CHAPTER I

INTRODUCTION

A. Background

The economy is a circulation network involving millions of businesses and billions of customers exchanging various products and services, which as a whole are expected to meet the needs of all parties involved (Lietaer et al, 2014). Every transaction that occurs contributes to the larger circulation of the economy, where money passes from one hand to another, enabling economic growth and development. Through this complex market mechanism, the economy as a whole tries to achieve balance, where resources are distributed in such a way that the needs and desires of all parties can be best met.

The Asian Financial Crisis of 1997-1998 was a major financial event that rocked many countries in Asia and had a far-reaching impact on the global economy. According to Bilgin et al. (2021), stability in the financial system refers to the ability of banking institutions to survive in the face of economic uncertainty and to maintain their health during periods of difficult economic conditions. During a global financial crisis such as the one that occurred in 2007-2008, there was a significant increase in global financial market volatility. This resulted in strong spillover effects, an example of which was the bankruptcy of Lehman Brothers and the problems faced by other

large financial institutions which caused substantial spikes in the linkage volatility index, reaching a peak during the crisis.

During the Covid-19 pandemic in 2020, Malaysia experienced an economic contraction of 5.6%, the largest since the Asian Financial Crisis. The Ringgit exchange rate against the USD fell 4%, while inflation was under control despite an increase in the prices of certain goods due to global supply chain disruptions. Interest rates plummeted to 1.75%, and the unemployment rate soared to 4.8%. The stock market experienced a decline of more than 20% before recovering, and the government imposed massive stimulus. The banking sector is also facing significant challenges with NPL (Non-performing Loan) reaching 1.6%, CAR (Capital Aduequacy Ratio), remaining above 14%, ROA (Return On Asset) decreasing, and LDR (Loan-to deposit Ratio) decreasing slightly to 85-90%. In facing these two crises, the Malaysian banking sector demonstrated increased resilience but still requires careful risk management to maintain stability.

Slow or negative economic growth can reduce demand for loans and cause a decline in consumer and investor confidence. This can affect the bank's interest income, asset quality, and the bank's ability to provide credit. High inflation rates can also affect banking activities, especially if interest rates are not commensurate with the inflation rate. On the other hand, large interest rate fluctuations can result in interest rate risk for the bank, especially if the bank has a significant position in financial instruments with sensitive interest rate characteristics.

As investors began to lose confidence and withdraw their investments, many countries' currencies plummeted, leading to high inflation and increased import costs. This worsened the domestic economic situation, causing many banks to fail and triggering a crisis of liquidity and confidence in the banking sector. Countries affected by the crisis experienced deep economic contractions, with GDP plummeting, unemployment rising, and many businesses closing. International intervention by the IMF and other developed countries provides bailout packages to stabilize affected economies, but this aid often comes with strict conditions that cause further hardship for communities.

A severe decline in intermediation business can adversely affect the ability to finance operations and funding costs of financial institutions. These risks may spread like a contamination through interconnected financial institutions. (e.g., Rizwan et al. 2020). These risks from economic uncertainty can spread widely through the interlocking relationships between financial institutions, creating additional challenges in maintaining the stability and health of the financial sector as a whole.

Systemic banking risk is a condition of major failure in the financial system or bankruptcy of an important financial institution, which can affect a large number of financial institutions in a strong sense. The 2008 global financial crisis is a prominent example of systemic banking risk. Due to its potential broad and serious impact, mitigating systemic banking risk must be a primary concern for regulators and financial supervisors to maintain o verall financial system stability.

Banks have long been financial institutions that offer a variety of important services to individuals, businesses, and governments. Its main functions include accepting deposits, making loans, and providing payment services, as well as facilitating domestic and international transactions. Banking also acts as an intermediary between parties who have surplus funds and parties who need funds (deficit). If this intermediation function is disrupted, the allocation of funds from the surplus to the deficit will not be smooth, which could result in limited funds for investment and financing of the productive sector, and has the potential to trigger a systemic economic crisis.

Disruptions in the smooth functioning of the banking industry are likely to exacerbate overall fluctuations in output. As a result, banking crises are associated with significant output losses. Regulators should have a particular interest in the frequency and magnitude of extreme shocks to the system that threaten the smooth functioning (and ultimately viability) of the banking system. Banking sector supervisors and central banks have a primary interest in maintaining and protecting the value of their banks' portfolios in conditions of market stress. Therefore, it is interesting to study the factors that contribute to the risk of such portfolios.

As a financial institution, banking growth can of course be influenced by existing macroeconomic conditions. As banking is a financial institution, its growth can of course be influenced by macroeconomic conditions (Brown et al., 2019). The economy is a complex circulation network involving millions of businesses and

billions of customers participating in the exchange of various products and services. Every business, from small scale to large companies, contributes to driving the flow of goods and services in the economic ecosystem.

Macroeconomic factors such as inflation rates and Gross Domestic Product (GDP) growth can have an influence on the banking sector. Unstable macroeconomic conditions, such as an economic recession, high inflation, or large interest rate fluctuations, can result in significant pressure on banks. Inflation that is not well controlled can affect monetary policy decisions by central banks, which in turn can affect interest rates and borrowing costs for banks.

Kaminsky and Reinhart in Christy, (2011) state that the crisis will not occur suddenly. Banks must respond quickly to this unstable economic situation by continuing to control their internal risks. The main risks often faced by banks include credit risk, market risk and liquidity risk, which can have a significant impact on financial stability and overall economic health. An unresponsive response will cause banks to collapse and the public will psychologically lose trust in banks and bank runs will occur which will lead to a recession.

This uncertainty causes psychological shocks in people regarding their decisions in organizing and managing their finances. The shock caused by this uncertainty caused a decrease in people's interest in using banking services. lower demand for bank services may result in lower non-interest revenues, which in turn

reduces bank profitability (e.g., Beck and Keil 2021, Ozili and Arun 2020). Banks are facing pressure in terms of income due to a decrease in banking activity which will have an impact on the services they offer.

The health of the banking system is very important for a country's economy. However, this health does not only depend on the capital ratio of each banking institution. There are a number of other dimensions that also influence the overall resilience of the banking system. As stated by Cecchetti and Tucker (2016), it is not each institution's capital ratio that defines the overall health of the banking system, but a set of varied dimensions that influence the overall banking system resilience.

A healthy banking system must be able to manage risks well, including credit risk, market risk and operational risk. If borrowers are unable to repay their loan funds, banks' Non-Performing Loans (NPL) will increase and Return on Assets (ROA) will decrease, causing banks to lack liquidity and face solvency problems. This could trigger massive withdrawals of funds by depositors from banks that are considered problematic (bank run).

In addition to internal and external factors, regulation and supervision also play a key role in determining the strength of the banking system. The regulatory reforms implemented in the aftermath of the global financial crisis helped banks become more resilient to negative shocks (Carletti et al., 2020). Tighter regulations and more effective supervision help reduce risks that could disrupt the stability of the

banking system. Openness and transparency in reporting financial information are also important factors in building public trust in the banking sector. With clearer reporting standards and a stricter audit process, the public can obtain more accurate information about banks' financial conditions. This not only builds public trust in the banking sector, but also helps identify potential problems or risks early.

As banking is a financial institution, its growth can of course be influenced by macroeconomic conditions (Brown et al., 2019). In facing challenges. Banks need to strengthen their capacity to manage risk, improve asset quality and comply with applicable regulations. With the right steps, the banking system in Malaysia can build greater resilience to face future challenges

However, it should be noted that in addition to supporting their clients, banks must also protect the interests of shareholders. Their activities must be a reasonable compromise between stimulating the economy and pursuing the interests of owners in terms of ensuring a satisfactory level of Return on Equity (ROE). The challenge remains to find the optimal point, while maximizing shareholder value growth and addressing issues that matter to other stakeholders.

Not only the optimal point, banks also have to find the equilibrium point for their own operations. The economic uncertainty that occurs in the world can cause a crisis that is not known when it will occur. Banks, which are the main aspect of the economy, must also prioritize their resilience and prepare their own equilibrium for

policy flexibility and banking resilience in facing and adapting to crises full of uncertainty.

The Early Detection System (EWS) is a framework used to provide early warning about the possibility of a banking crisis. According to Kusuma & Duasa (2016), EWS functions as a mechanism to identify macroeconomic indicators that can provide signals of negative shocks that can affect banking resilience. These indicators can include factors such as inflation rates, economic growth, and financial market stability. By monitoring these indicators, EWS can help alert relevant authorities before a crisis occurs, enabling them to take necessary preventive measures.

Meanwhile, Mawardi et al. (2023) stated that EWS not only functions to detect potential crises, but also helps banks identify and manage risks proactively. With EWS, banks can estimate risks that may arise and take appropriate action to reduce their negative impacts. This, in turn, can increase overall banking resilience and stability, as banks become better prepared to face various types of risks.

By detecting these signals early, macroprudential policymakers can conduct more in-depth investigations and take the necessary policy steps to prevent or reduce possible risks. For example, they can tighten banking regulations, increase capital reserves, or carry out other interventions deemed necessary. An effective early warning system allows supervisory authorities to take proactive action to strengthen banking resilience to potential future crises.

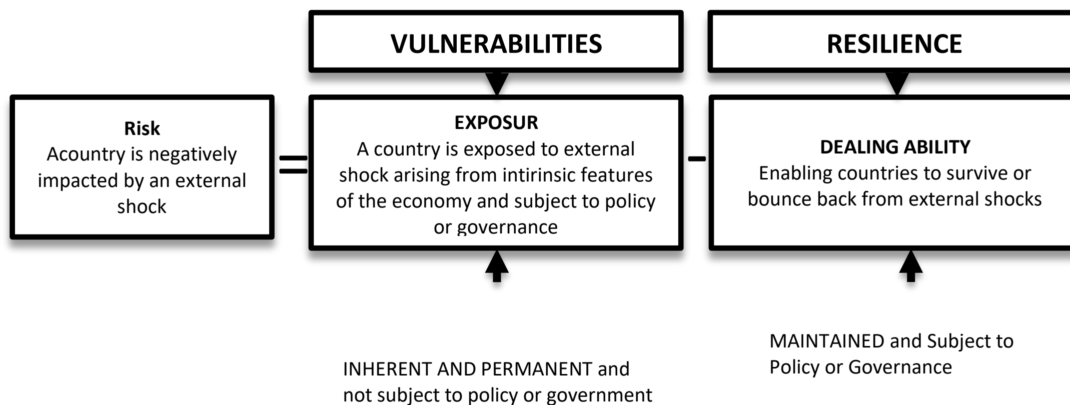
However, according to Berg & Pattillo (2000) and Citterio (2024), although EWS can help identify vulnerabilities to crises, these systems have weaknesses in predicting the exact time when a crisis will occur and sometimes give false alarms, where the crisis prediction is not always happen. Additionally, EWS often faces challenges in gauging market sentiment, which can also trigger crises. Market sentiment is difficult to measure because it is influenced by a variety of different risks and often provides late or conflicting signals. For example, investors' overreaction to certain news can lead to unexpected market volatility, which is difficult for EWS to anticipate.

Overall, although EWS has many benefits in detecting and managing banking risks, it is important to recognize the limitations of this system and complement it with other tools and approaches to ensure more comprehensive banking resilience.

Like other financial institutions, conventional banking in Malaysia is also vulnerable to systemic risk. According to Hakimi et al. (2020), systemic risk refers to the potential for disruption or failure in the conventional banking system which could have a broad impact on the country's economy. This risk can arise due to the linkages between conventional banks and other financial institutions, as well as through interactions with global financial markets. This interconnection means that problems that arise at one bank can spread quickly to other banks, worsening the overall situation in the financial system. Hussien et al. (2019) emphasize that this linkage can

strengthen the domino effect, where the failure of one conventional bank can trigger the failure of other banks and disrupt financial stability in general.

Furthermore, systemic risk in conventional banking can also be exacerbated by external factors such as changes in global economic policies, exchange rate fluctuations and movements in international interest rates. Linkages with global markets mean that conventional banks in Malaysia must always be alert to external developments that could have a negative impact. Therefore, strict supervision and regulation is needed to identify and manage these systemic risks effectively, in order to maintain financial system stability and prevent a wider crisis.



Source : (Briguglio et al., 2009).

The image above illustrates the relationship between external shocks, vulnerability and resilience, as well as how economic variables such as GDP,

inflation, exchange rate and stock market index play a role in this. Risk consists of two elements: first, the inherent conditions of a country that make it vulnerable to external shocks, such as GDP fluctuations, changes in inflation rates, exchange rate volatility, and movements in stock market indices. Second, the way the system is developed to absorb, overcome, or recover from these adverse shocks.

For example, countries with a high dependence on certain exports may be more vulnerable to changes in exchange rates or declines in global demand. Likewise, countries with unstable inflation rates may face challenges in maintaining consistent GDP growth. Volatile stock market indices can also reflect and influence market sentiment, which ultimately affects economic stability.

To reduce risks caused by vulnerabilities and external shocks, it is important to increase resilience by strengthening the domestic economy, maintaining inflation stability, managing the exchange rate effectively, and building an efficient response system. In this way, the country can better absorb and overcome the negative impacts of external shocks (Briguglio et al., 2009).

VULNERABILITIES

SHOCK		NO	YES
	NO	There are no systemic shocks	Possible systemic risk
	YES	Possible systemic shocks	There are no potential systemic risks

Source : (Blancher et al., 2013)

Figure 1. 1

Resilience level

Conventional banking is known for its resilience to both internal vulnerabilities and external shocks, which is crucial for maintaining financial stability (Blancher et al., 2013). To better understand this resilience, it's essential to explore four scenarios that result from the interaction between external shocks and internal vulnerabilities within the conventional banking sector.

The first scenario presents an ideal situation where no systemic risks are detected. This implies that conventional banks can absorb external shocks, such as economic downturns or fluctuations in global markets, without experiencing significant operational disruptions. Strong capital buffers, diversified portfolios, and robust risk management practices enable banks to withstand these shocks, ensuring continuity in their operations and services.

The second and third scenarios depict situations where the likelihood of systemic risk increases. In these cases, external shocks might cause instability within the conventional banking sector, potentially leading to broader financial turmoil. For instance, a sharp decline in global market indices could result in a liquidity crunch, significantly impacting banks that rely heavily on capital markets for funding. This scenario underscores the importance of liquidity management and access to emergency funding to mitigate the ripple effects of such shocks.

The fourth scenario is the most critical and risky. It describes a situation where high internal vulnerabilities in conventional banking coincide with substantial external shocks. This combination can trigger severe systemic risks, where the failure of one or more banks can have a domino effect on the entire financial system. Internal vulnerabilities may include high levels of non-performing loans, inadequate capital reserves, or overexposure to risky assets. When these vulnerabilities are exposed to significant external shocks, such as a financial crisis or geopolitical instability, the repercussions can be profound, potentially leading to widespread bank failures and economic instability.

In light of these scenarios, effective risk management and early warning systems are paramount. Banks need to continuously monitor their risk exposures and maintain adequate capital and liquidity buffers to navigate through adverse conditions. Regulatory bodies play a crucial role in overseeing these practices, ensuring that banks adhere to stringent standards and are prepared for potential

disruptions. Moreover, stress testing and scenario analysis can help banks anticipate and prepare for various adverse conditions, enhancing their resilience.

Ultimately, the stability of the conventional banking sector is vital for the overall health of the economy. As banks are major providers of credit and financial services, their ability to withstand shocks ensures the continuous flow of capital to businesses and consumers, supporting economic growth and stability. Therefore, ongoing efforts to strengthen the resilience of conventional banks through improved risk management, regulatory oversight, and strategic planning are essential to mitigate systemic risks and safeguard the financial system.

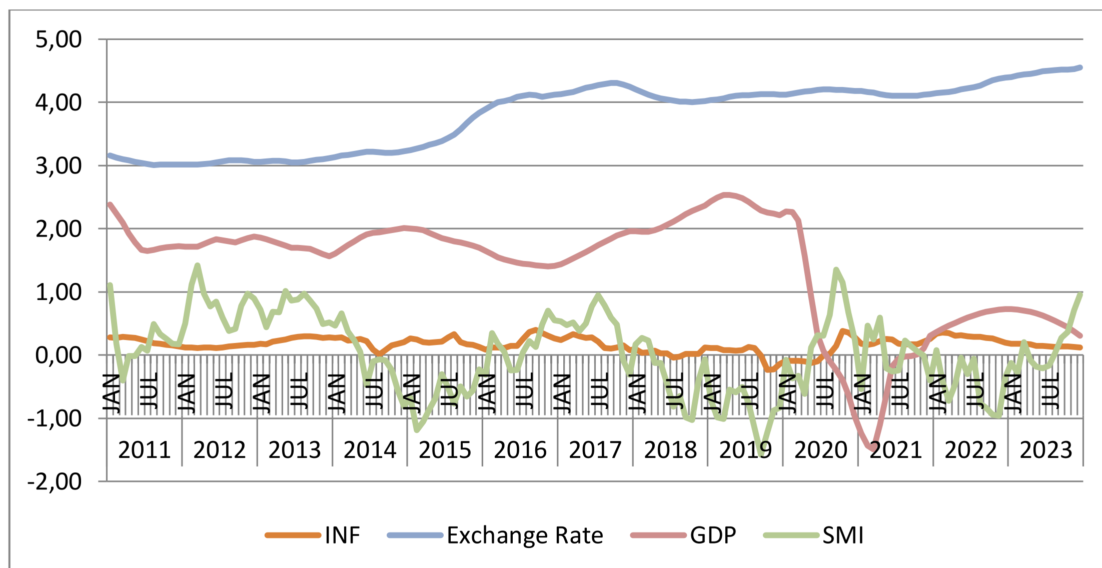
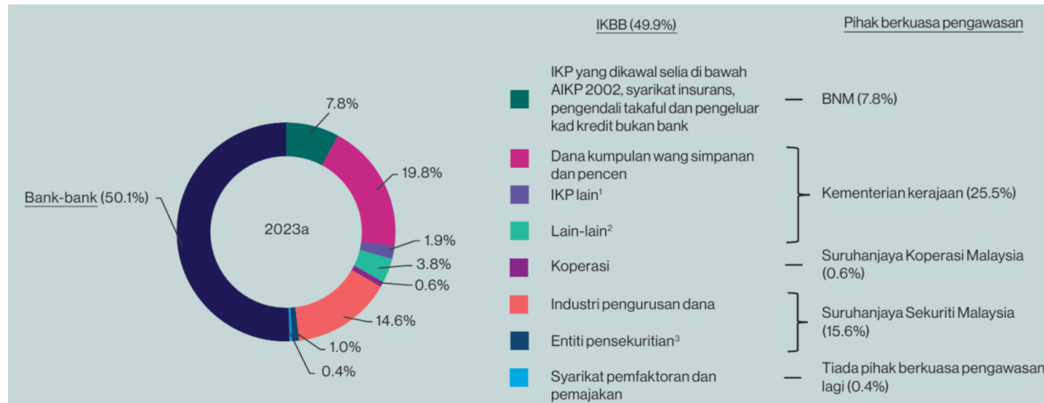


Figure 1. 2

Summary Statistic Macroeconomic Indicator for Malaysia

This graph shows the trends in Inflation (INF), Exchange Rate, Gross Domestic Product (GDP), and Stock Market Index (SMI) from 2011 to mid-2023. Inflation was stable but increased significantly during 2020-2021 due to the pandemic, then stabilized again in 2022-2023. The exchange rate experienced significant depreciation from 2014-2019, with a slower upward trend in 2020-2023. GDP was stable until 2019, dropped drastically in 2020-2021 due to the recession, then showed a slow recovery. The Stock Market Index was volatile in 2011-2013, stable in 2014-2019, and became highly volatile in 2020-2021, with recovery in 2022-2023.

According to Bernanke (2013) macroeconomic factors such as inflation, GDP growth and exchange rates can influence the stability of the banking system. This emphasizes that fluctuations in these variables can significantly impact financial institutions' stability. For instance, high inflation can erode the real value of financial assets, while exchange rate volatility can affect banks' foreign currency exposures. GDP growth rates are directly linked to loan demand and repayment capabilities. This research underscores the necessity for central banks to monitor these factors closely to ensure financial stability



Source : Bank Negara Malaysia

Figure 1. 3

Banking Market Share in Malaysia

In 2023, conventional banking in Malaysia held a significant 50.1% share of the country's financial market, with the remaining portion controlled by non-bank financial institutions. This dominance underscores the critical role that conventional banks play in the Malaysian economy. Given their substantial market share, any instability within the banking sector can have far-reaching effects on the overall financial system. Therefore, ensuring the resilience of conventional banks is paramount, especially in an environment of economic uncertainty. Policymakers and financial regulators must focus on strengthening the banking sector to safeguard against potential shocks and maintain economic stability.

The importance of banking resilience is further highlighted by the unpredictable nature of the global economy. External factors such as fluctuating

commodity prices, geopolitical tensions, and global financial crises can impact Malaysia's economic stability. In such a volatile landscape, the robustness of conventional banks becomes a crucial factor in sustaining economic growth and protecting the interests of depositors and investors. Strengthening risk management practices, enhancing capital adequacy, and maintaining liquidity are essential measures to bolster the resilience of conventional banks. By prioritizing these areas, Malaysia can better navigate economic uncertainties and ensure a stable financial environment for its citizens.

Comparative studies, like those by Golvano (2020), Tati (2020), and Widodo (2021), have highlighted the significant financial ratios and efficiency levels of banks in Indonesia, Malaysia, and other Southeast Asian countries. Notably, the IFSB and GIFR reports of 2018 and 2019 have acknowledged the competitive standing of banking in Indonesia, Malaysia, and Brunei Darussalam.

Specifically, the studies indicate that the Non-Performing Loan (NPL) ratio shows no significant difference among these countries, while the Loan-to-Deposit Ratio (LDR), Return on Assets (ROA), and Capital Adequacy Ratio (CAR) do exhibit significant differences. Moreover, the Data Envelopment Analysis (DEA) used by Tati (2020) reveals that Malaysian banks, such as CIMB Bank Berhad, achieve optimal efficiency levels. Widodo (2021) further emphasizes the importance of CAR and Operational Efficiency Ratio (OER) in influencing the financial performance of banks in Malaysia and Indonesia.

Focusing on Malaysia provides a unique opportunity to delve deeper into these significant variables. Malaysia has consistently been a leader in finance, with a well-established regulatory framework and a strong commitment to the growth of its banking sector. The country's banking sector is characterized by high levels of innovation, integration with global financial markets, and adherence to international standards. These factors contribute to the resilience and competitiveness of conventional banks in Malaysia.

In Malaysia, the CAR ratio is particularly impactful, as highlighted by Widodo (2021), showing a significant positive effect on financial performance. This indicates a strong capital base that can absorb shocks and sustain operations during economic downturns, which is crucial for resilience. Additionally, the efficiency and operational performance of Malaysian banks, such as CIMB Bank Berhad, which has achieved optimal efficiency under various DEA assumptions, underscore the advanced state of banking in the country.

Moreover, Malaysia's strategic initiatives and government policies aimed at enhancing banking competitiveness further support the decision to focus on this country. The presence of global financial institutions, continuous development of financial products, and extensive research and development efforts make Malaysia a fertile ground for studying the resilience and competitiveness of conventional banking.

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Furthermore, Malaysia's banking sector benefits from a supportive regulatory environment that promotes stability and growth. The Central Bank of Malaysia (Bank Negara Malaysia) plays a pivotal role in overseeing and regulating the banking industry, ensuring that banks maintain adequate capital buffers, manage risks effectively, and adhere to international best practices. This regulatory oversight is crucial for maintaining the health and resilience of the banking sector.

Given these factors, Malaysia stands out as an exemplary case for examining the dynamics of banking resilience, focusing on key financial ratios (NPL, LDR, ROA, CAR) and efficiency levels. This research will provide valuable insights into the robustness and competitive positioning of banks in Malaysia, contributing to the broader understanding of finance in Southeast Asia and beyond.

By analyzing the performance and resilience of conventional banks in Malaysia, this study aims to identify the critical factors that contribute to their stability and competitiveness. The findings will offer valuable lessons for other countries seeking to strengthen their banking sectors and enhance financial stability. Furthermore, the research will contribute to the academic literature on banking resilience and provide practical implications for policymakers, financial regulators, and banking industry stakeholders.

In light of the various scenarios depicting the interaction between external shocks and internal vulnerabilities in the conventional banking sector, this study is titled " MEASURING OPERATIONAL RESILIENCE OF BANKING SECTOR IN MALAYSIA". This research aims to provide a deep understanding of how conventional banks can endure and adapt to economic uncertainties and systemic risks. By emphasizing the importance of effective risk management and early warning systems, this study hopes to contribute significantly to strengthening the stability of conventional banking, thereby supporting sustainable economic growth and financial security for the people of Malaysia.

B. Research objectives

This research aims to assess the resilience and stability of conventional banking in Malaysia, with a focus on how these institutions withstand various economic pressures and maintain their operational integrity. One of the important dimensions in this assessment is risk management. A healthy banking system must be

able to manage risks well, including credit risk, market risk and operational risk. The ability of banks to identify, assess and manage these risks will have a direct impact on the stability of the banking system as a whole. Apart from risk management, another aspect that needs to be considered is asset quality. The health of the banking system is also reflected in the quality of assets owned by banks. Good quality assets will increase the bank's ability to provide loans and earn income from its operational activities. Therefore, good asset portfolio management is very important to maintain the stability of the banking system.

Apart from that, external factors such as macroeconomic conditions also play an important role in this analysis. Changes in economic conditions, such as interest rate fluctuations, slow GDP growth, or exchange rate uncertainty, can place additional pressure on the banking system. To analyze the resilience of conventional banks in Malaysia, this research will examine key financial indicators, such as capital adequacy, asset quality, profitability and liquidity ratios. By evaluating these elements, this research aims to provide a comprehensive understanding of the strengths and vulnerabilities of the conventional banking system in Malaysia, as well as offering insight into areas requiring policy attention and improvement.

1. What are the leading macroeconomic indicators that serve as sources of shocks to conventional banking in Malaysia?
2. How to measure the resilience of conventional banking indicators in Malaysia?

3. How to develop a framework for the resilience of conventional banking in Malaysia?

C. Research purposes

1. To identify the primary macroeconomic indicators that serve as sources of shocks to conventional banking in Malaysia.
2. To measure methods for measuring the resilience of conventional banking indicators in Malaysia.
3. To develop a comprehensive framework for assessing and enhancing the resilience of conventional banking in Malaysia.

D. Research benefits

1. For Policymakers, this research provides valuable insights to inform policy decisions aimed at maximizing the stability and performance of conventional banking in Malaysia. Also the findings can serve as a master plan for future growth and development of the conventional banking sector in Malaysia.
2. For Conventional Bank Stakeholders thiis study offers a reference to design business and operational strategies that enhance bank performance and resilience.And stakeholders can use the insights to optimize risk management practices and improve overall financial health.
3. For Society, the findings contribute to a more stable and reliable banking system, which is crucial for the financial security of individuals and

businesses. A resilient banking sector supports economic growth and provides essential financial services, benefiting the broader community.

4. For Other Researchers, the results of this study serve as a valuable reference for future research related to conventional banking resilience. Other researchers can build on this work to further explore and develop resilience strategies for the banking sector.