9. ASSESSING BANKING SECTOR RESILIENCE THROUGH STRESS-TESTING[66]

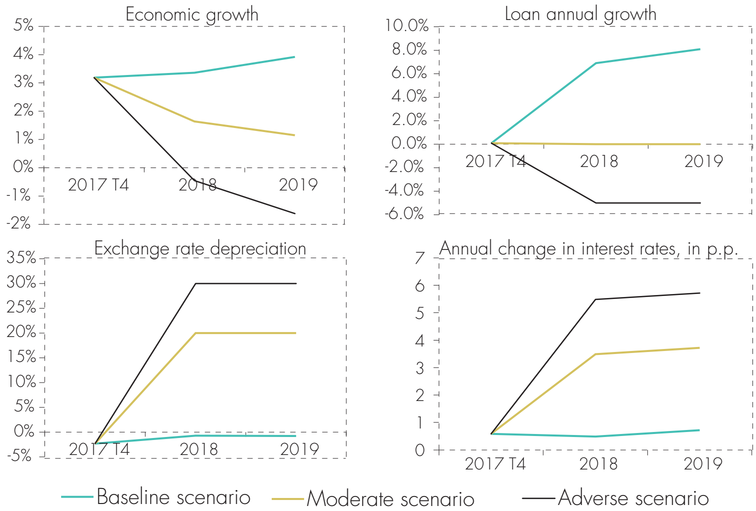
(113) Stress-testing assesses the banking sector resilience against the economic and financial developments for the next two years, until the end of 2019. The results show that the banking sector remains resilient. In terms of capital adequacy, the impact of these assumptions evidences the need for additional capital in some individual banks, particularly in the case of the adverse scenario, where the assumptions are also more extreme. The stress-testing also assessed the resilience of the banking sector against fluctuation of real estate prices, in the framework of added cost for the sector related to properties obtained as a consequence of a legal process. Furthermore, stress-testing this year also included the assessment of the sector resilience against fluctuation of the interest rates, in terms of its profitability. Finally, the stress test for the liquidity situation corroborates the assessment for a strong liquidity position of the banking sector. Stress-testing results show that the banking sector overall passes successfully the liquidity resilience test, and the liquidity situation reflected by the growth of expected inflows and the contraction of expected outflows until the end of the two year period has improved.

9.1 ASSESSING THE RESILIENCE TO MACROECONOMIC SHOCKS

(114) The stress test exercise assesses the banking sector's resilience and capital adequacy for the period 2018-2019. The assessment of the impact from macroeconomic situations on the financial situation of the banking sector excludes the possibility of increasing the paid-in capital during the period. The exercise is conducted by applying three scenarios: the baseline scenario, the moderate scenario and the adverse one. The last two scenarios contain more extreme assumptions and have a lower probability of occurrence.

[67] *Stress-testing does not represent a way of forecasting. Intentionally, the scenarios include adverse and extreme events with a low probability of occurrence to test the banking sector resilience. Although banks are urged to assess their financial position capacity to withstand the impact of these scenarios, they should not regard them as events the Bank of Albania expects to take place in the future. The scenarios vary over time, depending on economic and financial developments. In addition, the scenarios do not take into consideration operations that banks and authorities may carry out to constantly strengthen their financial position and resilience to bank risks.*

Chart 9.1 Stress-test assumptions



Source: Bank of Albania.

(115) The baseline scenario assumes a positive economic growth throughout the two year period of the exercise. In this scenario, the economic growth is associated with higher growth paces of lending, supported by the further improvement of the credit portfolio quality until the end of 2019, as a result of the repayments, restructuring and non-performing loans write-offs from banks' balance sheets.

(116) In the moderate scenario, economic growth is also assumed to be positive but at a slower pace than the baseline scenario, whereas the adverse scenario assumes a contraction of the economy until the end of 2019. These developments, combined with a depreciation of the exchange rate of the domestic currency, increase of interest rates and shortage and contraction of lending affect the banking sector's performance in terms of its capitalisation. The credit portfolio quality for these scenarios reflects in addition to cleaning the balance sheets, the new flows in non-performing loans due to unfavourable assumptions. Consequently, the percentage points of the credit portfolio is presented as deteriorated until the end of 2019, where the non-performing loans ratio increases by 17.0 percentage points (moderate scenario) and by 21.6 percentage points (adverse scenario), compared with the level of the baseline scenario. The adverse scenarios, in addition to the reduction of the credit quality, assume also shocks in terms of market risk: the interest rate risk, securities re-pricing list, exchange rate risk, and operational risk.

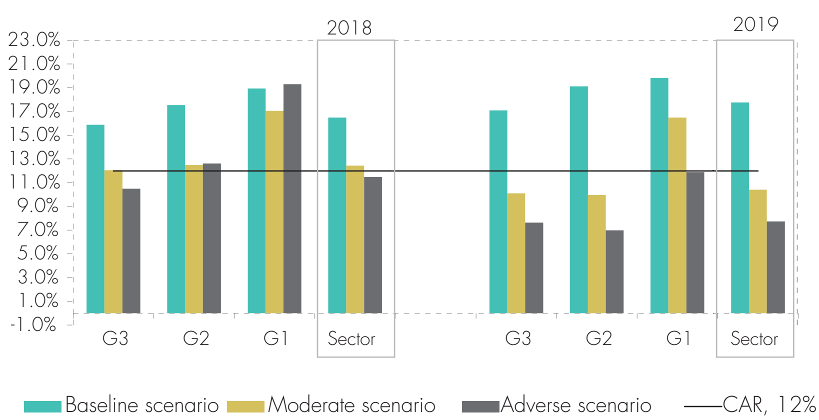
(117) Stress test results in terms of capital adequacy show that:

a. In the *baseline scenario*, the Capital Adequacy Ratio (CAR) of the sector tends to increase, registering 17.8% at the end of 2019. This development reflects the improvement of financial performance as a result of economic growth, acceleration of lending, further decrease of non-performing loans, as well as the more favourable exchange rate performance. Also, developments by banking group show a steady performance of their capital levels.

b. In the *moderate scenario*, the sector's CAR reaches 12.4% at end-2018, while it is down at 10.4% at end- 2019. This performance is affected by assumptions for a significantly lower growth pace; shortage of lending; increase in interest rates' and depreciation of lek's exchange rate. Based on the above assumptions and the results obtained, developments in particular banks evidence the need for capital injection. Specifically, the number of banks that are under-capitalised by the end of 2019 is 8 and their assets account for about half of the banking sector's total assets. In this case, the needs for additional capital amount up to ALL 19.4 billion until the end of 2019.

c. In the *adverse scenario*, the sector's CAR drops even further, below the regulatory minimum allowed until the end of 2019, at 7.7%. This rate is affected by the assumptions for a contraction of the economy and lending; increase of interest rates; and significant depreciation of the domestic currency. Given the extremely adverse assumptions contained in the scenario, the number of banks that will fall in under-capitalisation rises to 10. Their assets account for around 80% of the sector's assets. The extreme macroeconomic developments contained in the scenario affect the significant deterioration of credit quality, levels of losses in the securities portfolio and the increase of exposure to market and operational risks.

Chart 9.2 Capital adequacy ratio, by stress test scenarios



Source: Bank of Albania.

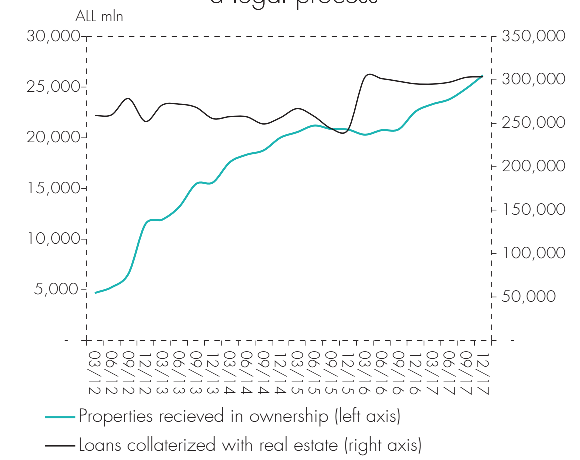
Despite the above results, which anyway remain assumed, the solvency of the Albanian banking sector and its capitalisation are assessed as good. In this light, it is important to highlight that over 2017 the sector's paid-in capital increased by around ALL 5.3 billion and the annualised profitability indicators (RoA and RoE) are at their highest levels since at end- 2007.

BOX 9.1 BANKS' EXPOSURE TO THE RISK RELATED WITH PROPRIETIES RECEIVED IN OWENERSHIP AT THE END OF THE RELEVANT LEGAL PROCESS

The non-performing loans management process has faced the banks with a relatively high number of cases of collateral execution and their receiving in ownership at the end of the relevant legal process. Furthermore, the risk related to the "collateral execution" is also identified as the most significant current risk by the latest survey results of "Perception of systemic risk by the banking industry" as well. From the point of view of financial stability it is important to assess the impact that has keeping these collaterals in the balance sheet in terms of capitalisation and profitability of the banking activity. This, since a fall in real estate price - during the keeping in the balance sheet period - may reduce not only the value of assets in the balance sheet, but also the income that may be realised from the sale of the collaterals. At the same time, a massive s of these collaterals by the banks may exert a downward pressure on the prices of the real estate market. The latter affects not only the income of the bank, but also the value of the real estates accepted as secondary source of guarantee during the lending process, with consequences on the quality of the credit portfolio and the capitalisation of the sector.

In Albania, till 2018, the value of properties received in ownership against the total assets of the balance sheet, as well as against regulatory capital was negligible. Over the five year period 2012-2017, where the credit quality registered a significant decline, the portfolio of these properties grew continuously, registering at end- 2017 around 2.1% of total assets of the banking sector, and 21.3% of the regulatory capital. The above view evidences once more the importance of monitoring this phenomenon in the framework of individual banks' soundness and of the whole banking sector as well.

Chart 9.3 Performance of the banking sector real estate portfolio related to properties owned through a legal process

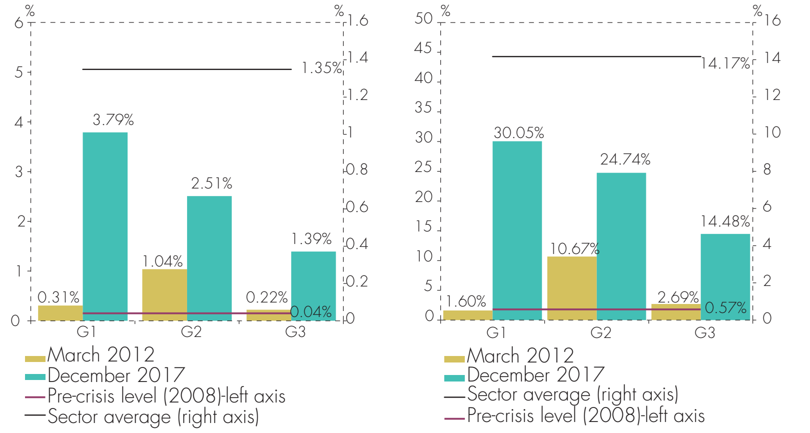


Source: Bank of Albania.

Based on this, the developments of the last years in the framework of collateral execution and the risk deriving from their accumulation in the balance sheet is addressed through an additional scenario: "Real estate scenario" In this scenario, assumptions on economic growth, exchange rate, the interest rate and increase of credit are equal to those in baseline scenario. But, different from the latter, it is assumed that in case of an immediate sale of these properties, the sector would suffer a loss calculated in 30-70% of the value in which they are kept in the balance sheet (December 2017) over the next two years, respectively.*

The results show that although the sector remains well-capitalised and profitable at the aggregate level in both years, in terms of profitability, individual banks have

Chart 9.4 Property owned through a legal process against total assets (left) and regulatory capital (right)



Source: Bank of Albania.

a decrease of the net financial result up to losses. More concretely, the number of affected banks is up to six, and their share is 18.3% of the banking sector's assets. Despite this, in this scenario for the first year and the second year the value of the Capital Adequacy Ratio reaches 16.3% and 18.0%, respectively, thus significantly above the required minimum of regulatory capital.

* *The values of 30% and 70% of losses for each year of the scenario, respectively, are defined taking into account the minimal level of stress where at least one bank would suffer losses in terms of financial results, thus affecting its capitalisation.*

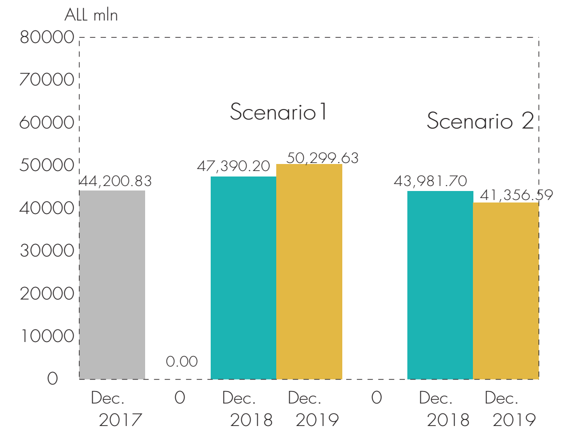
BOX 9.2 SENSITIVITY OF THE BANKING SECTOR TO MOVEMENTS IN THE INTEREST RATE

The sensitivity of the banking sector to the volatility of interest rates measured mainly through the impact that the movements in the interest rates have on net income and income from the reassessment of securities.*

The net interest income sensitivity is analysed through two scenarios: Scenario 1, where interest rates increase uniformly during each year of the exercise against the current rates, by 1 percentage point each year; and Scenario 2 where interest rates continued to remain downward, although slight against the factual values of 2017 (0.1-0.2 percentage point).

To analyse the impact of an increase of interest rates according to the two above-mentioned scenarios we have to take into account the structure of the banking sector's balance sheet. Specifically, the structure of the Albanian banking sector registers a positive gap between assets and liabilities sensitive to interest rates with maturities up to 12 months, evidencing an added sensitivity of the sector's to the structure of assets in the case of an increase of interest rates. This, since *for the same change in the interest rate, the assets of the balance sheet would be re-priced more than the liabilities, affecting the increase of net interest income. In the case of a decrease of the interest rate, the reverse is true. Factual data show that in December 2017 there is a positive gap of ALL 552 billion and the share of assets that are re-prices within a year is considerable (96% of the total) and higher than that of liabilities (64%).*

Chart 9.5 Assessment of net interest income for the banking sector, by scenarios



Source: Bank of Albania.

In Scenario 1, where interest rates are assumed to increase uniformly throughout the two years of the exercise by 1 percentage point, respectively, net interest income increase maximally by ALL 6.1 billion until the end of 2019 against the ALL 44.2 registered in December 2017. In Scenario 2, where interest rate start to decrease slightly, net interest rates contract maximally by ALL 2.8 billion at the end of 2019, against the level of 2017.

*But the inverse relation between the movement of the interest rate and the value of the security suggests that the assumed growth of interest rates also affects negatively the banking sector's securities portfolio in terms of reassessment, and vice versa. In this case, considering unchangeable the entire portfolio of securities kept to maturity and valid for sale at the end of 2017, the loss from the securities' reassessment due to the increase of the interest rate by 1% per year, is assessed maximally at ALL 15 billion at end-2019. In the case of the decrease of the interest rate assumed in this exercise, the change in the reassessed value of securities, is positive and reaches around ALL 13.3 billion at end- 2019. In both scenarios, is important to highlight that maximal losses/income constitute lower than 0.5% of the total value of the securities portfolio in the banking sector in December 2017**.*

Starting by the comparison between the two above scenarios, we may say that the impact of potential losses/income of interest rates in the financial result and consequently in the capitalisation indicators of the banking sector, seems currently manageable, but nevertheless needs to be carefully and continuously assessed by the sector itself.

* *Because of the sensitivity analysis, any indirect negative impact of the increase of the interest rate is related, e.g. with the decline of credit quality, is not been considered.*

** *The current value of the banking sector's securities portfolio in December 2017 is ALL 414.477 billion.*

9.2 LIQUIDITY STRESS TEST

(118) The purpose of the liquidity stress test is to assess the capability of individual banks and of the banking sector, overall, to withstand extreme but possible shocks in financing their activity. These tests aim to evidence weaknesses or deficiencies of the sector or particular banks in particular currencies, instruments or time periods; assess banks' readiness to cope with extreme liquidity shortfall scenarios; as well as assisting the supervision authority to undertake relevant policies that address liquidity management, including measures aimed at reducing exposures or creating specific reserves.

(119) The liquidity stress test is implemented according to the "up-down" approach, with data reported by banks twice a year (every May and November). The exercise uses data on inflows and outflows forecasts of money according to the main instruments and for a time period constituted by 8 maturity baskets that cover a period from "up to 1 day" to "over 1 and up to 2 years". The test is implemented for the lek, euro and US dollar and is supported on the condition that the liquidity outstanding on a currency may not be used to cover the liquidity shortfall in other currencies, due to the probability of fast depreciation of the exchange rate over liquidity crises.

(120) For the calculation of the liquidity gap are used specific coefficients for the withdrawal of financing sources (of deposits) and for the reinvestment of assets (loans) by all the maturity baskets. For financing sources, the coefficient shows only that part of the liabilities amount that matures in the relevant basket, which will be withdrawn to be reinvested by the client. For money inflows, the reinvestment coefficient means that part of the amount rights that mature in the relevant basket, which will be converted in money inflow and will not reinvested by the banks.

(121) A bank is considered as failing the stress test only if expanded liquid assets that are sold with haircuts defined by the exercise shrink to the level when additional liquidity is needed from the Bank of Albania in the form of "loan for liquidity support".

(122) Stress-testing results show that the banking sector overall passes with success the liquidity stress test and the liquidity situation reflected by the growth of expected inflows and the contraction of expected outflows until the end of the two year period has improved compared with the previous half year. The scenario that assumes the use of expanded liquid assets to close the liquidity gap shows that for the lek there are 2 banks that cannot close the gap until 6 months and 3 banks that cannot close the gap until the end of the two year period. For the euro the number of banks that do not pass the test for various baskets goes from 1 to 3, but the liquidity gap in relation with the assets of the sector in euro is very small, while for the US dollar the gap remains negative for 1 bank for some of the maturity baskets.

(121) Compared with the previous half year, referring to the number of banks that do not pass the test, we can observe an increase of their number for lek and euro and an almost identical situation of the US dollar. Despite the number of banks that continue to register a negative gap, liquidity has increased slightly[68], and the size of the liquidity gap in relation with the assets of the banking sector for each currency is fairly small.

(123) It is important to highlight that the simple liquidity gap or the negative spread between expected inflows and outflows of money for all three currencies has contracted significantly compared with the previous half year due to the increase of inflows in each currency. Also, the outflows for the US dollar and the euro are not expected to change, while the outflows for the lek according to banks will be lower. At the same time, the exercise results show that the situation of counterweight capacities (expanded liquid assets) of the banking sector have remained almost unchanged for the lek and the euro and have registered a slight improvement for the US dollar.

[68] *This result is also significant to the number of banks taking part in the exercise, which may change by 1 or 2 banks from period to period.*