

THE PROFITABILITY OF BANKS UNDER SHOCKS CAUSED BY NON-DIVERSIFIABLE FACTORS

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Abstract: *Listing the last ten years of the economic evolution of the Republic of Moldova, the banking system has a strong contribution on the development of the financial system, as well as strongly building up the resilient and robust environment, where individuals were ensured with the strong capital quality and stable and sustainable development. As we will see, during mentioned period crisis that were visible in the Republic of Moldova were generated by non-diversifiable factors, and the reaction of banks and at some point, in time of authorities were as quick as possible for mitigation of the negative effect that arise on individuals and on business areas.*

Key words: *Crisis, Banking system, Profitability, Deposits evolution, Loans*

JEL: G01, G10, G1

1. Introduction

Being small and open economy, the Republic of Moldova is highly exposed to the external environment and at the same time, the low diversified portfolio of household's financial assets (mostly holdings in banks deposits) enforce the role of banks in preservation of storage values in the country.

Thus, the Republic of Moldova was directly affected by systemic internal, regional and global events, like respectively the closure of three the banks as result of fraudulent actions, rise of costs of energy and food products and the security crisis in the region created by the aggression of the Russian Federation in Ukraine (IMF, 2023).

During the last ten years, Since the end of 2014, the banking system in the Republic of Moldova comprise 11 banks, instead of at the beginning of mentioned period.

An overview of the evolution of the banking system of the Republic of Moldova and of the economy in general, suggest that we were heated at least by 3 crises:

- a) Banking fraud crisis (here the fraud means the fraudulent actions that lead a licence withdrawal, and consequently – closure of three banks). For the current meaning 2014 was a year when 3 banks were liquidated. Period of active impact Nov.2014 – Oct.2016.
- b) Energy resources crises (i.e. prices on the energy resources). Period of active impact Oct.2021 – Mai.2022.
- c) Armed conflict effect (war in Ukraine impacted directly the banking system) Period of active impact Feb.2022-Mar.2023.

There is another event in the last past years that can be considered as a crisis – namely COVID-19 pandemic situation, but having an indirect impact on the banking system, I will intentionally exclude it from the current research.

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In current research, the non-diversifiable factor represents factors that are close to systemic risk framework, as the mitigation from the potential effect of such a risks can be evaluated only as a theoretical dimension, or as empirical results action.

It can be mentioned that the non-diversifiable characteristic of factors that arise in the crisis was usually supported by the quick and prompt action of the banks' management, and of the supervisory authority (in our case the National Bank of Moldova).

2. Factors and the impact of crises.

The current research underline crises that was observable in the Republic of Moldova, and I will try to simplify the visuals by grouping into two distinct crises. First one – named generally “banking fraud” (hereinafter - FIRST crisis) and the second named “Energy and war effect” crisis (hereinafter – SECOND crisis). The former *de facto* comprise the stratified effect of two crises that by coincidence share an overlapped period.

If we will put main effects that overcome each of mentioned crises a short summary can be as following:

- “Banking fraud” crisis –
 - a) Discovering of lack of governance in the management of 3 banks – as result the supervisor starts to revise the entire regulatory framework and redesign the legal requirements on the bank governance procedures.
 - b) Identified a coordinated actions between 3 banks to perform non-core business activities, that leads to the insolvency – resulted on revision of reporting coverage.
 - c) Distinguish the potential disruption of the banking system and allocation of state support for the repayment of deposits – as alternative of deposit insurance scheme, the state allocates funding for the smooth migration of deposits outstanding amount to other banks (Oct.2016)
 - d) Shock on exchange rate for main currencies (EUR and USD)
- “Energy and war effect” crisis -
 - a) Increase on price of energy resources (gas, electricity, gasoline).
 - b) Increase of consumption as result of receiving of refugees from Ukraine.
 - c) Increase of rental costs because of high demand from refugees from Ukraine.
 - d) Withdrawing of deposits from banks (in 45 days the total withdraw of cash was around 4.4 bn in MDL equivalent)

Macro-indicators

The environment where operate banks is a crucial in case of the Republic of Moldova, as being small open economy with a constant and huge inflow of remittances. Int should be mentioned that on its path to the European Union accession, on last three years in addition to mentioned inflows, the Government received a consistent support from external partners.

Thus, exchange rate is very important for the understanding the potential impact on profitability of a bank as well as to understand the balance sheet evolution of the outstanding amount of deposits and loans.

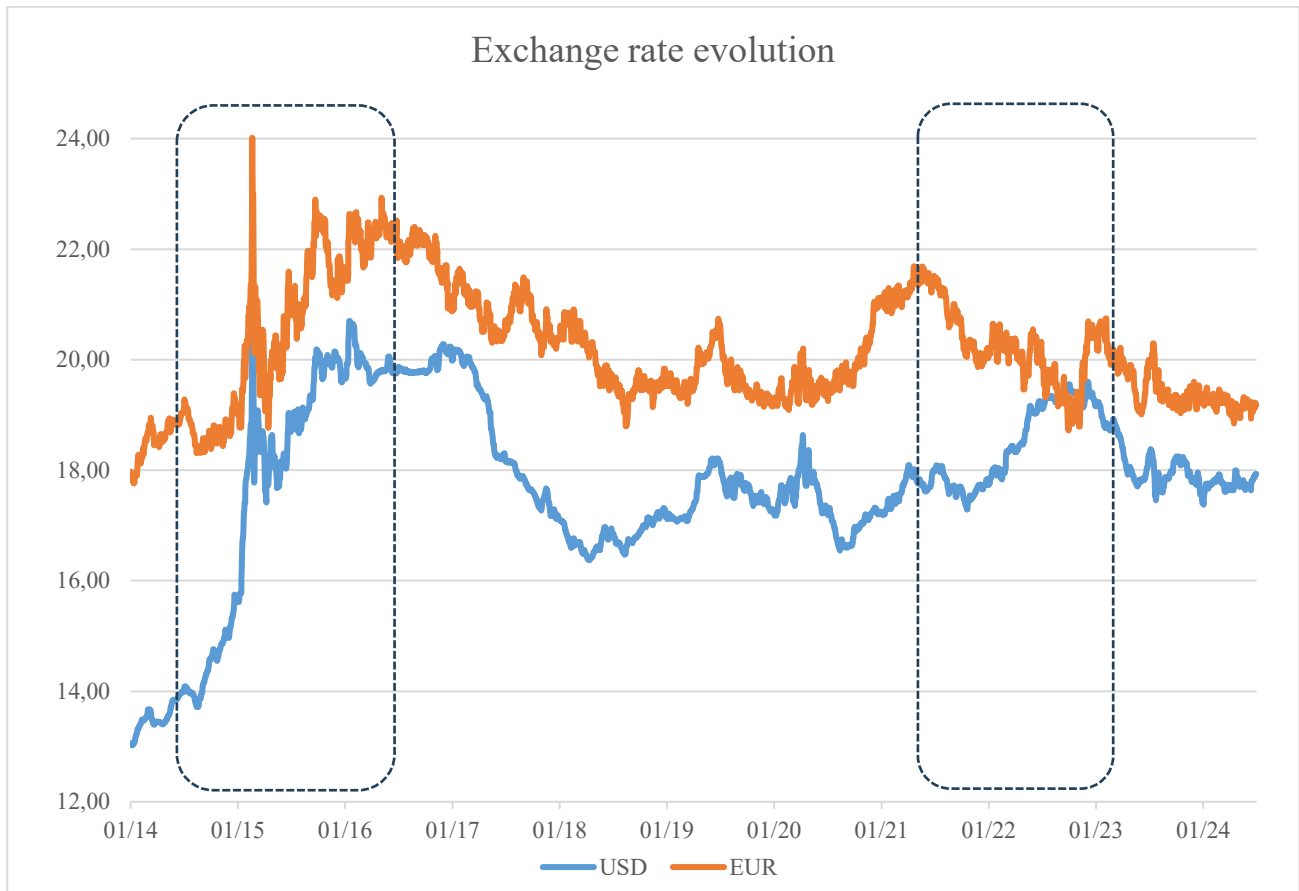


Figure 1. Evolution of the exchange rates for main currencies (USD and EUR)

Source: www.bnm.md

Another indicator that have a multi-factorial effect on banks` profitability is the inflation level, first of all from liquidity perspective: as the high level increase the remuneration of deposits in order to slowdown the dollarization³⁸ in conjunction with the fact that in the high inflation environment the propensity to accumulation of deposits decrease because of increasing need of current costs for the final consumer, in addition high inflation generate a slowdown in loans disbursement as result of increase of prices of goods in the country.

³⁸ Dollarization – conversion of local currency deposits into foreign currency

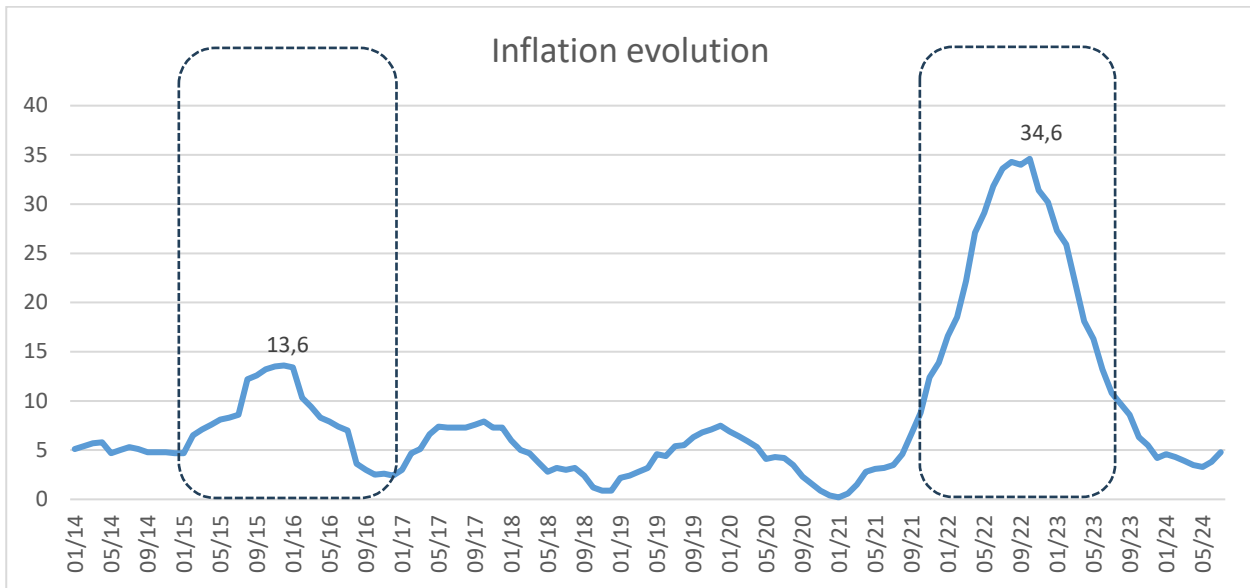


Figure 2. Evolution of the annual inflation

Source: www.bnm.md

Profitability

It should be mentioned that if we want to analyze the profitability of banks, we have a special case in case of Moldova, specially because of very high required reservation rates with a peak of 45% for foreign currency and 40% for local currency deposits with less than 2 years maturity. That is why having a high reservation rate and at the same time high base rate leads to a regulatory effect of increase interest income.

With the reference to the base rate, another profitability impact that can be measured by positive impact is the investment in T-bills and National Bank` Certificates, that follow the base rate path and generate additional interest income.

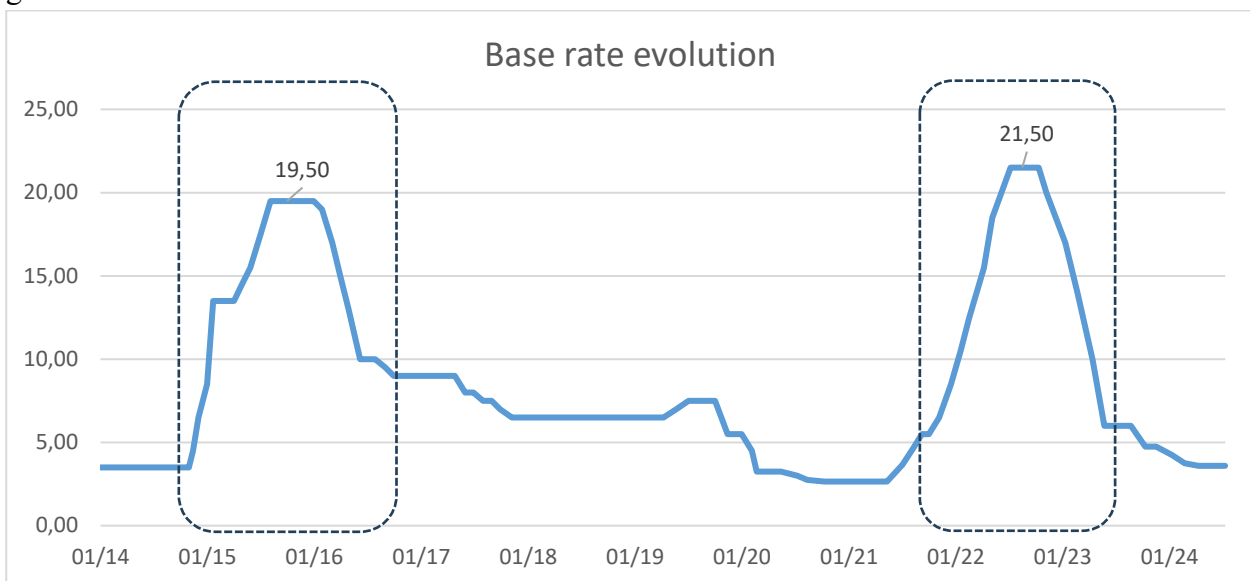


Figure 3. Evolution of the Base rate

Source: www.bnm.md

For the research purposes, we can clearly see the crisis driven behaviors by analyzing the deposits evolution, especially deposits of individuals. The data suggest a totally different behaviors in FIRST and SECOND crises.

We see clear the evolution paths of deposits in the Figure no.4. like the opposite effects of consumer (individuals) reaction.

If the FIRST crisis has two direct impacts on banks` financial statements: i) deposits outflow as a panic effect and lack of trust in the banking system; ii) sharp depreciation of the national currency.

In case of SECOND crisis, the main effect was the deposits outflow, that created a big impact on the way the liquidity was managed by banks. That is why on the first 45 days from the Feb.22nd 2022 the total withdrawal of deposits from banking system was at the unprecedented level of 4.4 bn MDL. This fact in conjunction with the increase in required reserves normative level (as effect of the National Bank of Moldova decision) creates a pressure on liquidity management in banks. To be noted that starting with the Jan.2022 the level of LCR minimum requirement was increased to the value of 100%, so the concentration on liquidity area was extremely high, and fortunately overpassed by the banking system well.

Even the some researches (Anastasiou and Drakos, 2021) conclude that the depositors` crisis sentiment is related to irrational behavior and it is negatively associated with bank deposit flow, the post-crisis data denote the returning of deposits into banks, and in some cases the amount of deposits that were reverted to banks exceeded the initial outflows.

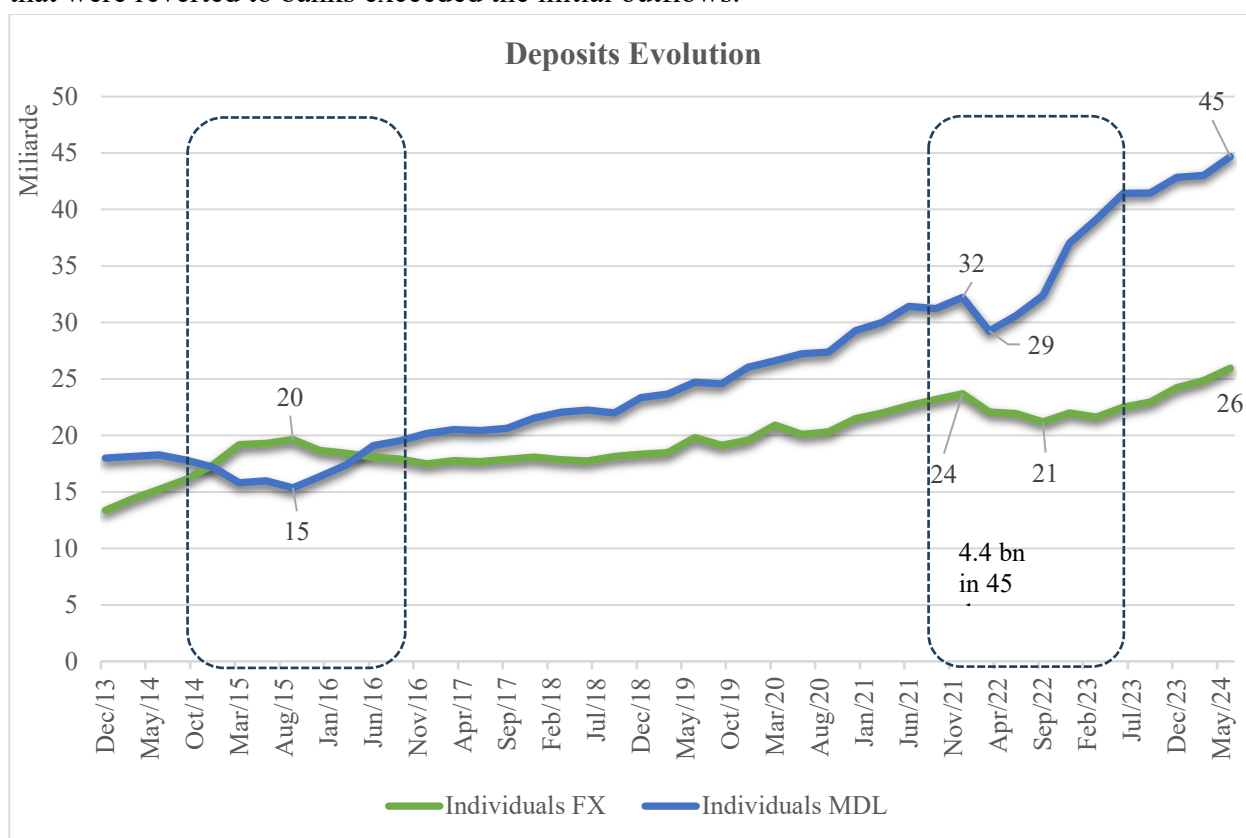


Figure 4. Evolution of the deposits in MDL and foreign currencies (USD and EUR)

Source: www.bnm.md

As was mentioned before, crises impact is clearly reflected as an indirect effect in banks' P&L (Profit or Loss statements), because of interest rates volatility effect, because banks most likely increase their investments in less risky financial assets (T-bills and NBM Certificates) and at the same time the required reserves start to be remunerated at high interest rates (Nilsson, 2022).

In this regard, the Interest Income increase, as financial assets are repriced at higher interest rates, less loans (because a big part of loans can be at fixed interest rates or the repricing period is semestrial or annual, so it is not affected by the volatile evolution of indexes in a frequent way.

On the other side, Interest Expense is affected by the adjusted upward pricing, because of the necessity to maintain an appropriate level of liquidity. In the case of Republic of Moldova, it is evident that during crises as a competitor for the deposit's investment can be identified the accessibility to the T-bills. That can be a subject for additional research, as the diversification of investments – is a key element of the financial inclusion educational program, and I believe that in the next 5 years the investment in T-bills will be visible more and more as an alternative of banks deposits.

As result, as data show (Figure 5), the net interest income during crises appears on an upper path, and the cycle of the crisis least up to 24 months.

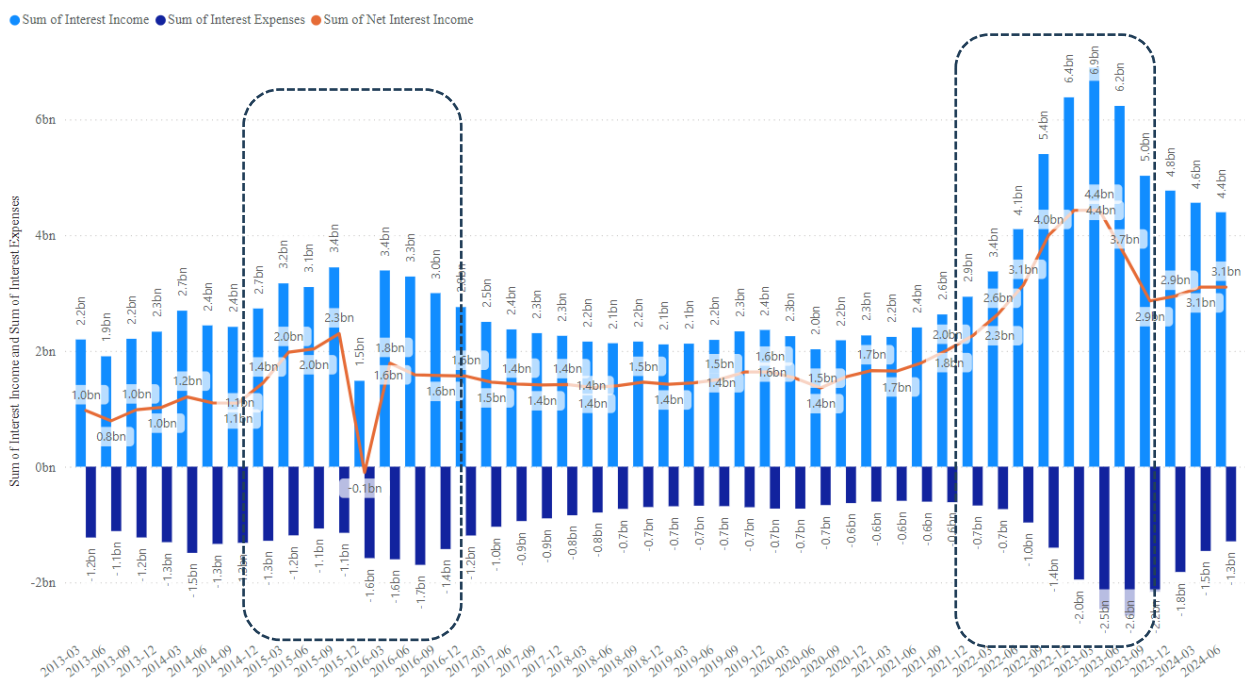


Figure 5. Evolution of the monthly Net Interest Income

Source: www.bnm.md

It is important that at mentioned above crises the authorities tried to implement the reactive action, to diminish the negative effect on individuals and on business areas. As some actions that were performed as supportive, I can list: quick interventions on the foreign currency market – to reduce the potential depreciation of MDL; strong support of most vulnerable individuals – by compensating the increase of prices on energy resources market; adjustment of wages; with external donors' assistance was implemented the support of families that take care on refugees; others.

3. Conclusions.

As we can conclude, the statistical treatment of time series can be mostly predictable, in case of crisis that are supported (or fueled) by the external, non-diversifiable factor.

For the further research, it is important to try to isolate the effect of the depreciation of the national currency that was blended with the effect of evolution of the outstanding amounts of deposits in foreign currency. That can be crucial in the data normalization process to identify the common approach and separate the nominal currency effect.

The profitability of banks in general is influenced by many factors, and in case of non-diversifiable it is not easy to predict the effect, as the origin of factors can arise as a separate path or can be stratified as the effect of a cumulative approaches.

In this case it depends how smooth we treat the annualized data, so I suggest to reflect about using of moving average series instead of monthly/quarterly data on Profit or Loss statement, as the seasonality is not used in the calculation of profitability ratios and can mislead in conclusions.

The moving average of most frequent data series can be calibrated to realize the early warning indicators that can be used to understand the current evolution path by choosing the reference backward available data (in most cases it should be possible to choose the one economic cycle period, so calibration should be done in a dynamic way, as the duration of an economic cycle can differ from time to time). The research on that will be prepared soon.

One of factor that can impact the data series analysis in case of the banking system of the Republic of Moldova is the consistency of the system by number of banks. That leads to the need of calibration of data series as in case of liquidation of banks even it is possible to track the re-distribution of the deposits portfolios, on the lending area it is almost unclear how the outstanding on loans is treated, especially because liquidated entities are not covered by the dissemination data by the supervisor.

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