مجلة البحوث المالية والاقتصادية
مجلة علمية الكترونية محكمة متخصصة في المجالات المحاسبية والمالية والإدارية والاقتصادية تصدر عن قسم المحاسبة بكلية الاقتصاد بجامعة بنغازي

Banking Liquidity Crisis: Libyan Economy Case, Roots, and Causes (2008-2015)

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Abstract:

The main objective of this paper was to trace the roots of the beginning of the liquidity crisis in the Libyan economy and to try to identify the causes that led to its emergence and its exacerbation. This led to deterioration in the value of the local currency and an increase in the general level of prices. The descriptive statistical method was used in the analysis process, by using the statistical data issued by the Central Bank of Libya (CBL), and the Organization of Arab Petroleum Exporting Countries (OAPEC), for the period from (2008 to 2015). The paper concluded that the roots of the crisis appeared in mid-March (2011), then developed with the exacerbation of the political crisis. The most important reasons that led to that crisis were the following: technical reasons, and financial reasons. Finally, the political and security reasons, all of these reasons, supported the roots of the crisis until it worsened, and became in its current form, and this led to the entry of the economy into a state of monetary panic, and individuals withdrew their bank savings as a result of the loss of confidence in the state apparatus, especially the banking sector.

Keywords: Liquidity risk, Banking liquidity, Credit risk.

Cite This Article: Mohamed I. Ali, 2021, Banking Liquidity Crisis: Libyan Economy Case, Roots, and Causes (2008-2015), Journal of Financial and Economic Research, Accounting Department, University of Benghazi, Vol 6, p45-61.

أزمة السيولة المصرفية في الاقتصاد الليبي: (الاسباب و الجذور للفترة من 2008 – 2015)

الملخص:

كان الهدف الاساسي لهذه الورقة هو تتبع جذور بدء أزمة السيولة في الاقتصاد الليبي، ومحاولة التعرف على الأسباب التي أدت إلى ظهورها و تفاقمها. الأمر الذي أدى تدهور في قيمة العملة المحلية وارتفاع المستوى العام للأسعار. تم استخدام أسلوب الإحصاء الوصفي في عملية التحليل، عن طريق استخدام البيانات الإحصائية الصادرة عن مصرف ليبيا المركزي (CBL) ومنظمة الدول العربية المصدرة للبترول (OAPEC)، للفترة من (2008 إلى 2015)، وتم اختيار هذه الفترة خصوصاً، لكونها شهدت احداث سياسية واقتصادية مهمة. وخلصت الورقة، بأن جذور الأزمة ظهرت في منتصف مارس (2011)، ثم تطورت مع تفاقم الأزمة السياسية. وكانت أهم الأسباب التي أدت إلى تلك الأزمة ما يلي: أسباب فنية، و أسباب المالية وأخيراً، الأسباب السياسية والأمنية. كل هذه الأسباب دعمت جذور الأزمة حتى تفاقمت وأصبحت بشكلها الحالي، وأدى ذلك إلى دخول الاقتصاد في حالة من الذعر النقدي، وسحب الأفراد مدخراتهم المصرفية نتيجة لفقدان الثقة في اجهزة الدولة، و خاصة القطاع المصرفي.

الكلمات المفتاحية: مخاطر السيولة – السيولة المصرفية – مخاطر الائتمان.

اقتبس هذه المقالة:

محمد علي (2021)، أزمة السيولة في الاقتصاد الليبي: (الاسباب و الجذور للفترة من 2008 – 2015)، مجلة البحوث المالية والاقتصادية، مقالة رقم 3، الاصدار السادس ، جامعة بنغازي، قسم المحاسبة، ص 45-61.

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1) Introduction.

The liquidity is one of the most common problems facing commercial banks. It is possible that a bank in its day-to-day business, may lose a number of its customers due to the significant decrease in the amount of liquidity it has. Moreover, his inability to fulfill their requests on time.

So, the bank should be ready to be able to withdraw some depositors from their deposits at any time. This requires the bank to respond to these withdrawals promptly without delay. Sometimes, the bank may hold too much liquidity, and this leads to the misuse of available resources, thus losing good investment opportunities.

On the other hand, the issue of banking liquidity is the concern of the bank's management, and for this reason, the administration is trying not to face a liquidity crisis. Therefore, this paper has gained importance, especially this problem of interest to economic institutions in Libya. Because it has affected the daily lives

2) Importance of the paper.

The importance of banking liquidity lies in the necessity of constant readiness of commercial banks for the possibility. That some depositors may withdraw their deposits at any time, which calls for banks to respond to those withdrawals, with appropriate speed without delay by providing liquidity, without negatively affecting the aspects of their activities.

It is evident from this ,that the issue of liquidity is mainly related to the ability of commercial banks, to control their budget lines, and therefore, any problem with liquidity will undoubtedly lose the ability of individuals to meet their basic needs, which casts a shadow on the confidence of individuals in banks and the specter of their closure becomes possible as this crisis continues.

Therefore, the importance of this study lies in the fact that it deals with an important topic and talk of the street and economic circles in Libya.

3) Hypothesis.

The paper assumes that the problem of banking liquidity is mainly due to the unwillingness of individuals to keep their deposits in banks for several reasons, including security and economic instability.

4) Methodology.

This paper is considered an exploratory study, which depends on descriptive statistics by analyzing statistical data, to diagnose the root causes of the problem and know its causes.

5) Time period.

The paper will cover the time period from 2009-2015. This period was chosen for several reasons, one of which is to give the reader an idea of when the crisis began. As for the other, despite the importance of the post-2015 period, this period did not witness a split in the management of the Central Bank, and there were unlisted data regarding the Central Bank in the Eastern Region.

6) Data Source.

This paper used the data published by the (CBL), and the monthly reports of the Organization of Arab Petroleum Exporting Countries (OAPEC).

7) Literature Review.

- (Calomiris, et al., 2015, p. 6) , By developing their theory of bank liquidity, they see a major role for cash reserves to play in optimal banking arrangements. Cash reserves reduce banks' exposure to the liquidity risk that arises from giving depositors the option to withdraw their money. They also see that liquidity risk is divided into two types: external (linked to the withdrawal behavior by depositors as a result of their beliefs about the bank's conditions), and internal (which reflects withdrawals as a result of the bank's deterioration).

  The role of cash in mitigating exogenous liquidity risk is straightforward: holding cash sufficient to cover exogenous unpredictable needs of depositors, makes it possible to avoid destabilizing bank failures, or high liquidation costs of loan portfolios that would occur in the absence of cash.

- (Tirole, 2008)in his study, he sees the Liquidity shortages arise when financial institutions, and industrial companies scramble for, and cannot find the cash they require to meet their most urgent needs, or undertake their most valuable projects. Liquidity problems are compounded when some actors do have excess liquidity, but are unwilling to lend it at the maturities desired by prospective borrowers.
- (Bervas,, 2006, pp. 65,66) . He believes that the evaluation of the degree of liquidity in the traditional market, is done on the basis of three basic criteria:

The low difference between supply and demand, which is a direct measure of transaction costs (excluding other operational costs), and two other criteria indicating the market's ability to absorb large volumes without effects. Inverse to prices: The depth of the market, which corresponds to the volume of transactions that can be executed immediately without slippage of the best-specified prices, and the flexibility of the market, that is, the speed at which prices return to their equilibrium level after a random shock in the flow of transactions.

7-1) The Concept of Banking Liquidity:

Banking liquidity is defined, as the ability of a bank to meet its financial obligations, which depend on providing customers with requests to withdraw their savings, as well as borrowers 'requests to meet loan needs. (Jamie, Philip, Hassan, & Cornett, 2011), from this definition, liquidity is affected by two variables: The first is the availability of liquid assets. The second variable is the daily deposit withdrawal amount.

These two variables, make the liquidity in commercial banks a sensitive, and serious issue. Thus, the lack of liquidity in the bank may have serious consequences for the national economy as a whole. One of the main problems facing banks is the amount of liquidity, that the banking system has to hold. Because, when the liquidity exceeds its limitation, the bank loses some of the profits. that would have been made if it had invested.

This is completely different in industrial firms. Where companies can provide liquidity by developing a plan for expected cash flows, and linking them to expected cash flows. Therefore, no obligation can be paid.

On the other hand, there shouldn't be a lot of liquidity. (Emre, 2011), but in commercial banks, current deposits are mostly demand deposits, which means that their demand has no specific time. That means the bank cannot hesitate not to respond to customer demand. Therefore, management in commercial banks must maintain a sufficient amount of liquid assets to meet customer demands.

7-2) The Components of Bank Liquidity:

The components of banking liquidity can be divided into two main parts is:

7-2-1): Initial Reserves:

It is the monetary assets that a commercial bank owns without obtaining a return from it, so it is highly liquid, and does not involve any risk. (Adrian, Huion, 2009, p. 602). These reserves consist of four components:

• Local and Foreign Currency in the Fund:

It includes the sum of banknotes in local. and foreign currency and commercial banks seek to reduce them to a minimum. so that they can fulfill their banking obligations towards others. The reason for that is that this balance does not generate any returns. (Nasser, Yadohhah, & Mohamed, 2003).

• Demand Deposits in the Central Bank:

Modern legislation establishes an obligation for commercial banks to keep a percentage of their funds in the form of cash with the central bank which is known as the statutory reserve ratio.

The central bank does not pay any interest on the statutory reserve ratio deposited by the commercial bank with it.

But, if commercial banks have additional deposits such as certificates of deposit, for example, the central bank pays interest on this surplus deposited with it (Lasse, 2008, p. 14).

- **Deposits in the Other Local Banks.**

These funds deposited by the commercial bank with other local banks, the purpose of which is the process of settling checks between banks, and the size of these deposits increases. Whenever, depositing banks have difficulty operating cash with them or, increase their banking relationships with correspondent banks inside and outside the country.

- **Checks under Collection:**

It includes checks deposited in other banks whose value has not yet been received. And deposits with foreign banks abroad.

Commercial banks may maintain cash balances with correspondents outside the state, in no more than a certain percentage determined by the nature of the monetary and economic policy in that country, out of the total values of current documentary credits, and other obligations (Hempel, et al., 1994, p. 51)

7-2-2) Secondary Reserves:

They are liquid assets that generate revenue through their investment, such as securities, discounted commercial paper, and government bonds. It can be converted into cash when needed.

These reserves achieve liquidity, including that they contribute to support the initial reserves , and to absorb what exceeds the initial reserves of the bank's requirements, as well as contribute to achieving a percentage of banks Profits.

7-3) Factors effect on Banking Liquidity:

Banking liquidity depends on several factors affecting it. The most important of these influencing factors are the following:

7-3-1) Deposits and Withdrawals:

Withdrawals from deposits, Although lead to a decrease in cash in the fund, as well as the reserves of the commercial bank in the central bank. the deposits will improve the liquidity of commercial banks.

7-3-2): Clearing Operations between Banks:

If the commercial bank's current account balance with the central bank is added, as a result of reconciling its accounts with other commercial banks, its liquidity will increase. In this case, new cash resources are added to the cash reserves held by the central bank.

This will increase his cash balances. Thus, a bank achieving a credit balance with other banks will see an improvement in liquidity and vice versa

.7-3-3) – The Central bank policy towards banks:

There are three tools by which a central bank can influence the availability of liquidity in the financial system, and it can influence the liquidity of banks. These tools are open market lending or borrowing, required reserve ratio, and discount rate.

When the central bank wants to adopt a policy of reducing the currency supply, it will work to reduce the size of cash balances available to commercial banks, which reduces its ability to grant loans.

This is done either: by increasing the legal cash reserves ratio, entering the open market as a buyer of bonds, or raising the discount rate. And vice versa in the case of an increase in the supply of currency.

7-4) Banking Liquidity Risk.

Liquidity risk arises when the bank does not have sufficient liquidity to meet its liabilities. This occurs when the bank is unable to provide liquidity to meet the various demands, whether it is investment or lending operations.

This happened when there is no agreement between the maturity date of the loans granted, and the date of the deposits with the bank (Arif,, 2012, p. 186) Liquidity risk arises from:

1. Investing money in extremely low liquid assets, such as: buying long-term securities, buying real estate, buying securities, and providing long-term loans.

2. Depositors withdraw their deposits at a great value.

3. The bankruptcy of a borrower, or group of borrowers.

4. Granting loans with large sums, and without adequate guarantees.

5. The bank's inability to attract new deposits from customers.

6 The bank's weakness in managing assets, and liabilities

7-4-1) Types of Bank's Liquidity Risk:

We can categorize banking risks into financial, and non-financial risks, as follows:

7-4-2) . Financial Risk:

Financial risks include the following:

- **Credit Risk:**

This type occurs as a result of the bank granting customers loans, that are repayable at a specific time, and the customer fails to fulfill the payment obligation, and is called non-performing loans.

- **Market Risk:**

Market risk, is the risk of loss in financial position, due to changes in one or all of the major market risk factors, market prices, interest rates, exchange rates, or property values.

- **Liquidity Risk:**

This type occurs as a result of sudden withdrawals by customers as a result of the prevailing economic conditions, and the bank must take the necessary measures for such withdrawals, either by keeping reserves in the form of liquid money in its vaults, or by requesting deposits in the central bank. (Douglas, 2005, p. 625).

7-4-3). Non-Financial Risks:

This type of risk arises from:

- **Operating Risks:**

This type of risk arises, when the bank engages in different activities, resulting in various types of errors, including human errors, which are due to inefficiency and training in working methods, including technology resulting from computer failures or communication devices.

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• **Legal Risks:**

Legal risks arise as a result of the bank’s failure to obtain adequate guarantees from the customer, or as a result of some improper administrative procedures, or the lack of clarity of the existing financial contracts between the bank and the customer.

8)- The Analytical Framework:

In this part, some special indicators will be analyzed the data of (CBL), for determine the roots and causes of the crisis faced by the banking sector, as well as the citizen from a lack of liquidity.

8-1) The Roots of the Crisis:

The statistical data issued by the (CBL) indicate that the roots of the crisis began in (2011) as a result of the political and security instability that occurred in Libya during the events of February 17th.

These events translated into a state of security chao, and political instability in the country, which caused a citizen's lack of confidence in state institutions, as a result of the state of division that later prevailed.

This translated into a monetary panic, which led them to withdraw their bank savings in March (2011). (CBL) has recycled some old Paper currency. (CBL Resolution no 1 of 2011)

By analyzing the data of Table No. (1), we note that the volume of currency in circulation outside the banking sector during the year (2011) increased by (7231) billion dinars for the year (2010). A growth rate of about (95%).

Table (1)
Money supply, Velocity of money, and currency in circulation (2008-2015)

year	M1	Velocity of the money	Currency in banks	Currency outside banks
2008	34414.6	2.23	374.4	5608.3
2009	38169.4	1.95	512.2	6962.9
2010	41321.2	1.84	847.1	7609.1
2011	53437.1	0.51	864.6	14840.1
2012	59213.7	0.95	1429	13391.1
2013	64299.4	0.61	1622.6	13419.9
2014	66732.7	0.31	1625.1	17174.9
2015	76783.1	****	743.6	23007.3

Source: (CBL) bulletins, various numbers.

By currency data outside banks during the year (2011), we will find that the increase occurred between February, and March, as the currency outside the banking sector rose from (9607) billion dinars, in January (2011), to reach in the end of March, of the same year by (11317) billion dinars. A growth rate of about (24%).

While, the currency in banks decreased from (1044.2) billion dinars, to reach at the end of March to, about (496.1) million dinars, the growth rate was negative, about (48%). see table no (2).

On the other hand, the money supply rose in the narrow sense from (41,321) billion dinars in (2010), to about (53437.1) billion dinars by the end of the year (2011). With a growth rate of about 29%, which is a disturbing indicator of the economy.

Friedman sees (in his program of monetary stability). That, the monetary authorities should be guided by a fixed rule in changing the supply Money.

He called for an automatic increase in the money supply, at a rate of (4%) annually to match the real growth rate of national income, and the ability of (3%) annually, (Milton & Schwartz, 1963, p. 676)).

Also, the velocity of money circulation decreased from (2.23) in 2008, to about (0.31) in (2014), as a result of increasing, the money supply at a rate greater than the increase in the GDP.

Table No. (2)

Currency in circulation, and the currency in banks as a monthly movement from (1/1 to 10/31/2011)

2011Year	Currency in banks	Currency outside banks
January	1,044.200	9,607.700
February	687.100	11,317.600
March	496.100	11,923.000
April	598.900	12,515.700
May	446.100	12,642.000
June	552.200	13,151.400
July	409.100	13,151.400
August	460.700	13,149.700
September	394.800	13,920.000
October	529.400	14,693.300

Source: (CBL) bulletins, various numbers.

8-2)- The Causes of the Crisis:

As the causes, that led to the banking liquidity crisis, we can attribute it to two factors, and the Figure (1) illustrates that.

8-2-1). External Factors:

The Libyan economy depends on its revenues from the oil sector, which is the main source of income, and foreign currencies. from these revenues, the government provides its needs of basic goods to citizens, operational requirements, and capital good.

Libya is one of the largest countries exposed to the outside world, by (90%) in (2010). That makes the Libyan economy vulnerable to any imbalances in other economies related to trade relations.

The Oil revenues constitute more than (80%), of the general government revenues, and they depend on them to finance the general budget, and we know that oil revenues are governed by an external factor (oil prices, and Libya's share in OPEC), and an internal factor represented in the quantities, and exports from them.

Table No. (3). shows the oil revenues, prices, and average oil prices of the (OPEC) basket during the period (2008-2015).

We find from Table No. (3) that, the growth rate of oil revenues was negative during the years (2009-2011-2014). In (2009) the reason was the decrease in the global oil price, from (94.08) dollars to (60.88) dollars.

But in (2011) the cause was the events that took place in Libya after the revolution (February 17th). As for the years (2014-2015). The reason was the low of price oil.

In addition, decrease in the exported quantity, that due to the control of some armed militias over the oil ports, which hindered the export process, and the effect of this on the volume of hard currency, which led to its unavailability.

This was reflected in the ability of commercial banks to serve their customers in covering documentary credits, and foreign transfers.

This prompted businessmen to withdraw their savings from banks, and buy foreign currencies through informal channels (the black market), in order, to complete foreign trade deals, which led to a large exit of liquidity from the banking sector.

That procedure began on a large scale in monetary transactions outside the banking sector, which led to a kind of mistrust among the public. So, it made them believe that banks were unable to provide liquidity. Either in local currency or, in foreign currency. This led to a monetary panic and prompted many to withdraw their savings from banks.

Table (3)
The Oil revenues & the average oil prices (2008-2015)

year	growth rate	Oil revenues (billion $)*	Oil prices OPEC basket annual average ($ per barre)**
2008		64417	94.08
2009	(0.45)	35237	60.88
2010	0.58	55713	77.3
2011	(0.72)	15830.1	107.4
2012	3.23	66932.3	106
2013	(0.23)	51775.7	105
2014	(0.61)	19976.6	59.5
2015	(0.47)	10597.7	33.6

Source: * (CBL) bulletins.
** Monthly reports of the Organization of Arab Petroleum Exporting Countries

8-2-2). Internal Factors:

In this case, we have two internal factors: the first one is, political and security reasons, the second is technical reasons.

I.) Political &Security Reasons.

The political conflict in Libya during the period (2011-2015), reflected individuals' confidence in the government's ability to control the security, and economic situation, especially in the near future. The conflict has evolved from political conflict to security conflict. As a result, armed gangs backed by some politicians emerged, and managed to control the entire country. It controlled all ports, oil fields, and export ports. With this turmoil, kidnappings and extortion of capital owners increased, due to the failure to guarantee the secrecy of their bank accounts. For this reason, they kept their money outside of banks.

Figure (1)

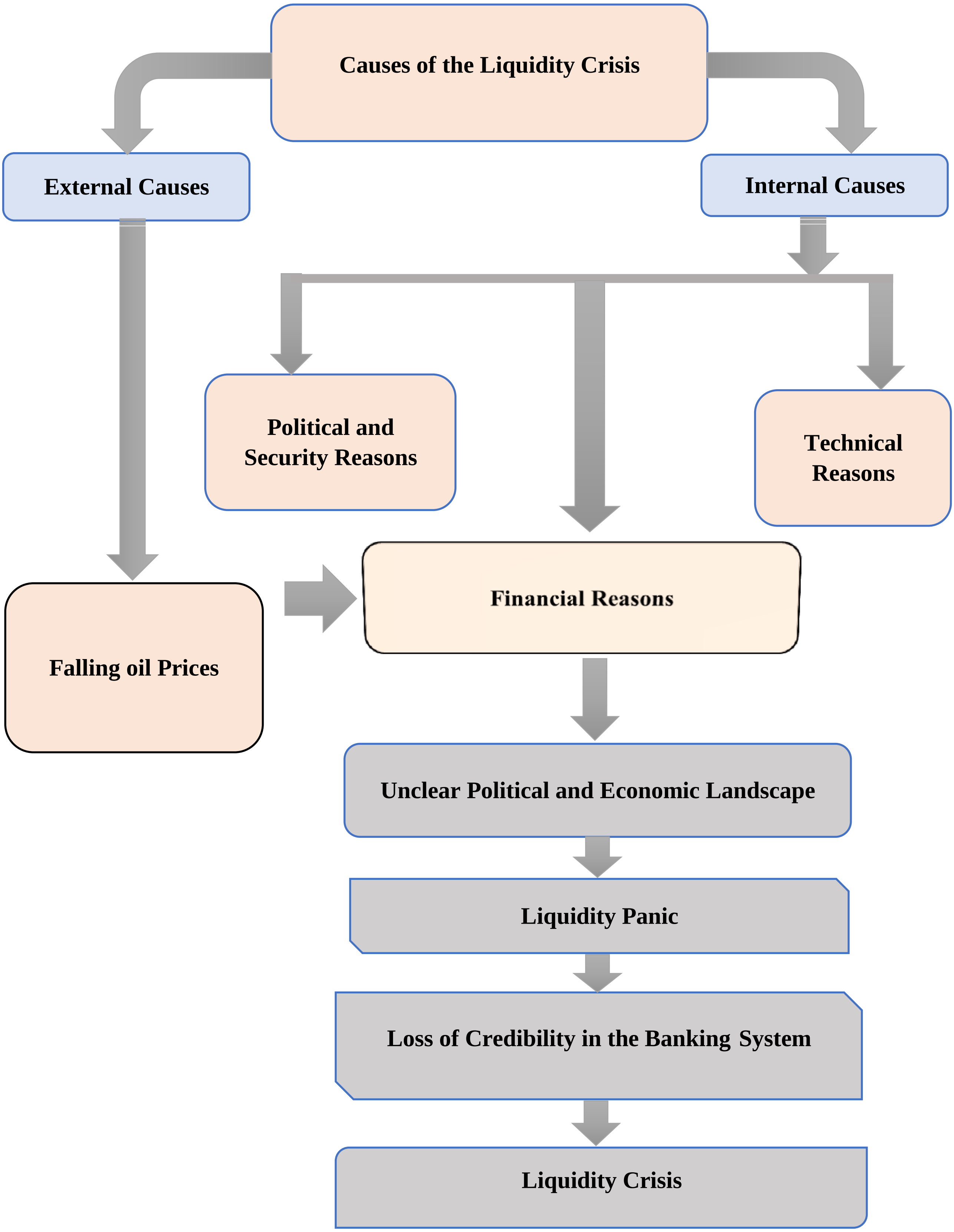

Figure prepared by the researcher

As we have explained, these differences formed a division in the state apparatus. there was two governments and two central banks.

That made the matter more complicated for the citizen. This led to a kind of panic among them, and they ended up withdrawing their money from the banks, and then the liquidity crisis began to escalate. Table No. (4) shows the size of liquid assets, the growth rate, as well as the liquidity preference factor for individuals.

Table (4)
Volume of liquid assets and liquidity preference factor

year	Liquid assets of commercial banks	growth rate	Liquidity preference coefficient
2008	36908.3	--	**--**
2009	43564.1	0.18	**0.19**
2010	48531.7	0.11	**0.18**
2011	51749.7	0.07	**0.32**
2012	58333.5	0.13	**0.24**
2013	69806.9	0.20	**0.22**
2014	63886.8	(0.08)	**0.30**
2015	54292.8	(0.15)	**0.39**

Source: (CBL) bulletins, various numbers.

The above table shows us there is , a decrease in the growth rate of liquid assets of commercial banks through years (2011-2014 -2015), respectively (7%), (8%), and (15%), during these years. (where Libya witnessed the political and security conflict)

Also, the liquidity preference factor for individuals increased during the same mentioned years, and for the same reason.

II.) Technical Reasons.

Among the internal reasons are the technical reasons related to the Central Bank of Libya's actions. So are commercial banks.

In the past period, the Central Bank of Libya took some measures that would have deepened the roots of the crisis, including the following:

1) In 2010, the Central Bank of Libya requested commercial banks not to open checking accounts except by using the Customer Identity Verification (KYC) form.

This procedure created a kind of reluctance among individuals to open bank accounts, as they believed that this was a kind of security tracking of their source of income.

This has resulted in most people keeping their money outside of banks (CBL Circular No. 5/20).

2)- The Central Bank of Libya (CBL) reissued the fourth and fifth issues of the five, and ten-dinar to circulation again shortly after the February events.

The reason is the lack of liquidity as a result of the withdrawal of most of it by citizens ((CBL) Resolution No. 1/2011).

3)- The Central Bank of Libya failed to implement some measures, such as speeding up the clearing process between banks. As a result of this failure, the willing became preferred to cash over checks.

4)- The Central Bank of Libya (CBL), and commercial banks did not improve and facilitate banking procedures, and educate citizens about the importance of discount cards in conducting daily commercial transactions, especially at points of sale.

5)- As a result of the bureaucracy in which most Libyan banks are, practicing, many individuals have paid to prefer current liquidity in the form of cash over checks, and this is reflected in the form of liquidity preference, as it reached about (39%).

6)- Many banks faced some malfunctions due to technical faults in systems, or blackouts. This caused individuals to wait for hours in front of the banks.

9): Conclusions and Recommendations:

9-1) Conclusions:

From the above analysis, we can reach some conclusions about that crisis.

1). The current liquidity crisis is basically a crisis of confidence. As depositors lost their confidence in commercial banks, then the crisis turned from mistrust to a liquidity crisis.

2). The roots of this crisis arose in (mid-March 2011). The government of the previous regime re-issued the fourth and fifth numbers with ten and five current dinars.

3). The external factors feeding this crisis include world oil prices and OPEC production quotas.

These factors were reflected in the oil revenues, then the foreign currency earnings, and the budget deficit.

4). The internal factors are divided into two parts:

The first is the political, and security factors, and it is represented in the political conflict between the different parties. That led to the outbreak of armed conflict and the emergence of some kind of security disturbance. This made the governments lose control of the country.

The Second: The technical factors represented in the (Central Bank of Libya) mismanagement of the crisis from the beginning in developing appropriate solutions.

9-2) Recommendations:

Here are some recommendations that can be taken, or some of them, to address the liquidity crisis, especially in the short term:

1). It is agreed between commercial banks, some supermarkets, telecommunications companies, gas stations and pharmacies to use (ATM) cards to pay customers' daily transactions in lieu of cash.

2). Obliging commercial banks to expedite the issuance of prepaid cards, and work to activate them in daily commercial transactions.

3). The need to prepare awareness programs for citizens about the need to deposit their money in banks, and to work on using prepaid cards instead of cash.

4). Granting tax exemptions to shops, private companies, and suppliers who accept the use of debit cards at points of sale.

5). Granting discounts to debtors who have bank loans in the event, that they repay the loan amount or a certain percentage of it, in cash.

6). The political, and security factor remains very important in building confidence among citizens. A political settlement must be reached in order for the citizen to reassure and restore confidence in the state's institutions.

7). Changing the board of directors of the Central Bank of Libya, because it is part of the problem, as it has been unable for more than five years to manage monetary policy efficiently.

8). Finally, accelerate the clearing process between banks so that the value of checks is deducted at the appropriate speed, and then confidence in transactions is restored by checks instead of using cash.

Acknowledgments

I would like to thank Professor Dan Conner, Professor at National College - Nashville, for his review of this paper, and for his important comments.

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