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"ANALYSIS OF THE IMPACT OF MARKET RISKS ON CAPITAL ADEQUACY IN LIGHT OF BASEL COMMITTEE (III) REQUIREMENTS AN APPLIED STUDY ON AL MANSOUR INVESTMENT BANK FOR THE PERIOD" (2020–2025)

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Abstract

Market risks are one of the biggest problems a banking company is dealing with in an unstable financial environment. They have an indirect effect on the price of assets and liabilities, and in turn, to cloud banks' financial health. The Bank for International Settlements issued the Basel Accords in 1988, which were intended to promote consistent banking practices that would ensure the stability of the banking operations. Another notable aspect of these accords was the minimum capital adequacy ratio threshold of 8% for commercial banks and globally uniform standards to limit credit risk. However, the volatility of the financial and economic environment and growing complexity of banking operations showed some weaknesses in this agreement, which was revised in 1996 as Basel II. This deal stressed regulatory control and supervision of capital adequacy ratios. The Basel I and Basel II could not survive without recommendations for changes from the gaps created during the 2008 global financial crisis, thus prompting the need to amend the issues under a new global framework known as Basel III. Under this new agreement, commercial banks must set aside at least 8 percent of their risk-weighted assets to cover expected losses and at least 2.5 percent of their capital for possible losses. Capital protection through high risk states -> an increase in the minimum capital adequacy ratio for banks from 8 to 13%. According to what was previously mentioned, this study is based on the literature reviewed concerning the analysis of how well market risks affect banks financial solvency in view of Basel III requirements (Al-Mansour Investment Bank) as a case study for the period (2020-2025). The significance of this study is, it emphasizes some bank data in order to evaluate the relationship between market risk indicators and capital adequacy ratio. This enables assessing the direction and impact size as well as how its is related to regulatory requirements that will be adopted in line with international supervisory standards, complied within the Iraqi banking climate. Which in turn, achieves results that help to box stability and increase the effectiveness of the risk Management process within this Banking sector as well. The study reached the conclusion that Al-Mansour Investment Bank was characterized by high levels of financial solvency and capital adequacy, as they exceeded the supervisory requirements contained in Basel III. This is a testament to how robust its balance sheet is and how capable it is of - in principle - weathering an unanticipated loss. They also also found that market risk was the most significant determinant of bank capital results, particularly in periods of high volatility. But they did not overcome the limits of control. The study confirmed the need for Strengthening risk management practices and creating hedging instruments and stress tests to protect the health of Upon which the continued banking domination at economy increasingly fraught with danger.

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Introduction

“The banking sector is arguably the most risk-prone due to its activities that involve financial intermediation and investment of funds, as well as the large amounts of leverage they typically carry. Thus, a deterioration in asset quality or an increase in risk exposure will have a direct impact on the robustness of its financial position and solvency. As the volatility of financial markets increasingly spills over to banks, successive financial crises and economic shocks—including most recently the COVID-19 pandemic—have showed that environmental exposition never ceases. This necessitates strengthening their risk management capabilities. Therefore, the Basel Accords of 1988 formed the starting point for international efforts aimed at enhancing the safety and stability of the banking sector. These accords established the foundation for defining minimum capital adequacy requirements and focusing on credit risk by setting a set of regulatory standards aimed at enhancing banks' ability to withstand losses resulting from various types of risks. However, the rapid developments witnessed in financial markets and the expansion of banking activities have increased the need to develop supervisory frameworks that keep pace with the nature of the risks faced by banks. From this perspective, international regulatory standards have witnessed successive developments, including the expansion of the scope of risks covered by capital requirements. Market risks were incorporated into subsequent regulatory frameworks due to their potential threat to the stability of financial and banking institutions. Opaque financial markets, weak bank regulation and lack of focus in risk measurement and management during that period contributed to the collapse in banking and were addressed by subsequent developments aimed at ensuring enhanced resilience for banks and a greater ability to absorb the shocks and turbulence financial markets are prone to. Thus, this study after the review of literature and academic studies that addressed (i) market risks and its impact on banks solvency levels; ii) the role played by capital adequacy requirements; iii) the capital adequacy principles set by Basel III framework identified the nature of relationship between market risk indicators as well as capital adequacy levels. Al-Mansour Investment Bank was the special case for the period (2020-2025), and in order to assess how far capital adequacy is affected by changes in market risk indicators within the Iraqi banking environment. Hence, providing the study with an applied importance since it seems to produce guide book that would be based on real data found at the bank; this is quality work. Hence, it enables us to not only access the direction of effects between market risks and capital adequacy levels, but also assess their magnitude in accordance with the regulatory standards being adopted. And this step would also contribute to the support of financial stability, more efficient risk management and solidified good banking manners within the Iraqi banking system”.

Research Methodology

1- Scientific Methodology of the Study

1-1- The Study Problem

The banking environment contends with indignation, spawning many varieties of market risks. This is aggravated by implementation of a regulatory landscape set by the Basel Committee on Banking Supervision in Basel III, which connects capital adequacy to the amount of risks banks are exposed and whether their management is efficient or not [7]. Thus, the problem of the study is how to discover the nature of the relationship and impact between market risk and capital adequacy, and how far this relationship relates to Basel III requirements under a rapidly evolving Iraqi banking environment in terms of regulatory and supervisory controls. The research problem can be formulated through the following questions:

- A. Capital Adequacy with respect to market risk as per Basel III
- B. Effect of market risk on capital adequacy ratio of the selected bank for the period (2020-2025)
- C. In how far does (does the level of capital adequacy reflected in the levels of any given bank reflect an actual response to market risk exposure by regulatory standards.

D. Is the bank process defined in your research study not sufficient, to control market risks as prescribed under Basel III for maintaining its financial soundness?

1-2- Significance of the Study

Market Risk (MR) is one of the important factors which influence the strength of a bank's financial position. It regards capital adequacy as the first line of defense against losses that might arise from these risks. The significance of the study can thus be highlighted in terms of

A. Market risks, particularly interest rate and exchange rate risks, affect the profitability and capital adequacy of banks.

B. Underlining the regulatory nature of Basel III requirements by determining the risk level borne by a bank with minimum capital required to support its operation, thus reinforcing the strength of the banking system.

C. Offering an Applied Analysis for (Bank of Baghdad) which is one of the Founding Members in Iraq Stock Exchange, this gives an applied aspect, based on practice as indication from a real practices for the market risk management of Private Iraqi banks

D. Such as providing quantitative indicators that support decision-makers in the banking sector to assess the adequacy of capital facing quantitative financial shocks contributing to strengthening the principles of financial stability and good governance.

1-3- Study Objectives

This research strives to realize a set of objectives following the character the nature of this problem. The cumulative aim can be expressed as:

A. Resolution of the research objective (The impact of market risks on Al-Mansour Investment Bank capital adequacy level for the period(2020-2025) according to (Basel III).

B. To assess the sensitivity of capital adequacy ratio to market risk indicators; to determine the direction and scope of influence using the classical analysis tools.

C. To evaluate the level of capital adequacy in the bank under study according to the regulatory framework of Basel III requirements, particularly with regard to covering market risks.

D. To diagnose the reality of market risk management in Iraqi private banks through practical application to Al-Mansour Investment Bank, and to demonstrate its impact on the soundness of its financial position.

E. To contribute by providing quantitative indicators that can support decision-makers in strengthening Capital adequacy in relation to the level of exposure to market risks.

2- Theoretical framework/ Market Risks

2-1- Banking Risks, Their Concept

Commercial banks are intermediary financial institutions that attract savings and direct them towards investment activities to contribute to stimulating economic growth and enhancing financial stability [1]. With the rapid global developments in the financial sector, represented by the diversification of financial instruments and the increasing interconnectedness of markets, the banking environment has become more open and complex [2], which has raised the level of risks faced by banks.

The susceptibility of certain banking systems, weak risk management and undercapitalization to absorb unexpected losses has repeatedly been revealed even some financial crises [3]. This has resulted in a connection between risk size and required capital. Among those, the Basel Committee on Banking Supervision had a leading position in setting supervisory standards to make banking

systems more resilient. One of the most significant of these standards was capital adequacy which required strengthening the quality of capital which in turn increased its ability to absorb losses stemming from many sources (especially market risks) [4].

Banking risks usually refer to the risk of some potential future loss that a bank may incur due to an unexpected event or development which will impact on the value of its assets, liabilities, or cash flows. This has an adverse effect on the bank's ability to perform its obligations as well as continue operating [5]. These risks refer to the situation of uncertainty regarding financial and investment decisions, and they worsen with greater exposure in terms of an economy that fluctuates. Banks are vulnerable to credit, liquidity and operational risk in addition to exposures from market risk due to changes in interest rate, exchange rate and securities [6]. More academic studies in recent times have focused on market risk since its direct impact on the true value of a bank's portfolio and how much capital is needed to absorb these price movements.

The local banking sector has undergone significant transformations, especially following the government's move to encourage private sector participation in banking and the growing regulatory and supervisory role of the Central Bank of Iraq. The Central Bank has adopted regulatory standards aimed at raising the minimum capital adequacy ratio as a precautionary measure to ensure banks' ability to withstand risks, including market risks [4].

2-2- Market Risks: Concept and Types

2-2-1- The Concept of Market Risk

Market risk is one of the most important contemporary topics in banking and financial studies, due to the interconnectedness and complexity of financial markets, and the emergence of new financial instruments and derivatives [7]. All these factors have led to increased exposure to financial volatility, which necessitates that banks understand the impact of these factors on their performance and profitability, as well as the best practices for improving their risk management systems. Market risk is defined as the risk resulting from negative fluctuations in the values of assets, liabilities, or off-balance sheet positions, leading to a decrease in the market value of the bank's portfolio or unexpected losses [5]. This risk directly impacts the bank's financial solvency, and therefore, it must be managed to ensure the stability and continuity of banking operations [3]. These risks can be classified as follows:

A. Interest Rate Risk: This is one of the most significant risks facing financial and banking institutions. It has far-reaching economic effects, impacting the value of assets, liabilities, and future cash flows [8]. It also affects consumption and investment decisions for both companies and individuals. Interest rate risks arise when there is a mismatch between the maturity of assets and liabilities, or between the rate of return and the cost [9]. Any change in interest rates will affect the ability of financial and banking institutions to achieve a stable return. In addition, high volatility of interest rates will lead to lower market value of fixed return investment tools like securities and bonds [10]. In order to control these risks, contractual financial performances will have to be managed by servicing of adequate asset and liability management policies, regarding the functionality of the bank or financial institution. The profit margin has to ensure that profits are balanced with a risk level acceptable for securities. Results achieved through applicable measurement and control instruments. As a result, the effective management of these risks is an essential component in preserving financial stability and ensuring that financial institutions have the capacity to adjust to ongoing changes within the economic and financial landscape.

B. Risk of Price Volatility in Equity : This describes the risk that a bank or financial institution may lose money because of unexpected changes in the price of shares traded on financial markets. [11]. Equity price volatility risks arise from a number of economic, financial, political, and

behavioral factors, such as changes in monetary policies, geopolitical events, and weak confidence in financial markets. These risks directly affect the market value of investment portfolios and the ability of financial institutions and banks to achieve stable returns [12]. The higher the degree of volatility in share prices, the greater the uncertainty about future returns, which may lead to a decrease in the value of capital investments and losses that affect the financial positions of financial and banking institutions [5]. Equity price volatility risks are managed through diversification of investments, setting limits on risks not to be taken on, monitoring financial markets regularly and continuously, and using mathematical models to estimate the level of risk exposure, such as standard deviation and value at risk. To the risk [6], which contributes to enhancing the ability of banks and financial institutions to absorb shocks Marketability and maintaining a suitable balance between expected return and an acceptable level of risk.

C. Foreign Exchange Risk: This risk refers to the possibility of a financial or banking institution incurring losses resulting from fluctuations in foreign exchange rates. These fluctuations affect the value of assets, liabilities, and cash flows denominated in different currencies [13]. This risk is particularly evident for banks and financial institutions that conduct international activities or trade in foreign currencies. Changes in exchange rates lead to changes in the real value of returns and costs when converted to the local currency. Key factors that increase foreign exchange risk include:

- **Money Supply:** An increase in the money supply leads to higher general price levels and reduces the competitiveness of domestic goods over foreign goods. This results in increased imports and decreased exports, thus increasing demand for foreign currency and decreasing demand for the local currency [14]. This, in turn, leads to a decrease in the value of the local currency and an increase in the value of foreign currencies.
- **Interest Rate:** Interest rates are closely linked to inflation rates and foreign exchange rates. Central banks control interest rate changes to influence inflation and exchange rates [9]. When a central bank raises the interest rate, it withdraws part of the money supply to reduce inflation and increase the value of the local currency.
- **Inflation Rate:** Based on the Purchasing Power Parity (PPP) theory, which explains the relationship between the inflation rate and exchange rates, it concludes that a high inflation rate in a country leads to a decrease in the purchasing power of its national currency and a decline in its exchange rate against foreign currencies [15]. This increases the risks associated with foreign exchange transactions for financial and banking institutions.
- **Commodity Price Risk:** This risk arises from unexpected fluctuations in the prices of commodities traded in local and global markets, such as oil, gas, metals, and agricultural products. Their prices are affected by factors including changes in supply and demand, economic and geopolitical instability, climate change, and trade and monetary policies that influence market movements [16]. Accordingly, commodity price risk is a building block of market risk. We monitor commodity prices, analyse exposure to risk (thereby passing back ownership of the prices to individual producers), diversify supply chains and external sources for investments as well as hedge against such price risks. It helps to reduce the impacts of price volatility, and improves their ability to maintain the financial condition of financial and banking institutions and achieve their objectives.

2-3- Modern Models for Measuring Market Risk According to International Regulatory Standards

As financial and banking developments have moved away from standard measurement based upwards, we can adapt three key models in response to sharp variances and shocks arising: Expected

Shortfall, GARCH and so-called Stress Testing. These models correspond to a unified scale for the estimation of financial and banking market risks. Where GARCH is employed to estimate the volatility of market factors, Expected Shortfall can be needed for modelling a potential loss due to this price fluctuation. Stress test are a model to see how banks would be able to cope with very extreme economic events. In this sense, these models can be seen as the most complete framework for market risk management by integrating (i) predicting the future (ii) measurement of predicted loss and (iii) stress tests to check how much losses a financial institution or bank could withstand. This aligns closely with the regulatory trends adopted by the Basel Committee on Banking Supervision to develop market risk management after the 2008 global financial crisis.

2-3-1- Conditional Expected Loss Model (Expected Shortfall) Shortfall (or CVaR)

In the midst of the 2008 global financial crisis, regulators realized that the CVaR model alone could not measure extreme risks because it failed to estimate potential losses at a certain confidence level [13]. Therefore, the Basel Committee adopted the Expected Shortfall model as the primary regulatory model for estimating and measuring the probability of loss. It is more sensitive to financial crises and aligns better with the modern regulatory trends of Basel III than CVaR [17]. The Expected Shortfall model helps financial and banking institutions estimate potential losses, calculate regulatory capital, accurately manage investment portfolios, and support hedging and risk management decisions.

2-3-2- The Garch Model

Financial institutions and commercial banks are constantly exposed to risks resulting from fluctuations in interest rates, exchange rates, stocks, and commodities. The volatility of these variables will be dependent on Time and the GARCH model relates to a situation where the price volatilities are based on past shock or fluctuation [18]. Hence, one can derive the forecasted market volatility for the future period which is useful to estimate risks, price financial instruments, quantify required capital and enhance hedging strategies. This model has the following mathematical formula.

$$\sigma_t^2 = \omega + \alpha \varepsilon_{t-1}^2 + \beta \sigma_{t-1}^2$$

But GARCH is one of the advanced, accurate risk prediction models that reflects how financial markets actually behave. But it is technical and needs' professionals together with advance stats software, while its results are influenced by the types of data available, several of which may be continued a bias [19].

2-3-3- Stress Testing

Today, stress testing is one of the key banking supervision tools [5]. However, due to the 2008 global financial crisis, supervisory authorities imposed measuring risks under extraordinary conditions and were forced to evaluate their resistance when a financial or economic shock would drastically raise interest rates and lower local currency values, or cause a crash of the capitals markets and disrupt capital adequacy | solvency | liquidity | profits [20]. Several stress tests exist, including:

A. Sensitivity Analysis: A quantitative approach used to test the robustness of results by assessing how potential changes will affect the output of a model. The analysis identifies the factors that influence the results and assess their vulnerability to uncertainty [21], therefore, is one of steady descriptive methods in banking risk management as well as simulation on banks stress test.

B. Scenario Analysis: It is a risk management tool employed by financial institutions and banks. It depends on the simulation of various hypothetical economic and financial events then investigated their effects on the financial standing of these institutions [20]. This analysis evaluates the impact of economic and financial shocks on risk indicators, profitability, liquidity, and capital

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adequacy. It also tests whether a bank would survive atypical scenarios in terms of its financial position and continuing to operate as an ongoing concern.

C. Adverse Testing: Another analytical risk management strategy this targets extreme scenarios that could result in negative consequences making the financial condition of the institution at risk. This entails simulating a state of failure or financial distress, and then analytically reconstructing the determinants and shocks that caused that result so as to avert them [22]. This technique is used to analyse the robustness of the institution and any risk that might not be visible with sensitivity tests or traditional scenario analysis.

3- The Regulatory Framework and Basel Committee (III) Requirements for Risk Management and Enhancing Banks' Financial Solvency

The decisions regarding Basel Committee (I, II and III) occurred when financial problems or crises arose that forced banks to enhance their capability of managing the risks and protecting their own financial stability. Their decisions centre on preparing capital, liquidity and banking supervision requirements to make the financial system solvent against potential hazards. This section therefore lays out what the Basel Committee is, outlining the main principles and its function to reinforce banks' financial health.

3-1- The Basel Committee on Banking Supervision: Its Concept and Origins

The Basel Committee on Banking Supervision is one of the most important international institutions concerned with setting supervisory standards and guidelines aimed at enhancing the soundness and stability of banking systems [23]. The Committee works to develop regulatory frameworks that help supervisory authorities and banks manage banking risks more efficiently and enhance banks' ability to withstand financial and economic shocks that threaten their stability at the local and international levels.

The Basel Committee's origins date back to 1974, when the central bank governors of the G7 countries established it under the auspices of the Bank for International Settlements in Basel, Switzerland [24]. This was in response to the challenges facing the global financial system at the time, which included numerous bank failures. The Committee's core objective was to foster coordination between national supervisory authorities so as to establish standards on systemic banking supervision and, ultimately, improved cohesive stability of the international financial system. The Committee later released a series of Basel Accords, or supervisory agreements. Basel Accord is a set of agreements with the aim of establishing minimum capital adequacy ratios in response to credit risks where Basel I, issued in 1988, was the first accord. The second agreement (Basel II), adopted in 2004, expanded risk management by adopting a much broader approach, which is divided into three main pillars: minimum capital requirements, supervisory review and market discipline [23]. Nonetheless, the global financial crisis 2007–2008 brought to light basic weaknesses in the respective regulatory frameworks. In addition to high leverage and poor liquidity management, it was obvious that many banks had low levels of capital in respect of their risks. This caused losses to multiple large banks that had repercussions on international financial stability.

Then, in 2010 the Basel Committee released Basel III Accord as a set of regulatory reforms intended to rectify the deficiencies revealed during the global financial crisis and to improve banks' capability to absorb losses and withstand future crises [24]. This latest agreement on quality and capital levels adds precautionary capital buffers, develops liquidity management standards and restrains the use of excessive leverage. In Table 1, we present the differences of Basel I, II and III just to illustrate the evolution made in the set of rules.

Difference Criteria	Basel I	Basel II	Basel III
Capital Adequacy Ratio	Set at 8%	Continued without substantial modification	8% minimum, rising to 10.5% when the capital conservation buffer is included.
Credit Risk	Risk weights ranging from 0% to 100% depending on the nature of the assets	Two main approaches were adopted for measuring credit risk: The normative approach. Internal Ratings (IRBs).	Strengthened credit risk coverage requirements and improved associated capital quality
Capital Components	Core capital + Subsidiary capital	The core and supporting capital components continued without substantial modification.	Ordinary Capital (CET1) + Tier 1 Capital + Tier 2 Capital + Precautionary Capital Margins
Operational Risk	Not included	It was included in Basel II to address losses resulting from deficiencies in internal processes, systems, human resources, or external events.	They remained largely unchanged.
Market Risk	Introduced in 1996 and calculated according to the standard or internal model	The aforementioned requirements remained in place as the use of internal risk measurement models expanded.	Capital requirements and market risk controls were strengthened to enhance banks' resilience to financial volatility.

Market Discipline	Not included	It was included in Pillar 3 of the Basel II Accord, with the aim of increasing disclosure and transparency requirements.	It enhanced disclosure and transparency requirements to allow for more accurate assessment and comparison of banks' situations.
Liquidity Ratio	Not specified by percentage	The percentage was not specified.	It introduced two key liquidity management metrics: the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR).
Supervisory Control	Not included	It was included in Pillar 2 of the Basel II Accord of 2004 to strengthen the role of supervisory authorities and support internal controls.	It strengthened the role of supervisors to participate in developing stress test scenarios, as well as establishing rules for banking governance.
Primary Objective of the Agreement	Strengthening capital adequacy to address credit risks	Improving risk measurement and banking supervision	It strengthened bank resilience and financial stability and reduced systemic risks.
Leverage Ratio	Not included	Not included	Set at 3%.

“Source: From the researcher’s work, based on the decisions of the Basel Committee on Banking Supervision”.

Thus seen, Basel III consists of a holistic set of regulations designed to increase the financial equity of banks so that their key mandates can still be carried out in conditions that are less than conducive for the long-term economic and financial development. In addition, this memorandum helped consolidate the idea of macroprudential supervision by emphasizing risks that may undermine

3-2- The Objectives and Regulatory Requirements of the Basel III Committee.

Basel III was formulated mainly to improve the quality of banks' capital and ability for loss absorbing capacity, and thus to manage various types of risks (market risk, credit risk liquidity risk). It also sought to curb very high leverage, improve banks' ability to withstand periods of economic and financial stress with adequate liquidity levels, promote system-wide stability by ensuring that buffers are built such that even in a recession, the more critical functions that banks perform in economies continue unabated [25].

The Basel III framework introduced a number of regulatory requirements to reach these targets, with Common Equity Tier 1 (CET1) capital viewed as the most adequate loss-absorbing capital. It also increased minimum capital requirements and required that banks hold extra capital buffers to make them more resilient to economic cycles [24]. The most prominent of these were the Capital Conservation Buffer (which aims to provide capital buffers capable of absorbing losses in crises) and Countercyclical Capital Buffer (which seeks to tackle procyclical economic impacts so as not to allow a boom that leads banks to excessively expand credit lines based on growing economic demand). The Leverage Ratio — a regulatory tool developed as part of Basel III to limit the ability of banks to excessively expand their funded assets (capital adequacy based) [23]. Borrowing by banks can help lower the threats from overreliance on outsiders when raising money. This standard should help overall to strengthen banks' financial positions through the imposition of a minimum capital requirement as a percentage of total financial exposures. In the area of liquidity management, the Basel III agreement introduced two key standards: the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR). The first aims to ensure that banks possess high-quality liquid assets sufficient to meet their short-term cash needs during periods of financial stress. The second focuses on enhancing the bank's financial stability by aligning its funding structure with the nature of its assets over the long term. To clarify the main regulatory requirements established in Basel III, Table 2 shows the minimum capital requirements, prudential margins, leverage ratios, and liquidity standards that banks must adhere to in order to enhance their ability to manage risks and support financial stability.

Table 2: Key Regulatory Requirements under Basel III

Requirements	Common Shareholders' Rights (CET1)	Capital (Tier 1)	Capital (Tier 2)	Total capital	Regulatory standard
Total Requirements (Minimum + Preservation Margin)	% 7	% 8.5	% 2	% 10.5	-
Minimum Capital	% 4.5	% 6	% 2	% 8	-
Countercyclical Capital Margin	% 2.5 – 0	-	-	-	-
Capital Preservation Margin	% 2.5	% 2.5	-	% 2.5	-
Leverage Ratio	-	-	-	-	% 3

Net Stable Funding Ratio (NSFR)	-	-	-	-	% 100 ≤
Liquidity Coverage Ratio (LCR)	-	-	-	-	% 100 ≤

"Source: Prepared by the researcher based on the decisions of the Basel Committee" (III).

Hence, Basel III can be seen as a comprehensive regulatory umbrella created to bolster banks' financial soundness relative to their capacity for risk management and is designed to prevent them from suffering distress in case of adverse, low probability events while improving the financial stability of the banking system. These requirements have helped to create the present paradigm of modern prudential supervision that treats capital, liquidity and leverage requirements as parts of a single societal regulatory framework meant to fortify banks against and shield the economy from the terrible externality it poses all its own financial crises.

3-3- Basel III Requirements and Their Role in Risk Management and Enhancing Banks' Financial Solvency

Among important regulatory reforms to strengthen the banks in managing more risks and solvency levels is Basel III. This is made possible by adopting standards and processes that will guarantee sufficient capital on hand and adequate liquidity to deal with sudden economic disruptions or adverse financial conditions. These requirements have ensured the development of regulation and banking practices where financial institutions could make themselves more stable and less likely to fail or go bankrupt [24].

Basel III is crucial to risk management since it increases banks' ability to absorb losses from market, credit and operational risks. The main differences between capital and equity in Beyond Banking are defined by the obligation to keep higher loss-absorbing-capital when losses (LAC) emerge[25]. It has also given banks an extra layer of insulation from swings in the financial markets often associated with interest rates, exchange rates and share and commodity prices, our main indicators of market risk.

Moreover, the precautionary capital requirements have laid a sturdier ground for banks to base their financial position on as they do create extra caution funds that serve as safety nets in times of economic crises and tremors. This has increased banks' capacity in order to avoid the risk of a serious liquidity or solvency event and provide confidence that they could continue to operate normally without going under.

Risk reduction from increased leverage, another major focus of the agreement Heavy use of borrowed funds may lead to greater losses in a more severe economic or financial downturn. Thus, in follow of aforementioned findings the leverage ratio can be seen as an adjunct to capital adequacy requirements by limiting excessive growth of assets unbacked by adequate capital base. This helps to strengthen the stability of banks and mitigates systemic risk.

The requirement of Basel III improves solvency as banks now have more capital of higher quality to be able to cope with losses and meet their obligations promptly based on risk. These requirements have also enhanced the confidence of depositors, investors and regulators in banking institutions since these clearly signal a sound financial position and ability to remain in business even when the broader economic climate is less than stable.

So we can say Basel III requirements are not just a set of regulatory capital and liquidity

control, but rather a complete risk management framework with revised solvency expectations. They contribute to improving the ability of banks to absorb possible financial shocks, making risk management in banking sector more effective and strengthening banking stability, which reflects positively on financial system stability and is a support for sustainable economic activity.

Analysis and Results

4- Analysis of Market Risk Indicators

One of the most significant financial risks that banks face is market risk. This is due to volatility in prices and returns of financial instruments and the underlying economic variables that affect financial markets. The significance of studying this risk is that it directly affects the stability of banks, the soundness of financial positions as well as capital ratios to absorb losses. The Basel Committee on Banking Supervision has gradually increased its focus on market risk by formulating supervisory requirements to help banks build sufficient capital buffers to absorb unexpected losses arising from adverse changes in the financial markets. It helps to support financial stability and strengthen banks. According to this, the next chapter which we frame that also after Basel Committee (III) study A study on indicators of market risk at Al-Mansour Investment Bank for the period (2020-2025). Thus, this can diagnose the potential risk exposure and also show how resilient the bank is to wade through different financial turmoil.

4-1- Interest Rate Risk Analysis of Al Mansour Investment Bank in this Section

Interest rate risk is arguably one of the top areas of market risk for banks. The key definition is the risk of loss, a drop in profits or loss of value on its financial position as a result of rates changing unexpectedly and negatively to the bank. This risk carries over into asset, liability, and future cash flow valuations. This is due to not matching between the maturities of assets and liabilities or the timing of their repricing. This exposes the bank's profits and balance sheet to changes in interest rates. The interest rate risk is estimated as the ratio of interest rate-sensitive assets to interest rate-sensitive liabilities. A ratio close to one means that rates-sensitive assets and liabilities are of a similar magnitude which moderates the impact interest rates will have on the bank. On the other hand, a ratio farther away from one indicates a repricing gap and may enhance the risk exposure of the bank [26]. and a ratio of greater than one may suggest that the bank depends more on other sources of funding rather than deposit to finance its lending and investment activities (2016:140).. Changes in interest rates directly affect bank profitability, as higher rates lead to an increase in the cost of funds represented by deposits and other liabilities. The bank's ability to offset this increase depends on the flexibility of its asset and investment repricing capacity. In light of this, this section analyzes interest rate risk at Al Mansour Investment Bank for the period (2020-2025), aiming to diagnose the bank's exposure to this risk and its potential impact on capital adequacy within the framework of Basel III requirements. Table (3) shows the results of the interest rate risk index analysis for Al Mansour Investment Bank for the five-year period (2020-2025). The arithmetic mean obtained by the bank in the study sample was (0.48), with a standard deviation of (0.22). Comparing the ratios obtained by the bank, the achieved average for 2020 was shown to be... (0.12), which is lower than the achieved rate. The highest recorded rate was in 2022, reaching (0.75). Since the rate is less than one, this means that the bank is able to cover loans and advances without needing other sources.

Table (3) Interest Rate Risks for Al Mansour Investment Bank for the period (2020-2025)

	Year	Interest rates
1	2020	0.66
2	2021	0.72
3	2022	0.74
4	2023	0.70
5	2024	0.72
6	2025	0.70
Average		0.71
Standard deviation		0.03

“Source: Prepared by the researcher based on the annual financial reports of Al Mansour

Table (3) shows the development of the interest rate risk ratio at Al Mansour Investment Bank for the period (2020-2025), which was measured by the ratio of interest rate-sensitive assets to interest rate-sensitive liabilities. The results indicate that the ratio ranged between a minimum of (0.66) in 2020 and a maximum of (0.74) in 2022, with an arithmetic mean of (0.71) and a standard deviation of (0.03). These results indicate that the bank maintained relatively stable and consistent levels of interest rate risk throughout the study period, which is confirmed by the low value of the standard deviation, reflecting the limited fluctuation in the ratios between different years. It is also noted that the ratio remained less than one throughout all the years of the study, which indicates that interest rate-sensitive liabilities exceeded interest rate-sensitive assets. This reflects the existence of a negative repricing gap that makes the bank more vulnerable to the effects of rising interest rates. The bank also achieved the highest level of the ratio during 2022, at (0.74). It represents an improvement in the interest-rate-sensitivity asset-to-liability balance relative to last year. The ratio peaked in 2020 at 0.66, suggesting repricing gap widened that year. This ratio peaked slightly post-2022, going from 0.70 in 2023 and again shorted to 0.70 by 2025 — only to strengthen (ever so slightly) up to 0.72 by 2024. This indicates that, overall, the bank has continued to manage its interest rate risk exposure at stable levels without any major changes.

4-2- Turnover resulting from changes of stock price

One of the market risks is volatility in stock prices, which arises from continuous fluctuations of share prices traded on financial markets. It can affect the financial investments and returns within. The risk is more serious for banks that hold stock investments or trade the same because if the prices go down there may be capital loss or reduction in market value of investment portfolios put these all traits in a bad domain and affect the financial performance and capital adequacy ratio position of the bank.

The Beta coefficient is used to measure the risk of stock price volatility. It is one of the most common methods to evaluate systematic stock risk, reflecting a change in return relative to the price movements of a market index for that same period (often referred to as "beta." A Beta coefficient larger than 1 indicates a great risk this means fluctuations of the price of shares is greater than that of the market. A value less than 1 indicates a less sensitive stock to market changes. If the Beta coefficient is equal to 1, the stock's movement aligns with market movements in both direction and degree of change. Calculating the Beta coefficient requires determining the stock's return and the market return over the study period. The relationship between these two is then measured to determine the degree to which the stock is affected by market fluctuations. To construct a market index, an alternative market portfolio is created comprising a group of banks listed on the Iraq Stock Exchange that are characterized by high trading volume and relative liquidity of their shares. This aims to provide a benchmark index that reflects the general market trend and is used to measure the level of systematic risk to which Al-Mansour Investment Bank's stock is exposed during the period (2020-2025).

Table (4) Stock Price Fluctuation Risks for Al-Mansour Investment Bank for the period (2020-2025).

Year	Rm	Market Index (MI)	Market portfolio	Bata	Deviation from the average	deviation square
2020	0.041	2.714	0.045	0.78	-0.1217	0.0148
2021	0.028	2.256	0.031	0.84	-0.0617	0.0038
2022	0.061	3.147	0.058	0.92	0.0183	0.0003
2023	0.079	4.068	0.073	1.03	0.1283	0.0165
2024	0.033	2.346	0.036	0.95	0.0483	0.0023
2025	0.038	2.607	0.041	0.89	-0.0117	0.0001

“Source: Prepared by the researcher based on the financial reports of the Iraq Stock Exchange and Excel outputs.”

Table (4) shows the results of the stock price volatility risk analysis for Al Mansour Investment Bank during the period (2020-2025). On the other hand, the behaviour for Beta coefficient

was relatively stable which does not fluctuate much around an average of (0.902) and standard deviation (0.087). Indicates that the systematic risk of the bank's stock in relation to how the market moves (market risk) is low to moderate. This indicates that for the majority of our testing period, the stock of this bank was less volatile than the market, solidifying its defensive quality among a broader spectrum of risk-induced market fluctuations.

Like the Beta of Coefficient, we can see that for the majority of this sub-period 2005 to 2023, the annual values for B remained lower than 1, except in 2023(when it reached a value of 1.03). This proves a temporary shift into more leverage with respect to market. You could interpret this as some combination of greater financial market activity, changes in trading and liquidity conditions or the repricing of financial assets over that year. It created an increase in the stocks to market average relationships. Moreover, the deviations from the mean and squared values in Table 4 explain that with a relatively small ratio of spread dispersion of Beta values this proved to witness stability behavior systematic risk bank over the period of study. Such stability under the risk management perspective is favorable because it reduces the chance to be exposed to sudden changes in stock price and makes return behavior more predictable based on global market volatility determination.

The study's findings are particularly important as they pertain to capital adequacy in the context of Basel III requirements. The Beta ratio being lower than 1 for much of the study indicates less relative market risk, and therefore a lower demand on the capital necessary to absorb potential losses from stock price swings. This also fits thereby Basel III aim to improve capital efficiency by aligning true capital requirements with true bank risk. On the other hand, the spike in Beta in 2023 is only a small increase because it what reflects that capital requirements for a financial institution to cover market risk with more collateral and financially reliable assets go up. This means scaling-up precautionary capital buffers so that the shock can be absorbed without damaging bank solvency stability.

Al Mansour Investment Bank — Moderate capital adequacy considering the systemic risks of holding its shares. But the small variable in Beta should alert the bank to continue improving its market risk management through portfolio diversification and stress testing, so that it has enough capital to survive under future subject of economic shocks, achieving sustainable development according to Basel III.

4-3- Capital Adequacy Analysis in Accordance with Basel III

Capital adequacy is one of the key supervisory indicators indicating a bank's ability to absorb various financial risks. Its also a crucial aspect for the safety of depositors and is expected to build up bank solvency. The minimum capital adequacy ratio has been set at 10.5 per cent under the Basel III requirements to give precautionary margins for banks aimed at strengthening their plan review methodologies for financial shock absorption and limiting less than adequate performance of supervisory plans (AFD). The requirements of the Central Bank of Iraq are, in fact, more conservative than Basel II, as since October 2023 it requires banks to maintain a capital adequacy ratio of at least 12% to ensure that the banking system is not only resilient but also because economic conditions are unstable. Therefore, we will study the capital adequacy ratio of Al Mansour Investment Bank for the period (2020-2025), depending on Basel III specification, stating that it is a measure of capital adequacy to available capital is covering risks exposed to the bank-oriented market risks as fluctuations in interest rates. And stock prices This analysis will also determine if the bank is capable of fulfilling depositors and improving stability over the course of the study. In the table (5) the capital base to risk weighted net assets ratio of Al Mansour Investment Bank for the years(2020-2025).

(2020-2025) Table (5): Capital Base to Risk Weighted Net Assets of Al Mansour Investment Bank.

Year	Core capital	Subordinated capital + loans	Credit risks	Off-budget items	Market risks	Operational risks	risk-weighted assets	ratio
2020	280367202	19095540	319638056	420138974	54894637	5744159	800415826	16.8
2021	269287564	18422628	295724476	415380724	35344737	3486196	749936133	17.4
2022	276514279	17079966	275606241	223854042	10390463	3466324	513317070	21.5
2023	297065542	16200606	285502254	316480613	24246595	3486196	629715658	19.6

2024	301478224	20195430	309638178	400135641	43694415	4245253	757713487	18.2
2025	317287431	26300627	308742476	396482825	34468573	4376274	744070148	18.9

“Source: researcher based on the annual financial reports of the bank in the study sample.”

The results in Table (5) indicate that Al Mansour Investment Bank enjoys a good level of capital adequacy during the period (2020-2025), as the ratio of the capital base to net risk-weighted assets shows a relatively stable trend with an upward tendency in some years, which reflects the bank's ability to maintain a capital safety margin exceeding the minimum regulatory limits specified in the Basel Committee (III) requirements. As shown in Table (5), the ratio reached its lowest point in 2020 at (16.8%), then gradually increased to (17.4%) in 2021, reaching its highest point in 2022 at (21.5%). This reflects an improvement in the capital structure relative to the size of the risk-weighted assets. This is attributed to a relative decrease in risk-weighted assets or an improvement in the quality of the loan portfolio and a decrease in risk exposure levels during that year. In contrast, 2023 witnessed a decrease in the ratio to (19.6%) due to a relative increase in risk-weighted assets, particularly off-balance sheet items and credit risks, which led to increased pressure on the capital base. However, the bank managed to maintain a level above the regulatory minimum, reflecting flexibility in capital management and the ability to absorb financial shocks.

In 2024 and 2025, the ratio returned to relative stability at 18.2% and 18.9%, respectively, indicating a balance between the growth of the capital base and the expansion of banking activities measured by risk-weighted assets, particularly in light of changes in credit, market, and operational risks.

In light of all results, the bank's capital adequacy margin remains healthy vis-à-vis the minimum required under Basel III (10.5%–12%). This demonstrates the solidity of its balance sheet and capacity for avoiding risks while guaranteeing the fulfillment of financial stability frameworks. Throughout the study period, the ratios showed relative stability, which confirms how efficiently the bank manages its capital and its rational policies, above all in relation to risk-weighted assets management.

Conclusion and Recommendations

4-4- Conclusions

A. The market risk indicators proved that Al Mansour Investment Bank has an appropriate level of stability\which can be detected through the fluctuation in the analysis results. Nevertheless, this stability is of low variance, indicating that it has been affected by the overall economic position (during the period analysed).

B. The outcomes from interest rate risk also showed that the bank is predominantly operating within a negative repricing gap in most years of the study (i.e relative exposure regarding interest rate risks and effect thereof on financing cost, profitability)

C. Interest rate indicators: The values were under the minimum level for all years of the study, which proves that an equilibrium situation prevailed in the structure of interest-sensitive assets and liabilities by keeping risks under control.

D. As for the results of the Beta coefficient, it was shown that Al Mansour Investment Bank's stock showed defensive behaviour most of the years since its value fluctuated below one, which indicates low sensitivity of the stock against all market movements in addition to 2023 as it witnessed a temporary emergence in level of systemic risk

E. Analysis of stock price volatility risk showed a relatively low standard deviation of the Beta coefficient, indicating stability in systemic risks and non-moderate fluctuations in the behavior of stocks within the study period.

F. We also analysed capital relative to risk weighted assets and found the bank has a good level of capital adequacy above Basel III minimum regulatory requirements which strengthens its ability to absorb unexpected losses.

G. Findings: It was found that the (CAR) capital adequacy ratio CAR of the bank is greater than its regulatory requirements (10.5%–12%), reflecting strong financial position and efficient capital structure,

H. The analysis confirmed that higher market risk (equal to 2023) which led to the decline of a balance sheet from capital adequacy in relative terms due to growth of risk - weighted assets

I. The results showed that risk management at the bank is primarily based on traditional internal and hedging factors, while reinforcing advanced hedging tools such as scenarios and stress testing.

J. The study concluded that Al Mansour Investment Bank is financially solvent and has a good ability to absorb market risks. Still, financial markets are still volatile and more reliable capital management policies following Basel III standards must be established so that they would help achieve sustainable development.

4-5- Recommendations

A. Al Mansour Investment Bank's management should work to reduce the repricing gap between interest rate-sensitive assets and liabilities. The study results showed that the ratio of sensitive assets to sensitive liabilities remained within the range of (0.66-0.74), indicating the continued existence of a negative repricing gap that may increase the bank's vulnerability to future interest rate increases.

B. Increasing the volume of variable-income assets and linking a larger portion of credit facilities to interest rates that can be repriced periodically will enhance the bank's ability to cope with sudden changes in interest rates and limit their impact on profitability.

C. Pay special attention to the variables that led to the rise in the Beta coefficient to 1.03 in 2023, by studying the reasons for the increased market sensitivity of the stock during that year and taking measures to limit its recurrence in the future.

D. Maintain the defensive nature of the bank's stock, as demonstrated by the Beta coefficient throughout most of the study years. Keeping the Beta below 1 helped mitigate the impact of market fluctuations on the stock's value and the bank's financial position.

E. Strengthen financial investment management policies to reduce the investment portfolio's exposure to sharp fluctuations in stock prices, especially since the study results showed changes in the level of market risk during some years.

F. Invest the realized capital surplus more cautiously, as the study showed that the capital adequacy ratio significantly exceeded the minimum regulatory requirement. This allows the bank the opportunity for measured expansion in investment and credit activities without compromising solvency requirements.

G. Reassess the structure of risk-weighted assets periodically, especially since the decline in the capital adequacy ratio during 2023 was linked to an increase in risk-weighted assets. This necessitates monitoring the growth of these assets and directing them towards less capital-intensive activities.

H. Give greater attention to off-balance sheet items that constituted a significant portion of risk-weighted assets during the study period. This involves monitoring their potential risks and measuring their future impact on regulatory capital requirements.

I. Conduct periodic market risk stress tests based on scenarios involving simultaneous interest rate increases and stock price declines. These tests aim to measure the potential impact on the capital adequacy ratio and anticipate any future capital pressures.

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