 2.28). Furthermore, labour costs rose by 17 percent in the construction sector and by 9 percent in the real estate sector. The pick-up in construction costs, amid modest and even negative price dynamics, along with these firms' high indebtedness (Chart 2.29), particularly from non-resident entities, renders these two sectors vulnerable to potential shocks arising from the international markets, as well as from domestic macroeconomic developments, especially given that they had previously displayed a strong degree of pro-cyclicality. The further improvement in these firms' financial soundness, a trend seen over the last years, may help reduce the impact of potential adverse developments.

### 2.3.2. Risks generated by the residential real estate sector and real estate lending to households

Real estate loans<sup>73</sup> to households have stuck to a significant level and remained on the upward trend seen in recent years, amounting to almost lei 91 billion at end-September 2019 (up 6 percent from the same year-earlier period) and accounting for 67 percent of the volume of total exposures to this sector. In the context of the Medium-Term Strategy of the "First Home" Programme (2017-2021)<sup>74</sup>, lending via this programme has entered a downward path. Specifically, the share of new loans granted under the "First Home" government programme<sup>75</sup> in total housing loans to households over the past 12 months is of 28 percent, down 8 percentage points. In spite of the considerable reduction in the flow of new business, "First Home" loans have been further significant (lei 34.8 billion, i.e. 44 percent of the volume of housing loans to households). Hence, changing the requirements for accessing this programme is an adequate approach, conducive to mitigating its systemic nature over time. Following NCMO Recommendation No. R/1/2018, the "First Home" government programme will be recalibrated from a social perspective<sup>76</sup>. The main changes envisaged consist in (i) access restrictions depending on income (the net monthly income of the individual applicant or of the applicant jointly with the spouse, as the case may be, shall not exceed lei 4,500, but the ceiling climbs to lei 7,000 if the family includes one or several children) and (ii) interest rate subsidising (0.5 percentage points for families with a single child and 1 percentage point for families with two or several children). So far, the draft act was adopted by the Senate in September 2019 and presented in the Chamber of Deputies<sup>77</sup> in October 2019.

<sup>73</sup> Housing loans and mortgage-backed consumer loans to households are taken into account.

<sup>74</sup> The Strategy, prepared by the Ministry of Public Finance at end-2016, sets out the gradual decrease in the volume of guarantees. Thus, by the end of 2020, the guarantee ceiling amounts to lei 2 billion, down from lei 2.5 billion in 2016, while for 2021 it is set to decline to lei 1.5 billion.

<sup>75</sup> In order to avoid double entry, guarantee commitments are not included.

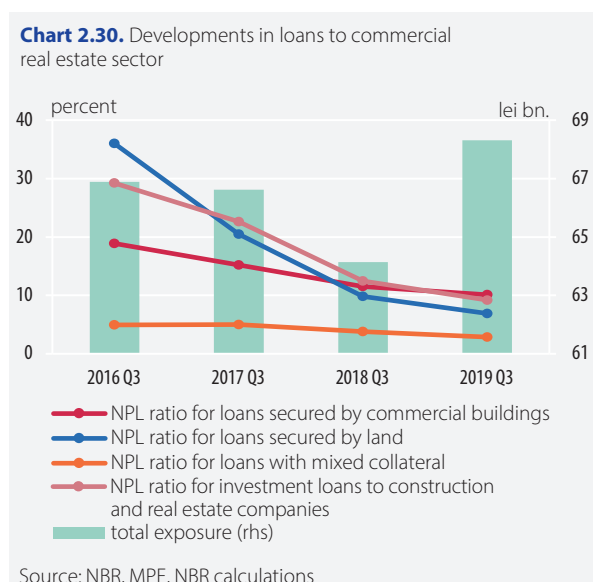
<sup>76</sup> Draft ordinance amending and supplementing Government Emergency Ordinance No. 60/2009 on certain measures for implementing the "First Home" programme and changing its name to "One Family, One Home".

<sup>77</sup> [http://www.cdep.ro/pls/proiecte/upl\\_pck2015.proiect?cam=2&idp=18045](http://www.cdep.ro/pls/proiecte/upl_pck2015.proiect?cam=2&idp=18045) (Romanian only).

The loan-to-value (LTV) ratio for new standard housing loans to households stayed constant from the previous quarters at 80 percent. The indicator remaining at an adequate level from a prudential perspective is important both in order to prevent excessive credit growth and to maintain an adequate capitalisation level of borrowers in case of potential declines in real estate prices.

From a regional perspective, significant disparities across counties persist. Thus, around 35 percent of the stock of housing loans went to borrowers in the Bucharest-Ilfov region, well ahead of Cluj (6 percent), Timiș (6 percent) and Constanța (5 percent). The same divergences are also manifest for “First Home” loans, hinting at the limited impact of the programme in terms of improving access to credit from a regional perspective. Except for Bucharest, the share of these top-ranking counties widened in the past 12 months, which points to an increase in regional disparities. The remaining 35 counties jointly account for 40 percent of the credit stock, although they represent 70 percent of Romania’s population. These administrative units are characterised by a low density of bank units per number of inhabitants, a large share of rural population, low average income, as well as by a decline in the number of residents over the past 10 years. Enhancing access to finance in these areas will require both a higher degree of financial education of the residents and the creation of new jobs to provide borrowers with the necessary income to take out a loan. Improving the absorption of EU funds aimed at modernising the rural infrastructure and enhancing productivity in agriculture may represent an effective solution in this respect.

### 2.3.3. Risks generated by the commercial real estate sector and mortgage-backed lending to non-financial corporations



The exposure of the banking sector to the commercial real estate market<sup>78</sup> increased in the first three quarters of 2019, after having contracted for a large period of time. Out of the banks’ corporate loan portfolio in September 2019, total exposure to the commercial real estate market accounted for 58 percent (lei 68.3 billion) and direct exposure to companies in the construction and real estate sectors made up 20 percent (lei 23.1 billion).

By loan purpose, investment loans to companies operating in the real estate sector accounted for 33 percent of total and were steadily on the rise in recent years, reaching lei 7.5 billion in September 2019.

The quality of loans extended to the commercial real estate sector has remained lower than that of the corporate sector overall, yet it

<sup>78</sup> Including the companies in the construction and real estate sectors, as well as loans secured by real estate extended to companies other than those operating in the aforementioned sectors.

has been steadily improving in recent years. The NPL ratio for direct exposures fell to 9.2 percent in September 2019 (down 3.3 percentage points from 2018 Q3). For loans secured by real estate, the quality of portfolios is lower, posting a 10.3 percent NPL ratio in September 2019. The breakdown of loans secured by real estate shows that those secured by residential buildings and by commercial buildings, respectively, contributed most to this state-of-affairs, while loans with mixed collateral recorded the lowest NPL ratio, namely 2.9 percent.

Given the higher level of indebtedness of the companies in the construction and real estate sectors, another vulnerability, from their part, is that they take mostly foreign borrowings (61 percent of total indebtedness), with external debt up 10 percent year on year, whereas bank credit rose by 7.1 percent (2019 Q2 versus 2018 Q2). The growing exposure to currency risk, amid faster rising construction costs and subdued developments in property prices and rents, may dampen the debt repayment capacity of these companies.

The NBR closely monitors the developments on all real estate market segments and continues to upgrade its risk assessment tools. At a European level, there is strong interest in enlarging the data set used in identifying and assessing systemic risks from residential and commercial real estate markets. The European Systemic Risk Board has issued recommendations to EU Member States and institutions in this respect (Recommendations ESRB 2016/14 and 2019/3) and the first assessments on the availability of these data are due for end-2019.

### 3. THE FINANCIAL SECTOR

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Prudential and financial indicators for the local banking sector are at adequate levels relative to risks, its soundness remaining above the EU average, but a series of vulnerabilities persist. The total capital ratio (19.7 percent) and the liquidity coverage ratio (224 percent) continue to post levels in line with the micro- and macro-prudential requirements. The results of liquidity and solvency stress tests provide evidence on the banking sector's adequate capacity to withstand adverse developments. According to credit institutions' assessments, customers moderately trust the local banking sector and the main threat to keeping their confidence is considered to be the spreading of negative information, bearing effects on the institutions' reputation. The gradual improvement in solvency is consistent with a decrease in the likelihood of a bank crisis, which could impact lending due to a capital shortfall.

The balance sheet composition helps improve credit institutions' liquidity position. The loan-to-deposit ratio for the private sector is below one, and bank funding is dispersed and stems chiefly from retail deposits taken from households in particular. The persistently significant share of claims on the government sector is supportive of banks' liquidity, yet it may ease the pass-through of some shocks to the banking sector should sovereign risk increase. At the same time, the longer average duration of assets than that of liabilities may generate sizeable losses if interest rates rise significantly.

Households continued to be the main driver of bank asset expansion over the past year. The persistence of non-financial corporations' structural vulnerabilities coming from loose payment discipline and weak financial soundness, the lower intention of managers of bankable companies to extend their business relationships with credit institutions, the professional skills of bank employees, banks' lending procedures, and local firms' financing from non-resident entities have put a drag on local banks' lending to non-financial corporations. Moreover, risk-adjusted returns on household loans (especially on consumer credit) are higher than in other lines of business and, most likely, will continue to gear the business model of banks in Romania primarily towards the retail segment. On the other hand, the substantial financing of local companies by non-resident banks with affiliates in Romania, at interest rates similar to those applied domestically, triggers macroeconomic vulnerabilities for the financial stability in Romania. This causes the low financial intermediation to persist, alongside the pick-up in private external debt, without significant favourable effects at microeconomic level (at borrowers' level). The funding structure witnessed no major changes since the previous *Report*. Foreign currency-denominated savings remained on the rise and reliance on sources of funding from parent banks diminished, as they have been replaced with domestic savings, mainly retail deposits.

Bank asset quality consolidated, amid a currently low risk cost and a favourable macroeconomic environment. The non-performing loan coverage by provisions has increased and is further adequate, well above the EU average. The resolution of non-performing loans continued, but in a more moderate manner. The implemented macroprudential measures aim to reduce this risk.

Banking sector profitability remained high in the first three quarters of 2019. Behind this stood the resumption in operating profit growth and the further historical low level recorded by net expected credit losses. Nevertheless, operational efficiency places the Romanian banking sector in a medium-risk bucket and leaves room for improvement, especially for small- and medium-sized banks. The structural features of the banking business such as low financial intermediation and polarisation of profit depending on the size of credit institutions are still present. As a result, interest margins remain high, mainly on the retail segment. The challenges to operational efficiency and the differentiated capacity of banks to sustain their current profitability over the long term stimulate the consolidation process. The effects of the tax on bank assets will materialise at the end of the year into a manageable decrease in profit.

The uncertainty brought by the legislative framework governing banks' activity persists, but it is less intense compared to the previous *Report*. A series of legislative initiatives on consumer protection were reiterated and their potential adoption would impact the banking sector, due to their broad scope or to certain provisions which affect the functioning of the non-performing loan market. In this context, in 2019 as well, local credit institutions identify the uncertain and unpredictable legislative framework in the financial and banking sector, with implications for banking sector solvency, as the most important systemic risk.

### 3.1. Structure of the financial system

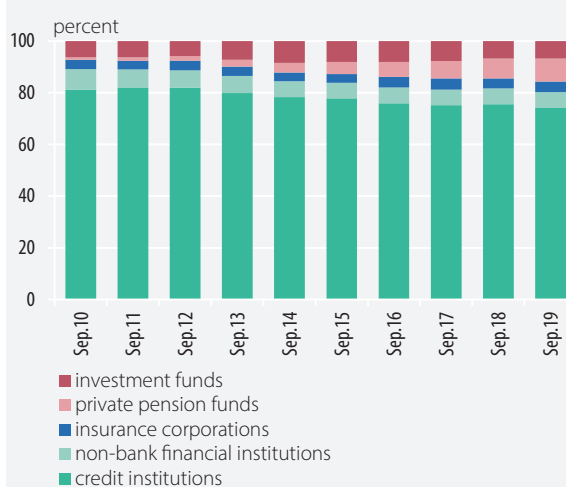
2019 Q3 highlighted the further low level of financial intermediation, similar to that of end-2018<sup>79</sup>. The pension and insurance sectors posted a significant rise in assets, outpacing the GDP growth rate, these developments being offset by more modest dynamics of the other financial system components, mainly by those of the banking sector. In 2019 Q3, financial intermediation equalled 68.1 percent of GDP, 1 percentage point lower than in the same year-earlier period. All components of the financial system recorded increases in assets in September 2019 compared to the same period of the previous year: pensions (+26.6 percent), insurance (+14.5 percent), non-bank financial institutions (+9.5 percent), investment funds (+7.8 percent) and banks (+6.6 percent).

Although on the decline, the banking sector further took up the largest share of the financial sector, i.e. 74.1 percent, being followed by the pension sector, which recently seemed to have unlocked its development potential to a greater extent, i.e. 8.9 percent in 2019 Q3 versus 7.7 percent in 2018 Q3 (Chart 3.1). Ensuring a

<sup>79</sup> This indicator is calculated as the share of financial system assets in GDP.

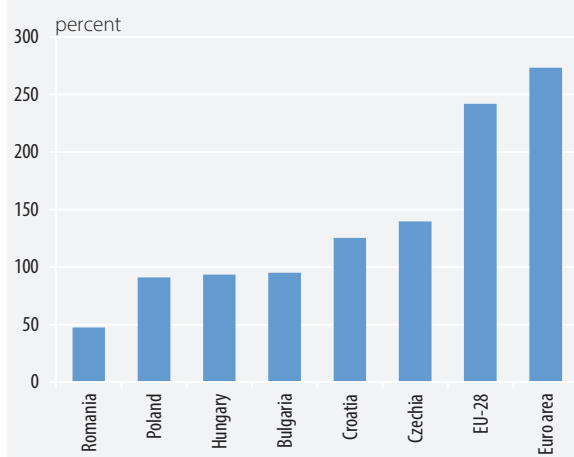
predictable regulatory framework in the financial and banking sector adds to the strengthening of these developments. Compared to the other countries in the region, Romania continues to hold the smallest share of total bank assets in GDP, two times lower than Bulgaria and five times lower than the EU average (Chart 3.2). Given the persistently low level of local financial intermediation, the foreign sector has a significant contribution to the financing of non-financial corporations, general government and NBFIs. This increases Romania's external debt and further renders the balance sheets of local creditors more vulnerable to credit risk, as a result of their significant financing provided to small entities, which have proven a weak capacity of withstanding adverse developments.

**Chart 3.1.** Distribution of assets in the Romanian financial system



Source: NBR

**Chart 3.2.** Total assets of the banking sector as a share of GDP (2019 Q2)



Source: NBR, ECB

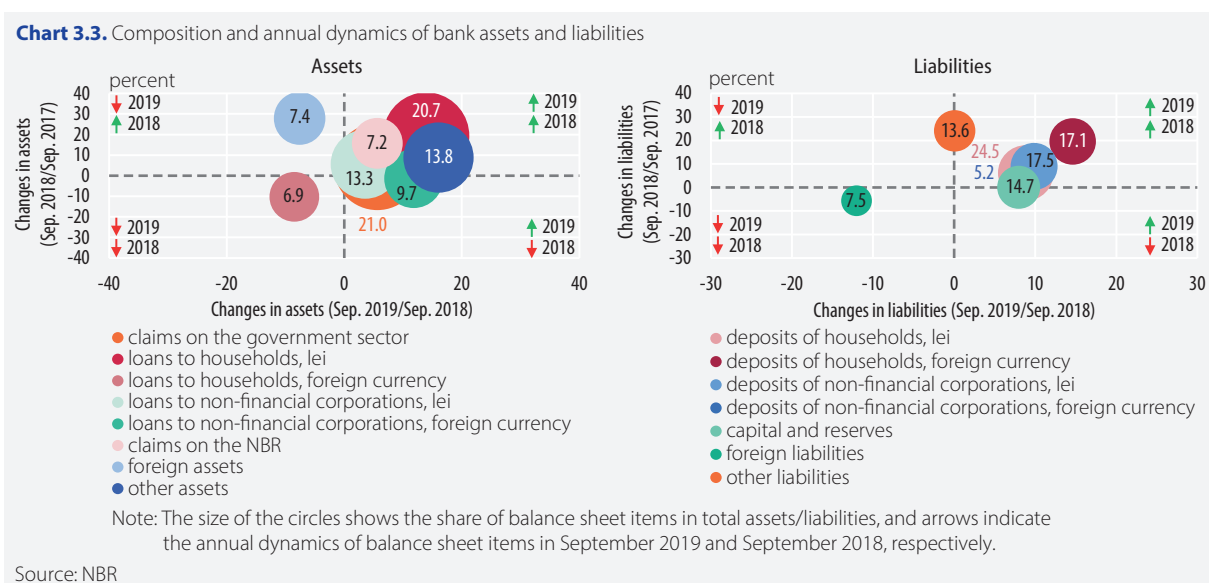
From the perspective of the banking sector's possible contagion from the other financial system components, the probability and the impact of these risks materialising are both generally low, as interconnectedness among the financial subsectors remains modest. Nevertheless, the links between banks and NBFIs have grown stronger, the loans taken by the latter from credit institutions amounting to 14 percent of NBFIs liabilities, after bank lending to the NBFIs sector doubled over the past 12 years.

## 3.2. Banking sector

### 3.2.1. Structural features of the banking sector

Since the previous *Report*, the restructuring of the Romanian banking sector continued via the network adjustment, amid the promotion of digital banking services as an alternative to physical branches and with the aim of optimising operational costs. Financial intermediation remained low (the credit-to-GDP ratio was 27 percent in September 2019), against the background of persistent structural vulnerabilities in the domestic economy (see Chapter 2).

The banking sector's the balance sheet continued to strengthen (posting a 6.6 percent annual rise, up to lei 511 billion in September 2019), given the robust savings, the consolidation of lending and the slowdown in the balance sheet clean-up.



Public sector financing remained significant in the asset portfolio, i.e. 21 percent in September 2019 (Chart 3.3), being primarily focused on leu-denominated exposures to the central government. Credit institutions in Romania do not have direct material exposures to the sovereign debt issued by euro area countries. However, the former might be indirectly affected by negative developments in sovereign risks in a number of EU countries, given that some credit institutions conduct reverse repo operations with entities from the groups they are part of.

The positive annual dynamics of loans to the private sector remained broadly unchanged since the previous *Report*, i.e. 7.7 percent in September 2019, amid leu-denominated lending (such loans recorded a 9.7 percent annual rise in September 2019). As regards the foreign currency-denominated loans, their annual growth rate stayed positive (3.9 percent in September 2019) and was mainly influenced by the loans to non-financial corporations, as well as by the statistical effect of the increased leu exchange rate. Leu-denominated loans accounted for 66.6 percent of the stock as at 30 September 2019 (a second post-June 1996 peak), diminishing the risks associated to potential adverse developments in the exchange rate.

At sectoral level, household lending remained robust, i.e. +7.4 percent in September 2019. Housing loans had the most important contribution to this increase. The share of household loans in total credit to the private sector remained prevalent (53 percent in September 2019). The targeting of this segment is a characteristic of the banks' business model, being supported by the higher risk-adjusted returns than those from lending to non-financial corporations. The annual advance in leu-denominated household loans was relatively constant for the past four months (13.9 percent in September 2019), while the annual contraction of the foreign-currency component

moderated (-8.5 percent in September 2019). Lending to non-financial corporations had positive dynamics (a 6.9 percent annual rise in September 2019), stronger for the foreign-currency component (11.8 percent, September 2019) and weaker for the leu component (3.6 percent, September 2019).

The liabilities structure continues to be dominated by deposits from resident non-government clients (68 percent). Households remain the main liquidity provider for the banking sector (the deposits of this sector accounting for 42 percent in total liabilities and 61 percent in the aggregate stock of deposits from residents). The foreign currency-denominated household savings continued to have a significant contribution.

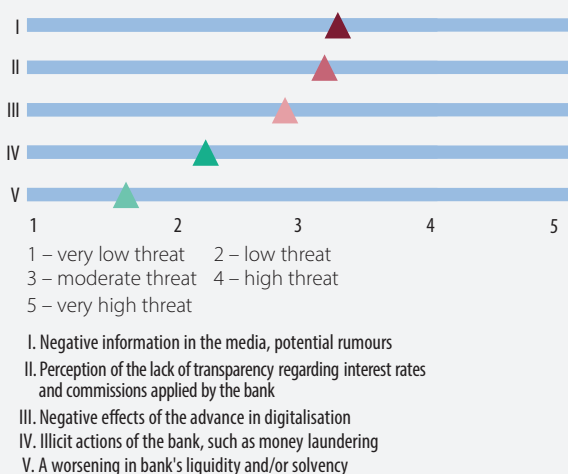
The loan-to-deposit ratio (LTD) stood at 77 percent in September 2019, the foreign-currency component being on the decline since the last *Report* (74 percent in September 2019 against 77 percent in March 2019). The below-one value indicates the absence of vulnerabilities in terms of liquidity, being also consistent with a low use in the real economy of the deposits from the private sector and with a further low financial intermediation. Nevertheless, the LTD staying on a downward trend is likely to become counterproductive, taking into consideration the costs of attracting deposits which do not turn into investments in loans. Therefore, the funds raised for financing the real economy should be used to a larger extent, especially as regards non-financial corporations.

The consumers' confidence in the Romanian banking sector is a matter that should be monitored, given the traditional financing model and the persistently low level of financial intermediation. Confidence is built on the grounds of both supply-side factors of banking services (individual characteristics of credit institutions and general features of the banking sector) and demand-side factors of banking products and services (customer characteristics, such as financial education, access to other financing sources, etc.). An NBR survey shows that banks are interested in

analysing customer perception. 60 percent of the banks included in the survey monitor the quality of the services they provide to their clients, with the purpose of identifying possible deficiencies in their processes and improving their services. At present, the banking sector considers the consumers' confidence to be moderate (an average of 3.4 on a scale of 5).

From the banks' point of view, the main threats to customers' confidence are: negative information in the media and potential rumours, as well as the perception of lack of transparency regarding interest rates and commissions applied by the bank (Chart 3.4). According to this survey, a worsening in bank's prudential indicators would play a less important role.

**Chart 3.4.** Main threats to customers' confidence in the Romanian banking sector

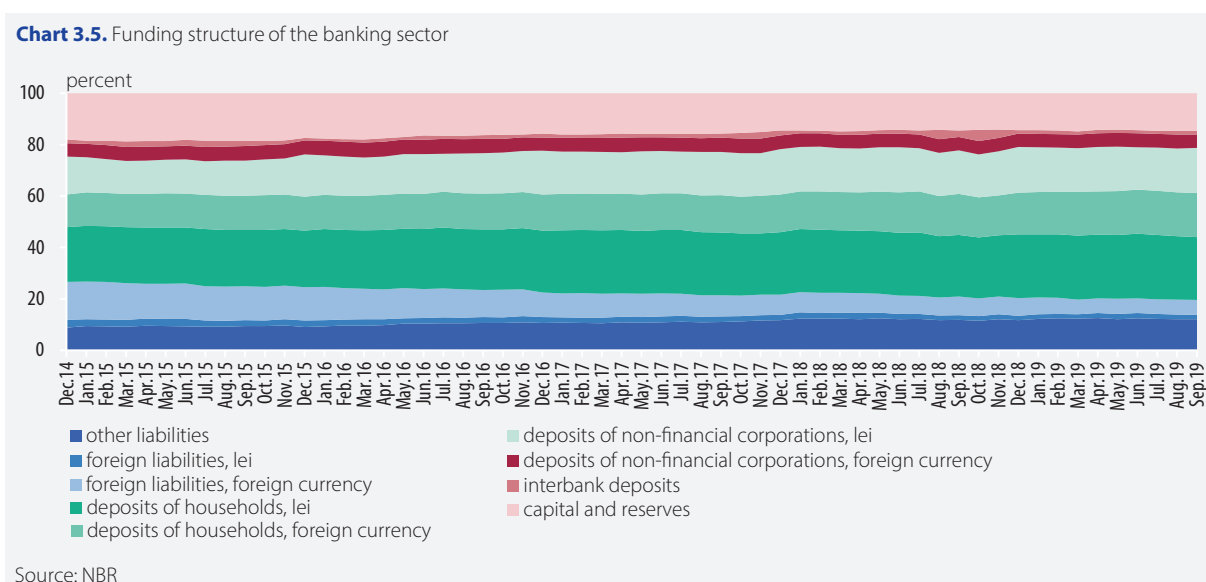


Source: NBR

### 3.2.2. Liquidity

The liquidity of the banking sector remained at an adequate level at the end of September 2019, the key liquidity indicators standing well above the minimum requirements. The traditional structure of banks' balance sheet liabilities strengthened over the past years. Their balance sheet assets are characterised by an adequate ratio of liquid assets (mainly government securities).

The developments in the banking sector's funding structure recorded some gradual adjustments over the past years, the most significant being the decrease in the importance of foreign liabilities, which contributed to the reduction of banks' costs. Funding from parent banks dropped to EUR 3.9 billion and total funding reached EUR 8 billion in September 2019, versus the historical high of approximately EUR 26 billion at end-2008. The fall did not trigger liquidity issues because the adjustment was gradual and these sources were fully replaced by deposits coming from the private sector, mainly households (Chart 3.5).



Thus, the funding risk of banks in Romania witnessed a transition over the last period and refers mainly to a potential accelerated withdrawal of domestic deposits. A liquidity shock is less likely to occur, due to the high dispersion of these deposits (especially those from households) and in the context of their specific guarantee schemes. Empirical evidence supports this stability and shows that their withdrawal is manageable, even in times of crisis.

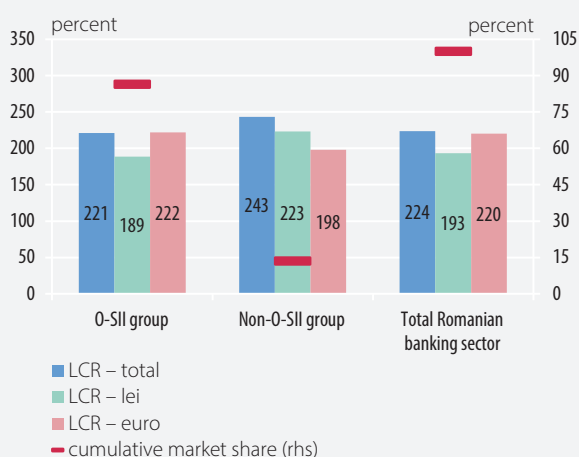
The aggregate liquidity ratio<sup>80</sup> on all maturity buckets was little changed since the previous *Report*, averaging at 2.29. Immediate liquidity<sup>81</sup> improved marginally at aggregate level, up to approximately 41 percent.

<sup>80</sup> Calculated for credit institutions that are Romanian legal entities (leaving branches aside) as the ratio of effective liquidity to required liquidity, the regulatory threshold being 1.

<sup>81</sup> Calculated for all credit institutions (including branches) as the ratio of (cash and bank deposits at net value and unpledged government securities) to total liabilities, the prudent minimum level being 30 percent.

The average liquidity coverage ratio (LCR)<sup>82</sup> stays considerably above the minimum requirement, but also above the European average of 149 percent in June 2019<sup>83</sup> (Chart 3.6). All credit institutions have liquidity coverage ratios above one. Although on the decline since the last *Report*, the 224 percent value of this indicator shows that the banking sector has a comfortable resilience to short-term (over a 30-day period) liquidity shocks.

**Chart 3.6.** Value of LCR depending on O-SII<sup>84</sup>/non-O-SII classification (September 2019)



Source: NBR

**Chart 3.7.** Distribution of net stable funding ratio (June 2019)



Source: NBR

O-SIIs<sup>85</sup> generally report lower LCR values, a trend that is also manifest at EU level. This aspect may be explained by large banks having a higher efficiency of liquidity management, as their volatility of liquidity outflows is lower and hence they do not require such a large stock of liquid assets.

In the context of high LCR values at European level, the EBA published a report<sup>86</sup> which presents some reasons that could stand behind this phenomenon. Subsequent to the indicator's implementation in 2016, the LCR posted a gradual increase at EU level on the background of an increase in the stock of liquid assets taken into consideration, while net cash outflows remained relatively stable. The LCR is more volatile compared to other prudential indicators, and it is possible that banks prefer to keep a sizeable liquidity reserve in order to cover the potential changes in its components, which are hard to determine *ex ante*, such as those resulting from the marking to market of liquid assets. Thus, one of the reasons behind the current high LCR values could be the low interest rate environment, which contributes to the increase in market value of the liquid assets considered for determining the LCR numerator. The high LCR values are perpetuated also due to the expectations that credit institutions would post LCR values well above the minimum requirements,

<sup>82</sup> The minimum requirement is 100 percent as of 2019 (when specific requirements were fully implemented).

<sup>83</sup> According to the EBA Risk Dashboard, data as of Q2 2019; the analysis was conducted on a sample of 183 European credit institutions.

<sup>84</sup> O-SII – Other Systemically Important Institutions.

<sup>85</sup> According to the classification of banks starting 1 January 2019.

<sup>86</sup> *EBA Report on Liquidity Measures under Article 509(1) of the CRR*, published on 2 October 2019.

while LCR values nearing the minimum requirements would be negatively perceived in the market, with implications for the funding costs.

In Romania, the high LCR values are mainly based on the sizeable liquidity reserve resulting from the large volume of government securities and low cash outflows due to the fact that most retail deposits (constituting the main funding source of banks) are deemed stable.

The net stable funding ratio (NSFR<sup>87</sup>), monitored by the NBR according to the IMF recommendation issued during the latest FSAP<sup>88</sup> mission carried out in Romania, witnessed no significant change in the period under review, the current structural liquidity remaining at an adequate level.

At the end of June 2019, the NSFR indicators posted values confirming a comfortable level of stable funding for a one-year period, in relation to bank assets both at aggregate level (1.51) and by currency (1.43 for leu and 1.48 for euro; Chart 3.7). The comfortable position of structural liquidity owes mainly to asset holdings such as government securities, whose share is small in terms of the required amount of stable funding.

The upswing of overnight funding sources in the balance sheet total of credit institutions over the past years (34 percent in December 2018 versus 19 percent in December 2014) halted since the last *Report* amid a marginal increase in deposit rates. These developments are also noticeable across the EU.

### **Results of liquidity stress testing of credit institutions at microprudential level<sup>89</sup>**

The results of the latest stress tests carried out at the level of credit institutions (June 2019) show that local banks have a good capacity to withstand unfavourable liquidity developments. Where present, the identified vulnerabilities continue to affect a low number of banks (mainly small-sized), the volume of liquidity deficits being manageable.

The results of the short-term liquidity stress testing (over 5- and 30-day periods) generally support the adequacy of credit institutions' short-term liquidity, the identified vulnerabilities being based on an assumed materialisation of shocks similar in size to individual historical record highs applied to funding sources.

The test that assumes uniform shocks applied for a 100-day period by simultaneously withdrawing domestic deposits and foreign funding revealed vulnerabilities for two small-sized banks if the shock persisted for 10 days. If the shock lasted 30 days, a still small number of banks (with a cumulative market share of 2.3 percent) would post a liquidity deficit, and in the unlikely event of the shock persisting for 100 days, the ensuing shortfall and the number of affected banks would substantially increase.

<sup>87</sup> Calculated for credit institutions that are Romanian legal entities (leaving branches aside) as the ratio of the available amount of stable funding to the required amount of stable funding over a one-year horizon.

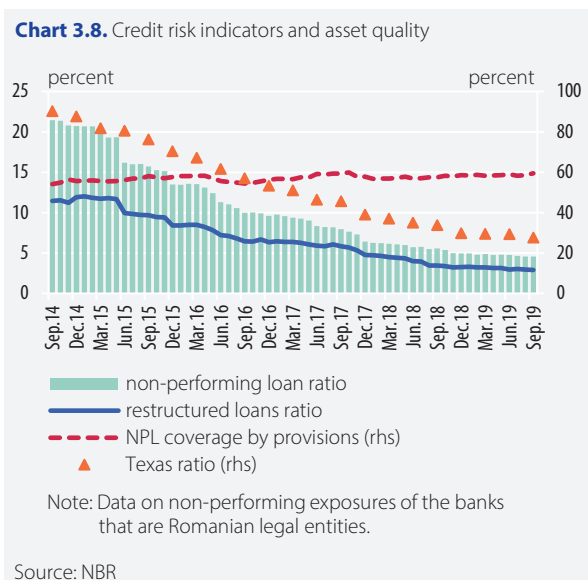
<sup>88</sup> FSAP – Financial Sector Assessment Program.

<sup>89</sup> The test was conducted for credit institutions that are Romanian legal entities (leaving branches aside).

The test for assessing liquidity risk in terms of the concentration of funding sources did not show any liquidity-problems. Specifically, assuming that the large funding sources (each accounting for more than 1 percent of total debts), with residual maturities of up to 30 days, are not renewed, only three small-sized banks posted a LCR with a below-one value.

### 3.2.3. Credit risk and asset quality<sup>90</sup>

The relevant asset quality indicators have improved since the previous *Report*, continuing the positive trend seen over the last years. The non-performing loan ratio and the restructured loans ratio stand in the intermediate risk bucket, according to the thresholds set by the EBA. However, the need to align the values of asset quality indicators to those specific to the EU average, as well as the transition to the low risk categories calls for the furthering of the balance-sheet clean-up. Non-performing loan coverage by provisions is adequate and the Texas ratio<sup>91</sup> shows the banking sector's capacity to withstand adverse developments entailing an increase in credit risk. In order to support the improvement of asset quality, the macroprudential benchmarks for calibrating the systemic risk buffer in 2019 and 2020 are the non-performing loan ratio and the non-performing loan coverage by provisions.



The non-performing loan ratio dropped by 0.3 percentage points from the previous *Report*, reaching 4.6 percent in September 2019 (Chart 3.8). However, its pace of adjustment slackened gradually over the past two years, amid a less intense balance sheet clean-up. The indicator continues to run in the EBA-defined intermediate risk bucket, yet it is still above the EU average (3 percent in June 2019). The NPL ratio calculated to include bank branches as well posted marginally lower values than the indicator specific to credit institutions, Romanian legal entities (4.3 percent in September 2019).

Non-performing loans amounted to lei 13.9 billion in September 2019, down by 3.5 percent since the previous *Report*. Based on the type of collateral, the main component of non-performing loans consists

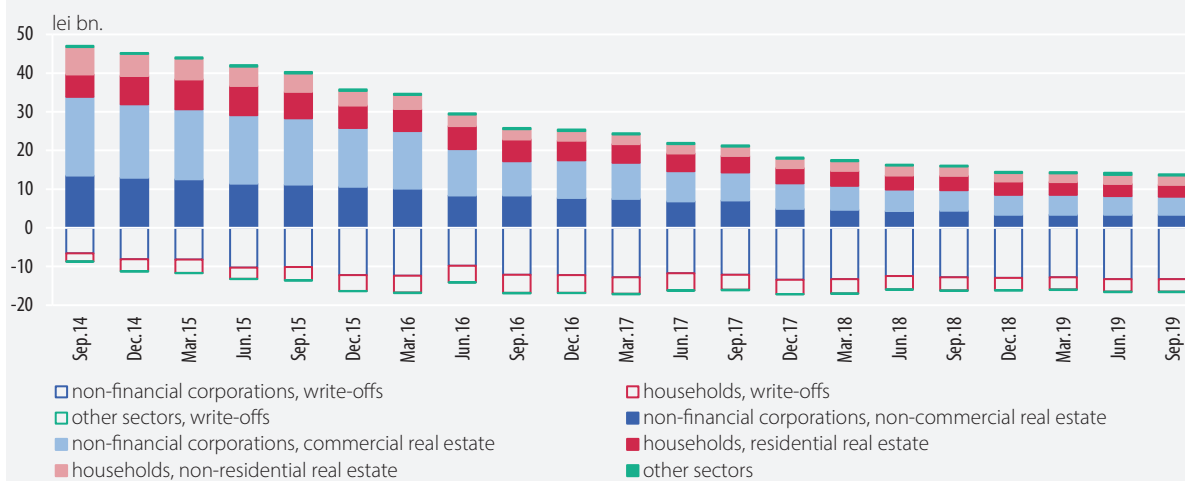
of commercial real estate loans to non-financial corporations (34 percent), followed by household loans secured by residential immovable property (Chart 3.9). The breakdown by debtor shows that non-financial corporations make the dominant contribution to non-performing loans (58 percent), but the trend has been on the downside over the past years. Total write-offs rose by lei 0.5 billion since the previous *Report* to lei 16.6 billion (September 2019), standing further higher than the stock of non-performing loans (Chart 3.9). The breakdown of write-offs by sector has been

<sup>90</sup> For credit institutions, Romanian legal entities, unless otherwise specified.

<sup>91</sup> The indicator was calculated as a ratio of non-performing loans to the sum of loan loss provisions and Tier 1 capital.

relatively steady in the last two years, with non-financial corporations holding the main share.

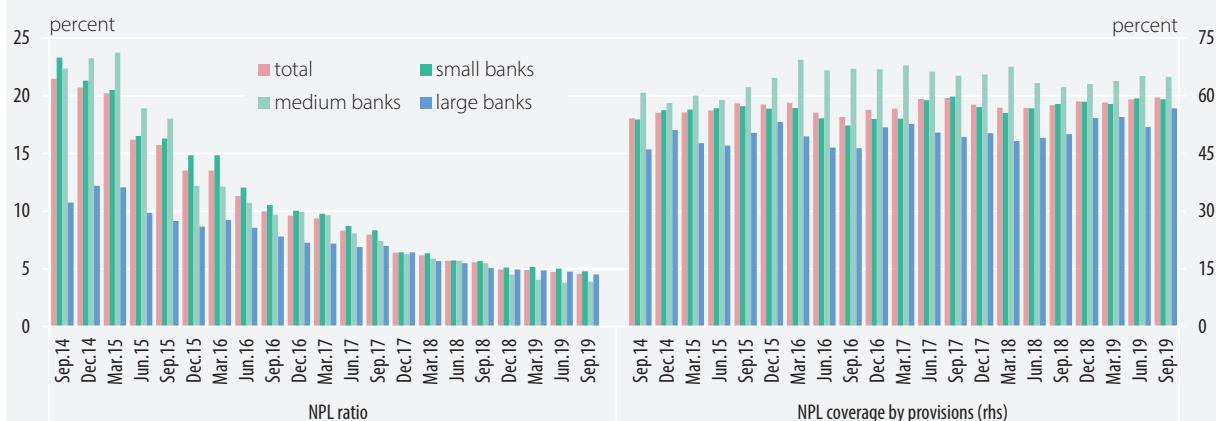
**Chart 3.9.** Breakdown of non-performing loans and write-offs by sector and type of collateral



Source: EBA, NBR

More than half of banks<sup>92</sup> reported declines in the stock and ratio of non-performing loans in the period under review, helping improve asset quality. Only two institutions, Romanian legal entities, currently record values above the EBA's high-risk threshold.

**Chart 3.10.** NPL ratio and NPL coverage by provisions, by bank size (average of the categories under review)

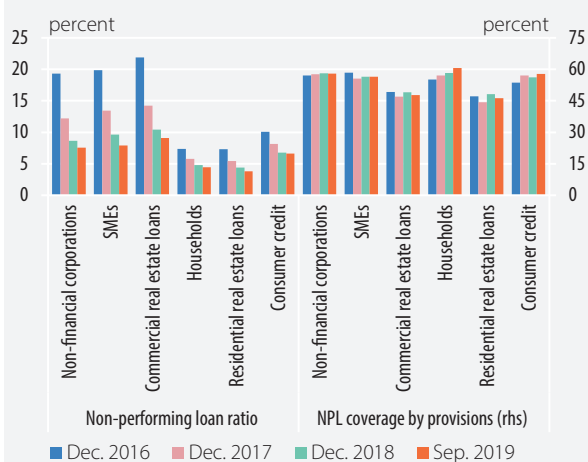


Note: Small banks have an asset market share below 1 percent; medium banks have an asset market share between 1 and 5 percent; large banks have an asset market share above 5 percent.

Source: NBR

Looking at bank size, asset quality indicators show that small-sized banks are faced with greater difficulties related to the balance sheet clean-up and are more vulnerable than medium-sized or large banks (Chart 3.10). The aggregate NPL ratio of small-sized banks is higher than that of medium-sized or large banks and is correlated with a lower coverage ratio, which in fact falls into the EBA-defined intermediate risk bucket.

<sup>92</sup> Credit institutions, Romanian legal entities.

**Chart 3.11.** NPL ratio and NPL coverage by provisions, by sector and type of loan

Source: NBR

Moreover, the NPL ratio of small-sized banks is more heterogeneous. By loan purpose, the NPL ratio improved in the case of all reviewed classifications (Chart 3.11). The highest NPL ratios are still recorded for the loans to non-financial corporations and sub-categories of loans granted to them (loans to SMEs or loans secured by commercial property). Households posted a significantly lower NPL ratio compared with that of non-financial corporations, but they both trend downwards (see Chapter 2 for further information).

The restructured loans ratio<sup>93</sup> has improved in the period under review, but remains in the EBA's medium-risk bucket, reaching 2.9 percent in September 2019, amid the 7 percent decline in restructured loans (Chart 3.8). The restructured loans

ratio further incorporates a sizeable volume of NPLs (79 percent of total restructured loans). The breakdown by institutional sector shows that the restructured loans ratio for non-financial corporations stands within the high-risk bucket (5.5 percent, September 2019), while restructuring at the level of households (2.2 percent, September 2019) has a lower contribution to the overall risk.

Non-performing loan coverage by provisions has risen marginally since the previous Report to 59.5 percent (September 2019), remaining in the EBA-defined low-risk bucket, while its current level mitigates the risks associated with a still high NPL ratio. Furthermore, Romania has one of the highest coverage ratios among EU countries (the EU average was 44.9 percent in June 2019). The provisioning is adequate at aggregate level and the lending typology is not indicative of any categories falling into the high-risk bucket, i.e. a level below 40 percent (Chart 3.11). The Texas ratio improved at both an individual level (29.4 percent, Chart 3.8) and a consolidated level. However, this indicator further places Romania in a less favourable position relative to the EU-wide median.

The composition of expected credit loss allowances according to IFRS 9 shows an increasing proactivity. The share of ECL allowances included in Stage 1 or Stage 2<sup>94</sup> went up to 29.3 percent in August 2019, the rise being mostly ascribable to Stage 1. ECL allowances for non-performing loans (classified in Stage 3) are the major component (70.2 percent), although they decreased on the back of the balance sheet clean-up, new lending and cured exposures (around 3 percent of the exposures in Stage 3 at the beginning of 2019 were reclassified in Stages 1 and 2 in the first three quarters of 2019).

<sup>93</sup> Calculated as a ratio of restructured loans to total loans based on individual accounting reports of credit institutions, Romanian legal entities.

<sup>94</sup> Stage 1 comprises the assets that have not had a significant increase in credit risk since initial recognition. Stage 2 includes the assets that have had a significant increase in credit risk since initial recognition, but are not impaired. Stage 3 encompasses the impaired assets.

The furthering of the clean-up process and the functioning of NPL market could be affected by the reiteration of some legislative initiatives on consumer protection. Law on debt discharge No. 77/2016 was amended in 2019. Certain provisions envisaged defining the term “unforeseeability”, but the Constitutional Court gave a ruling on their being unconstitutional in November 2019, together with the issues concerning the presumption of unforeseeability in favour of the consumer notifying the debt discharge, thus maintaining the more restrictive nature of the procedure, which is likely to limit the moral hazard stemming from the proposal for the legislative amendment. Other legislative initiatives were subject to debates in 2019, but some of their provisions had been ruled unconstitutional in the past in the context of other similar draft legal acts. One initiative refers to consumer protection against speculative sale of loans and sets forth a debt discharge procedure for the consumer by paying the transferee the actual price of the sold asset and the related interest. The provisions would also apply to the agreements in effect if the unforeseeability conditions are met, taking into consideration that unforeseeability is presumed in the case of speculative sales of loans. This initiative is accompanied by other draft legal acts that are meant to support consumer protection in the relationship with credit institutions and other non-bank financial institutions. Specifically, the draft law on consumer protection against excessive interest rates sets differentiated caps on the annual percentage rate of charge. The law would also apply to the agreements in effect. The legislative proposal on consumer protection against currency risk in loan agreements sets forth the obligation of financial creditors to convert the loan agreement at the historical exchange rate plus 20 percent at most, at the request of consumers. The law would also apply to the agreements in effect. Another proposal concerns consumer protection against abusive or sudden foreclosures limiting the enforceability of loan agreements and legal acts used by traders to initiate and carry out foreclosure in relation with consumers. In this context, the uncertainty generated by the legislative framework governing banks’ activity lingered in the latter part of 2019 and credit institutions further considered this systemic risk to be the most important in the hierarchy of risk factors.

### 3.2.4. Market risk

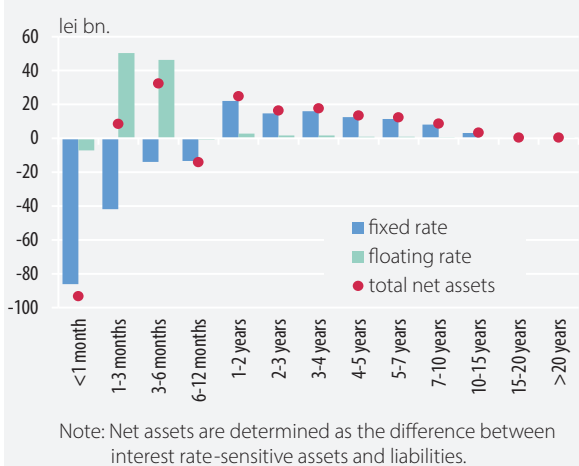
Capital requirements for market risk further hold a small share in total capital requirements for the Romanian banking sector, due to the high share of interest rate risk positions outside the trading book. The sensitivity of portfolios held by credit institutions to interest rate changes is heightened by their significant concentration on sovereign exposures, consisting mainly of fixed-income securities. The impact of currency risk remains low.

The analysis of interest rate-sensitive assets and liabilities shows a potential loss of up to 14.3 percent of own funds<sup>95</sup> across the banking system, assuming a set of shocks

<sup>95</sup> The simulations took into account solely credit institutions, Romanian legal entities, the impact on the banking sector being assessed relative to the total own funds of these institutions as at 30 September 2019.

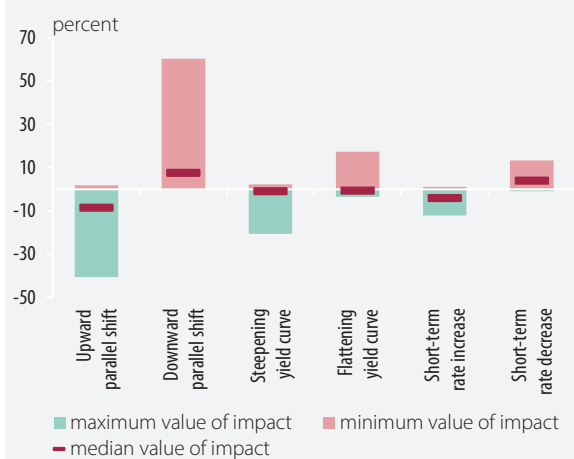
applied to the yield curve, according to six alternative scenarios<sup>96</sup>. The duration mismatch of interest rate-sensitive assets and liabilities, particularly given that the sizeable share of fixed-interest assets in the balance sheets of credit institutions (especially debt securities; Chart 3.12) is the key driver of the impact. The distribution of potential losses is heterogeneous, both among the scenarios and across credit institutions. According to the most severe scenario, which envisages an upward parallel shift in the yield curve by 250 basis points, the potential losses range from -40.5 percent and +60.3 percent of own funds (Chart 3.13), *ceteris paribus*, depending on the balance sheet structure of each bank. Most credit institutions would record losses in the case of an unexpected interest rate hike, as the funding sources for which the cost is determined by short-term developments hold a large share in their portfolio (liabilities have a short duration), as compared to assets, which are invested over a longer term.

**Chart 3.12.** Distribution of interest rate-sensitive net assets by maturity range and type of interest rate (September 2019)



Source: NBR

**Chart 3.13.** Potential impact in own funds generated by changes in yield curve (September 2019)



Source: NBR

The potential impact generated by the sensitivity of the government securities portfolio<sup>97</sup> to interest rate changes could entail, *ceteris paribus*, a reduction in the total own funds across the banking sector by up to 6.7 percent, according to the most severe scenario. The uneven distribution of losses incurred by banks is influenced by the volume and characteristics of the government securities portfolio held by each credit institution, as well as by the classification of securities (an increasing share of securities measured at amortised cost in the balance sheets of credit institutions mitigates the impact<sup>98</sup>).

<sup>96</sup> The scenarios considered for the yield curve dynamics of government securities are: (i) upward parallel shift, (ii) downward parallel shift, (iii) steepening yield curve, (iv) flattening yield curve, (v) short-term rate increase, (vi) short-term rate decrease. The shocks taken into consideration and their pass-through according to the six scenarios analysed were modelled based on the methodology established by the Basel Committee (Standards – Interest Rate Risk in the Banking Book).

<sup>97</sup> The analysis referred to the government securities issued by Romania's central government on the domestic market, held on the assets side of the balance sheets of credit institutions, Romanian legal entities, as at 30 September 2019.

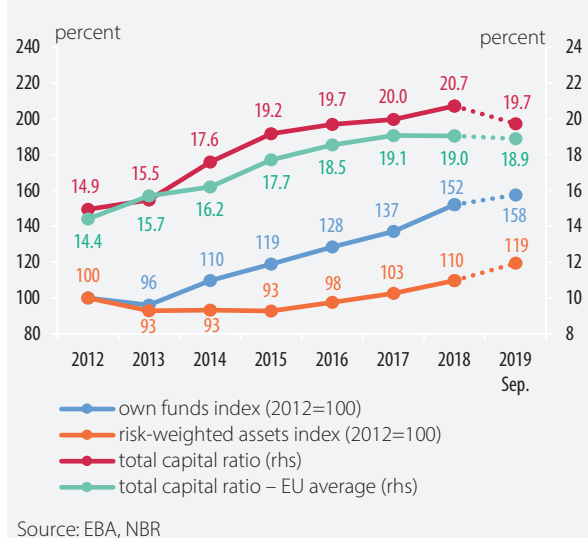
<sup>98</sup> The change in the market value of securities measured at amortised cost, unlike the securities classified in other accounting categories, produces no immediate effects on prudential indicators (as a result of affecting the profit and loss account via unrealised gains/losses), therefore this category is not considered in the simulation.

The impact of currency risk on the banking system was further low<sup>99</sup>. Specifically, the average constrained expected shortfall is of around 0.44 percent of own funds, close to the VaR of 0.33 percent of own funds at the 99th percentile. The main reason behind the management of banks' foreign currency position are the regulations in force, which impose additional capital requirements in case the net currency position of a credit institution exceeds 2 percent of own funds. Moreover, the impact is also the result of the small share of trading book in the balance sheets of credit institutions.

### 3.2.5. Capital adequacy

The total capital ratio remains adequate, slightly above the EU average, ensuring the banking sector's resilience to adverse developments of moderate intensity

**Chart 3.14.** Total capital ratio and its components

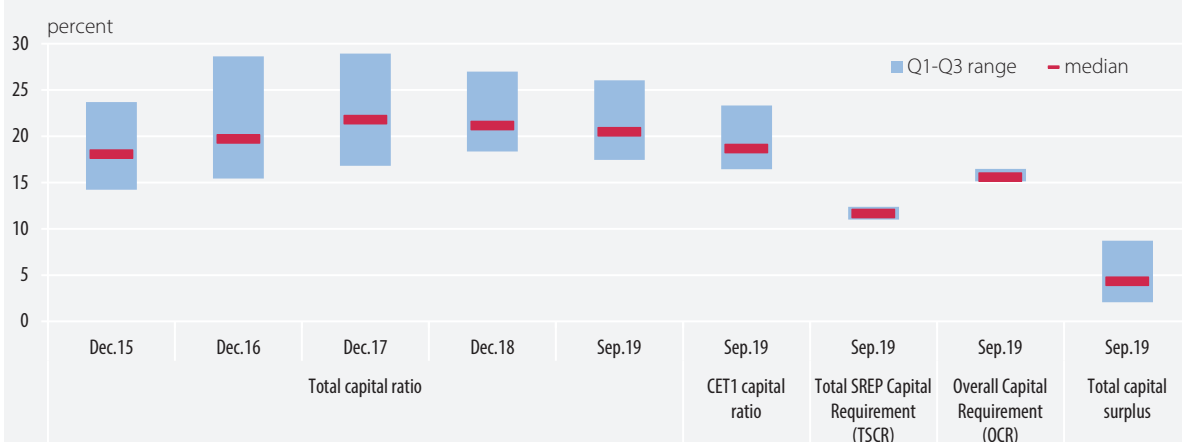


(Chart 3.14). Although the total capital ratio declined circumstantially to 19.7 percent in September 2019, the unaudited interim profit being not yet included in the calculation of own funds, the Romanian banking sector finds itself in the position to support the increase in exposures. The profit for the first nine months of 2019 would be the equivalent of a step-up in total capital ratio to nearly 22 percent. The decline in the total capital ratio since the previous *Report* was chiefly due to the growth of risk-weighted assets, i.e. up 9 percent (lei 19 billion) since the beginning of 2019. The increase in credit risk exposures to the real sector accounts for 50 percent of this evolution. The structure of own funds entails a good loss absorption capacity of banks, considering that total own funds consist primarily of Tier 1 capital (91 percent, September 2019).

At individual level, the heterogeneity of the total capital ratio declined in 2019 H1 (Chart 3.15). The additional microprudential requirements provide an additional reserve to cover risks, their median across credit institutions standing 3.7 percentage points above the minimum required level (September 2019). Capital buffers ensure the coverage of macroprudential risks. The substantial capitalisation of the banking sector ensures capital in excess of the overall capital requirement<sup>100</sup>, with a median value of 4.3 percentage points in September 2019 (Chart 3.15).

<sup>99</sup> VaR (Value-at-Risk) is determined at the 99th percentile, based on the daily changes in the exchange rate of the domestic currency for a 3-year period in relation to the foreign currencies in the portfolios of credit institutions, assuming the position is closed out in a 10-working day period. A coherent risk measure is the average expected shortfall in case that scenarios with a below 1 percent likelihood materialise.

<sup>100</sup> Excess capital at individual level was calculated as the difference between the actual total capital ratio of the credit institution and the sum of capital requirements provided by: (i) the minimum required level (8 percent); (ii) additional microprudential requirements under Pillar II; (iii) the combined buffer, in respect of which requirements for the capital conservation buffer and those specific to the buffer for systemically important institutions are currently imposed, subject to verifying the compliance with the minimum requirements for each component of own funds.

**Chart 3.15.** Distribution of capital adequacy indicators and their main components

Note: Q1 and Q3 – the 25th and the 75th percentile.

Source: NBR

### Banking sector solvency stress testing

The National Bank of Romania conducts regular stress tests of credit institutions' capital adequacy, which are designed to: (i) assess the operating profit according to macroeconomic scenarios (including the effects on capital arising from unrealised losses); (ii) evaluate the impact of macroeconomic scenarios as concerns the impairment losses on financial assets (loan loss provisions) recognised by banks; and, ultimately, (iii) measure the influence on bank prudential indicators and assess the extent to which banks have the capacity to cover their losses while complying with the regulatory framework. Stress tests are primarily conducted to capture the main risk factors at the banking sector level, the results being supportive of prudential supervisory activities.

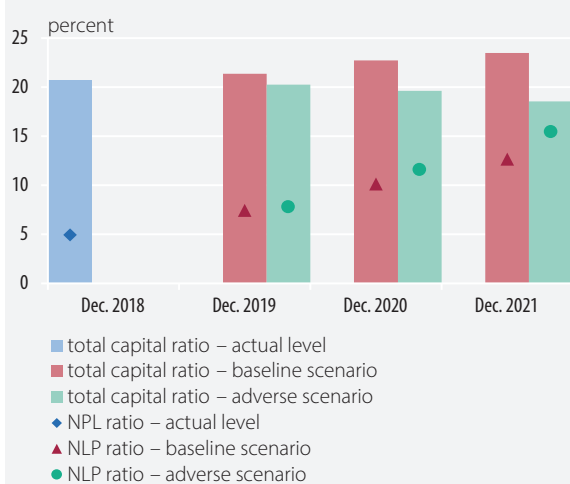
The latest solvency stress test of credit institutions covers a three-year horizon (2019 Q1 – 2021 Q4) and relies on two macroeconomic scenarios (a baseline scenario and an adverse scenario) developed within the NBR. The methodology applied is based on the methodology developed for the 2018 EU-wide stress test coordinated by the EBA, adjusted to correspond to a top-down approach and the data available for the central bank. The stress test covered all credit institutions, Romanian legal entities, according to the financial and prudential statements available as at December 2018.

The baseline scenario, which incorporates likely developments in macroeconomic variables, assumes: (i) economic growth to follow a slight downward trend, i.e. from 3.3 percent at end-2019 to 3 percent at the end of the forecast horizon; (ii) CPI inflation rate to go up to 4.2 percent in the first year of the analysis and then decline marginally to 3.3 percent in 2020 and 3.7 percent in 2021; (iii) unemployment rate to rise to around 5 percent at end-2021; (iv) the risk premium to grow to 2.3 percent at the end of the forecast horizon as compared with 1.2 percent (December 2018).

The adverse scenario envisages: (i) the economy to fall into recession starting in 2019, the sharpest decline being visible in the second year of the analysis (-4.1 percent);

- (ii) CPI inflation rate to head downwards during the three-year period, remaining in positive territory over the entire horizon under review (0.25 percent in 2021);
- (iii) unemployment rate to rise strongly to around 8.2 percent at the end of the forecast horizon;
- (iv) the risk premium to increase significantly, up to 6.5 percent at end-2021.

**Chart 3.16.** Total capital ratio and NPL ratio in stress scenarios



Source: NBR, NBR calculations

According to the baseline scenario, the capital adequacy ratios at aggregate level stand at a satisfactory level<sup>101</sup>: the total capital ratio follows an upward course in the period from 2019 to 2021, adding approximately 2.8 percentage points versus December 2018 to 23.5 percent, and the CET1 capital ratio sees a gradual increase to 21.4 percent (Chart 3.16). The NPL ratio is seen reaching 12.7 percent at the end of the forecast horizon (as a result of keeping a static balance sheet, a working assumption according to which credit institutions do not resort to loan sales or write-offs in the period under review).

According to the adverse scenario, the total capital ratio sees a gradual decrease of 2.2 percentage points over the forecast horizon, i.e. from

20.7 percent in 2018 to 18.5 percent at end-2021, which is a level higher than the binding capital requirements. The scenario used entails the significant increase in default rates and the gradual rise in NPL ratio to 15.5 percent at the end of the 3-year period under review, as compared to 4.96 percent in December 2018. The results are determined by the significant improvement in the capacity to make operating profit and the strengthening of banks' financial and prudential statements in the course of 2018. A major driver of the improvement in profit-making capacity is the change in the funding structure over the past years, due to the replacement of a large share of liabilities consisting in foreign funds (particularly credit lines granted by parent banks) with domestic deposits, which contributed to the rise in net interest margins.

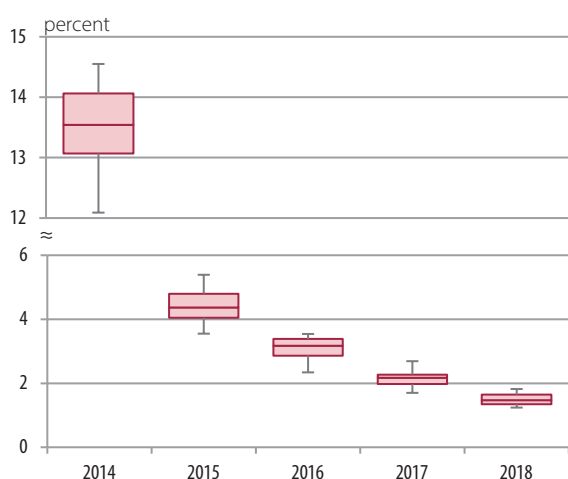
However, a polarisation of the financial results of credit institutions is visible in terms of their size. The identified vulnerabilities are generally specific to smaller credit institutions that record low levels of operating profit, amid generally higher funding costs and fixed operating expenses taking a larger share of income, as a direct result of their size.

The adequate position of the Romanian banking sector from the perspective of financial and prudential indicators and the results of liquidity and solvency stress tests is also revealed by the estimates on the bank crisis probability (Box 4).

<sup>101</sup> Under the baseline scenario, the minimum threshold is the overall capital requirement (OCR), while under the adverse scenario, the threshold is the binding capital requirement that must be fulfilled permanently (the Total Supervisory Capital Requirement – TSCR), according to the EBA's *Guidelines on the Revised Common Procedures and Methodologies for the Supervisory Review and Evaluation Process (SREP) and Supervisory Stress Testing* released in July 2018.

**Box 4. Estimates on the probability of a banking crisis occurring in Romania**

An assessment estimating the probability of a narrowly defined banking crisis was carried out in order to extend the macroprudential toolkit used for the oversight of the Romanian banking sector. The banking crisis is defined in the literature<sup>102</sup> as an event where the adoption of a policy mix is necessary in response to significant losses in the banking system, alongside disruptions in the activity of credit institutions, attributed to panic or insolvency cases. The NBR's assessment relies on the assumption that a banking crisis is manifest when the entire banking sector in Romania reports losses<sup>103</sup> that would push the total capital ratio down below the Total Supervisory Capital Requirement (TSCR) that must be fulfilled permanently or when the cumulative market share of banks failing to comply with the individual requirement exceeds 3 percent. Specifically, the analysis tackles the probability of a banking crisis to materialise strictly on account of capital shortage.

**Chart A.** Banking crisis probability in Romania

Source: NBR, BankFocus, NBR calculations

According to estimates, the annual probability of a banking crisis occurring in Romania ranges between 1 percent and 5 percent in the period from 2015 to 2018, standing lower than the 12-15 percent level calculated for 2014 (Chart A). The gradual decline in the crisis probability pinpoints the adequate capitalisation of credit institutions. Thus, maintaining sizeable capital reserves as compared with microprudential requirements paves the way for mitigating risks in the period ahead, in the event of macroeconomic imbalances becoming manifest. The results are driven by credit institutions' financial performance determined based on three indicators, i.e. non-performing loan ratio, total assets and leverage ratio (calculated as the debt-to-assets ratio), as well as by the level of capital in excess of the minimum

requirement. The criterion referring to the decline in total capital ratio below the minimum required level for the banking sector overall is met especially for simulations where the correlation between banks' financial results is assumed to be high (75 percent). In such a case, all credit institutions would be systematically affected by a risk factor. The increase in the correlation of financial assets during stress periods is actually one of the factors causing higher losses. On the other hand, the probability that this criterion is met is lower when assuming low or negative correlation (0.25 percent, based on historical evidence).

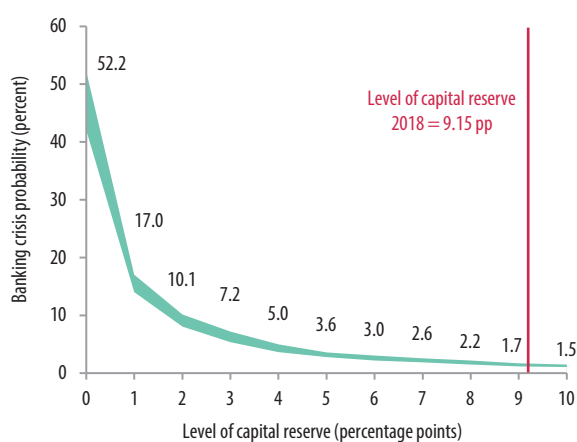
In Romania's case, the capital requirement increased over the analysis horizon, being particularly influenced by the rise in the additional capital amount necessary for covering bank-specific risks, which is determined based on the microprudential

<sup>102</sup> Laeven, L. and Valencia, F. – "Systemic Banking Crises Revisited", IMF Working Papers, 2018.

<sup>103</sup> For analysis purposes, the profit made by a bank is assumed to be distributed among shareholders, whereas losses have a direct impact on the available own funds and shareholders do not perform capital increases.

assessment of credit institutions' capital adequacy to risk (SREP<sup>104</sup>). Currently, the additional capital requirement imposed according to Pillar II is 3.7 percentage points above the minimum required level.

**Chart B.** Banking crisis probability in 2018 depending on the threshold range of the capital reserve



Source: NBR, BankFocus, NBR calculations

The applied methodology may also be extended, so that the estimates of the banking crisis probability can be made when setting a level of capital reserve other than the required level (the capital reserve is determined as the difference between the actual solvency and TSCR). The simulation for 2018 (Chart B) shows the non-linear relation between the two variables. A lower capital reserve is linked to a higher banking crisis probability. For instance, the probability is in the range of 5.5 percent and 7.2 percent for a 3 percentage point capital reserve and stands significantly higher, i.e. between 14 percent and 17 percent, for a lower capital reserve of 1 percentage point.

To sum up, the Romanian banking sector's solvency at aggregate level is expected to ensure a good absorption capacity of unexpected shocks, so that the case of total capital ratio going down to the capital requirement is a low-probability scenario.

The estimates on the probability of a more broadly-defined banking crisis<sup>105</sup> to occur in Romania, using a classification model based on series of macrofinancial and governance variables, reveal a similar downward trend in probability as compared with the 2008-2012 period. However, the 2018 estimated value for Romania is higher than that determined for the probability of a narrowly defined banking crisis, being comparable to the outcomes of countries such as Poland, Hungary or Bulgaria.

### 3.2.6. Profitability

Banking sector profitability remained high in the first nine months of 2019, primarily on account of the resumption in operating profit growth and the further historical low level recorded by net expected credit losses. The net financial result was affected by a non-operating event related to the method used by a home savings bank to allocate the state subsidy, which caused the significant hike in provisions for litigation costs. The swift dynamics of net interest income, the main component of operating income, slowed down slightly, against the background of the wider positive changes in interest expenses as compared to those in interest income. The annual rate of change of operating expenses picked up further, due mainly to staff costs, whose increase

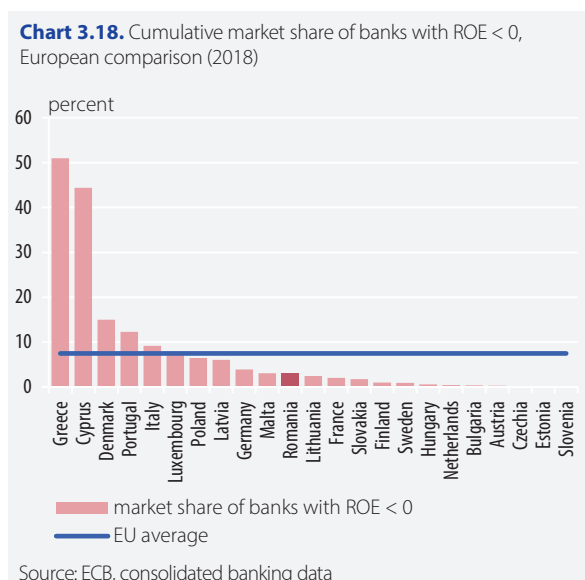
<sup>104</sup> Supervisory Review and Evaluation Process.

<sup>105</sup> ESRB used this definition to build a historical series on the years when banking crisis episodes were manifest in EU countries. These episodes were identified starting from quantitative aspects, on the basis of the *Financial Stress Index*, along with the expertise of European and national authorities.

generated by pay rises was only partly offset by the smaller number of employees and branches. The aggregate operational efficiency shows that the national banking sector remains in the medium-risk bucket according to the EBA's prudential limits and the consolidation process of small- and medium-sized banks carries on, amid the asymmetric distribution of profitability, which is concentrated in large banks.

The prospects for the currently favourable trend in profitability to continue are mitigated by the impact of a potential return of default rates to levels close to the historical average, by the uncertainties affecting the legislative framework as well as by the introduction of the tax on bank assets.

The Romanian banking sector recorded a net profit of lei 5 billion at end-September 2019 (Chart 3.17), being concentrated (85.3 percent) among large banks, in which case the comparative advantage of size, materialised in scale economies, is enhanced by an adequate governance.



The levels of the main profitability indicators, i.e. ROE and ROA, remained among the highest in the EU, illustrating the recent financial performance, yet their volatility is historically high. The averages for the period from 2008 to March 2019 (3.9 percent and 0.4 percent<sup>106</sup>) place Romania on the 12th and the 8th position, respectively, among the EU countries, under the influence of cyclical fluctuations in economic activity. The ROE historical average indicates that the period of investment recovery for the Romanian banking sector is of about 25.4 years, without considering the introduction of the tax on bank assets.

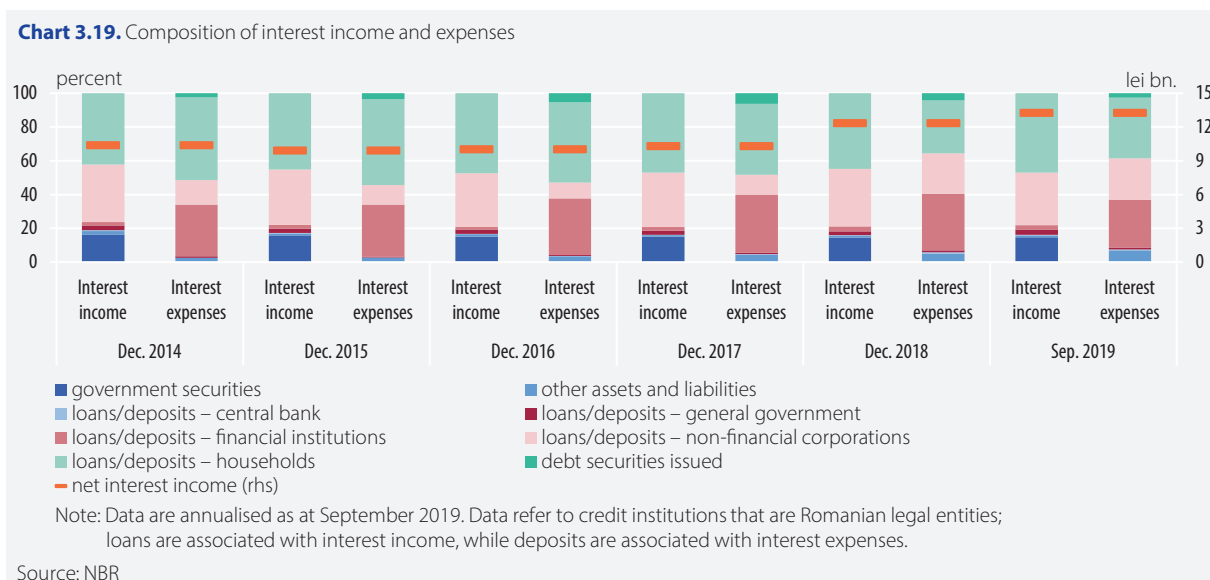
In terms of safeguarding financial stability, it would be desirable that banks yield positive net results: (i) with low volatility and (ii) at a level deemed sufficient in relation to the rate of return requested by shareholders in order to keep their shares (cost of equity – CoE), which would favour capital increases in the event of adverse

<sup>106</sup> According to ECB data (Consolidated Banking Data). Greece and Croatia were excluded due to the incomplete data series.

developments. In 2019, most large O-SII banks (83 percent) recorded ROE values that exceeded the CoE<sup>107</sup>. The median CoE for large O-SIIs was 13 percent in 2019. Out of total respondents, 60 percent estimated CoE to stand above 12 percent, while 20 percent reported values in the 10 to 12 percent range and another 20 percent in the 8 to 10 percent range. On the other hand, the banking sectors in some EU countries continue to face difficulties in creating value for shareholders, with only about 60 percent of the banks responding to the EBA's periodic questionnaire estimating that the current value of the return on equity covers the cost of equity<sup>108</sup>.

The aggregate market share of loss-making banks (2.6 percent) further stood below the EU average of 7.5 percent (Chart 3.18).

Net interest income is the main component of operating income (66.6 percent). The annual rate of increase of net interest income slowed down starting in the latter part of 2018, amid the rise in interest expenses. The adjustment in the favourable dynamics of interest income was driven by developments in their main component, i.e. financial assets measured at amortised cost. Specifically, the favourable volume effect, stemming from the expansion of lending in domestic currency, was cushioned by the decline in the average interest rate on outstanding lei-denominated loans (price effect). The dynamics of funding costs have remained in positive territory since the beginning of 2018, after the decreases seen in the period from 2013 to 2017, being influenced by the hike in interest rates on deposits in lei and the rise in the volume of deposits.



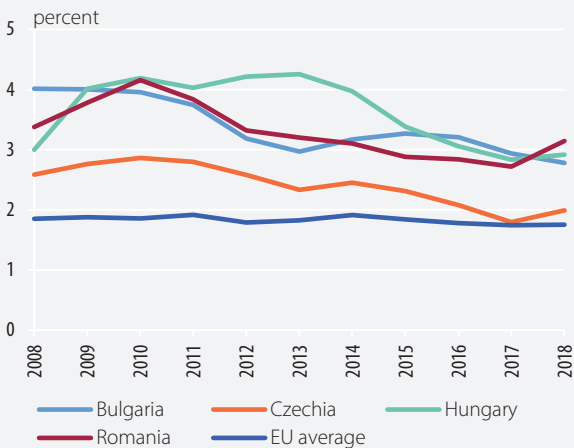
The composition of interest income and expenses reveals that the business model of banks, Romanian legal entities (Chart 3.19), is based on interest income generated by exposures to households (47 percent, September 2019) and non-financial corporations (31 percent), with government securities holding a significant share, i.e. 15 percent

<sup>107</sup> According to information submitted by O-SIIs in September 2019 via an NBR questionnaire.

<sup>108</sup> EBA, *Risk Assessment Questionnaire*, Spring 2019.

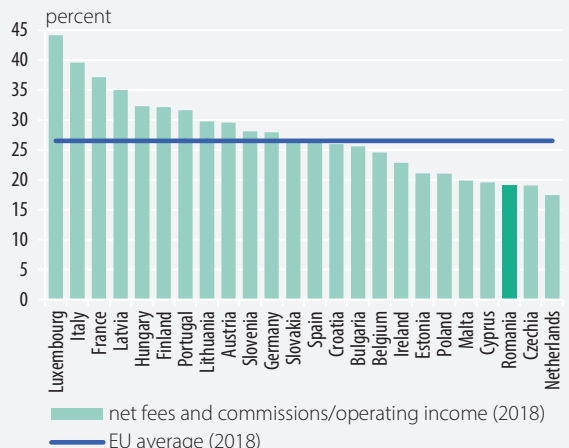
of total. The largest part of interest expenses is associated with deposits of households (36 percent) and financial institutions (28 percent), followed by deposits of non-financial corporations. Funding via instruments other than deposits is low, interest expenses on debt securities issued holding a marginal share of about 3 percent.

**Chart 3.20.** Net interest income-to-assets ratio, regional developments



Source: ECB, consolidated banking data

**Chart 3.21.** Net fees and commissions-to-operating income ratio, European comparison (2018)

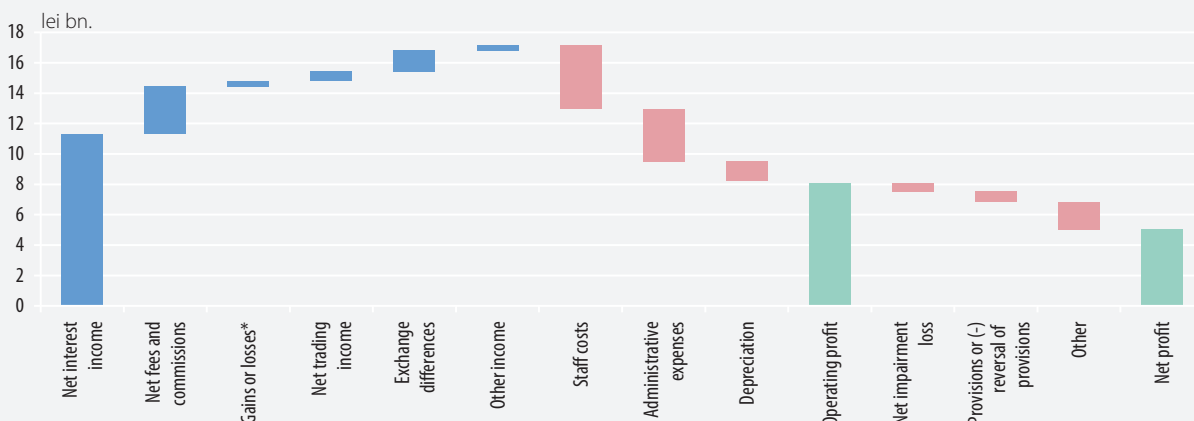


Source: ECB, consolidated banking data

A comparison made on the basis of the ratio of net interest income to assets shows that the national banking sector is in the regional top, with levels standing 1.5-2 times higher than the EU average for the past 11 years (Chart 3.20).

Net fee and commission income posted uneven developments, with marginal increases solely during H2, and remained the second largest component of operating income, but its share went down (18.3 percent) and stood below the EU average (Chart 3.21). Net exchange rate differences continued to rank third as a share in total operating income (8.3 percent), despite their volatile dynamics (Chart 3.22).

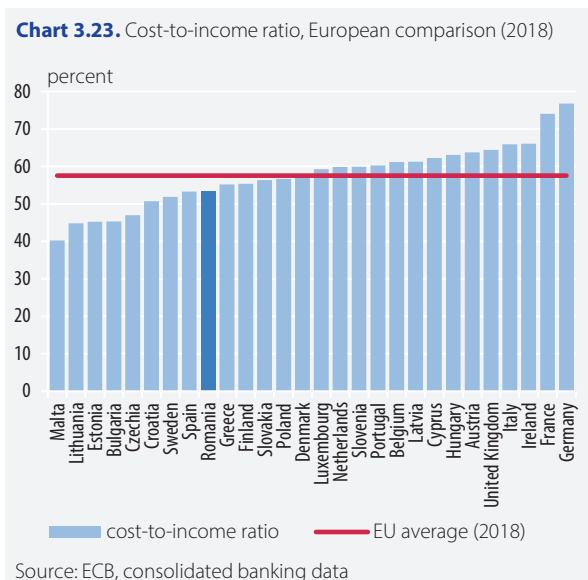
**Chart 3.22.** Profit breakdown as at September 2019



\*) gain (+) or loss (-) from the derecognition of financial assets and liabilities not measured at fair value through profit or loss

Source: NBR

Operating expenses stuck to an upward trend amid the increase in staff costs (following the slight positive change in average net wage in the sector), despite the cuts in the number of personnel and branches. Staff costs held the largest share (47.3 percent) in the structure of operating costs, ahead of other administrative expenses (39 percent) and depreciation expenses.



The analysis of operational efficiency in terms of the cost-to-income ratio (53.2 percent at end-December 2018) shows that the national banking sector remains in the medium-risk bucket according to the EBA's prudential limits of 50-60 percent and below the EU average (Chart 3.23). The sector continues to include, however, medium- and small-sized banks with poor operating profitability (cost-to-income ratio above 60 percent), as well as banks that report operating losses (with a cumulative market share of 2.9 percent). The insufficient operational efficiency of these banks and the persistent asymmetry of the profit-making capacity by bank size are supportive of further consolidation<sup>109</sup>, the success of which also depends on the existence of adequate governance.

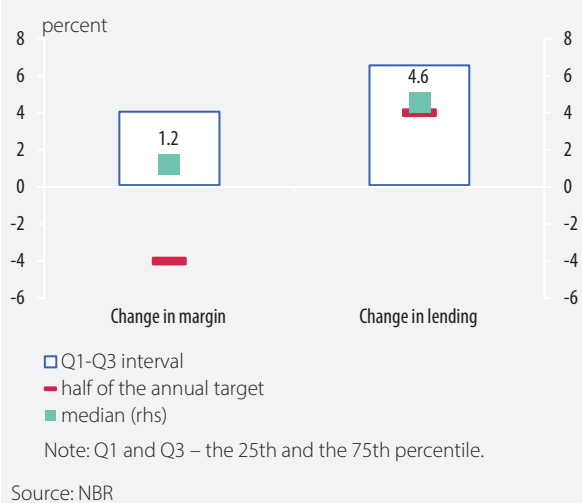
Starting with 2019 Q2, operating profitability resumed its positive dynamics seen since the beginning of the previous year, under the impact of the faster growth pace of operating income than that of operating expenses. The net operating result was influenced by an event<sup>110</sup> that entailed the significant rise in provisions or reversal of provisions, spurred by the subcategory of provisions for litigation costs. Relative to average assets, the share of provisions or reversal of provisions remained low (0.2 percent), yet exceptionally, it exceeded that of net expected credit losses (0.1 percent). Although the event had an adverse effect on these net charges, halting their downtrend, they remained at a historical low level and slightly eroded operating profitability. In the medium term, however, their current level could prove unsustainable, as default rates might return to levels closer to the historical average.

Challenges to the profitability of the national banking sector are linked to: (i) a potential resumption of the increase in risk cost given the slowdown in economic growth, and (ii) the limited progress in solving structural issues, such as the insufficient operational efficiency of most small- and medium-sized banks.

At the same time, the introduction of the tax on bank assets will affect profitability at end-2019, being recorded as an advance payment at the end of H1.

<sup>109</sup> Several credit institutions are undergoing due diligence (assessment by potential investors) or await approval by the authorities.

<sup>110</sup> The Decision of the High Court of Cassation and Justice in the dispute between the Court of Accounts and home savings banks prompted the setup of sizeable provisions for litigations or credit risk.

**Chart 3.24.** Distribution by bank of changes in margin and in lending (June 2019 vs December 2018)

At end-2019 H1, 17 credit institutions, holding a cumulated market share of 42.3 percent, exceeded half of the target level for the increase in lending (+4 percent) provided by GEO No. 19/2019 on the reduction mechanism for the tax on bank assets. Meeting lending targets seems to contribute effectively to the reduction in the amount of the tax due (Chart 3.24). As for the target to reduce the interest rate margin, credit institutions might seek to apply a margin below the reference value or to lower it when the gains from tax reduction would be greater than the related decline in net interest income. However, developments in this period do not highlight such a trend. Looking at the banking sector overall, only four small-sized banks with an aggregate market share of 0.5 percent lowered their interest rate margin below half the target

level (-4 percent, Chart 3.24). Therefore, there is a low probability of obtaining tax deductions by reaching the interest rate margin criterion. In this context, at the level of paying banks<sup>111</sup>, the tax on assets for 2019 H1 is estimated<sup>112</sup> to amount to lei 430 million.

### 3.3. Non-bank financial sector

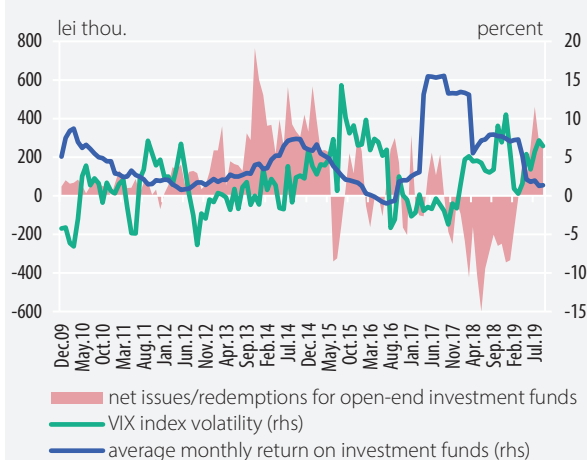
Financial intermediation in the non-bank financial sector increased at a European level, and the risks stemming from the connections to the banking sector, including those related to property, indicate that this sector requires close monitoring, considering the possible implications in terms of financial stability. In Romania, however, the level of financial intermediation as a share of GDP remained relatively unchanged over the past years at sector level (17.4 percent in June 2019). Since the previous *Report*, all segments saw overall favourable developments, especially positive asset dynamics, yet these were also accompanied by wider connections with the banking sector.

#### Investment funds

The investment fund sector witnessed a recovery in the first three quarters of 2019, with assets increasing by 8 percent (in annual terms). The favourable developments were mainly ascribable to bond funds (up 9.9 percent, September 2019 versus September 2018) and to closed-end equity funds (up 7.0 percent, in the same period). On the other hand, mixed funds and closed-end bond funds reported a drop in assets by 1.5 percent and 19.7 percent respectively (the assets of the latter hold an immaterial share in total investment fund assets).

<sup>111</sup> As per Article 87(5) of GEO No. 19/2019, the tax on net bank assets is not owed and is not declared for H1 in a series of situations related to reaching the targets.

<sup>112</sup> Given that banks' reports to the NBR do not include all the data necessary for calculating the tax, the estimate took into consideration a series of assumptions on the tax base or the relevant items for the tax reduction mechanism.

**Chart 3.25.** The cyclical nature of investment fund flows

Source: NBR, Bloomberg, Romania's Fund Managers Association, NBR calculations

Net issues remained positive both at aggregate level and for the main fund categories, with only closed-end equity funds and open-end mixed funds recording redemptions. The volatility of inflows and outflows of investment funds highlights the pro-cyclical behaviour of investors and asset managers (Chart 3.25)<sup>113</sup>. Nonetheless, during periods of high volatility and positive yields, a reversal in the uptrend of net inflows is noted. In the medium run, this pro-cyclical behaviour may contribute to increasing market buoyancy, by risk taking during a boom and price changes during a recession.

The most significant exposures of investment funds are to the banking sector (30 percent of total assets and slightly on the rise due to equity funds, as at

September 2019) and to the non-financial corporations segment (34 percent of assets).

**Table 3.1.** Risk indicators (ESRB proposal<sup>114</sup>) for investment funds

	percent														
	Total investment funds			Equity funds			Bond funds			Mixed funds			Other funds		
	Mar. 2019	Jun. 2019	Sep. 2019	Mar. 2019	Jun. 2019	Sep. 2019	Mar. 2019	Jun. 2019	Sep. 2019	Mar. 2019	Jun. 2019	Sep. 2019	Mar. 2019	Jun. 2019	Sep. 2019
Maturity transformation	35.2	34.4	36.4	1.7	0.9	1.4	72.8	74.4	74.4	30.4	26.4	25.2	48.0	48.5	51.1
Liquidity transformation	14.4	14.5	14.3	1.0	1.7	1.1	17.1	16.7	16.9	10.1	10.5	9.8	6.2	7.7	6.6
Financial leverage	6.3	7.3	7.0	1.3	4.5	1.7	13.0	11.9	13.7	2.4	2.4	2.9	4.9	5.4	6.7
Credit intermediation	35.7	35.1	36.8	1.7	1.2	1.6	73.9	75.6	75.2	32.4	28.8	27.7	48.1	48.6	51.1
Interconnectedness	29.6	29.7	29.7	20.8	23.4	23.4	37.4	35.1	35.1	22.6	21.2	21.2	40.9	40.5	40.5

Note: (i) Maturity transformation = long-term assets/total assets; (ii) Liquidity transformation = (total assets - liquid assets)/total assets; (iii) Financial leverage = loans received/total liabilities; (iv) Credit intermediation = (loans + bonds)/total assets; and (v) Interconnectedness = exposure to local banks/total assets.

Source: NBR

Risk indicators quantified based on ESRB methodology highlight the following developments (Table 3.1): (i) maturity transformation increased at aggregate level and in the case of equity funds and other investment funds, while for mixed funds and bond funds, the share of assets with maturities of over one year contracted or remained unchanged; (ii) the liquidity position improved for all investment fund categories, except for bond funds; (iii) indebtedness declined slightly at aggregate level and significantly in the case of equity funds, yet rose for all other investment funds.

<sup>113</sup> *Financial Stability Review*, May 2019 – Section 4, Non-bank financial sector; subsection 4.1. Non-bank financial institutions continued increasing their financing of the euro area economy.

<sup>114</sup> "Assessing Shadow Banking – Non-bank Financial Intermediation in Europe".

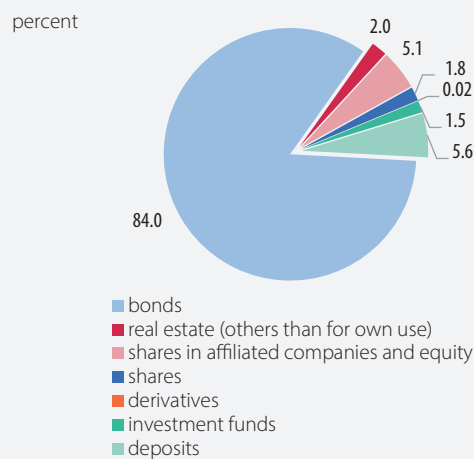
### Insurance sector

The insurance sector continued to hold the lowest share in the financial system (4.1 percent of total assets in September 2019) and to have the least contribution to ensuring financial intermediation, calculated as a share of GDP (2.8 percent). Assets, however, witnessed positive developments<sup>115</sup> (up 14.5 percent in September 2019, year on year).

In 2019 Q2, the volume of gross premiums written by insurance companies totalled approximately lei 2.7 billion, after a marginal increase of 0.3 percent versus the previous quarter. The number of contracts in effect grew by 2.3 percent, while the volume of gross claims paid by insurance companies went up by 6.7 percent, reaching lei 1.5 billion at end-June 2019. The non-life insurance market was further dominated by motor vehicle insurance (compulsory and voluntary motor third party liability insurance), making up 72 percent of total premiums written and 82 percent of total claims paid.

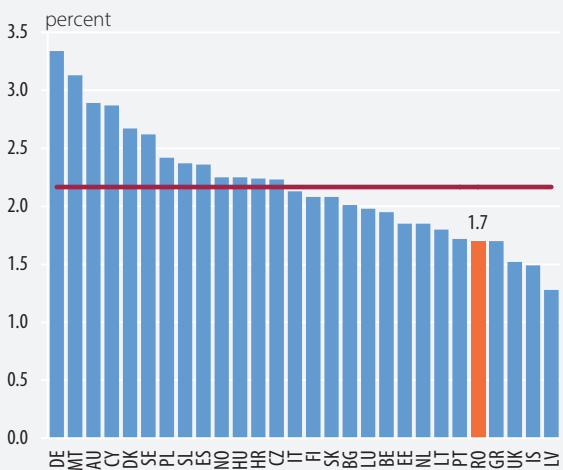
Insurance companies' investment portfolios consist mainly of investments in bonds (Chart 3.26). Unlike elsewhere in the EU, insurance companies in Romania prefer safe investments, with high investment in government bonds (76 percent of the total). The exposure of Romanian insurance companies to the local banking sector is low (8.6 percent in June 2019, the share of assets placed with local credit institutions in total assets), thus the potential risk of contagion from this sector is reduced.

**Chart 3.26.** Investment structure of insurance companies in Romania, 2019 Q1



Source: FSA

**Chart 3.27.** SCR ratio<sup>116</sup>, international comparison, 2019 Q1



Source: EIOPA

At end-2019 Q2, all insurance companies met the solvency capital requirements (average SCR ratio of 1.72), as well as the minimum capital requirements (average MCR ratio of 3.94), with the exception of one undertaking with low market activity. At a European level, although the solvency position varies significantly among EU Member States, capitalisation remains satisfactory and reports values of over 100 percent in all countries (Chart 3.27).

<sup>115</sup> The calculation of total assets of insurance companies includes those of foreign branches in Romania.

<sup>116</sup> SCR, Solvency Capital Requirement.

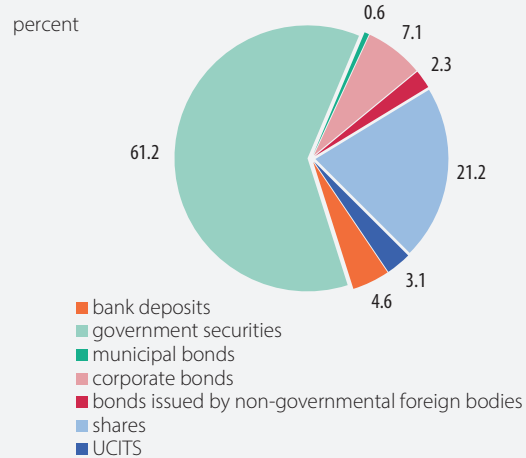
According to the EIOPA risk dashboard for 2019 Q1, the insurance sector's risk exposure at a EU level remained stable overall, with the macroeconomic risk and market risk being revised as rising (from intermediate and steady in 2018 Q4 to high and steady in 2019 Q2).

### Private pension funds

Private pension funds (Pillar II and Pillar III) posted further a positive evolution, despite the effects generated by the uncertainty around the legislative framework. This sector manages assets totalling approximately lei 62 billion (the equivalent of 8.6 percent of financial system assets, as at September 2019). Total assets increased significantly since the previous *Report* (up 15.6 percent, September 2019), while the number of individuals recorded in the private pension system went up by 1 percent. Behind these developments stood wage hikes in both the public and private sector.

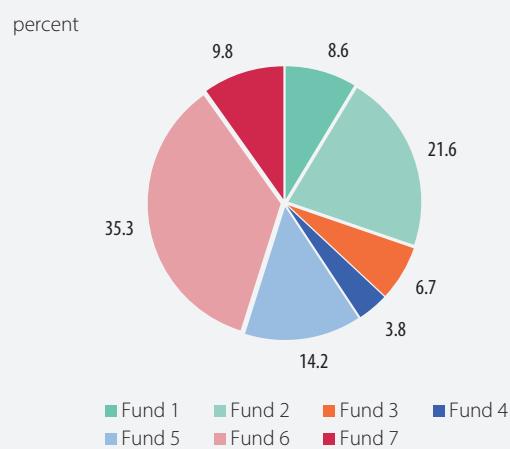
The investment structure of private pension funds remained relatively unchanged compared to that at end-March 2019, with investments in government securities further making up the majority of total assets (Chart 3.28).

**Chart 3.28.** Composition of investments of Pillars II and III, September 2019



Source: FSA, NBR calculations

**Chart 3.29.** Market shares of private pension funds, by net assets, September 2019



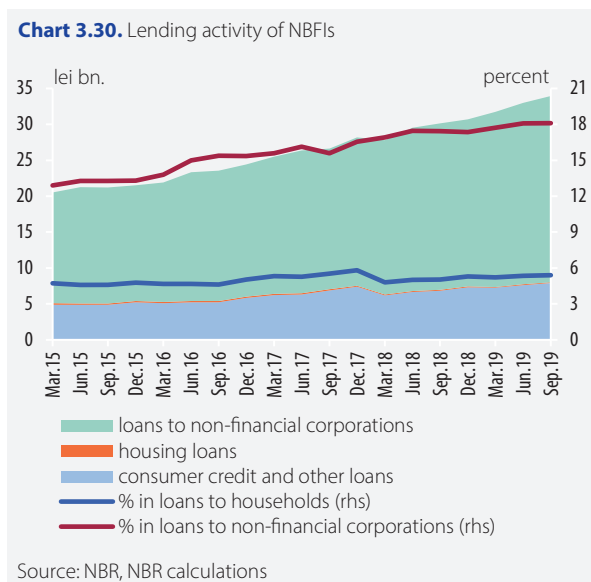
Source: FSA, NBR calculations

The weighted average rate of return of all private pension funds in Pillar II for the last 24 months doubled in September 2019 compared to end-2018 (up from 2.7 percent to 5.3 percent). Most players in the system were assigned an intermediate risk, with only one private pension fund being included in the high-risk category.

Looking at the distribution of assets held by private pension funds in Pillar II, concentration is rather high, as 3 private pension funds account for over two thirds of total assets (Chart 3.29).

## Non-bank financial institutions

The non-bank financial institutions sector further consolidated its position in the financial system, in the relation to both non-financial corporations and households.



Specifically, in September 2018 – September 2019, the stock of loans granted by NBFIs to the real sector posted an 11.9 percent increase. The breakdown shows noticeable differences between lending to non-financial corporations and lending to households: on the one hand, companies borrow from NBFIs primarily in foreign currency (approximately 80 percent of total), while households take out mainly domestic currency-denominated loans (around 91 percent). Household credit is mostly channelled towards consumer credit and other loans, while recourse to housing loans is very low.

NBFI lending continues to hold a relatively marginal share in total lending to households (approximately 5.4 percent), yet it is more significant in the corporate segment (18.1 percent of total, Chart 3.30).

One vulnerability associated with the NBFI sector relates to funding from banks, which is on an upward trend and resulted in loans from credit institutions recording a high in June 2019 (14 percent). Under the circumstances, the contagion risk, including reputational contagion, from the NBFI sector to the banking sector is on the rise.

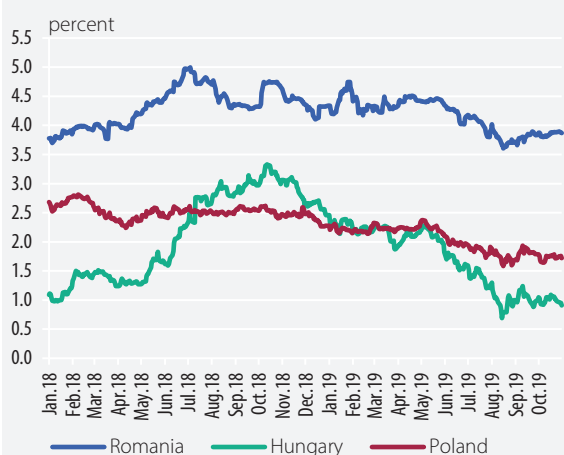
The payment discipline of NBFI debtors saw no significant changes at aggregate level, the non-performing loan ratio standing at 3.9 percent in September 2019, relatively similar to that in the same period of the previous year. Loans to non-financial corporations witnessed a better performance, with an NPL ratio of 2.5 percent (September 2019) and declining from the prior year, while the NPL ratio for the household segment increased from September 2018 to 8.1 percent. The results of the internal models estimating the probability of default for non-financial corporations and households show that NBFI lending is, overall, riskier than that of the banking sector, calling for the maintenance of an adequate NBFI capital level to cover the risks assumed.

The NBR implemented measures with respect to the NBFI sector in order to lay the groundwork for better risk management, reducing regulatory arbitrage, as well as mitigating the potential systemic effects that may arise from this sector. Following the strengthening of the regulatory and supervisory framework applicable to NBFIs, the number of entities recorded in the Special Register increased by 28, reaching a total of 65 (43 newly recorded NBFIs since October 2017 and 15 NBFIs removed). In addition, NBFIs' equity continued to grow, up by 11 percent in September 2017-September 2018, and by another 15 percent in the following year, which supported the resumption of lending, even in the context of further high interest rates.

### 3.4. Financial markets

Since the previous *Report*, the money market has witnessed a liquidity surplus. Under the circumstances, the interest rate on interbank transactions stood in the vicinity of the monetary policy rate. Similarly, longer-term ROBOR rates posted declines starting May 2019, on average by 0.4 percentage points. The NBR kept in place a strict liquidity control, with a view to ensuring price stability over the medium term, and carried out weekly operations to mop up excess liquidity via deposit-taking operations.

**Chart 3.31.** Yields on 5Y government bonds issued by Romania and some of the countries in the region



Source: Bloomberg

During the same period, bond yields on the secondary market for government securities went down to the levels seen in the early months of 2018, but the developments in September 2019 point to both yields and their volatility re-embarking on an upward trend. The yield of 5-year securities issued by the Romanian government averaged out at 4 percent in November 2019, below the 4.4 percent reading April through May, but on the rise compared to 3.75 percent in August 2019. The evolutions are in line with those across the region (Chart 3.31) and reflect investors' concerns about the heightened uncertainties surrounding economic and trade policies and their implications for the world economy, as well as those over the Brexit process.

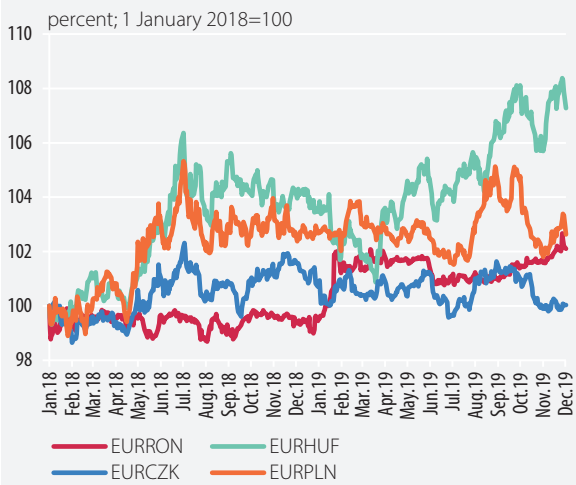
The yield curve analysis does not indicate major vulnerabilities. Similarly to the dynamics identified in the previous *Report*, the yield curve continued to flatten slightly. Thus, yields on 1- and 3-year securities shed 20 basis points and 25 basis points respectively, while those for 5- and 10-year maturities witnessed adjustments of over 30 percentage points May through October 2019 compared to the period from November 2018 to April 2019.

The exchange rate of the domestic currency saw relatively stable developments in the latter part of 2019, although following a slight uptrend, amid the further widening of the trade deficit, but also the risk aversion episodes on international markets generated by the trade row between the US and China, as well as by the uncertainties surrounding the Brexit process. Compared to those of the other currencies in the region, the leu's exchange rate dynamics were significantly more subdued (Chart 3.32).

Although the domestic currency had posted higher volatility at the onset of 2019, owing to unexpected changes in the legislative framework, it stabilised below the volatility level on the international stage (Chart 3.33). However, looking at the leu's volatility shocks<sup>117</sup>, a larger magnitude is noticeable, suggesting that the domestic currency witnessed significantly higher stress than its regional peers during 2019. Other currencies that faced more important volatility shocks were the British pound, owing to Brexit, and the Asian currencies, on account of the contagion effects generated by the US-China trade tensions. These developments underline yet again the need for consistent and sustainable economic policies domestically.

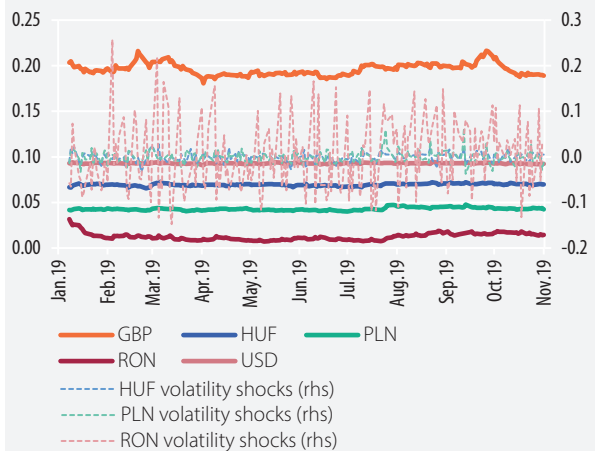
<sup>117</sup> Conditional volatility and volatility shocks are components of integrated volatility and have been estimated from sampled data, during 2019, over 5-minute intervals.

**Chart 3.32.** Exchange rate dynamics in CEE countries



Source: Bloomberg, NBR calculations

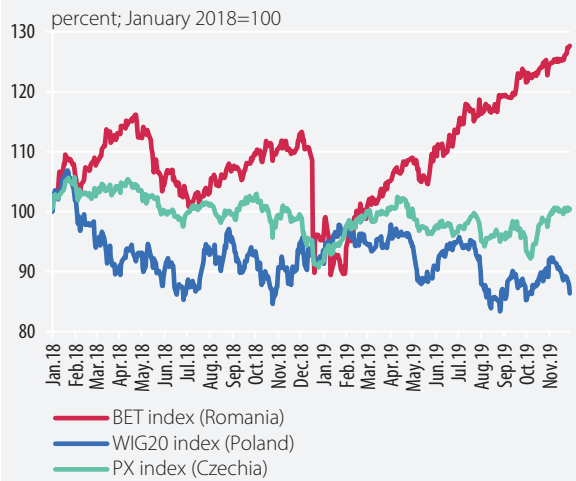
**Chart 3.33.** Conditional volatility of exchange rates versus the euro and volatility shocks



Source: Bloomberg, NBR calculations

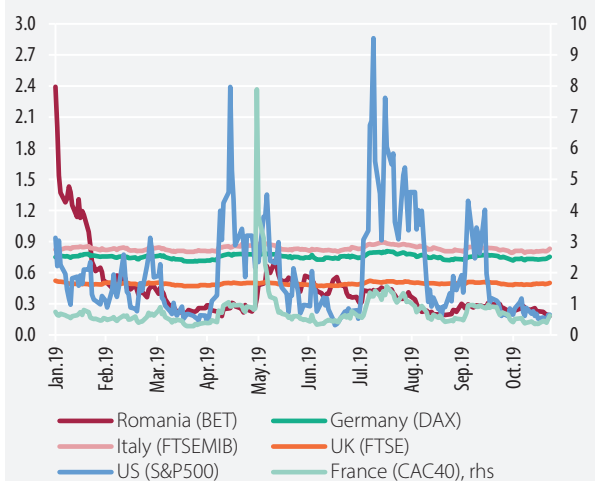
After the considerable negative effects at end-2018 and the beginning of 2019, the capital market in Romania saw a major recovery, making up fully for the losses incurred (Chart 3.34). BET volatility<sup>118</sup> was not significantly higher than that of key stock market indices worldwide. It trended downwards since the beginning of the year, following the fadeout of the impact exerted by the adoption of GEO No. 114/2018.

**Chart 3.34.** Key stock market indices in the region



Source: Bloomberg, NBR calculations

**Chart 3.35.** Conditional volatility of stock market indices



Source: Bloomberg, NBR calculations

In September 2019, the global provider of benchmarks FTSE Russell upgraded Romania from frontier to emerging market status. In addition, early November saw the establishment of the Central Counterpart, an institution whose objective is to develop the derivatives market in Romania, with a view to ensuring the mechanisms for risk reduction and transfer<sup>119</sup>. The furthering of efforts to expand the capital market will likely contribute to the diversification of sources of financing for companies and enhance competition across the financial system.

<sup>118</sup> Conditional volatility and volatility shocks are components of integrated volatility and have been estimated from sampled data, during 2019, over 5-minute intervals.

<sup>119</sup> Bucharest Stock Exchange.

## 4. FINANCIAL SYSTEM INFRASTRUCTURE – STABILITY OF PAYMENT AND SECURITIES SETTLEMENT SYSTEMS<sup>120</sup>

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Payment and securities settlement systems in Romania functioned under optimal conditions, without notable incidents. Maintaining services at a high quality level, alongside a high availability ratio, proves that the technical operation of ReGIS and SaFIR within the National Bank of Romania, as of 19 March 2018, has unfolded under normal conditions.

With a view to maintaining financial stability, the National Bank of Romania has been steadily monitoring and assessing financial market infrastructures in order to ensure their effectiveness and safety. In the first half of 2019, the National Bank of Romania monitored the duly implementation of the recommendations formulated during the comprehensive assessment of ReGIS and SENT against the international oversight standard as set out in the Principles for financial market infrastructures (PFMIs). Moreover, during the same period, the comprehensive assessment against the same standard was finalised for the Settlement and Financial Instruments Registration (SaFIR) system, its functioning showing no major risks, but certain recommendations were solved, most of which were applicable to ReGIS too, considering that the two systems share the same technical operation platform.

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### 4.1. Stability of payment systems

#### Functioning of ReGIS

In 2019 H1, the number of transfer orders processed in ReGIS<sup>121</sup> rose slightly to reach 2.82 million versus 2.8 million in 2018 H2. The value of payments climbed to lei 4,268 billion from lei 4,176 billion in the previous six-month period. The maximum number of payments recorded in one day stood at roughly 48 thousand and the system faced no problems in terms of processing capacity.

In the period under review, the average settlement ratio<sup>122</sup> stood at 99.98 percent, reflecting a good settlement discipline. During this period, the system proved very

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<sup>120</sup> This chapter was prepared by the Financial Market Infrastructures and Payments Oversight Department.

<sup>121</sup> ReGIS is the most important payment system in Romania, ensuring the real-time gross final settlement of participants' transfer orders and of net positions arising from ancillary systems.

<sup>122</sup> Calculated as a ratio of transfer orders settled in the system to the accepted transfer orders.

reliable – it functioned on the technical platform operated by the central bank and recorded an average monthly availability ratio<sup>123</sup> of 100 percent.

In addition, although the number of intraday loans required by the participants has been on a slight rise, reaching 275 transactions, the probability for the liquidity risk to occur remains low, as reflected by the absence of gridlock situations in the waiting queues.

At the end of 2019 H1, 40 entities were participating in ReGIS, including ancillary systems, similarly to end-2018. In terms of the transaction volume, the participants' concentration ratio rose to 59.25 percent from 57 percent in 2018 H2.

### Functioning of SENT<sup>124</sup>

In 2019 H1, the monthly availability ratio of SENT, operated by TRANSFOND S.A., stood at 99.98 percent<sup>125</sup> for both multiple payment components, i.e. in lei and euro.

SENT saw a slight decline in the value of netted orders in lei to lei 197 billion in 2019 H1 from lei 204 billion in 2018 H2, whereas the volume of transactions expanded to 57 million from 55 million. The value of netted orders in euro went up to EUR 1,111 million from EUR 975 million, while the number of payment transactions in euro reached 141 thousand.

The leu-denominated payment instructions saw an elevated settlement ratio<sup>126</sup> of 99.54 percent in this six-month period too, which indicates a good settlement discipline. The netting ratio<sup>127</sup> continues to be at an optimum level, rising mildly to 20.1 percent from 19.04 percent in the previous six-month period, which shows a good efficiency of leu-denominated liquidity utilisation, without notable risks<sup>128</sup>. The settlement ratio of euro-denominated payment instructions and their netting ratio stood at 85.5 percent, which indicates an improvement against the previous 92 percent level, reflecting, however, a low efficiency of euro-denominated liquidity utilisation.

At the end of 2019 H1, the number of participants in SENT – the lei component fell to 37 institutions from 38 institutions, while their concentration ratio stood further at 60 percent in terms of the value of leu-denominated netted transfer orders, showing a reduced likelihood for the contagion risk to occur in the system.

<sup>123</sup> The availability ratio is defined as a ratio of the actual operating time to the scheduled operating time, during the system's normal operating hours.

<sup>124</sup> SENT is an electronic system for the multilateral netting of retail interbank payments among participants, during several daily sessions.

<sup>125</sup> The system rules set forth a minimum accepted limit of 99 percent.

<sup>126</sup> Calculated as a ratio of the value of netted-settled transfer orders to the value of processed transfer orders.

<sup>127</sup> Calculated as a ratio of net debit positions to the value of netted transfer orders. The lower the netting ratio, the stronger the effect of netting.

<sup>128</sup> The alert threshold is represented by a netting ratio below 10 percent, coupled with large-value net debit positions, which can pose systemic risks if a critical participant does not participate in the settlement.

## 4.2. Securities settlement systems

### Functioning of SaFIR

The operations in the government securities registration and settlement system unfolded adequately in the first half of 2019, the availability ratio on the technical platform operated by the central bank standing at 100 percent.

The cumulative value of leu-denominated securities recorded in SaFIR decreased by 3.3 percent in 2019 H1 versus 2018 H2 to lei 155 billion from lei 160 billion. At the same time, the volume of transactions contracted by 38 percent in 2019 H1, the number of transactions amounting to 13.5 thousand compared to 21.6 thousand in 2018 H2. Behind this evolution stood mainly the drop in the number of transactions with the National Bank of Romania. The value of transactions fell similarly, by 32 percent, to lei 255 billion in 2019 H1, compared to lei 377 billion in the previous six-month period. The system's processing capacity remains well above the volume of settled transactions.

In terms of value, euro-denominated transactions rose by 11 percent in 2019 H1 to reach EUR 3.38 billion. In terms of volume, the number of transactions expanded by 4 percent in 2019 H1 to 824, compared to 795 transactions in the previous six-month period.

Free-of-payment transfers rose by 14 percent in 2019 H1 versus 2018 H2 to 728 transactions.

The settlement ratios continued to be very high, standing at 99.85 percent for transactions in lei and at 100 percent for transactions in euro, which indicates a very good settlement discipline.

The number of participants in SaFIR remained unchanged versus the previous six-month period, i.e. 34 institutions.

### Functioning of RoClear

The authorisation process of the Central Depository, the operator of the RoClear settlement system, based on Regulation (EU) 909/2014 on improving securities settlement in the European Union and on central securities depositories (CSDR), carried on into 2019 H1, considering that, via the European Central Bank, the Eurosystem became a relevant authority owing to the volume of transactions settled in euro. On 26 June 2019, the Financial Supervisory Authority informed the National Bank of Romania that the authorisation file of the Central Depository had been declared complete, deeming it appropriate to start the analysis and consultations with the European Central Bank and the National Bank of Romania, as set forth by Article 17(4) of CSDR, with a view to authorising the Central Depository.

## 5. FINANCIAL STABILITY, REGULATORY FRAMEWORK AND MACROPRUDENTIAL POLICIES

### 5.1. Capital buffers applicable to credit institutions, Romanian legal entities, in 2020

Capital buffers are macroprudential instruments used by national authorities with a view to mitigating structural or cyclical systemic risks that the microprudential supervision cannot identify or prevent. The macroprudential toolkit consisting in capital buffers has started to be used relatively recently, being implemented through the CRD/CRR<sup>129</sup> regulatory framework. This was developed as a consequence of the 2007 global financial crisis, as the build-up of pro-cyclical vulnerabilities could not be prevented by using the supervisory model in place at the time. The manner of using these macroprudential instruments is broadly harmonised EU-wide, but there is also a flexibility margin at national level, which allows to accommodate policies to the specificities of financial systems in EU Member States.

#### 5.1.1. Capital conservation buffer (CCoB)

As of 1 January 2019<sup>130</sup>, the capital conservation buffer has been applied at the maximum level of 2.5 percent of the total risk exposure amount at both European and national levels.

#### 5.1.2. Countercyclical capital buffer (CCyB)

In compliance with Recommendation ESRB/2014/1 on guidance for setting countercyclical buffer rates, the NBR makes assessments that are submitted to the NCMO General Board on a quarterly basis. The latest assessment indicated that total indebtedness stood below the alert threshold, so that the countercyclical buffer rate applicable in 2020 was set at 0 percent, the same as in the period from 2016 to 2019.

<sup>129</sup> Directive 2013/36/EU of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC and Regulation (EU) No 575/2013 of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012.

<sup>130</sup> The capital conservation buffer has been implemented in the Romanian banking sector pursuant to National Committee for Financial Stability's Recommendation No. 1/26 November 2015 on the implementation of capital buffers in Romania (<http://www.bnr.ro/page.aspx?prid=11037>).

However, the deviation of total indebtedness from its long-term trend increased in the first part of 2019 as compared with the year before and there are also further signals hinting at sectoral vulnerabilities related to both household and corporate lending. Therefore, the NCMO recommended the NBR to closely monitor developments in structural imbalances and indebtedness at aggregate and sectoral levels.

### 5.1.3. Other systemically important institutions buffer (O-SII buffer)

Pursuant to NCMO Recommendation No. R/4/2019 on the capital buffer for other systemically important institutions in Romania, the NBR is recommended to impose, starting 1 January 2020, a capital buffer for other systemically important institutions (O-SII buffer), on an individual or consolidated basis, as applicable, calculated based on the total risk exposure amount for all the credit institutions identified as having a systemic nature based on the data reported as at 31 December 2018, as follows: (i) 2 percent for Banca Comercială Română S.A. (consolidated level), Raiffeisen Bank S.A. (consolidated level), OTP Bank România S.A. (consolidated level), Banca Transilvania S.A. (consolidated level), CEC Bank S.A. (individual level) and (ii) 1 percent for UniCredit Bank S.A. (consolidated level), BRD – Groupe Société Générale S.A. (consolidated level), Alpha Bank România S.A. (individual level) and Garanti Bank S.A. (individual level).

For the subsidiaries in Romania of EU institutions, upon setting the capital buffer for other systemically important institutions, the level of the global systemically important institutions buffer (G-SII buffer) or the level of the other systemically important institutions buffer applicable to parent undertakings was taken into consideration<sup>131</sup>.

### 5.1.4. The systemic risk buffer (SyRB)

Pursuant to NCMO Recommendation No. 9 of 18 December 2017 on the systemic risk buffer in Romania, starting 30 June 2018<sup>132</sup>, credit institutions in Romania have been required to hold a systemic risk buffer of 0 percent, 1 percent or 2 percent, depending on the annual averages of NPL ratio and NPL coverage by provisions.

The NBR implemented the measure aiming to (i) encourage banks in their efforts to clean up their balance sheets, without affecting other prudential indicators, in the context of non-performing loans possibly resuming an uptrend and (ii) safeguard financial stability, amid the persistence of tensions surrounding macroeconomic equilibria and of regional and global uncertainties. Credit institutions recalibrate the

<sup>131</sup> According to Art. 23 para (3) of NCMO Regulation No. 2/2017 on the methodology and procedures used for setting capital buffers and the scope of these instruments, in the process of setting the O-SII buffer rate that the Committee recommends, it shall take account that where an O-SII is a subsidiary of either a G-SII or an O-SII which is an EU parent institution and subject to an O-SII buffer on a consolidated basis, the O-SII buffer rate recommended that applies at individual or sub-consolidated level shall not exceed the higher of: a) 1 percent of the total risk exposure amount calculated in accordance with Art. 92 para. (3) of Regulation (EU) No 575/2013; and b) the G-SII or O-SII buffer rate applicable to the group at consolidated level.

<sup>132</sup> The methodology for determining the systemic risk buffer requirement is published on the NBR's website at <http://www.bnr.ro/The-systemic-risk-buffer-17993.aspx>.

applicable systemic risk buffer with a half-yearly frequency. The latest data show an improvement in the two benchmark indicators, which led to a decline in the SyRB rate in the national banking sector as a whole.

Specifically, in 2020, credit institutions in Romania apply, in addition to the minimum capital requirements and those set on an individual basis under Pillar II, a set of macroprudential requirements, i.e. the combined buffer requirement, which consists of Common Equity Tier 1 capital. The capital requirements are presented in Table 5.1.

**Table 5.1.** Capital buffer requirements for credit institutions in Romania

Capital buffer	Capital requirements*	
	2019	2020
Capital conservation buffer (CCoB)	2.5%	2.5%
Countercyclical capital buffer (CCyB)	0%	0%
Systemic risk buffer (SyRB)*	0%, 1% or 2%	0%, 1% or 2%
Other systemically important institutions buffer (O-SII)**	1%-2%	1%-2%
<b>Combined buffer requirements</b>	<b>min. 2.5% – max. 4.5%</b>	<b>min. 2.5% – max. 4.5%</b>

\*) set as a percentage of total risk exposure amount  
 \*\*) pursuant to the regulations in force, the maximum value between the O-SII buffer and the systemic risk buffer will be applied to credit institutions, considering that the systemic risk buffer is applicable to all exposures in banks' balance sheets

Source: NBR

## 5.2. The activity of the NBR in its capacity as resolution authority<sup>133</sup>

The preparation and updating of resolution plans is the main component of the bank resolution activity, with a purpose to ensure an adequate preparedness of all parties that might be involved in the resolution of a failing credit institution. As for the current resolution planning cycle, i.e. year 2019, a key element taken into account is the setting of minimum requirements for own funds and eligible liabilities (MREL) for local credit institutions, as well as for credit institutions that are part of cross-border groups with parent institutions in a Member State of the European Union.

To this effect, the MREL requirement is set individually, i.e. for each credit institution, depending on the resolvability assessment (resolution/liquidation) and, for groups, by taking into account the type of resolution strategy, determined mainly by the group's structure and business model and by the level of existing resources for covering losses and recapitalisation, namely SPE – Single Point of Entry / MPE – Multiple Point of Entry.

Thus, on the website of the central bank, in the section dedicated to bank resolution, the main elements of the Policy regarding the determination of minimum requirement for own funds and eligible liabilities (MREL) for the credit institutions under the remit of the National Bank of Romania were published in July 2019, including the interpretation and implementation of the European legal

<sup>133</sup> This section was prepared by the Bank Resolution Department.

framework provisions applicable to bank resolution, as well as a forward vision on the implementation of the revised legal framework, which was recently approved at EU level (BRRD 2<sup>134</sup>). The above-mentioned text aims at defining the general approach that will be used to determine the MREL requirement for each credit institution, on aspects such as the calculation method for the MREL requirement, the eligible MREL instruments, and the transitional period.

The setting of the MREL requirement aims to ensure that, at the time of the resolution, banks have sufficient own funds and eligible liabilities that could be used for loss absorption in resolution and for the recapitalisation of the institution, in order to further meet authorisation requirements and keep market confidence in the institution under resolution or resulting from the application of a resolution tool.

MREL-eligible instruments will be mainly issued: (i) to shareholders – for banks that are part of cross-border groups, subject to a SPE-type strategy, so that their control over the entity is not affected following recapitalisation, and (ii) to investors outside the group – for credit institutions in groups with a MPE-type resolution strategy, as well as for banks that are not subsidiaries of cross-border groups. The NBR may apply the grandfathering<sup>135</sup> principle for certain categories of eligible liabilities, in line with the BRRD 2 approach. At the same time, for each credit institution, the NBR/NRA establishes a transitional period<sup>136</sup>, which allows them to gradually meet the total requirement.

The context in which the National Bank of Romania, as resolution authority, sets the requirements for own funds and eligible liabilities for credit institutions in Romania is marked by a strong solvency level in the banking system. However, the main challenges arising from the setting for the first time of this requirement are: (i) the relatively limited capacity of the local financial market to absorb the issues of eligible instruments of credit institutions that are part of a cross-border group with an MPE-type resolution strategy or of local credit institutions; (ii) the ability of credit institutions to identify profitable investments based on additional resources acquired following the MREL requirement or (iii) potential necessary changes in the funding structure of credit institutions, taking into account the relatively high share of the MREL requirement in their balance sheets, caused by the high density (compared with the European average) of risk-weighted assets.

The European regulatory framework for resolution (Directive 2014/59/EU<sup>137</sup> and Regulation (EU) No 806/2014<sup>138</sup>) was supplemented with the publication in the Official

<sup>134</sup> BRRD 2 – Directive (EU) 2019/879 of 20 May 2019 amending Directive 2014/59/EU as regards the loss-absorbing and recapitalisation capacity of credit institutions and investment firms and Directive 98/26/EC.

<sup>135</sup> Grandfathering – the principle according to which old eligibility criteria continue to apply to existing liabilities for a limited time, until the entry into force of new legal criteria.

<sup>136</sup> With the exception of credit institutions already complying with the MREL requirement.

<sup>137</sup> Directive 2014/59/EU of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directive 82/891/EEC, and Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC, 2011/35/EU, 2012/30/EU and 2013/36/EU, and Regulations (EU) No 1093/2010 and (EU) No 648/2012, of the European Parliament and of the Council.

<sup>138</sup> Regulation (EU) No 806/2014 of 15 July 2014 establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Resolution Fund and amending Regulation (EU) No 1093/2010.

Journal of the European Union of 7 June 2019 of the RRM Package (the Risk Reduction Measures Package), which also includes changes to two other essential legal acts on risk reduction (Directive 2013/36/EU<sup>139</sup> and Regulation (EU) No 575/2013<sup>140</sup>). The implementation of the RRM Package is an important step forward towards completing the Economic and Monetary Union, which will also ensure, apart from risk reduction, the strengthening of banks' ability to withstand potential shocks, through better capitalisation and by holding much more adequate tools to this end. This was achieved by implementing internationally agreed reforms, following the financial crisis in 2007-2008, as well as by solving some insufficiently regulated issues from a financial stability perspective. The resolution-related provisions of the package entered into force within 20 days from publication, namely on 27 June 2019, and there is an 18-month transposition and implementation deadline from their entry into force (as regards Directive 2014/59/EU) and an implementation deadline starting with 28 December 2020 (as regards Regulation (EU) No 806/2014).

From a resolution perspective, the RRM Package introduced (i) an implementation of the TLAC<sup>141</sup> standard in the European Union legislation, resulting in a new total loss-absorbing capacity requirement for global systemically important institutions (G-SIIs); (ii) an enhanced minimum requirement for own funds and eligible liabilities (MREL), also considering subordination rules, for G-SIIs, as well as for other banks that are important for the local economy; (iii) a new moratorium power for the resolution authority.

<sup>139</sup> Directive 2013/36/EU of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC.

<sup>140</sup> Regulation (EU) No 575/2013 of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012.

<sup>141</sup> TLAC – Total Loss-Absorbing Capacity. The TLAC standard was published by the Financial Stability Board on 9 November 2015. The purpose of the TLAC standard is to ensure that global systemically important banks, referred to as global systemically important institutions (G-SIIs) in the Union, have the necessary loss-absorbing and recapitalisation capacity in order to help guarantee that, in case of a resolution and in the forthcoming period, those institutions can continue to perform critical functions without jeopardising taxpayers' funds, namely public funds or financial stability. The TLAC standard and MREL have the same objective, namely ensuring that institutions and entities established in the Union have a sufficient loss-absorbing and recapitalisation capacity.

## Special feature. Climate risks. Implications for financial stability

The international stage has seen increased awareness of the challenges posed by climate change and environmentally detrimental economic activities, along with growing importance attached to investment projects with a positive impact on the environment. On one hand, several European and international initiatives support the setup of an adequate framework for financial system involvement in environmentally and socially sustainable projects, taking into account governance criteria<sup>142</sup>. On the other hand, financial system involvement in financing sustainable projects may become an alternative to the traditional financing solutions. In this sense, October 2019 saw the launch of the International Platform on Sustainable Finance, a forum whose ultimate objective is to scale up the mobilisation of private capital towards environmentally sustainable investments. The contribution of the EU and its Member States to the commitment on climate related expending rose from around EUR 11.7 billion in 2014 to EUR 14.9 billion in 2017. In addition, the number of green bonds issued by the financial system worldwide increased in the period from 2013 to 2019, accounting for about 60 percent of total bonds, while the regional breakdown shows that around half of them were issued in Europe.

From the perspective of financial stability, climate risk is the risk associated with exposures that are vulnerable to climate change. Assessing the impact of climate risk on the financial system and identifying mitigation measures have been under the scrutiny of regulatory authorities<sup>143</sup> and academia alike. While a unanimously accepted approach to the evaluation of the impact on the financial system is still missing, out of the two sub-components, i.e. physical risk and transition risk<sup>144</sup>, the importance assigned to the latter stems from the fact that a disorderly transition to a low-carbon economy might lead to significant losses for the financial system and the real economy<sup>144</sup>. Findings in the literature<sup>143, 145</sup> show that the strength of the impact depends on the time of implementing climate policies. In addition, the risk may be higher especially for countries where sectors with high carbon emissions play a major role in the economy, compounding regional disparities. Thus, regions that tend to specialise in agriculture or industry are usually more vulnerable<sup>146</sup>.

<sup>142</sup> See the June 2019 *Financial Stability Report* for further details.

<sup>143</sup> (i) ECB, *Financial Stability Review: Climate Change and Financial Stability*, May 2019; (ii) De Nederlandsche Bank – “Time for Transition: An Exploratory Study of the Transition to a Carbon-Neutral Economy”, 2016; (iii) Banque de France, *Evaluating Climate Change Risks in the Banking Sector*, 2015; (iv) IMF, *Global Financial Stability Report*, October 2019; (v) National Bank of Romania, *Financial Stability Report*, June 2019.

<sup>144</sup> De Nederlandsche Bank: (i) 2018(a) – “The Price of Transition: An Analysis of the Economic Implications of Carbon Taxing”; (ii) 2018(b) – “An Energy Transition Risk Stress Test for the Financial System of the Netherlands”.

<sup>145</sup> Battiston, S., Mandel, A., Monasterolo, I., Schütze, F. and Visentin, G. – “A Climate Stress-Test of the Financial System”.

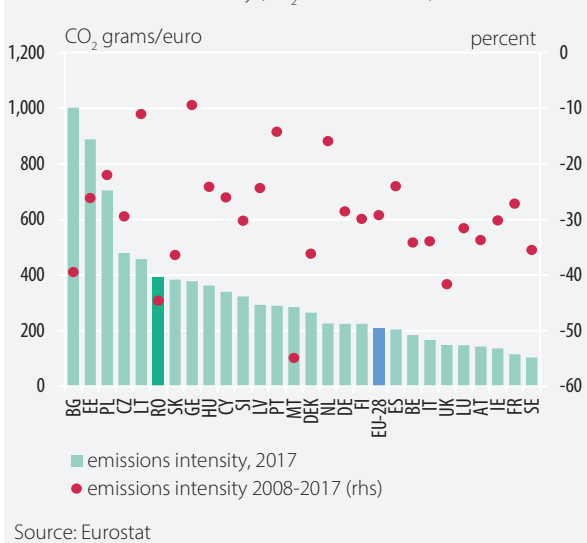
<sup>146</sup> IMF, *World Economic Outlook*, October 2019.

Introducing a climate policy mix to mitigate the transition risk will reflect, in the beginning, in the companies' production costs, with potential effects on their competitiveness. The timely and transparent implementation of these measures might, however, help avoid losses in the real sector and in the financial system.

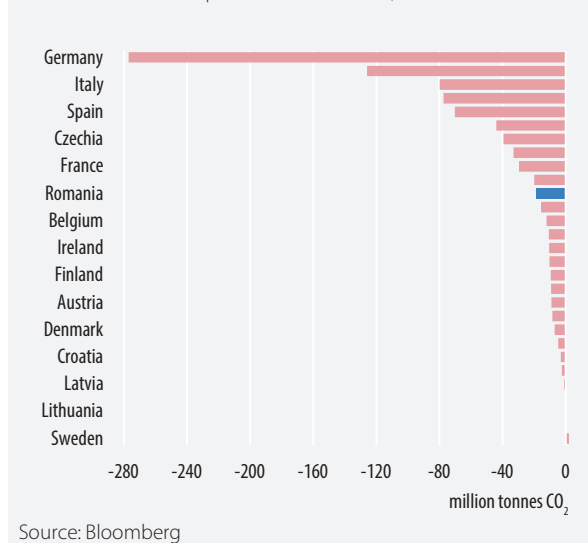
## 1. Climate risk: Romania in a European context

Climate risk plays a major role in the case of Romania, which ranks 63rd globally according to the Germanwatch Climate Risk Index<sup>147</sup> (64.33 in 2017). At a European level, from the point of view of carbon intensity (i.e. the share of CO<sub>2</sub> emissions in GVA), Romania – alongside other countries in the former Soviet bloc – is among the top five carbon-intensive states (Chart 1). Nonetheless, by the degree of reducing CO<sub>2</sub> emissions intensity, Romania boasts one of the highest rates in the EU, second only to Malta. Looking at sectoral developments, in Romania, although industry has seen its importance in the national economy drop to a 25-year low (about 25 percent of GVA at mid-2019), it continues to be one of the highest energy-intensive sectors, therefore the time might be right for implementing environment policies.

**Chart 1.** Emissions intensity (CO<sub>2</sub> emissions/GVA)



**Chart 2.** Emissions caps vs actual emissions, 2018



As part of the steps taken to cut down on emissions, Romania has been participating in the emissions trading system (ETS)<sup>148</sup> since joining the EU in January 2007. Among other measures aimed at reducing CO<sub>2</sub> emissions, the most widely used are usually carbon taxes (direct or indirect)<sup>149</sup>, taxation and subsidy schemes, as well as regulations on sectors with CO<sub>2</sub> emissions. Most European countries, except

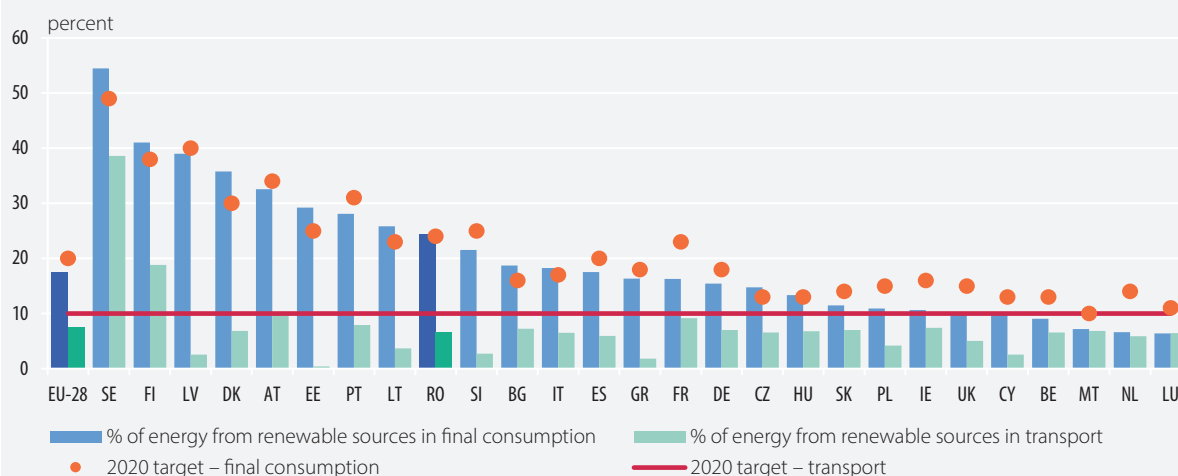
<sup>147</sup> The index is calculated by Germanwatch with regard to climate-related events and their consequences in terms of economic losses and fatalities, based on data supplied by Munich Re NatCatSERVICE.

<sup>148</sup> Launched in 2005, the ETS sets caps on total emissions generated by industry sectors and high-emission electric plants, with the purpose of creating incentives for reducing CO<sub>2</sub> emissions cost-effectively.

<sup>149</sup> "Taxing Energy Use. Using Taxes for Climate Action", OECD, 2019; *Fiscal Monitor*, IMF, October 2019.

for Sweden, have exceeded their emissions cap<sup>150</sup> (Chart 2), with Germany ranking topmost and Romania in the middle.

**Chart 3.** Share of renewable energy in final energy consumption, 2017



Source: Eurostat

One of the commitments under the Paris Agreement, the 2030 Agenda, has in view the transition to renewable energy sources. In the case of Romania, the share of electricity from renewable sources in total electricity stands at 24.5 percent (2017), marginally above the 2020 target of 24 percent, compared with an average of 17.5 percent in the EU and a maximum of 54.4 percent in Sweden (Chart 3). Nevertheless, a deficit is recorded in the use of energy from renewable sources in the transport sector (a share of 6.6 percent in 2017 against the 10 percent target set for Member States). This deficit may also represent an investment potential, along with other segments that might encourage the development of companies with emission reduction potential.

## 2. Identifying the economic sectors with the highest (direct and indirect) CO<sub>2</sub> emissions

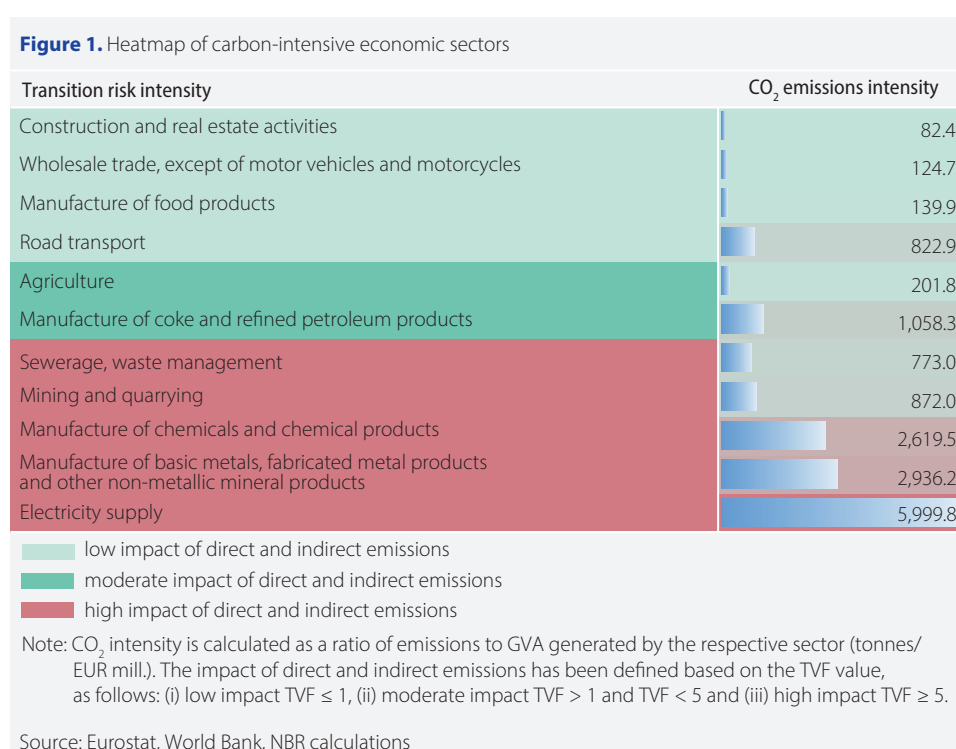
In order to assess the effects of the transition risk on the real economy and credit institutions, CO<sub>2</sub>-emitting industries were identified based on the volume of emissions at aggregate level, taking the following criteria into account: (i) the share of CO<sub>2</sub> emissions exceeds 1 percent of total at national level and (ii) they are in top 15 economic sectors by carbon intensity or other greenhouse gas intensity.

<sup>150</sup> Several European states have also set carbon taxes, some starting in the 1990s (Finland, 1990; Sweden and Norway, 1991; and Denmark, 1992), the level of which is marked by heterogeneity, ranging from USD 14/tonne CO<sub>2</sub> in Portugal to USD 127/tonne CO<sub>2</sub> in Sweden (IMF, *Fiscal Monitor*, October 2019).

Thus, the selected sectors<sup>151</sup> are: utilities, agriculture, mining and quarrying, manufacturing, road transport, trade, construction and real estate activities. They jointly account for around 90 percent of CO<sub>2</sub> emissions (2017), but the intensity of risk exposures may differ. For a more in-depth analysis, a transition vulnerability factor (TVF)<sup>152</sup> is calculated:

$$TVF = \frac{\sum_{i=1}^n (a_{j,i} * CO_2 \text{ emissions}_i)}{CO_2 \text{ emissions intensity at national level}}$$

where:  $a_{j,i}$  = the share of subsectors (i=1,n) which sector j interacts with.



Certain economic sectors, although with a lower intensity of direct CO<sub>2</sub> emissions, may be more exposed to climate risk following their interaction with other subsectors (e.g., fabricated metal products, Figure 1). Of the identified subsectors, some may display a high vulnerability to the transition risk (such as various categories in industry: manufacture of chemicals and chemical products, of other non-metallic

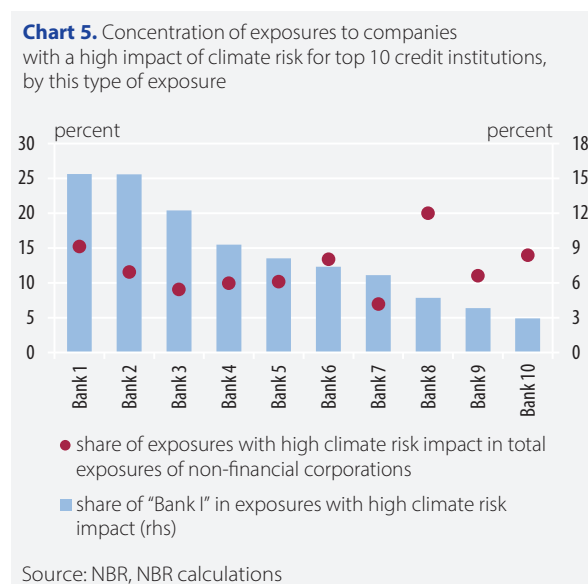
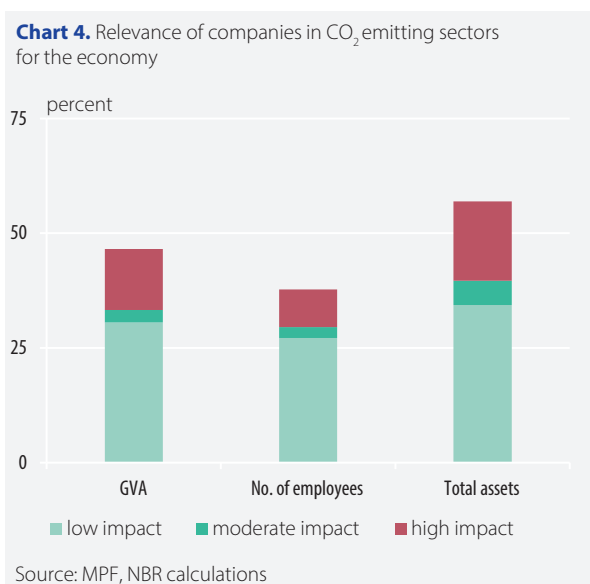
<sup>151</sup> In each of the mentioned sectors, the following subsectors were selected, according to NACE Rev. 2 codes: (1) utilities: section D (3500-3599) on electric power generation, transmission and distribution and section E (3700-3900) on sewerage, waste collection and treatment, remediation activities, etc.; (2) agriculture: section A (100-199) on crop and animal production, hunting; (3) road transport: section H (4900-4999); (4) mining and quarrying, section B; (6) manufacturing, section C (1000-1299, 1900-2099, 2300-2399, 2400-2599), manufacture of food products, manufacture of coke and refined petroleum products, manufacture of non-metallic mineral products and metallurgy; (7) wholesale trade, except of motor vehicles and motorcycles; (8) construction: section F and (9) real estate activities (section L).

<sup>152</sup> Starting from a paper prepared by De Nederlandsche Bank – “An Energy Transition Risk Stress Test for the Financial System of the Netherlands”, we constructed a transition vulnerability factor (TVF). Based on the connections between producers and consumers at national level (Input-Output Tables, World Bank), the intensity of CO<sub>2</sub> emissions was recalculated at the level of each economic subsector, taking also into consideration the indirect CO<sub>2</sub> emissions from the subsectors they work with in the production process.

mineral products or of basic metals), whereas in the case of construction and real estate activities the impact of the transition risk is envisaged to be lower.

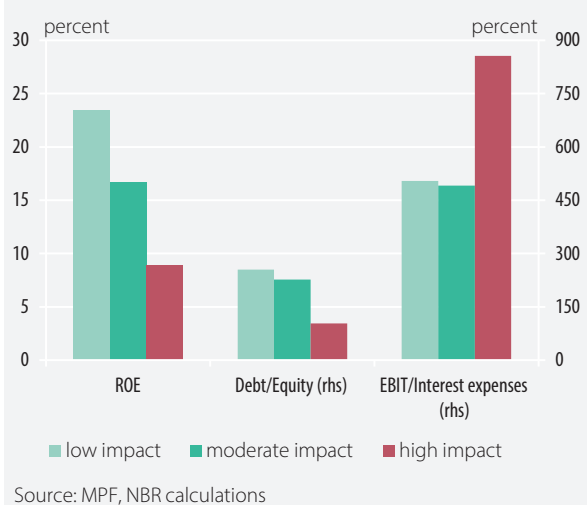
### 3. Assessing the relevance of emitting sectors for credit institutions and real economy

Companies in the sectors with the highest CO<sub>2</sub> emissions in Romania are relevant for both the banking sector and the real economy<sup>144</sup> (Chart 4). Although at aggregate level they account for 62 percent of bank exposure to non-financial corporations (September 2019), firms on which the climate risk might have the strongest impact cumulate 10 percent. The degree of concentration across the banking sector is important, given that the top 10 banks hold 86 percent of exposures to enterprises that might be significantly affected by climate risk (Chart 5). Nevertheless, most of the loans to this category of firms are over the short term, mitigating the effects of climate risk on the banking sector, as the short maturity provides credit institutions with room for adjusting the composition of the loan portfolio assuming that adverse scenarios materialise.



These companies do not rely, however, on bank lending to a very large extent (similarly to evidence economy-wide). As regards the relevance for the economy, their contribution cannot be overlooked, as they generate 13 percent of GVA, have 8 percent of employees on the payroll and make up 17 percent of total assets, which entails a high risk of stranded assets (Chart 4).

The analysis of financial indicators shows that firms in high-impact sectors, compared with the portfolio of companies with a moderate or low impact, are not vulnerable from a financial point of view. In spite of the lower profitability (9 percent versus 17 percent for those with a moderate impact and 23 percent for those with a low impact), they have a considerably lower level of indebtedness (103 percent against

**Chart 6.** Financial indicators of non-financial corporations in CO<sub>2</sub> intensive sectors, 2018

Source: MPF, NBR calculations

over 200 percent in the case of those with a moderate or low impact) and a more comfortable interest coverage ratio (EBIT-to-interest expenses ratio), i.e. 8.5 versus 5 for those with a moderate or low impact (Chart 6).

Mining and quarrying companies, alongside those operating in sectors using fossil fuels, are most exposed to the transition risk, given the trend of gradual replacement with alternative energy sources. Looking at manufacturing, the automotive subsector plays a major part, accounting for 10 percent of bank loans to industry, as well as for 37 percent of exports and 21 percent of imports. A possible shift of this subsector towards electric vehicles depends on the development of the transport infrastructure and the availability of skilled workforce, which underlines the

importance of providing an adequate business development environment.

#### 4. Gauging the impact on the banking sector by stress testing climate policy scenarios

Defining climate scenarios is a complex task for the following reasons: (1) future developments specific to a climate risk scenario are extreme and are not based on evolutions that have been recorded so far; (2) the uncertainty is associated with both the outcomes (transmission channels are difficult to quantify considering the lack of past events of such a magnitude) and the scenario (uncertainty about defining and timing of the measures to ensure the transition to a low-carbon economy), and (3) the difficulty of transposing climate scenarios aiming to limit the rise in global temperature to less than 2°C over the long term (ideally to 1.5°C)<sup>153</sup> into companies' financial indicators.

In order to assess the impact of the transition risk, two scenarios have been taken into consideration. The first scenario sets a carbon tax<sup>154</sup> of EUR 75/tonne CO<sub>2</sub>, while the other implies the introduction of a EUR 75/tonne CO<sub>2</sub> tax, complemented by a 5 percent reduction in sales, which would represent an adjustment in consumer preferences. Only the first-round effects were gauged in both scenarios. Setting a carbon tax would entail a rise in the production cost as a result of the higher energy cost, leading to a reduction in consumption or to a shift towards alternative sources over the medium and long term (e.g., renewable resources, more energy-efficient products, etc.). At the same time, however, the absence of alternative products/services (assuming the lack of technological innovations) will generate pressures first

<sup>153</sup> According to the Paris Agreement (2015).

<sup>154</sup> In order to determine the level of the tax introduced in the two scenarios, an average value of the direct carbon taxes already implemented by some European countries on various sectors was estimated (World Bank).

and foremost on consumers, the most affected of whom might be those in low-income quintiles<sup>155</sup>.

Papers on the topic have identified several channels whereby first-round effects can be transmitted to the banking sector<sup>156</sup>: (i) credit risk, following the lower profitability of carbon-intensive firms, higher household spending or the worsening of sovereign ratings, (ii) market risk, stemming from asset revaluation in the polluting sectors, (iii) liquidity risk, generated by the increased maturity mismatch. This *Special feature* gauged the impact of transition risk via the credit risk channel. Measuring the second-round effects would imply taking into consideration the consequences on the real economy and their fallout onto the non-financial corporations and households sectors, with implications for the financial system.

With these scenarios as a starting point, the *Special feature* calculated the impact on financial indicators, as well as on the probability of default for each company in the selected sectors, the effects being transmitted in an asymmetric manner, as follows:

- (1) the volume of CO<sub>2</sub> emissions at company level was calculated as a share in the total volume of emissions in the respective sector. The share used was determined based on the level of each company's sales in total sales of the respective economic sector. This adjustment was warranted by the availability of data on CO<sub>2</sub> emissions at sector level only, which called for a top-down approach to allot them at company level;
- (2) the carbon tax is applied on a differentiated basis at firm level, depending on the sector the firm belongs to, adjusted by the sector-specific transition vulnerability factor (TVF).

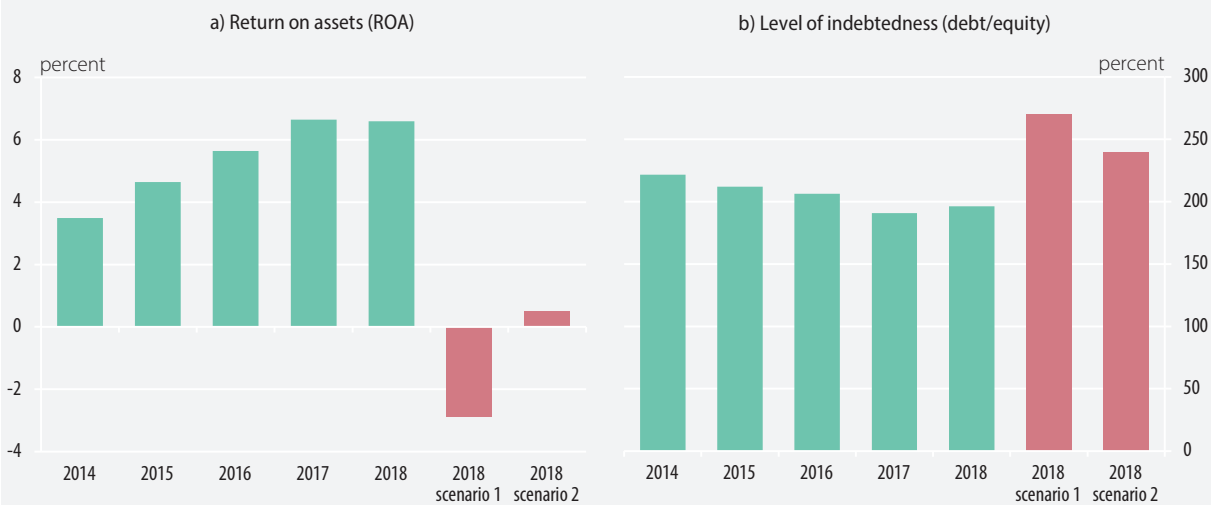
$$\text{Tax on company}_{i, \text{Sector } j} = \text{Tax} * \text{TVF}_{\text{Sector } j} * (\text{Sales company}_i / \text{Sales}_{\text{Sector } j})$$

Findings show that, as a result of setting a carbon tax, the rise in expenses and the reduction in sales revenues of companies in high-impact sectors would lead to: (i) a marked decline in non-financial corporations' profitability and a higher level of indebtedness, Chart 7; (ii) an increase in the probability of default (PD) from 3.9 percent at end-2019, in the baseline macroeconomic scenario, to around 10 percent in both stress scenarios, while the companies' rating would go down at least one notch (only 25 percent of firms would stay, on average, within the same rating class); (iii) an increase in the capital requirements for the banking sector by about 1.8 percent in the first scenario and 17 percent in the second, over a 1-year period.

<sup>155</sup> According to the analyses conducted by the IMF (*Fiscal Monitor*, October 2019), effects differ depending on the consumption structure at national level.

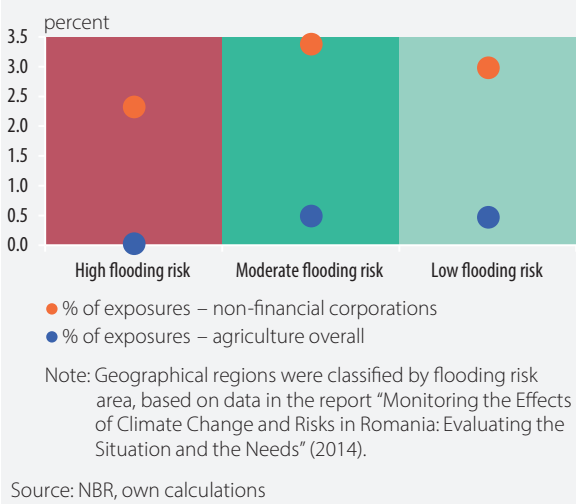
<sup>156</sup> Banque de France, *Evaluating Climate Change Risks in the Banking Sector*, 2015.

**Chart 7.** Impact of the stress testing exercise on the financial indicators of the corporate sector<sup>157</sup>



Source: MPF, NBR calculations

**Chart 8.** Bank exposures to agriculture, by region, based on flooding risk



Source: NBR, own calculations

As regards physical risk, several analyses show that effects are usually non-linear and heterogeneous depending on the business sector, with agriculture recording the highest impact. Specifically, in the event of a 1°C rise in temperature, this sector would witness the most visible decline in productivity compared with services or industry<sup>146</sup>. In the case of Romania, bank exposures to agriculture are at a low level (8.7 percent of the corporate portfolio), while the sector's exports make up 1 percent of the overall volume. Companies in agriculture operating in areas with a high risk of floods (Chart 8) account for 4 percent of total bank exposures and of the sector's exports respectively.

Even though the risk for banks in Romania is relatively low at present, agriculture is one of the most sensitive sectors to climate change and, at the same time, a major contributor to greenhouse gas emissions<sup>158</sup>. Thus, the possible investments for ensuring the sector's sustainable growth in the case of the Romanian economy should take into account the underlying principles of a climate smart agriculture<sup>159</sup> (CSA).

<sup>157</sup> Only firms in sectors that might be strongly impacted by climate risk were affected.

<sup>158</sup> Agriculture generates around 20 percent of total greenhouse gas emissions globally.

<sup>159</sup> <https://www.worldbank.org/en/topic/climate-smart-agriculture>.

## 5. Conclusions and proposals

Climate risk carries the potential to create vulnerabilities over the medium and long term for the financial system and real economy alike, while mitigating the possible negative effects calls for a mix of coherent and transparent policies and strategies adopted by public authorities and private stakeholders respectively. A timely transition could diminish potential losses in the banking sector and the real economy generated by the shift to a low-carbon economy. Moreover, in order to comply with the long-term commitments under the Paris Agreement (2015), international cooperation is warranted.

Among the policies that may be adopted, the major role of fiscal policies along this avenue has been acknowledged at an international level<sup>160</sup>. Consequently, the year 2019 saw the setting up of the Coalition of Finance Ministers for Climate Action<sup>161</sup> with the purpose of helping countries mobilise the finance needed to implement their national climate action plans and establishing best practices in climate budgeting and strategies (e.g., green investment and procurement). In addition, the financial sector has a key role in re-orienting investments towards areas with a positive impact on the environment, and there are numerous legislative proposals fostering this paradigm shift<sup>162</sup>.

From the central bank perspective, it is important to monitor the portfolio of climate risk-exposed non-financial corporations with bank loans, as well as to gauge the impact of climate risk<sup>163</sup>. Assessing and communicating the findings may contribute to raising awareness on the possible consequences of the transition to a low-carbon economy. At the same time, along with the assessment at aggregate level, it would be useful to conduct a micro-prudential evaluation as well, inter alia by incorporating climate risk into the stress testing exercise.

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<sup>160</sup> IMF, *Fiscal Monitor*, October 2019.

<sup>161</sup> [https://www.cape4financeministry.org/coalition\\_of\\_finance\\_ministers](https://www.cape4financeministry.org/coalition_of_finance_ministers).

<sup>162</sup> [https://ec.europa.eu/info/business-economy-euro/banking-and-finance/green-finance\\_en#implementing](https://ec.europa.eu/info/business-economy-euro/banking-and-finance/green-finance_en#implementing).

<sup>163</sup> The concerns for introducing climate risk in the stress testing exercise of De Nederlandsche Bank.

## Abbreviations

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BET	Bucharest Exchange Trading
BIS	Bank for International Settlements
CEE	Central and Eastern Europe
CRD IV	Capital Requirements Directive IV
CRR	Capital Requirements Regulation
DSTI	debt service-to-income
EBA	European Banking Authority
EBIT	earnings before interest and taxes
EC	European Commission
ECB	European Central Bank
EIOPA	European Insurance and Occupational Pensions Authority
ESA	European System of Accounts
ESRB	European Systemic Risk Board
Eurostat	Statistical Office of the European Union
FSA	Financial Supervisory Authority
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
LCR	liquidity coverage ratio
LTV	loan-to-value
MPF	Ministry of Public Finance
NBFIs	non-bank financial institutions
NCMO	National Committee for Macroprudential Oversight
NIS	National Institute of Statistics
NPL	non-performing loans
NTRO	National Trade Register Office
O-SII	Other Systemically Important Institutions
ReGIS	Romanian electronic Gross Interbank Settlement
ROA	return on assets
ROBOR	Romanian Bid Offered Interest Rate
ROE	return on equity
SaFIR	Government securities depository and settlement system
SENT	Electronic Net Settlement System

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