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THE RESILIENCE OF THE BANKING SYSTEM OF THE REPUBLIC OF MOLDOVA DURING CRISIS PERIODS: EVIDENCE FROM THE LAST 10 YEARS

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Abstract: *As a developing country with an open economy, the Republic of Moldova is highly dependent on the import of energy resources and sensitive to the exchange rates fluctuations, the resilience of the banking system is a crucial for maintaining and development of the financial intermediation (deposits taking and loans providing). This is because reliable and stable intermediation services are provided for clients from one side and help to implement the investment programs that are supported by international financial organizations and the local government from the other side. As a robust economy requires a comprehensive and coherent legal environment, authorities implemented regulatory frameworks that build more stability and predictability and diminish the potential negative impact of crises that can affect the financial system and as a result to client trust in the robustness of banks. Quantitative analysis performed on freely available data sources stated the resultative effect on shocks impact, but do not take into consideration the corrective impact of the actions that the government activate during the extreme economic condition environment. Although the direct limitation of the profit distribution from the supervisory authority is not appreciated by the market players and their shareholders, there are reasons that preserve resilience at a controlled and sustainable level, the attractivity of the banking sector for investors on increasing/maintaining the investments or entering the market remained valid. As a next step, development of a high-frequency early warning indicator enhances the ability to detect operational disturbances within the banking system.*

Keywords: *banking crises, net interest income, banking profit, digitalization.*

JEL Code: *G14, G21, G28*

UDC: *[005.336:336.71(478)]:338.124.4*

Introduction

The context of the current article is focused on the evolution of the banking sector of the Republic of Moldova resilience, during the crisis period. For the purposes of the research - the timeline of the past ten years is used, as this time horizon covers mainly three crises that were identified by time passing, as follows:

- Internally generated Banking Crisis (2014-2015);
- External generated Crisis related to the War in Ukraine (2022-2023).

As COVID-19 Crisis in particular case of the banking system has a limited neutral effect (as for the purposes of the current research the shock of pandemic emergency accelerates the digital evolution of the banking system operational environment). That is why the COVID-19 impact was not included in the perimeter of the study.

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Table 1. The Summary of criteria for the Crises in the last 10 years

Criteria	*Banking Crisis (2014-2015)*	*War in Ukraine (2022-2023)*
Origin	Internal	External
Reason	Bad managment	Armed Agression
Impact on banking system	Lost of the trust	Increased the risk of uncertainty, deposits run, volatile and high interest rates, liquidity shortage
Mitigation actions (short term)	Direct intervention (3 banks went on liquidation procedure)	Indirect (focus on the operative evolution of banking system)
Mitigation actions (short term)	BASEL III framework implementation, big focus on the governance	Business continuity scenarios tested, calibration/recalibration of stress tests scenarios

Source: Prepared by authors

The following research will be focused on some generic areas/results that characterize the banking system's resilience, especially during the two listed crises. The speedy development of banking services in a developing country because of the implementation of digital services as a need demanded by clients, can lead to an increase of uncertainty for the time frame when a major shock can heat the economy. Potential risks mitigation is partially covered by the regulatory framework, that in a post-Soviet country as Moldova is in the process of converge to the best practices and to EU-level framework now.

Literature review

The maturity of the banking system of the Republic of Moldova counts 35th year of market free operational environment. In addition, the data sets that can be used for empirical analysis allow the researchers to complete the optimal data starting from earlies 2000`s. Another challenge is the diverse methodologies of data compilation for data sets public available. Here can be listed as an example balances sheet data that till 2010 were available based on local accounting standards, but since 2011 are available in the IFRS format. The same is about the evolution of the supervisory framework by accelerating evolution from the BASEL I framework to BASEL III (the prompt implementation decision was made immediately after the banking crisis started).

As some research tried to identify a composite indicator (Ruza et al., 2019), by identifying the relation that can describe appropriate and robust stability and resilience of a banking system, the focus was based on advanced economies. Another vision on measuring systemic banking resilience was based on the application of reverse stress testing (Feyen, E., & Mare, D. S., 2021). At the same time, for the literature that were published before the financial crisis from early 2000s, I can mention the loss in foreign exchange reserves, high real

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interest rates, low output grow as factors that best signalize the inception of a banking crisis (Demirguc-Kunt A., & Detragiache E., 1998).

It can be the case that the crisis that generates the increase of the interest rates influences the loans provided to individuals versus loas provided to corporates. As mentioned by the supervisor of banks (National Bank of Moldova, 2024), the 2023 was characterized by increase of loans production to individuals (consumer loans +12%, mortgages +8%) and by reduction of loans provided to corporates (food industry -6%, constructions -16%, energy industry -19%). On the financing part, 2023 resulted in deposits balances increase by 20% (y-o-y).

Data and Methodology

The descriptive analysis of the evolution of selected indicators in the figures presented below underlines the distribution across the specified timeline in accordance with the crises mentioned and shows the effect indicators at the level of banking system.

It is worth saying that the effect of non-regulatory actions was not counted for the current research (as governmental support to clients of banks during the crises, moratoria that was applied by banks as the supporting measure for debtors, others).

The comparative analysis as a compartmental action/reaction related to the crises periods was summarized and a graphical interpretation included in the current research.

As the reporting framework that prescribes the reports compilation to the supervisor is defined in the *Instruction on compilation and submission of reports by banks for prudential purpose*[1], it is necessary to mention that the supervisor can modify the normative rules of compilation and in some cases, in order to adjust to the economic environment, can impose special rules for a limited period of time, in following areas:

- increase of the reporting deadlines, by shortening of the frequency of regulatory reports;
- waivers granted for some regulatory indicators that can reduce the risk exposure of banks during the crisis.

The development of the reporting framework in the last ten years can be characterized by the continuous development of the number of reports that became mandatory for banks. Part of new requirements were introduced as the result of lessons learned from the crisis time, as a metrics that can prevent or predict the distress in some operational areas.

The Model and Findings

The current research analyzes empirical data that describes the main influencing position on bank`s profitability and were identified as main drivers in the basic profit and loss statements. For compatibility purposes, the quarterly data used refers to the following data:

1 *Instruction on compilation and submission of reports by banks for prudential purposes, approved by the Decision of the Council of Administration of the National Bank of Moldova no.279 of 01 December 2011*

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- Size dimensions (number of branches and active staff);
- Profit and total equity evolution;
- Required reserves and cost of remuneration on it;
- Net interest income evolution (interest income and interest expenses);
- Foreign investments share in total equity of banking system.

In the current research, the effect of the government support/decisions were not quantified, as the granularity and coverage should be counted and systematized. In this regard, the support mentioned above represents the limitation that was ignored in the current work.

The impact of the dynamic development of the reporting framework can be observed in Figure1. Especially there are two focus areas that reveal the effect of essential regulatory framework revision.

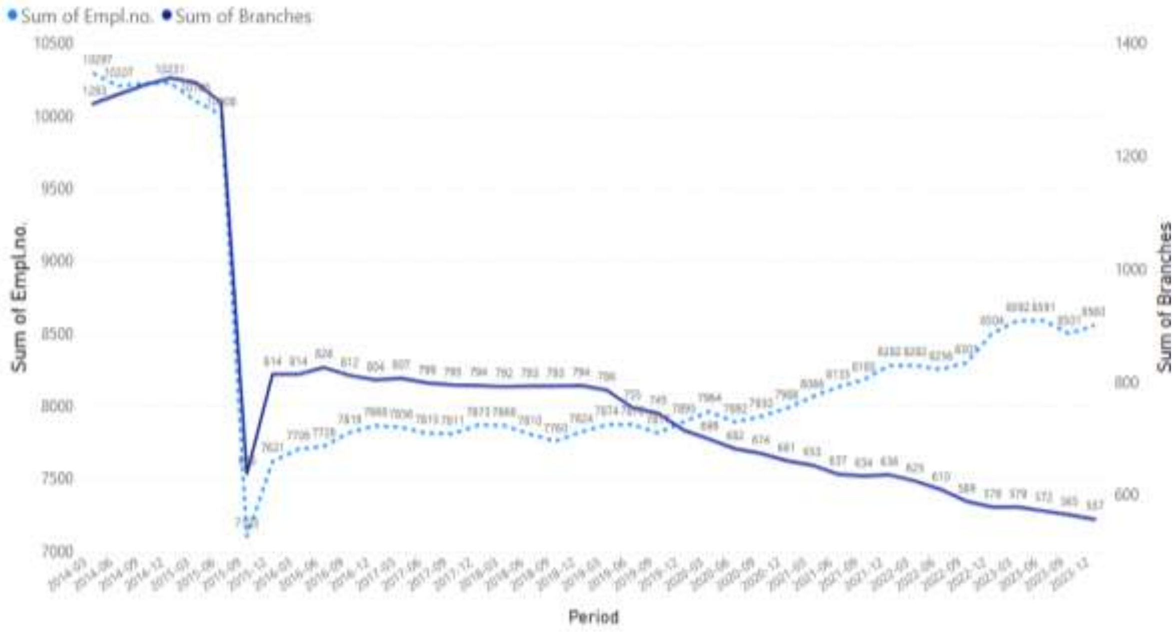

Figure 1. Evolution of the staff and branches number of the banking system

Source: https://www.bnm.md/bdi/pages/reports/drsb/DRSB1.xhtml?id=0&lang=ro

The first area is visible at the end of 2015, when the regulator withdraws banking licenses from banks that were involved in the banking crisis. As result the number of branches and active employees decreased sharply. The second area represents following years, when it was a mix of factors that contributed to the opposite evolution of the number of branches and employees number. Here we can identify the contribution of digital development (as regard to the branch number reduction with 32%). Another effect that is observed is that despite the decrease in branch numbers, the total staff of the banking staff increased by 12%. The main effect that accelerated the employees' number in the last five years is driven by regulatory requirements that focus on the control functions of banks (as areas that can detect/prevent the risking areas that can have an impact on daily activity). It can be observed that as the war in

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Ukraine started and sanctions against Russia were imposed, the complexity of daily transactions influence the staff increase.

As the resilience in at the banking system level is crucial for the ensuring the robust and sustainable development of the financial sector and the economy of a country (Ruza et al., 2019), the prudent an equilibrated capitalization of banks contribute as building blocks to the strong and resilient development of the banking system of the Republic of Moldova.

We can observe in Figure 2 the strong pattern of capital accumulation in the banking system. It should be mentioned that the crises and all macroeconomic environment that is related to the crises time influence the profitability of banks in a positive way on short-term horizon (packs can be observed in Figure 2). Main driver for that increase is mostly generated by the very high reservation rate that is characteristic to the Republic of Moldova.

Figure 2. Profit and Total Equity evolution

Source: https://www.bnm.md/bdi

Requires reserves play a role as an instrument of the monetary policy transmission to the market. Thus, as the result of the government support of 13 bn MDL to cover the liquidity shortage of three banks that generated the banking crisis, required reserves in MDL increased to 35% (Figure 3). Impact on the banking system is sizable as the remuneration rate is the same as for the overnight deposits facilities at the NBM (base rate -2%). Another side of the high reservation rate level is the constraint for banks for lending resources. That arrive from the reduction of the potential available resources for the lending or investments, as 35% from the attracted deposits with the maturity less than 2 years should be allocated in the banks` accounts at the National Bank of Moldova.

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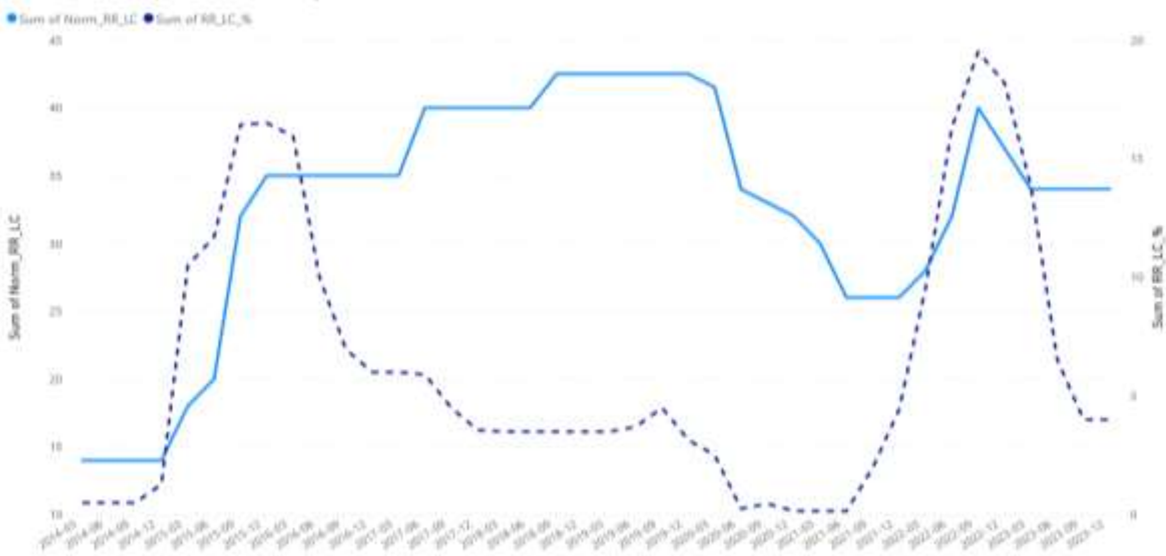

Figure 3. MDL Required Reserves evolution (volumes and remuneration rates)

Source: https://www.bnm.md/bdi/pages/reports/dop/DOP2.xhtml

The optimization of the liquidity allocation for investment/lending activity through allowing banks to hold T-bills as a portion of required reserves. Of course there should be a structured approach, that can be calibrated by time, and at the same time it can be dynamic as a dimension. The evolution of the interest income, interest expense and the net interest income is illustrated in Figure 4.

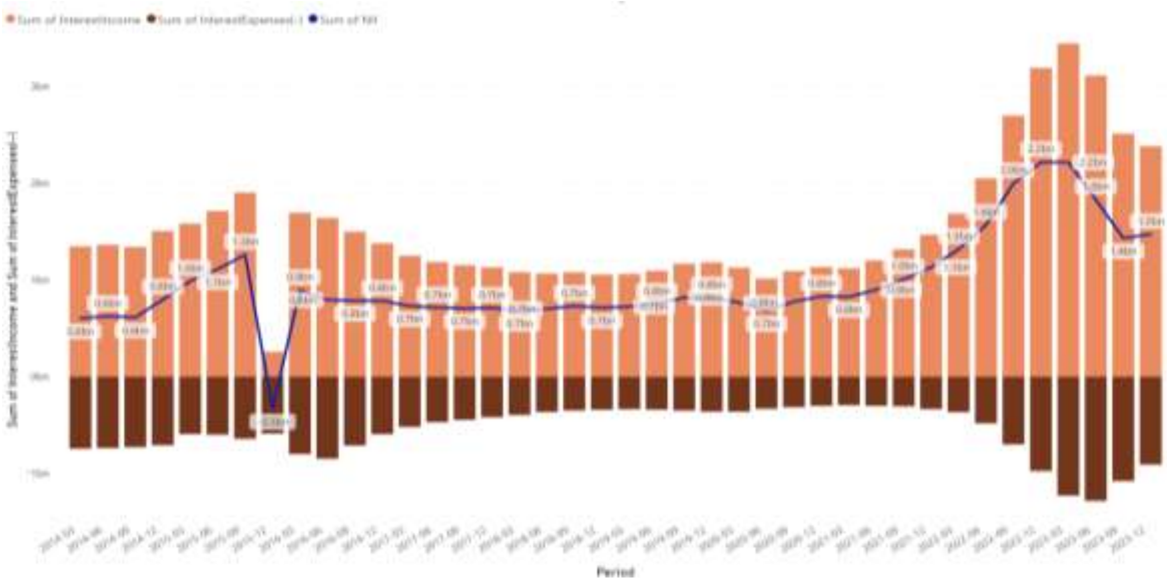

Figure 4. Interest Income and Expenses evolution

Source: https://www.bnm.md/bdi/pages/reports/drsb/DRSB6.xhtml

As was previously mentioned, the increase in interest income is mainly from the financial assets that are sensitive to the interest rate evolution (floating short-term T-bills, certificates of the National Bank of Moldova, required reserves placed at the National Bank of Moldova).

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Hopefully, accumulation of profit by banks is supportive to the increase the resilience of banking system and avoid shortages in the solvability and liquidity risks.

Being a country under developing, the Republic of Moldova is a BBB rated country as of Moody`s rating. In this context, the margins that are potentially to the Banking system attract foreign investors, and the proportion of share of foreign investments in the equity of banking system is very high (Figure 5). The visible decrease of the share of investment in the equity of the banking system was generated by the special procedure of "shareholders transparence" exercise that was applied for 2 big banks, and consist in the cancelling of shares that belongs to untransparent shareholders and the replace of such shares by newly issued, that according to the graph denote that the new shares were bought by non-resident investors.

It should be mentioned that the international expertise of international banking groups like OTP Bank, Intesa Sanpaolo, ProCredit Bank, and Banca Transilvania play a contributive role for the resilience of the entire banking system, as the expertise of European banks is already available inside mentioned groups and cand be applied for the purposes of the development of the reporting framework.

Figure 5. Evolution of Share of Foreign Investments in the Banking System

Source: https://legacydata.imf.org

Conclusions

It should be noted that each crisis described above was followed by a reactive measure that was calibrated to the impact of diminishing on the whole economy and as well on the banking system. That is why crisis originated from bad management, was followed by the improvement/development of a normative framework that strengthens the role of comprehensive governance processes, as a fundamental pillar in fair and responsible management of a financial institution.

For the case of external crisis, the development of an extended stress testing scenario was applied and the cross-border evolution of an economy in war was included as a variable that needs to be taken into consideration for the forward-looking assessment. Here the immediate effect of the liquidity shortage was included as a trigger factor.

At the same time, as financial intermediation as a service provided by banks became more digital (digitalization), cyber risk identification and mitigation should play an important role for both parties (clients and the bank).

The research on the identification of the potential effect of crises (internal/external) will be continued and the mitigators that were used by authorities (by government or supervisor) will be considered. In this regard, the use of a Z-score will be developed, especially for the relevant index calculation based on cluster analysis (systemically important banks vs others) and specific calibration analysis based on size and cost efficiency.

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