

# Liquidity Management and the Banking Lending Mechanism

Dan Costin NIȚESCU<sup>1</sup>  
Florin Alexandru DUNA<sup>2</sup>

## *Abstract*

*The paper approaches the liquidity aspects from a banking perspective, the relationship between liquidity and banking lending, within the post crisis dynamic economic environment. After the introduction, we present in the first part, the main aspects related to the liquidity management, at the bank's activity level.*

*The second part reflects the changing regulatory framework and the various effects for the banking system. We refer mainly to the European regulations that shape the banking system, including also the Romanian perspectives. The third part of the paper emphasizes a macroeconomic view on liquidity and banking lending mechanism. The last part represents our concluding remarks.*

**Keywords:** regulations, liquidity, credit, credit risk, liquidity risk management, banking system.

**JEL Classification:** E51, F15, F42, F62, G01, G21, G23, G28, G38.

## **Introduction**

The global financial crisis that started in 2008 highlights the importance of liquidity management. One of the main concern regarding liquidity management is how and what can be done in order to allocate and channel liquidity to support lending in good times, but also to maintain it within the banking system in bad times ?

We consider one of the definitions accepted for liquidity in the banking institutions, as “the ability of a bank to fund increases in assets and meet obligations as they come due, without incurring unacceptable losses”. Together with the definition, we learn also about “the fundamental role of banks in the maturity transformation of short-term deposits into long-term loans that makes banks inherently vulnerable to liquidity risk, both of an institution-specific nature

---

<sup>1</sup> **Dan Costin NIȚESCU**, The Bucharest University of Economic Studies, Romania,  
E-mail: dancostinn@gmail.com

<sup>2</sup> **Florin Alexandru DUNA**, The Bucharest University of Economic Studies, Romania,  
E-mail: alexandruflorin.duna@gmail.com

and that which affects markets as a whole” (Basel Committee on Banking Supervision, 2008).

We will present relevant aspects related to the liquidity and lending mechanism at the bank’s balance sheet level. The maturity transformation and the need to insure long-term financial sustainability, the low-level interest rates environment, the competition on financial resources put pressure on the management of liquidity.

The regulatory framework aiming to ensure a global harmonized approach (have started with the Basel Agreements I, II, and III) but also the variety of European rules and regulations issued after 2008, emphasizes the complex decisions that should be made in order to manage and insure an adequate level of liquidity and support of the funding for the economy (Basel Committee on Banking Supervision, 2006).

From a macroeconomic perspective, the allocation and channeling of liquidity via the banking system should be based on a strategic vision, within an interconnected economy and society.

### **1. Bank’s approach on liquidity**

Banking institutions, in accordance with their business models, attract financial resources from various segments of customers (e.g. retail, corporate, public sector), from other banking institutions, from the shareholders/from mother banks, from the institutional investors/other investors. This process is based on confidence, trust on the fact that the resources will be reimbursed together with an extra financial gain (the interest rate paid). Various segments of customers benefit of financing products based on the resources attracted and on the transformation of maturities. This process is complex and involves specific liquidity approaches.

Every bank is concerned to manage and optimize its liquidity. If the bank is part of a financial group, there are various models and structures to manage liquidity. The policies and tools to manage the liquidity risk include specific limits, roles and responsibilities to manage and transfer intra-group liquidity, risk profiling and reporting. The ability to channel resources to entities from the group that are affected by a specific event, to create and consolidate liquid reserves represents key points in mitigating the risks. The financial crisis reflects the importance of a sustainable cash flow, across various currencies and obligations that should be matched. An important base of retail and corporate customers, doing daily banking operations and benefiting of the financing products, in various currencies, imply various decisions that should be made in order to manage liquidity at the bank’s level. Customers may reimburse the loans in a different currency than the currency of the loan. In a consolidated manner at the bank’s balance sheet, a currency risk may be induced (Greuning, Bratanovic, 2004).

The new developments related to technology, social media, internet, allows negative information to “travel” in real time. This may immediately create rumors, loss in confidence and conduct to deposit run-off that represent a primary liquidity

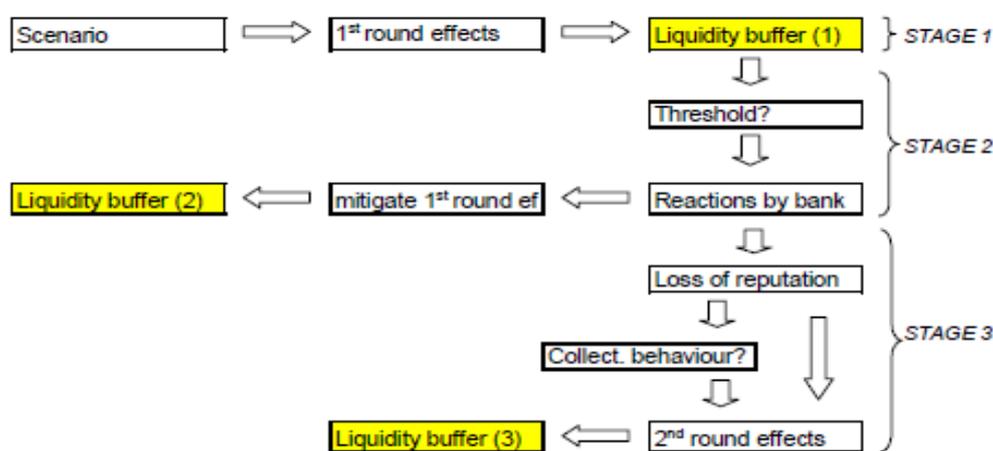
risk. Alternative communication policies, alternative strategic plans should be drafted, strategic partnerships should be built in order to manage crises, at the bank's level.

Banking institution should also benefit of the specific instruments and tools developed by the authorities/regulators, in order to assess and calibrate their risk profiles. Such instruments are represented by stress tests, that are essential in developing a complete overview of a financial institution profile, having an important role in the decision-making process. Moreover, liquidity stress tests can offer responses regarding the bank's liquidity profile, which cannot be determinate through regular liquidity metrics.

Prior to the crisis, banks have developed internal stress tests, but the tests were not taking into account the system effects, the possibility of bank actions to affect the other banks from the system, by assuming the risk factors were independent. In the past, it was a powerful focus on stress scenarios at national level, nowadays it becomes crucial to implement them from an international perspective.

As a response to the financial crisis that started in 2008, European Banking Authority (EBA) established on 1 January 2011, initiated and coordinates the EU-wide stress tests in order to identify the systemic risk in the EU financial system. The purpose of EU-wide stress tests is to ensure a methodology, which is applied by all the banks and verified by supervisors. The most common risks treated are credit risk, market risk, capital requirements regulation, credit valuation adjustment, operational risk; there are also evaluated the impact on net interest income and profit and loss.

We will reflect in the figure below the three types of buffer liquidity and the scenario effects revealed by the three stages of stress tests:



**Figure 1 Buffer liquidity and scenario effects**

Source: DNB Working Paper No. 175, May 2008, Jan Willem van den End: Liquidity Stress-Tester : A Macro Model for stress – testing banks' liquidity risks

The new realities in the financial industry, the changes in behavior of the customers, changes in regulations, diverse changes within the societies and communities, determine the banks to “think”, plan strategically and design alternative scenarios. This strategic planning includes also liquidity planning. In this respect, the stress test scenarios are very important in constructing any form of predictable liquidity banking mechanism.

With a strong support of the European Central Bank, the European regulators were very much focused in 2016 on liquidity stress testing. In accordance with a KPMG report, the 2016 Internal Liquidity Adequacy Assessment Process (ILAAP) showed lower expectation responses regarding to liquidity regulations (European Central Bank, 2016).

According to recent publications by the European Banking Authority (EBA) stress test scenarios over 50 banks in the EU and EEA countries (covering 70% of the banking assets) had relevant impact on credit risk losses, operational risk and market risk. Therefore it can be stated that relevant impact was made on partially offset provisions made to cover some losses in the financial sector, that had immediate impact on capital and liquidity because of the income flows of cash generated through the credit mechanism (Banking Supervision Within the Eurozone, 2014).

The stress tests are designed to support ongoing supervisory efforts of the authorities and to ensure compatibility and efficiency to assess and implement risk mitigation actions, before concluding on the appropriate supervisory frame, in order to maintain and improve the predictability of capital (Pillar 2 Guidance to banks, to maintain capital that can support lending mechanisms in the real economy) and liquidity banking system requirements.

The calibration of the stress tests performed, the variables included, the aversion of some factors should consistently analyzed. Risks are not easy to be identified ex ante and crises can arise from areas that are not predicted in advance. Banks should carefully take into consideration the new financial and monetary context for assessing risk, not to be blocked within the past patterns (Popa, Dima, 2004).

At the bank’s institution level, the management of the liquidity and also the lending mechanism are related mainly to:

- Transaction and product driven sources
- Market trends: in some recent evaluations of market trends review made by commercial banking entities it is noted that the market environments (aggregate demand & aggregate supply) tend to over close and increase liquidity risk parameters, emphasizing the movement towards volatile founding sources (mutual fund, pensions found, derivatives instruments – used especially in the investment banking system) and other relevant types of founding sources like based on the issuance of certificates of deposit, internet banking and others, that have increased the complexity of liquidity risk management to be assessed.

## 2. The impact of a dynamic regulatory framework

Regulations are relevant for the liquidity of the banks and for the capital needed in order to support lending. Starting with 1970, when financial crises became more frequent, an integrated approach has started to be developed in order to offer global regulations and harmonise the specificities of the financial markets. Basel Committee on Banking Supervision has provided global frameworks: Basel I in 1988, Basel II in 2005, and Basel III, which is under implementation.

There are debates within both the banking system and academia, due to the fact that the regulations became binding for all the credit institutions, although the focus was on large international banks. The smaller banks are doing relevant efforts to comply with a global standardised regulatory frame (Manolescu, 1995).

The financial crisis that has started in 2008 transformed the existing regulatory frame. The regulatory authorities took into consideration various alternatives; optimise the allocation of capital, introduce size limits, draft restrictions for large banks, analyse the standardized approaches for capital allocation.

Considering the banking environment, we should reflect the post-crisis context: low interest rates, bank litigation risks, Non-Performing Loan portfolio management, recovery and resolution mechanism, technology developments for financial industry and technology regulation.

We investigated the Basel III considerations and the changing post crisis regulations, mainly at the European level, aiming to insure safety and predictability by reassuring creditors and debtors of the stability and transparency of the financial system (Walter, 2011).

The Basel III agreement, largely motivation has its existence on considerations such as the negative effects of banking crises, the frequency<sup>3</sup> of banking crises, the costs of implementation methods and mechanisms. The agreement promotes the benefits of banking regulations (long-term sustainability for the financial and banking system, providing market transparency and stability that can propagate economic development the population, economic agents and investors).

The main differences from other agreements from the Basel Committee (I and II) is that regulations aimed at both micro-prudential measures (risk individual bank) and macro-prudential (entire banking system).

### *Micro-prudential level:*

- Strengthening of capital base through: increasing the minimum equity requirement and Tier 1 capital (including review of eligibility criteria for the instruments considered in determining Tier1);
- Creating the model of determination and examination in order to cover risks (trading, credit risk, counterparty, position relating to the various schemes of financial engineering);

---

<sup>3</sup> Within a 5 years period, between the years 1980-1985, shows more than 30 banking crises in member states of the Basel Committee

- International liquidity standards

*Macro-prudential level:*

- Introduce an anti-cyclical capital buffer (to protect the financial system against systemic risks);
- Calculate a leverage effect, the goal is to limit the amount of debt in the banking system in periods of boom;
- Reduce the impact of systemically important banks

Other relevant aspects considered by Basel III was to review the role of internal models, related to specific risk categories:

- Credit risk: possible review to the IRB framework restructure the modelling available to banks for calculating regulatory capital (expected deadline was the end of 2016).
- Market risk: model based approach (IMA) for market risk and trading book reviews.
- Operational risk: remove of the usage of measurements for operational risk (solvency and capital revised measurement for operational risk).

European regulatory framework should be adapted to the global regulatory framework.

Other relevant regulatory developments that we reflect are linked with the Banking Union, that includes responsibility for supervision, resolution and funding at the European Union level. The first two pillars of the Banking Union were launched: Single Supervisory Mechanism (SSM) and Single Resolution Mechanism (SRM); regulations may also induce unintended consequences.

We consider it is relevant to mention that within the Banking Union, banks should also be supervised on a global geographical basis, in this case it is eliminated the ring-fencing of capital and-or liquidity at the national level. The Single Supervisory Mechanism should support the financial integration with euro area, by insuring the safety and soundness of banks. The Single Resolution Mechanism should cooperate with the national resolution bodies and also with the Single Supervisory Mechanism.

The European Central Bank states a direct control over the SSM, with key points of referral to substantial rules of provision and prudential supervisory limits, in accordance with the bank capital, national laws of the Member States, transposing the relevant EU Directives (Capital Requirements Directive IV and Capital Requirements Regulation). All Eurozone members, with related currency to the Euro, by default, are part of the SSM, covering over 4.800 banks of the European banking system. Other EU members might have the possibility to choose if they want or not to take part in the SSM, through the “close cooperation” clause. (it has been referred that The UK, Czech Republic and Sweden are going to remain outside the SSM).

The second pillar of the Banking Union, the Single Resolution Mechanism (SRM), started in January 2015, includes the Single Resolution Board (SRB) and National Resolution Authorities of the participating Member States of the Banking Union (Bank of International Settlements, 2015).

The Single Resolution Mechanism will create the working framework, resolution plans, in order to mitigate the impact of bad banks on public finances and real economy. The financial support, on medium and long term will be addressed via the Single Resolution Fund, financed by the banking sector. Responsibilities are allocated among the Single Resolution Board and the National Resolution Authorities, through the SRM Regulation (SRMR). The role is not only limited to crisis, but at this stage, the functions are designed to prevention of events that might negatively affect the framework and wellbeing of the banking system, at a Monetary Union level (Single Resolution Board, 2016).

Other rules and regulations are either implemented, under implementation or in the public debate and testing. We emphasize an important aspect, that after the beginning of the financial crisis, the bank capital was ramped up eight to ten times. For the market it is important to have a balanced calibration between the Net Stable Funds Final Ratio (NSFR) and of the Total Loss Absorbency Capacity (TLAC). The standards on minimum requirement of own funds and eligible assets (MREL) promoted under the Bank Recovery and Resolution Directive (BRRD) create another point of strong debate between the regulators and the banking industry.

An important aspect considered to be settled was the issue of consistency of Risk Weighted Assets (RWA), due to the fact that while processing the tests, banks with similar portfolios have produced very different calculations of risk weighted assets.

In this respect, the European Central Bank presented the effective risk data aggregation and risk reporting principles in order to assure and strengthen risk management and internal reporting practices. A special programme was drafted, the Regulatory Consistency Assessment Programme (RCAP) for the implementation and progress monitoring, considering regulatory outcomes, risk-weighted assets in the banking book, trading book and counterparty credit risk framework (European Central Bank, 2017).

Regarding the new supervisory measures, there must be taken into account significant factors that apply to risk identification, such as: low/negative interest rate, non-performing loans (NPLs) and economic growth across euro area countries;

The new banking structures, according to the post crisis architecture, in the context of new supervisory mechanism, involves geopolitical uncertainties and reactions of markets to new regulations. In this context, at the European banking supervision level have been defined the three most relevant fields of interest, related to the interpretation of risk within the system:

1. profitability impact (taking into consideration business models);
2. credit risk (especially focus on non-performing loans);
3. liquidity risk management.

Analysing the regulatory environment, we would also include the accounting aspects that are influencing the liquidity and also the lending mechanism. The coming regulation called IFRS-9, which will replace the existing

IAS-39, modify the provision for losses registered by the banks. This will change the actual approach that register losses after they occur and will introduce a mechanism to make losses estimation from the beginning of a loan agreement, all over the lifetime of a loan. The new accounting approach will have a very significant impact on banks, because extra capital should be set aside to cover any future bad events, generating a dramatic rise in provisions, increase in impairment charges across all asset classes. The Basel Committee is proposing a three to five year period of time to adopt the rules.

All the rules, regulations, directives contribute to leveling the playing field, we do consider that this trend will include and maintain the variety of banking business models.

All the relevant authorities, both at the European and national level will have to act and implement the new framework of rules, measures, regulation, directives. It is important to contribute to global coordination of financial regulations.

The impact and effects of the rules and regulations drafted and implemented after the beginning of financial crisis will be measured in the years to come. The new architecture has to be fully implemented and operated in order to generate relevant data.

### **3. The approach of liquidity on a macroeconomic level**

Within a macroeconomic perspective, the relationship between liquidity and lending is influenced mainly by: a) the long term approach; b) the regulatory frame; c) the asset classes that the customers and communities would need/ask to be financed.

As we are analysing liquidity on bank balance sheets, the asset classes should be analysed together with the risk component and with the forecast for risk changing, within a future volatile environment. At the macroeconomic level, it is needed a strategic vision on the policies that should be drafted in order to design and allow allocation of liquidity to finance the economy, including all the actors and sectors: public sector, residential, Small and Medium Sized Enterprises (SMEs), infrastructure, agriculture and so on.

Financial institutions have been always confronted with liquidity issues, thus, the liquidity management has become one of the vital problem that needs to be taken into consideration all the time (Dănilă, Anghel, Dănilă, 2002).

At the systemic level, the liquidity provided by the central bank to the financial system represents a key element. The central bank strategy determines the monetary policy stance, the central bank uses its monetary policy instruments to affect and preserve the liquidity in the money markets.

According to Cecchetti and Disyatat (2010), "Central bank liquidity is the term we use to describe deposits of financial institutions at the central bank; it is synonymous with reserves, or settlement balances. These reserve balances are held by financial institutions to meet reserve requirements, if any, and to achieve final

settlement of all financial transactions in the payments system. Individual institutions can borrow and lend these funds in the interbank market, but, for the system as a whole, the only source of these funds is the central bank itself". Central bank liquidity, a synonym for the supply of base money, results from managing the central bank assets in its balance sheet, in accordance to the monetary policy stance.

In any type of economy, the central bank acts as a lender of last resort, as a central point of liquidity, as reflected in the figure below:

#### Principles of Lender-of-Last-Resort Support

Nature of Liquidity Support	Type of Liquidity Shortage		
	Shortage of Central Bank Liquidity	Chronic Shortage of Funding Liquidity at Specific Institutions	Systemic Shortage of Funding and Market Liquidity
Distinction between illiquidity and solvency	Yes	No	No
Directed lending or open market	Either	Directed	Both
Lending or outright	Lending	Lending	Both
Ambiguity of access	No	Yes	No
Penalty relative to market rate	No, if aggregate shortage Yes, if institution-specific	No	No
Quality of collateral/degree of central bank risk exposure	High/negligible	Low/high	Low-high/low-high
Term of support	Very short (overnight)	Long	Short to medium
Public announcement of support	No	Depends	Yes
Separation from monetary policy	Yes	Yes	No
Coordination with fiscal authority	No	Yes	Yes

**Figure 2 Principles of Lender-of-Last-Resort Support**

*Source:* Stephen G. Cecchetti and Piti Disyatat, "Central Bank Tools and Liquidity Shortages", page 33, FRBNY Economic Policy Review, 2010.

Considering the systemic approach of liquidity, we will add that also other relevant non-bank actors are influencing the liquidity and the liquidity management, such as non-bank financial institutions, money market funds, sovereign funds, global asset management companies, insurance companies (European Central Bank, 2009).

Regulatory reforms focused on banks may determine certain activities to move to the shadow banking sector, that may induce systemic vulnerabilities in the form of leverage and liquidity mismatches.

At a systemic level, the management of assets and liabilities include strategic planning and implementation processes that affect and control the volumes, diversity, maturity, interest rate sensitivity, quality and liquidity of assets and liabilities of the banking and financial system (Smith, Walter, 1997).

The specific policies at the macroeconomic level, considering also the above mentioned aspects related to the regulatory changes, should be coordinated,

in order to insure a balanced management of liquidity, to manage the financial risks and to support the lending mechanism.

### Conclusions

Managing liquidity, both at the bank's level and at the macroeconomic level is a complex process that involves various risks. A new regulatory framework that is build up mainly after the financial crisis from 2008, should be a result of a constructive dialogue between the regulators and the banking industry. Lessons from the crisis should be learned and not forget.

Via the new rules and regulations, tools implemented by authorities, should be built capabilities and competencies in order to better manage the liquidity and to answer to the question asked at the beginning of this paper. Technology, systems, procedures and norms should be harmonized in order to create, at both micro and macro level, long-term sustainability and capabilities to react and mitigate specific risks that will appear in the future.

Liquidity management should support a better and more quality based lending mechanism in banking.

### References:

1. Sherman & Sterling, Banking Supervision Within the Eurozone: The Single Supervisory Mechanism, November, 2014, <<http://www.shearman.com/~media/files/newsinsights/publications/2014/11/banking-supervision-within-the-eurozone-the-single-supervisory-mechanism-fiafr-111714.pdf>>
2. Basel III , < <http://www.arb.ro/basel-iii/>>
3. Basel Committee on Banking Supervision, "Principles for Sound Liquidity Risk Management and Supervision", the Basel Committee on Banking Supervision , September 2008.
4. Basel Committee on Banking Supervision, The Joint Forum, "*The management of liquidity risk in financial groups*", May 2006.
5. Bank of International Settlements, *Finalizing Post-Crisis Reform: an update: A report to G 20 Leaders*; November 2015.
6. Dănilă, N., Anghel, L., Dănilă, M (2002) – *Liquidity banking management*, Ed. Economics, Bucharest.
7. DNB Working Paper No. 175, May 2008, Jan Willem van den End : *Liquidity Stress-Tester : A Macro Model for stress – testing banks' liquidity risks*.
8. European Central Bank, <<http://www.eba.europa.eu/-/eba-publishes-2016-eu-wide-stress-test-results>>
9. European Central Bank: Working Papers Series - No. 1008/Feb. 2009, <<https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1008.pdf?e87aba3a52137adea91048bf54801968>>

10. European Central Bank- Banking Supervision: SSM supervisory priorities 2017<[https://www.bankingsupervision.europa.eu/ecb/pub/pdf/publication\\_supervisory\\_priorities\\_2017.en.pdf](https://www.bankingsupervision.europa.eu/ecb/pub/pdf/publication_supervisory_priorities_2017.en.pdf)>
11. Manolescu Gh.-*Financial Management*, Ed. Economics, Bucharest, 1995, p. 169.
12. Greuning H.v., Brajovic Bratanovic J. – *Analysing and Managing Banking Risk, A Framework for Assessing Corporate Governance and Financial Risk*, Ed. Irecson, Bucharest, 2004 – p. 44.
13. Popa, I.L. Dima, B., *The analyses of banking commercial system*, Ed. Mirton, Timișoara 2004.
14. Single Resolution Board, Brussels, 2016, <[https://srb.europa.eu/sites/srbsite/files/intro\\_resplanning.pdf](https://srb.europa.eu/sites/srbsite/files/intro_resplanning.pdf)>
15. Smith, R., Walter, I. – *Global Banking*. New York: Oxford University Press, 1997, p. 67.
16. Stephen G. Cecchetti and Piti Disyatat, “*Central Bank Tools and Liquidity Shortages*”: FRBNY Economic Policy Review, 2010. <<https://www.newyorkfed.org/medialibrary/media/research/epr/10v16n1/1008cecc.pdf>>
17. Walter, S., “*Basel III: Stronger Banks and a More Resilient Financial System*”, Conference on Basel III, Financial Stability Institute, Basel, 2011.
18. \*\*\* National Bank of Romania < [www.bnro.ro](http://www.bnro.ro)>
19. \*\*\* Bank of International Settlements <[www.bis.org](http://www.bis.org)>