# Measurement and analysis of liquidity risk in the Algerian commercial banks

**- Case study: BNP Paribas Algeria Bank for the period (2012- 2014) –**

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**Abstract:**

The liquidity plays an important role in the management of the commercial bank’s various activities, and in the execution of their primary tasks in the economy. Therefore, the efficient management of the bank is considered as a big challenge in order to avoid the liquidity risks. This study aims to measure and analyse the liquidity risk in commercial banks using the econometric models. The study took BNP Paribas Algeria as a case study, and it relied on the accumulated differences method and the balanced asset/liability method during the period 2012-2014.
**Keywords:** measure, liquidity risks, commercial banks, method of accumulated differences and sequential differences, Algeria.
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## Introduction :

the banks considered as a basic infrastructure in building the economy of countries they constitute a large share in the economic development process, it contributes significantly in the achievement of economic policy goals and of course step up the economic development, and this is reflected in its primary function which is providing loan capital for economic units and that for the benefit of (interest), and on this basis the liquidity is one of the most important topics in banking and its primary preoccupation in the daily work and in the friction with clients. So the bank lose a number of its clients as a result of lack of sufficient liquidity or the inability to meet their demands on time, on the contrary, banks may maintain liquidity outweigh their needs, which result in this case the incorrect use of available resources and loss of good management of liquidity, so banks must develop its performance especially after the growth and complexity of banking operations or become susceptible to the risks, "liquidity risk, credit risk………"

It is agreed that liquidity risk management is very important for the commercial banks because it contribute in maintaining the liquidity of the bank's budget and ensure the financial transactions, in this case we find that the regulatory institutions and the Basel committee seeks to determine how to analyze, measure, and manage the liquidity risk

**Problematic search:** Algerian commercial banks like all the banks are vulnerable to liquidity risk, and in this context, our research aims to discuss the most important methods and strategies used by commercial banks to measure and analyze liquidity risk, so the fundamental question that we seek to materialize is:

**What is the degree of vulnerability of commercial banks active in Algeria for liquidity risks? And how those risks can be measured?**

From the main question we can ask the following subsidiary questions:

- ✓ What does mean a liquidity risk?
- ✓ Does the Algerian banks exposed to liquidity risk?
- ✓ How does Algerian commercial banks measure and manage the liquidity risk?

**Research hypotheses:** in order to answer the research question we suggest the following hypotheses:

- ✓ The active commercial banks in Algeria are exposed to liquidity risk.
- ✓ The bank must define liquidity risks resulting from the lack of balance between the entitlement of assets and the entitlement of liabilities, in order to manage them.

**The importance of research:** The banking sector president and important in any economy where banks play an important role in activating the job of saving and investment, which makes them vulnerable and most notably liquidity risk, which is the central asset in the safety management of the banking system as a whole and partial and total system alike, which calls for the need to alert those banks to these risks through the availability of adequate information that can measure, analyze and supervisor and control of liquidity risk due to the lack of research that dealt with the subject relatively speaking, is the importance of research to find out the hedging tactics against liquidity risk in commercial banks and to reduce them, and help students on the educational achievement of good and utilize more and expand the circle of ideas and knowledge own on the subject, which serves as an added value for the students of the university allocates cash and bank economy.

**Research objectives:**

- ✓ Address the most important aspects of the commercial banks of liquidity in general, and liquidity risk in particular.
- ✓ Clarify how to handle bank administration in the treatment of liquidity risk using a range of methods and indicators to be measured.

**Find divisions:**

- ✓ To study this issue and reach the desired objectives were divided subject of stalking report into two chapters:
- ✓ The first part deals with the basic concepts of risk and liquidity risk, it has been divided into two sections, we take in the first general concepts about liquidity, and liquidity risk in particular, in the second sections we will look into the ways and liquidity risk measurement indicators.
- ✓ The second part will be the analytical study of risk, liquidity measured at BNP Paribas Algeria through three sections where treated first section About Us and second topic measuring and analysing liquidity risk at BNP Paribas and Find general conclusion that included various the results obtained it.

## I. The theoretical framework: The basics about liquidity risk

### 1- General concepts about the liquidity risk:

### 1-1- The concepts about liquidity:

It can be seen more liquidity from the angle:[1]

**The first corner:** A look at the liquidity in the short term, while called a long-term
ability to pay, and can be liquidity defined in this context as: short-term facility commitments (purchase of raw materials or goods and the payment of periodic Operating Expenses Other current obligations such as payment outstanding loans over the next year or during the normal operating cycle or liabilities resulting from trading operations).

**The second corner**: the turnover factor: liquidity is intended that provide the cash necessary for the management of working capital (traded assets and liabilities) has lead to a lack of large idle cash surplus or deficit in the necessary cash to pay off current liabilities.

**The third corner**: Overview: know where liquidity as: the flow of cash movement (for the activities of operating, investing and financing) in the short term (usually less than one year) without unusual pressure and in a balanced manner with other profitability growth and sustainability goals.

From the previous definitions we can say that the liquidity in the banking means the bank's ability to meet its obligations of the ability to cope with withdrawal requests depositors and credit requests for an interview. It also means the extent of the bank's ability to meet its obligations on time, especially those related to customer deposits, and is considered essential this is to preserve the reputation of the bank and to ensure its continuity; there are three main ways of the Bank to maintain a certain level of liquidity:[2]

- ✓ Retain sufficient assets convertible into cash without loss.

- ✓ Bridge the gap between the sources of funds and employment in a particular group of the bank's activities.

**1-2- The concept of liquidity risk**

a) means the inability to get money as you need it or they arise when the bank is facing the problem of lack of enough cash to cope with short-term liabilities include deposits, withdrawals and the demand for loans and advances, Accordingly, the liquidity risk show us the relationship between the liquidity requirements of the bank to meet the withdrawals of depositors and seize the appropriate opportunity for the granting of loans and other credit facilities, compared to the actual source.

b) Liquidity risk arises from the inability of the bank to reduce its obligations or to finance an increase in assets, which leads to a negative impact on profitability, especially when the difficulty of converting assets into cash quickly and without loss of faces problems in critical situations.[3]

c) Liquidity risk is the risk that can be exposed to the bank because of an unexpected influx of deposits of its clients abroad because of the abrupt change in the behaviour of depositors and such a situation can be imposed on the bank's activity is phenomenal in a short-term financing to refinance the gap resulting from the lack of liquidity on the money market at high prices.[4]

d) And you know as well as risks that the bank cannot be facing at the moment are given for the obligations of installed assets.

When it is not the institution's liquidity appropriate cannot also obtain the capital (financial resources) enough at an acceptable price, and a heaping either increase its opponents or shifts of assets quickly and this is what affects the profitability, and these risks can lead, if they occur to the bankruptcy of the bank as a result of the movement panic depositors who raining to the windows to withdraw their deposits.

**2-methods and liquidity risks measurement indicators:**

As commercial banks face numerous risks including liquidity risk are naturally dependent on specific methods to develop solutions and strategies to minimize these risks.

Among the most important methods, we find methods and indicators that enable them to measure liquidity risk.

**2-1- Methods and liquidity risks measurement.**

There are three methods to measurement liquidity risks:[5]

**2-1-1- Method of successive difference:**

Through the difference between assets and liabilities for each stage of the stages expense accrual.

**2-1-2 accumulated differences method:**

Where is assemble each stage of entitlement to take that next step.

**2-1-3 method of assets and liabilities weighted (indicators of liquidity risks):**

This method based on the weighted assets and liabilities for each stage of each stage of accrual stages of the average of the years for each stage.

And we account the indicators of liquidity risks by:

**-The indicators of liquidity risks = the total weighted liabilities/the total weighted assets.**

**-** If this ratio is greater than 1, it means that the bank doesn’t transfer entitlement, that the entitlement of resources is greater than the entitlement of uses so there are big risks.

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- There is no risks if the ratio is smaller than 1, it means that the commercial banks does transfer entitlement, that the uses is greater than the entitlement of resources.

- **Weighting factor:** depending on the division of the budget followed the weighting coefficient is calculated in the following way.

-Less than a year= 1year/2=0.5

-From a year to five years= (1year+5 years)/2=3

-More from five years= (5years+ 10 years)/2=7.5

**2-2-Indicators measure the risks of liquidity**

Liquidity risks measurement indicators that rely on financial statements of the annual reports of the banks are:[6]

**2-2-1-The risks of liquidity= monetary and the and bank balances/ total assets**

Recalling this index rise to lower liquidity risks as it reflects increased cash balances in the fund or the bank that the bank faces various obligations.

**2-2-2- The risks of liquidity= monetary and investments short term/total assets.**

Recalling this index rise to low liquidity risks as monetary and can be increased investments that the bank faces various obligations.

**2-2-3-The risks of liquidity= total loans/ total deposits**

Recalling this index rise liquidity risks as it increases the percentage of loans that cannot be filtered easily when you need monetary on another note to increase the loan to deposits ratio indicates that the bank need to meet the needs of new lending.

**2-2-4-The risks of liquidity= current assets/ total deposits**

This indicators height refers to the lower liquidity risks because it reflects the increase in current assets Bank facing other obligations.

Finally, The concept of liquidity risks analysis we determined that liquidity risks arises mainly from Bank's inability to meet shortfalls in commitments and to measure the size of these risks in the Bank is adopting several indicators help to that.

And on this basis we have by definition a variety of ways and indicators followed by the commercial banks in order to measure and liquidity risks analysis.

## II. Analytical study to liquidity risk in the BNP Paribas EL DJAZAIR Bank.

As banks face significantly many risks you could say it's always endeavour to try to minimize exposure and evaluated and managed because it contributes to the success of the banks and their development and achieve desired goals and not to manage or measured scientifically true may lead to deterioration of the bank's activity and in particular his inability to achieve the strategic objectives of the bank.

Moreover, we will try to topple the previous concepts in this chapter on BNP PARIBAS EL DJAZAIR, by knowing these Banks liquidity risk measurement, the basis of its interpretation in order to avoid them.

**Banks under consideration**

In order to give a comprehensive overview of these banks will be addressed through this topic to provide Bank Paribas Algeria (BNP PARIBAS EL DJAZAIR).

## 1- Bank Paribas Algeria (BNP PARIBAS EL DJAZAIR):

BNP PARIBAS EL DJAZAIR is a 100 percent subsidiary of BNP PARIBAS, the European leader in financial services. Born in 2002 with an ambition to build a wide network of branches in Algeria with the establishment of a subsidiary after activating a representative office for the group through BNCIA (BNA) present in 2002.

Bank Paribas Algeria became in less than nine years one of the largest banks in the private sector in Algeria, where is open about 70 branches. Thus it gradually covers the entire country, with a presence in 19 States, this strategy reflects the Bank's ambition to be a Bank of citizenship for economic development in Algeria, with the support of Paribas Algeria group has developed a wide range of customer services of proximity of the highest quality to all its customers : Individuals, professionals and businesses, therefore it provides the means to enhance its role as a reliable reference also an innovative and responsive to their customers .[7]

## 2- Measurement of liquidity risks in PARIBAS bank (BNP PARIBAS EL DJAZAIR):

In this topic will measure and analyse the risks of liquidity in BNP PARIBAS EL DJAZAIR bank, by following the steps that mentioned on the first topic by relying on the financial budgets to the bank.

In order to measurement the risks of liquidity in the bank by following the step of differential method and assets/weighted liabilities, so the budget items must be divided in accordance with the accrual periods.

### 2-1-Measurement and analyses the risks of liquidity to the bank by way of successive difference and accumulated differences, and assets/weighted liabilities year 2012

#### 2-1-1-measurement the risks of liquidity to the bank by way of successive difference, accumulated differences:

The following table shows a summary of the necessary steps for calculating successive difference and accumulated for BNP PARIBAS EL DJAZAIR year 2012.

**Table (1): liquidity risks measurement results in way successive differences, accumulated differences of BNP PARIBAS EL DJAZAIR bank year 2012**

| Period | Assets | Liabilities | Successive Differences | Accumulated Differences |
|---|---|---|---|---|
| **Less than one year** | 174638334.7 | 116183104 | 58455230.7 | 58455230.7 |
| **From one year to five years** | 19579248.24 | 45150903.5 | -25571655026 | 32883576.44 |
| **More than five years** | 12947123.11 | 45830699.55 | -32883576.44 | 0 |
| **Total (billion DA)** | 207164708 | 207164708 | - | - |

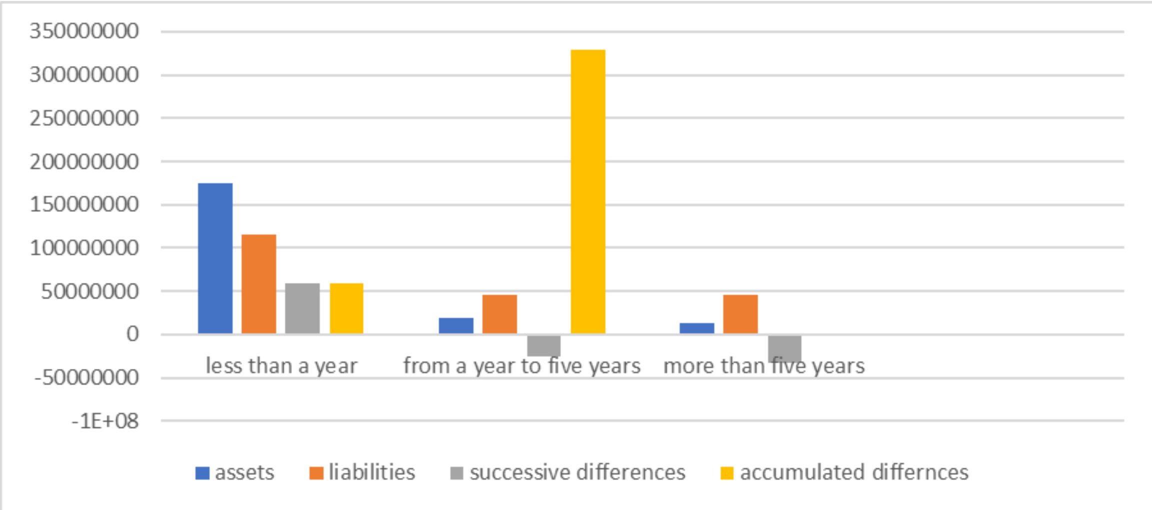
**Source:** prepared by researcher based on the Bank’s budget for 2012, see appendix number 2-1.

Through the previous table and based on successive differences method, we note that BNP PARIBAS EL DJAZAIR bank in the period less than a year Liquidity risk does not be as much as the difference between assets and liabilities: 58455230.7 billion DA from less than a year, as a result the Bank provides stable financial resources allowed to perform its activities in an envelope marked by poor liquidity risk in the sense that the bank owns her eligibility assets less than grave culpability of liabilities.

But on the period from one year to five years and the period more than five years as much as the difference between assets and liabilities: -25571655.26 billion DA and -32883576.44 billion DA respectively, And therefore, we note that there is a risk of liquidity at the bank resulting from the bank's inability to cover his opponents owed by available assets and unrealized.

But by using accumulated differences, we note that BNP PARIBAS EL DJAZAIR bank can cover their resources used available assets of less than one year to period more than five years, so he does not assume the risk of liquidity.

**Fig. (01): Graphical representation results of measuring liquidity risk in a way of successive differences, accumulated differences of BNP PARIBAS EL DJAZAIR bank for 2012**




Based on the method of successive differences, it can be extracted in the period less than one year the grave culpability of assets of BNP PARIBAS EL DJAZAIR less than the grave culpability of liabilities, meaning it doesn't convert the entitlement and therefore doesn't assume liquidity risk, either from one year to five years or more than five years the bank bears liquidity risk as a result of conversion of entitlement

Either way the accumulated differences the bank does not convert entitlement therefore, does not assume liquidity risks.

**2-1-2- measurement risk of liquidity to bank by assets/weight liabilities for 2012**

The next table illustrates the measuring of liquidity risk by way assets/liabilities weight:

**Table (02): liquidity risk measurement results in a way of weighted assets/liabilities in Algeria BNP for 2012**

| Period | Assets | liabilities | Weighting factor | Weight assets | Weight Liabilities |
|---|---|---|---|---|---|
| **Less than one year** | 174638334.7 | 116183104 | 0.5 | 87319167.35 | 58091552 |
| **From one year to five years** | 19579248.24 | 45150903.5 | 3 | 58737744.72 | 135452710.5 |
| **More than five years** | 12947123.11 | 45830699.55 | 7.5 | 97103423.325 | 343730246.625 |
| **Total (billion DA)** | **207164708** | **207164708** | | **243160335.395** | **537274509.125** |

**Source:** prepared by research based on the Bank's budget for 2012, see appendix number 2-1.

**Liquidity risks index= total of weight liabilities/total of weight assets.**

1<2.20=243160335.395/537274509.125=

We interpret this indicator: the bank does not convert the entitlement, meaning it gives short-term loans through long-term resources, and this explains the lack of liquidity risk at the bank.

**2-2-measurement and analyses risks of liquidity to bank in a way successive of differences, accumulated differences, assets/liabilities weight for 2013**

**2-2-1-measurement of liquidity risks to the bank in a way successive differences, accumulated differences:**

Liquidity risk measurement results can be illustrated in a way of successive differences, collected differences in 2013, as shown in the next table:

**Table (03): liquidity risk measurement results in a way of successive differences and accumulated in Algeria BNP for 2013**

| Period | Assets | Liabilities | Successive differences | Accumulated Differences |
|---|---|---|---|---|
| **Less than one year** | 190171596 | 126004297 | 64167299 | 64167299 |
| **From one year to five years** | 26410336.6 | 55612677.1 | -29202340.5 | 34964956.5 |
| **More than five years** | 17286864.6 | 52251821.1 | -34964956.5 | 0 |
| **Total (billion DA)** | **233868797** | **233868797** | **-** | - |

**Source**: prepared by research based on the Bank's budget for 2013, see appendix number 2-2.

It is clear from the results of the table 03 and based on successive differences method that BNP PARIBAS EL DJAZAIR bank in the period less than a year, liquidity risk did not bear as much as the difference between assets and liabilities: 64167299 billion DA from less than a year, as a result the Bank provides stable financial resources allowed to perform its activities in an envelope marked by weakness liquidity risk in the sense that the bank owns her eligibility assets less than grave culpability of liabilities.

And with respect to the period from a year to five years and the period more than five years as much as the difference between assets and liabilities : -29202340.5 billion DA and -34964956.5 billion DA respectively, and note that the bank's liquidity risk is caused by the inability of the bank to cover outstanding liabilities through assets available and achieved.

Either using the accumulated differences, we note that BNP bank that can cover their entitlement resources through its assets available in the period less than a year to more than five years, so it does not bear the liquidity of risk.

Successive differences method and which can extract that from less than a year the entitlement of assets at the BNP bank is less than any entitlement of liabilities which does not convert the entitlement and there for does not assume liquidity risk, but at the period from a year to five years or more than five years the bank bears liquidity risk as a result of conversion of entitlement.

In addition, as for how accumulated differences bank does not convert the entitlement, so it does not bear the liquidity of risk.

**2-2-2-liquidity risks measurement to the bank in a way assets/weight liability for 2013**

The following table is a summary of the steps for measuring liquidity risk in way assets/weight liabilities:

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**Table (04): liquidity risk measurement results in a way of assets/weight liabilities in Algeria BNP for 2013**

| Period | Assets | liabilities | Weighting factor | Weight assets | Weight Liabilities |
|---|---|---|---|---|---|
| **Less than a year** | 190171596 | 126004297 | 0.5 | 95085798 | 63002148.5 |
| **From a year to five years** | 26410336.6 | 55612677.1 | 3 | 79231009.8 | 166838031.3 |
| **More than five years** | 17286864.6 | 52251821.1 | 7.5 | 129651484.5 | 391888658.25 |
| **Total (billion DA)** | **233868797** | **233868797** | **-** | **303968292.3** | **621728838.05** |

**Source:** prepared by research based on the Bank's budget for 2013, see appendix number 2-2.

**Liquidity risks index= total of weight liabilities/total of weight assets.**

= 621728838.05/303968292.3=2.04>1

This indicator can be interpreted in the way that the bank did not convert any entitlement granted short term loans through long-term resource and that explains the lack of bank liquidity risks.

**2-3- measurement and analyses risks of liquidity to bank in a way successive of differences, accumulated differences, assets/liabilities weight for 2014**

**2-3-1-measurement of liquidity risks to the bank in a way successive differences, accumulated differences:**

The following table shows, the successive differences and accumulated differences account steps to BNP EL DJAZAIR bank for 2014.

**Table (05): liquidity risk measurement results in a way of successive differences and accumulated differences in Algeria Paribas bank for 2014**

| **Period** | Assets | Liabilities | Successive Differences | Accumulated Differences |
|---|---|---|---|---|
| Less than a year | 206473278 | 140327234 | 66146044 | 66146044 |
| From a year to five years | 27670381.2 | 58748384.9 | -31078002.8 | 35068041.2 |
| More than five years | 20141724.1 | 55209765.3 | -35068041.2 | 0 |
| Total (billion DA) | **25428538** | **254285383** | - | - |

**Source:** prepared by research based on the Bank's budget for 2014, see appendix number 2-3.

According the previous table and based on successive differences method, we note that BNP PARIBAS EL DJAZAIR bank in the period less than a year Liquidity risk did not bear as much as the difference between assets and liabilities: 66146044 billion DA from less than a year, as a result the Bank provides stable financial resources allowed to perform its activities in an envelope marked by poor liquidity risk in the sense that the bank owns her eligibility assets less than grave culpability of liabilities.

But on the period from one year to five years and the period more than five years as much as the difference between assets and liabilities: -31078002.8 billion DA and -35068041.2 billion DA respectively, And therefore, we note that there is a risk of liquidity at the bank resulting from the bank's inability to cover his opponents owed by available assets and unrealized.

But by using accumulated differences, we note that BNP PARIBAS EL DJAZAIR bank can cover their entitlement resources used available assets of less than one year, so he does not assume the risk of liquidity.

Using the method of successive differences and which can extract that from less than a year the entitlement of assets to BNP PARIBAS EL DJAZAIR less than entitlement liabilities it does not convert the entitlement therefore, does not assume liquidity risk, but at the period from a year to five years or more than five years the bank bear the risks of liquidity as results of converting entitlement.

However, by using the accumulated differences bank does not convert the entitlement so it does not assume the risk of liquidity.

**2-3-2-liquidity risks measurement to the bank in a way assets/weighted liabilities for 2014**

Liquidity risks measurement can be illustrated in a way tof assets/weighted liabilities for 2014, in the following table:

**Table (06): liquidity risk measurement results in a way of assets /weighted liabilities in Algeria Paribas bank for 2014**

| Period | Assets | Liabilities | Weighting factor | Weight Assets | Weight Liabilities |
|---|---|---|---|---|---|
| **Less than a year** | 206473278 | 140327234 | 0.5 | 103236639 | 70163617 |
| **From a year to five years** | 27670381.2 | 5874834.9 | 3 | 83011143.6 | 176245154.7 |
| **More than five year** | 20141724.1 | 55209765.3 | 7.5 | 151062930.75 | 414073239.75 |
| **Total (billion DA)** | **254285383** | **254285383** | **-** | **337310713.3** | **6604482011.45** |

**Source**: prepared by research based on the Bank's budget for 2014, see appendix number 2-3.

**Liquidity risks index= total of weight liabilities/total of weight assets.**

=337310713.35/660482011.45=1.95>1

This indicator can be interpreted that the bank did not convert any entitlement granted short term loans through long-term resource and that explains the lack of bank liquidity risks.

**2-4- liquidity risks analysis based on indicators during the period (2012-2014)**

In addition to the previous liquidity risks measurement methods other indicators permit it and most important ones that we will highlight on the next table:

**Table (07): liquidity risks analysis to BNP PARIBAS EL DJAZAIR during the period (2012-2014)**

| Liquidity risks index | 2012 | 2013 | 2014 |
|---|---|---|---|
| **Ratio of cash and balances with banks** | 53947763 | 39577274 | 36987480 |
| **Total assets** | 207164708 | 233868797 | 254285383 |
| **Ratio of cash and balances with banks/total assets** | 26% | 16.9% | 14.5% |
| **Total loans** | 81580201 | 110043069 | 115293255 |
| **Total deposits** | 154654487 | 188452271 | 201370801 |
| **Total loans /total deposits** | 52.7% | 58.3% | 57.2% |

**Source:** prepared by research based on the Bank's budget for 2012-2014

So the results of risks liquidity analysis for the BNP PARIBAS EL DJAZAIR depend to the following indicators:

**2-4-1-Ratio of cash and balances with banks/total assets:**

It shows through the table that this percentage has been decreasing and this is due to a decline in the proportion of cash and bank balances, compared to assets, this situation led to high liquidity risks faced by BNP PARIBAS EL DJAZAIR.

**2-4-2-Total loans /total deposits:**

it shows through the table of liquidity risks analysis that the ratio increased from year 2012 to 2013 due to the decline for 2014 in the rate of 57%, and this implies reduced liquidity risks in bank loan can easily filter any other formula does not need sources of cash to meet the needs of new lending because the bank grants loans less than deposits obtained and thus lower the liquidity risk.

**Conclusion:**

Taken in this practical part and applying differential method the assets method and assets/liabilities weigh, and a set of indicators notably Ratio of cash and balances with banks, Total assets, loan rate/deposits, and based on the results obtained after following these paths we conclude that commercial banks active in Algeria (BNP PARIBAS EL DJAZAIR) are exposed to liquidity risks with little to an excess in liquidity, and this is evident in the budget of the banks under consideration, so every year there is a rise in the proportion of cash and balances with banks and lack of investment in Algeria is considered an important cause and effect on the economy and the banking system particularly.

After a counting for the various aspects of the touched report, it became clear to us that commercial banks use a range of financial instruments in order to exploit their resources and invested. met materials and sell assets short and liabilities or long-term fixed rate or variable rate, as a result of these operations, they bear the risk, including liquidity resulting risk mainly about the role of commercial Bank in converting to entitlement, meaning inability to meet Belt tragic situations of customer orientation.

1. **Research Results**: After what has been addressed in the theoretical and practical side of the report reached a set of results, we mention the most important:

- ✓ The lack of efficiency in the use of resources and management of banks - the lack of effective control and trade to avoid falling into the liquidity risk through coordination between the maturities of loans and deposits maturity.
- ✓ The process of converting accrual is based on activity of commercial banks, a source of profit for the bank - Because The difference in liquidity between assets and liabilities Commercial Bank achieved a profit equal to the difference between the cost of liability side-lines and return assets, this margin is the return on liquidity borne by the commercial bank's traders risk.
- ✓ Banks can be considered active in Algeria inadequately shape that makes them susceptible to risks.
- ✓ Commercial banks active in Algeria has excess liquidity makes not endangered liquidity risk that banks under consideration note the rise in cash and bank balances from year to year.
- ✓ It can be said that by using the method of successive differences we found that commercial banks replace of households - are vulnerable to the risk of liquidity in the long term unlike the short term, which do not bear population in which the risk of liquidity, while using the differences do not be collected before the risk of diversion of liquidity.

2. **Research suggestions:** obtained from the internship report, which we've done through the results summarized group of which economic suggestions, including:

- ✓ Create internal evaluation system to manage risk of liquidity, and information systems and ask to enable analytical - Bank management of liquidity risk measurement we well, as can be early detection of any risks.
- ✓ Strategy and the need to train the staff of banks and rehabilitate them so that they're able to implement effective liquidity plans.
- ✓ The Algerian commercial banks liquidity surplus exploitation investments to promote national economy, with the adoption of effective strategies for managing liquidity risk.

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