Bank liquidity management from the perspective of the Basel Accords and their applications to Algerian banks, Case study of Algerian External bank (2010-2019).

تسيير السيولة البنكية من منظور اتفاقيات بازل و تطبيقاتها على البنوك الجزائرية، دراسة حالة البنك الخارجي الجزائري (2010-2019).

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Abstract:

The Basel conventions are the banking regulations that the banks in the world operate on. The latter regulates the work of banks by regulating their solvency and liquidity. The Algerian External Bank specifically for these standards and its commitment to them, The research reached a set of results. As for the theoretical results, we concluded that liquidity represents the bank's resources through which it can finance its operations and represent the source of its ability to fulfil its obligations. As for the field results, we concluded that the bank liquidity standards imposed by the Basel III agreements and adopted by the Algerian banking regulation, respected at the level of Algerian External Bank, which guarantees greater financial effectiveness at the level of the Algerian economy and comfort in facing its various obligations.

Keywords: Basel Accords, Bank liquidity, Algerian banking Regulation, Algerian External Bank.

Jel Classification Codes: E0; E4.

Abstract in Arabic:

تعتبر اتفاقيات بازل التشريعات المصرفية التي تسيير عليها بنوك العالم، هذه الأخيرة تنظم عمل البنوك من خلال تنظيم ملاءتها وسيولتها، في هذا السياق يهدف بحثنا إلى تسليط الضوء على مقاييس تنظيم السيولة البنكية التي جاءت بها هذه الاتفاقيات، كما يهدف أيضا إلى التطرق لكيفية تطبيق البنوك الجزائرية والبنك الخارجي الجزائري على وجه التحديد لهذه المعايير ومدى التزامه بها، توصل البحث إلى مجموعة من النتائج منها النظرية والتطبيقية، أما فيما يخص النتائج النظرية فتوصلنا إلى أن السيولة التي تمثل مورد البنك الذي من خلاله يستطيع تمويل عملياته القصيرة، المتوسطة وطويلة الأجل،وتمثل مصدر قدرته على الوفاء بالتزاماته، أما فيما يخص النتائج الميدانية توصلنا إلى أن معايير السيولة البنكية التي تفرضها اتفاقيات بازل الثالثة وتبناها

التنظيم المصرفي الجزائري محترمة وكما ينبغي على مستوى البنك الخارجي الجزائري مما يضمن له فعالية مالية أكبر على مستوى الاقتصاد الجزائري وأريحية في مواجهة مختلف التزاماته.

الكلمات المفتاحية: اتفاقيات بازل، السيولة البنكية، التشريع المصرفي الجزائري، البنك الخارجي الجزائري.

Jel Classification Codes : E0; E4.

Introduction.

The first Basel agreements came in 1988 as a breakthrough in the field of bank management, focusing on financial banking management by unifying the methods for estimating bank risks represented in counterparty risks. They introduced clear techniques for calculating capital adequacy ratios and solvency ratios, (Tanguy, 2011, p. 40) which were amended in 1994, expanding the coverage of bank risk capital to include market risks. The Basel Committee adopted standardized methods for estimating and presenting these risks to banks of all sizes to apply them as prudential measures to control their risks. These agreements were amended at various stages in line with the developments in the banking world, and were reissued in their second edition in 2014 as part of Basel II agreements. The new agreements expanded the definition of private funds and the risks borne by financial institutions. In addition to the previous agreements, the new agreements and the McDonough ratio covered operational risks as well as financial derivative risks.

Under the influence of the global financial crisis caused by the mortgage crisis in 2008, which quickly turned into a sovereign debt crisis that particularly affected the United States and Western European countries, and later developed into a worldwide economic crisis, it became clear that it was impossible to separate solvency crises from liquidity crises. Banks rely on liquidity as the basis for ensuring greater solvency, greater capacity to fulfill commitments, and therefore, the Basel Committee on Banking Supervision was forced to revise the Basel II (Sardi, 2004, p. 125) agreements once again within the framework of the Basel III agreements. One of the major differences between the latter and the previous Basel I and II agreements is that Basel III places renewed importance on framing bank liquidity not from the perspective of solvency alone as previous international legislation had done, but from the perspective of liquidity indicators themselves. This is achieved through the study conducted by the committee in 2008, which identified the principles of sound management

and liquidity risk supervision under the so-called "Principles for Sound Liquidity Management and Supervision."

From This perspective, Banks of all sizes and specializations must respect the minimum Levels of liquidity, and the national supervisory authorities must enforce respect for the principles of proper liquidity management. In this context, Algerian banks are trying to simulate these legislations to benefit from international experiences in this field. To answer the following problem:

Do Algerian banks in general and Algerian External Bank in particular respect the liquidity brought by the Basel III agreements?

This problem is explained by two possible problems:

- To what extent does the Algerian banking legislation keep pace with the Basel III conventions?
- How does Algerian External Bank apply these ratios?

To answer this problem, we propose the following two hypotheses:

- Algerian banking legislation tried in one way or another to simulate the liquidity ratios that came from the pact Basel III accords.
- Algerian External Bank applies short and long-term liquidity ratios.

The aim of the research.

The research aims to highlight, in numbers and analysis, the financial liquidity ratios of banks. As well as its impact on its financial performance, and for:

- Explain banking liquidity, its financial meaning, and how it is calculated from the perspective of the Basel III agreements.
- Explain the banking liquidity system and its financial meaning and how it differs from reality from the perspective of the Algerian banking legislator.
- Explain bank liquidity changes in numbers from reality at the level of Algerian External Bank.
- Explain the interpretation of the effect of respecting bank liquidity ratios on the financial performance of the Algerian Bank.

Research Methodology:

In response to the problematic posed and the analysis of the validity of the two hypotheses, we followed the descriptive approach in the first section of the study, which relies on collecting information and describing financial phenomena .In the second part of our study, we adopted the case study

curriculum at the level of the Algerian External Bank throughout the period of study from 2010to 2019.We divided our study into two main sections:

1. **Bank liquidity and ways of managing it through Basel III Agreement.**
2. **Respecting liquidity ratios: case study of the Algerian External Bank.**

In the second section Our study will be applied at the level of the aforementioned bank, highlighting the various aspects of its management of its liquidity in two sections: the first: pertaining to the partisan banking legislation and the second liquidity ratios related to the study of the volume of bank liquidity, always highlighting the Algerian external bank as the most powerful Algerian banking institution on the one hand.

1. Bank liquidity and ways of managing it through Basel III agreements.

The third Basel Conventions came to conclude the first and second Basel Conventions that addressed banking governance by addressing the ability to meet obligations -solvency ratios-and introducing very precise techniques for measuring banking risk. In this section of our research, we will address how the third Basel Conventions specifically address bank liquidity.

The Basel Committee for the Control of Banks' Activities has put forward a range of ways and means to stimulate periodic and continuous control of liquidity, and in this context the Committee has introduced the short-term liquidity ratio, The long-term liquidity ratio, two different ratios, guaranteed that their objectives are common, ensure stable levels of liquidity, and to ensure the effectiveness of these ratios must be applied globally and in a consistent manner In order to determine the impact of these ratios on different levels, whether at the level of financial markets, loan markets, as well as the impact on economic growth rates.

1.1. Framing bank liquidity through short-term liquidity ratio.

This ratio aims to pay the bank to own high-quality and unencumbered liquid assets that can be converted into liquidity when it wants to cover its financial needs within a period not exceeding 30 days in cases of liquidity deficit and incidence in cases of funding difficulty. National supervisory authorities can determine the components of these

assets as they deem appropriate to the needs of financial institutions operating under their control territory. in order to ensure greater liquidity, banks can bring the financial shakes to which they are constantly exposed. (Roncalli, 2009, p. 407)

Short-term liquidity ratio = high quality liquid assets/total net output of the treasury over the next 30 days.

This percentage must be respected by banks and financial institutions in order to ensure greater financial resilience to the liquidity crises, especially since the Bank does not know the full duration of the collection of inputs and not even the duration of the recruitment of outputs. Mathematically this percentage must be at least greater than 100% in the sense that high-quality liquid assets must be at least the largest net outputs of the bank's treasury (Financial Institution) throughout a month (30 days) in order to ensure sufficient liquidity to cover unforeseen expenses. (BIS, https://www.bis.org/publ/bcbs238.pdf, 2013)

The short-term liquidity index consists of two components:

- The value of high-quality assets.
- Net output from the safe.

1.1.1 High-Quality Liquid Assets:

These are highly liquid assets in the market that maintain their liquidity during financial crises. These assets are determined and accepted by the central bank and must be highly liquid, especially during crises, in order to be convertible to liquidity when needed at market levels, without loss of value. These assets consist of two levels:

- The first level is of unspecified value.
- The second level assets must not exceed 40% of the total high-quality liquid assets comprising the first part. These assets are monitored on a daily basis and the primary bank can add to their list other assets that it sees as sound and highly liquid without requiring acceptance from the central bank. However, these assets must comply with the other specifications set by the Basel Committee for this type of asset. (BIS, https://www.bis.org/publ/bcbs188.pdf, 2013)

Level 1 Assets:

According to paragraph 53 of the Basel II agreements on the use of private capital, these assets consist of:

- cash liquidity present at the fund level.
- reserves at the central bank. Regarding primary bank reserves at the level of their vaults, their liquidity size and the extent of their ability to be high-quality assets remain subject to the responsibility of regulatory bodies (the banking committee and the central bank).

- Negotiable securities offered by government agencies, central banks, the International Settlement Bank, the International Monetary Fund, the European Committee, and international development banks.
- Debts offered by government units and the central bank that are prioritized from the perspective of the previous paragraph at 0% in the national and hard currency owned by banks to ensure the smooth operation of their daily operations, which can be high-quality assets.

Level 2 assets:

These assets consist of:

- Negotiable financial assets offered and guaranteed by government agencies, central banks, and multilateral development banks, which receive a 20% weighting based on the standard method for scoring loan risk, as mentioned in paragraph 53 of the Basel II legislation on the use of private capital. These assets should also be negotiable in the immediate market and have weak correlations in times of crisis.
- Bonds issued by economic institutions and secured bonds, provided that they have received at least an -AA loan rating from internationally recognized rating agencies. In the absence of international rating for this asset, there must be an internal rating for the probability of error (PD) equivalent to at least -AA.

1.1.2. Characteristics of Highly Liquid Assets:

- Weak market risks associated with these assets, such as price volatility, low inflation rate risk, and exchange rate risk. (Borderie, 2009, p. 96)
- The ability of these assets to retain their value over the course of ownership.
- Weak correlation with risky assets, as strong correlation with risky assets transfers their risk to these assets.
- Good real-time pricing when the financial institution desires it, which ensures the safety of financial transactions related to these assets.
- The liquidity of traded assets is ensured by the speed and size of trading markets, whether they are cash or financial.
- The existence of these assets within a fully competitive market, which means the quality of traders within this market in terms of supply and demand, ensures greater liquidity for assets traded within this market.

1.1.3. Net treasury outflows:

This refers to the expected net out flows from the treasury, provided that the outflows do not exceed a higher percentage of 75% of the net input volume to the bank's treasury in cases of financial crises. These out flows include:

- With drawls from retail deposits, which are referred to as large deposits and include all short-term large deposits.
- Private deposits, which are divided into two categories: stable and less stable. The two categories are distinguished based on the withdrawal rates for each type of deposit, which are determined by the banking committee. Generally, stable deposits have a withdrawal rate of 5%, while less stable deposits have a withdrawal rate of 10%.
- Contributions from the deposit insurance fund.
- With drawls from foreign currency deposits

Importance Of Ratio.

The proportion is mainly to regulate liquidity imbalances that can affect both the Bank as a unit and the financial system as a whole. These imbalances appear in:

- Irregular withdrawal of deposits.
- Weak Bank's ability to finance (lending capacity).
- Weak banking services.
- Possibility of bank panic. (Natalia & Davan, 2012-2013, p. 39)

1.2. Framing bank liquidity through the long-term liquidity ratio.

Basel Committee through Net Stable Funding Ratio (NSFR) seeks to incentivize banks and financial institutions to finance their assets and its medium- and long-term activities through long-term resources, more stable and more secure, thus avoiding excessive use of their short-term resources to finance long-term uses liquidity ", especially in cases of abundant liquidity at the level of monetary markets, this is the common principle in the conduct of bank liquidity: Short-term resources cover short-term uses, long-term resources cover long-term uses and hence the Committee has retained the overriding general principle of liquidity risk management but has been further segregated through the liquidity proportion of good long-term resources needed to optimize long-term uses.

The Long Term Liquidity Index came to complement the Liquidity Coverage Ratio (LCR), strengthen the precautionary control metrics (plus solvency indices) and thus avoid the liquidity risk that leads to the bankruptcy of financial institutions, calculated through the following relationship:

Long-term liquidity ratio = Volume of stable and permanent funding available/Required stable funding volume*100%

Definition of stable funding available:

For the Basel Committee, when calculating the long-term liquidity ratio, available stable funding (ASF) is equal to the total:

-Private capital.

-Enjoyment shares of more than one year's duration or equivalent.

-Actual resources available for a period of living equal to or greater than one year.

-No-maturity deposits, less than one year's time deposits held in order to manage the liquidity risk that the Bank can bear individually from the system in which it swims (the same note for massive financing of less than one year's worth).

Here it should be noted that the long-term liquidity index seeks to maintain the bank's liquidity in a period of one year and thus endeavor to administer the financial hardship that can affect this bank independently of the rest of the system, We note here that the Basel III Conventions, by addressing liquidity crises, have tried to address this problem from a partial perspective in the sense of addressing liquidity critical situations at the level of each financial institution independently of the rest of the financial system in which it is active. And so, in our analysis, we went back to the principles of classical thinking, believing that the balance of the part ensures the balance of the whole and, therefore, from the perspective of these conventions as soon as each unit of the financial system proceeds its liquidity problems as it should. (Each bank avoids liquidity problems separately), the financial system can automatically proceed with liquidity problems. (Bouihi & Taibi, 2012, pp. 231-249)

1.2.1.Long-term financial hardship cases appear through:

-Weak bank's productivity and solvency due to high loan risk impacts, market risk, operation, etc.

-The decline of the Bank's debt, loans, customers (other parties) and deposits by the drip agencies, whether domestic or international. (ZOGHBI, 2021, p. 385)

-Financial and economic conditions that can disrupt the bank and the market in which it is active affect the size of its loans as well as the return it can achieve.

-Permanent stable funding sources (the Bank's resources at the long-term liquidity extension level) consist of five segments (Total regulatory capital, Stable non-maturity -demand- deposits and term deposits, Less stable non-maturity deposits and term deposits with residual maturity of less than one year, Operational deposits, All other liabilities and equity not included in

above categories including liabilities without a stated maturity), each segment of which relates to the volume of liquidity in the sense that it contributes to the formation of the Bank's resources in a certain proportion.

1.2.2.Stable financing required:

It refers to the need for necessary fluidities to fund bank assets and off balance sheet items, and upon that the denominator of the long term liquidity ratio gathers all assets, investments and off balance sheet items the bank intends to do and it requires a specific coverage (investment) of liquidity, upon that funding size required under normal circumstances is determined by the bank according to its need of investment, however, in economic crises, which is determined by the supervisory authorities (superintendent, national supervisor) this is under precautionary reasons that require effective guidance for the activity of financial institutions.

Upon that the value of each asset of the bank is multiplied by the coefficient of the stable funding required, and the same thing for off balance sheet items, these transactions is determined by supervisory authorities, through that it can supervise the ability of financial institution to invest the economy as well as its ability to transform available resources into hiring's in reality, this later cannot be sold in the financial market, it also cannot be considered as financial insurances, to avoid the concepts from overlapping when calculating the using and the necessary need of liquidity to cover it. This can be the most important requirement for Basel committee when calculating the long term liquidity.

2. Respecting liquidity ratios: case study of the Algerian External Bank.

To stimulate international banking regulations, Algerian banking legislation tried to find cautious banking instructions that organize the liquidity of Algerian banks, the later always seeks to update Algerian banking legislation to make it more accompanying international financial and banking events, so it tried to find banking instructions that we will address in detail.

2.1. Update the Algerian banking legislation: update liquidity according to the instructions of Basel III.

The Algerian banking legislator released many organizations that were in their entirety in the cautious bank management template and liquidity organization, and it also issued many instructions that explained these organizations to make them easier when applied.

2.1.1. Definition of Private capital and permanent resources

It was stated by the regulations 04- 04 on July 19,2004, it is a percentage that links private capital with permanent resources, as well as bank assets and its various long-term bank liquidity control, especially that

all the risks borne by banks and financing institutions ultimately turns into a liquidity risk, which soon turn into a risk of absence of bank sheet. (Sadeg, 2004, p. 63)

This ratio links the size of the bank's assets (its uses), especially long-term since it is the most valuable type of assets in the context of what the bank can finance through permanent resources, accordingly this rate puts an end to converting the resources of the bank into long-term assets and from the perspective of financial management it ensures a positive net treasury. This percentage is written as: private capital+ permanent resources/Assets and permanent use≥60%.

In the sense that the bank assets and its permanent uses (long-term) should not exceed 60% of private capital and permanent resources, to remain 40% of the size of long-term resources to cover short-term uses or pathological uses, in order to ensure additional liquidity for banks that enable them to manage good financial positions and avoid the risk of liquidity.

At the level of the Algerian banking system, the central bank's intervention is called to determine the volume of employments and thus the required stable financing, a policy of loan roofing in the sense that the regulatory authority interferes to determine the size of loans that banks can grant and finance different economic activities, accordingly at the level of the Algerian monetary system, the policy of loan roofing is considered pne of the most important monetary policy practiced by the will to control the monetary bloc in society.

Methods of the percentage declaration:

The percentage is calculated at every 31-12 of the each year, this percentage is the period 2004-2006 as a transitional period for its application, for the institutions that achieve a precautionary rate of less than 60% they will be called to reconsider the sizes of their liquidity available in the long term, in addition to that, the percentage is calculated in Algerian dinars, and at the end of each year, each bank is obligated to declare the banking committee as one of the most important forms of external control over the documents, and on the signs of the forms presented by the central bank (the first supervisor of banking control). (Moulay Khatir, 2017, p. 252)

2.1.2. Short-term Bank Liquidity Management:

In accordance with the emergence of Basel III agreements, which affirmed and framed liquidity risks and their inclusion within coverage through private capital and reserves, the Algerian legislature also attempted to regulate liquidity in accordance with international teachings. It touched on ways to calculate liquidity ratios as well as how to manage and cover risks associated with this substance, so it presented regulation 11-04 dated May 24, 2011, which defines, measures, manages, and controls liquidity risks.

This regulation also came in the form of 28 articles that addressed:

the mandatory requirement for banks and financial institutions to provide sufficient liquidity at any moment to meet their obligations and commitments to others in the form of a liquidity reserve.

the mandatory requirement for banks and financial institutions to have rich, diverse, strong and permanent sources of liquidity, whether owned or owned by others.

the mandatory requirement to constantly verify the lending capabilities of banks and ensure their stability under normal and crisis conditions.

The mandatory requirement to respect a certain ratio between the total short-term resources and short-term uses, known as the liquidity ratio, and the methods of calculating it are well explained by the Bank of Algeria in its teachings. This ratio must be at least 100%, and it must be declared in triplicate to the central bank and the banking committee.

the mandatory requirement for banks to prepare estimated treasury tables on a weekly basis to monitor the inflows and outflows of liquidity from the bank's treasury.

To explain this regulation and ensure its proper implementation, Educational Bulletin 07-2011 was issued on December 21, 2011, which relates to methods of calculating liquidity ratios.

2.2. Liquidity at the level of the Algerian External bank.

The research, we will try to shed light on the extent of the response of Algerian banks and the requirements of the Basel III agreements, especially regarding the most important innovations of these agreements, focusing on the regulation of bank liquidity. We will divide our study into two parts: the first concerns short-term bank liquidity, and the second concerns the size of long-term liquidity achieved by Algerian banks, always highlighting the Algerian foreign bank as the strongest Algerian banking institution on the one hand, and as the only bank that declares its liquidity ratios at the level of the Algerian banking system as a whole on the other hand.

2.2.1. Definition of the Algerian External Bank.

The Algerian Foreign Bank was established on October 1st, 1967, under document number 67-04, and gained its independence in conducting its various activities based on Law 89-01 dated January 12th, 1988, becoming a joint stock company on February 5th, 1989, with a capital of 31 million Algerian dinars. Its capital later increased to 24.5 million Algerian dinars (wholly owned by the state), then to 1 billion dinars following the extraordinary general assembly of shareholders, and further increased by 600 million dinars, reaching 1.6 billion dinars in 1991. In 1996, its capital increased again to reach 5.6 billion dinars through the issuance of new shares. (BEA, 2021, p. 8)

The bank has a network of 90 permanent branches to serve its clients, under the supervision of ten regional directorates responsible for ensuring the bank's smooth operation. These statistics are for the year 2011, and the bank employs 4,400 individuals, with 70% of them concentrated at various branch levels mentioned above. (Labiad & Datou Said, 2001, p. 416)

2.2.2. Short-term liquidity ratios at the External Algerian Bank:

Algerian External Bank declares two types of liquidity ratios: short-term liquidity ratios and capital ratios, as well as permanent resources in the form of long-term liquidity ratios. In this point, we will try to clarify the extent to which Algerian External Bank respects the levels of ratios required by international banking legislation on the one hand, and the extent to which it respects the calculation methods of these ratios on the other hand.

Liquidity ratios:

In the Algerian banking system in general, and specifically at the Algerian External Bank (BEA), liquidity ratios are only calculated on a short-term basis, according to Directive 07-2011 issued on December 21, 2011 regarding the calculation of liquidity ratios. Since liquidity ratios are calculated on a short-term basis, they are calculated by comparing short-term resources with short-term uses at the bank's balance sheet.

The short-term liquidity ratio is calculated using the relationship:

Short-term liabilities / Short-term assets ≥ 1

This means that the total amount of liabilities must equal or exceed the total amount of short-term assets to avoid liquidity problems for the bank.

Clarify the interpretation of the effect of respecting bank liquidity ratios on the financial performance of the Algerian Bank.

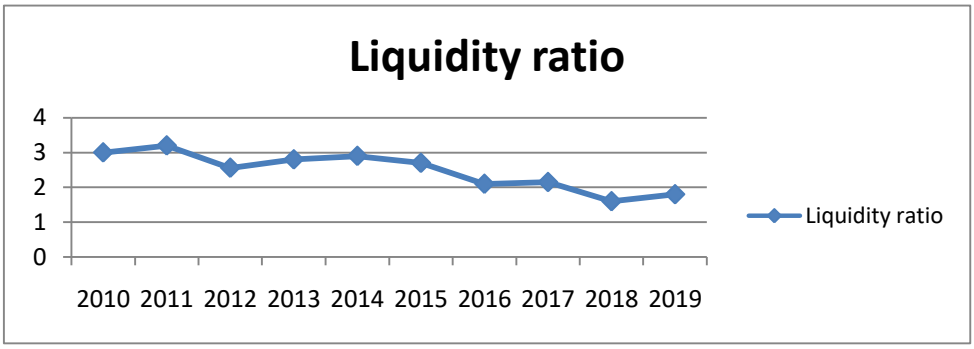
Table 01: Liquidity Ratios.

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Liquidity ratio	3	3.20	2.56	2.8	2.9	2.7	2.1	2.15	1.6	1.8

Source: prepared by the researcher based on the financial statements presented on the website of Algerian External Bank.

This table is explained by Figure number (01).

Figure number (01): Liquidity ratio.



Source: prepared by the researcher based on the table (01).

Comment on the table and figure:

We notice in the table that the short-term liquidity ratios declared by Algerian External Bank over the last ten years are more than one, meaning that the bank's liabilities are more than its assets. In the ten cases, the bank is far from liquidity risk.

For the year 2010: the liquidity ratio was 3:

In other words, the total short-term resources available to the bank amounted to three times the size of its unlimited uses. We note that the bank's short-term liquidity is tight, as it can triple its uses. In addition, the Bank finances foreign trade operations, which are characterized by high returns. It also finances the fuel sector, which is also a sector with very significant returns.

As for the year 2011: the short-term liquidity ratio increased to a value of 3.20, meaning that the volume of short-term resources amounted to 3.2 of the size of uses. Revenues from the bank's employment, especially with the improvement in oil prices during the year studied, especially since the bank finances the largest active petrochemical institutions in Algeria, which is considered essential to the bank's resources.

For the year 2012: the liquidity ratio reached a value of 2.56, meaning that the value of the bank's resources is low compared to the total level of uses, although the ratio is still high and good (greater than one). The ratio for the year 2012 recorded a decrease of 0.64 compared to the previous year.

Previously, this decline is due to the decline in the bank's resources compared to the growing volume of its short-term uses, especially since the bank during the year 2012 strengthened its budget with new short-term investments that appear clearly at the level of the total volume of the bank's assets.

As for 2013 and 2014: the bank achieved liquidity ratios close to 2.8 and 2.9, we note that they are also significant because they exceed the value of 01, but they are less compared to the years 2010 and 2011. This is due to the expansion of the bank's asset base through its appetite for new investments that support its profitability. (ZOGHBI, 2021, p. 385)

From 2015 to 2019, the short-term liquidity ratio declined, hitting its lowest point in 2018 at 1.6, the increased slightly in 2019, where the value reached 1.8.This considerable decline was mainly due to the increase in short-term uses by the bank on the one hand and the decline in the volume of its short-term resources on the other hand. In general, all Algerian financial institutions have suffered from the decline in liquidity but fortunately it remained above the value 01 which is the minimum value required by local and international banking legislation.

2.2.3. Private equity ratios and permanent resources

This ratio tries to adjust the bank's resources in the long term (from one to five years), therefore leads them to effective investments that ensures the bank's management ratios in the medium – long term. In order to further rationalize banks' long-term investments, the Algerian legislator stressed the need to adopt the ratios of private equity and permanent resources through regulation 04-04, issued on July 19, 2004. He also put forward methods for calculating and declaring this ratio. The ratio combines private equity and permanent resources in the numerator and permanent assets and uses in the denominator which should not be less than 60%.

The following table illustrates the ratios of private equity and permanent resources over the last ten years of the External Bank of Algeria (BEA).

Table 02: Private equity ratios and permanent resources

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
coefficient of Private equity and permanent resources	90%	103.79 %	118.79 %	119%	119.15 %	114.05 %	149.23 %	313.15 %	133.80 %	105.02 %

Source: Prepared by the researcher based on the financial statements presented on the website of Algerian External Bank.

Interpretation of results:

As can be seen from the table,

During the year 2010(31-12-2010), the ratio of private equity and permanent resources reached 90%. The ratio is healthy as long as it exceeds 60%, in fact, the ratio is very good as it far from the minimum limits imposed by the international legislator and adopted by the Algerian legislator, meaning that private equity and permanent resources = 90% of permanent assets and uses. This indicates that private equity and permanent resources cover 90% of permanent assets and uses.

During the year 2011, the ratio reached 103.79%, which means that private equity and permanent resources = 103.79% of the total permanent assets and uses. This suggests that permanent resources cover all permanent assets and uses, so that there is3.97% of permanent resources left to cover current uses. The ratio jumped by 13.79% compared to last year. It is very good as it ensures good permanent liquidity of the External bank of Algeria throughout the selected period.

During the year 2012, the ratio reached 118. 79%, meaning that the volume of private equity and permanent resources = 118.79% of assets and permanent uses. We notice that permanent resources cover all assets and permanent uses, leaving 18. 79% as permanent liquidity directed to cover current uses (short-term). The ratio also reached a sharp increase of 15% compared to last year. We observe that the bank's available liquidity in raising dramatically. This reflects the financial soundness of the bank. What has also been noticed is that the positive development is due to the bank's policy in managing its liquidity, the latter tends to strengthen its own capital in exchange for choosing healthier long-term investments.

As for the years 2013, 2014 and 2015, the ratio continues its upward trend but remains very close to the previous two years. This reflects the bank's capability to control its long-term resources and use them in repayable assets which ensures a significant difference between private equity and permanent resources, and permanent assets. This difference properly finances short-term uses below the budget, to slightly decrease in 2015reaching 114.05%.

From 2016 to 2017, the ratio rose again to reach peakin2017, where the value reached 3.13 due to the strength of the permanent resources of the bank during this year ensured mainly by the central bank as shown in the balance sheet on the liabilities side.

As for the years 2018 and 2019, the ratio declined again to stabilize at 1.33, which is somewhat close to the minimum long-term liquidity determined by the International and Algerian banking law.

The strength of the ratio does not necessarily mean financial soundness, it may often be due to the reluctance of banks to take up long-term investments. This may generate an imbalance in the bank's balance sheet,

especially that long-term investments are considered one of the most important sources of return of banks despite their high levels of risk. This, in turn, may pose a serious problem to the bank's performance, and therefore the strength of this ratio may sometimes not reflect the good performance of the studied financial institution. (ZEBIRI & Khobizi, 2016, pp. 64-89)

Conclusion:

The Basel III agreements were a reaction from the Basel Committee, which is considered a leader in framing international banking legislation, towards the global financial crisis that began to emerge in 2007, the aftermath of which still lingers to this day. Algeria was also affected by this crisis, and since all economic crises ultimately turn in to a liquidity crisis, it was the duty of Algerian banks to organize their liquidity to ensure optimal financing for the rest of the economy.

Hypothesis One: This hypothesis is true, because the Algerian banking legislation has indeed attempted and succeeded in simulating the liquidity ratios brought about by the Basel III agreements.

Hypothesis Two: This hypothesis is also true, because Algerian External Bank applies short-term and long-term liquidity ratios. However, this application remains traditional because its liquidity components are conventional, especially since Algeria does not have an active financial market.

- Frequent liquidity problems can create liquidity risk, and continuous liquidity risk can turn into the risk of bank insolvency (the risk of not being able to meet obligations).
- Liquidity risk may not appear during times of crisis until the long term, as long-term uses are usually high-risk on the one hand, and weak collection on the other hand, especially with the increasing likelihood of changes in market values of bank assets and their employment.
- Algerian External Bank is the only bank that discloses the liquidity ratios it achieves as an attempt to simulate the Basel III agreements.
- Algerian External Bank has significant short-term liquidity due to the abundance of the bank's resources on the one hand, in addition to the good returns it achieves on the other hand. Moreover, the bank finances foreign trade operations, which are characterized by high profitability, as well as the oil sector, which is also a highly profitable sector.
- The ratio of equity and permanent resources is one type of long-term liquidity ratios, and disclosing this ratio at the level of the Algerian

External Bank is a means of evaluating the bank's liquidity in the long term."

- We notice that the available liquidity of Algerian External Bank is developing significantly and strongly, which reflects the financial solidity of Algerian External Bank.
- As for the positive development of liquidity, this is due to the bank's policy in managing its liquidity, as it tends to reinforce its own capital more and more in exchange for choosing healthier and sounder long-term investments.
- The strength of the studied ratio does not always necessarily mean good financial solidity, as it maybe, in many cases, due to the size of banks' inclination towards long-term investments. This can create imbalances at the level of the bank's budget, especially as long-term investments are considered one of the most important sources of return at the level of Algerian External Bank, despite their high risk levels.
- Algerian External Bank is far from any risk of liquidity, whether short or long-term.

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