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Basel III, Qualitative Challenges: New Standard Ratios, Higher Capital and Higher Risk Weights

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Abstract

The historical indications of banking crises refers that any violation of this equation would lead to the signs of the emergence of a banking crisis, the international bodies and organizations in this regard, in an attempt to set a number of criteria from it would be a safety valve for banks in the performance of their lending activity. In this context, the decisions of Basel 1 appeared, followed by the decisions of Basel 2, as an attempt to complete the deficiencies in Basel 1. However, despite the importance of what these decisions came with, they were not sufficient to prevent the occurrence of the 2008 financial crisis, which was a strong motive. For the emergence of Basel 3 decisions which tried to set conditions and standards that many consider strict to the extent that it may hinder the activity of banks in itself, as it requires the availability of a timetable for their implementation.

Keywords: *Basel III, Risk weights, Capital, Tier.*

1. Introduction

1.1 Background of the study

The Basel Committee on Banking Supervision was founded at the end of 1974 under the supervision of the Bank for International Settlements in Basel, Switzerland from the group of ten industrialized countries, and this happened after the volume and percentage of doubtful debts increased for the external debt crisis of developing countries became worsened. The failure of some of these banks and the collections granted by international banks. In addition to the lack of capital of banks for American and European banks due to the strong competition on the part of Japanese banks, those American and European banks have spread their branches all over the world.

1.2 Motivation and Importance

The motivation for this study is to highlight the importance of the Basel III accord in reducing the risks faced by banks through some strict procedures related to liquidity ratios and capital size. The importance of the research lies in the fact that it sheds light on the importance of the provisions of the Basel III accord.

1.3 Banking Capital

Banks' capital represents the wall which prevents any losses that the bank may be exposed to from affecting deposits, It plays a significant role in preserving the integrity of the banks' position and the integrity of banking systems in general. The high level of uncertainty, is resulting from many risks, like credit risks, market risks, and operational

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risks. (Paymentgenes, 2021). The role of capital in non-banking economic establishments differs from that in banking establishments, where the primary task in non-banking establishments (industrial, commercial and service establishments) is to finance and purchase buildings, machinery and equipment necessary for the project in production operations as a primary objective, and then to protect the rights of short and long-term creditors as a goal Secondary, and this picture is reflected in relation to the role of capital in banking facilities, as capital constitutes the first line of defense to protect creditors' funds against any loss or external event that the banking facility may be exposed to, while the role of capital in financing and purchasing fixed assets is secondary. Therefore, the bank capital is supposed to be paid in full and available for disposition when needed. (Byjus, 2022). Also, the expansion of the capital is useful in supporting the bank's position in providing a greater opportunity to borrow from the central bank when needed, but this goal can be achieved by means of optional reserves, as the size of the bank's capital must not be exaggerated so as not to encourage its management to rush and enter into projects greater than their technical capabilities in order to obtain a return commensurate with the large amount of paid-up capital, which may lead to counterproductive results. (Bank, 2019)

1.4 Capital Adequacy

The capital adequacy ratio can be defined as a ratio of a bank's capital to its risk-weighted assets and current liabilities , it is used in regulating the activities of financial institutions. It is considered one of the most important indicators of the safety of loans issued with bank funds. This ratio sets certain standards for banks. Where everyone has the opportunity to measure the attractiveness of investment banks to customers or to measure the soundness of credit. The bank must either reduce its assets and the size of its loans or increase its capital to comply with regulatory requirements. Thus, banks are forced to avoid high-risk operations, which in turn leads to an increase in financial stability.

Capital Adequacy Ratio = (Tier-I + Tier-II (Levels of Capital Funds)) / Risk Weighted Assets Tier-I is the principal capital, such as equity and declared reserves, and Tier-II is the additional capital. (Team, 2020)

1.5 Importance of Capital Adequacy Ratio (CAR)

The banking regulators and central banks set a capital adequacy ratio to prevent commercial banks from taking on too much leverage and going bankrupt. Which is necessary to measure the extent of the banks' ability to absorb losses, by making sure of the adequacy of the funds they have, before the banks become insolvent and thus depositors lose all their deposits.

The bank can met its financial obligations if it enjoys a high percentage of capital adequacy, as it is considered safe, and the depositors will not lose their savings in the event of the bank's liquidation, as the depositors' money takes precedence over the bank's capital, unless the bank suffers a loss greater than its capital. Thus, the higher capital adequacy ratio, greater the protection of depositors' funds held by the bank. And reducing the risk of bankruptcy contributes to the stability of the economy's financial system (Jackson, 1999)

2. Basel III

These requirements are expected to reflect positively on the soundness and solidity of banks and their ability to face risks, as they came to avoid the gaps and weaknesses created by the global financial crisis (BIS, 2022).

These requirements included many positive aspects, the most important are enhancing the quality of banks' capitals through banks' retention of high-quality capitals with a high ability to face risks and absorb losses. And applying additional margins on the minimum

levels of capital adequacy ratios in order to enhance the ability of banks to face all the risks that they may be exposed to, including the risks of the financial cycle and the risks of the financial system. The use of standard ratios to monitor the liquidity of banks in order to ensure that banks maintain sufficient liquidity to meet their obligations and continue their business. (Bankingsupervision, 2019)

The rules for capital, known as Basel III, require banks to maintain a greater amount of capital and to be mostly in common stock (focusing on the quality of capital). The most important modifications are that the minimum capital increase to 10.5% in 2019, and banks must keep at least 7% of their capital in common stocks (Paid up Capital). (Delphix, 2022) And at the end of 2019, high-quality capital became 67% of the total capital. (CFI, 2020)

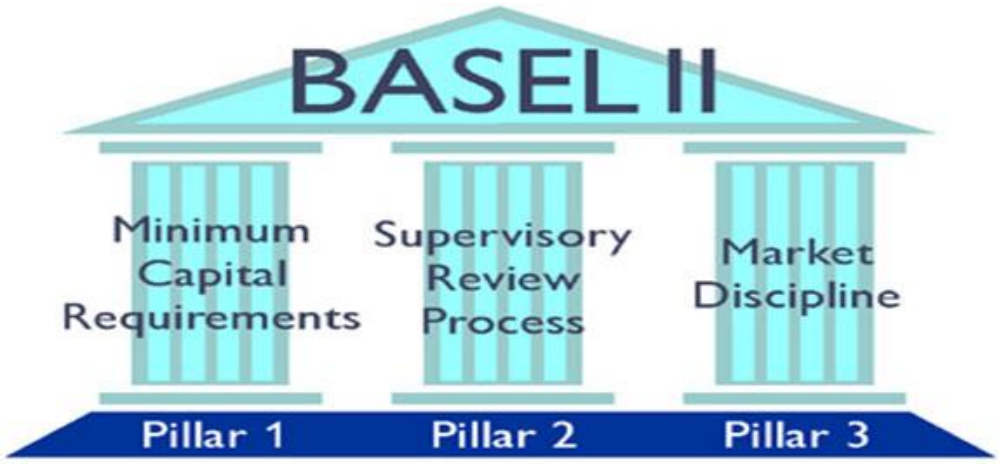

FIG. 1 - Pillars of Basel II

Figure Source: Tsigroups.com

This figure illustrate the three pillars as follow:

Pillar 1: Capital Adequacy Requirements

The first pillar considers operational risk as well as credit risk associated with risk-weighted assets (RWA). It is improving Basel policies whereby banks are required to maintain a minimum capital adequacy requirement of 8% of risk-weighted assets. Basel II also provided banks with other methods for calculating capital requirements based on credit risk. The two main approaches include the following: the standardized approach, and the internal ratings-based approach.

Pillar 2: Supervisory Review

With regard to assessing the bank's internal capital adequacy. The second pillar was added due to the necessity and lack of effective supervision in Basel 1, and according to this pillar, banks are obligated to assess the adequacy of internal capital to face the risks that may arise during their operations.

Pillar 3: Market Discipline

Pillar 3 aims to ensure that users of financial information receive relevant information to make correct trading decisions, by making disclosure of relevant market information mandatory for the purpose of ensuring market discipline

2.1 Basel III requirements: can be summarized in Regulatory Capital, Liquidity Coverage Ratio (LCR), NSFR net stable funding ratio and LR Leverage (ECB, 2016)

2.2 Basel III - Transitional arrangements:

Regulatory capital, which means the basic capital of ordinary shares CET1, this basic capital and consist of the Paid capital, issuance premium, retained earnings, accumulated comprehensive income and reserves, minority rights (allowed limit) and regulatory amendments to CET1 Common Equity Tier 1 Capital Regular CET1. (Iqbal, et al., 2013)

2.3 Basic capital specifications for common shares has no priority in distribution upon liquidation and has no maturity date, the bank here is not committed to the repurchase and distribution of profits (non-binding, from distributable profits), also, not funded directly or indirectly by the Bank and not guaranteed by the bank, and it can be Issued based on the approval of the bank. (Register, 2021)

2.4 Additional Basic Capital AT1: The Instruments issued by the bank that carry the characteristics of additional basic capital AT1, And the issuance premium for the instruments mentioned in item 1, the instruments issued by subsidiaries (consolidated) and bearing the characteristics of additional basic capital AT1, in addition to additional core capital of regulatory adjustments.

2.5 Additional core capital specifications AT1

In the event of liquidation, priority will be given to deposits, various creditors, and supporting debts. And it is Not covered by the Bank's subsidiaries or guaranteed by the Bank itself, with no maturity date, and it can be Callable at the request of the bank, but after a period of at least 5 years and within some conditions (Principal, 2023), Like the approval of the regulatory authority is required to practice call Option, and they must be replaced with better tools of the same value. The bank proves that the capital adequacy ratio will be higher than the limits after executing the call option. And the approval of the supervisory authority must be obtained before making payments, and the bank should not give an indication to the market that there is approval from the supervisory authority. The benefits and distributions, the bank can stop paying dividends or interest at any time, and this is not considered a default on the part of the bank, and not to impose any restrictions on the bank as a result of non-payment of interest or distributions. The dividends or interest are paid from the distributable items, but the bank should not, directly or indirectly, finance these instruments (subsidiaries, companies in which the bank owns an effective interest, facilities). (Osfi, 2022)

2.6 Supporting Capital T2:

It consist of the Instruments issued by the bank that bear the characteristics of the supporting capital T2, and issuance premium (discount) for the instruments mentioned in item 1,the instruments issued by subsidiaries (consolidated) and bearing the characteristics of T2 supporting capital, also the reserve for banking risks (Bbbank, 2014).

2.7 Regulatory amendments to T2 equity capital.

It consist of the supporting capital specification T2, thus, In the event of liquidation, priority will be given to deposits and creditors who disagree with them. And the original maturity period should not be less than (5) years, with no incentives provided by the bank for liquidation. The callable can be at the request of the bank, but after a period of at least 5 years and within the some conditions, (CBI, 2004), like the approval of the supervisory authority must be obtained to practice Call Option and should be replaced with better tools of the same value, the bank proves that the capital adequacy ratio will be higher than the limits after executing the Call Option.

On other hand there is no right for the investor to demand early payment of the principal or interest before maturity, except in cases of bankruptcy or liquidation.

The approval of the supervisory authority must be obtained before making payments, and the bank should not give an indication to the market that there is approval from the supervisory authority, and the bank should not, directly or indirectly, finance these instruments (subsidiaries, companies in which the bank owns an influential interest, facilities). (Eur-lex.europa, 2021)

2.8 Regulatory adjustments to regulatory capital, means the Period losses, expropriated real estate to pay off debts, intangible assets like Goodwill, net deferred tax assets, shortage of any of the provisions required by the bank. Also the accumulated change resulting from the change in the fair value of liabilities as a result of the change in the credit risk of the bank itself, and investments in insurance companies , banks, and financial companies , that are more or less than 10% of the capital of these companies. In addition to the treasury stocks and amendment of minority rights. (Cornell, 2019).

3. Regulatory adjustments

Investments in insurance companies , banks, and financial companies that are less than 10% of the capital of these companies, which include the direct and indirect investments, investments within the trading and banking portfolio, net long position (less than a year or within the same maturity period). If it does not meet the characteristics of CET1, AT1, or T2, it is considered to be within CET1, but if the sum of the total investments (in the banking portfolio and the trading portfolio) exceeds 10% of the basic capital of ordinary shares CET1 after adjustments (from 1 to 11), the excess is subtracted using the Corresponding Deduction Approach. On other hand the investments less than 10% of the basic capital of ordinary shares CET1 are weighted according to its own risk weight (trading portfolio or bank portfolio). In the event that a certain segment is not sufficient for the deduction, the deduction is made from the highest segment, (Resbank, 2023).

3.1 Corresponding Deduction Approach, include the Investments in insurance companies , banks, and financial companies that exceed 10% of the capital of these companies, and investments that are included in the additional basic capital AT1 or the supporting capital T2 are offered in full using the Corresponding Deduction Approach, the investments that are within the basic capital of common shares CET1 subtracted from the basic capital of ordinary shares CET1 within the permitted limits. And in the event that a certain segment is not sufficient for the deduction, the deduction is made from the highest segment. (Morb.bsp, 2013)

3.2 Deduction limits - the first limit is 10% of each item, which is more than 10% of the basic capital of CET1 common shares shall be deducted for each of investments in ordinary shares in banks, financial companies and insurance companies that exceed 10% of the capital of these companies. Also the servicing rights of mortgage and deferred tax assets due to temporary differences.

3.3 Deduction limits - the second limit is 15% of the total, some items that exceed 15% of the basic share capital of CET1 common shares must be deducted, like investments in ordinary shares in banks, financial companies and insurance companies that exceed 10% of the capital of these companies, servicing rights of mortgage, deferred tax assets due to temporary differences, and any non-deductible items weighed by 250% , (Cbben, 2015)

3.4 Minority Interest

It must meet regulatory capital requirements (CET1, AT1, T2) in order to be recognized in the regulatory capital, and the affiliated company is a bank. The total minority rights that satisfy the above two conditions with less surplus in the subsidiary's regulatory capital and return on minority interest, (Resbank, 2023).

3.5 The excess of the principal capital of the subsidiary's ordinary shares and the return on minority interest which include the basic regulatory capital of the subsidiary Subtracted 7%, 8.5% and 10.5% of the risk weighted assets of the subsidiary. (Fdic, 2021)

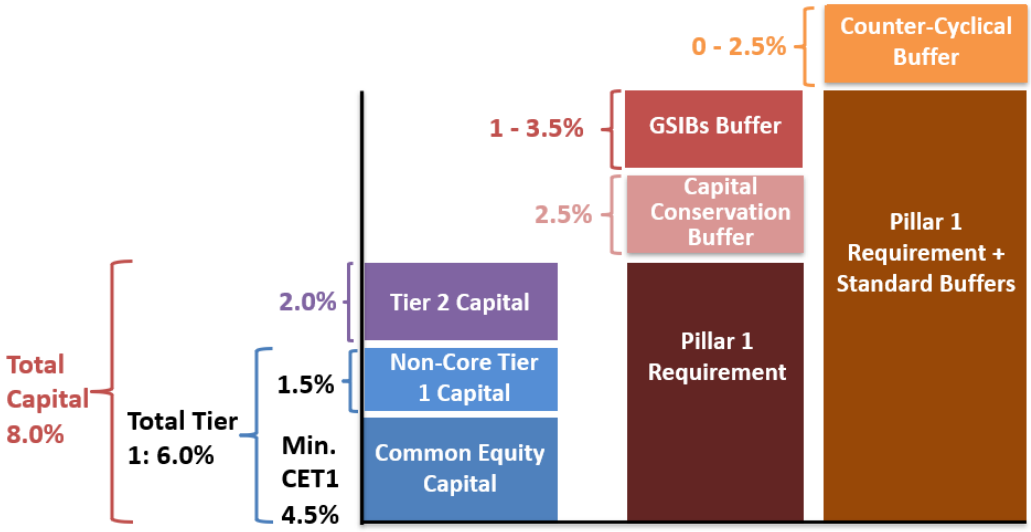

Figure 2 – Capital Tiers of Basel III

Figure Source: https://analystprep.com

Tier 1 and tier 2 capital are two types of assets held by banks. Tier 1 capital is a bank's core capital, which it uses to function on a daily basis. Tier 2 capital is a bank's supplementary capital, which is held in reserve.

- Tier 1 capital

Is a bank's core capital and includes disclosed reserves—that appear on the bank's financial statements.

- Tier 2 capital

It is the supplementary capital of the bank. It consists of non-principal debts and hybrid financial instruments as well as secret reserves, in addition to other items.

- Tier 3 Capital

The capital within the level 3 is to support market risks, commodity risks, and foreign currency risks. This level includes a group of debts that are greater than the capital in the first and second tiers, but these debts are of lower quality than them.

Under the Basel III accords, Tier 3 capital has been completely eliminated.

4. Liquidity Coverage Ratio

This percentage represents the highly liquid assets that can be converted into cash to cover the expected cash flows to the bank during the next thirty days

Liquidity Coverage Ratio

= High quality liquid assets

The expected net cash outflows within 30 days.

This percentage consists of:

The value of high-quality liquid assets under specific stress conditions and the value of net cash flows issued within a specific scenario, for the items: withdrawal of a specified

portion of individual deposits, Loss of a specific part of the companies' deposits, Loss of a specific part of the short-term financing, Requirements as a result of a decrease in the bank's rating, An increase in price fluctuation in the market (for guarantees, financial instruments, derivatives) and exploiting unused ceilings for facilities. (Tamplin, 2023)

4.1 High quality liquid assets

These assets must bear the following specifications:

First: the basic characteristics are Easily evaluate these assets, and carry low credit risk and market risk. The correlation is weak with riskier assets, and there is no restriction or attachment that prevents the bank from disposing of it.

Second: Market Specifications:

It can be easily traded and there is an active market.

Third: operational requirements are Manage portfolios and not to be used to hedge other positions, but the bank's identification of an entity responsible for liquidity risk management.

In the event that there is an asset among these assets and then as a result of some events it is no longer eligible, the bank can keep it for an additional 30 days. (Hkma, 2020)

4.2 Level 1 assets include Cash at the Cash at the bank and Central Bank , reserves with the Central Bank (amounts that can be withdrawn from the reserves in the event of a need for cash), governmental or central bank debt instruments or guaranteed by them in the local currency (carrying a 0% risk weight according to the standard method, not for financial companies). And governmental debt instruments (does not carry a risk weight of 0%) from governments in foreign currencies.

4.3 Level 2 assets include governments, central banks or PSE eligible for a 20% risk weight and debt instruments for companies rated AA- or more or covered debt instruments rated AA- or more (not for financial institutions, not issued by the bank or one of the subsidiaries, classified by approved institutions, used for liquidity purposes). The upper limit of the second level assets = 40% of high-quality liquid assets.

4.4 Expected net cash outflows over the next 30 days which include Cash outflows for a month (Whichever is less (Net cash inflows during a month or 75% of cash outflows during a month). (Gray,2011)

4.5 Cash outflows for a month include Cash flows issued from individual deposits, from other parties not covered, financing covered by collateral and other cash outflows.

4.6 Cash flows issued from individual deposits include, the individual deposits which is deposits of persons (including current deposits and time or fixed deposits), and stable deposits which they are covered by a deposit guarantee institution, or there is another relationship with the bank, or deposits for specific purposes (salary). Also the unstable deposits that the supervisory authorities must specify additional segments for unstable deposits, with a minimum of 10%. These deposits are not covered by the deposit insurance corporation or are for individuals with high deposits, or there is a high probability of their withdrawal, or in foreign currency, (HAYES، 2020). And if the bank is unable to determine whether the deposit is classified as stable or unstable, it is classified as unstable, Not all deposits within the deposit Insurance Corporation are considered stable, the individual time deposits that have a maturity date or the remainder of the maturity date more than 30 days will not be taken into account unless there is no legal right for the depositor to withdraw within 30 days, there is a high fine for early withdrawal (in excess of interest), otherwise, it is treated as demand deposits. (Martin, et al.، 2018). And about demand or time deposits that have a maturity date within 30 days (Deposits of stable individuals 5% or deposits of less stable individuals 10%). As for the

term deposits for a maturity period of more than 30 days that have the right to withdraw with a fine or no right to withdraw during this period 0%.

(MAJASKI، 2021)

4.7 Cash flows from third parties are not covered

Cash flows issued from other parties represent obligations resulting from legal entities (companies, institutions...) and all deposits include claims that can be claimed within a 30-day period, which including Small business clients, Major companies, Banks and Governments. (Pwc، 2020).

The categories can be summarized in the following table:

Table (1)

Categories	**weights**
The Small business stable customer deposit	5%
deposits of less stable small business customers	10%
deposits of large companies that have an operational relationship with the bank (financial or non-financial companies)	25%
Deposits of large companies, governments, public institutions or central banks that have an operational relationship with the bank - the part covered by a deposit guarantee of	5%
Deposits of banks that have a relationship with the bank	25%
Major non-financial companies, governments or central banks	75%
Others (banks, financial companies, insurance companies...) **(Cbo, 2021)**	100%

4.8 Cash outflows from collateral-covered financing

The categories can be summarized in the following table:

Table (2)

Categories	**weights**
Financing covered by guarantees of first-class assets	0%
Financing covered by guarantees of second-class assets	15%
Financing covered by guarantees for governments or central banks with a weight of 20% or less than	25%
Financing covered by guarantees for third parties	100%

4.9 Incoming cash flows

It include inverse repurchase agreement for first , second and other class assets. In addition to operational deposits with financial institutions, Receivables, Cash flows from financial and non-financial institutions and other cash income. (Cbn, 2020)

5. Net Stable Funding Ratio

Represents the percentage of assets that must be supported by stable financing.

$$100\,\% \text{ NSFR} \geq = \frac{\text{Available amount of stable financing}}{\text{Amount of stable financing required}}$$

The stable financing represents part of shareholders' rights and liabilities that are expected to be a good source of financing for a period of more than one year under specific circumstances. (Fdic, 2022).

5.1 Available amount of stable funding

It include the Capital and Preferred shares with a maturity period of more than one year. And about the liabilities its consist of liabilities with a maturity of more than one year and part of demand or time deposits that mature within a year and are expected to remain for more than one year. The financing that matures for a period of less than a year and is expected to remain for a period of more than a year, (IMF, 2014). As description in table (3)

Table (3)

Categories	**weights**
- Total regulatory capital (first and second tranches) - Preferred shares included in the second tranche, which have a maturity period of more than one year. - Other liabilities (more than one year maturity date)	**100%**
Stable deposits on demand or for a term with a maturity of less than a year (individuals or small business customers).	**90%**
Less stable demand or term deposits with a maturity of less than a year (individuals or small business customers).	**80%**
Demand or term deposits with a maturity of less than a year (major non-financial companies, governments or central banks).	**50%**
Any other liabilities. **(BIS, 2019)**	**0%**

5.2 Required amount of stable funding

The categories which represent the stable funding can be summarized in the following table:

Table (4)

Categories	**weights**
- Cash available for disposal - Short-term financial instruments that are not covered and unrestricted in disposal and that have an original maturity period of less than one year or a remaining maturity period of less than one year. - Financial Instruments vs. Inverse Repurchase Agreement - Financial instruments with a maturity period of less than a year - Unrestricted loans to financial institutions that have a maturity period of less than one year and are not subject to renewal.	**0%**
Unrestricted financial instruments with a maturity period of less than one year, issued by parties with a risk weight of 0%.	**5%**
Financial instruments that are not restricted to the second level assets.	**20%**
-Unrestricted equity instruments or non-financial corporate bonds rated A+ to A- with a maturity of less than one year -Gold - Loans to non-financial companies, governments or central banks due within a period of less than a year	**50%**
- Home loans that qualify for a 35% risk weight - Other loans (excluding financial institutions) qualify for a risk weight of 35% or less	**65%**
- Loans for individuals or small companies with a maturity period of less than a year	**85%**
Any other assets. **(IFSB, 2015)**	**100%**

5.3 Off balance sheet items:

Include the ceilings of facilities or unused liquidity (cancellable or irrevocable) are weighed at 5%. And any other items dependent on the supervisory authority.

5.4 The expected impact of the new liquidity ratio on banks:

It will most likely lead to a shortage of funding with high cost of financing and low availability of financing. The high competition for deposits and stable long-term financing and low rate of return on capital accounts. The new ratio will increase the weighting from 20% - 30% for interbank borrowing, and will requires banks to keep reserves against credit lines such as credits and guarantees. (RBZ, 2022)

6. Leverage ratio

One of the main reasons for the financial crisis is the high leverage of some banks. And 3% of the assets inside and outside the balance sheet divided by the basic capital (CET1 and AT1), thus according to the instructions of Basel III, Any investments that have been deducted from the basic organizational capital are deducted from the assets inside or outside the budget. About the assets within balance sheet which are the value of accounting assets, net monetary credit (less outstanding interest and provisions) and it is not allowed to use thinners.

Any off balance sheet obligations that can be canceled are weighed by 10%. And other obligations that cannot be canceled are weighed by 100%. (MURPHY, 2021)

7. Conclusions

1. The agreement gave a new concept to organizational capital, and new deductions were made from the organizational capital.

2. Increasing weights for all kinds of risks

3. Making amendments to tier 1 and tier 2 of capital

4. When all regulatory capital conditions are met, minority interests are recognized as part of the regulatory capital.

5. The Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR) appeared with a new Liquidity Standards Agreement.

6. Significant changes have occurred in the leverage ratio under the new agreement.

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Author declares that all works are original and this manuscript has not been published in any other journal.

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