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FUNDAMENTALS OF FINANCIAL RISK AND RISK-BASED REGULATION

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CHAPTER 1

FUNCTIONS AND FORMS OF BANKING

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ABSTRACT:

Banking is an essential industry that plays a vital role in economic growth and development. The primary function of banks is to collect deposits from savers and channel them to borrowers in the form of loans, thereby facilitating the circulation of money in the economy. Banks also offer various financial services such as payment processing, wealth management, and investment services to their customers. The forms of banking can be broadly categorized into two types: commercial and investment banking. Commercial banks are involved in traditional banking activities such as deposit-taking, lending, and payment processing. Investment banks, on the other hand, are involved in activities such as underwriting securities, managing mergers and acquisitions, and providing advisory services to businesses and governments.

KEYWORDS:

Businesses, Banks, Economy, Financial Services, Management.

INTRODUCTION

Deposit collecting, payment planning, and loan underwriting are the three fundamental banking services that banks provide. Additionally, banks could provide financial services including risk, asset, and cash management. Through three interconnected processesfinancial intermediation, asset transformation, and money creationbanks play a key role in promoting economic activity. While wholesale banks service mostly corporate clients, retail banks generally cater to retail clients. The central bank of a nation coordinates with other central banks, makes monetary policy on behalf of the government, and may also regulate banks. Individual bank regulation may sometimes be carried out by a body other than the central bank. Credit, market, operational, and liquidity risks are the primary dangers that banks must deal with. Business risk and reputational risk are further categories of risk. The risks that banks confront might vary as economies, banks, and society as a whole grow and evolve, and new dangers could emerge. The banking sector is shaped by a number of factors, including legislation, competition, product innovation, shifting technology, and the unpredictability of interest and inflation rates in the future[1].

Banking's Functions and Forms

Banking and Banks

Understanding the variety of services that banks provide and their crucial position in the contemporary economy is essential for comprehending banking risk and regulation.

Bank Services, Core

Many goods and services are provided by banks. Although there are differences between banks and across areas, banks typically provide the following main services:

1. Deposit collection is the act of receiving cash or money (deposits) from customers (depositors) so that it may be stored in a bank account for later usage.
2. Payment services include taking and sending money using clients' bank accounts on their behalf.
3. Loan underwriting is the process of determining if a customer (borrower) is qualified to get credit and then granting the customer a loan or other kind of credit.

The three main banking functions have become more sophisticated as banking has developed. For instance, back in the day, depositors would obtain a certificate from the bank detailing the amount of money they had placed. Later, payments may be made via deposit certificates. The idea of utilizing deposit certificates for payments initially included a laborious procedure that later gave way to passbooks, checks, and other handy ways to get deposits from the bank. Deposits, withdrawals, and payments may now be performed instantly using debit cards, and electronic fund transfers (EFTs) are a convenient way to send money. In banking and finance, underwriting may imply several different things. This book is all about credit or lending. Loans are reviewed by banks twice. The borrower's financial capability, or ability and desire to repay, is the first thing the bank examines. However, in a contemporary market, an entity cannot be referred to be a bank just because it offers all of these fundamental services. A contemporary bank must possess a banking license, be governed by banking regulators, and be subject to supervision in order to provide these services.

Financial Institutions

Banks play a crucial role in facilitating economic activity via the aforementioned essential banking services. Financial intermediation, or the channeling of money from depositors to borrowers, is done by banks. Through the transformation of assets, banks generate loans from deposits. Banks participate in money creation via asset transformation and financial intermediation. When a depositor makes a deposit, the bank is effectively given a loan. The depositor gets interest payments in return for the deposits. The bank then utilizes the deposits as collateral for loans to borrowers, earning money from the interest borrowers pay. The bank's primary source of income and profit is the difference between the interest it collects from borrowers and the interest it pays to depositors[2].

A bank considers the borrower's credit qualityor how likely it is that the borrower will repay the loan when approving a loan. Depositors, who lend money to the bank in the form of deposits, however, often do not assess the bank's credit standing or its capacity to return the deposits when due. Depositors are at risk because, as we shall see in subsequent sections, banks sometimes do fail and are unable to refund deposits in full. Depositors think that their savings with the bank are secure and will be reimbursed in full by the bank "on demand." Governments have established safety nets, such as deposit insurance, to shield depositors from bank failures. This leaves a portion of deposits vulnerable to the risk that a bank will fail and the depositors won't be able to collect their money in full. These safety nets differ from nation to country and often do not provide infinite protection.

Banks participate in financial intermediation by taking deposits and then lending the money out. Bank loans are the most common kind of funding for people and businesses worldwide. Savings and investments are also channeled via other financial intermediaries, including finance firms and financial markets (such as the stock or bond markets). However, banks are the only entities that transfer deposits from depositors to borrowers, unlike other financial intermediaries. Banks

are thus often referred to as depository financial intermediaries. Financial intermediation highlights the key distinctions between bank loans and deposits. Bank deposits, such as savings accounts and checking accounts, are sums of money given to banks by people, businesses, and other organizations for safekeeping. They are often quite modest. Deposits often have short maturities or may be withdrawn at any time, and they are also reasonably safe. In contrast, bank loans (such as house mortgage loans, auto loans, and business loans) tend to be bigger, riskier, and have longer payback terms than deposits. Asset transformation is the process of converting liabilities (deposits) into new assets (loans) that have different characteristics.

Cash Creation

By turning client deposits into loans, banks generate income from the financial intermediation/asset transformation process. To be profitable, however, the bank's interest rates must be higher than the rate it pays on the deposits used to fund the loans. Since the bulk of deposits are withdrawable at any moment, banks must strike a balance between the necessity for liquidity to satisfy depositor withdrawal requests and the objective of greater revenues (investing more of the deposits to finance loans). In order to achieve this, banks "reserve" a tiny portion of their deposit money in order to satisfy depositor demand. The percentage of deposits that banks are required to hold as reserves in their vaults is determined by banking authorities. Fractional reserve banking refers to keeping just a limited portion of the depositors' money accessible for withdrawal. Banks can print money thanks to this mechanism. Money creation is the process of making new money by continually lending an initial deposit to a bank using the fractional reserve banking system.

Banks are essential to economic growth since they are the greatest source of company finance globally. Banks assist firms find finance by arranging for people to lend them money or invest in their bonds, as well as by directly providing funding by making loans and purchasing bonds. The arrangement of share issuances or even direct ownership holdings in corporations are other ways that banks might assist businesses in obtaining finance. The two forms of finance and capital sources are debt and equity. Banks also offer financing for customers, who utilize bank loans to buy and finance items like a home or a vehicle that they may not otherwise be able to afford. Credit cards, a different kind of bank loan, provide customers easy access to credit, enabling them to make purchases and perhaps boosting the economy. The different loan products and how they are utilized will be covered in more depth by the author. Banks play a crucial role in sophisticated economies via their primary duties of money generation, asset transformation, and financial intermediation.

Financial Services

Payments between depositors and between banks may be sent and received via the depositors' bank accounts. Payments are used to settle financial transactions between parties and often include the transfer of money. Checks, payment orders, bill payment, electronic payments made via wire services, and other electronic settlement systems are just a few of the payment methods that make it easier to transfer money for transactions. Payment systems may also assist big businesses and government agencies in handling their purchases of products and services. Banks may provide their clients with foreign currency to make overseas payments in addition to settling for payments. Banks assist in organizing international payments by, first, providing facilities that allow the development of payment documents that other banks accept, and second, by accepting

payment documents that other banks have produced. Banks may also transfer payments in accordance with the wishes of their clients by using global payment networks between banks.

DISCUSSION

A different banking services

A bank frequently provides other financial services in addition to its main services, sometimes competing with nonbank financial service providers including financing businesses, brokerage houses, risk management consultants, and insurance companies. Fees, often known as "fee income," are frequently paid by banks and the businesses providing these services. After the interest the bank gets from its borrowers, fees are the second largest source of income for banks. Various other financial services could be:

Cash management: Banks provide major organizations cash or treasury management services as part of their main deposit collecting and payment arrangement functions. Generally speaking, this service entails the bank agreeing to manage cash payments and collections for a business and invest any short-term cash excess[3].

Investment-related activities: Many bank clients seek out investment products like mutual funds, unit trusts, and annuities that provide larger returns than bank deposits but also come with higher associated risks. Customers have traditionally gotten these financial products from nonbanks. However, in an attempt to sustain client connections, the majority of banks now provide them. Brokerage and investment banking services are among the additional securities-related services that banks provide. Securities (such as stocks and bonds) are bought and sold as part of brokerage services on behalf of clients. Offering a wide variety of funding alternatives, including direct investment in the firms themselves, as well as counseling commercial clients on mergers and acquisitions are all part of investment banking services.

Trading in derivatives: Derivatives are financial instruments whose value is "derived" from the intrinsic value and/or change in value of another financial or physical asset, such as bonds, equities, or commodities like gold or oil. Examples of such assets include swaps, options, forwards, and futures. Institutions may better manage a variety of risks with the use of derivative transactions, including credit default, interest rate, commodity price, and foreign currency risks.

Loan agreements

Over extending a loan promise of a certain amount of money over a period of time, banks get paid a flat charge, regardless of whether the borrower uses the whole amount. The amount of the loan pledge that has been utilised, whether in whole or in part, by the borrower, is shown on the bank's balance sheet. The remainder is not included on its balance sheet[4].

Letters of credit: A bank will guarantee a payment (up to the amount stated in the letter of credit) on behalf of its client and will charge a fee in exchange.

Insurance services: To increase their client base, many banks, especially those located outside of the United States, provide insurance products. Since insurance products have comparable financial intermediation and asset transformation properties to conventional bank products, insurance services are a natural next step for banks. For instance, life insurance plans are often comparable to many of the long-term deposit products that banks provide: both are instruments for conserving money, but they do it in various ways.

Trust services: Some bank clients choose to have specialists manage their assets, notably affluent people, corporate pension plans, and estates. As a result, several banks provide trust services that, in exchange for a fee, professionally handle a customer's assets. The bank's balance sheet does not include these assets under management.

Services for risk management: As banks have diversified into increasingly intricate industries, they have had to deal with complex and composite risks including interest rate, currency, and pricing concerns. To tackle these complex risks, banks have created sophisticated techniques and intricate technologies. Banks now provide the same risk management abilities and resources to their clients in exchange for a charge.

Various Bank Types

By emphasizing the various clientele serviced and the breadth of services provided, this section serves to show the many sorts of banks. Different variations of the sorts of banks mentioned below occur around the globe[5].

Consumer banks

Consumers, or "consumers," are the main clients of retail banks, while many of them also provide services to small and medium-sized businesses (SMEs). Retail banks may specialize in a variety of areas:

Retail and consumer banks, cooperatives, credit unions, savings and loan organizations (thrifts, building societies). These (such as Woodlands Bank in the United States, TSB Bank in the United Kingdom, or OTP Bank in Hungary) give loans largely to people to finance homes, cars, and other purchases. Below, we discuss the unique characteristics of cooperatives and credit unions. Private banking companies: These provide wealthy people in general wealth management services, such as tax and investment advice (examples: Coutts & Co. in the United Kingdom and Bank Julius Bär in Switzerland).

Postal banks: These provide consumers with financial services inside of post offices. It is common practice across the globe for the postal service to own or partner with a bank (for instance, Postbank A.G. in Germany and Japan Post Bank in Japan). Although there are many different types of retail banks, the majority have a network of neighborhood branches that allow them to concentrate on retail customers in a particular region, such a city or a nation. However, there are a few very sizable retail banks that connect to retail branches in networks owned by their affiliated entities in other parts of the world (like Citigroup and Santander) and have extensive branch networks that cover entire countries or portions of countries (like HSBC and Industrial and Commercial Bank of China).

Discount Banks

Corporate and no corporate businesses make up the majority of the clientele for wholesale banks. Even though the variety of business clients varies, it often comprises bigger local and foreign businesses. Additionally, wholesale banks provide consulting services catered to the unique requirements of big organizations. Wholesale banks come in several forms[6].

1. **Commercial Banks:** These operate as intermediates in capital formation, provide a broad variety of highly specialized loans to major firms, and provide specialized financial services including payment and risk management.

2. **Correspondent Banks:** These provide loans and a range of investment options to other banks, often those located abroad.

Investing (sometimes referred to as "merchant banks"). These provide firms and governments with expert guidance on how to raise money on capital markets like the stock, bond, or credit markets. When it comes to businesses, they can provide guidance on the purchase or sale of whole or partial businesses. Governments will get advice on privatizing public assets. They could also participate in these operations as investors and underwriters. The third-largest investment bank in the country, Merrill Lynch, merged with Bank of America. Goldman Sachs and Morgan Stanley, two of the surviving big U.S. investment banks, formally changed their business structures to become bank holding corporations. This action gave them the ability to collect deposits from customers and subsequently generate money to finance their continued operations. Perhaps even more significant than their newly acquired power to collect deposits was the fact that it provided them access to emergency financing from their central bank.

The investment banking model, which depends on daily access to the credit markets for funding while being exposed to financial market risks, has been called into question, therefore this was a significant shift in banking. Large European banks with sizable operations in other sectors, such retail banking, were better equipped to survive than those whose only source of income was investment banking, such as Barclays, which decreased its investment banking activities.There are still investment banks in the United States even though the major ones either went out of business or changed their name to banks. Many of them are tiny investment banks with intense specializations. They are less dependent on wholesale finance and tend to concentrate on advising business clients on how to raise capital on the financial markets. Many international wholesale banks fund commerce and often operate in many nations via smaller branches or representative offices. These institutions are referred to as global, multinational, or international banks. Universal banks are banks that provide other financial services, such as insurance, in addition to their traditional banking operations. Large universal banks include Citibank, Deutsche Bank, HSBC, and BNP Paribas, to name a few[7].

Holding companies for banks

Firms that control one or more banks but do not engage in banking themselves are known as bank holding firms. Specifically, bank holding companies are a component of the American banking system where authorities were worried to restrict banks' capacity to participate in nonbanking business. Bank holding firms were allowed to possess subsidiaries that together covered the whole spectrum of financial services, but each operational institution only participated in a small portion of the financial markets. It's crucial to distinguish between the operational business and the holding company while examining U.S. banks. As an example, the holding firm Wells Fargo & firm owns Wells Fargo Bank. Wells Fargo Bank is in charge of managing banking operations. Several sizable non-U.S. holding company-based banking organizations, such as HSBC Holdings and Royal Bank of Scotland. Bank holding firms often generate money on behalf of their organization and then "downstream" it to its operational firms. They may pay the debt's interest via "up streamed" profits from the running firms [8].

CONCLUSION

In addition to commercial and investment banking, other forms of banking include central banking, cooperative banking, and Islamic banking. Central banks are responsible for regulating

the money supply, setting interest rates, and overseeing the banking system. Cooperative banks are owned and operated by their members and primarily serve local communities. Islamic banking operates in accordance with Islamic principles and prohibits interest-based transactions. Overall, the banking industry is a complex and dynamic sector that provides essential financial services to individuals, businesses, and governments. The forms of banking continue to evolve as new technologies and financial products emerge, but the fundamental function of banks remains unchanged - to facilitate the efficient flow of money in the economy.

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CHAPTER 2
AN OVERVIEW ON COOPERATIVE BANKS

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ABSTRACT:

Cooperative banks are a unique form of banking that is owned and operated by their members. These banks are primarily focused on serving the financial needs of local communities and providing financial services to people who may not have access to traditional banking services.Cooperative bank's function based on the principles of cooperation, mutual self-help, and democratic decision-making. Members of the bank elect a board of directors to oversee the bank's operations, and each member has an equal say in the bank's management. One of the primary objectives of cooperative banks is to promote financial inclusion by offering affordable banking services to people who may not have access to mainstream banks. These services can include savings accounts, loans, and insurance products.

KEYWORDS:

Cooperative Banks, Credit, Customers, Management, Market Risk.

INTRODUCTION

Customers own cooperative banks, which often have a broad branch network that reaches both smaller towns and villages and more populous urban areas. Their primary competency is often lending to and accepting deposits from private citizens and small enterprises. In most banks, there is a separation between clients who do business with the bank but have no ownership rights and shareholders who make investments in the bank and so own it. A depositor with a cooperative bank, on the other hand, instantly becomes a stakeholder in that cooperative bank. Customers who acquire loans may also become shares in some cooperative banks. In theory, these clients have the right to vote and have an influence over how their neighborhood cooperative bank is administered. Cooperative banks have a pyramidal organizational structure, with individual customers managing local cooperatives, which in turn control regional organizations, which control a national organization that manages the network as a whole[1].

Examples of these cooperative banks include the Nationwide Building Society in the United Kingdom, Rabobank in the Netherlands, and the Shinkin cooperative bank network in Japan. Even though cooperative banks often have close links to their communities, many of them have grown to be enormous institutions that sometimes act like regular banks. One of the largest banks in the world is Rabobank, located in the Netherlands. The BPCE Group in France collaborates with significant businesses and provides cutting-edge financial solutions. A central organization that controls liquidity and risk for the whole group is still ultimately owned by the members of many bigger cooperative banks.

Unions of credit

In that their members are their owners, credit unions and cooperative banks have a lot in common. In reality, credit unions are often modest in size, deeply ingrained in their

neighborhood, and dedicated to serving the needs of low-income people. Customers often have to have a savings account with a credit union in order to borrow money from that institution. There are credit unions all over the globe, and they play a significant role in the financial landscape, but none are as big as, example, Rabobank, or are able to compete in global markets. The Croydon, Merton and South Sutton Credit Union, which does business in a region of southwest London in the United Kingdom, is an example of a credit union.

Microcredit Organizations

Micro-finance institutions (MFIs) exist to provide low-income clients with tiny sums of cash, often in developing nations. The loans may range from as low as $20 to as much as a few thousand dollars at times. These loans are meant to help borrowers escape poverty and increase their level of economic independence, for instance by helping them acquire the supplies they need to make modest products that they can then sell in their neighborhood. MFIs often work to displace dishonest lenders that take advantage of borrowers and impose astronomical interest rates. The focus of most MFI activities is on women. The most well-known MFI is Grameen Bank, which was founded in Bangladesh in the 1970s to provide loans to underprivileged residents of tiny communities. Since then, Grameen has grown to be a sizable organization, but it continues to pursue its policy of providing modest loans to disadvantaged, mostly rural, borrowers[2].With extensive networks in South America, Asia, and sub-Saharan Africa, micro-finance lending today plays a key role in economic development projects around the globe. As part of their corporate responsibility initiatives or even as part of their standard lending operations, several major commercial banks finance MFIs.

Banks, central

All banks, financial markets, and the economy depend on central banks, which are typically a nation's (or sometimes a group of nations') primary monetary authority. In order to control inflation rates and/or promote economic development, central banks often control the quantity of money and credit in a given country. They normally do this via their routine actions, which include purchasing and selling government debt, determining and maintaining core interest rates, determining the levels of reserve requirements, and releasing money. Certain levels of the home currency's foreign exchange rate may also need to be maintained by certain central banks. Additionally, central banks coordinate bank-to-bank transfers.

In the past, central banks have often coupled their position as the major monetary authority with two additional responsibilities: macro prudential supervision, which involves overseeing the banking system as a whole, and micro prudential supervision, which involves policing and monitoring specific institutions. Prior to the global financial crisis, efforts were made to separate these roles (for instance, the British government transferred banking supervision from the Bank of England to the newly established Financial Services Authority in 1997), and in the years since the crisis, there has been a great deal of debate about how these roles should be defined among politicians and bank regulators. No clear agreement has emerged on the best approach to split the tasks, and opinions on how to accomplish so vary[3].

Typically, the entity charged with micro prudential oversight is also in charge of bank supervision in addition to bank regulation. While supervision refers to the process of enforcing those rules (for instance, by checking a bank's financial statements or sending inspectors to speak with the management of a bank), regulation refers to the process of writing rules that govern how

banks operate and behave (for example, setting minimum levels of capital or requiring banks to set aside a portion of their deposits as a reserve). The Federal Reserve System, the Bank of Japan, the People's Bank of China, and the Central Bank of Bahrain are a few examples of central banks.Banks are aggressively managing their risks in order to track, control, and quantify them. The risk management function in a bank works to reduce the risks the bank faces by continuously assessing the risk of its current asset portfolio and other exposures, sharing the bank's risk profile with other bank employees, the bank's regulators, and other relevant parties, and taking action either alone or in partnership with other bank functions to lessen the likelihood of loss or to lessen the size of the potential loss.

The two significant regulatory factors that affect how much regulatory reserve capital a bank is obliged to retain are the size and risk of its assets. A bank that holds high-risk assets must consider the chance that these assets might depreciate fast. Nervous depositors may remove their money from the bank if they believe that the bank is unstable and that their savings are at risk. Fear that the bank would run out of money might surface if too many depositors request withdrawals of their money at once. Additionally, when a bank has a significant amount of withdrawals, the bank may feel compelled to liquidate its assets. Regulators want banks with high-risk assets to have higher accessible reserves to prevent this. Understanding financial risk management is thus necessary for understanding banking regulation[4].

This section explains the numerous kinds of risk that a bank could encounter and offers illustrations of each risk. In further depth, later chapters analyze these hazards and their regulatory ramifications. The Basel Accords, the cornerstone of global risk-based banking regulation, identified the major hazards that are covered in the following discussion. The Basel Accords, which are discussed in more detail throughout the book, are the outcome of a cooperative effort by banking regulators from significant industrialized nations to build a broadly applicable and universally valid framework for banks and bank risk management.

1. Credit and market risk.
2. Operational risk.
3. Liquidity risk.

The Basel Accords also acknowledge that there are other risk categories that could contain these several fundamental risk categories, as seen in Figure 1.

PRINCIPLES OF FINANCIAL RISK

Credit risk is the possibility that a bank borrower won't fulfill its commitments in line with the conditions set out in the loan agreement. Liquidity risk is the possibility that a bank won't be able to pay back deposits and other debts or continue funding its assets.

Credit Risk

Credit risk is the risk that a bank borrower, also known as a counterparty, may fail to meet its obligations pay interest on the loan and repay the amount borrowed in accordance with agreed terms. Credit risk is the largest risk most banks face and arises from the possibility that loans or bonds held by a bank will not be repaid either partially or fully. Credit risk is often synonymous with default risk.Credit risk affects depositors as well. From the depositors’ perspective, credit risk is the risk that the bank will not be able to repay funds when they ask for them. The underwriting process aims to assess the credit risk associated with lending to a particular

potential borrower. The banking book is the portfolio of assets primarily loans the bank holds, does not actively trade, and expects to hold until maturity when the loan is repaid fully. The banking book further. Nearly all of a bank's credit risk is contained in the credit risk of the assets in its banking book, although some elements of credit risk can also exist in the trading book[5].

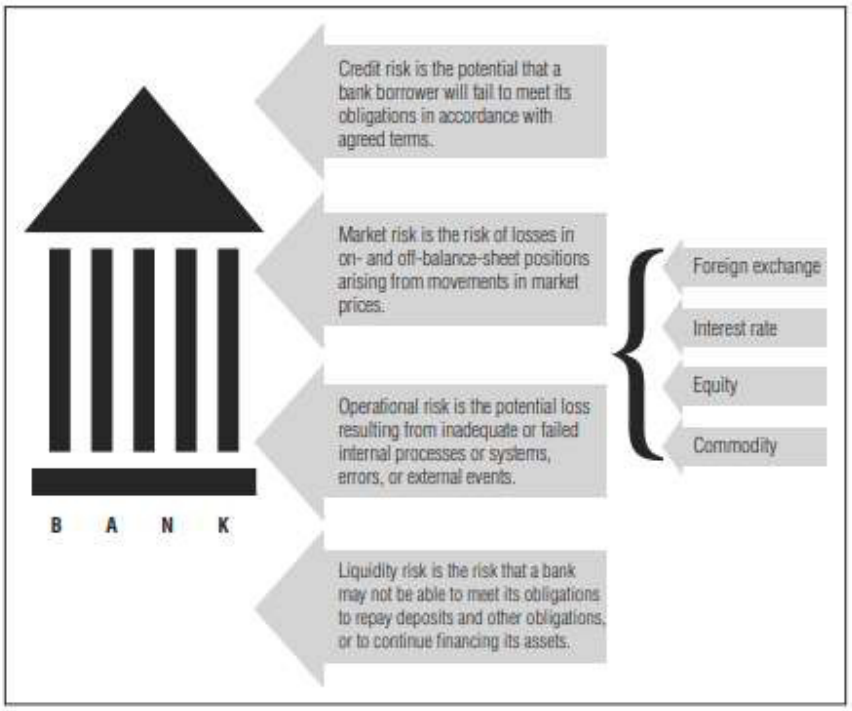

Figure 1: Illustarte the Bank Risks concepts.

Market Risk

Market risk is the risk of losses to the bank arising from movements in market prices as a result of changes in interest rates, foreign exchange rates, and equity and commodity prices. The various components of market risk, and the forces that give rise to them, are covered more extensively.

The components of market risk are as follows:

Interest rate risk is the potential loss due to movements in interest rates. This risk arises because bank assets (loans and bonds) usually have a significantly longer maturity than bank liabilities (deposits). This risk can be conceptualized in two ways. First, if interest rates rise, the value of the longer-term assets will tend to fall more than the value of the shorter- term liabilities, reducing the bank's equity. Discusses bank assets, liabilities, and equity further. Second, if interest rates rise, thebank will be forced to pay higher interest rates on its deposits well before its longer-term loans mature and it is able to replace those loans with loans that earn higher interest rates.

DISCUSSION

The capability and use of technology for social media increased quickly in the early years of this century. The social networking site Facebook revolutionized communication for hundreds of

millions of people. It altered how businesses reached out to both current and future consumers in their advertising. Based on expectations and projections of advertising income, the launch price for Facebook increased as a result of investor enthusiasm when it went "public" on May 17, 2013. The starting share price was USD 38, but this quickly dropped owing to concerns about the efficacy of Facebook advertising and the company's development prospects, plummeting to USD 20 shortly after. The share price ultimately recovered, but its early opening volatility was reminiscent of the dot-com bubble of 1997–2001, which burst and caused losses (due to equity risk) of 50% or more for many technological businesses. Foreign exchange risk is the chance that changes in currency exchange rates may affect the value of the bank's assets or obligations. Banks hold assets and liabilities in various currencies on their own balance sheets in addition to buying and selling foreign exchange on behalf of their clients who require foreign currency to pay for their international transactions or receive foreign currency and want to exchange it to their own currency.

The overall result of these sanctions was a slowdown in commercial activity in Russia, a restriction on personal liberties, the absence of foreign consumer goods in Russiaas well as a collapse in the ruble's value on the world market. The sanctions were intended to be directed at Russia as a whole and her leadership in particular, but they were anticipated to have a considerably greater effect on small and medium-sized Russian businesses than on major firms. Therefore, even though the currency swings were abrupt, it was unclear by the end of 2014 if they would have a long-term effect on Russia's economy and commercial life. The potential loss brought on by a negative shift in commodity prices is known as commodity risk. Commodities come in a variety of forms, including those used in agriculture (such as wheat, maize, and soybeans), industry (such as metals), and energy (such as natural gas and crude oil). Because of shifts in supply and demand, commodities' values vary greatly.

A bank's trading book is often the center of market risk. The portfolio of financial assets kept by a bank to ease trading for its clients, for its own account, or to insure against different sorts of risk is known as the trading book. These assets include bonds, equities, foreign currency, and derivatives. The bank usually makes the assets in the trading book available for sale since it doesn't plan to hold them until they mature. All of the numerous investments in loans, securities, and other financial assets that the bank has made using its deposits, loans, and shareholder equity are collectively included in the assets in the bank's banking book (kept until maturity) and trading book (not held until maturity). Understanding how banks function and how they manage their risks requires being able to differentiate between the trading and banking books. The value of the assets and liabilities in the trading book is subject to rapid fluctuation, and the bank is required to take fast notice of such changes. On the other hand, changes to the value of the banking book often take longer to occur.

Risk Operational

Operational risk is the possibility of suffering a loss as a consequence of subpar or ineffective internal systems, processes, and people, as well as from uncontrollable outside factors. Strategic and reputational risk are not included in this formulation but legal risk is. Operational risk is the least understood and most difficult risk to quantify, manage, and monitor when compared to credit, market, and liquidity risk. Operational risk events include a broad spectrum of loss occurrences. The article explains how banks assess and control the many operational risks to which they are subject in the course of doing business.

Availability Risk

The danger of a bank being unable to pay back deposits and other loans or to continue financing its assets is known as liquidity risk. After the global financial crisis of 2007–2009, when some banks need government assistance because they couldn't pay their debts to depositors and bondholders, there has been a lot more attention paid to the liquidity risk that banks face. The most current Basel Accord adds additional liquidity measures to go along with its capital requirements for banks: Only capital levels were standardized under Basel I and Basel II.

Continuity Risk

The term "systemic risk" refers to the chance that all banks involved in a certain financial system might suffer losses or perhaps go under. The occurrence of macroeconomic or monetary events, such as a currency devaluation, or the collapse of a single "systemically important" financial institution, whose issues affect all other banks in the system, may both lead to systemic risk.

Additional Threats Facing Banks

Other hazards that banks must effectively handle exist in addition to those already discussed. A list of some of them may be seen below. Business risk is the potential loss brought on by a decline in the bank's ability to compete and the likelihood that the bank will thrive in shifting markets.

When American home values declined, the equity backing these loans was diminished to the point that, in many instances, the total amount of loans outstanding exceeded the value of the property, creating negative equity. Household International, which HSBC paid USD 15.3 billion to acquire, had lost the bank USD 30 billion by 2006. In hindsight, the chairman said, HSBC should not have purchased Household International. While closing down its operations, HSBC Finance Corporation continued to service, assist, and collect on the existing receivable portfolio while announcing in 2009 that it would no longer be originating any loans of any kind. The potential loss brought on by a decline in the public's view of a bank is referred to as reputational risk. It is difficult to bounce back from a reputation issue, real or imagined. Even with generally stable systems, procedures, and finances in place, businesses have suffered significant losses due to a lack of client trust brought on by a PR issue. The danger of a bank incurring losses as a consequence of failing to follow internal rules and procedures that control how it does business or legal requirements is known as compliance risk. Following the global financial crisis of 2007–2009, monitoring and inspection of banks have increased, and this risk has been rising recently. As a consequence, there are now much more rules and regulations that a bank must follow, which raises the risk of non-compliance. Furthermore, governments and authorities are far less tolerant of any violations now than they were in the past due to tighter rules on money laundering and financial crime, including tax evasion.

Forces Changing the Banking Sector

The book will briefly touch on a number of additional banking-related issues that were not discussed in this chapter, either directly or as part of a discussion of those topics. Globalization, regulation, and deregulation. Deregulation caused the tough banking restrictions in many nations to loosen in the 1990s and the early years of the twenty-first century. This reduced the direct government control over many banks as they competed with one another and other financial services providers. Less regulation was advocated on the premise that increasing competition

among banks would boost efficiency. As a result of deregulation, banks are under pressure from businesses that provide comparable financial services[6].

Furthermore, it was believed that banks would efficiently regulate themselves out of self-interest, negating the need for onerous government oversight. It was proposed that maintaining good operations is in a bank's self-interest in order to compete in a world that is becoming more and more competitive. However, it became clear that banks were unable to properly regulate themselves during the global financial crisis of 2007–2009. The whole financial system almost collapsed as a consequence of their lack of self-control. It has also become obvious that many banks are now seen as being "too big to fail" because of their significance to the global financial system and global interconnection. Since that time, governments have implemented a number of banking regulation reforms and, for the first time, are thinking about implementing a cooperative system to enable the quick sharing of information among international financial regulators in order to more proactively address upcoming risks and issues relating to financial services. The financial market deregulation tendency that was prevalent in the years before the global financial crisis has finally been reversed. Not only are banks subject to greater regulation than they were before, but policymakers and regulators generally agree that this increased control is necessary. Additionally, there has been a lot more focus on how banks behave and whether they treat consumers properly, regardless of whether they are doing their business in a financially responsible way [7].

Competition. Banks are facing increasing competition from specialized financial services providers. Examples of such non-depository financial intermediaries that now compete with banks include:

1. **Retirement Systems:**Pension Plans and Retirement Funds
2. **Collective Investment Pools:**Mutual Funds, Unit Trusts, And Hedge Funds
3. **Finance companies:**Leasing and Equipment Finance
4. Payment services
5. Insurance companies
6. Hedge funds
7. Private equity companies

Securitization: Bundling together various debt capital assets, such as mortgages, credit cards, and loans, and selling securities representing various types of ownership in the resulting portfolio, is a relatively new financial product. The securitization process is explained in greater. Securitization is a threat to banks since it enables non- banks to offer loans and financing at a lower cost than what banks historically charge. Securitization, however, can also benefit banks by offering them a way to sell some of the higher-risk assets they would prefer not to hold on their books.

Technological advances: Improvements in computing power, telecommunications, and information technology have allowed banks to offer new ventures such as Internet-based banking. Technological advances continue to reduce the cost of routine banking services, such as payments and withdrawals[8].

Inflation and interest rate uncertainty: Both bank balance sheets and profits are highly sensitive to changes in interest rates. When inflation increases, interest rates tend to increase, and

many banks as we will see in later sections suffer. When interest rates change considerably and frequently, banks must focus on managing these risks.

CONCLUSION

In this chapter, the foundations were laid for understanding banks, the banking industry, and the risks they face. Later chapters discuss in greater detail the relationship between bank risks and regulation.Cooperative banks also focus on providing loans to small and medium-sized businesses in their communities. This helps to promote local economic development and creates jobs in the area. By focusing on the needs of the community, cooperative banks play a vital role in promoting sustainable economic growth. Overall, cooperative banks are a unique form of banking that places a strong emphasis on community involvement and financial inclusion. They serve as an essential financial resource for people who may not have access to traditional banking services and play a critical role in promoting economic development at the local level.

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CHAPTER 3
A FUNDAMENTAL STUDY OF MANAGING BANKS

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ABSTRACT:

It takes extensive knowledge of the financial sector, laws, risk management, and consumer behavior to successfully manage a bank. A bank's prosperity depends on effective management, which may also guarantee its long-term viability. The maintenance of the institution's safety and soundness is one of the main responsibilities of bank management. This entails controlling the risks connected to investing, lending, and other financial operations. To reduce possible losses and guarantee the bank's financial stability, bank managers must create efficient risk management techniques. The creation and implementation of client attraction and retention strategies is another important duty of bank management. In order to create goods and services that fulfill the customers' financial objectives, it is necessary to understand their requirements, preferences, and behavior. In order to keep customers loyal and guarantee customer happiness, it also entails offering exceptional customer service.

KEYWORDS:

Cooperative Banks, Credit, Customers, Management, Market Risk.

INTRODUCTION

One responsibility that a bank’s board and senior management team must fulfill is to record correctly and account for all the bank’s transactions. Trans- actions include the bank’s loans, investments, and other assets as well as deposits. These records form the underlying basis for the bank’s financial statements: its balance sheet, income statement, statement of cash flows, and the notes to these statements. Through financial statements, a bank is able to communicate its financial position to its stakeholders and regulators. This section focuses on the balance sheet and the income statement.The balance sheet shows all the assets, liabilities, and equity the bank has at one particular point in time, such as at the end of a year. It is a snapshot of what the bank owns (assets) and owes (liabilities), and the difference between them, the bank’s equity. The income statement records all the revenues (income) and costs (expenses) that the bank has encountered over a specific time period, such as one month, one quarter, or one year[1].

Bank Assets

A bank typically has cash, investments in securities and loans, real estate holdings, and other assets on its balance sheet. The majority of a bank’s assets are held in either the bank’s banking book or its trading book. A small proportion of the bank’s assets are held in cash, either in the vault of the bank to meet immediate needs for payments and withdrawals, as reserves at the central bank, or deposited with other banks to fulfill its regulatory reserve requirements. A simple balance sheet for a hypothetical bank, Bank A, a typical medium-sized bank that provides credit for commercial and industrial purposes. The bank finances its assets the bonds it owns and the loans it underwrites using a combination of deposits and borrowings[2], [3].

The trading book includes the investments the bank has made in securities such as bonds, equities, and commodities. The trading book is chiefly exposed to market risk. Discuss in further detail the risks of the various financial assets usually found in the trading book. The banking book refers to the loans the bank has made. Bank A's trading book consists of the government bonds the bank owns, and the banking book consists of three distinct portfolios: local government loans, small and medium enterprise (SME) loans, and large corporate loans. The value of the banking book equals the value of the bank's loans. In addition, banks will usually own real estate (buildings and other premises) and machinery and equipment (computer and other technology networks) used to support operations[4].

Bank Liabilities

A bank's liabilities consist of its deposits and its borrowings. Most of a commercial bank's liabilities are the deposits made by its customers (depositors). These deposits are generally placed in either transaction accounts or savings accounts. Transaction accounts are accounts where the depositor can withdraw the deposits on demand using checks, debit cards, or similar payment instructions. Transaction accounts usually allow a large number of withdrawals with minimal time restrictions. In exchange for the convenience of immediate access to deposits, banks pay no, or low, interest to the depositors. Checking or debit accounts are examples of transaction accounts. Savings accounts may limit the number of withdrawals a depositor can make over a specified period of time, and offer higher interest rates to depositors. Because access to funds in a savings account is limited and withdrawal in certain cases may be restricted by time, savings accounts are important to a bank's asset and liability management function Examples of savings accounts are time deposits, passbook savings, and certificates of deposit.

A bank may also borrow money from other banks overnight or from its central bank for various time periods. A bank can raise equity in two ways. First, it can sell new stock (equity) to its existing shareholders or the public. When the bank turns to the public to sell new equity in the form of shares, the process is called a public offering.An alternative approach to raising equity is a private offering, when the bank turns to a selected group of qualified investors to raise the equity capital. The bank can also generate net income that is added to its existing equity capital as retained earnings. Dividends are discretionary payments from the bank to its shareholders. The bank returns part of its income to its owners through dividends. The board of directors usually decides whether to pay dividends. Typically, equity consists of preferred and common stock.

One of the fundamental differences between preferred and common stock is that com- mon stock allows its owners to make decisions that affect the bank by voting, including voting for the board of directors. Owners of preferred stock generally do not have this right, which they give up in exchange for set dividend payments and priority over the common shareholders in the event the bank is liquidated. Preferred stock is considered a hybrid security, as it has both debt- and equity-like features. The debt-like features are the set return and the fact that preferred shareholders, in case the bank is liquidated, receive payments before the common shareholders. The equity-like features include that preferred shareholders may receive dividends that may be structured to reflect corporate profits, and the fact that if the bank is liquidated, they receive payment after the bondholders but before the common shareholders.

Income Statement

The income statement records the effects of the financial transactions the bank carried out over a specified time period, usually quarterly or annually. The income statement specifically shows the effect of costs on revenues. The difference between the revenues earned and the costs incurred over a set time period is called profit (or loss). In sum, profit (or loss) is the difference between the bank's income and its expenses. The bank's greatest source of income is the difference between the interest rate the bank earns on the loans it makes and the interest rate it pays to the depositors for their deposits. This difference is called the interest rate margin. Banks profit only when their interest income (paid by the borrowers to the bank) is greater than interest expenses (paid by the bank to the depositors). Managing the bank's net interest income, the difference between interest income and interest expense, is an important function of bank management. A second major source of revenues generated by the bank comes from the various fees banks charge their customers for services provided.

For example, fees are charged for opening an account, applying for a loan, arranging a payment, or receiving advice for complex financial services. Fee income is a substantial source of income. Many banks try to maintain some type of balance between the revenues they earn from interest income and fee income. The most significant cost the bank has apart from its interest expenses is for personnel (employees). Other important costs are the cost for the premises where it operates and the physical infrastructure computer and other networks the bank owns. After all costs have been deducted from the bank's revenue, the bank's earnings before taxes are calculated. Banks, like almost all other companies, pay tax on their earnings to local, state, and national governments. After the bank pays any taxes due, the remainder is the bank's net income. If the net income is negative, it is called a loss.

These examples present a very simplified approach to calculating profits and losses. In reality, there are numerous, and often complex, tax, legal, regulatory, and other considerations that a bank, and any company, must take into account before it can calculate profit(s) or losses. Banks can use their positive net income in any number of ways. As mentioned earlier, the net income can be added to the bank's already existing equity capital as retained earnings, thereby increasing the amount of the bank's equity capital, or the bank can return part of this income to its share-holders as dividends or through the repurchase of existing stock.

DISCUSSION

The Role of Bank's Equity

Equity plays an important role in the management of the bank. If the bank makes a loan to a borrower who defaults on the obligation, the bank will lose some of its assets, affecting the bank's equity and reducing the share- holders' stake in the bank. The depositors, who have entrusted their money for safekeeping at the bank, expect to be protected from any losses the bank suffers on its loans. The processes of financial intermediation and asset transformation are key to bank operations and are also at the core of bank risks. Underwriting, the process of evaluating a borrower's ability to repay funds to the bank, places the bank in a unique position. The bank must determine how much credit can be extended if any and the conditions or terms it must impose on the loan to decrease the possibility of loss. In addition, the bank must consider the total amount of credit risk it is willing to take across all its borrowers. In fact, how well a bank succeeds in its underwriting process affects the bank's profits, financial health, and

survival. Now, suppose that XYZ Construction is unable to repay the loan and defaults. This loan default impacts the bank in several ways:

The bank will not receive any additional interest income from the loan. Assuming the interest rates on loans to SMEs are 5%, the bank would lose USD 200,000 in annual interest income. In the meantime, Bank A still has to pay interest to its depositors. This will reduce the net interest income of the bank. If Bank A cannot recover the loan it has provided to XYZ Construction, the bank loses USD 4 million, which it charges off, or removes, from its balance sheet. The charge-off affects the bank's balance sheet by reducing two items:Losses to the bank reduce first its equity. Deposits are usually insulated from these losses, as equity and other sources of capital such as the bank's own borrowings bear the primary impact of losses. Banks create various reserves to counterbalance some of the effects of loan losses; how these reserves work will be discussed. Some countries provide deposit insurance as an additional guarantee for bank depositors, further reducing the potential risk to depositors.

If the losses are large enough, the entire capital of the bank disappears. In practice, in this particular case, the bank can only withstand an additional USD 96 million in losses before its equity becomes zero. With USD 996 mil- lion in loans outstanding, if a little less than 1/10 of the total amount the bank lent to the customers is lost, the equity of the bank becomes zero. In practice, in most countries, a bank would be closed by the regulators before it lost all of its equity. A bank with a larger equity base is better able to absorb potential losses from nonperforming and defaulted loans and is considered more stable. In the example, 90% of the assets are financed through debt. Leverage (or gearing) is the ratio of debt to equity. During the global financial crisis of 2007–2009, some banks suffered large losses on their loan portfolios and had to reduce the value of their capital by significant amounts. In several cases, the losses were so large that governments had to step in to support the banks.

Losing USD 4 million, or 0.4% of its assets in this case, reduces equity from USD 50 million to USD 46 million, but this erosion will reduce equity by 8% (USD 4/USD 50 = 8%). The bank now can only withstand an additional USD 46 million in losses before its equity becomes zero. With USD 996 million in loans outstanding, if a little less than 5% of the total amount the bank lent to the customers is lost, the equity of the bank becomes zero. The higher the leverage, the faster the equity disappears when the bank has to take losses on loans that default. The impact that losses have on equity is why bank regulations and regulators have historically focused on the bank's equity. Regulators consider the bank's equity the core tool to motivate bank managers and owners to reduce risks and to provide a sufficient cushion against losses.

More equity and lower leverage represent the following:

Bigger commitment by the owners, on the aggregate, to the future of the bank, as they have more of their wealth tied to the fortunes of the bank and potentially more to lose. Greater cushion for the bank to absorb and withstand potential losses. In fact, over the years, both regulators and economists have found that prudently managed banks have higher capital-to-total-assets ratios and suffer losses less frequently. They have found that the amount of capital a bank must have to support its operations reduces the risks it will take and increases the likelihood that the equity of the bank is sufficient to withstand loan losses as well as liquidity pressures. In fact, contemporary banking regulation, such as the Basel Accords, is risk based and links the riskiness of the bank's assets to its equity.

Loan Losses

Banks recognize that some of the loans they underwrite may default, and they anticipate the impact this could have on both the bank's earnings and its profits. As will be seen in later chapters, banks have developed sophisticated and highly structured approaches to predict, manage, and reduce potential loan losses. Since loan losses diminish the equity capital and con sequently may affect the long-term survival of the bank, banks must incorporate into their planning and budgeting processes a reasonable level of loan losses as a "cost of doing business," similar to expenses they budget for employees, office space, and equipment. For good corporate governance, a bank's board of directors should set and approve the bank's loan loss policies. That is why each year banks set aside part of their income to offset the potential impact of loan losses in a way similar to budgeting for salaries and other common expenses.

Complex rules govern the way banks are required to publicly report the assets they have in their trading and banking books. Regulators, shareholders, and other stakeholders have an interest in having high-quality, reliable, and up-to-date information on the financial position of the bank. One core concern is how well the recorded value of loans and other assets reflects their true value. This issue of asset valuation is one of the underlying reasons for the credit crisis that began in 2007. This section discusses how banks record and value assets in their trading and banking books, and, in general, what rules they are required to follow to properly treat and value loans that do not perform. The section also describes methods to manage loan losses and the reserves that are held by the bank to deal with them[5].

Valuing Assets in the Trading Book

Assets in the trading book are usually held for sale, and their value on the balance sheet of the bank should reflect what these assets would fetch in the financial markets. Thus, the value of these assets has to be marked-to-market; that is, their value on the balance sheet must reflect the fair market value. The fair market value is the price the asset would bring if sold immediately on the market to a willing buyer.

Value of Assets in the Banking Book, Performing Loans

Assets held in the banking book, mostly loans, are usually not made available for sale. As such, they are different from assets held in the trading book that, as already noted, are usually held for sale.Loans whose borrowers make payments as agreed are considered per- forming loans. Loans whose borrowers fail to make payments, or make delayed payments, may be considered nonperforming loans (NPLs).In the banking book, if the loans held by the bank are not sold off to third parties, then for accounting purposes they are considered to be held until they are repaid or held to maturity. Since these assets are held long- term, changes in their value do not necessarily have to reflect their fair market value. Their value, however, does have to reflect what the bank reasonably can expect to receive from the borrower. If the bank expects the loan to be repaid in full, no adjustments are necessary.

Value of Assets in the Banking Book, Non-performing Loans

If a bank does not expect full or partial repayment of a loan on time, it must then be classified as a nonperforming loan, and adjustments must be made to the recorded value of the loan in the bank's financial statements. The bank has to adjust the recorded value of nonperforming loans on its balance sheet so that shareholders, management, regulators, and other stakeholders can

correctly assess the strength of the bank. The loan's newly recorded value must be changed to reflect the expected amount the bank can reasonably recover from the borrower. As a consequence of a borrower not repaying the loan in full, the bank must categorize the nonperforming loan as past due, written down, or charged off. A loan is past-due when the repayment of principal and interest is in doubt because the borrower has missed several payments to the bank or the bank has a clear indication that the borrower may not repay the loan; that is, there is doubt about the borrower's ability or willingness to pay. A past-due loan may eventually be fully repaid by the borrower.

A loan is written-down if it is past due, and the bank has made a determination that it will not be able to recover fully the amount it has lent to the borrower. Therefore, the bank has to adjust the value of the loan in its financial statements to the value that the bank expects to recover from the borrower. The amount by which the bank reduces the value of the loan is also called the write-down. A loan is charged-off if it has been removed from the bank's financial statements because the bank believes that it will collect nothing of the loan from the borrower. A charged-off loan will reduce the bank's equity. Even though a loan may be completely charged off, the bank may continue to try to collect on it. How a bank deals with nonperforming loans depends on the regulatory rules it operates under, how conservative the bank's risk management policies are, and the degree of prudence the bank's management exercises in its over- all bank management.

Prudent management is a function of the bank's corporate governance and reflects the risk management culture promoted by the bank's board of directors and the operational structure of the bank. Very conservatively, or prudently, managed banks may aggressively charge off the entire loan as soon as the loan becomes nonperforming. Other banks may exercise a less conservative approach and delay writing down or even charging off loans for as long as they can. Although regulators provide guidance on how to treat non- performing loans on the bank's books, some banks, particularly those that have limited financial strength, may tend to be less conservative when it comes to writing down or charging off assets and may keep them on their books at face value much longer[6].

Because there is discretion afforded to a bank in dealing with non-performing assets, regulators pay a great deal of attention to how banks deal with nonperforming loans, often demanding that banks make additional write-downs. Delaying write-downs or charge-offs can easily lead to an incorrect valuation of the bank's financial condition, because the value of its loans will be overstated. Overstating the value of loans negatively affects the bank's earnings capacity and the size of its equity capital. This could hinder its ability to support operations and absorb future losses, and would be misleading to the shareholders.

Provision for Loan Losses and Loan Loss Reserves

As will be seen in later chapters, particularly the bank's entire underwriting process focuses on making a prediction about the borrower's likelihood of defaulting. Even though the bank thoroughly analyzes all the loans it underwrites, circumstances can change so that what was initially considered to be a good, high-quality loan becomes a nonperforming loan. Banks know this and expect a reasonable level of losses on the loans they make. To compensate for the expected loan losses, banks price their loans accordingly: the interest rate and other fees the borrower pays for the loan are calculated to compensate for the risk the lender undertakes, including the potential loan losses the bank would suffer if the borrower defaults. That is why higher-risk borrowers pay a higher interest rate to the bank[7].

Another approach a bank can use to manage the effect of loan losses is to create a loan loss reserve in its balance sheet. Through provisions in their income statements, banks set aside part of their earnings to cover the losses they expect to suffer from bad loans. The provision for loan losses reduces the bank's income as recorded in the income statement and creates a loan loss reserve on the balance sheet that reduces the value of the loans recorded on the bank's balance sheet. The loan loss reserve is also referred to as an "allowance for loan losses" or a "credit loss reserve." There is an important difference between the provision for loan losses and the loan loss reserve. The provision for loan losses is recorded in the income statement of the bank and affects the earnings of the bank. The loan loss reserve is recorded on the balance sheet of the bank and affects the value of the bank's assets.

During good times, banks generally perform well, experience infrequent defaults, and generate high earnings. Stability coupled with high earnings allows banks to make loan loss provisions as a part of their normal business operations to ultimately bolster the bank's loan loss reserve in anticipation of an economic downturn. Banks budget for losses on loans each year based on historical experience and business judgment. When actual loan losses start accumulating, usually during weaker economic times or recessionary environments, the loan loss reserves can be used to absorb some, if not all, of the losses the bank will suffer. Since the bank made provisions for potential losses in previous years, the loan losses will reduce the loan loss reserves first, not the earnings of the bank. Because of this, losses are not recognized in that year's income statement unless the accumulated loan loss reserves are depleted that year and additional provisions have to be made. In effect, by maintaining an appropriate loan loss reserve, the bank is able to smooth its earnings. Regulators pay close attention to the size of the loan loss reserve, as inadequate provisions for loan losses can hurt the bank's equity capital during economic contraction, when banks need the most protection to withstand potentially sizable losses[8].

Loan Loss Reserves and Loan Losses

The loan loss reserves that a bank builds up over the years should be sufficient to offset future charge-offs the bank expects to make, but if loan loss reserves are not sufficient, then the bank needs to use its earnings to add to its reserves. If neither existing reserves nor the bank's earnings are sufficient to cover loan losses, then the bank will have to reduce the value of its equity.The bank does not have to allocate its profits to cash. It could use that money to extend more loans or to buy more bonds, but in order to keep this example simple, we assume that the bank always allocates this money to cash and keeps it in cash.

CONCLUSION

For compliance and a competitive edge, bank management must also remain current on regulatory changes and market developments. This calls for a thorough grasp of financial rules as well as the capacity to change course in response to shifting market circumstances and client demands.Leadership and effective communication abilities are also essential for successful bank management. To ensure that the bank runs efficiently and meets its objectives, managers must be able to communicate effectively with staff members, clients, and stakeholders. Overall, running a bank needs a broad variety of abilities, including leadership, financial management, risk management, and customer service. A bank's long-term viability and profitability in a cutthroat market may both be enhanced by effective management.

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CHAPTER 4
ASSET AND LIABILITY MANAGEMENT

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ABSTRACT:

In the banking sector, controlling the risks connected to a bank's assets and obligations is known as asset and liability management, (ALM). ALM that is effective aids banks in reducing risk exposure and maintaining a stable balance sheet. ALM's main goal is to make sure a bank's assets are producing enough revenue to meet all of its obligations, including interest payments to depositors and other lenders. To reduce the likelihood of bankruptcy, the bank's assets and liabilities must be properly balanced. The management of interest rate risk, or the risk that variations in interest rates will have an impact on the bank's net income, is another aspect of ALM. To reduce the effect of interest rate fluctuations on their profitability, banks must carefully manage the duration of their assets and obligations.

KEYWORDS:

Cooperative Banks, Customers, Management, Market Risk, Liability.

INTRODUCTION

Banks face two additional key risks that have not yet been discussed: interest rate risk and liquidity risk. Interest rate risk refers to the potential loss in value of an asset due to changes in interest rates. For example, a bank pays one interest rate to its depositors and receives another from its debtors. If interest rates change, the profitability of the bank changes as well. Interest rate risk affects both the banking book and the trading book. Liquidity risk refers to the potential inability of a bank to meet its payment obligations when they are due. In particular, a bank must manage its ability to pay its depositors interest and to repay depositors seeking to withdraw any part of their money. Liquidity risk is also called funding liquidity risk. The liquidity discussed in this section is different from another type of liquidity, the ability to trade in markets without significant price concessions. The bank's asset and liability management (ALM) function manages both the interest rate risk in the bank's banking book and liquidity risk. In particular, the ALM function in a bank focuses on [1]:

1. Maintaining liquidity for the bank
2. Analyzing the shape and structure of the bank's balance sheet
3. Maintaining a stable net interest margin

Interest Rate Risk

Interest rate risk in the banking book refers to a possible monetary loss caused by adverse changes in interest rates affecting the underlying structure of the bank's business: its lending and deposit-taking activities. The dangers of not managing interest rate risk in the banking book were highlighted by the savings and loan crisis that affected the United States during 1980s and 1990s. In managing the bank's assets and liabilities, the ALM function has to consider and balance several factors simultaneously:

The bank's balance sheet is a dynamic portfolio of loans and deposits. As new loans are extended, as existing loans mature, and as new deposits arrive, existing deposits may be withdrawn. The interest rate on liabilities and assets. Some will be fixed, but the interest rate on other liabilities and assets will change periodically according to market rates, resulting in fluctuations in the value of floating-rate liabilities and assets. Timing differences between changes in market rates and in the interest rates on retail products such as bank loans to customers. The bank's current liquidity needs. The current market interest rates for all maturities and competition among banks determine the interest rates offered on deposit products. Commercial e.g., corporate loans and retail e.g., home mortgage loans products. Both allow for the early termination of the loans, but the terms and conditions can be widely different among individual commercial or retail loans, as well as between commercial and retail loans in general. To manage interest rate risk in the banking book, banks consider the impact of interest rate changes on both their assets and liabilities, and the particular features of their assets and liabilities, including, among other things, terms and timing. How well the bank manages its assets and liabilities, the revenues from its assets, and the costs of its liabilities has a direct impact on the net interest margin of the bank[2].

Liquidity Risk

Liquidity is defined by the Basel Committee as the ability of a bank to fund increases in assets and meet obligations as they come due, without incurring unacceptable losses. Liquidity risk has been given much greater attention by standard setters and regulators, and by banks themselves, since the global financial crisis of 2007–2009, when many banks faced severe liquidity difficulties. At that time banks were facing both asset liquidity risk inability to liquidate large holdings of collateralized debt obligations and funding liquidity risk inability to obtain funds from the interbank, or indeed any other, market. From both a bank's and its regulator's point of view, the structure of the bank's assets and its related liquidity needs may highlight potential weaknesses over time. Liquidity corresponds to the bank's ability to make payments to its customers punctually. Ultimately, its ability, or inability, to make these payments in a timely manner will directly affect the banking institution's solvency, or its ability to pay its debts with available cash.

Solvency is different from a bank's ability to make a profit. A bank can be solvent (have more assets than liabilities) and not make a profit if its expenses are greater than its revenues. A solvent bank may be able to generate cash to make payments by selling off assets, but if these transactions are at a loss, then the sale of its assets could erode the bank's solvency, leading to insolvency. A bank can be profitable without being solvent if its revenues are greater than its expenses but its assets are worth less than its liabilities.

Banks actively manage their liquidity risks to ensure that they have sufficient funding to pay their obligations when they become due. Liquidity obligations run to both a bank's depositors and its loan customers. Depositors demand liquidity; they expect to be able to withdraw their deposits at any time without delay. Since fractional reserve banking means that banks can keep only a fraction of their deposits available for immediate withdrawal, improperly managing the bank's liquidity risk could lead to serious consequences. Customers who borrow money from the bank require that the bank provide them with access to the funds they have borrowed without delay when the funds are needed. If a highly leveraged bank needs to secure liquidity quickly to fulfill its obligations, but can do so only by selling its assets hastily and at low prices, then it can

easily become insolvent. As with interest rate risk, banks model how their liquidity requirements may change over time in a wide array of circumstances. Banks have several tools at their disposal to assess their liquidity. Among these tools, scenario analysis and stress testing play a chief role in enabling a bank to examine its liquidity in a variety of adverse situations. Scenario analysis, or what-if analysis, analyzes the potential outcome of various scenarios by setting up several possible situations and analyzing the potential outcomes of each situation. Scenario analysis often includes multiple steps and complex programming. Stress testing analyzes the potential outcome of a specific change to a risk model parameter (e.g., asset correlations and volatility) or to the business and operating environment that is fundamental, material, and adverse.

In a repo transaction, the actual ownership of the security passes to the buyer from the seller. The repo markets are a major source of funding for the liquidity needs of banks around the globe. In addition to the liquidity needs described above, bank supervisors often require banks to maintain a minimum holding of either cash or assets that can be readily turned into cash in case the bank encounters an unexpected cash demand. Highly liquid assets generally include the bank's deposits held at the central bank and domestic government debt held by the bank. A particular concern for regulators are the ripple effects of a bank owing money to other banks as a result of its position in a payments system e.g., a check clearing system or a government bond payment and delivery system. If a bank's customers who use these payment systems default, the bank may not have sufficient cash to be able to pay its banking counterparties on behalf of their customers (the other banks). To counter this risk, banks often rely on collateral, usually high-quality government bonds and other securities. Collateral is an asset(s) pledged by a borrower to secure a loan or other credit and to act as a guarantee to the lender in the event of a default. If the borrower is unable or unwilling to repay the debt, the lender has the option to accept the collateral as full or partial payment of the loan's principal, accrued interest, fees, and expenses.

Typically, bank failures are due to the combination of substantial credit losses and limited or disappearing liquidity to adequately fund assets during times of stress. Consequently, regulators have considered access to adequate funding and liquidity levels crucial for the long-term stability of each bank. Prior to the Basel III Accord, international banking regulations did not have global liquidity standards, or consistent regulatory monitoring in cross-border supervisory oversight. Under the new regulatory framework, the new short-term liquidity coverage ratio, to be implemented starting in 2015, focuses on the ability to maintain adequate liquidity coverage for extreme stress conditions of up to 30 days. This will be complemented by a longer-term structural net stable funding ratio, to be implemented by 2018, that relates the long-term and stable sources of funding to the liquidity characteristics of on- and off-balance- sheet items.

Corporate Governance

A bank is required to consider the often-conflicting requirements of its individual customers, borrowers, depositors, investors, employees, shareholders, regulators, and the public, collectively called stakeholders. All stakeholders have an interest in the future success of the bank. For instance, if the bank is successful, customers benefit from continued business relationships, depositors have continued access to their money, and employees have jobs and receive salaries. Banks attempt to balance the conflicting interests of all its stakeholders, yet recognize that ultimately all decisions should increase the value of the bank and wealth of the owners of the bank, the shareholders. Shareholders elect the board of directors that supervises management that

controls the day-to-day operations of the bank. Corporate governance, the set of relationships between the board of directors, shareholders, and other stakeholders of a company, is a framework banks use to enhance their success. Corporate governance creates a relationship structure that helps management to:

1. Set corporate and strategic business objectives and run daily operations
2. Consider the interests of all its stakeholder groups, separately as well as jointly
3. Manage the bank in a safe and sound manner
4. Comply with relevant laws and regulations
5. Protect the interests of its depositors

DISCUSSION

Corporate Governance Structures

The structure of a bank's corporate governance depends on its host country's legal system, business customs, and the historical development of the bank. Although there is no single structure that can be prescribed as ideal, there are generally accepted governance concepts and ideas that have been shown to support an adequately functioning governance system. Good corporate governance seeks to establish rules that help corporations, such as banks, create internal processes that benefit both the bank and its stakeholders.Several national and international organizations, agencies, corporations, and institutions have attempted to define what creates good corporate governance. Some of the elements identified are described in this section. The board of directors has the ultimate responsibility for the management and performance of a company and is responsible for its governance. The board of directors should do the following:

Set the overall strategic direction of the bank, including the establishment of the bank's risk tolerance levels. Advise on recruitment and human resources (HR); oversee, guide, and review the performance of senior management; and set senior management compensation. Monitor the performance of the bank, and review regular financial and risk reports. Be qualified, both personally and professionally, to act as directors with integrity and in the interest of shareholders. Meet regularly with senior management and internal auditors to establish and approve policies. Review reporting lines, authority, and responsibilities of the bank's senior management In particular, outside directors should be independent of internal and external influences and provide sound advice without participating in the daily management of the bank[3].

Specialized committees support the overall work of the board and allow board members to oversee specific areas. These committees will cover areas such as risk management, audit, compensation, and board nominations. Particularly in smaller banks, a board-level committee can be tasked to review major loan decisions. When the board of directors establishes the bank's strategy and risk tolerance levels, it effectively decides what types of assets the bank should primarily underwrite. Essentially, any bank can choose between pursuing a low-risk strategy and a high-risk strategy. A low-risk strategy entails underwriting high-quality bonds (in particular, government bonds) and loans with stringent underwriting standards, including collateral demands. These assets are considered conservative, with little risk of default. This will discuss bonds. A high-risk strategy entails underwriting lower-quality bonds (in particular, lower-rated corporate bonds) and loans with less stringent under- writing standards. All these assets are considered risky, having a greater risk of default. Whether a bank pursues a low-risk strategy or a

high-risk strategy, the board of directors has to determine how prudently, or conservatively, the bank should be managed. A prudent bank closely monitors the loans it underwrites, has more than adequate liquidity, and generally has stringent internal controls on all aspects of its operations. From a regulatory perspective, a prudently managed bank that pursues a low-risk strategy is optimal. A bank that is not prudently managed and pursues a high-risk strategy usually causes considerable concern to regulators.

A bank's organizational structure is determined by the board and directed by the CEO. The board has oversight responsibilities, with day-to- day decision-making lying in the hands of the CEO and senior management. At the head of the organization is the board of directors. Immediately below the board of directors is the company's CEO or president, who oversees the senior management. The senior managers, in turn, oversee the activities of business units, junior managers, and employees. This hierarchical structure ensures that corporate activities are coordinated across the various businesses[4].

In many countries, the corporate governance structure includes a supervisory board. As the name suggests, this board supervises the state of play, course of business, and managing board, led by the interests of both the company and its stakeholders. The supervisory board also gives support and advice to the managing board.

1. Management Structure
2. Supervisory Board Management Board
3. Group Executive Committee Management Board
4. Business Heads/Regional Heads/Infrastructure Heads

Senior Management and Corporate Strategies

Senior management has comprehensive oversight of managers (managers are held directly responsible for the development of a specific line of business or operational function). An important task for senior managers is to communicate the responsibilities and ensure the performance of each staff member. Senior management also has a key role in the setting and implementation of a bank's strategic objectives. A bank that does not have strategic objectives will find it difficult to manage its activities, as there will be a lack of focus in the use of its resources.

Values and Culture

It is important for a bank to have a strong corporate culture. By establishing a corporate culture, a bank will be able to conduct its business according to clearly defined values. Equally important is the communication of such policies to all areas of the bank. The company's set of values should be applied to all areas of the bank, including the board of directors. They should encourage the reporting of problems in a timely fashion and prohibit corruption and bribery both internally and externally. These values should be supported by policies to prevent situations that can challenge the operation of good corporate governance. An example would be a clear policy setting out a procedure for employees to follow if their work creates a conflict of interest with their out- side interests. A clear policy reinforces a bank's values in dealing with such situations[5].

Financial Incentives

It is important that the board of directors develops a compensation policy that reflects the bank's culture, objectives, strategy, and control environment. The board should set the compensation for senior management and other key personnel. Any such compensation scheme should ensure that it does not create an imbalance between risks and rewards, as it is important to align pay and bonus structures with long-term risk management. Compensation schemes should encourage individuals to consider long- term issues over short-term revenue generation, while attracting and retaining talent. The compensation scheme should be designed to motivate senior management to act in the best interests of the bank. It should discourage short-term performance measures that may leave the bank exposed to long- term risks. Salary scales should be set so that personnel are not overly dependent on short-term performance in relation to their total remuneration package.

Internal and External Auditors

Internal and external auditors validate the information provided by senior management to the board of directors, regulators, and the public. Both internal and external auditors play a central role in corporate governance. The board of directors supports and protects the auditors' interaction in the following ways[6], [7]:

The board supports auditor independence by engaging auditors to pre- pare an unbiased assessment of the company's financial position based on accepted standards and to report the findings directly to the board. Boards engage external auditors to judge the effectiveness of the company's internal controls. Boards should review, in a timely and effective manner, the auditors' findings and recommendations and require prompt correction by senior management of problems identified by auditors.

Transparency

Transparency helps stakeholders, investors, the public, and regulators to evaluate the performance of the bank and how effectively senior management and the board fulfill their responsibilities. The degree of transparency relates to the degree of disclosure. At a minimum, public disclosure should include:

1. The size and qualifications of the board of directors and its subcommittees.
2. The structure, qualifications, and responsibilities of the company's senior management.
3. Information about the bank's basic organizational structure, including its legal structure.
4. Information regarding senior employee incentive structure and compensation policy (typically restricted to a few senior and well-compensated employees).
5. The nature and extent of transactions with affiliates and related parties[8].

CONCLUSION

In addition to managing interest rate risk, ALM also involves managing liquidity risk. This is the risk that a bank will not have sufficient cash on hand to meet its obligations to depositors and other lenders. Banks must carefully monitor their liquidity position and develop contingency plans to ensure that they can meet their obligations in a timely manner. Overall, effective ALM is critical for the success of a bank. It helps to ensure that the bank's assets and liabilities are carefully managed to minimize risk exposure and maintain a stable balance sheet. By managing

interest rate risk and liquidity risk, banks can better manage their profitability and ensure their long-term sustainability in a competitive market.

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CHAPTER 5
AN OVERVIEW ON BANKING REGULATION

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ABSTRACT:

Banking regulation is a critical function of government that aims to ensure the stability and safety of the banking industry. The primary objective of banking regulation is to protect depositors and maintain public confidence in the banking system. Regulations vary from country to country, but they generally cover several key areas, including capital adequacy, risk management, consumer protection, and anti-money laundering measures. Banks are required to comply with these regulations, which are designed to promote a stable and secure banking system. One of the primary objectives of banking regulation is to ensure that banks have sufficient capital to cover potential losses. This involves setting minimum capital requirements for banks and monitoring their compliance with these requirements. By ensuring that banks have sufficient capital, regulators can minimize the risk of bank failures and protect depositors' funds.

KEYWORDS:

Banking Regulation, Customers, Economy, Management, Market Risk.

INTRODUCTION

The banking industry is different from other industries in that the failure of a bank, either partial or total, will have an impact on the entire economy; hence bank failure carries systemic risk. This chapter broadens the discussion. It first reviews the reasons for banking regulation and then explains the progression of the Basel Accords. Successive Basel Accords provide regulators, supervisors, and banks with a structured approach to identify risks and link capital to these identified risks. Initially, the Basel Accords focused on assessing the credit risk capital requirements for internationally active banks, an approach that subsequently was deemed inadequate by both the banks and regulators. The approach of Basel I was to impose very generic and schematic regulatory capital requirements for credit risk; these methodological computations were very simplistic and exhibited limited risk sensitivity.

Given the reactive nature of regulation, the first Basel Accord has been replaced by a series of more complex agreements. The Basel II Accord, which provides the regulatory framework for most banking and financial regulators, expanded on Basel I by incorporating specific methodologies to measure market risk and operational risk and to directly link capital requirements to these risks. In addition to credit, market, and operational risk, the Basel II Accord also outlined other general principles to link capital to some hard-to-measure risks. The Basel III Accord that emerged after the global financial crisis of 2007–2009 incorporates lessons from that crisis. Since the crisis was partially caused by illiquidity in the markets and inadequate capital levels to withstand substantial losses in the market, the new internationally agreed framework imposes not only quantitative and qualitative measurements, but also quantitative liquidity requirements.

Why Banks Are Special and Need to Be Regulated

Banks play a crucial role in the economy by offering payment services and providing credit. Because any disruption to the banking system could have widespread effects on businesses and people, all governments regulate banking. It was not always so, however. In fact, up until the early 20th century, there were still parts of the world where banking was unregulated. Anyone able and willing to open a bank could do so without any qualifications, hindrance, or permission. However, such an uninhibited banking environment was unstable bank failures were common—so, over time, governments began to regulate banks actively.

Liquidity Crises and Bank Runs

A bank makes a large number of loans that borrowers cannot repay, the bank's liabilities (deposits and borrowings) could exceed the bank's assets, rendering the bank insolvent. As it relates to a bank's or a company's balance sheet, insolvency means that its liabilities exceed its assets—it has zero or negative equity. While this implies an inability to repay creditor claims when they become due, it does not mean that an insolvent bank may be unable to raise cash to meet depositor withdrawal needs. However, because the fractional reserve banking system allows banks to retain only a fraction of their deposits on hand as cash, insolvency problems can be magnified. This problem can be particularly acute if the bank experiences severe defaults. Without adequate liquidity, a bank may have insufficient cash readily available to pay its depositors' claims when they come due. While a bank may have assets that could be sold or leveraged to raise cash, it may not always be possible to do so in a timely fashion.

This inability to make payments when they are due is termed illiquidity, and can lead to a liquidity crisis. A liquidity crisis, in turn, can lead to a bank run, as described in the following example.The only option Bank A has to raise cash and to pay its depositors is to sell off its assets loans and bondsto other banks. However, because of its urgency, poor market conditions or both, such a sale would likely be at prices below the value at which the loans were recorded. Selling the loans to another bank at a loss would exacerbate the bank's worsening financial positionfurther eroding its equity position and increase the likelihood of balance sheet insolvency. This puts Bank A in a no-win situation because if information about its position becomes public it would add to concerns about the bank's stability, potentially causing even more depositors to attempt to withdraw their funds.

The unexpected and excessive demand for withdrawals would position Bank A for possible failure since it has no viable, timely alternatives other than to appeal to its customers for patience while it attempts to arrange for some immediate cash or capital infusion from other institutions or investors, unfortunately making the problem public, something it did not want to do in the first place, thereby worsening an already tenuous situation. Alternatively, the bank could look to merge its business with another organization, or seek a capital infusion from a private third-party source. Unfortunately, all these alternatives take time, which works to Bank A's disadvantage[1].

If no solution is found and the bank fails to raise sufficient funds to continue its operations, the bank may collapse, potentially wiping out the depositors' funds in the bank. Such a collapse could have widespread ramifications for other banks, the availability of credit, other businesses, and the economy, termed a "contagion" effect. When a solvency or liquidity crisis is limited to one bank, then that crisis is generally considered to represent nonsystemic risk. In a non-systemic crisis, one bank's unique circumstances precipitate the crisis, in that its conditions and

circumstances do not apply to other banks, and are not expected to have widespread effect. The issues resulting from the crisis will generally be limited to that bank's customers or its local economy.

However, systemic crises can also result from a run on the deposits of one bank, requiring extraordinary government efforts to keep it what was a more localized crisis from spreading beyond the one bank. Probably one of the most famous and early examples of this happening on more modern times is the bailout of Continental Illinois National Bank. Continental Illinois was particularly vulnerable because it relied heavily on short-term financing. Short-term financing is very sensitive to both market interest rates and the short- term investors' perception of the bank's financial safety. It is an elusive financing source. As long as the investors were satisfied that the bank would repay these short-term loans, they were willing to lend to Continental Illinois. Suddenly the bank found that investors did not renew their short-term loans at maturity and that overseas depositors, concerned about the rumors, had begun to shift their deposits away from Continental. Following failed attempts by the bank to arrange a rescue package with a consortium of 16 other banks, Continental's domestic depositors also began to withdraw their funds.

Bank Panics

Even the rumor of a liquidity problem at one bank can spread quickly and cause depositors at other banks to rush to withdraw their funds. Thus, a problem that exists at one bank can spread to multiple banks. If unchecked, this process can grow into a bank panic, when depositors from multiple banks simultaneously seek to withdraw their deposits.This type of situation can put an entire banking system at risk. Effectively, a multiple and concurrent run on banks, or a bank panic, is an example of a systemic risk. Systemic risk is the risk of the collapse of the entire banking system or financial market. A systemic crisis would have very wide- ranging effects. It is very probable that the effects of a severe bank panic and the accompanying instability in a regional financial system would cross country borders and adversely affect the banking systems of other countries.

Also, the failure of a major globally active bank, the negative effects of a material decrease in asset prices (such as home values), or a bank panic in one country can create shocks that can spill over into other countries. Even upon hearing about a crisis, there is potential that depositors in other countries could become nervous about their deposits. The term for this transference of concern or spillover effect between countries (or even markets) is contagion. Extreme financial events or economic stress, whether a contagion or a bank panic, raises systemic risks for the banking system. Systemic risks can impart significant negative effects across many industries and countries and are likely to have widespread negative consequences for bank employees, customers, shareholders, and, ultimately, the economy.

For small and developing countries, foreign deposits are often a critical source of capital, and their withdrawalas a response to contagion or rumors of contagion can have devastating effects on these economies. In early September 2008, after the collapse of Lehman Brothers, a U.S. investment bank, the interbank market for short-term loans between banks froze. This change in the funding markets adversely affected the Icelandic banks' ability to secure the necessary funding to keep their widespread international banking networks adequately funded, thereby experiencing increased liquidity and funding concerns.

DISCUSSION

Then on September 29, 2008, the Icelandic authorities announced that the smallest of the three largest banks, Glitnir, would be partially nationalized. Glitnir was about to face repayment of EUR 600 million in short-term debt, funds that Glitnir did not have and was unable to raise. The decision to partially nationalize Glitnir had effects on both Kaupthing and Landsbank. Nervous depositors, both in Iceland and in other European countries where the Icelandic banks had a presence, started withdrawing funds. The coverage in the media was also particularly negative. The fact that the Icelandic banks owed more than the Icelandic gross domestic product was widely emphasized, particularly in light of potentially substantial bailout costs. In the ensuing days, as the word spread about the banks' problems, the Icelandic economy was shaken, the value of its currency tumbled, and interest rates increased.

This had a ripple effect on all the foreign operating subsidiaries of the Icelandic banks, causing them to experience significant and unprecedented withdrawal requests. The fear arose that the wide- spread collapse of Icelandic banking so soon after the collapse of Lehman Brothers could lead to a global financial meltdown. Moreover, due to the size of a potential government bailout of the Icelandic banks, rumors circulated that the country itself would face bankruptcy. On October 9, the day after British and other European banking regulators closed down the local branches of some Icelandic banks, the Icelandic government started to shut down and nationalize Iceland's major banks. After the shutdown, the Icelandic banks continued their operations but under government ownership. The bailout costs were substantialthe equity alone of the newly nationalized banks equaled approximately 30% of Iceland's gross domestic product. The Icelandic government sought and received emergency funding from other governments. The aid package is estimated to have been around EUR 9 billion from the International Monetary Fund, European Union, Nordic countries, and elsewhere.

Foundations of Bank Regulation

Avoiding a run on a bank is a chief concern not only of a bank's stakeholders, including management, shareholders, customers, and employees, but also of bank regulators and various agencies and authorities in charge of managing the economy. Effective bank regulation reduces systemic risk by addressing individual underlying risks that could rise to the level, either alone or in con- cert with other risks, of systemic-related issues. The objective of regulation is to identify where oversight is needed and to then implement the appropriate supervision of individual banks to reduce the chance that runs on individual banks will happen, or if they do to prevent them from escalating to systemwide bank panics, contagion, and economic crises.

Regulatory Objectives

To avoid the devastating economic effects of bank failures and to ensure a stable banking industry in well-functioning financial markets, banking and financial regulators actively aim to meet the following objectives:Ensure that banks are operated prudently. Regulators set rules that give banks incentives to follow strict operational standards and to avoid risky loans. Regulators also impose capital requirements on banks requirements that take into account the risk inherent in banks' activities[2].

Reduce Systemic Risk: Regulators and bank supervisors, through examinations, inspections, and regulatory audits, monitor banks on an individual basis. In these examinations, the bank

supervisors focus on identifying non systemic sources of risks that can increase the possibility of a bank run. Usually banks with low equity and regulatory capital levels, risky loans, internal managerial problems, weak earnings, and limited funding sources receive additional regulatory monitoring.

Implement system-wide support mechanisms: These mechanisms reduce the impact of a possible bank run by offering deposit insurance that insures each depositor's money. Other approaches include reserve requirements and access to various liquidity support systems in the banking system. Ultimately, the country's central bank or monetary authority can act as the lender of last resort and may step in to offer temporary emergency liquidity support to weak but otherwise viable banks.

The Regulatory Process

Bank regulation is a complex process and generally consists of licensing and supervision. The first component, licensing, sets certain requirements on those who want to start a new bank. The second component, supervision, provides for the monitoring of banks to ensure that they are in compliance with regulations. In other words, regulation is the drafting of suitable rules and practices, and supervision is the enforcement of regulation[3], [4].

Licensing

Licensing provides license holders the right to operate a bank. The licensing process is specific to the regulatory landscape of the country and/or state where the bank is located and operates. Licensing involves an evaluation of an entity's intent and ability to observe the regulatory guidelines that willgovern the bank's operations, financial soundness, and managerial actions. The process is ordinarily somewhat cumbersome and expensive, which, although not intentional, tends to weed out entities that might not be as dedicated to making the longer-term commitment required to obtain the license and operate a bank. When regulators are satisfied that the owners and man- agers of a newly established bank have fulfilled all their requirements, the regulators will grant the bank a license to operate [5].

Regulatory Supervision

The second part of regulation is an extension of the license-granting process and consists of the supervision of the bank's activities by a government regulator. Regulatory supervision ensures that the operations and functioning of the bank comply with the regulatory guidelines that banks are obliged to follow when they receive their license. Supervision also monitors and attempts to resolve deviations from regulatory standards. Regulatory supervision varies, depending on the type of institution, and is at the discretion of regulatory authorities. Bank supervisors subject riskier banks to more invasive supervision. Some regulatory agencies or regulatory supervisors require a physical inspection of the records, operations, and processes of regulated banks, while other regulators simply evaluate reports submitted by the banks. Complying with regulatory requirements is often resource consuming and expensive to banks, but it is, quite simply, a cost of doing business[6].

Stabilization: The Lender of Last Resort

Liquidity and solvency are as relevant today as they were in the 19th century when the current banking system in industrialized countries took form. Early regulators sought solutions to

solvency crises at individual banks before thesecrises transformed into widespread bank panics, and determined that the regulators had to play a role as the lender of last resort. The central bank, as the lender of last resort, helps maintain the stability of the financial system by providing emergency funds to banks undergoing solvency or liquidity problems. Governments hope to ensure the efficiency and resiliency of the financial system. Financial stability is the extent to which financial institutions and markets are able to mobilize savings to provide liquidity. In the first example of the Icelandic banking crisis the actions of the Icelandic government were designed to maintain financial stability in both Iceland and countries where its banks operated. This support, while substantial, was limited given the considerable disparity between the asset size of the Icelandic banks and the Icelandic economy. Ultimately, the bailout of the Icelandic banks depended on the coordinated action of regulators from different countries as illustrated by the previous example[7], [8].

Monetary stability is the extent to which the value of money is maintained (i.e., low and stable inflation). One of the many roles that central banks play is to maintain stable prices by reducing inflation to an acceptable range, usually considered to be in the range of 2% to 3% per year. Central banks achieve this by setting interest rates and controlling the amount of credit and money available in the economy. Discussion of the specific mechanisms by which central banks achieve monetary stability is beyond the coverage of the material here. Monetary stability should not be confused with financial stability; although they can often exist together, they are not necessarily fellow travelers. For instance, very high inflation in a country a sign of monetary instability tends to disrupt the financial stability of that country. Starting in 2007 and continuing in 2009, developed countries suffered from a financial crisis, which caused shorter, yet very significant, periods of financial instability. Well-functioning markets suddenly froze and established banks failed. Notwithstanding this unprecedented financial instability, monetary stability stable inflation rate was maintained in these countries, and in several of them, inflation rates actually declined.

CONCLUSION

Regulators also monitor banks' risk management practices to ensure that they are effectively managing the risks associated with their operations. This includes monitoring credit risk, liquidity risk, and operational risk to ensure that banks have adequate measures in place to manage these risks.Consumer protection is another critical area of banking regulation. Regulations are designed to protect consumers from abusive or deceptive practices by banks, such as unfair fees, misleading advertising, and predatory lending.Finally, banking regulation includes measures to prevent money laundering and the financing of terrorism. Regulators require banks to implement measures to identify and report suspicious activity, and they monitor compliance with these measures to prevent criminal activity. Overall, banking regulation is a critical function that helps to ensure the stability and safety of the banking industry. By setting minimum standards for capital adequacy, risk management, consumer protection, and anti-money laundering measures, regulators can help to minimize the risk of bank failures and protect depositors' funds.

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CHAPTER 6
INTERNATIONAL REGULATION OF BANK RISKS

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ABSTRACT:

International regulation of bank risks is an important function that aims to ensure the stability and safety of the global banking system. The global nature of the banking industry means that risks can quickly spread across borders, making international cooperation and regulation critical to maintaining financial stability.One of the primary objectives of international regulation is to ensure that banks have sufficient capital to cover potential losses. This involves setting global minimum capital requirements for banks and monitoring their compliance with these requirements. By ensuring that banks have sufficient capital, international regulators can minimize the risk of bank failures and protect depositors' funds. International regulation also involves monitoring and managing systemic risks, which are risks that could potentially impact the entire financial system. This includes monitoring and regulating large, systemically important banks, as well as coordinating efforts to manage risks associated with cross-border banking operations.

KEYWORDS:

Banking Regulation,Bank Risks, Customers, Economy, Management, Market Risk.

INTRODUCTION

International regulation of bank risks is an important function that aims to promote stability, safety, and soundness in the global banking system. As banks operate in multiple jurisdictions, risks can quickly spread across borders, making international cooperation and regulation critical to maintaining financial stability. One of the primary objectives of international regulation is to ensure that banks have sufficient capital to cover potential losses. This involves setting global minimum capital requirements for banks and monitoring their compliance with these requirements. By ensuring that banks have sufficient capital, international regulators can minimize the risk of bank failures and protect depositors' funds.

International regulation also involves monitoring and managing systemic risks, which are risks that could potentially impact the entire financial system. This includes monitoring and regulating large, systemically important banks, as well as coordinating efforts to manage risks associated with cross-border banking operations. Consumer protection is another critical area of international regulation. Regulations are designed to protect consumers from abusive or deceptive practices by banks operating in multiple jurisdictions, such as unfair fees, misleading advertising, and predatory lending. Finally, international regulation includes measures to prevent money laundering and the financing of terrorism. Regulators require banks to implement measures to identify and report suspicious activity, and they monitor compliance with these measures to prevent criminal activity [1].

To achieve these objectives, international regulatory bodies such as the Basel Committee on Banking Supervision and the Financial Stability Board collaborate with national regulatory authorities to establish global standards for banking regulation. These standards are regularly reviewed and updated to reflect changes in the global banking environment.For a long time, banking regulation was national. That is, governments and their regulatory agencies developed rules and banking supervisory guidelines specific to the country's needs. Regulatory rules differed significantly between countries. Not until 1988, when the Basel I Accord was released, did inter- national banking regulations take shape. The Basel Accords outline regulatory guidelines for international banks' operations and risk management.After the end of the Second World War, the BIS focused on cooperation among banks, first by implementing and defending the international exchange rate system and then by managing it. The BIS has always per- formed traditional banking functionsgold and foreign exchange transactions for the central bank community, as well as trustee and agency functions. The BIS has also provided or arranged emergency financing to support the international monetary system when needed [2].

In 1974, herstatt Bank collapsed after German supervisors withdrew its banking license. Unfortunately, the supervisors did not wait for the close of business to shut down the bank, but acted at lunchtime in Germany. Their timing had international ramifications. Herstatt was engaged in foreign exchange trading, where it was buying and selling foreign currency, mainly German marks. In accordance with custom, herstatt Bank's counterparties had paid the bank in the morning local time, roughly six hours ahead of New York, for the foreign exchange transactions that herstatt was engaged in. When the regulators closed the bank in Germany at lunchtime, or noon in Germany, New York banks were not yet open. The counterparties, who made the payments to herstatt Bank in Frankfurt during the morning, expected that they would receive funds in exchange for their foreign currency in their New York accounts in the afternoon. Herstatt Bank was closed at lunchtime Frankfurt time, and herstatt's U.S. bank, aware that herstatt had been shut down, subsequently suspended all dollar payments on the parent bank's behalf. When the New York markets opened later in the day, herstatt's clients were unable to access their exchanged funds. There followed a chain reaction that severely impacted the global payments and settlements system. In the three days following herstatt's closure, the gross amount of funds transferred among banks for the purpose of payments and settlements fell by approximately 60%. Since then, settlement risk has commonly been called "Her statt risk."

In the aftermath of the failure of herstatt Bank, the central bank governors of developed BIS-member countries established the Basel Committee on Banking Supervision, also referred to as the Basel Committee. The commit- tee's goal was to foster cooperation in regulating the activities of internationalbanks. As noted, the failure of herstatt Bank produced major problems for banks making international payments, particularly foreign exchange transactions. To reduce the chance of such an event happening again, the Basel Committee set out to improve international banking supervision. The BIS provides the facilities for the Secretariat of the Basel Committee in Basel. The secretariat has a small staff of experienced banking supervisors from member institutions. The Secretariat provides administrative help for the committee and its subcommittees and is available to provide guidance to supervisory authorities in all countries.

The Basel Committee

The Basel Committee on Banking Supervision, commonly shortened to the Basel Committee, is a forum for regulatory cooperation between its member countries on banking supervision–related

matters. Representatives of the central banks and banking supervisors are the committee members. It is not a global supervisory authority. Both the reports and recommendations issued by the committee lack legal force. Instead, the committee formulates broad banking supervisory standards (such as the Basel Accords), develops guide- lines for both banks and regulators, and recommends statements of best practice.

The committee encourages the development of common banking regulatory and supervisory approaches for internationally active banks. It seeks to instill guiding regulatory principles without attempting to micromanage member countries' supervisory approaches. An overall objective of the committee's work has been to close gaps in international supervisory coverage in pursuit of two basic principles:

1. Every international bank should be subject to supervision.
2. The supervision should be substantial enough to ensure compliance.

To achieve this objective, the committee has issued several comprehensive documents since 1975 that seek to improve both regulatory understanding and the quality of banking supervision for international banks. The Basel Committee originally consisted of representatives from the members of the Group of 10 (known as the G10) countries, Spain, and Luxembourg. In 2009 the committee was expanded to include representatives from a total of 27 countries. The Basel Committee has advanced several accords and one amendment. These documents are directly relevant for regulating the capital needed to balance the risks of internationally active banks. The accords are closely related to one another and reflect the development and increased sophistication of current-day finance and banking. The committee has also undertaken consultative activities.

The Basel I Accord

The Basel Committee recognized an overriding need to strengthen the international banking system's ability to withstand shocks. The committee also sought to level the competitive playing field by standardizing national capital requirements. Lower capital requirements, or higher leverage, mean that a bank can use more debt to finance the loans it makes, which reduces the cost of funds and increases profitability. For example, prior to Basel I, international banks domiciled in Japan were allowed by their home regulator to maintain less capital than banks domiciled in other countries, giving the Japanese banks a competitive edge. In December 1987, the committee published a consultative study supporting a proposed system for the measurement of capital. The document is commonly referred to as the Basel I Accord [3].

It was approved by the governors of the central banks of the G10 countries, Spain, and Luxembourg and was released to banks in July 1988. The capital measurement system provided for the implementation of a common framework for capital assessment as a function of the riskiness of assets. The Basel I Accord introduced a system to help banks better assess their level of risk across all assets. The system established risk weightings based on the perceived relative credit risk associated with each asset class. The idea was to generate a risk identification system to make it possible to compare different types of banks and the different types of assets they held. To derive a balance sheet weighted by risk factors, each instrument, loan, or debt is grouped into four broad categories depending on its perceived credit risk.

In practice, banks had a multitude of different assets with different characteristics, and the actual risk weights used could vary according to the principles of the Accord and the discretion allowed in calculating the risk weight by the banking supervisor. This system allowed banks to consider all their assets, categorize each, and then calculate their total risk-weighted assets (RWA) as the sum of the absolute value of each asset multiplied by its risk weight. Risk-weighted assets include the bank's loans and securities recorded on the bank's balance sheet and also some commitments not recorded on the bank's balance sheet. For example, off-balance-sheet items would include financial derivatives, standby letters of credit, and other contingent liabilities that, if ever triggered, could expose the bank to financial risk.The Organization for Economic Cooperation and Development (OECD) is a group of 30 developed countries with a democratic government and a market economy. In addition, the Accord created a framework for the structure of bank capital, often called eligible capital. The Basel Committee considers equity capital as the preferred element of eligible capital for a bank. However, for regulatory capital purposes, most banks could hold capital in two tiers.

Finally, the Accord also set a minimum capital requirement of 8% for the ratio of risk-weighted assets to regulatory capital. The ratio of the risk- weighted assets (RWA) to the regulatory capital of the bank is called the capital ratio or capital standard. Tier 1 capital is usually the equity of the bank; combined Tier 1 and Tier 2 capital, with some adjustments, usually equals the regulatory capital. The minimum capital standard of 8% was to be implemented by the end of 1993. Capital adequacy is achieved when an institution's capital ratio meets or exceeds the minimum capital standard. The Accord's common framework for capital was progressively introduced in virtually all countries with active international banks[4].

Thus, assuming the country in which Bank B operates uses the Accord's 8% minimum capital requirement, Bank B's minimum capital required is EUR 96.8 million (= EUR 1,210 million * 8%). Therefore, to meet the Basel I capital requirement, Bank B must have at least EUR 96.8 million in Tier 1 and Tier 2 capital. To meet the regulatory requirements, at least EUR 48.4 million has to be Tier 1 capital. The Basel I Accord was the first international regulatory attempt to link a bank's risks to the bank's equity. Over the years, both regulators and economists have found that prudently operated banks are characterized by higher capital ratios, take fewer risks, and suffer losses less frequently. The more equity the bank has, the greater the cushion the bank has to absorb potential losses.

The Market Risk Amendment

Banking changed dramatically after the original Accord was introduced. Due largely to other regulatory changes (deregulation) that allowed banks to have greater self-determination in how they conducted their activities, banks became broad-based providers of financial services. Because trading activities in banks began playing a more significant role, the Basel Committee in 1996 issued the Market Risk Amendment, formally titled Amendment to the Capital Accord to Incorporate Market Risks. The Amendment focused on the effect of a bank's positions in various market-traded financial assets foreign exchange, debt securities, equities, commodities, and derivatives.

The risks arising from trading positions in bonds, equities, foreign exchange, and commodities were separated from credit risk calculations and assigned to a new risk category—market risk. The Amendment allowed banks to use their own systems for measuring market risk, subject to banking supervisory approval, and the capital required to cover that risk was based in part on

how effective their models had been at measuring the bank's market risk. In particular, the Amendment allowed banks to use value-at-risk (VaR) models to measure market risk capital requirements. VaR then was a new methodology for measuring risk and has since evolved to become a cornerstone of financial risk management. It should be noted that VaR is now, in some circles, being replaced by, or is used in conjunction with a concept called "expected shortfall," which is a more conservative approach to assessing possible losses. Expected shortfall provides an estimate the expected loss in excess of the loss determined by the VaR calculation. Subsequently, the Market Risk Amendment was incorporated into the Basel II Accord.

DISCUSSION

Weaknesses of Bank Capital Requirements in Basel I Accord

The 1988 Accord was intended to evolve over time. In 1991, it was amended to provide a more precise definition of general provisions against bad debts that are included in general loan loss reserves. Since 1991, general loan loss reserves have been included as capital for purposes of calculating capital adequacy. However, as implementation and use of the Accord progressed, it became evident that Basel I was too simplistic to address the activities of complex banks. For instance, according to Basel I, banks that lent to companies with a very good credit standing were obliged to hold exactly the same amount of regulatory capital as banks' lending to companies with poor credit standing. But banks could charge higher interest on loans to companies with poor credit standing. Since AAA-rated borrowers offer lower interest rates than CCC-rated borrowers, this structure provided banks fewer incentives to underwrite loans to companies with good credit ratings. While the purpose of the Accord was to reduce the overall risk of internationally active banks, these incentives actually encouraged banks to underwrite riskier loans. Another concern with Basel I was that it did not recognize the benefits of credit mitigation techniques. Credit mitigation techniques help banks reduce the credit risk associated with loans through the use of collateral and loan guarantees. Although certainly not the intent, the Accord did not pro- vide banks with the appropriate incentives to use credit mitigation techniques. Under the Accord, banks could employ these techniques but not receive any capital relief.

The Accord also did not recognize the benefits of diversification for credit risk reduction. A bank that lends to the same type of customer in the same region faces greater credit risk than a bank that lends to a diverse group of customers in the same or different regions of the world. The committee initiated the Basel II Accord in an attempt to correct the drawbacks and inadvertent consequences of the Basel I Accord.

The Basel II Accord

In 1999, the committee issued a proposal for a new capital framework to replace the 1988 Accord. The new Accord proposed to connect capital requirements more closely to the actual risks incurred by a bank. It also aimed to broaden the risks banks considered when calculating their mini- mum capital requirements. The new Accord proposed approaches that would accommodate banks' differing complexities in their operations and businesses. Most importantly, it sought to provide incentives for banks to develop more sophisticated internal risk management systems that reduce non systemic risk in the banking system. From a regulatory perspective, the new Accord would provide banking supervisors with enhanced powers to redress weaknesses in individual banks.

In 2004, after lengthy consultations, a new capital framework, Basel II, was introduced. It consists of three pillars. Pillar 1. Sets minimum capital requirements designed to improve upon the standardized rules set forth in the 1988 Accord. These minimum regulatory capital requirements should reflect the three major types of risk that a bank faces: credit risk, market risk, and operational risk. The approach in Basel II cures some of the arbitrariness or coarseness in Basel. Under Pillar 1, banks can choose from different alternatives of varying complexity to calculate their minimum regulatory capital requirements. Basel II also represents the first attempt to assign a regulatory capital charge to the management of operational risk.

Outlines the effective use of market discipline as a lever to strengthen disclosure and encourage sound banking practices. Market discipline is public disclosure of a bank's financial condition to depositors and other interested parties, allowing these to assess the condition of the bank. It relates to transparency of the bank and its activities. Dis- closure, or transparency, is the degree to which a bank or any company reveals its assets, liabilities, and/or inner workings. Disclosure affords the market other banks, depositors, and borrowers a better picture of the bank's overall risk position and allows the bank's counterparties to price, and deal appropriately.The three pillars are intended to reinforce each other in an approach designed to strengthen the safety and soundness of the global financial system. The complex regulatory framework has two overarching objectives [5]:

1. Improve how regulatory capital requirements reflect underlying risks
2. Address the effects of financial innovation that has occurred

Adopting Basel II

When a country incorporates the Basel Accord into its banking regulatory and supervisory framework, it must do so by adjusting it to its own laws and regulations. Most members of the Group of 20 (G20) have adopted the Accord by incorporating the requirements into their respective national laws and/or regulations with some amendments and adjustments. The Basel II Capital Accord has become the basis for the EU regulatory framework and has been implemented across EU countries through the European Union's Capital Requirements Directive (CRD) and other directives. The European Union adopted the CRD through an EU-wide legislative process. The Committee of European Banking Supervisors (CEBS) was created to ensure that Basel II is applied, interpreted, and implemented uniformly across all member states. In 2010 the European Banking Authority (EBA) replaced the CEBS, taking over all of its responsibilities. A study by the Financial Stability Institute (FSI) reported that the vast majority of countries planned to implement, or have implemented, parts of Basel II. Of course, different countries will have different approaches to implementing these Accords. The decision to implement the Basel II Accord in a country is motivated by several factors.

1. The relative success being enjoyed by banks that use risk-based capital.
2. The desire of many bank supervisors across the world to move toward risk-based regulation
3. The desire of many countries to enhance the reputation of their banking system

Different countries have different banking industry structures and specific rules and regulations that govern their business activities. The Basel II Accord takes these country-specific differences into consideration by allowing the national bank regulators and supervisors in countries that

adopt the Accord to customize certain Basel definitions, approaches, or thresholds that they plan to adopt when implementing the proposals. Implementationof rules and regulations are to be based on domestic market practice and experience and be consistent with the objectives of the Basel II Accord and its principles.

The severity and complexity of the global financial crisis of 2007–2009 high- lighted the need to improve regulation and supervision of large, complex, and internationally active financial institutions. Basel II, although still relatively new, was found to be insufficient to deal with the modern and fast changing characteristics of the global banking industry and unable to keep the industry away from crisis. Basel II focuses on individual banks, assuming that by ensuring the stability of each bank the entire banking system would be stable. When the crisis occurred, it became clear that this was not the case. Basel II was found to have weaknesses. Below is a list of some of the more important ones:

1. The Accord's provisions did not adequately assess risk capital.
2. Assets could belong to either the banking book or the trading book.
3. Its treatment of market risk failed to capture the effects of excess concentrations of credit exposure in the trading book.
4. It failed to fully recognize the effect of liquidity on bank securitization practices.
5. Liquidity management requirements were limited; there were no standards.
6. Some risk weights and risk assessments were inadequately calibrated.
7. A lack of understanding of correlation between risks.

After a series of discussions, the Basel Committee, subsequently, redesigned the Basel framework by considering the various experiences learned from the crisis. These changes have been incorporated in the Basel III Accord.

The Basel III Accord

In December 2010 the Basel Committee released the Basel III Accord that was approved by the G20 leaders. Learning from the incremental and fragmented implementation of Basel II, the Basel Committee emphasized the need for a consistent rigorous implementation approach across different countries with attention to internationally active banks. The Basel III frame- work overlays the currently existing Basel II Accord and is to be implemented in stages, to be completed in 2019. It attempts to address the evolution of modern banking and the complex relationships within the financial system. Unlike the two previous Basel Accords, Basel III includes macro prudential issues. While maintaining the microprudential (national or local) regulatory tool kit from Basel II that ensures the safe, sound, and prudent operations of banks, Basel III considers the effects of systemic risks that globally inter- connected financial institutions may present, and seeks to address these risks. To increase the resilience of individual banks, Basel III implements new bank capital requirements that address both the quality and the quantity of eligible capital. Additionally, Basel III introduces a concept called capital buffers above the minimum levels to capture procyclical and systemic risk.

An example of the pro-cyclicality effect is the prevalence of lending into so-called asset bubbles. Excessive lending during a booming market leads to unrealistic expectations of returns and unrealistic valuations of assets, as has occurred in commercial and residential real estate and equities markets at various times throughout history. Additionally, Basel III requires systemically important institutions to raise extra capital. The framework recognizes that the

failure of these globally important institutions can have a greater impact on the stability of the financial system. Basel III includes enhanced standards for both global and domes- tic systemically important banks. Indicators of global systemic importance are: size, interconnectedness, lack of substitutability, global activity, and complexity.

Capital measure is a bank's Tier 1 capital calculation as determined according to the Basel risk-based capital framework. The Exposure measure is generally defined as a bank's total exposures including on-balance sheetexposures, derivative exposures, securities financing transaction exposures and off-balance sheet items. In simple terms, a leverage ratio is the amount of capital a bank has in relation to its assets. A leverage ratio has the advantage of being a simple measure but the disadvantage of treating all assets the same, regardless of how risky they are. This could incentivize banks to hold riskier assets.

Strengthening the resilience of the financial system and ensuring sufficient levels of high-quality capital are not, in and of themselves, sufficient to ensure systemic financial stability. As noted above, poor liquidity management, among other things, can bring markets to a standstill or result in bank failures. Even though the Basel Committee emphasized the importance of sound liquidity management prior to the 2007–2009 crisis, these were not quantitative standards, but rather qualitative principles. The proposed liquidity framework in Basel III includes quantitative liquidity standards, addressing that earlier omission.

Deposit Insurance

One of the tools that ensures the safety and soundness of the financial system is deposit insurance. Deposit insurance is a promise by a government or an insurance system that, in the event of a bank failure, bank depositors will receive back all or some of the deposits they made with that bank. Deposit protection is generally limited to a certain amount of the deposits held at each bank. Each country sets its own limit. The following table gives a sample of the levels at which deposit insurance protection is currently provided around the world:

The motivation for deposit insurance is to help prevent the risk that a bank run will grow into a broader bank panic. Knowing that their deposits would be repaid fully or in most part, even if the bank were to fail, means depositors have fewer incentives to withdraw their funds from an institution even when there is news that the institution is about to fail. As noted above, deposit insurance reduces bank runs, bank panic, and contagion.

Deposit Insurance Coverage

Historically, deposit insurance was voluntary and was offered by insurance companies, banks, and governments. Banks that wanted to participate in these deposit insurance systems were able to market this added protection against the failure of the institution to existing and potential depositors. Consequently, these banks were able to secure financing at lower costs than banks that did not offer deposit insurance coverage. Despite the advantage of lower financing costs to banks, few deposit insurance systems were popular, and many were severely underfunded, meaning the deposit insurance provider did not have sufficient funds available to repay the depositors in case of wide- spread bank failures. Many of the voluntary deposit insurance systems exhausted their assets during poor economic times when multiple banks failed. This original combination of voluntary participation and poor funding reduced the effectiveness of deposit insurance.

During the Great Depression in the United States starting in 1929, bank runs grew into a bank panic and led to widespread bank failures. As a result of sweeping legislation, in 1933 the United States created the world's first comprehensive, compulsory, and explicit deposit insurance system. Under this system, which continues to exist today, the Federal Deposit Insurance Corporation (FDIC), an independent agency, provides protection for deposits in U.S. banks.4 Protection is subject to certain limits, constraints, and caps, but in effect a large proportion of deposits in the United States are protected against a bank's failing. This approach has been espoused by deposit insurance systems around the world. The FDIC regularly examines the safety and soundness of the banks it insures to determine their capitalization and overall financial health. The decisions the agency makes based on the bank examinations, in a sense, are the same as an underwriting activity for a bank, and lead to a determination of the premium the bank will pay to the FDIC for deposit insurance. The FDIC has become one of the principal bank supervisors in the United States. At the end of 2008, well-capitalized U.S.

The United States has several government agencies that provide deposit insurance to different types of banks. A basis point is one hundredth of 1%, or 0.0001. A bank paying 7 bp of deposits in deposit insurance premium would pay USD 7 for each USD 10,000 in deposits.Undercapitalized banks that belong to the highest supervisory risk rating group the highest overall risk of operations, loans, and investments pay 43 bp of deposits for insurance coverage. Other factors may adjust these deposit insurance assessment levels, but at the core the difference in deposit insurance premiums between risky and prudent institutions can be substantial [6].

Deposit Insurance around the World

In July 2013, there were 112 countries with deposit insurance systems in operation, and 19 countries with deposit insurance systems that are pending, planned, or under development.5 several countries have multiple deposit insurance systems. For instance, Austria has five different deposit insurance providers. There are also deposit insurance systems that cover multiple countries/territories: the Marshall Islands and Micronesia, and Puerto Rico are insured by the U.S. Federal Deposit Insurance Corporation (FDIC).

Many countries have adopted the FDIC's approach to deposit insurance, making participation in deposit insurance programs compulsory for all banks and financial institutions that accept deposits from the public. Insurance can be provided either by a government agency or through private insurance companies. These approaches are different, but ultimately all seek to protect depositors in case of bank failure. Deposit insurance coverage varies across countries. In most countries, retail customers' deposits are protected at the expense of commercial customers. The reason for this two-tiered approach is that commercial customers are generally believed to be more sophisticated than retail customers and maintain multiple banking relationships that reduce their overall risks if one bank should fail. Also, regulators consider commercial depositors to have the capability to assess the possible risk of a bank failing[7], [8].

While there are 100 countries that have explicit deposit insurance systems in operation, there are several countries that provide implicit deposit insurance coverage. An explicit deposit insurance system is where the government, through an agency, has created a deposit insurance system to guarantee deposits. Such a system relies on regulation through the government or a dedicated agency, banking and other legislation, and active involvement of regulators as well as a law that explicitly states the coverage limits of deposit insurance, the assessment of deposit insurance

premia, and regulatory rules. An implicit deposit insurance system is a system where the government has not created a specific agency providing deposit insurance, but has stated its willingness to guarantee deposits when so needed.

CONCLUSION

Consumer protection is another critical area of international regulation. Regulations are designed to protect consumers from abusive or deceptive practices by banks operating in multiple jurisdictions, such as unfair fees, misleading advertising, and predatory lending. Finally, international regulation includes measures to prevent money laundering and the financing of terrorism.

Regulators require banks to implement measures to identify and report suspicious activity, and they monitor compliance with these measures to prevent criminal activity. Overall, international regulation of bank risks is a critical function that helps to ensure the stability and safety of the global banking system.

By setting global standards for capital adequacy, risk management, consumer protection, and anti-money laundering measures, regulators can help to minimize the risk of bank failures and protect depositors' funds across multiple jurisdictions.

In conclusion, international regulation of bank risks is critical to maintaining stability and safety in the global banking system. By setting global standards for capital adequacy, risk management, consumer protection, and anti-money laundering measures, regulators can help to minimize the risk of bank failures and protect depositors' funds across multiple jurisdictions.

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CHAPTER 7
AN OVERVIEW ON CREDIT RISK

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ABSTRACT:

Credit risk is one of the most important risks faced by banks and financial institutions. It is the risk of loss that arises from the failure of a borrower to repay a loan or meet their financial obligations. Credit risk arises from lending money to individuals, businesses, or other financial institutions. Credit risk is managed by banks and other financial institutions through the use of credit analysis and risk assessment tools. These tools help banks to evaluate the creditworthiness of borrowers and to determine the likelihood of default. Credit risk is also managed through the use of collateral and loan covenants, which help to mitigate the risk of loss in the event of default. Banks use a variety of metrics to assess credit risk, including credit scores, income, debt-to-income ratio, and other financial indicators. These metrics are used to determine the creditworthiness of a borrower and to determine the terms of the loan.

KEYWORDS:

Bank Risks, Credit Risk,Economy, Management, Market Risk.

INTRODUCTION

The first section introduces credit risk by defining and explaining the source of credit risk. The following sections provide a detailed overview of lenders and borrowers, characteristics of credit products, and features of specific credit products used for retail and commercial lending. The final two sections describe the credit process and specifically credit analysis how banks evaluate credit risk.

Introduction to Credit Risk

Credit risk analysis encompasses various components that, in combination, offer the bank a way to measure the probability that a borrower may default on a contracta debt, loan, or similar promise to perform and how much value is likely to be recovered in the event of a default. Credit risk is most simply defined as the potential that a borrower, or counterparty, will fail to meet its obligations in accordance with agreed terms. Default is the failure to repay or meet existing obligations.

Lenders

Banks facilitate financial intermediation, the process by which one group in need of capital borrows funds from another group that has excess capital available for investment. In arranging this transfer of capital between the two groups, the bank uses deposits to finance the loan. Intermediation is critical to promoting economic development. Banks accept deposits from one group (depositors) and use those funds to provide credit products to another group (borrowers). Granting credit facilities (i.e., loans) creates risk. Banks accept this risk as a regular cost of business. Essentially, banks are in the business of managing risk. Banks continually attempt to expand their ability to manage all types of risks and, in particular, have gained considerable

experience with credit risk analysis. Banks routinely evaluate their experiences and incorporate the lessons learned into their business practice by modifying or adding policies and procedures that mitigate credit risk. Despite these efforts, recent events in the banking sector highlight how challenging credit analysis and credit risk management can be[1].

Banking is essential to both the retail and the wholesale markets. There are thousands of local, regional, and global banks that offer a variety of products and services to meet the needs of the retail market individual customers, shops, and small and medium-sized businesses. In the wholesale market lending to other banks, large corporate entities, and large global institutions, only the larger banks are able to offer a diverse enough product range to meet the needs of the customers.

Local and regional banks provide traditional and commercial banking operations such as lending to businesses, making loans to individuals, and accepting deposits. Examples of regional banks include Fifth Third Bank in the United States, Bank west in Australia, Raiffiesen Bank in Central. Eastern Europe, and Al-Ahli Commercial Bank in Bahrain. Global banks such as HSBC, ANZ, JPMorgan Chase, and the Royal Bank of Scotland are well placed to undertake both commercial banking and investment banking activities[2].

Investment Banks

Investment banks often act as an agent or financial intermediary to companies. Although they may have their own brokerage operations, provide investment advice to their customers, and provide loans and credit to commercial customers, their core activity is to arrange equity and debt financing on behalf of their corporate customers. Investment banks typically do not accept deposits from customers or provide loans to retail customers, and they are not often directly regulated by bank regulators unless the investment bank is part of a bank that is otherwise regulated by bank regulators.

As mentioned, in late 2008, some large U.S. investment banks, including Goldman Sachs and Morgan Stanley, converted to banks regulated by the government. The change was considered necessary in order to allow these entities to increase their capital by collecting customer deposits and also, crucially, gave them access to the Federal Reserve's Emergency Lending Facilities. Given the severity of the global financial crisis of 2007– 2009, it would appear that the investment banking model that has existed in the United States since the mid-1930s is becoming obsolete in a globally connected and capital-intensive financial world.

Borrowers

Both retail and wholesale banks differentiate between different types of borrowers based on a variety of factors, including size and financing needs. On the retail side, one broad distinction is typically drawn between individual borrowers and small business borrowers. On the wholesale side, however, the differentiation tends to be more complex.

Retail Borrowers

Retail borrowers include consumers individuals who borrow money to purchase homes, cars, and other goods (in many countries, consumers also borrow to finance education and similar expenses). Generally, consumers with high income, low levels of debt, and solid loan repayment

records are considered less risky borrowers, but a borrower's rating ultimately depends on a variety of criteria.

In today's banking environment, retail banking has become a commodity- like business. Most banks now group their retail borrowers into relatively homogeneous risk groups based on standard criteria. This process allows banks to analyze repayment and default characteristics based on standardized borrower characteristics. One aspect of this process is credit scoring, which allows the common characteristics of loans and borrowers to be grouped and analyzed. Scoring in groups enables loans and borrowers to be dissected and analyzed to more accurately assess a portfolio's probability of loss. Standardization and credit scoring allow the assessment process to be completed more cheaply, making relatively small loans profitable. It has also facilitated securitization, the bundling or packaging of portfolios of loans, against which debt instruments can be issued. Each bank has developed credit decision policies that delineate what types of loans size, exposure, and business need to be approved or ratified by senior management and/or the bank board committee. Generally, the larger and more risky a loan is, the more likely that the loan will pass through several levels of the bank's decision-making hierarchy.

Corporate Borrowers

Corporate borrowers include companies ranging from small local companies to large global conglomerates. Each has different financing needs, and each should be analyzed on a stand-alone basis. Depending on the ease of access to capital public markets, banks, private funding, and companies may borrow capital or raise equity to finance growth and generate income. When borrowing, companies typically repay their obligations from the cash generated from the growth. Companies with steady profits, low debt levels, and solid management are considered to be less risky and are offered better contractual terms for their borrowings. Corporate borrowers are frequently differentiated by their size and global reach.

Local companies: These companies are generally referred to as small and medium enterprises (SMEs). SMEs are usually smaller corporate entities such as partnerships, sole proprietorships, owner-operators, mom-and- pop shops, and other small businesses. SMEs are generally privately or closely held and have a straightforward legal structure. Annual sales are generally below USD 1 million, EUR 750,000, or GBP 500,000, but business size does differ across institutions and regulatory frameworks, and SMEs in emerging markets are generally much smaller than those seen in more developed economies.

Regional companies: Regional companies are commercial businesses, generally larger SMEs, and include chain stores, gas stations, and restaurants, with sales between USD 1 million and 100 million. Some would fall into the definition of SMEs according to the Basel II Accord. Further, their business activities usually expose them to one or more local markets or provide general exposure within a region. The legal and ownership structure of these businesses can be more complex, with multiple owners, several subsidiaries, and locations in different legal jurisdictions[3].

International companies: International companies conduct their business across country borders but generally limit their activities to a certain region around the globe (e.g., Western Europe, the United States, and Canada). They may also be listed or publicly traded companies on a stock exchange or other similar exchange, or may be large, privately held businesses that operate in different countries. International companies can have sizable annual sales (often in the

billions) and need to borrow regularly from banks or the corporate bond market to finance their activities and growth.

Universal companies: These companies are generally considered global conglomerates with exposures around the world. They typically manage their businesses by being constantly aware of global business considerations and pressures. Most are publicly traded on an exchange. Examples include Siemens, Mitsubishi Heavy Industries, Procter & Gamble, BP, Royal Dutch Shell, and General Electric. All are considered institutional borrowers by banks and demand unique consideration for their financing needs. Hedge funds, international banks, and global insurers are also considered universal companies and institutional borrowers. Definitions of SMEs and corporate sizes vary widely. For instance, the Basel II Accord in its Annex 5 defines loans to SMEs as loans to corporations with reported annual sales of less than EUR 50 million.

Sovereign Borrowers

Sovereign borrowers are governments that raise capital through bonds or direct borrowing generally from the larger global banks. Amounts raised are often used for large capital investments (roads, railways) or to finance government spending. Governments often use tax revenues to repay these loans.

Public Borrowers

Public borrowers are primarily state, provincial, and local governments (municipalities) and their sub entities (e.g., water and sewage companies, air- port authorities, public hospitals, and school districts). Amounts borrowed at this level are normally used either for investments (streets, water supply) or general spending. Since most local governments have the ability to generate cash by taxing their constituencies, public loans are considered relatively low risk. Nevertheless, there have been times when strong local governments have defaulted on their loans. Indeed, there have been a number of high-pro- file local government defaults[4].

Supranational institutions such as the European Investment Bank, Asian Development Bank, European Bank of Reconstruction and Development, World Bank, African Development Bank, Inter-American Development Bank, and Islamic Development Bank are also classified as public borrowers.

Characteristics of Credit Products

There is a wide variety of loan types. All were developed to meet specific business needs of different borrowers' unique situations. This section describes basic lending facilities and their differences. To understand which type of lending facility is appropriate for a borrower, lenders must under- stand the details of the borrower's financial status, especially how it relates to existing and anticipated conditions in the local, regional, or international marketplaces.

There are a number of ways a credit product can be classified:

1. Maturity
2. Commitment specification
3. Purpose
4. Repayment source
5. Collateral requirements
6. Covenant requirements

7. Repayment characteristics

While not exhaustive, this list sets the stage to understand the complexity of the lending process and the unique nature of most loans. The following subsections explore each of these characteristics in detail.

Maturity

Credit needs range over different time periods, with the loans made to meet those needs generally classified by maturity. Maturity simply means the date the final payment on the loan or other financial instrument becomes due. For instance, a loan of a maturity of one year must be repaid in full within one year.For business, regulatory, and accounting purposes, banks usually distinguish between three maturity bands for lending: short, medium, and long term. Descriptions of the different maturity ranges or maturity bands. As noted in the table, loans within a particular maturity band tend to have similar uses and characteristics. For example, medium- term lending is usually cash flow based or asset based. With cash flow–based lending the quality and sufficiency of the cash being generated by the company over the period are paramount. Asset-based lending is secured by corporate assets such as accounts receivable, inventories, or certain property or equipment.

In the last few decades, there has been an increasing shift toward the establishment of long-term strategic banking relationships between banks and their borrowers. Banks support these relationships by increasingly offering longer-term loans to meet a borrower's credit needs that previously were fulfilled by short-term borrowings. Having diverse facilities helps to cement a bank's corporate relationships, retain customers for the longer term, and contain competition from other banks. It also means that, despite a borrower's deteriorating credit condition, a bank may be obligated to fulfill lending commitments made at a much earlier time. Proper credit analysis, therefore, must take the time horizon the maturity of a loan commitment into consideration.

The business motivation to distinguish among the three maturity bands is to allow the bank to group loans of comparable maturity. Grouping creates efficiencies by allowing banks to manage loans within the same maturity band similarly. Banks seek to have a balance of maturity bands in their assets (loans and securities in their portfolio) to correspond to the maturity of their liabilities deposits and other borrowings. Part of this process is managed by the bank's treasury department within its asset and liability management (ALM) function. From an accounting perspective, the maturity bands allow the bank to classify the various loans as short-term or long-term; banks use different accounting treatments for short-term and long-term loans. Most medium- maturity loans, for accounting purposes, are treated as long-term loans. The third pillar of the Basel II Accord mandates what disclosures banks must make to the public, financial markets, and regulators. From a regulator's perspective, loan grouping reflects regulatory concerns and allows supervisors to assess more readily how closely the maturity of the bank's assets matches the maturity of the liabilities. Maturities also deliberately correspond to the way corporations choose to finance their businesses, and generally include a mix of short-term debt to be repaid in less than one-year, medium-term debt to be repaid in five years or less, and long-term debt to be repaid over more than five years.

Commitment Specification

Committed facilities are characterized by formal loan agreements, usually for one year or more. Committed facilities earn a margin for the bank above its own cost of funds and include a facility fee, a commitment fee, and a fee for the amount of the loan the bank has actually extended to the borrower, whether or not the borrower uses the full amount of the loan. The amount of the loan not yet taken by the borrower is referred to as an undrawn commitment. The cost of funds reflects the prevailing interest rates in the market, the bank's own cost to secure the funds to be lent, and a margin to cover the costs of asset transformation. The facility fee is the fee charged by the bank for putting the loan into place (i.e., all the aspects of the program that allows the borrower to borrow the funds if and when needed). The commitment fee is the fee the lender charges a borrower for its commitment to make available a line of credit and to guarantee that a loan may be available to the lender at a certain future date, even though the credit in question is not being used at that particular time.

Uncommitted facilities are less formal arrangements but often include a facility letter stating that funds would be made available on demand but solely at the lender's discretion. Uncommitted facilities provide a general framework for the terms of the lending without noting the specific contractual terms of that agreement, such as the amount of the loan or its duration, although such facilities are short term in nature often on demand or overdrafts. There may be different contractual terms depending on when the facility is used. Uncommitted facilities are generally cheaper than committed facilities and priced on a margin above the bank's base rate. There may also be an arrangement fee charged at each renewal of the uncommitted facility. A banker's acceptance is an example of an uncommitted facility. A banker's acceptance is similar to a postdated check, except that once the bank accepts the draft, it becomes obligated to disperse the funds on the date they become due. A line of credit is considered a short-term uncommitted facility. With a line of credit, the borrower is preapproved to draw from the bank funds up to a specified amount on demand. The borrower repays, in whole or in part during the term of the letter of credit, the full amount plus any interest due when the letter expires. The borrower may or may not use the credit line, but is charged by the bank for making it available. Both lines of credit and banker's acceptances are generally considered short-term methods of financing characterized by a three- or six-month time horizon.

Banks can also generate income through compensating balances. When a bank extends a committed or an uncommitted facility, it may require the borrower to deposit certain amounts of money with the lending bank for the duration of the loan commitment. These funds are referred to as compensating balances. This arrangement provides the bank with funds to be used for other purposes, thus allowing it to earn a return on those funds in excess of the costs of the services being provided to the borrower. The borrower may also receive a credit for the compensating balance through an offset of the fee for the banking facility.

Compensating balances serve several functions:

They serve as collateral in case the borrower defaults.They reduce the bank's interest expenses. Since the deposit usually carries a very low interest rate, sometimes as low as 0%, it allows the bank to secure additional deposits effectively at a very low cost, providing the bank with cheap financing through low-cost deposits. Borrowing at a low rate while lending at a higher rate increases the bank's potential earnings. Compensating balances also indirectly increase the

interest the borrower pays to the bank and are consequently considered as a charge to the borrower, as interest is charged for the extension of a loan.

Loan Purpose

The use of loan proceeds can vary widely and can impact a lender's credit decision. A loan used to finance inventory, to purchase equipment used in the production process, or to address some other type of working capital need may be viewed as facilitating the normal course of business or perhaps making possible the exploitation of a perceived strategic opportunity. Typically, there is little credit quality decline inherent in these transactions. Loans, however, can also be used to buy back stock, to finance a leveraged buyout, to pay a dividend, or to fund other shareholder-friendly activities. These loans are typically considered riskier, as they tend to benefit shareholders at the expense of creditors.

Repayment Source

Another way to distinguish between the different loan types is to consider how the borrower generates funds to repay the loan. Asset conversion loans, also known as self-liquidating loans, are loans that are repaid by converting the asset that is used to collateralize the loan into cash. The assets used for this type of loan are typically inventory and work in progress (partly completed jobs). The asset conversion loan is normally considered short-term or temporary financing with the asset later being sold on credit terms or for cash that ultimately will be used to repay the loan. Note that these loans are different from asset-based loans in that the asset used as collateral is being sold to repay the loan versus being used simply as collateral for the loan. Agricultural loans are asset conversion loans. With cash flow–based loans, a bank provides funds that are repaid with the cash flow from the company's operations. With asset-based loans, a bank extends a loan after a specific asset or a combination of assets is pledged as collateral or security (see next section on collateral) to cover the loan. Collateral for this type of loan typically includes inventory, machinery and equipment, leases, furniture and fixtures, or other tangible assets[5].

Collateral Requirements

Assets pledged by a borrower to secure a loan are called collateral. Collateral is used by the bank to safeguard its capital and acts as insurance in case the borrower cannot repay the loan. In the event of default, the bank has the option of accepting the collateral as full or partial repayment of the loan's principal, accrued interest, fees and costs, and expenses. As such, collateral plays a major role in a bank's lending policies it reduces the potential loss the bank can suffer when a borrower defaults. Collateral can come in many forms. Cash is the most obvious and most secure form of collateral since it is already liquid. Property is the most common form of collateral, but is unpredictable because its value fluctuates with market conditions and the lender may or may not have access to it. Mortgage lending uses real estate as the collateral for the loan against the property. In the United Kingdom and other countries, a debenture is a loan that is secured by a fixed and floating charge over all of a company's assets and undertakings. Debentures are useful to enable a company to meet its working capital needs by allowing additional borrowing to be secured on its circulating assets, particularly in the case where there is not enough securityover property alone for a bank to feel comfortable.

The bank also has to consider the changes in the value of the collateral and must ensure that the collateral will retain as much value as possible in the event of default. The loan-to-value (LTV) ratio is a very important indicator for lending and credit risk management. Historically, banks very rarely underwrote loans when the LTV ratio exceeded 75% to 80% unless there was considerable collateral support or the borrowerdue to superior financial strength, access to funds, and capital in generalpresented limited risk to the lender. Pledges of very high-quality collateral, such as government bonds (e.g., U.S. Treasuries) or deposits with the bank, would often make higher LTV ratio loans possible. LTV serves as a critical benchmark in residential and commercial real estate lending. Banks and other real estate lenders have long established LTV-based lending rules designed to prevent lending above the 80% LTV threshold that emerged over the years as a basic standard of lending.

Before the global financial crisis, however, financial innovation led to the creation of ingenious mortgage products designed to help individuals who could not afford to purchase a home. One such product was a mortgage with an LTV in excess of 100% and, in certain cases, up to 125%. Essentially, a borrower could purchase a property for USD 300,000 and finance the purchase with a mortgage of USD 360,000 (an LTV ratio of 120%). The USD 60,000 that the borrower received above the purchase price could be used to refurbish or improve the value of the property by adding features such as additional bedrooms, bathrooms, or landscaped outside areas. This approach assumed that home prices never went down, and lenders counted on the overall appreciation of real estate values to result in a declining LTV as a means of properly collateralizing the loan[6].

Lenders were willing to extend such highly risky, but inventive, mortgages because they allowed borrowers to acquire homes they otherwise could not have afforded. Some lenders went even further and promoted these loans to potential borrowers who were considered to be at high risk of default termed subprime due to either previous defaults or foreclosures or other- wise inadequate financial strength. Reaching out to this high-risk segment magnified the innate risk of the high LTV mortgages. Therefore, not only were lenders willing to lend against expected future price appreciation on property, but they were also willing to assume the added risk of a high-risk borrower. When real estate prices started to decline in 2006 in the United States and elsewhere, many borrowers who had used high LTV loans to acquire properties in anticipation of future price appreciation suddenly found the value of their property eroding, causing the LTV to increase to dangerously high levels. Buyers who were forced to sell their homes to cover their mortgage indebtedness were not able to sell their property in a rapidly deteriorating housing market at a price that exceeded their investment the original purchase price plus value-increasing improvements. In many cases, houses would sell only with significant price concessions. Since the financial crisis, such high-risk loans have been restricted either by retail regulatory oversight or by increased caution on the part of lenders.

Covenant Requirements

Covenants are one-way commitments or promises by the obligor to honor an obligation. The essential purpose of covenants in the financial market- place is to protect the lender by attempting to prevent events and/or processes that could result in a potential deterioration in the borrower’s financial or business condition. Covenants are a control mechanism and typically restrict or affect the borrower’s ability to manage its business. For example, as a condition of loan approval, a lender may require that the borrower agrees to establish a board committee

consisting of individuals possessing certain skill sets to oversee a specific project for which a loan is given. Covenants may also include additional features such as caps on dividend payments to shareholders or limits on owner and management compensation. They may restrict other corporate actions and may prevent a company from disposing of certain assets or require the company to purchase particular assets.

In addition, the airline also reported losses of approximately GBP 10 million each quarter that year, which further reduced the airline's assets, and therefore its borrowing ability, as defined under the covenant, fell even further, to around GBP 260 million. Fly-By-Night's man- agreement was unable to secure additional funding to support its operations and was forced to seek financing for its daily operations elsewhere. Given its poor operating history, entering into a new credit facility proved to be difficult. With limited options, Fly-By-Night was eventually acquired by a larger airline. The previous example shows how covenants are an important tool banks use to limit their counterparty credit risk. It is also crucial that the borrower thoroughly understands the ramifications of the covenants to which the borrower has committed.

Loan Repayment

Loan products are also differentiated by the method of repayment. The stipulated payments that borrowers make to the lenders throughout the loan period from the day the loan is funded until the day the loan is repaid in full include both the contractual interest payments and the repayment of the amount borrowed, or the principal. Interest rates on loans can be either fixed or floating. In a fixed rate loan, the interest rate charged on the loan does not change during the maturity of the loan. In a floating rate loan, the interest charged on the loan is tied to or follows a base rate, set by an independent third party, or an index. The bank will add a charge on top of the base rate or index to earn a profit.

Three general approaches are common for repayment: the sinking-fund amortization, the level amortization, and the balloon payment. Under sinking-fund amortization, the borrower pays a predetermined amount of the principal as well as interest on the outstanding balance of the loan. Initially, the payments on sinking-fund amortization loans are large, but as the principal is reduced, the interest payment accruing on the out- standing balance is reduced. If the loan is a fixed-rate loan, the proportion of the loan repayment that reflects the interest payments will decline over the life of the loan; if it is a floating-rate loan, the interest payments will fluctuate[7].

Under level amortization, the borrower, at each payment date, pays a predetermined amount consisting of principal repayment as well as interest on the outstanding balance of the loan. The payments for a fixed-rate loan do not change over time: the amount to be paid is the same each month, but the proportion of interest payment and principal repayment does change. Initially, the proportion of interest payments is considerably larger than the principal repayment, but over time, the proportion of principal repayment increases. With a floating-rate loan, the interest payments will change as the index or base rate is reset, and the amount to be paid changes, requiring the level payments to change to accommodate the interest rate changes.

The distinguishing feature of balloon payments also called bullet payments is that there is a large payment at maturity, which usually includes full repayment of the principal. A large balloon payment structure can also include all the accumulated interest on the loan, but the borrower typically pays interest on the outstanding loan periodically and repays the principal fully at

maturity. In a floating-rate balloon loan, the payments will be deter- mined by the index and will change over time. Since the loan has not been amortized over the life of the loan, it is imperative that the borrower has the resources to either repay or otherwise refinance the full amount of the loan at maturity date.

Types of Credit Products

This section explains the most common commercial and retail credit products that combine the key credit product characteristics covered in the previous section. The credit products are listed alphabetically.

Agricultural Loans

Agricultural loans support lending for farming and other agricultural production. Clients borrow money to finance the purchase of fixed assets such as land and equipment, or to cover their cash flow requirements for the growing season until the farm has had time to sell its goods. Facilities are generally medium to long term but can also be short term in nature (to finance seed, feed, and cattle for rearing). The types of loans used may range from asset- based to simple revolving facilities.

Bank F provides funds to a farmer for the planting season; the loan is to be repaid after the crop has been harvested and sold. If the farmer delays the sale of crops by storing them in the hope of achieving a higher market price, the bank would most likely offer additional financing to carry the unsold crops (inventory) over the extended term. Farmers also need to replace or expand upon existing equipment. Increasingly sophisticated, and therefore more expensive, new farming machinery is driving demand for longer-term loans, giving the farmer a longer time period to pay off the loan.

Asset-Based or Secured Lending

Asset-based or secured lending involves a bank or commercial finance com- pany lending specifically against the borrower's assets. Commercial bankers will generally lend against inventory (also called stock, stock-in-trade, or items for sale) and receivables (factoring). Asset-based loans generally require a company to be able to repay a loan out of operational cash flow. Thus, the value and marketability of the collateral are important. Asset-based lending can be extended to both commercial and retail customers.

Growth Corporation is a small manufacturer, with almost 60% of its assets in receivables and inventory and an additional 35% in fixed assets. It turns to Bank G to see how it can use its inventory and receivables to raise the financing necessary to support future growth. With sales almost doubling in the last year, Growth Corporation appears to be a strong candidate for asset-based lending. Rapidly growing companies are likely to experience cash shortages due to cash collections from sales not being fast enough to cover cash requirements for inventory and operating expenses. Repayment of the loan could be tied to the sale of inventory, one of Growth Corporation's largest assets. Asset-based financing would increase the company's interest expense, but it would also provide the cash needed to support sales growth[8].

Automobile Loans

Automobile or car loans come either as direct automobile loans that finance the purchase of a car between the bank and the customer, in which the bank secures the loan using the car as

collateral, or as indirect automobile loans, which are loans arranged between an automobile dealer and the customer. In an indirect automobile loan, the customer applies for a loan through the dealer, who then forwards the borrower's information to the lending bank. In some instances, this type of loan is thought to allow the borrower (auto- mobile purchaser) the ability to obtain a lower interest rate on the loan if the dealer and the bank have an arrangement. The bank may offer a lower interest rate to customers introduced by the dealer. Automobile loans are predominately retail loan products. However, in some cases, banks provide fleet financing for companies that need to build up a fleet of cars such as distribution and transportation companies. In these cases, the financing is considered commercial and is usually priced at a lower rate than a retail or individual automobile loan.

Commercial Paper

Commercial paper refers to very short-term, unsecured notes generally issued by large and financially strong companies. The funds received by the companies are generally used to purchase inventory or manage everyday capital needs. Maturities range from three weeks to nine months, and the bonds usually benefit from a traditional credit line, which is known as a backstop— credit support or backup funds that provide a secondary source of repayment. The commercial paper market is primarily used by large, publicly traded corporations, such as Apple, General Electric, or Wal-Mart.

Corporate Bonds

Corporate bonds are debt securities issued by companies and sold to institutional investors such as pension funds or in some cases individuals. Corporate bonds represent a major source of financing, especially for large companies. When corporate bonds are first issued, they are issued in what is called the primary market. But once the bond has been issued and allocations have been made, investors may then trade the bonds in what is called the secondary market. The secondary market brings together buyers and sellers, allowing investors to manage their investment portfolios (e.g., selling the bond of a particular company if its operating performance deteriorates). Many corporate bonds are independently rated by credit rating agencies. Bonds typically pay a coupon on a semiannual basis, and the interest rate may be fixed or floating. The maturity (or tenor) of a corporate bond depends on the credit quality of the issuer and the bond issuer's location. Corporate bonds in emerging markets tend to be shorter term three to five years while those issued in developed markets may range from five to 20 or more years. Corporate bonds with very long-dated maturities, irrespective of where the company is located, are usually reserved for those companies perceived to be of the highest credit quality.

Covered Bonds

Covered bonds are bank issued corporate bonds backed or covered by a pool of mortgages or public sector loans and are similar to asset-backed securities created in securitization. However, a critical difference is that if the mortgages or loans in the pool underlying the covered bond are unable to repay the covered bondholders, then the covered bondholders have a general claim on the assets of the bank in addition to the bond's assets. This is called "dual recourse." In contrast, holders of securitized bonds have a claim only on the securitized assets that comprise the bond and not on the bank that has arranged the transaction or originated the assets. Covered bonds are always shown on the bank's balance sheet, whereas securitized assets are some- times kept on the balance sheet but more often off the balance sheet.

Factoring

Factoring is a service that a specialist financial institution or bank offers to help a company meet its cash requirements and reduce its potential credit losses. There are different types of factoring approaches that can be used separately or in combination. All assure the company of earlier receipt of cash payment. The advantage of factoring is that the company is better able to manage its assets, particularly its cash position. The major disadvantage is that the company will not receive the full amount of the money due, as the bank or the organization providing the factoring services charges a percentage of the assets as a fee for providing the service, typically called a haircut. The following is a listing of the various types of factoring services available to companies:

1. **Maturity factoring:** The bank will effectively take over the company's receivables, work to collect on them, and take a commission from what- ever is collected. The company receives the funds when due on the invoice, minus the commission.
2. **Finance factoring:** The bank will advance funds to the company using the goods and services to be produced with the funds as collateral.
3. **Discount factoring:** The bank will advance funds to the company, usually representing no more than 85% of the receivables, and then take full responsibility for collecting the funds owed.
4. **Undisclosed factoring:** The bank will take full responsibility for the invoices due, pay the company up to 85% of that amount, and then appoint the company its agent to collect the invoices. In this arrangement, outsiders do not perceive the company as needing the funding, and it appears as if the company is conducting its business in a normal manner.

Among the various factoring arrangements, different parties are exposed to credit risk if a creditor defaults. If the bank takes over collection on the receivables and assumes full responsibility for the potential losses, then the bank bears the risk of the losses. In this case, the bank has a major incentive to collect the funds. In the case of maturity and finance factoring, the bank does not assume full responsibility for the potential losses; these losses continue to be borne by the company that sold the receivables to the bank. However, in the case of discount and undisclosed factoring, the bank assumes full responsibility. In discount and undisclosed factoring, the risk of collecting payment is transferred to the factoring entity. In return, the company selling the receivables ensures its cash flow and eliminates its credit risk at a cost of reducing its potential profitability.

Leasing

Leasing allows an individual or a firm (called the lessee in leasing transactions) the right to use an asset that it does not own. In exchange for the right to use an asset, the lessee will make regular contractual payments to the lessor. The lessor owns the asset and provides the lessee the right to use the asset. Leases are both retail and commercial products. As a retail product, leases are often used to finance cars and other expensive consumer products. Retail leases offer flexibility over the time during which lease payments may be made and may even offer lower payments that fit with the lessee's ability to pay. For example, the longer the lease term, the lower the payment made on the lease; however, the longer the term on the lease, the more interest payments the lessee will pay. As a commercial product, leases are widely used to finance expensive equipment. One of the main reasons for this is that leasing does not require the large

capital outlay required to purchase the equipment. This approach is especially beneficial to small and/or rapidly growing firms, where access to cash and the availability of capital may be limited.

Many leasing arrangements include a provision that at the end of the lease the lessee has the right, but not the obligation, to purchase the leased asset at a price negotiated or set when the lease is first signed. This option provides considerable flexibility to the lessee, and may be particularly useful to finance the acquisition of equipment that does not become quickly obsolete. In other instances, the lessee at the end of the lease simply returns the equipment to the lessor, who then must determine what to do with the old equipment. The lessee can then negotiate the leasing and/or acquisition of newer equipment. A lease where the lessee pays a fee for using the equipment and then returns it to the lessor at the end of the lease's term is called an operating lease, and a lease that may entail the lessee acquiring the equipment at the end of the term is called a financing lease.

Since the purchase price of the equipment at the end of the lease will include the delayed repayment of the cost of the system, the lease payments are less than comparable payments on a loan. Lower regular cash payments, coupled with the option of buying the equipment at the end of the lease— further delaying the cash outflows make leases an attractive alternative for a company such as this.

Bank J and invest in a new system that better fits its needs. Also, if the system has dropped in value, that problem would not be handled by Growth Corporation, but by Bank J, since it is the bank that owns the equipment. In this case leasing offers a very good business solution, given Growth Corporation's limited access to capital and its concerns about the future viability of the communications system. In general, there is no ready answer to whether a company or a person should purchase or lease. The factors to consider are numerous and highly individual. Even after a careful analysis, the final decision may rest with the company's or individual's simple business judgment, rather than be the result of a financial calculation.

Mortgages

A mortgage is a financial arrangement that enables a borrower to acquire a real estate asset and to use the real estate as collateral for the debt. Mortgages are extended to both commercial and retail customers. The real estate being purchased is used as collateral or security for the loan. Mortgages can be divided into commercial and residential mortgages. Commercial mortgages predominantly finance office buildings, factories, and any other type of real estate that is used for business or industrial purposes. The main users of commercial mortgages are businesses that consider this as an advantageous source of financing because of the lower rate the bank offers in exchange for having the real estate as collateral. Residential mortgages exclusively finance purchases of residential real estate, such as houses and apartments. Almost every jurisdiction in the world offers a security interest in real estate that is, or is highly comparable to, a mortgage. Consequently, different jurisdictional areas' legal and procedural rules and commercial conventions determine the extent of mortgage financing.

Overdraft Facilities

Overdraft facilities allow borrowers to borrow funds in excess of those they have deposited into their checking accounts. Overdraft facilities offer a flexible type of financing, but the interest rate is usually significantly higher than other financing options, making it a relatively expensive

option. As deposits are received on the account, they are first applied to any borrowed amount outstanding from the overdraft facility. Once the overdraft is repaid, any remaining funds would then be applied to the borrower's account as a deposit. For the business customer, this can be an efficient (but expensive) way to finance short-term business needs. Overdraft facilities are extended to both commercial and retail customers. Banks, however, have no real control over whether, when, or how long the funds are used, so they assume a greater risk in providing overdraft facilities than with a conventional loan. This is accentuated when financially stressed borrowers with access to overdraft facilities start to use these facilities as a source of financing, which for a number of reasons increases the bank's exposure as well as credit risk. This is an inherent risk of overdraft facilities.

Home Equity Credit Lines and Home Equity Loans

Popular in the United States, home equity credit lines or loans allow home- owners to borrow against the value of their property in a way similar to. Generally, there are two different types of home equity credits. Home equity credit loans are personal revolving credit facilities collateralized by the borrower's property. The bank issuing the home equity loan limits the amount of the loan to a certain percentage of the equity the homeowner has in the home. The loan- to-value (LTV) ratio, the ratio of the value of the property to the amount of money borrowed, is an important analytical tool to determine a home equity loan. The holder may draw down on the home equity loan at any time during its term up to the amount of the line of credit. Interest on the loan is usually tied to a major index such as the U.S. prime rate or LIBOR (London Interbank Offered Rate), plus a set interest percentage. A home equity credit line is different from a mortgage. A home equity credit line allows the homeowner to borrow up to a certain limit that reflects the value of the home and the existing mortgage on the home. These credit lines offer the homeowner the convenience of on-demand financing, essentially tapping the equity built up over time in the home in exchange for cash.

Home equity creditsboth credit lines and loanscan be secured through second mortgages. In case of foreclosure or default, the first mort- gage will be repaid first from the disposal of the foreclosed property. After the first mortgage has been satisfied, any remaining funds are allocated to the second mortgage. This makes a loan secured by a second mortgage considerably riskier than a first mortgage. Due to this added risk, many lenders restrict the amount borrowed against home equity to 80% of the property's value, less other existing mortgages. The combination of two or more mortgages encumbering the same property may lead to potential problems for the homeowner if payments are not made on the mortgages. While specific details differ across jurisdictions, in general, nonpayment of a mort- gage starts the foreclosure process, which legally transfers the ownership of the property to the lender to satisfy the unpaid balances on the mortgage in question.

DISCSSION

Project or Infrastructure Finance

Project or infrastructure finance funds long-term infrastructure and industrial projects, usually by combining the resources of several banks or other financial institutions to provide the necessary capital. The project itself provides the security for the loans, and the loans are repaid from the cash flow generated from the project.

Revolving Lines of Credit

With a revolving line of credit the customer is free to borrow funds and pay back when needed, subject to a pre-agreed credit limit. These lines are generally provided to businesses with a temporary or seasonal borrowing requirement (these are considered commercial loans). Credit cards and home equity lines of credit are examples of retail forms of a revolving line of credit. Credit card lending is an example of revolving consumer loans and is based on preauthorized lines of credit that can be drawn down as the consumer wishes, through either purchases or cash withdrawals. Credit cards, which are used to access the revolving consumer loans, have one of the highest consumer credit growth rates. The rapid increase in credit card debt has been facilitated by the use of EFTPOS (electronic funds transfer at point of sale) and ATMs (automatic teller machines) in many countries.

Credit cards are ubiquitous in modern life. Initially, credit cards were used as a convenience by executives to pay for corporate travel. Having access to credit cards reduced the need to carry large amounts of cash and reduced the likelihood that executives would be robbed. Soon, credit cards migrated to wider use and today offer consumer's immediate and instant access to funds. The bank extending a revolving line of credit has no real control over whether, when, or how long the funds are used and assumes a greater risk in providing revolving lines of credit than a conventional loan. When financially stressed borrowers with access to revolving lines of credit start to draw on their lines of credit, the bank's exposure and credit risk increase. This is an inherent risk of revolving lines of credit, and this risk is similar to that of overdraft facilities.

Syndicated Loans

Syndicated loans are loans provided to a borrower through the combined activities of several banks. Banks working together to provide the loan are called a consortium. Syndicated loans provide capital to a company when the ability or desire of an individual bank to meet the financing need(s) of the company is insufficient. There are a number of benefits to banks for working as a consortium that include but are not limited to:

1. Allowing a bank to participate in a lending transaction where it may not otherwise have the opportunity because of the bank's balance sheet or other constraints
2. Allowing a bank to reduce its overall risk exposure for the transaction, as any potential loss will be borne by all the bank consortium members

In a syndicated loan, usually one of the participating banks will act as the agent for the transaction on behalf of all the banks, coordinating their efforts to get the transaction done.

The Credit Process

Credit analysis or credit assessment is the process of assessing risk as measured by a borrower's ability to repay the loan. Within the credit analysis or assessment process, analysts also consider possible recovery in the case of default and evaluate the support collateral and other credit support tools that bear on the bank's final decision to develop a creditor relationship. Having assessed the possibility of repayment, the decision to proceed with a loan is then, effectively, a commercial decision: Is the risk of repayment acceptable, given the exposure to the borrower, and do the terms sufficiently mitigate the bank's risk?

Credit assessment is not an exact science, and no one factor, ratio, or other indicator alone determines if a particular loan is a suitable risk. The banking industry has developed numerous methods to help structure the credit process and improve financial results and profitability. Some methods include internal scorecards and facility and borrower ratings; cash flow analysis; computer sensitivity models; and external ratings such as those issued by Moody's Investors Service, Fitch Ratings, and Standard & Poor's. Whatever methods are used, credit analysts must balance all the available information and deliver an objective and well-reasoned opinion of the overall risk associated with a particular loan or credit product. Figure 4.6 shows the steps involved in the credit process.

Identifying the Credit Opportunity

In the credit process, the loan officer or relationship manager initiates contact with the potential borrower. In many banks, the chief function of the loan officer is marketing: to seek out new business opportunities and present them for evaluation.

Credit Evaluation Companies

After a loan officer identifies an opportunity, the officer will gather all required information from the borrower and present it to the credit analyst. The credit analyst then analyzes the creditworthiness of the potential borrower by evaluating the proposed loan type and the potential risks (business risk, financial risk, and structural risk), and then makes a recommendation to proceed with the loan or not and, if so, on what terms (e.g., amount to be lent, the interest rate for the loan, use of collateral or other security, maturity, etc.). The credit analyst's evaluation is often accompanied by qualitative factors, including site visits to the customer, evaluation of the current business and the potential for continued business, the availability of collateral to support the credit, and other relevant information.

The credit analyst collects and reviews information about the potential borrower, including:

1. Internal bank records and account performance
2. Historical and current financial accounts
3. Management accounts and projections
4. Company websites and brochures
5. Group structure, ownership, and management information, including information on the board of directors

Credit Decision Making

Often, routine credit decisions are made by the loan officer in conjunction with the credit analyst or by a committee. Loan officers are generally compensated by the number of loans generated. This creates a potential conflict of interest and, therefore, poses a risk when the loan officer makes the loan decision. It is in the interest of a loan officer to underwrite as many loans as possible, which may result in the loan officer ignoring signs that would counter the decision to extend the loan. To guard against this problem, banks implement processes that require all loans to be reviewed by an independent senior manager or credit analyst. Each bank has developed credit decision policies that delineate what types of loans size, exposure, and business need to be signed off or ratified by senior management and/or the bank board committee. Generally, the larger and more risky a loan is, the more likely that the loan passes through several levels of the bank's decision-making hierarchy.

A core consideration in credit decision making is the pricing of credit the fees and interest rates the bank charges the borrower. This interest rate may be determined by a loan pricing model that sets the minimum rate the loan should carry and incorporates various pricing factors. Generally, the greater the risk the bank takes when lending to the particular borrower, the higher the priceinterest rateit charges. The accuracy of the loan pricing model is essential. In many cases, the margin between what banks earn on a loan and its costs associated with analyzing, funding and monitoring the loan is extremely small. If the loan is underpriced, then the bank is unlikely to receive sufficient compensation for the risk it assumed. Overpricing the loan may drive the potential borrower to another lender for the needed funds.Loan pricing models can be quite complex. Even the simplest of these models take the following factors into consideration:

1. The risk rating of the borrower
2. The bank's underlying funding cost
3. The loan's administrative and processing expenses

The higher the risk of default, the higher the rate the loan should carry. As a result, more risky borrowers pay higher rates than less risky borrowers. In many cases, the bank prices the risk in the loan so that as the fortunes of the borrower improve, the price of the loan declines. Some are also structured to penalize borrowers through higher interest rates if their credit quality declines. This type of pricing structure offers the borrower a strong financial incentive and, when correctly used, reduces the risk to the lender. Maturity is the date when the principal of the loan must be paid in full. Generally, the longer the maturity of the loan, the higher the interest rate the loan carries.

Banks profit on the interest rate differential between their assets (loans made by the bank and securities held by the bank) and their liabilities deposits in the bank and the bank's own debt. Both lending and borrowing interest rates are usually set by the market and can be readily captured by an index. In many cases, banks set the price they charge on loans as a markup to an index. The prime lending rate the rate banks charge their best customersis an example of a common benchmark used as a base rate for a loan, with a margin added to enhance risk-adjusted profitability.

Credit Disbursement

Once the credit request has been approved, the loan agreement is prepared for signature. The loan agreement is a legal contract between the bank and the borrower and includes a description of undertakings and understandings, such as the principal, the stated interest rate and its calculation, the schedule of payments and repayments, the use of collateral, covenants, and so on. Once the contract is signed, funds are made available to the borrower.

Credit Monitoring

After the credit is underwritten and the funds have been made available to the borrower, the bank continues to monitor the financial performance of the borrower. The contract usually has hard and soft covenants or provisions. An example of a hard covenant is a requirement that the borrower maintains certain key financial ratios throughout the life of the loan. An example of a soft covenant is the requirement that the borrower delivers its financial statements to the lender in a timely manner.

The Credit Analysis Process

As previously noted, despite the emphasis on quantitative modeling and vigilance, credit analysis is not an exact science, as there is no single formula, ratio, or tool that will determine if a company is an acceptable credit risk. Therefore, it is important to follow some basic principles and practices of good lending as illustrated by the frameworks outlined next.

The Five Cs of Credit

The Five Cs of Credit provide a basic framework for good lending, which is particularly relevant to small business lending and to the small and medium enterprise (SME) sector. Bank financing is the primary option for small or recently established firms because these firms do not have access to the financial markets to issue stocks or bonds in the same way large, established companies with an established financial history do.

In analyzing character, the bank seeks to answer the following question: What is the reputation of the company's management in the industry and in the greater business community? Bankers will always look to lend money to those with immaculate credentials and references. Credit analysts should determine the quality of management's relationship with its employees as well as with its customers and how these relationships are managed through the company's obligations. These characteristics afford insight into management's character.

When analyzing capital, the bank seeks to answer the following question: How is the company currently financed? The relationship between equity and debt is critical, and the higher the level of equity relative to debt, the healthier the company will appear from a credit risk perspective. It also reveals the financial commitment of the company's owners and indicates how much they have put themselves at risk. Particularly in small and medium-sized businesses where the owners' wealth is very closely linked to the fortunes of the business, it is not only the company's financial statements that should receive scrutiny, but also the owners' personal financial standing, assets, and credit quality.

Should a borrower default, a lender loses more than just the funded obligation or capital (principal plus interest). For instance, reputational risk is important because banks have a responsibility to shareholders and are entrusted by depositors to conduct business in a responsible and profitable manner. Significant defaults also use up a disproportionate amount of managerial time, diverting scarce resources that the bank's management would prefer to use in business development to manage complex negotiations with the borrowers and other lenders. Defaults could also negatively affect potential borrowers who would be less likely to use a bank with a reputation for foreclosing and forcing customers out of business during tough economic times.

The analyst making the lending decision must examine the economic conditions under which the company operates (in this case Malaysia and the United States) to determine the potential not only for the direct counterparty credit risk that Bank R would assume with the company, but also for the risks associated with the company's dealing in a foreign currency and in that particular country. When analyzing capacity, the bank seeks to answer the following questions: How much cash does the company generate, and are the cash flows sustain- able, repeatable, and predictable? The credit analyst must evaluate the company's ability to generate sufficient cash

flows as well as management's ability to run its operations efficiently and effectively. The credit analyst works from cash flow projections to determine the debt or exposure a company can incur.

Financing needs differ from company to company and can be affected by timing, economic conditions, and business circumstances. For some companies, cash flow will follow a stable path, although subject to some predictable seasonal deviations. Such companies will in general find it easier to negotiate a permanent financing facility, as the bank will be better able to judge the company's creditworthiness based on historical information. How- ever, other businesses may experience material cash flow volatility, especially where sales and costs are unevenly matched. In this case, cash flows are more difficult, but not necessarily impossible, to project. Business models withrandom cash flow volatility will likely find it difficult to establish a permanent financing facility with a bank because of the risk associated with their cash flows. In these cases, various combinations of temporary financing are usually suggested to the borrower. It is critical to understand a company's cash flow volatility since it may impact the amount or type of financing facility offered by the bank. However, a key factor in the loan decision remains the adequacy and predictability of the cash flows. Banks distinguish between seasonal, cyclical, and permanent financing. Seasonal financing and cyclical financing are considered to be temporary financing.

Seasonal financing is usually provided to pay for a substantial increase in inventory and work in progress. For example, seasonal loans may be sought by a swimsuit manufacturer limited to summer sales or for the purchase of goods by retailers and buildup of inventory by toy manu- factures prior to a peak selling time (e.g., major holidays). Seasonal credit needs are usually quite predictable and follow well-established patterns. Cyclical financing is similar to seasonal financing, except that the cycle is generally a business cycle rather than a more predictable change in seasons, and repayment is more dependent on random changes in the long-term macroeconomic environment in which the business operates. Since banks typically consider cyclical needs to be more difficult to predict, they consider cyclical lending to be riskier than seasonal lending. An example of a cyclical loan is a dedicated loan that supports the development and production of a new product with the financing pro- vided incrementally throughout the product cycle. Permanent financing is usually long-term financing of 15 years or more and is provided in the form of a mortgage (e.g., an individual borrowing to purchase a home with a 30-year mortgage) or bond issuance for a company. Permanent financing is often used for investment in buildings or other types of real estate projects.

The relationship between asset growth and financing needs. There is a strong relationship between sales and assets and the financing of the assets. As a company's sales grow, its assets also increase and the company will need to finance this increase in assets, either through its own liquidity or from external financing. Part of the increase in assets reflects a permanent increase and includes the new factories, facilities, machinery, and production infrastructure a company has created. It also reflects the increasing level of inventory the company has and accounts receivable that the company collected. A company will usually seek to finance most of its permanent increase in assets through medium- and long-term financing, although these needs may also be met through equity financing.

Variations in sales and assets are characteristically cyclical or seasonal. Cyclical asset changes reflect the fluctuating fortunes of companies through- out the business cycle. As the economy goes through cycle's expansion, con- traction, and recession Na Company's sales or revenues

and its assets are affected. During expansion, sales and assets increase and borrowing needs rise. Conversely, during contraction or recession, sales drop and the need for assets declines, thereby reducing a company's financing needs. To meet such changes in the demand for capital, many banks provide medium-term financing that roughly corresponds to three- to five-year business cycles.

Seasonal changes in assets have shorter-term effects on sales, revenues, and assets. These financing needs are met with short-term loans that have maturities of around one year. Assessing the quality of the borrower's assets is also part of capacity analysis and is particularly useful when the company has significant trade receivables that can be used for asset-based lending or converted into cash after collecting on the receivables. Trade receivables result from credit sales, where the company extends credit to its customers to purchase its products or services in anticipation of payment. In many small and medium-sized businesses, a listing of all debtors and the aging of all invoices due from each provides important information of not only what is due and owed to the company, but also the company's ability to collect on its debts, implement its policies, and assess whether a buyer is truly creditworthy. In economic downturns, assets could be increasing as customers either use more trade financing or slow their payments.

Therefore, asset growth (mentioned earlier as a good thing) needs to be critically analyzed and good asset growth differentiated from bad asset growth. Credit analysts also evaluate a company's inventory. Inventory has to be of salable quality reflective of the company's intention to continue business, and, should there be a default, the company's assets including its inventory should be of satisfactory quality to pay debts when sold.The analyst must also assess the borrower's liquidity. A business that has enough cash is more likely to pay what it owes when payment is due. Illiquid businesses, which can include businesses that are profitable but lack sufficient cash flows, present potential credit risks. When analyzing collateral, the bank seeks to answer the following question: In the event the borrower cannot honor its obligations.

The analyst should confirm that the company's primary source of loan repayment, cash flow or assets are, and will be, sufficient to meet all its obligations as they fall due. But a lender has a responsibility to its shareholders and depositors to ensure a secondary or complementary source of repayment. The secondary source of repayment is other assets owned by the borrower (most commonly referred to as collateral). In the event of a default, the bank should be able to assume control over these assets and organize an orderly sale to satisfy the loan's terms. In loans to lower-rated companies, where the risk of default is greater, the company will typically pledge all of its assets as collateral.

The Credit Analysis Path

The Five Cs of Credit just outlined provide a sound framework for analyzing small businesses, and the principles hold equally true for lending to larger companies. However, the credit analysis path described next provides an alternative framework for a more detailed credit analysis or for lending to larger or more complex companies. In the credit analysis path, the focus is to analyze the various risks that may impact the borrower. The overall analysis encompasses business or macroeconomic risks, financial or microeconomic risks, and structural risks. These risk areas overlap, as the factors that impact them are closely related and interdependent. The three areas of analysis are separated into several general layers, or components. The credit analysis path shows that the company's decision-making process will directly impact the risks the organization takes,

and that management's decisions are influenced by the industry's macroeconomic and microeconomic trends. The relationship between business risks and structural risks.

CONCLUSION

Effective credit risk management is essential for financial institutions, lenders, and investors to maintain a healthy loan portfolio, optimize risk-return trade-offs, and protect against potential financial losses. Regulatory authorities also impose requirements for capital adequacy and risk management practices to ensure the stability and soundness of financial institutions.In conclusion, credit risk is a significant aspect of lending and investing activities. Assessing, managing, and mitigating credit risk through thorough evaluation, diversification, risk mitigation techniques, and effective monitoring are vital for financial institutions and investors to make informed credit decisions and safeguard against potential losses.

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CHAPTER 8

BUSINESS OR MACROECONOMIC RISKS

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ABSTRACT:

Business or macroeconomic risks refer to the uncertainties and potential adverse events that can impact the overall performance and stability of businesses or the broader economy. These risks arise from various factors, including economic conditions, market dynamics, industry trends, and geopolitical factors. This provides an overview of business or macroeconomic risks, highlighting their nature, sources, and implications. It emphasizes the importance of understanding and managing these risks to ensure the resilience and sustainability of businesses and the overall economy. Business risks can include factors such as changes in consumer demand, technological advancements, supply chain disruptions, competition, regulatory changes, and operational issues. These risks can affect an organization's profitability, market position, and growth prospects. Businesses need to identify, assess, and manage these risks to make informed decisions, develop contingency plans, and adapt to changing market conditions.

KEYWORDS:

Bank Risks, Credit Risk, Economy, Management, Market Risk.

INTRODUCTION

Business or macroeconomic risks reflect both the bank's and the borrower's respective environments. Analysis of the bank's operating environment helps the banks' management determine the appropriate loan allocation. Banks usually select loans where there is an appropriate risk/ return trade-off. A requirement for higher returns on loans necessitates an appetite for elevated exposure to credit default risks. In other words, considering the risks associated with a credit proposal, does the return offered by the credit provide appropriate compensation to the bank?

Analysis of the borrower's operating environment reflects a market risk assessment. After reviewing the borrower's overall market (i.e., macroeconomic drivers, competitive factors, etc.), the credit analyst is able to deter- mine the borrower's challenges and opportunities. Shows some of the business, or macroeconomic, factors that analysts consider. These macroeconomic factors are trends that impact all industries, companies, and firms. There are numerous macro factors; typically, they are likely to include long-term trends:

1. Level of economic activity measured by changes in the global GDP.
2. Global changes in inflation the decline in the purchasing power of money.
3. Worldwide price of energy the price of crude oil, an important commodity that, when refined, powers machinery, etc.

An analyst's evaluation of the business includes how the client's management team deals with competition. There are a number of ways to analyze competitive forces. It is vitally important to identify and understand how competitive forces can influence the company's risk drivers, which,

in turn, will impact its liquidity and solvency. These competitive forces can include government regulation, changes in technology and technological advances, and the environment, all areas where matters can and do change dramatically and quite swiftly. Such changes can prove very costly and can either open up or close down markets. Disruption to a market by the introduction of a substitute product or technological advance has the potential to destroy existing business models. The printed yellow pages industry is one such example.

The yellow pages businesses typically benefited from either monopolistic or oligopolistic market positions in SME advertising. Retention rates were typically very high, leading to lucrative profit margins and strong cash generation with the added benefit of little capital expenditure requirements. As such, these businesses lent themselves well to the model of utilizing future operating cash flows to pay down debt taken on to support and grow the business[1].

Unfortunately, many yellow pages publishers expanded using debt-funded acquisitions and found themselves overleveraged with falling sales and weakening margins as the global financial crisis unfolded and their customers cut advertising spending. This trend was exacerbated by increasing Internet usage first on computers and then on smartphones or other deviceswhich removed the need for paper-based directories. Internet listings were more convenient for users and a cheaper and increasingly more effective advertising medium for SMEs. Directory companies such as Yell, Pages Jaune, R.H. Donnelley, and others found themselves having to restructure their debt or worsefile for administration bankruptcy, resulting in severe losses to their creditors.

DISCUSSION

Business or macroeconomic risks refer to the uncertainties and potential adverse events that can impact the overall performance and stability of businesses or the broader economy. These risks arise from various factors, including economic conditions, market dynamics, industry trends, and geopolitical factors.Business risks can include factors such as changes in consumer demand, technological advancements, supply chain disruptions, competition, regulatory changes, and operational issues. These risks can affect an organization's profitability, market position, and growth prospects. Businesses need to identify, assess, and manage these risks to make informed decisions, develop contingency plans, and adapt to changing market conditions.

Macroeconomic risks, on the other hand, pertain to broader economic factors that can impact multiple businesses and industries. These risks encompass factors such as economic recessions, inflation, interest rate fluctuations, currency exchange rate volatility, political instability, and trade disruptions. Macroeconomic risks have systemic implications and can affect the overall business environment, investment decisions, consumer confidence, and employment levels.

Financial or Microeconomic Risks

The financial risk assessment reviews the company’s management and especially how it handles the company’s operating and financial environment. Credit analysts primarily focus on management strategies and their ability to manage the business in conjunction with an in-depth analysis of the company’s historical, current, and pro forma financial statements. The overall assessment and results are then compared to the company’s peers.Shows several financial, or micro, risks that analysis would typically consider. This information reflects comparative factors in a distinct part of the economy affecting only a handful of businesses and could include

production, capacity, and sales growth over several years. The following graphs show some micro factors from the top five companies in the steel industry[2]:

It is during analysis of financial, or micro, risks that the credit analysis focuses on the company's credit facilities and how those would relate to the company's future growth prospects, and whether they will require a substantial investment in order to sustain future growth. All these factors allow for the relative comparison of the different companies active in the industry. In financial risk analysis, the company's operating conditions are important, and the lender must also assess third-party credit and trade references to determine if the company has solid relationships including payment relationships. This process involves looking at the business partners of the potential borrower to obtain a holistic assessment about how its business relationships are being managed.

Most banks use credit-scoring models in their credit assessment process for retail credit products such as mortgages and credit card applications, and many use models for corporate credit products also. These models are tools that help predict the probability a loan might default. The probability of default is communicated as a credit score. The credit score relates the strength of each borrower relative to all borrowers. The higher the prospective borrower's credit score, the less the chance of defaulting. Credit-scoring models may use more than 100 different factors in their calculation. The models follow a consistent approach developed from years of experience. Thus, models reduce the cost of credit evaluation and increase the speed and accuracy in the credit decision-making process. They also improve on consistency and accuracy because the results are more standardized and can be compared against the results of other prospective borrowers. This allows managers to better assess the true quality of their credit loan portfolios.More advanced assessment models are used to predict the probability of default for large corporate borrowers, which may also include quantitative analytics such as data on the price and volatility of the company's publicly traded shares and bonds.

Structural Risk

In this assessment, the credit analyst must understand the legal structure of the borrower, the various subsidiaries, intracompany transactions, and ownership and partnership linkages. All are analyzed to better gauge the true financial and potential economic exposure embedded in the proposed credit structure. A simple framework for ensuring that the above information is collected should include answers to the following:

1. Who or which entity is the borrower?
2. Where or in which entity are the assets located?
3. Who or which entity generates the cash flows of the business?
4. Are there any intercompany linkages such as guarantees or significant related-party transactions?

Covenants, collateral, and pricing are critical in mitigating structural weaknesses. Structural enhancements such as guarantees e.g., from a better capitalized parent or government or export trade body should also be considered in the event of the loan being structurally subordinated to other creditors. Debt that is lent to an entity that is not the generator of the company's cash flows (i.e., a holding company) is said to be structurally subordinated to debt located at the company's operating subsidiaries, with the expectation that the claims of the subsidiary's creditors would be satisfied first in the event of a corporate default[3].

SWOT Analysis

A SWOT analysis is a useful tool for outlining the key issues that emerge from the analysis of the business, financial, and structural risks as detailed previously. SWOT stands for strengths, weaknesses, opportunities, and threats, A SWOT analysis is used to obtain an objective assessment of a company's internal strengths and weaknesses and the opportunities and threats presented by the external business environment in which the company operates. This information, coupled with an in-depth analysis of the company's current financial condition, allows for an objective and forward-looking determination of the potential borrower's creditworthiness.

Information Sources

There are many different sources of information used in the credit assessment process. A key source is the company's annual report and its audited financial statements. The company's financial statements are usually audited or independently evaluated by outside accounting experts who review the company's financial information to certify it is within a certain country's Generally Accepted Accounting Principles (GAAP) or within International Financial Reporting Standards (IFRS). Accounting principles/standards are part of a company's corporate governance procedures and ensure that all financial information is presented in a uniform way, thus allowing for greater ease of review by the credit analyst and other interested parties[4].

It is important to note that producing and subsequently providing this information to the credit analyst does not prevent companies from engaging in questionable or fraudulent activities. However, the information does serve as a check on the company's management, and an analysis of the audited financial statements provides a reasonable, though not complete, level of comfort to potential investors and bankers alike. Note, however, that in most countries small businesses are not required to have their financial statements independently audited, and credit analysts will have to form their own judgment on the accuracy of the accounts[5], [6].

Credit Risk Management

A deeper look at how banks manage credit risk, starting with portfolio risks and credit exposure. Credit portfolio modeling is complex, and while some banks do build their own models, most use commercially available modelsprovides a brief description of such tools. Credit monitoring was described on the credit process, but it features here again along with early warning signals, given their important role in the management of the portfolio credit risk profile. Remedial management and provides a framework of next steps in the event of distressed loans[7], [8].

CONCLUSION

Managing business or macroeconomic risks involves various strategies and measures, including risk identification and assessment, scenario analysis and stress testing, risk mitigation strategies, monitoring and adaptation, and collaboration and information sharing. These strategies help businesses and policymakers understand and mitigate potential risks, enhance resilience, and foster sustainable economic growth. Overall, recognizing and effectively managing business or macroeconomic risks are essential for businesses and policymakers to navigate uncertainties, protect against potential losses, and promote stability and growth in the business environment and the broader economy.

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CHAPTER 9

AN OVERVIEW ON CREDIT RISK MANAGEMENT

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ABSTRACT:

Credit risk management is a critical aspect of financial institutions' operations, aimed at identifying, assessing, and mitigating potential risks associated with lending and credit activities. Effective credit risk management is essential for maintaining the stability and profitability of financial institutions and ensuring the overall health of the financial system.This study provides an overview of credit risk management, highlighting its key components and strategies employed by financial institutions to manage credit risks. It begins by defining credit risk and discussing its significance in the context of lending and credit operations. The abstract then explores various tools and techniques used to assess and measure credit risk, including credit scoring models, financial statement analysis, and credit rating agencies.

KEYWORDS:

Bank Risks, Credit Risk,Economy, Management, Market Risk.

INTRODUCTION

An investment portfolio held by a bank or an individual contains various investments that typically include stocks (equity), bonds, loans, financial derivatives (options, futures, etc.), investible commodities such as gold or platinum, real estate, or similar assets of value. The investor is the entity that holds the portfolio and may be a company, a bank, or an individual. Portfolio management involves determining the contents and the structure of the port- folio, monitoring its performance, making any changes, and deciding which assets to acquire and which assets to divest. Portfolio managers weigh both the expected risk and return characteristics of individual assets, the performance of the entire portfolio, and the investor's financial objectives in order to find an optimal combination of investments that provides the highest level of return for any given level of risk.Banks use several approaches to measure portfolio performance and reduce credit losses. The approaches utilize quantitative assessment tools to predict the likelihood of a default and estimate the impact of the default[1].

Portfolio Management Terminology

Probability of default (PD). The likelihood that the borrower will default. PD is normally represented as a percentage. Exposure at default (EAD). The total exposure the lender could have at the time of default. EAD is influenced by debt type, asset type, recourse, assignment terms, and payment delays. EAD is normally represented as an amount of money. Recovery rate (RR). The assumption of the fraction of the asset value that will likely be recovered after a default. RR is normally represented as a percentage. Loss given default (LGD). The actual loss the lender suffers in the wake of a default: a function of (1 – RR). LGD is normally represented as a percentage. Gross LGD is used for bonds, whereas Blanco LGD is used for loans where bankers

include the effects of collateral, if any. Expected loss (EL). The loss given default multiplied by the probability of default multiplied by exposure at default. In addition to finding the best combination of investments that delivers the optimal return for the allowable risk profile of the portfolio, the portfolio manager must also seek to minimize specific portfolio risks, namely concentration and default correlation risks.

Concentration Risk

An inherent risk in lending is that a bank can become skilled in lending to, for example, one geographical area or to one industry (e.g., shipping) and will then tend to focus the majority of its underwriting efforts on that area or sector. This can lead to a highly concentrated, or not suitably diversified, credit portfolio, which will increase the bank's exposure to potential losses in the event of deterioration in that particular area or industry. A diversified loan portfolio will be diversified by geography, industry type, demographic profile, or other indicators and should reduce the impact to the bank of a severe market disruption. Although development of a core competency in lending to a specific market or industry might lead to concentration risks, its effects might be mitigated somewhat by the possibility that the bank's expertise in that specific sector helps it avoid the weakest credits. Reducing concentration risk may require active management of a bank's loan portfolio. For example, a bank might sell some of its loans to third parties, thereby removing those risks from its banking book. Or it might introduce diversification into its portfolio by buying nonsimilar loans from other banks.

Default Correlation Risk

Default correlation risk refers to the likelihood that the default of one borrower is affected by the default of another borrower. An example of positive correlation would be two companies that are not part of the same corporate or group structure but are trade creditors to each other. An example of negative correlation could be two competitors, the default of one of which takes capacity out of the market, possibly providing some pricing or volume improvement for the remaining company. The key drivers for default correlation risk are the macroeconomic cli- mate in general and specific industry factors such as timing with respect to an industry cycle.

Example

Utility firms are typically considered to have low credit risk, given their regulated and often monopolistic market positions that result in highly predictable cash generation. Nevertheless, utilities often exhibit high default correlation to the sovereign's or country's macroeconomic condition. In the event of recession, a government might impose higher taxes on industries such as utilities, and at the same time the utilities might find themselves with lower sales due to reduced manufacturing output or increased austerity on the part of their customers.

Contagion Risk

Contagion risk refers to a ripple effect of defaults that may occur in a particular industry or country or between countries where the default of one borrower or counterparty has a negative impact on other borrowers. The sudden default of Lehman Brothers in the United States in September 2008 sparked a liquidity crisis due to fears of counterparty risk among financial institutions. Another example of contagion risk could be the higher likelihood of default of other firms in the event of the default of a major customer or supplier. An example of macroeconomic factors driving contagion risk include the European sovereign debt crisis starting in 2009, which

led to a crisis in investor confidence that affected all borrowers through increased borrowing costs or in some instances sharply reduced access to capital.

DISCUSSION

Techniques to Reduce Portfolio Risk

Syndication

The loan syndication process provides a useful mechanism to enable a bank that has developed strong relationships or expertise in a particular market or industry sector to reduce its exposure by syndicating portions of the loan to other financial institutions. The other syndication members, for their part, may be looking to diversify their own portfolio holdings by adding transactions that meet their risk-adjusted investment criteria.

Whole Loan Sales

Whole loan sales enable a bank to reduce its exposure by selling a specific loan to another financial institution. An example would be the sale of a mortgage from one bank to another. The loan originator the bank that arranged the original mortgage may not want to have such a long-dated loan in its portfolio. Selling the loan will allow the originator to remove it from its books and receive funds in return for the loan, providing it with capital to make other loans. From the originator's perspective, securitizing such credit products not only reduces potentially high levels of risk exposure, including concentration risk, but the removal of such assets from its books also reduces the bank's capital requirements. Furthermore, as with whole loan sales, the securitization process earns proceeds for the bank from which it can generate new loans or conduct other business.

Securitization

Typically, the bank will transfer or sell the securitized loans to an issuer that may be affiliated with the bank. The issuer then bundles the assets mortgages, credit card receivables, etc. and sells securities backed by them. The payments on the pool of loans are used to pay off the securities. If the transfer or sale of securities is without recourse that is, the selling bank is not liable to pay compensation to the buyer in case the loan defaults, this process then decreases the bank's default risk.

Another technique banks employ to reduce the effects of credit losses is to pool or bundle together assets such as mortgages or credit card receivables, and sell them to other financial institutions or into the capital markets. This is known as securitization. A pool of loans is more diversified than one individual loan since not all loans will be expected to default simultaneously and is therefore more attractive to investors seeking to achieve port- folio diversification. Many types of loan products can be securitized as long as they are associated with a cash flow[2].

Credit Default Swaps

A credit default swap (CDS) is a form of credit derivative. A CDS contract is similar to insurance it is often referred to as default protectionand involves the transfer of credit risk between two parties. The buyer of the CDS (who may already own the underlying credit exposure for instance, a specific reference bond) essentially sells or transfers its default risk to the seller of the CDS contract. Through the use of the CDS market, a portfolio manager is

therefore able to limit losses in the event of a default without actually having to eliminate the exposure by outright sale. This is also referred to as a hedge. If a negative credit event occurssay a default on a specific corporate bond then the seller of the CDS will have to deliver the value of the principal and interest on that bond to the CDS buyer. If no credit event occurs, the CDS seller receives a periodic fee from the CDS buyer over the life of the bond.

Portfolio Credit Risk Models

Portfolio credit risk models are used to quantify credit risk exposures by modeling factors that impact the credit of an asset and the value of the credit portfolio. Such factors include default risknonpayment of principal or interest; recovery risk changing the value or recoverability of collateral; spread riskchanging the price of a credit without a change in the underlying rating; and migration riskchanging internal or external ratings. Port- folio credit risk models are complex because they model the likelihood as well as the potential value effect of a credit event. The outcome is usually articulated in a range of probability distributions of future potential losses. Some banks develop their own proprietary models, and these have the advantage of customization to allow for more complex instruments or port- folios, the inclusion of region-specific correlation factors, and comprehensive stress-testing scenarios. However, given the complexity of such models and therefore the need for specialized expertise, most banks rely on one of a number of commercially available models.

There are a number of vendors that offer portfolio credit models that contain various underlying calculations, providing the user with a number of different options from which to choose. For example, models may include calculations around options pricing theory, asset volatility, different pricing frameworks, and the ability to provide user-estimated recovery rates, interest rate simulations, default modeling, and other pricing theories. Information from these models assists a bank in establishing credit limits across geographies, industries, and asset classes.

Credit Monitoring

Effective credit monitoring is an important part of the credit process. A robust monitoring process enables a bank to recognize credit deterioration in the portfolio and to take appropriate actions. Any decrease in headroom under a loan covenant package should be captured and highlighted by the credit monitoring team.Migration risk occurs when the creditworthiness of a single credit or a whole portfolio begins to change either through internal or external ratingsthus changing the risk profile of the portfolio. The critical nature of credit monitoring in protecting a bank's credit portfolios is enshrined in regulatory requirements such as Basel III.

Credit Rating Agencies

In some ways credit rating agencies (CRAs) play a role similar to that of lenders in that they both evaluate the creditworthiness of various borrowers. The clear difference between them, however, is the fact that CRAs do not lend money. CRAs evaluate the creditworthiness of borrowers and publicly traded debt, and assign credit ratings to borrowers and the debt instruments they issue. Ratings are intended to provide an independent assessment of a borrower's general creditworthiness based on a wide array of risk factors. Ratings on individual debt instruments incorporate the creditworthiness of the issuer with relevant instrument-specific risk factors[3].

The different grades ratings used by Moody's, Fitch, and Standard & Poor's. The plus and minus signs following each grade are modifiers indicating relative differences between various issues

within the same rating category. A positive or plus sign indicates that the issue is better than the average issue in that rating category. A negative or minus sign indicates that the issue is worse than the average issue in that rating category. These ratings may change as the issuer's credit quality changes. Ratings can also be qualified by rating "watches" and "outlooks" that could provide some forward-looking guidance for a credit analyst. Rating agencies evaluate different criteria for different borrower types. For instance, when rating sovereign borrowers, rating agencies analyze a country's ability and willingness to repay a debt, and consider relevant and substantive information on the economic and fiscal strength of the country, the stability and viability of the political and social system, and susceptibility to event risk.

The review of sovereigns also includes their ability to deal with internal as well as global economic, political, interest rate, and commodity changes.The sovereign rating is oftenthough not alwaysthe highest rating in a given country. However, it is important to note that although corporates or financial institutions may be rated higher than their sovereign, the existence of strong linkages and default correlation factors between them means the ratings may not be more than a few notches apart.

Like corporations or financial institutions, sovereigns can expect their debt creditworthiness to be subject to upgrades as well as downgrades. Indeed, the European sovereign crisis resulted in four European countries Portugal, Ireland, Greece, and Cyprusbeing downgraded to non-investment grade, with the latter two defaulting in 2012 and 2013, respectively. Indeed, over the years, there have been a number of sovereign debt-related defaults, and in fact some sovereigns have defaulted more than once.

Alternative Credit Risk Assessment Tools

Also referred to as market-derived ratings, these tools typically take market information such as bond prices or spreads, CDS prices, and equity performance and translate them into market-implied ratings. Both Moody's Investors Service and S&P offer products that provide this (Moody's Market Implied Ratings and S&P's Market Derived Signals).

One of the objectives of these market-derived ratings is to identify where market sentiment may differ from an internal or external credit rating and may therefore be useful as an early warning signal to the portfolio manager. While these tools may be valuable for analyzing the market's perception of credit risk, the signals are often very volatile, reverse frequently, and cannot be relied on as predictors of an issuer's credit rating change. In addition, it is important to note that while a credit rating is based on a longer-term view of creditworthiness, market-derived signals are calculated based on daily trading data, and therefore the results may be skewed during periods lacking sufficient market activity.

Early Warning Signals

The purpose of early warning signals is to alert a bank of deteriorating credit risk or, in other words, of increasing default risk. A robust credit monitoring process should capture signals such as reporting of past-due loans. Early warning signals may come from macroeconomic stress, company-specific issues, or industry-wide characteristics. A checklist covering these and other issues provides a useful starting point in setting a standard of vigilance throughout the credit process. A well-crafted loan policy will set out what actions should follow upon the recognition of an early warning signal. It is important to remember that early protection actions provide the

best chance to improve a bank's position, to reduce exposures to risk, and to exit deteriorating relationships.

Accounting Issues

Accounting standards are reasonably prescriptive on many topics, but they allow some flexibility on topics such as revenue or cost recognition, one-off items, and the use of off-balance-sheet financing such as operating leases. The use of more aggressive structures by a company is not necessarily an early warning signal in itself, but it may well reflect a riskier business profile than what might have been originally expected. Early recognition of revenues for example, booking the revenues from a five-year contract up front rather than over the life of the contract will make the sales figure for that year higher than it would have been. If a company capitalizes operating costs i.e., recognizing them as a capital expense rather than an expense in the income statement, profits from operations and capital assets will all be higher that year than they otherwise would have been.

Company Issues

Generally speaking, there are certain behaviors or characteristics that, like the accounting choices above, tend to reflect riskier companies. The strong growth trends of highly acquisitive companies may mask lackluster or even stagnating sales in the core business. Above-market returns whether in earnings per share or in profit margins may point to more aggressive business strategies or an unsustainable position. Complex organizational structures may be the product of geographically diverse operations or industries such as shipping where complicated funding structures are common. How- ever, as noted in Section 4.7.5, it is important that structural risks are fully understood.

Liquidity Issues

The one overriding objective in assessing credit risk is to evaluate whether a loan will be serviced and repaid in cash on schedule. Both liquidity (does the company have the internal sources of cash to service and repay the debt when due?) and solvency (does the company have access to alternative sources of cash flow, e.g., through asset sales or capital contributions to meet its interest and repayment schedules?) are fundamental issues that must be addressed early in the credit process. Through the credit monitoring process, careful attention should be paid to a company's liquidity position. Increased use of overdrafts, lateness in paying trade creditors, and decreasing cash balances may all signal a weakening liquidity position and a potentially increased probability of default[4].

Industry/Peers

Certain industries or sectors develop reputations for corruption or unethical practices. When uncovered, such actions may result in large fines, tarnished reputations, and loss of public confidence. This in turn may lead to a ratings downgrade and or a widening of a company's credit spreads, the difference between the yield on (risk-free) government bonds and the company's bonds of similar structure, both of which will have implications for the risk profile of the portfolio.

Remedial Management

Workout units are specialist teams that manage a bank's problem assets. Executed well, their efforts can avoid painful losses to a bank or even generate substantial profits, depending on the situation. Their remit is to ensure that the bank maintains a security interest in the assets and collateral and to actively pursue various legal options for recovery. However, there may be a trade-off between the actual cost of executing recovery and the ultimate value of the expected recovery.

One of the first analyses that the workout team needs to undertake is a root cause analysis (RCA) to determine the cause of the corporate distress. The output from the RCA should inform next steps: For example, a fast- growing company facing a liquidity crisis may need to factor receivables to alleviate its working capital problems, whereas a bank may need to accelerate a loan review process where fraud has been identified. The earlier a bank identifies a weakening credit situation, the better its chances of reducing its exposure and limiting potential losses. Furthermore, once a problem has been identified, a bank needs a set of standard operating procedures to follow. One simple but effective framework is to consider the three Rsnamely:

1. **Repayment:** Focus on the ability of the borrower to meet its interest and debt repayment schedule. Is there adequate liquidity from either internal or external sources?
2. **Restructure:** Can the business be turned around to improve its position (e.g., a change of management or focus on core operations)?
3. **Reschedule:** If the problem is the debt structure (e.g., unrealistic covenants or an overly burdensome repayment schedule), rather than a fundamental business problem, a bank should consider options to reschedule the loan. By taking proactive steps, a bank avoids potential loan losses and retains and protects a customer relationship.

Practical Implications of the Default Process

Enforcement is usually the action of last resort and is to be avoided if at all possible due to:

Legal Issues: The high cost of legal actions may outweigh the actual pos- sible recovery amount, and there could be an issue of lender liability. Lender liability refers to the possibility that the lender may legally be construed as having made improper use of acceleration or demand notices, failed to provide adequate notice to exercise remedies, or stalled the process with unwarranted requirements[5].

Loan Loss Reserves: The bank will need to take a provision for the expected loss and will need to allocate additional capital as a result.

Reputation Risks: Even where a bank's credit analysis processes are extremely thorough, the reality is that some loans will go bad. However, the risk to a bank of losing its good name with customers, counterparties, its own shareholders or bondholders, and the regulators is another factor to consider when deciding whether to pursue a creditor.

Credit Risk and the Basel Accords

A key purpose of the Basel I Accord was to determine the regulatory capital for credit risk using a simple credit rating approach. Basel II expanded on Basel I and, under Pillar 1, required banks to calculate bank regulatory capital requirements for market and operational risk as well as for credit risk.

To calculate regulatory capital for credit risk, Basel II recommended that banks select one of three approaches (described below) that would determine their credit risk capital requirements or regulatory capital for credit risk. The three approachesthe Standardized Approach, the Foundation Internal Ratings-Based Approach, and the Advanced Internal Ratings-Based Approach differ not only in their methodology but also in the level of sophistication required of the bank's credit risk processes that support the calculations.

Basel II allowed available public credit ratings from some credit rating agencies to be incorporated into the Standardized Approach. It also allowed risk weights to reflect public credit ratings issued by rating agencies meeting certain standards. In many countries, the usefulness of public credit ratings is limited, because these countries have a relatively small number of public credit ratings available. This effectively limits the application of public credit ratings to government and large corporate credits (mainly bonds and other publicly traded debt), some banks, and certain government agencies that are large borrowers.

Under Basel III, the Standardized Approach has been updated to include risks associated with correlation trading and market risks associated with securitization, securitization, and credit derivative exposures. Correlation trading is a strategy in which the investor gets exposure to the average correlation of an index, rather than just individual shares.

Internal Ratings-Based Approaches

The Basel II Accord's two other approaches for calculating minimum credit risks permit banks to use internally generated credit ratings, provided the ratings are developed on sound financial logic and assigned appropriately. Internal Ratings-Based (IRB) approaches share several features but are implemented differently.

Common Features to IRB Approaches

Both IRB approaches differ from the Standardized Approach by relying on a bank's own information to determine the regulatory minimum capital requirement. The bank's internal processes to assess the creditworthiness of borrowers generate the information to create credit models. Credit models build on common risk factors such as PD, LGD, EAD as well as the effective maturity (M). The difference between the Foundation IRB Approach and the Advanced IRB Approach lies in how the bank's internal models forecast the different risk factors:

Under the Foundation IRB Approach, a bank is required to estimate only the borrower's probability of default. To verify the PD, the bank must use at least five years of relevant loan performance data from various borrowers. The other risk factors of the credit model (listed above) are provided and determined by the bank's supervisor. Under the Advanced IRB Approach, a bank estimates all components of the model. At least seven years of historical data must be used for verification purposes. For all but large corporate exposures, a standard two and a half years may be assumed for maturity, subject to supervisor agreement. With the Advanced IRB Approach, the bank must estimate all credit risk model components, including data collection, data management, and modeling techniques. The process demands a more sophisticated, and more costly, commitment by the bank.

Minimum Requirements for IRB Approaches

The core requirement is that the bank's complex credit risk measurement, management, and monitoring system should be a ratings-based system. A ratings based system should accurately capture the inherent riskiness of each loan in the bank's loan portfolio and differentiate between individual loan exposures by correctly assessing the inherent riskiness of each loan relative to all the other loans. All ratings systems build on complex mathematical and statistical models that predict the PD, LGD, and EAD of each loan. Due to the complexity of these models, the sophisticated mathematical methodologies, and the detailed inputs and processes, the model must be well documented so that the regulators can easily validate the model by replicating its results.

For a ratings-based system to differentiate risk meaningfully, provide reasonably accurate and consistent estimates of risk, and support lending decisions, the Basel Accord requires banks to develop a ratings system with a minimum of eight probability of default rating grades. These should range from very low probability of default to very high probability of default (such as the C ratings or similar ratings by rating agencies). The criteria for rating definitions should be both plausible and intuitive and result in a meaningful differentiation of risk that is clear both to the employees of the bank and to auditors, regulators, and supervisors. Eight grades are the minimum. Within these eight grades, the system should be able to differentiate even further and become more granular to capture the different shades of credit risk.

The Basel Accord also requires the ratings-based system to be dynamic. A dynamic rating system should immediately reflect up-to-date and relevant borrower information and reassess the credit rating of the loan based on the new information. The rating system should also provide information that allows for continuous reassessment and performance evaluation. Both the bank and the supervisors should be able to evaluate how well the system per- forms by comparing realized PDs, LGDs, and EADs against those predicted by the model and comparing how well the credit ratings predict defaults and potential changes, such as credit migration over time (e.g., a highly rated credit weakens and drops to a lower rung on the credit ladder perhaps from a AAA to an A rating or a weak credit strengthens and becomes more highly rated). Evaluating the performance of lead the bank's risk control unit to modify and improve the system continually. Ongoing monitoring by management and internal auditors is also required.

Ultimately, the ratings should help the bank evaluate each credit exposure (loan), assign each an appropriate rating, and allow for an evaluation of the performance of each exposure relative to all the others the bank has under- written or is underwriting. They also help to more easily manage the credit risk of the banking book, provide an avenue to quantify exposure, and accurately assess the bank's regulatory minimum capital for credit risk. Moreover, to determine the regulatory capital that the bank should hold against its credit risks, the bank's internally developed ratings-based system should also be used for stress testing. The system must be able to capture not only the deterioration of credit quality of one specific borrower or a group of similar borrowers, but also the effects of economic and industry downturns, market risk events, and weak liquidity conditions. For a bank to adopt either of the IRB approaches, it must first demonstrate to its banking supervisory agency that it has been using a broad IRB-compliant system for at least three years[6], [7].

A bank complying with the Foundation IRB Approach must have been estimating the probability of default for at least three years, while banks using the Advanced IRB Approach must also have been estimating their loss given default and exposure at default for at least three years. During

the global financial crisis of 2007–2009, it became apparent that banks did not always understand the risks involved in a securitization, nor were the quality and content of the underlying assets always clear. In addition, there was an overreliance on the rating agencies. This resulted in investors failing to perform their own due diligence and ask questions about the riskiness of the securities they were purchasing. To ensure that banks carry out their own due diligence, Basel III standards require them to meet specific operational criteria[8]. Banks must, on an ongoing basis:

1. Have a comprehensive understanding of the risk characteristics of their individual securitization exposures.
2. Be able to access performance information on the underlying pools in a timely manner.
3. Have a thorough understanding of all structural features of a securitization transaction that would materially impact the performance of the bank's exposures to the transaction.

CONCLUSION

If these criteria are met by a bank, it may use the risk weights specified in the Basel II securitization framework. Regulators have also been introducing rules to require banks to hold a proportion of the securities that they have sold to investors on their own balance sheets. This is known as having "skin in the game"if the securities that the bank has structured and sold perform badly, then the bank will suffer along with the investors, providing the bank with an increased, and practical incentive to take extra care in offering these types of transactions to customers.

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CHAPTER 10
A FUNDAMENTAL STUDY ON MARKET RISK

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ABSTRACT:

The risk of losses on a bank's positions in financial assets or instruments due to adverse movements in market prices. Banks assume market risk because they trade as principals, risking their own capital, and hold positions in financial instruments. Failure to man- age market risk can have significant direct effects on a bank's profitability and reputation. After exploring the sources of market risk and the trading instruments banks use in their trading operations, this chapter covers various market risk measurement and management considerations, including the approaches outlined in the Market Risk Amendment to the Basel.

KEYWORDS:

Bank Risks, Credit Risk,Economy, Management, Market Risk.

INTRODUCTION

Market risk has two components: a general market risk that affects similar financial assets or financial markets and a specific risk that affects only individual financial assets. General market risk or systematic risk is the risk of an adverse movement in market prices that is applied across a range of assets.1 Specific risk is the risk of an adverse movement in the price of an individual asset due to factors that apply only to that security or issuer and is not related to the general movement of the markets. Systematic risk should not be confused with systemic risk, the risk that the financial system may collapse due to a catastrophe event.

Example

When the price of shares issued by Andromeda Corporation declines, the cause of the decline can be due to either an event specific to Andromeda Corporation or an event that impacts the entire market. If the share price declines due to a general worsening of the economic outlook, which significantly depresses a wide range of different share prices in the stock markets, the cause of the decline is attributed to general market risk. However, if the share price declines because of a decline in the business of Andromeda Corporation, then the decline is a result of a specific risk that impacts only the company and its shares [1].

Basics of Financial Instruments

Basic financial assets are also called financial products or financial instruments. Banks use financial instruments for trading purposes and to hedge their financial activities. These financial instruments are considered "plain- vanilla" products because they are relatively simple and do not have complex features. For instance, common stocks and corporate bonds are both considered plain-vanilla financial instruments. Banks trade both plain-vanilla and complex

products, with many complex products that can be broken down into two or more simpler products. New financial instruments usually remix already existing, plain-vanilla instruments into more complex structures, requiring sophisticated pricing and legal structures.

Currencies

Most countries or groups of countries have their own currency (i.e., money). They control its supply through their central bank or a similar institution. For example, the dollar is the currency of the United States, the renminbi is the currency of China, and the euro is the currency of the countries of the Economic and Monetary Union of the European Union, or Eurozone.

In foreign exchange transactions, one currency is exchanged for another currency. Banking institutions engage in foreign exchange transactions for a wide variety of reasons. For example, they may be conducting operations out- side their home country, requiring them to have cash on hand in a foreign currency to fulfill their obligations in that country. There are multiple factors that influence exchange rates. Key factors include inflation rates, political changes and instability, and currency regimes. Currency regimes determine to what extent a country or its government man- ages its currency relative to other currencies. Governments may fix their exchange rates, whereby they attempt to keep the relative value of their currency fixed versus another currency or a basket of representative currencies, or float their exchange rates, whereby the relative value of the currency is determined by general market forces. When banks trade currencies with each other, they sometimes act as a broker on behalf of their clients who need to secure foreign currency to pay their bills. Many large multinational banks also actively trade currencies as principals with other banks with the hope of profiting from exchange rate movements.

Fixed Income Instruments

Two of the most commonly referred to and traded fixed income instruments are loans and bonds. Loans and bonds are legally binding contracts through which the borrower (also referred to as the issuer of the bond or loan) borrows the principal amount specified in the bond or loan from an investor and in exchange pays a specified amount of interest, usually at regular intervals. The interest rate referenced in the contract is usually referred to as the coupon rate or nominal rate. This rate may be fixed or floating. For both bonds and loans, the fixed and floating interest rates behave as explained.

At maturity (i.e., expiration), the borrower repays the principal amount to the investor. The repayment structure of fixed income instruments is similar to the structure discussed for loans. Maturities can range from one day up to 40 years or more. There are bonds that have maturities exceeding 100 years, as well as “perpetual” bonds, where the principal amount is never repaid. For a plain-vanilla fixed income instrument, the amount of money the borrower receives is set on the day of the bond’s issuance and will remain the same and not be affected by changes in the inflation or exchange rates that can happen over the life of the bond or loan. There are complex fixed income instruments that adjust the interest payments, and, in some cases, even the principal payments, to inflation rates [2].

One major difference between bonds and loans is that while there has been an active bond market for many decades, loans were typically not traded publicly and were usually kept on the bank’s balance sheet in the bank’s banking book until the loan was paid in full. Historically,

banks bought and sold loans to other banks in a limited market to rebalance their respective banking books to achieve their desired portfolio composition. In recent years, however, the market for loans has grown into an active and sizable market, where large banks sell loans they have underwritten, without the intention of keeping these loans on their books, to nonbank investors. Occasionally banks may package groups of loans into what are termed off- balance-sheet vehicles or derivative products and then sell them to investors. These off-balance-sheet vehicles have formed the basis for many of the credit problems that banks have faced, starting in 2007. Once issued, most loans and bonds have fixed terms. That is, the coupon rate and the maturity date will not change, and so the size and timing of the loan payments are fixed. The value of loans and bonds is affected by the interest rate, and the interest rate is driven primarily by three factors:

1. The interest rate of an equivalent risk-free fixed income instrument
2. The creditworthiness of the borrower or default risk
3. The time to maturity

If the interest rate increases, the value of the loan decreases, because for a fixed-rate bond, the fixed value of the future payments is worth less in present value terms. If the interest rate decreases, the value of the loan increases because the fixed value of the future payments is worth more in present value terms. Hence, loans and bonds are interest rate-sensitive instruments, and their value will fluctuate as interest rates change. There are also floating-rate bonds and loans where the interest rate and, consequently, the interest payments mirror an index that reflects the level of interest rates. When rates increase, the interest rate on the bond increases as well, and the value of the bond may remain unchanged. Investors should be careful to understand all the characteristics of the bond they may be considering investing in before actually buying the bond.

In practice, a risk-free fixed income product would typically be a government bond, which may be considered to have no credit or default risk. If there is any risk of default, the interest rate must be adjusted with a premium that reflects the risk of default. Currently, U.S. Treasury securities are considered to be one of the safest government bond instruments. It should be noted that the concept of government issued securities being risk-free is now being questioned by regulators and investors around the world. With countries experiencing extreme stress as a result of the financial crisis (e.g., the Greek debt crisis), and countries such as Italy, Portugal, Ireland and others requiring international attention to resolve increasing debt, sovereign issued debt instruments are no longer thought to be without risk.

The interest rate depends on several factors, including inflation, the general level of economic activity, and the political and economic stability of the country where the issuer is located, and time to maturity. In general, thelonger the maturity of the loans or bonds, the higher the interest rate. The explanation is simple: To lend money for a longer time, the lender needs more compensation for the risk of holding the instrument longer, which increases the level of uncertainty. Linking interest rates with maturity creates a yield curve. Banks trade bonds with each other to manage their liquidity, to profit from price appreciation due to changes in interest rates, or to manage their earning assets. Banks trade loans with each other primarily when they realign their credit portfolio. Usually, the trading of loans is related to credit port- folio management, particularly as it relates to concentration risk [3].

Interbank Loans

Banks also make loans to each other. Some banks have excess deposits either from unexpected inflows of deposits or because they cannot find suitable loan or investment alternatives for their deposits. These banks sell their excess funds to banks that need them to finance the loans they underwrite or investments they make. Interbank loans can have very short maturities as short as one day (or overnight). Banks also consider interbank loans to make funds available to their depositors and to manage their liquidity requirements. In many countries, these markets are very active. Like loans and bonds, interbank loans are interest rate-sensitive instruments.

Equities

Equities, also called shares or stock, represent a stake in the ownership of a company. The owners of the company are the shareholders, and they participate in the business of the company by voting their shares for or against proposals presented to them by the company's board of directors, who the shareholders elect. Shareholders, in most cases, receive dividends from the company's profits. However, some companies do not pay dividends. Instead, they rely on the company's rapidly growing business prospects to entice new stock investors to drive the stock value higher. Examples of these types of companies are early-stage technology firms that rarely pay dividends. Shareholders also gain from an appreciation in the value of the shares: The more successful the company, the better the return earned by the holder and the better the opportunity for the company to grow and earn additional revenues to increase its dividend payments. The price of a share represents the market's perception of a company's current value and the value of its projected earnings. The price of shares will fluctuate as the market adjusts its valuation of the company in response to new information about the company.

Commodities

Commodities are generally homogeneous products irrespective of the geo- graphical or physical market where they are being sold. For example, agricultural products such as corn, soybeans, and wheat, and energy products such as crude oil, natural gas, and gasoline, are considered commodities, as are precious metals such as gold and silver. The price of a commodity is chiefly determined by the supply of and demand for the commodity. The rate of change to the supply and demand conditions for a commodity varies widely. For example, a drought in a country's farming region over several months leads to a decrease in corn growth, resulting in a decrease in the number of bushels of corn that would come to market for a prolonged period of time. As long as the demand for corn stays the same or increases, the price of corn due to its limited supply would increase until the supply and demand imbalance disappears. By contrast, within days, a hurricane can close down oil production in the Gulf of Mexico off the coast of the United States, resulting in a decrease in the number of barrels of oil that would come to market over the next week. As supplies are limited and demand is not expected to change due to these events, the price of oil would also increase until the demand and supply are balanced. These and other factors make commodity pricing inherently complex.

Example

Through distillation, crude oil is refined into products such as kerosene and butane. Each of these products is referred to as a specific commodity, and each one of them has its own market and price. Price differences may be determined by factors such as where they were refined and the

cost of moving the final product to the user. But each underlying market price is determined by supply and demand factors affecting the global market for each product. Banks, through their brokerage units, may trade commodities on behalf of their customers and also as principals. Commodity trading by banks is neither as common nor as important as foreign exchange, fixed income, or equity trading. In fact, many banks are now exiting commodity trading because of increasing capital requirements associated with those types of transactions.

Derivatives

Over the past 20 years, derivatives have emerged as an integral part of the financial markets. Derivatives are financial instruments whose value changes in response to changes in the value of related underlying assets that can also be bought, sold, and traded. Examples of derivative contracts include futures, options, and forward agreements, among others. There are derivatives on currencies, interest rates, equities, commodities, and the price of credit. The main types of derivatives are the following: A forward is a nontransferable contract that defines the delivery of assets such as commodities, currencies, bonds or stocks at a specified price, at a specified quantity, on a specified future date. A futures contract is a standardized and transferable contract that defines the delivery of assets such as commodities, currencies, bonds, or stocks at a specified price, at a specified quantity, on a specified future date. Futures are traded on recognized exchanges.

Trading

Banks engage in trading operations and buy or sell financial instruments. In some cases, the trading is conducted on behalf of the bank's customers where the bank acts as an intermediaryand does not directly risk the bank's capital. In other cases, the trading is done to benefit the bank itself by seeking short-term profits from favorable moves in the market prices. This type of trading, known as proprietary trading, puts the bank's capital directly at risk. Trading is risky: Prices may not move in the direction the bank expects, and the value of the financial instruments may change adversely and hurt the bank. The bank must decide how much risk it is willing to assume to make a profit, usually referred to as a bank's risk appetite. Generally, higher risk implies higher expected return. But higher risk also means that the likelihood of loss increases as well. The trade-off between risk and return is fundamental to any institution.

Fundamental Trading Positions

In financial markets, a position refers to the ownership status of a particular financial instrument. There are two fundamental trading positions: the long and the short position. The holder of a long position bought, or owns, the financial instrument and will profit if the price of the instrument goes up or will incur a loss if the price of the instrument goes down. The opposite position is a short position the term short position has two different meanings, depending on whether the investor/trader is dealing in futures contracts or in stock, bonds, or other financial instruments. The holder of a short position in a commodities futures contract has the obligation to deliver a commodity when the contract expires. Usually, producers of commodities sell short their future production to lock in the price of the commodity in advance. The holder of a short position will profit if the price of the commodity goes down or incur a loss if the price goes up[4].

In equity markets, if an investor believes that shares of a company are overvalued i.e., too high and thinks the price will go down in the near term, the investor can establish a short position by borrowing shares from a broker and then selling the shares. At some time in the future, the investor can buy the shares back and return them to the broker. If the investor sold the shares for more than the cost to purchase the shares, it profits; otherwise, it incurs a loss. This applies to bonds, stocks, or any other financial instruments.Speculation involves buying (long position), holding, selling, and short- selling (short position) financial instruments such as stocks, bonds, loans, commodities, foreign exchange, derivatives, or any financial product in the expectation that price fluctuations will generate a profit. Specifically, a bank is not seeking to hedge or protect itself from a price change in a position it already owns; it is simply buying or selling with the hope of earning a profit. The two previous examples using Bank G also show how speculation in the marketplace works. The bank did not own the actual crude oil or physical gold commodities; it simply bet on the prices of those commodities going up or down. However, if for some reason the bank held either the oil or gold futures contracts to expiration, it would have had to purchase the physical oil and gold in the marketplace in order to fulfill its futures contracts obligations.

Bid-Ask Spreads

In buying and selling financial instruments, traders will quote prices at which they are willing to buy or sell the financial instrument. The difference between the buy price (bid) and sell price (ask) is called the bid-ask spread. The size of the bid-ask spread is an indicator of market liquidity: The narrower the bid-ask spread, the closer the buyers and sellers are to placing a true market value on the financial instrument and the more transactional volume or liquidity the market has. This liquidity, referred to as market liquidity, is a very important component of any marketplace, and liquidity is a highly desirable market characteristic that market participants actively seek.

Exchange and Over-the-Counter Markets

Financial instruments such as foreign exchange contracts, bonds, equities, commodities, and derivatives are traded on either regulated financial markets, called exchanges, or the over-the-counter markets. An exchange is a centralized marketplace where brokers and traders meet and, on behalf of their customers or on their own account, buy and sell standardized financial instruments such as equities, bonds, commodities, options, and futures. For any financial instrument to be traded on an exchange, it must meet both regulatory requirements imposed by the exchange's regulator and listing requirements imposed by the exchange itself. For instance, many stock exchanges impose listing requirements on the listed company regarding the number of shareholders, the stability of earnings, and the size of the company's assets. Futures exchanges list standard contracts that first must be approved by a regulatory body. Any changes to the contract's terms must also be approved[5].

Historically, exchanges possessed a central physical location where trades took place called "trading floors." However, trading floors are being replaced in many markets by purely electronic trading platforms: there is no physical meeting place and brokers execute all transactions electronically, through purpose-built computer systems (trading platforms) supporting the exchanges. On these trading floors or in these electronic trading platforms, brokers interact with each other, buying and selling (trading) instruments on behalf of their clientsbuyers or sellersor for their own account. The transactions that the brokers execute, either

as agents on behalf of their clients or for their own account, contractually and legally bind the parties to complete the trade as agreed. Moreover, all the trades between the brokers are logged, recorded, and displayed by the exchange. Because both the price and the volume of trades are available and often prominently displayed on the trading floor or in the electronic marketplaces and are disseminated through price reporting services electronically, exchanges create price transparency that allows market participants to continually price their own holdings of financial instruments.

Whether the transaction takes place on the trading floor of an exchange or in an electronic marketplace owned by an exchange, the parties to the transaction operate according to an agreed set of exchange rules, which in many cases requires clearing their trades and transactions through a clearinghouse that is typically affiliated with the exchange. A clearinghouse, often referred to as the central counterparty (CCP), becomes the buyer to each seller and the seller to each buyer, effectively standing in the middle of the transaction to guarantee the financial performance of the trade as agreed by the parties to the transaction. Each clearinghouse or central counterparty has its own rules, regulations, and conventions, which may differ across the different types of financial instruments that are traded on the same exchange that the clearinghouse or central counterparty clears. However, a clearing- house typically offers credit support mechanisms, which are supported by the clearinghouse's members and are transparent to the market participants to ensure that the parties to the trade will receive financial compensation if the counterparty to the trade is not able to deliver on the trade as agreed. The different sources of credit support include insurance and collateral, or margin that the clearinghouse members post with the clearinghouse.

Clearinghouses require members clearing through the clearinghouse to post collateral or margin. It should be noted that not all brokers are clearing- house members. Those who are not would trade through a clearing member using what is called an omnibus account. When the broker posts the margin, it provides and transfers to the clearinghouse a high-quality instrument that is both liquid and exhibits low price variability; generally government bonds, such as U.S. Treasuries, or cash deposits serve as an acceptable form of margin. The amount of the required margin (margin requirement) that the brokers are obligated to post is determined by various material considerations, including the different types of instruments the broker trades on the exchange, the risk of the instrument, and the overall trading volume. The amount of the margin is recalculated at least daily to reflect the trades or other exposures that the broker has, and the broker is required to maintain a margin requirement with the clearinghouse. Were the clearinghouse to deem that the margin posted by the broker is insufficient due to an adverse price movement in the instruments that the broker trades in or holds, or a sudden, unexpected, and material decline in the value of the collateral provided by the broker the broker must post additional margin so that the collateral provided reflects the broker's exposure and meets the clearinghouse's minimum aggregate margin requirements. When a broker is required to post additional collateral to fulfill the margin requirements, the notification is termed a margin call.

In case the broker fails to deliver on a trade that it has executed at the exchange, for whatever reason, the clearinghouse liquidates the collateral posted by the broker and uses the proceeds from its sale to compensate the broker's counterparty. The availability of and access to collateral significantly mitigate the counterparty credit risk inherent in buying and selling financial instruments. How this compensation is paid depends on the specific financial instrument that was traded between the parties and on clearinghouse rules, regulations, and commercial conventions.

It can include some form of financial compensation paid directly to the party that was adversely impacted from the default.

Buyers and sellers who transact as customers through a broker are required to post collateral with their brokers. The amount of the initial mar- gin required to be posted by the broker's customers is determined by the type of financial instrument traded. The margin posted in the customer's account with the broker must meet the minimum margin requirements, as determined by the exchange or clearinghouse. There are brokerages that may insist on higher margin requirements to protect themselves from the risk that a customer may become unable or unwilling to settle the transaction as agreed. It is the margin posted by the brokers' customers that is often used to support the margin that the broker, in turn, posts with the clearinghouse. Addition- ally, the customers must also meet the required minimum margin requirements imposed by the clearinghouse; the broker has the obligation to maintain the customers' margin or issue its own margin call, requiring the customer to replenish the account by providing securities or cash.

In the case of futures markets, the daily profits and losses are added or subtracted from the customer's account (marked-to-market). This adjustment made to the customer's margin requirement based on daily mark-to-market value of the account is called variation margin. While exchanges offer standardized products, price transparency, clear rules that govern the transactions between the buyers and sellers, and collateral support through the clearinghouse, they do not offer the flexibility many sophisticated investors need, as such investors must individually structure the trades that they want for hedging or other purposes. These transactions are executed in the over-the-counter markets instead, where both the flexibility and the ability to customize trades and transactions exist.

The over-the-counter or OTC market does not have a physical location for its marketplace. However, there has been a major drive toward requiring the trading of OTC transactions through a centralized electronic marketplace to allow for greater transparency around the OTC marketplace, and a perceived increase in safety as it would relate to counterparty default. For example, the electronic trading of swap transactions, one form of derivative, would be conducted through Swap Execution Facilities (SEF). SEFs allow multiple parties to execute trades by accepting bids and offers from those pre-approved to participate in the SEF. As OTC contracts become more standardized, they will be required to be cleared through a central clearing facility. However, there will remain OTC contracts that will not be standardized. Those instruments will still be traded in the over-the-counter market and not through a centralized trading facility[6].

In the OTC market, the buying and selling of financial instruments takes place directly between the two parties to the transaction through the use of phones or computer networks, with each party directly assessing and taking on the risk of the creditworthiness of the other party to the transaction. Most notably, foreign exchange, derivatives, bond, and commodity trading, and some equity trading activities are conducted in the OTC markets. Due to the general need and/or desire in the market to customize instruments and to match as closely as possible the needs and desires of the two parties to the transaction, the OTC market is significantly bigger than the exchange marketplace.

The use of collateral in the OTC market is not regulated or standardized, as it is in the exchange-traded markets. When parties to an OTC transaction demand collateral from each other, they negotiate to determine the size and quality of the specific type of collateral they would be willing to accept to ensure that performance will occur as agreed. In some limited instances,

standardized OTC transactions will move to an exchange marketplace for the primary reason of using a clearinghouse to guarantee the transaction. The movement of these transactions to an exchange for this purpose of ensuring counterparty credit is developing rapidly, reflecting the interest from market participants to extend the protection offered by central clearinghouses to OTC transactions.

Size of a trade Parties to the transaction agree on the size. Set by the exchange, depends on the product and standardized specifications. May need to purchase multiple contracts, depending on how much of the product is required. Many issues are currently being dealt with by global regulators in their attempt to bring more OTC trades to a centralized electronic marketplace. Issues such as cross-border recovery in the event of a default, collateral requirements, and risk assessments of the central clearing facility, among others, will understandably take time to resolve given this relatively new requirement and the need to provide for global coordination in what has become a very highly interconnected global marketplace for financial services.

Market Risk Measurement and Management

There are five general market risk categories: foreign exchange, interest rate, equity, commodity, and credit price risk. Market risk can be either general or specific. General market risk refers to adverse change in a market that affects market participants broadly. Specific risk refers to change in conditions that affect only one submarket (e.g., the oil market, instead of commodity markets generally).

Types of Market Risk: The Five Risk Classes

To better understand the five different types of market risk, this section describes each risk type. Foreign exchange risk is the potential for loss due to an adverse change in foreign exchange rates, and applies to all exchange rate–related products whose positions are valued in a currency that differs from the bank's reporting currency. Interest rate risk is the potential loss due to adverse changes in interest rates. As discussed above, the value of a bond will increase if interest rates decrease and decrease if interest rates increase. Note that the value of fixed income instruments will change if either the creditworthiness of the borrower changes or the risk-free interest rate changes. The potential change to the creditworthiness of the borrower is the credit risk associated with the loan. The potential change to the interest rate is the market risk associated with the loan.Equity risk is the potential loss due to an adverse change in the price of stocks and applies to all instruments that use equity prices as part of their valuationfor example, derivative products such as futures con- tracts.

Enron, a company in the United States, filed for bankruptcy following an unprecedented accounting scandal that was uncovered in late 2001. Over several years, Enron had accumulated a wide range of energy-related holdings and businesses in the United States and abroad, and had become a dominant player in the energy business. Throughout these expansive years, the company provided financial information to the shareholders that indicated Enron's growth was robust and that management had successfully created a financially stable, strong, and highly profitable company. In reality, however, the company's management used complex, materially misleading, and fraudulent accounting transactions that effectively hid the true financial position of the firm: its substantial and accelerating losses and sizable liabilities. The deceptive accounting practices involved highly complex and opaque legal transactions that moved Enron's losses to corporations that were affiliated and controlled by Enron. However, due to the

structuring of Enron's accounting transactions, their total impact on the company's financial health was not transparent. Enron did not have to disclose this information. Moreover, as Enron's affiliated corporations were not publicly traded, their true financial condition was not disclosed to the public. Only the top executives of Enron were aware of the extent of the deceptive accounting practices.

While the company's management publicly encouraged investment in Enron, as Enron's share prices softened, many executives, who were either directly involved or able to recognize the severity of the misleading accounting statements, began to sell their shares aggressively. By August 2001, the shares had dropped to around USD 40. At that time, more and more previously undisclosedinformation came to the market that showed the company's accounting information and accounting practices were systemically fraudulent and misleading. As the true financial situation of Enron emerged, the price of the shares dropped from USD 40 to mere pennies by the time Enron was forced into bankruptcy in December 2001. Commodity risk is the potential loss from an adverse change in commodity prices. This applies to all commodity positions and any derivative commodity positions such as futures contracts.

Value-at-Risk

To measure market risk in their portfolios, banks commonly use a concept termed Value-at-risk (VaR). VaR provides a qualified answer to the question, "How much could we lose in the next day (or week, month, year)?" Formally, VaR is defined as the predicted loss at a specific confidence level (e.g., 95%) over a given period of time (e.g., 1 day). Note that VaR does not pro- vide the worst-case loss, but instead uses a confidence level, generally 95% or higher. With a 99% confidence level, for example, VaR estimates the loss level such that 99% of the time (e.g., in 99 trading days out of 100), the actual loss level will be less than that number. VaR makes no prediction about what the loss could be on the worst day. If a 95% confidence level were used, then VaR is estimating the 6th worst daily loss in a 100-day horizon, but does not provide any additional information about how much worse the five worst daily losses will be[7], [8].

VaR calculations make assumptions about the likely movements of market values in the future. One way to do this is to look at how market values moved in the past, and to assume that they will move that way in the future. If a company's stock price has moved up and down by significant amounts in the past, one might assume that it will continue to do so in the future. Similarly, if a company's stock price rarely moves above USD 100, although sometimes it falls as low as USD 70, again one could assume that its price will remain in that range in the future.Clearly, if historical data is to be used as a guide to future price movements, then the time period that is used when collecting data on price movements is important. If the period used is too short, the data may not capture a wide range of possible price movements. Similarly, if data is used from a time when economic conditions were stable and benign, they may not be much use in predicting how prices will move under more difficult economic conditions.

Calculating VaR involves closely examining current positions and estimating the distribution of possible return values the portfolio could see during the next time period typically one day for market risk. A return distribution for a portfolio and can be interpreted as follows. The horizontal x-axis represents possible gains and losses. Losses would be points to the left of zero and profits to the right. For any return value x, the area beneath the curve for all return values less than or equal to x represents the probability that return value is less than or equal to x, and so, the area

under the entire curve is equal to one. At any particular gain or loss value, the height of the curve represents the relative likelihood of that gain or loss.

Most of the effort in calculating VaR involves estimating the return distribution (the gain or loss values that the current portfolio might return and the probability of each value); there are three common approaches. One approach is to assume that the return values follow a known probability distribution, such as the Normal distribution, also known as a bell curve and to use the properties of the distribution to determine the required confidence level. Another approach is to simulate possible returns and losses, which allows for a wider variety of return distributions and financial products to be considered. Finally, one approach is to use historical daily returns over a defined look-back horizon and to consider the gains and losses that would have been realized for the current portfolio; this approach has the advantage of not requiring any assumptions about the underlying distribution. When implementing a VaR system, risk managers must be cognizant of the different strengths and weak- nesses, relative to accuracy and computational effort, of the various approaches. Given an estimated return distribution for the current portfolio, the VaR value corresponds to the loss level x such that the probability that losses are less than x equals the given confidence level.

DISCUSSION

VaR is a very general concept that attempts to provide a concise snapshot of the current market risk profile of the bank's portfolio. VaR has broad applications in risk management, including market, credit, and operational risk. VaR as a concept has some shortcomings that are important to emphasize: VaR is measured with estimation error. That is, the estimated return distribution is derived from a quantitative model that typically makes simplifying assumptions and is therefore not a precise statement of the range of possible outcomes. VaR does not give any information about the severity of loss by which it is exceeded. That is, if the loss amount does exceed the VaR value, VaR does not provide any information about how much greater the loss might be. Risk managers will typically consider a range of confidence levels to understand better the range of possible losses and alter- native risk measures such as expected shortfall. Most importantly, VaR does not describe the worst-case loss but the worst case for a specified confidence level. This is a point to be emphasized and remembered.

Expected Shortfall

Given the limitations of VaR, regulators and financial organizations are put- ting more emphasis on another risk measure, expected shortfall (ES), to more fully estimate risk in the tail of the return distribution. ES is also referred to as conditional VaR (CVaR) or Expected Tail Loss (ETL). For a given time period and confidence level, ES is the average loss that could occur in excess of the loss calculated by VaR over the same time period and using the same confidence level. By construction, ES will always be a larger number than its corresponding VaR because it is estimating the average loss in the extreme tail of the distribution beyond the VaR loss value. Like VaR, ES is NOT the worst-case loss, which for many portfolios cannot be estimated. Because it requires even greater information about the extreme tail of the return distribution, ES is more difficult than VaR to calculate and has greater estimation error.

Stress Testing and Scenario Analysis

Although a 99% VaR measure may capture a wide range of all possible out- comes, risk managers must pay particular attention to the remaining 1% of outcomes since these events could cause banks serious financial problems. Stress testing and scenario analysis are important tools of any risk management system that seeks to understand how a portfolio will perform in extreme cases. Given the reliance on modeling, risk measures need to be closely examined and tested against extreme events.

Stress testing considers instances for particular value changes, such as a rapid change in interest rates or equity indices. Scenario analysis evaluates portfolio performance in severe states of the world, either hypothetical or historical. For example, scenarios that a risk manager may consider for an equity portfolio would be to model and use the U.S. stock market crash of 1987 or the 1997 Asian financial crisis. Other scenarios might be based on natural disasters, wars, changes in political situations—virtually anything that would have a dramatic effect on market prices. Stress tests are an essential part of risk management and involve a number of supporting activities, such as ensuring that the assumptions underlying each stress test are reasonable. Stress testing has become more important over the years and is now a major part of a bank's, and regulators, risk management activities.

Market Risk Reporting

Communication is a key part of effective risk management, and once risks have been measured, risk reports must be shared with traders, risk managers, senior management, and members of the board of directors. Contents of the risk report typically vary according to the business line and seniority of the users, but most reports include information about trading and balance sheet positions being held by the bank, the reason for the position, where it is being held, the date of its maturity, current profit/loss status, the volatility of the position, and many other factors. Risk reports will also typically provide cur- rent risk metrics, including value-at-risk (VaR) values for several confidence levels, stress test results, and analysis of risk by sector, geography, and other factors. Risk reports should allow users to quickly assess the current risk level of the portfolio and identify possible areas of overexposure where risk mitigation may be needed. The frequency of risk reports may vary according to the user of the information. For example, the most demanding users of market risk information, in addition to a bank's risk managers, are the bank's traders, who will need real-time risk reports in order to function properly.

Hedging and Basis Risk

Hedging

Banks and individuals hedge in order to reduce or cancel out a risk. When a bank hedges a position it currently holds in a financial instrument, the position is matched as closely as possible with an equal and opposite offsetting position in a financial instrument that tracks or mirrors the value changes in the position being hedged. Usually, hedging involves a position in a derivative that mirrors as closely as possible the value changes of the underlying asset. Hedging is the opposite of speculation. In a speculative trade, the bank chooses to take a calculated risk in the expectation of a positive future return. In a hedging trade, the bank chooses to limit some of the risk exposures it has by sacrificing some, if not all, possible future returns.

While hedging sounds complicated, in fact it is not. In our everyday lives, we all hedge. The simple act of buying car insurance is a hedge against the financial impact of an accident. In exchange for our payment to the insurance company, the company provides insurance. The insurance company promises to pay expenses associated with an accident that we are involved in. What the insurance achieves is simply to reduce the effects of risks that we are exposed to. It is important to remember that the risks still exist; the insurance does not reduce the likelihood that an accident will occur, but, rather, offers financial compensation to us when things go wrong—that is, when there is an undesirable outcome.

Similarly, checking the weather before embarking on a lengthy journey is a hedge against bad weather. We cannot control the weather, but we can, in fact, adjust what we pack for the journey and when we take off on the trip. By adjusting our behavior, we are hedging against the impact of bad weather the undesirable outcome. Hedging financial exposures is akin to buying car insurance or checking the weather report. The intended effects are the same reduce the impact of the undesirable outcome. But the ways financial hedges are created are significantly more complex. The following equity example is a straightforward illustration of hedging in the financial sense. It involves an exposure the stock or equity we want to hedge and the "insurance" that we use to hedge our exposurethe put option. For financial hedges, the insurance often involves a derivative. Options are derivatives. The reason we use derivatives to hedge financial exposure is because they derive their value from another asset, usually from the asset that we hedge or an asset that has similar characteristics to the one that we hedge.

For instance, if an investor owns equity in a company, an option would replicate the value of that asset. If the value of the asset increases, the value of the option changes as well; the direction of the change depends on the type of option. As the value of the asset increases, the value of a call option increases, and the value of the put option decreases. Conversely, as the value of the asset decreases, the value of a call option decreases, and the value of the put option increases.

In a long equity position, the undesirable outcome is that the value of the equity decreases; to hedge, a put option should be purchased long position in a put option because the value of the put option increases as the value of the stock decreases. In a short equity position, the undesirable outcome is that the value of the equity increases; to hedge, a call option should be purchased long position in a call option because the value of the call option increases as the value of the stock increases. The equity example can be extended to more complex situations, but the principles remain the same. The approach can also be extended to interest rate risk the risk that interest rate changes adversely impact the bank. In most cases, this means that the cost of borrowing is greater than the income the bank earns on its loans. This is an undesirable outcome, and the banks use derivatives that reduce this risk. In a similar manner, banks can use derivative products to hedge interest rate risk, commodity risk, and foreign exchange risk. An example of derivatives that reduce interest rate risk is forward contracts.

Derivatives have a wide use in banking and allow a bank to lend/borrow funds at a fixed rate for a specified period starting in the future, thereby reducing the effect that changing interest rates have on the interest rate margin. The gains and losses cancel each other out. In the first example, Bank A gains USD 5,000; that gain equals Bank D's loss. In the second example, Bank D gains USD 10,000; the loss to Bank A is the same. This is the result of using the forward contract and other financial derivatives: transferring risks between the two banks. The objective of the above transactions is to reduce or share risks. In return for bearing certain risks, the companies involved

are willing to accept a reduction in their profits. Reducing the impact of undesirable outcomes is the same as reducing risks.

Basis Risk

Basis risk is the result of imperfect hedging and can also be referred to as hedging risk. For example, 90-day U.S. Treasury bills have neither currency nor maturity mismatch risk. The residual risk is basis risk. To achieve perfect hedging, a trader will need to trade an equal and opposite position to the one at risk. A trader who is long a particular type of instrument will therefore have to sell it again in order to neutralize the risky position completely. This may not always be desirable for a trader, who would rather try to hedge with a proxy to the risk taken. Thus, a trader with a long position in 10-year U.S. Treasury bonds may hedge most of this exposure by selling the necessary number of 10-year U.S. Treasury bond futures. The trader's remaining—or basis risk is an exposure to the basis between the 10-year yield on the underlying bond for the futures contract and the 10-year U.S. Treasury yield on the actual bond held.

Market Risk Measurement of Credit Risk.

As credit risk has become increasingly tradable, risk managers have been looking for ways of expressing this credit price risk in quantitative ways that can be easily understood. This has especially been the case with the relation- ship between risk-free yields and credit spreads. During the bond boom of the 1980s, risk-free yields were high and credit spreads low (mostly because the appetite for speculative-grade investments was small by comparison to that for investment grade securities). As a result, the proportion between the two components was large for risk-free yields and small for credit spreads. Risk managers, in the interest of expediency, mostly focused on the larger of these risks and developed the PV01 (present value of one basis point) concept. It is essentially the same as a bond's effective duration and describes quantitatively how much the bond's price changes if the smallest imaginable yield change.

Duration Times Spread

Duration times spread (DTS) is an evolution on CS01 that takes into account a weakness of that model: a tendency to overestimate CS01 for stronger credits and underestimate it for poorer credits. This is done by adjusting for/ multiplying by the effective duration of the underlying position to arrive at a more intuitive outcome: bonds with large spreads are riskier than bonds with small spreads, given identical duration. Some models use the spread duration instead of the effective/price duration.

CONCLUSION

In conclusion, this fundamental study on market risk provides a comprehensive understanding of the concept and its implications in financial markets. Market risk is inherent in investment and trading activities, arising from fluctuations in market prices, interest rates, foreign exchange rates, and other relevant market variables.The study explores different types of market risk, including equity risk, interest rate risk, currency risk, and commodity risk, highlighting their impact on investment portfolios and financial institutions. It emphasizes the importance of accurately measuring and managing market risk to protect against potential losses and ensure the stability and resilience of financial systems.

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CHAPTER 11

AN OVERVIEW ON MARKET RISK REGULATION

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ABSTRACT:

Market risk regulation plays a crucial role in ensuring the stability and integrity of financial markets by addressing the risks associated with price fluctuations, volatility, and other market-related uncertainties. This abstract provides an overview of market risk regulation, highlighting its importance in safeguarding the financial system and promoting investor confidence. The study begins by defining market risk and discussing its significance in the context of financial markets. It explains how market risk regulation aims to prevent excessive risk-taking, market manipulation, and disruptions that could have systemic consequences. The abstract also explores the types of market risk, including equity risk, interest rate risk, foreign exchange risk, and commodity risk, and highlights the challenges in effectively measuring and managing these risks.

KEYWORDS:

Bank Risks, Credit Risk,Economy, Management, Market Risk.

INTRODUCTION

The Basel I Accord considered only credit risks. In 1996, after consultations with the financial community, the Basel Committee issued the Market Risk Amendment, which was implemented at the end of 1997. The objective of the amendment was to create a capital cushion to balance the negative effects of price movements. Bank trading activities were the primary focus. The bank's trading book refers to the portfolio of financial instruments held by a bank to facilitate trading for its customers, to profit from speculative positions, or to hedge against various types of risk. The Market Risk Amendment created a capital requirement for market risk for[1], [2]:

1. Interest rate–related instruments and equities in the trading book
2. Foreign exchange and commodities positions throughout the bank

The Market Risk Amendment introduced two methods for banks to use in calculating market risk capital requirements: the Standardized Approach and the Internal Models Approach. The Standardized Approach is similar to the standardized credit risk approach and consists of instrument-specific risk weights. These weights are applied to all the bank's holdings that are exposed to market risk. The bank's total market risk regulatory capital is the summation of its risk capital requirement across the risk categories of equities, commodities, and currencies.

This approach uses an arbitrary risk classification: an 8% capital charge is uniformly applied to equities, currencies, and commodities without regard to their actual risk and volatility. Since the risk charges are systematically added up across the different sources of risk, this approach does not account for any offsetting of risks by looking at a bank's entire portfolio or by looking at how well the bank is diversified. This approach tends to lead to a higher regulatory capital requirement, or less risk-based capital requirement[3], [4].

The Internal Models Approach relies on the bank's own internal risk management models and improves on the Standardized Approach. This approach determines the regulatory capital requirement based on the bank's VaR calculations. The bank calculates its 10-day, 99% VaR for adverse changes in interest and exchange rates, and commodities, equity, and option prices. Since the VaR is based on the portfolio of the bank's positions, it considers both correlations and portfolio effects across instruments and markets, and rewards risk diversification. Thus, banks using this approach to determine their regulatory capital requirements would generally have lower regulatory minimum capital than those using the Standardized Approach. It would also generally be more costly to set up and manage the Internal Models Approach, and this is a trade-off that banks have to consider. In using the Internal Models Approach, the bank's internal risk management models must meet certain regulatory requirements. These regulations also provide banks with incentives to improve the accuracy of their internal estimates of their market risk exposure[5], [6].

Basel II

The Basel II Accord's rules on market risk were largely unchanged from the 1996 Market Risk Amendment. Under Pillar 1 banks were still required to use either the Standardized Approach or the Internal Models Approach. The framework did refine the definition of a bank's trading book and under Pillar 3 introduced disclosure requirements for market risk. The Standardized Approach has been updated to include risks associated with correlation trading and market risks associated with securitization, securitization, and credit derivative exposures. As noted earlier, correlation trading is a strategy in which the investor gets exposure to the average correlation of an index, rather than just individual shares[7].

The Internal Models Approach has been refined to improve risk measurement and ensure that banks hold sufficient capital against market risk during times of stress. In addition to calculating standard VaR (using data from the most recent one-year period), banks must also calculate the stressed market VaR for the same portfolio of trades. The stressed VaR must be calculated using data from a one-year period of significant stress. An Incremental Risk Capital (IRC) charge is introduced to the new VaR framework. The IRC captures default and migration risk within the trading book. Default risk is the potential for direct loss due to an obligor's default as well as the potential for indirect losses that may arise from a default event. Migration risk is the potential for direct loss due to an internal or external ratings downgrade or upgrade as well as the potential for indirect losses that may arise from a credit migration event.

An important innovation is to penalize banks applying the Internal Models Approach if they experience exceptions exceeding those permitted by the confidence level used in their internal models. Should this happen, a bank is relegated to using the Standardized Approach until the number of exceptions is brought back into line with expectations. Banks facing this threat will find their capital charge increasing. This regulatory tool provides a strong incentive for banks to fine-tune their model design [8].

To provide further stability to the financial system, Basel III enhances counterparty credit risk practices, including higher Pillar 1 capital requirements determined by stress tests. A bank must add a capital charge to cover the risk of mark-to-market losses on the expected counterparty risk to over- the-counter (OTC) derivatives. This capital charge is called a credit value adjustment (CVA) and is essentially an adjustment made to the value of OTC-derivative contracts to better reflect the credit risk of the counterparty. Broadly speaking, the fair value of a derivatives

position should be equal to its risk-free value plus CVA. In other words, CVA is the market price of derivatives counterparty risk. To improve market discipline through increased transparency, the Basel Committee has implemented deeper and broader disclosure standards. The objective of these changes is to ensure that market participants have an increased ability to better assess the risks other banks may pose.

DISCUSSION

Implementation and monitoring The Basel Committee will continue to monitor the impact of the capital requirements for market risk on banks as they move towards implementation, to ensure consistency in the overall calibration of the Pillar 1 capital framework (including credit risk, operational risk and market risk). Incentives for regulatory arbitrage between the trading book and the banking book will be assessed as further enhancements to the Pillar 1 capital framework are finalized. The revised internal model and standardized approaches, as well as the relationship between the two approaches, will be monitored by the Committee. The Committee notes that it has underway several areas of ongoing work that may have an impact on the market risk capital requirements. In November 2015, the Committee issued a proposal for incorporating criteria for simple, transparent, and comparable securitizations into the Basel capital framework. Any final treatments in this regard will apply to both the banking book and the trading book and, thus, market risk capital standards for securitizations. The Committee also has outstanding a proposal on the application of the market risk framework to credit valuation adjustments (CVA). The finalized CVA standards will be incorporated into the framework, albeit on a stand-alone basis.

In addition, other ongoing work to review the capital requirements for credit risk, treatment of sovereigns, and treatment of interest rate risk in the banking book may warrant periodic analysis on the calibration of capital requirements for the trading book. In addition, the Basel Committee will determine, as part of a broader review in 2016, whether any adjustments or exemptions to the existing Basel III threshold requirement for deductions of holdings of regulatory capital are warranted for certain bank activities (eg market-making) or instruments (eg TLAC holdings). The Committee will continue to conduct further quantitative assessment on the profit and loss (P & L) attribution test required for the revised internal models approach. This will complement previous quantitative impact assessments to calibrate the P & L attribution test to a meaningful level. Appropriate calibration is important for this supervisory tool to ensure the robustness of banks' internal models at the trading desk level. An important element of the Basel Capital Accord is the Pillar 3 disclosure standards. This document does not set out those requirements for market risk. Rather, these standards will be proposed for public consultation and finalized in a separate Basel Committee publication.

Holdings of the bank's own eligible regulatory capital instruments are deducted from capital. Holdings of other banks', securities firms', and other financial entities' eligible regulatory capital instruments, as well as intangible assets, will receive the same treatment as that set down by the national supervisor for such assets held in the banking book, which in many cases is deduction from capital. Where a bank demonstrates that it is an active market-maker, then a national supervisor may establish a dealer exception for holdings of other banks', securities firms', and other financial entities' capital instruments in the trading book. In order to qualify for the dealer exception, the bank must have adequate systems and controls surrounding the trading of financial institutions' eligible regulatory capital instruments. Holdings of capital instruments that are deducted or risk-weighted at 1250% are not allowed to be included in the market risk framework.

The market-maker/dealer exemption set out in this paragraph is subject to change by the Basel Committee.

The Basel III definition of capital requires banks to deduct their holdings of regulatory capital, subject to a threshold, but does not include an exemption for market-makers. The Basel Committee will determine, as part of a broader review, whether any adjustments or exemptions to the existing threshold requirement are warranted for certain bank activities or instruments (eg TLAC holdings). In the same way as for credit risk and operational risk, the capital requirements for market risk apply on a worldwide consolidated basis. Supervisory authorities may permit banking and financial entities in a group which is running a global consolidated trading book and whose capital is being assessed on a global basis to include just the net short and net long risk positions no matter where they are booked.

Supervisory authorities may grant this treatment only when the revised standardized approach permits a full offset of the risk position (i.e. risk positions of opposite sign do not attract a capital charge). Nonetheless, there will be circumstances in which supervisory authorities demand that the individual risk positions be taken into the measurement system without any offsetting or netting against risk positions in the remainder of the group. This may be needed, for example, where there are obstacles to the quick repatriation of profits from a foreign subsidiary or where there are legal and procedural difficulties in carrying out the timely management of risks on a consolidated basis. Moreover, all supervisory authorities will retain the right to continue to monitor the market risks of individual entities on a non-consolidated basis to ensure that significant imbalances within a group do not escape supervision. Supervisory authorities will be especially vigilant in ensuring that banks do not conceal risk positions on reporting dates in such a way as to escape measurement. The Committee does not believe that it is necessary to allow any de Minimis exemptions from the capital requirements for market risk, except for those for foreign exchange risk set out in paragraph, because the Basel Framework applies only to internationally active banks, and then essentially on a consolidated basis; all of these banks are likely to be involved in trading to some extent.

CONCLUSION

Market risk regulation is constantly evolving to address emerging market risks and adapt to changing market dynamics. Regulatory authorities collaborate internationally to harmonize regulatory frameworks and promote consistency across jurisdictions.In conclusion, market risk regulation is essential for maintaining financial stability and protecting market participants from adverse market conditions. By imposing capital requirements, risk management practices, and disclosure obligations, regulators aim to enhance market transparency, minimize systemic risks, and ensure the soundness of financial institutions. Market participants must understand and comply with market risk regulations to effectively manage market risks and contribute to the overall stability of the financial system.

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CHAPTER 12

AN OVERVIEW ON OPERATIONAL RISK

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ABSTRACT:

Operational risk is a critical aspect of risk management within the banking industry. It encompasses a wide range of risks arising from inadequate or failed internal processes, systems, human errors, or external events. This overview provides an understanding of bank operational risk, its sources, and the strategies employed by banks to manage and mitigate these risks. Operational risk refers to the potential for losses resulting from various operational failures, such as errors in processing transactions, technology disruptions, fraud, compliance breaches, legal disputes, or even natural disasters. These risks can significantly impact a bank's reputation, financial stability, and ability to serve its customers. Banks employ several strategies to manage and mitigate operational risk. Firstly, they establish a robust governance framework that defines roles, responsibilities, and accountability for operational risk management. This framework includes policies, procedures, and internal controls designed to identify, assess, and mitigate risks throughout the organization.

KEYWORDS:

Bank Risks, Credit Risk,Economy, Management, Market Risk.

INTRODUCTION

Operational risk relates both to problems in the bank's internal processes and to external events affecting the operations of the bank. In recent years, banks have started to address their operational risks, such as fraud and theft, in the same formal manner as they manage credit and market risks. Operational risk is the potential loss resulting from inadequate or failed internal processes or systems, human error, or external events. This definition, from the Basel II Accord, includes legal risk but excludes strategic and reputational risk. The last 20 years have seen an increase in the number of operational risk events that have severely impacted both business prospects and profitability. Many events were severe enough to cause catastrophic losses for a bank, far in excess of their capital, such as the collapse of Barings Bank and the demise of Kidder Peabody, once a highly regarded U.S. securities firm. The following is a description of an operational risk event at Barings Bank that erased the venerable bank's capital and ultimately resulted in its collapse.

One of the company's traders dealing on both the Singapore Futures Exchange and the Osaka Securities Exchange had been able to hide losses from his ever-increasing trading activities for more than two years by manipulating trading and accounting records. The trader anticipated an increase in the Japanese stock market and acquired a significant position in Japanese stock index futures. When a devastating earthquake hit the Japanese city of Kobe in January 1995, the Japanese stock market dropped precipitously. This led to considerable losses on the trading positions. Initial assessments considered this a "rogue trader" incident. However, subsequent analysis revealed that better internal controls could have minimized or prevented the loss. The

trader had the authority not only to approve his own trading activities, but also to handle the operational aspects of the very same trades he made. The bank's senior management failed to ensure a segregation of duties between the trader and the operational activities that supported his trading. This fundamental shortcoming resulted in the loss of GBP 827 million, twice the bank's available trading capital[1].

Operational Risk Events

Operational risk events are inherent in running any type of business, not only banks. Banks fully expect that operational risk events will happen, and the more complex the operations of a bank are, the more likely it is that there will be significant operational risk events that can affect the bank's profitability. Banks often make provisions in their financial plans for operational losses.

The accepted definition of operational risk considers five broad categories of events:

1. Internal process risk
2. People risk
3. Systems risk
4. External risk
5. Legal risk

Additional operational hazards include business risk, strategic risk, and reputational or headline risk. Business risk is the potential loss due to a weakening in the competitive position of the bank. Strategic risk is the potential loss due to poor business decisions or incorrect execution of business decisions. Reputational or headline risk is the potential loss due to a decrease in a bank's standing in public opinion. Although excluded from the Basel II regulatory definition of operational risk, many banks include the management of reputational risk within their operational risk function. Over the past decade, the risk to a bank's reputation has increased significantly in terms of both the severity of its impact as well as the speed with which losses can occur. This is because financial markets are global, are trading 24 hours a day, and are operating in a media- intensive world. Thus, damage to an international bank's reputation can hap- pen at any time and in any part of the world, and be reported in real time across the globe. Consequently, reputational risk is one of the critical risks for a bank to manage because:

1. The maintenance of reputation is crucial to the survival of an institution.
2. Effective management is now a key source of competitive advantage.
3. Reputational losses are systemic in nature.
4. Reputational damage is difficult to manage and eradicate.

To fully manage reputational risks, many banks not only have policies and procedures detailing how the institution itself manages its reputation, but are extending these to cover how employees use social media both inside and outside the workplace. Banks are increasingly concerned with managing conduct risk, because failure to do so has, in many cases, had a significant impact on the institution's reputation, leading to large financial loss. Conduct risk is the potential of loss to a bank's customers, clients, or counterparties because of the inappropriate execution of the bank's business activities [2].

Internal Process Risk

Internal process risk is the risk associated with the failure of a bank's processes or procedures. In carrying out a bank's day-to-day operations, the staff conducts business according to prescribed procedures and policies. Corporate policies and procedures include the checks and controls required to ensure that customers receive appropriate service and that the bank operates within the laws and regulations governing its activities. Examples of internal process risk include:

1. Lack of controls: Failure to audit recorded transactions in and among bank and customer accounts.
2. Marketing errors: The bank represents that a service includes a specific feature (e.g., a checking account that provides free checks for the life of the account) that in reality is not actually offered.
3. Money laundering: Engaging in a transaction or transactions to conceal where money is coming from, whose money it is, and/or where the money is going.
4. Documentation or reporting failures. Reports required by the bank's regulators are not accurate or correct; account opening documentation is incorrect or insufficient.
5. Transaction error: A teller adds an extra zero to a deposit, making it GBP 3,000 instead of GBP 300.
6. Internal fraud: Intentional behavior on the part of an employee to enrich himself or herself at the expense of the customers, clients, or the bank itself.

Errors often occur when a process is unnecessarily complicated, disorganized, or easily circumvented, all of which are signs of inefficient business practices. Reviewing and improving a bank's internal processes to improve operational risk management often enhance the bank's operating efficiency and overall profitability. Similarly, auditing processes and analyzing procedures can often reduce internal process risk.

People Risk

People risk, the risk associated with an employee of a bank, is a common source of operational risk. People risk can occur in every part of a bank, even in the bank's risk management function. People risk is most likely to occur due to:

High staff turnover. Frequent changes in staffing mean new people do not have the required background, experience, or training; may not fully understand the processes; and are more apt to commit errors frequently. Poor management practices. An unclear oversight structure where employees report different risk events to several separate risk functions, and each separate risk function follows conflicting practices, procedures, and policies. Poor staff training. During the training of new staff, errors are likely to occur, particularly when the trainers themselves are relatively recent hires. Overreliance on key staff. This gives rise to burnout of overworked staff[3].

Systems Risk

Systems risk is associated with the use of computer technology and computer systems. All banks rely heavily on computers to support their day-to-day activities. In fact, banks today cannot operate without computer systems. Technology-related systems risk events can be caused by the following:

Data corruption: An electrical surge alters data as they are being processed.

Inadequate project control: A failure to properly plan could affect the quality of a risk report produced by the computer system.

Programming errors: Computer models can be inadvertently programmed to generate inaccurate results.

Overreliance on "black box" technology. This is a problem when users believe that the computer systems' internal mathematical models are correct without considering the problem and its solution from a conceptual or qualitative perspective, and without stress-testing the system adequately.

Service interruption(s): An electrical failure results in staff not being able to access reports.

System security problems: Computer viruses and computer hacking are increasingly problematic.

System in suitability: System hardware might not be sufficient to handle high traffic volumes and crashes, or it provides inaccurate results.

In theory, the failure of a bank's technology could lead to a catastrophic event, even the bank's collapse. Heavy reliance on technology makes technology failure an important consideration for senior management banks have invested heavily to ensure that their operations can continue despite technology failure events. This process is called continuity planning or business resumption planning. One system risk of significant concern to the banking industry is cybercrime. Cyber-crime is any crime with some sort of computer or cyber aspect. Cybercrime is a global problem for the banking industry and has surpassed illegal drug trafficking as a way for criminals to make money. It is estimated that the global cost of cyber-crime is at least USD 375 billion, Examples of cyber-crime include:

1. Hacking
2. Denial of service
3. Computer viruses
4. Identity theft
5. Information theft
6. Industrial espionage/theft of intellectual property rights
7. E-mail fraud
8. ATM fraud
9. Cyber money laundering
10. Theft, for example, using key logging and remote access devices

External Risk

External risk is the risk associated with events occurring beyond the direct control of the bank. External risk events are generally rare, but when they occur, they can have significant impact on a bank's operations, substantial enough to merit extensive media coverage. Examples of such external events are large-scale robberies, fire, natural disasters, riots, and civil protests. Such events can be caused by:

1. Events at other banks that impact banks industry-wide (widespread bank closures, or a bank run).
2. External fraud and theft.
3. Terrorist attacks.
4. Transport system interruption, which can prevent bank staff from getting to work.

Trading in government bonds halted after the attacks and resumed on September 13, but trading was low as several major government bond dealers had had offices in the World Trade Center. One of them, Cantor Fitzgerald, the market-leading government bond dealer, lost all its employees who were working that day. In the immediate aftermath of these attacks, many banks and other financial institutions evacuated their personnel working in New York and elsewhere, causing further disruption in the financial world.

Legal Risk

Legal risk is the risk associated with the uncertainty of legal actions or the application or interpretation of contracts, laws, or regulations. Legal risk varies greatly from country to country. In some cases, legal risk results from unclearly stated laws, which can lead to murky legal interpretation. Laws passed in the European Union or the United States often reach across borders and may restrict a bank's international banking activities. With the passing of complex anti-money-laundering, antiterrorism, and customer data protection legislation all around the world, legal risk has evolved as a prominent risk.

Operational Loss Events

Operational loss events are commonly classified by the frequency with which they occur, as well as the severity of the potential loss. As operational risk management practices focus on two general loss types: loss events that occur often, but with low impact or severity (high-frequency/low-impact events), and loss events that occur infrequently, but with high impact (low-frequency/high-impact events). Banks generally are not concerned with the other extremes: low-frequency/low-impact events that would cost more to manage and monitor than the losses from these events would merit, and high-frequency/high-impact events, which would imply a very poorly managed bank that was destined to fail. As operational risk management should strive to ensure that high- frequency operational risk events are very low-severity events, and that high- severity events are very low-frequency events [4].

High-Frequency/Low-Impact Risks (HFLI)

At an individual incident level, losses from high-frequency/low-impact (HFLI) operational risks may be minor, but collectively, HFLI events are considered important enough to include in the bank's business decision-making processes. Many financial services providers will factor in these kinds of losses within their product pricing structures. For example, petty fraud and process failures can occur relatively frequently (high frequency), but with relatively low cost, and so are viewed as a cost of doing business. HFLI risk is generally managed by improving business efficiencies.

Credit card fraud in the form of unauthorized purchases is common. Identifying potentially unauthorized charges on credit cards is integral to any bank's operational risk management function. To identify and prevent unauthorized charges, complex computer programs analyze every single transaction for each credit card. Based on the location, the frequency, the type, and

the amount of the transactions, these programs establish a spending pattern unique to each card. When a credit card that is primarily used to pay for groceries in rural Germany is suddenly charged with the purchase of expensive jewelry in a different part of the world, the bank's software identifies the jewelry transaction as a pertinent deviation from the card's spending pattern. The risk management function usually suspends any further transactions for that particular card and immediately contacts the owner to inquire whether the transactions were in fact made or authorized by the owner.

If the credit card transactions were made without the consent of the credit card owner, the bank has successfully identified a compromised credit card and will invalidate or cancel the transactions. Then, the bank will replace the compromised card with a new credit card. This process is costly. When banks adjust their credit card pricing structure, fees, annual interest rates, and membership fees, it is often to provide for the costs of fraud detection and deterrence. Though costly, it would be of much higher impact if banks did not aggressively monitor cardholders' usage.

Low-Frequency/High-Impact Risks (LFHI)

Low-frequency/high-impact operational risks represent a challenging dimension for risk managers. Because losses from this category of operational risk rarely occur, these events are difficult to model and predict. But because losses from these events can be extremely large, LFHI risks must be considered and managed. Rogue traders, terrorist attacks, and fires are examples of LFHI risks. LFHI events can result in the collapse of a bank.

Near Miss and Gain Events

Unlike some other risk types, not all operational risk events lead to banks incurring losses. Operational failures can result in no loss to a bank, a near miss, or even lead to a bank making a profit, a gain event.

Near miss: An ATM located at a bank's branch malfunctions, giving a customer more cash than is debited from the customer's account. Instead of keeping the extra cash, the customer informs staff of the error, allowing the bank to recover funds dispensed by mistake and to stop other customers from using the ATM until it is repaired.

Gain event: A trader exceeds his trading limit, but earns a profit for the bank. Although the bank made money, the operational deficiency that allowed the trader to exceed his trading limit could just have easily resulted in a loss to the bank.

When controls fail, an operational risk event occurs irrespective of the financial outcome. Even though such events may result in a profit, they should not be ignored, because they have the potential to result in a loss if they occur again. Recording and understanding such events is important because they:

1. Are events with the potential to cause damage?
2. Are opportunities to improve processes, systems, and controls.
3. Can be early warning signs.
4. Help to build as complete a data set as possible.
5. Are useful for scenario analysis.

It is helpful to understand that operational risk management can be considered a learning process. When an event occurs, irrespective of the financial consequences, it is important that the event is recorded and steps are taken to prevent its recurring.

Operational Risk Management

The operational risk management process aims to reduce the bank's overall risk level to one that is acceptable to both the bank's senior management and its regulatory supervisor. The typical operational risk management process can be split into five fundamental steps.

Identification: The first step is to consider all the bank's services, processes, and procedures and to identify the potential risks and controls in place relating to each service, process, or procedure. Process mapping and self-assessment questionnaires are common methods used in identifying operational risks.

Assessment: The next step is to consider each identified risk and assess the effectiveness of existing controls in mitigating the risk's potential impact. The risk assessment process provides a good indication of the bank's risk profile at both aggregate and individual business unit levels, and highlights those areas that require improved controls.

Measurement: Operational risk measurement involves quantifying the potential losses from each identified risk. Operational risk can be approximated using simple measures based on the size of the organization or particular business units or modeled based on frequency and severity, as discussed in the previous section.

Mitigation and control: Once operational risks have been identified, assessed, and measured, additional controls and process improvements can be developed and implemented to further mitigate identified risks to levels that are consistent with the risk level of the organization. Process design enhancement and segregation of duties are examples of methods for reducing operational risk[5].

Monitoring and reporting: Operational risk management (like all risk management) requires ongoing monitoring of risks and concise, timely communication to bank managers, employees, and regulators. Regular risk reports on operational risk events allow bank management to better understand and assess the operational risk profile of the institution and to allocate required resources effectively to guard against unexpected increases in risk events.

DISCUSSION

Functional Structure of Operational Risk Management Activities

Banks can choose from several organizational structures to manage operational risk. These designs differ in implementation and location in the bank's internal organization. Usually, the bank's operational risk management function is a part of the following business structures:

1. Centralized risk function is responsible for risk management across the entire bank.
2. Business line risk function is responsible for evaluation of an individual business line.
3. Individual business unit risk function is responsible for operational risk management for a business unit and is supported by a central risk management group or function.

To achieve efficiencies, banks commonly adopt a mixed approach. Many banks locate the risk analysis function centrally at the headquarters, or main office, level. The risk monitoring

functions are located as close to business units as possible. Defining clear roles and responsibilities for the operational risk management functions strengthens the operational risk management sys- tem. Independent of how a bank structures its risk analysis, monitoring, measuring, and management functions, there are two main approaches to building a companywide operational risk profile.

It then refines this portfolio-level assessment by breaking the risks down into their individual components, carefully reviewing the individual processes and their attendant risks. This analysis always moves from a broad-based approach to an increasingly specific approach from a portfolio level to a business line level to the business unit level to better gauge the risk's potential effects. The results of this analysis are then used to assess the gravity of both the individual risks and their financial effects, and to provide inputs for the firm's operational risk capital calculations.

Bankers Trust initiated a top-down approach to assess its operational risks. One of the first steps in this process was to ask the bank's key business line managers about potential loss scenarios within their business that "kept them awake at night." For each of these businesses, the desk managers were then asked to assess the operational risks they encounter. Then, the bank quantified past losses for each business and assessed the likelihood that these risks could occur again. Managers were also asked about effective risk response approaches to mitigate the impact of these operational risks. This review led to the creation of an extensive inventory of risk classes. The inventory was then used to quantify the bank's overall exposure to each type of operational risk.

In the bottom-up approach, first the risk management function assesses all processes within each business unit separately and benchmarks each unit's risk profile; it then aggregates identified risks at a corporate level. The information is presented to a risk management committee or other oversight risk control function to generate a companywide risk profile. This risk profile is the aggregate of risk profiles of each individual business process[6].

Although the operational risk assessment approaches of Bankers Trust and Bank of Tokyo-Mitsubishi UFJ seem similar, there is one fundamental difference between the two. Bankers Trust, based on its historical experience, created a companywide operational risk inventory, which then helped it to quantify its aggregate operational risk exposure. Bank of Tokyo-Mitsubishi UFJ looked at each of its business processes and, based on this self-assessment, developed operational risk management and measurement approaches. It then based its calculations of the bank's aggregate operational risk expo- sure on these results.

Whichever of these approaches top-down or bottom-up a bank adopts, it must be consistently maintained and appropriate to the overall risk profile of the bank. Factors that influence this decision include the size, sophistication, nature, and complexity of the bank's activities[7], [8].

Three Lines of Defense

A commonly adopted model for the governance of operational risk management is the "three lines of defense" model. All staff within a bank have a role in ensuring that operational risk is managed effectively, and this model helps to clarify responsibilities. Defining clear responsibilities enables all those involved in the management of operational risk to understand their role and how they fit into the overall risk and control structure. Within operational risk management, the three lines of defense are defined as:

1. Business lines management
2. Independent operational risk management function
3. Independent review and challenge (audit)

Irrespective of the size, complexity, and risk profile of a bank, the "three lines of defense" model provides a simple and effective way of communicating operational risk management responsibilities and clarifies essential roles and duties.

CONCLUSION

In conclusion, operational risk is a critical aspect of risk management in organizations across various industries. This overview has provided a comprehensive understanding of operational risk, its sources, and its implications.Operational risk arises from internal processes, systems, people, and external events. It includes risks related to inadequate internal controls, human error, technology failures, fraud, legal and regulatory compliance, and business continuity disruptions. Understanding and effectively managing operational risk are crucial for organizations to protect their reputation, financial stability, and overall business objectives.

The overview highlighted the importance of a robust operational risk management framework, which includes risk identification, assessment, mitigation, and monitoring. It emphasized the need for organizations to implement strong internal controls, risk management policies, and procedures to prevent, detect, and respond to operational risks.

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CHAPTER 13

OPERATIONAL RISK IDENTIFICATION, ASSESSMENT AND MEASUREMENT

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ABSTRACT:

Operational risk identification, assessment, and measurement are crucial components of effective risk management in the financial industry. This abstract provides a concise overview of the process involved in identifying, assessing, and measuring operational risk. Operational risk identification involves the systematic identification and categorization of potential risks arising from internal processes, systems, human factors, and external events. This process often includes risk and control self-assessments (RCSAs), scenario analysis, incident tracking, and the analysis of historical data to identify and prioritize operational risks. Once identified, operational risks are assessed to determine their potential impact and likelihood of occurrence. Various quantitative and qualitative techniques, such as key risk indicators (KRIs), loss data analysis, and expert judgment, are utilized to assess operational risks. The assessment process helps prioritize risks based on their significance, enabling effective allocation of resources for risk mitigation.

KEYWORDS:

Bank Risks, Credit Risk,Economy, Management, Market Risk.

INTRODUCTION

Operational risk management begins with the identification and assessment of the risks inherent in the bank's services, policies, and procedures. The contemporary best practices used to study, assess, and analyze operational risks include:

Audit oversight: The focus is on a review of individual business processes by external auditors. This practice is usually used to supplement the bot- tom-up approach.

Critical self-assessment: Each business unit analyzes the nature of the operational risks it faces. This subjective method leads to an inventory of various risks, including an evaluation of the frequency and severity of past losses. Often this approach would include the development of risk control processes, such as checklists and questionnaires. Risk mapping: This relates process flows, organizational units, and business units to various operational risk types to help management under- stand the location of operational weaknesses within the bank. This is considered a bottom-up approach.

Causal networks: A map of the factors that directly or indirectly cause an operational risk event is created. Using complex models, these causal networks are used to measure the magnitude and distribution of operational risk losses and improve the understanding of them. This bottom- up approach is widely used because it captures the causes of risks.

Key risk indicators: These measure the change in risks over time, indicating how risky an activity is by applying objective statistical methods. This approach builds on the assumption that as activities with key risk indicators of an activity increase, so will the likelihood and magnitude of an operational risk event from such an activity. Using early warning signs increased staff turnover, trade volumes, number of failed trades, the frequency and severity of errors within one business unit, etc. potential losses can be estimated. This approach can be both top-down and bottom-up.

Actuarial models: The focus is on the frequency and magnitude of operational risk losses and is based on internally collected or externally sourced information. This approach uses mathematical modeling methods from the insurance industry and can be used from either a bottom- up or a top-down modeling approach[1].

Earnings volatility: The earnings of various operational units within the bank are analyzed, and the historical changes in the earnings are calculated. This approach assumes that variations in earnings reflect operational risk events and not changes in the business environment. It relies heavily on historical data and thus is a backward-looking measure of risk. A shortcoming of using earnings volatility as a measure is that changes in operational risk management approaches within a business due to improved processes or better understandings of risk events are not quickly recognized in this top-down approach.

DISCUSSION

Example of Operational Risk Measurement and Management

To better understand the operational risk management process, consider the following simple example in which a bank reviews the process mapping of a check deposited in an account. The process of depositing a check at a bank usually consists of the steps. In identifying the potential operational risks, the bank considers employees' responsibilities at each step of the process and the possible operational risks that present themselves along the way. Suppose that during this process, the bank notices a number of problems that occurred, for example, with clearing international checks deposited in customer accounts from certain countries.

In assessing the problems with international check deposits, the bank finds that for the 50,000 transactions with a total value with EUR 6 billion it processed last year involving foreign checks from three countries, 950, or about 2%, experienced problems and processing errors, resulting in a lossto the bank of EUR 100,000. The bank concludes that international check processing for these three countries is a high-frequency, low-impact event: Correcting each of the 950 events costs the bank EUR 105 in personnel and other related expenses. The bank now has sufficient historical information to estimate both the distribution of frequency and the severity of future losses from international check deposits. To mitigate these losses, the bank decides to implement a control that causes checks from these three countries to be flagged for special attention to ensure they are properly cleared[2].

Finally, the bank monitors and reports the frequency and severity of losses from all international check deposits so that managers can identify patterns, trends, and clusters of errors, providing valuable objective and other analytical information that will assist in preventing problems and/or determining the root cause of an event (failure). Bank supervisors also have access to these

reports through their oversight function, and will review them and make recommendations to bank management if they uncover issues of importance.

Basel II and Operational Risk

The Basel II Capital Accord made operational risk management a new priority. Under Pillar 1 of the Accord, banks are required to quantify operational risk, measure it, and allocate capital as they do for credit risks and market risks. Basel II defines operational risk as the risk of loss resulting from inadequate or failed internal processes, people or systems errors, or external events. Basel II outlines principles for developing and operating an operational risk framework that addresses the following:

1. Development of an appropriate internal risk management environment
2. Risk identification, assessment, monitoring, and mitigation/control
3. The role of bank supervisors
4. The role of disclosure

Basel II expects banks to manage operational risk to reduce the probability of adverse risk events. Properly managing operational risk should directly improve the bank's calculation of its operational risk capital. Operational risk capital is capital allocated against possible operational losses. In drafting Basel II, the Basel Committee was aware that introducing an operational risk capital requirement could significantly impact the amount of regulatory capital that banks need to hold. The committee also recognized that requiring banks to value their operational risk and calculate risk capital(for many banks, for the first time) could present onerous challenges and expenses, particularly for smaller banks with simple risk profiles. For some banks, the cost of implementing highly complex methodologies for calculating operational risk capital could very well be greater than the potential benefits. So the Basel Committee allowed flexibility, suggesting banks could use any one of three different approaches to calculate operational risk capital, or any combination of the three approaches [3]:

1. Basic Indicator Approach
2. Standardized Approach
3. Advanced Measurement Approach

By allowing banks to choose from the three approaches, the Basel II frame- work encourages banks to become more precise in their approach to assessing the operational risks and calculating operational risk capital. Each approach is increasingly sophisticated and more costly to implement than the previous one, but each is also believed to target a bank's operational risk capital requirement more accurately. The more accurate the analysis and assessment, the more certain a bank can be that it is not overestimating its actual operational risk capital needs, which would reduce its potential profitability.

Basic Indicator Approach

The Basic Indicator Approach uses the bank's total annual gross income as a risk indicator for the bank. This approach assumes that the more income the bank earns, the larger it is and the greater it's operational risk. The bank's required level of operational risk capital is computed as a fixed percentage of the bank's annual gross income averaged over the previous three years (excluding negative and zero annual gross income years and averaging over the remaining positive years). The fixed percentage as set by the Basel Committee is currently 15%.

Given its simplicity, the Basic Indicator Approach is certainly the least costly in terms of internal systems and support. However, it is a generally inferior alternative for measuring the magnitude of operational risk the bank may be setting aside more capital to cover operational risks than it needs to. Most banks engage in a wide variety of different types of businesses, each with an inherently distinctive risk profile, specific internal operational risk monitoring requirements, and earnings potential. That all business activities represent the same level of risk is a potentially hazardous oversimplification, and therefore the fixed percentage set by the Basel Committee attempts to overestimate the risk potential, resulting in a higher operationalrisk capital requirement. In practice, the Basic Indicator Approach is limited because it is not a true indicator of risk and does not require a methodical review of the bank's services, policies, and procedures. However, it is simple and requires little in the way of direct expense. The Standardized Approach refines the Basic Indicator Approach by recognizing that operational risk can vary by business unit. For example, a bank's trading and sales business unit is considered to carry a higher overall operational risk than its asset management business unit. The beta factor used in the calculation can be specified by the bank's regulator and can be adjusted to reflect the relative riskiness of diverse banking operations.

By splitting the bank into separate business lines and assigning a different risk calculation percentage to each, the Standardized Approach attempts to link a bank's operational risks more closely to its capital requirement. While this may be a better approach for many banks, the Standardized Approach is limited it does not capture the bank's actual operational risk, as it does not involve detailed risk assessment. Under the Standardized Approach, an aggregate amount of capital is calculated for each of the previous three years. These aggregated amounts are then simply averaged to give the operational risk regulatory capital amount required under the Standardized Approach. The aggregate regulatory capital for a single year is calculated by adding up the results of gross income, multiplied by the beta for each business line. It is not important if the gross income for any business line is negative, as it can simply be included within the calculation. If the aggregate for any given year is negative, then it is replaced with a zero in the average calculation, and the average is still calculated over three years.

Advanced Measurement Approach

The Advanced Measurement Approach (AMA) is the most sophisticated approach to calculate operational risk capital and allows the bank to use internally generated models to calculate its operational risk capital requirements. Use of the AMA is subject to stringent regulatory requirements and rigorous bank supervisory oversight. The Basel Committee has not recommended any particular models for banks to use under the AMA, leaving it up to each bank to develop its own internal operational risk measurement systems[4].

In developing the bank's AMA, the bank may draw from its own risk experiences, including its loss history. The bank can complement this information with the pooled loss histories of other institutions. Moreover, the bank can consider, model, and measure its own business and internal control environment. Clearly, developing the methods and infrastructure to model and measure operational risk is significant and costly. The benefits are twofold. First, the Basel Committee presumes (and regularly monitors the validity) that the bank's AMA provides a more accurate assessment of its operational risk, thereby allowing banks to move away from the simple, overly conservative weights used in the Basic Indicator Approach and the Standardized Approach.

Second, banks using the AMA benefit from the careful consideration of their business practices that must occur in assessing and measuring operational risk.

Criteria for Using Different Approaches

Banks must meet a "credibility" test in order to use the two more sophisticated approaches. Credibility is determined by the bank's regulatory super- visor, who compares the operational risk capital requirement the bank calculates against the requirements calculated by similar peer banks using the same approach. This comparison allows the bank supervisor to make an educated determination as to whether the bank's results are fairly stated and credible relative to those of its peers. If the results are not credible, the supervisor can direct that the bank use a simpler methodology to calculate its operational risk charge. The Basic Indicator Approach, being the simplest, sets no criteria for adoption. Banks must meet certain stipulations in order to use the Standardized Approach or Advanced Measurement Approach[5]:

Standardized Approach

To use the Standardized Approach, the bank must have a dedicated operational risk function and systems in place to support it. Internationally active banks must also have systems and procedures to collect, store, maintain, and report internal operational risk data. The operational risk management function of an international bank must have clear lines of responsibility, and the bank must provide incentives for improving the management of operational risk throughout the firm. As a practical matter, the bank's supervisors can insist on a testing and monitoring period before allowing the Standardized Approach to be used for regulatory purposes.

Advanced Measurement Approach

Banks using the AMA are subject to strict qualitative and quantitative criteria. The bank must fulfill the Standardized Approach criteria regardinginternational banks and must augment its internal processes with external operational risk data. It must also develop and properly implement a dedicated and appropriate operational risk framework. The bank must also actively involve major business lines, control areas, audit areas, and the bank's board of directors and senior management in its operational risk oversight.

Qualitative Criteria

The bank must adhere to a minimum set of quality standards, including those focusing on the independence and design of the operational risk measurement, management, and monitoring structure[6].

Quantitative Criteria

To ensure that an internal model meets required standards, the Basel Accord specifies that the bank must be able to demonstrate that its approach captures potentially severe loss events, and the bank must maintain rigorous procedures for operational risk model development and independent model validation. Lastly, as determined by its supervisor, a bank wanting to deploy the Advanced Measurement Approach is subject to a compulsory period of supervisory monitoring.

A bank does not have to start with the Basic Indicator Approach. Pro- vided the bank meets the criteria outlined by Basel II and its regulators, it can implement either the Standardized

Approach or the Advanced Measurement Approach. A bank can also migrate down from a more advanced methodology to a simpler one. Such a move requires the approval of the bank's supervisor. If the bank's regulator is not satisfied with the bank's advanced approach calculations, or if the bank subsequently fails to meet certain regulatory and/or Basel standards, the regulator can require the bank to revert to a simpler approach.

The Basel II Accord also allows a bank to use a mix of approaches for calculating operational risk capital. For example, if the bank meets preset criteria, its supervisor could allow it to use the Basic Indicator Approach or the Standardized Approach for some parts of its operations and the Advanced Measurement Approach for others[7].

Basel II and Operational Risk Management

As mentioned, Basel II requires, for the first time, that banks hold regulatory capital against their operational risks. It is expected that approximately 12% of a bank's capital will be held against these types of risk. The Basel Committee has adopted both a quantitative and a qualitative approach to determine comprehensively a bank's operational risk capital. Inherent in these requirements is the fact that banks need to understand their own operational risks, be able to collect operational risk loss data, and create functions that focus on managing, monitoring, and mitigating operational risks. Banks, regulators, and supervisors understand that the processes relating to and associated with operational risk analysis, operational risk event measurement and management, and risk capital calculations are dynamic and not just one- time or yearly reoccurring events[8].

Basel III and Operational Risk Management:

Basel III retains the three pillars introduced by Basel II and also the requirement to hold capital against credit, market, and operational risks. As a result, many features of Basel II remain the guiding standards on bank capital calculation, even after publication of Basel III. Basel III also introduced standards on liquidity for the first time, as either Basel I or Basel II addressed this issue. It is important to recognize that the Basel Accords are standards on capital and liquidity and are not in themselves regulations. The Basel Committee has no power to enforce the standards that it sets. Only national regulators (or, in the case of the European Union, a regional regulator have the power to do that. Beyond the mandates of regulatory capital, bank management has a responsibility to address the long-term well-being of the organization. Economic capital is the capital level a bank must maintain to withstand large but unlikely losses so that it can survive over the long term.

CONCLUSION

Operational risk measurement involves quantifying and estimating the potential impact of operational risks on financial performance. Techniques like value-at-risk (VaR), stress testing, and scenario analysis are commonly employed to measure the potential losses associated with operational risks. These measurements assist in setting risk appetite thresholds, establishing risk management strategies, and determining the adequacy of capital reserves.In conclusion, operational risk identification, assessment, and measurement are essential steps in effectively managing operational risks within the financial industry. By systematically identifying and assessing operational risks and quantifying their potential impact, organizations can proactively implement appropriate risk mitigation strategies and allocate resources effectively.

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CHAPTER 14

REGULATORY CAPITAL AND SUPERVISION

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ABSTRACT:

Regulatory capital and supervision play a critical role in promoting the safety, soundness, and stability of the financial system. This abstract provides an overview of regulatory capital requirements and the supervision process imposed by regulatory authorities on financial institutions. Regulatory capital serves as a cushion to absorb potential losses and maintain the solvency of financial institutions. It consists of capital components, such as Tier 1 and Tier 2 capital, which are classified based on their quality and ability to absorb losses. Regulatory capital requirements, typically established by regulatory bodies like central banks and banking authorities, mandate financial institutions to maintain minimum capital levels relative to their risk exposures. Supervision is the process through which regulatory authorities monitor and evaluate the activities, risk management practices, and compliance of financial institutions with regulatory standards. Supervisory authorities conduct regular examinations, inspections, and assessments to ensure that financial institutions adhere to applicable regulations, maintain adequate capital levels, and manage risks effectively.

KEYWORDS:

Bank Risks, Credit Risk,Economy, Management, Market Risk.

INTRODUCTION

Pillar 1 Bank Regulatory Capital

The Basel II Accord defines a three-pillar framework to ensure that banks adopt a consistent approach to their capital adequacy requirements. The three pillars are:

1. Pillar 1: Minimum Capital Standards
2. Pillar 2: Supervisory Review Process
3. Pillar 3: Market Discipline

The objective of Pillar 1 is to set minimum capital standards for a bank's credit, market, and operational risk exposures. Pillar 1 details the approaches for measuring a bank's credit, market, and operational risk and the amount of capital that a bank should hold in respect of those risks. It therefore links risk and capital. As discussed in the previous three chapters, Basel II defines, for each risk type, several approaches to estimate the riskiness of the bank's exposures, from basic to more sophisticate.

Pillar 2 of Basel II describes how bank supervisory review is to be used both to determine that banks meet the minimum capital standards and to encourage best practices in risk management. Pillar 3 defines disclosure standards that allow market participants to readily assess a bank's

capital structure and adequacy, thereby allowing market discipline to further compel banks toward sound capital practices[1].

Basel II Minimum Capital Standard

As discussed in previous chapters, the Basel II Accord requires banks to measure their credit, market, and operational risks. For each, the Basel framework defines a set of approaches, varying in complexity, for quantifying the amount of risk. Basel also defines a minimum level of eligible regulatory capital, which is determined as a function of the risk-weighted asset values. The Basel I formula used a simple ratio for computing the required regulatory capital. This ratio, termed the capital ratio, was set at a minimum of 8%, but national supervisors were given the discretion to impose a higher capital ratio. The formula for determining whether a bank meets the capital ratio is:

In words, the eligible capital for regulatory purposes must be greater than or equal to 8% of the risk-weighted asset value. Under Basel I, the calculation was simple, as the regulation required banks to consider credit risk only; however, Basel II extended the risk coverage to include a capital charge for market risk and operational risk. Basel II multiplies the market risk cap- ital charge and operational risk capital charge each by 12.5 (which is equal to 1/8%) to convert those requirements into market risk risk-weighted assets and operational risk risk-weighted assets, respectively. Basel II retained the minimum capital requirement of 8% of the bank's total risk-weighted assets. Using one of the approved approaches for quantifying and calculating the riskiness of its credit, market, and operational risk, a bank will have derived the following values:

1. Risk-weighted assets for credit risk, denoted by RWAC.
2. Market risk capital requirement, denoted by MRC.
3. Operational risk capital requirement, denoted by ORC.

Types of Bank Regulatory Capital under Basel II

A bank's regulatory capital is the minimum capital that regulators require the bank to hold against the risks it is running. Equity capital is usually the primary asset that makes up the bank's regulatory capital. The Basel II. Accord provides a general framework for how a bank's overall capital should be structured, and defines guidelines for eligible capital. In particular, Basel II defines tiers of capital and provides specific rules on the relationships between different tiers that must be followed to meet mandated minimum capital requirements.

Tier 1 Capital

The amount of Tier 1 capital held by a bank is considered a core measure of its financial strength. The primary element of Tier 1 capital is shareholders' equity (the amount of capital left over after subtracting the bank's liabilities from its assets). To this core Tier 1 capital, a bank can add innovative capital such as complex financial instruments that have both equity and debt features. Bank supervisors place strict rules on this innovative Tier 1 capital. The complex financial instruments that would be considered innovative capital for Tier 1 consideration are beyond the scope of this book.

Tier 2 Capital

Tier 2 capital is the second most important type of capital that can be used to meet a bank's regulatory minimum capital requirements. Tier 2 capital may consist of items such as subordinated term debt and reserves. Subordinated debt is debt issued by the bank that ranks lower on the repayment scale than depositors in the event of a bank default. One type of reserves is revaluation reserves, where the new value which reflects the difference between the original value and the new higher value can be recorded on the company's books.

Tier 3 Capital

Tier 3 capital includes a wider variety of subordinated debt than that allowed for Tier 2 capital and may include profits from the bank's trading activities. Tier 3 capital can only be used to support the market risk the bank takes in its trading book. Instruments that can be counted as Tier 3 capital are generally too risky to be used for material portions of a bank's capital calculation. For example, using trading profits in the capital calculation is obviously risky, as the trading profits could disappear at any time.

The Ratio of the Capital Tiers

The Basel Committee also defines rules governing the ratios that banks must maintain between different classes of capital. One primary restriction is that Tier 2 capital cannot be greater than Tier 1 capital.

New Capital

Usually, growing banks retain some of their profits to add to their Tier 1 capital base. Retained capital allows the bank to support new business with- out raising new capital from activities such as issuing new shares, issuing debt, or seeking private investors. Raising new capital can be a time-consuming and expensive process.The Basel Committee allows interim annual profits, adjusted for some items, to be added to Tier 1 capital as long as the bank's auditors also allowit. This is particularly useful for banks with rapidly growing balance sheets. If these banks were forced to wait until the end of their fiscal year before profits could be counted as regulatory capital, they might need interim injections of capital from shareholders to maintain their business growth.

Bank Capital under Basel III

Basel III's main focus is increasing the quantity and quality of capital held by banks. These changes are being implemented incrementally to:

1. Allow regulators, banks, and the financial industry adequate time to assess the efficacy of these newly introduced regulatory tools.
2. Ensure that the various supervisory approaches are correctly and consistently calibrated, implemented, and applied[2].

The Quality and Quantity of Capital

The new framework simplifies the regulatory capital definition and harmonizes the various types of financial instruments that are eligible for inclusion when computing regulatory capital requirements. Basel III introduces a stricter definition of capital that banks can use to meet their regulatory capital requirement. Essentially, the new regulation means that capital must have a

greater ability to absorb losses, which allows banks to withstand extended periods of more severe stresses.

Tier 1 capital remains the predominant form of capital, and consists mainly of common shares and retained earnings, known as Common Equity Tier 1 (CET1) capital, although limited use of equity-like instruments is per- mitted. The types of instruments that can be used as Tier 2 capital are simplified and can become loss-absorbing capital under certain circumstances. Tier 3 capital is eliminated.

Under the new framework, the quantity of capital a bank must hold is increased by emphasizing the crucial role that common equity capital plays in absorbing losses and providing banks with an essential capital base. The Tier 1 capital requirement was raised from 4% to 6% of total risk-weighted assets. The regulatory requirement for CET1 was raised to 4.5% of total risk-weighted assets. Basel II effectively required 2%. As the minimum capital ratio remains at 8%, the maximum amount of Tier 2 capital required under Basel III is now 2% of a bank's total RWA. Tier 3 capital was eliminated to ensure the same quality of capital across credit, market, and operational risks.

Capital Conservation Buffer

In addition to the minimum Tier 1 and Tier 2 capital, Basel III requires banks to hold an additional capital conservation buffer (CCB). This buffer is intended to absorb losses during periods of financial and economic stress and must be funded by Common Equity Tier 1 capital. The capital conservation buffer was set at 2.5% of a bank's total RWA. Combining the CCB and the basic capital requirement means that Basel III stipulates a minimum Common Equity Tier 1 capital ratio of 7% and a total regulatory capital requirement of 10.5%, a significant increase over Basel II.

Countercyclical Capital Buffer

The global financial crisis of 2007–2009 emphasized the pro-cyclical nature of risk-based capital requirements. During good times, when underwriting practices are generous, credit volumes can easily become excessive. During bad times, when underwriting practices are stringent, credit is hard to secure. Credit losses reduce the amount of available capital, and the value of mark- to-market credit products is highly sensitive to the volatility patterns of the markets. The new regulations introduce a framework for creating, implementing, and releasing a countercyclical capital buffer. The buffer is designed to protect the banking sector, at a national level, from periods of excessive credit growth. The size of the buffer is set by local regulators and ranges between 0% and 2.5% of total RWA. It must consist of Common Equity Tier 1 capital.

Systemically Important Financial Institutions

Basel III recognizes that given the interconnectedness of many large banks and other financial institutions, their failure could trigger a systemwide crisis. Those institutions that are considered systemically important are now required to hold additional loss-absorbing capital to strengthen their ability to survive periods of financial stress. Using both quantitative and qualitative factors, the Financial Stability Board has identified a number of global systemically important banks (G-SIBs). These G-SIBs have to meet additional loss absorbency requirements by holding more Common Equity Tier 1 capital. This additional requirement ranges from 1% to 3.5% of a bank's total risk-weighted assets, depending on its systemic importance.The additional capital

requirements for the countercyclical capital buffer and the G-SIB surcharge could theoretically add an additional 6.5% common equity capital requirement. This is in addition to the standard Basel III 10.5% capital standard for banks[3].

Pillar 2 Supervisory Review

Pillar 1 defines the calculations to determine the minimum regulatory capital required with respect to market, credit, and operational risk. Pillar 2 sets out the principles of the supervisory review process that national authorities should use (in addition to the Pillar 1 capital calculations) to evaluate a bank's capital adequacy. In particular, Pillar 2 addresses three main areas that are either not covered or fall outside the scope of Pillar 1. These are: Risks not fully considered by Pillar 1, such as credit concentration risk where a bank would have too much of its risk concentrated in any one region or asset, for example, in home loans in a certain part of a country

1. Risks not considered at all by Pillar 1, such as interest rate risk in the banking book.
2. Factors external to the bank (e.g., business cycle effects).

In addition, Pillar 2 defines the supervisory assessment of a bank's compliance with the minimum standards set for the use of the more advanced methods of capital calculation in Pillar 1. This review by bank supervisors ensures compliance with minimum capital requirements and encourages banks to develop and use the best risk management techniques. However, it is not a substitute for good management. The board of directors and senior management of a bank have the responsibility to ensure that they maintain adequate capital to support the bank's business activities, including those beyond the scope of Pillar 1.

Bank management is responsible for developing an internal capital adequacy assessment process (ICAAP) that evaluates the risk and control environment across all the bank's operations. Capital assessment is an ongoing process that is an integral part of managing a bank's business activities. The process not only evaluates current capital requirements, but also estimates future capital requirements. Bank management uses the estimates for each of its businesses to set capital targets that are aggregated to determine the bank's overall capital requirement. Bank management then monitors the bank's actual capital requirement, as determined by the business it conducts, against its previously estimated targets.

The quality of the internal capital adequacy assessment process is evaluated by the supervisory authorities. This evaluation, combined with other factors, determines the target capital ratio set for the bank. Any deficiencies in the process may result in the supervisor imposing an increased capital ratio requirement for the bank. Higher capital requirements imply that fewer funds are available to lend or invest, which may result in lower profits. Banks there- fore have a commercial, as well as a prudential, incentive to develop and maintain a high-quality capital assessment process.Although bank supervisors can raise the capital ratio in response to deficiencies identified during a review, they may also use other measures to address perceived deficiencies[4].

The Basel Committee sees the supervisory review process as an active dialogue between a bank and its supervisor. The two should be working together to identify and, if necessary, take rapid action to restore the bank's capital position to a satisfactory level. Banks should have a process to assess their overall capital adequacy in relation to their risk profile as well as a strategy to maintain their capital levels. Bank management bears primary responsibility for ensuring that the

bank has adequate capital to meet its current and future requirements. Its capital targets must be set with integrity and be consistent with its risk profile and environment. The capital targets must be integral to the bank's strategic planning and should incorporate extensive stress testing. In particular, Basel II describes five features of a rigorous capital assessment process:

Board and senior management oversight. Bank management is responsible for understanding the nature and level of risk taken by the bank and monitoring the relationship between the level of risk and the bank's capital requirement. The board of directors or its equivalent must set the level of risk that the bank is willing to take (risk appetite) and establish an internal framework to assess risk, relate the level of risk to capital targets, and monitor compliance with internal limits and controls. The framework should also incorporate a capital planning process that is consistent with the bank's strategic business plan.

1. **Sound capital assessment:** The target capital ratio should be related to the bank's strategic business plan, and there should be a transparent link between risk and capital.
2. **Comprehensive assessment of risk:** All material risk exposures should be measured or estimated, including those risks identified by Pillar 1 and others, such as interest rate risk, liquidity risk, and credit concentration risk.
3. **Monitoring and reporting:** The bank must establish a system for monitoring and reporting risk that allows management to assess how changes in risk affect its capital requirements.

Bank management should receiveregular reports that show the bank's capital level and its capital requirements. The reports should allow management to evaluate the level and trends of material risks, evaluate the sensitivity and reasonableness of current risk measures, and determine that the bank holds sufficient capital against the various risks and that it is in compliance with established capital adequacy goals.

DISCUSSION

The bank's internal control framework is a key element in the capital assessment process. An effective review of this framework should include an internal or external audit. Supervisors should review and evaluate banks' internal capital adequacy assessments and strategies, as well as their ability to monitor and ensure their compliance with regulatory capital ratios. Supervisors should take appropriate supervisory action if they are not satisfied with the result of this process. The supervisory review process may involve on-site visits, off-site reviews, meetings with bank management, reviewing relevant work carried out by external auditors, and monitoring periodic reports. On completion of the review, supervisors should take action if they are not satisfied with all or part of a bank's risk assessment process.

Principle 3

Supervisors should expect banks to operate above the minimum regulatory capital ratios, and they should be able to require banks to hold capital in excess of the minimum.The minimum capital requirements set in Pillar 1 provide a baseline for banks and supervisors to gauge capital levels. In practice, banks will maintain a buffer above the minimum capital requirement, due to [5]:

1. Risks/business activities not properly covered by Pillar 1.

2. Bank-specific conditions that warrant additional capital.
3. Local market conditions.
4. Need/desire of the bank to maintain or achieve a high credit rating.
5. Need to ensure that the bank will not be required to raise capital quickly if market conditions change.

From the supervisory review process, supervisors may also require banks to hold additional capital if they are not convinced that current capital is sufficient for the risks faced by the assets of the bank.Supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels required to support the risk characteristics of a particular bank and should require rapid remedial action if capital is not maintained or restored.

If a bank is failing to maintain its capital requirement, supervisors can use their discretion in taking action to correct the situation. Bank supervisors can require a bank to suspend dividend payments and/or raise extra capital to restore its capital ratio. If the problem is likely to take some time to resolve, supervisors could increase monitoring of the bank and require the bank to submit a plan to restore the capital ratio to a level set by the supervisor. Bank supervisors can increase a bank's capital requirement as a short- term measure while underlying problems are resolved. The increase in capital could be withdrawn when the supervisor is satisfied that the bank had over- come its operating difficulties.

Specific Issues to Address during Supervisory Review

The four principles in Pillar 2 describe a framework for supervisors to use in developing their own review procedures. The Basel Committee has also identified a number of other important issues that should be included in all supervisory reviews. These are issues that either form part of the standards set for the use of the advanced calculation methods, or cover areas not directly addressed in Pillar 1 for example, stress testing and scenario analysis in liquidity testing.

Interest Rate Risk in the Banking Book

As discussed interest rate risk in the banking book refers to the potential loss in a bank's lending and deposit activities due to changes in interest rates. The Basel Committee considers interest rate risk in the banking book a significant risk that needs capital support. However, the committee also accepts that the nature and management of this risk are very diverse across the international banking community and that this risk should be addressed under Pillar 2. Bank supervisors have discretion to implement a mandatory capital requirement if they feel it is appropriate for their own banking community. The committee recognizes that the reporting of this risk relies on the banks' own internal risk management systems. Supervisors also require reports based on a standard interest rate shift to allow for comparison across the banks under their jurisdiction. If a bank is deemed to be holding insufficient capital to cover its interest rate risk, supervisors must require the bank to reduce its risk, hold more capital, or implement a combination of both [6]. Stress Tests under the Internal Ratings-Based (IRB) Approach in Pillar 1 Banks using the IRB Approach must ensure that they have sufficient capital to cover the IRB Approach's requirement. They must also have sufficient capital to cover any deficiencies identified in the credit risk stress tests carried out as part of the IRB Approach.

Definition of Default

The Basel Committee defines the event of default to have occurred when either or both of the two following events have taken place:

1. The bank considers that the obligor is unlikely to pay its credit obligations to the banking group in full without recourse by the bank to actions such as taking formal possession of any collateral held.
2. The obligor is past due more than 90 days on any material credit obligation to the banking group. Overdrafts will be considered as being past due once the customer has breached an advised overdraft limit or been advised of a limit smaller than its current outstanding obligation to the bank.

Banks must use the Basel-referenced definition of default in their internal estimates for the probability of default (PD), loss given default (LGD), and exposure at default (EAD). However, bank supervisors will issue guidance on the interpretation of the default definition in their own jurisdiction. Supervisors should evaluate the impact of how a bank interprets the definition on the calculation of its capital requirement.

Residual Risk

Pillar 1 allows banks to mitigate their credit exposures by using collateral, guarantees, or credit derivatives. The capital offset allowed against an expo- sure assumes that the risk-mitigating method (sometimes referred to as a hedge) has been perfectly executed. However, there may be residual, legal, or documentation risks that could result in the bank having a greater expo- sure than it had originally recorded. Banks should develop policies and procedures to minimize their exposure to such residual risks. Banks must evaluate the quality of their policies and procedures to determine whether their credit exposures should or can be fully offset by their mitigation methods. Supervisors will review the bank's evaluation and will take action if they feel the process has deficiencies.

Credit Concentration Risk

A risk concentration is any single exposure or group of exposures that has the potential to generate losses that could jeopardize a bank's ability to carry on its business. Credit risk concentration is the most common concentration risk because lending is often a bank's primary activity. Risk concentration is a major cause of banking problems. Credit risk concentration can take different forms and may include: Significant exposures to a single counterparty or financially related group of counterparties. Exposures to counterparties in the same economic region or geographical location. Exposures to counterparties that are dependent on the same business activity or commodity. Indirect exposure to credit mitigation methods such as holding a single type of collateral Banks must identify and manage credit risk concentrations as part of their risk management process. Credit risk concentrations should be defined in relation to the bank's operations and relevant risk limits and exposures set either in relation to regulatory capital requirements or in relation to total assets. Banks should ensure that their internal procedures are effective in identifying, measuring, monitoring, and controlling credit risk concentrations. Concentration risk is not covered by Pillar 1 requirements [7].

Operational Risk

The use of gross income as a proxy to reflect operational risk exposure under both the Basic Indicator Approach and the Standardized Approach may in some cases underestimate the risk. Supervisors should examine the nature of the bank's business and compare the risk calculations with similar banks in their jurisdiction.

Securitization

Through securitization, the bank removes (sells) and transfers its credit risk to the investors who are buying the securitized product. As a result, the bank needs less capital on its books—securitization brings capital relief. The bank supervisory review of the securitization process should examine how completely the securitization has transferred the bank's risks, determining whether the bank has retained any residual risk(s). If some risk remains, supervisors may decrease or remove the capital allowance calculated under Pillar 1. The aim is to determine a level of capital allowance that reflects the level of credit risk transferred by the securitization.

SupervisionBasel III Enhancements

The global financial crisis of 2007–2009 highlighted numerous issues such as whether bank management exercised proper oversight, whether bank leadership was competent and prudent in its managerial activities, and whether banks were properly valuing their positions. It was recognized that the governance, risk management, and supervision of banks needed to be reviewed and improved. Updating Pillar 2, Basel III addresses a number of these deficiencies. It strengthens the regulation to:

1. Capture the risk of off-balance-sheet exposures and securitization activities
2. Provide incentives for banks to undertake long-term management of risks and returns
3. Ensure compensation practices are in the long-term interest of the bank and not the short-term interest of the employee
4. Improve stress testing
5. Improve corporate governance

Basel III enhances the regulatory process to require banks to include in their stress tests economic scenarios that could cause them to fail. Banks must explain to the supervisory authority how the bank would be liquidated in the event of failure, referred to as resolution planning, and any additional capital requirements. Consequently, the role of the internal capital adequacy assessment process (ICAAP) is increased under Basel III. ICAAP emphasizes:

1. The importance of stress testing
2. The ability of a bank's regulatory capital to absorb losses during times of stress (will the capital retain its value when a bank actually needs it?)
3. The long-term capital requirements of the bank (does the bank have appropriate capital levels throughout the economic and credit cycle?)

In October 2010 the Basel Committee published Principles for Enhancing Corporate Governance, which addressed the fundamental deficiencies in corporate governance seen in banks leading up to, during, and since the financial crisis. Areas of particular focus include [8]:

1. The role of the board and senior management
2. The qualifications and composition of the board

3. The importance of an independent risk management function, including a chief risk officer or equivalent.
4. The importance of monitoring risks on an ongoing firm wide and individual entity basis.
5. The board's oversight of the compensation systems.
6. The board and senior management's understanding of the bank's operational structure and risks.
7. The importance of supervisors regularly evaluating the bank's corporate governance policies and practices and their implementation

Pillar 3Market Discipline

Disclosure is the dissemination of material information that allows a proper evaluation of a bank's business. This information guides investors and the market and gives bank customers a clearer view of the bank's operations and risk exposures. Disclosure requirements ensure that corporate entities share pertinent information about their financial performance with investors, with the information being presented according to generally accepted standards. Both privately held and publicly traded companies are required to pro- duce financial statements: profit and loss reports, balance sheets, and tax reports. These statements must be signed by the company's external auditors and reflect relevant, generally accepted accounting principles. To perform this task, auditors are required, among other things, to test and verify the quality of the company's internal controls as they relate to its financial reporting.

Publicly traded companies must also make additional disclosures required by the exchange their shares are traded on, often known as "filings." The filings reflect the shareholders' information needs and contain very detailed financial information. In some countries, the management of publicly traded companies must also certify, subject to incurring legal liability for falsely doing so, that the company's financial statements correctly and fully reflect the actual financial position of the company. In the United States, this is required under the Sarbanes-Oxley Act. Pillar 3 focuses on disclosure requirements to complement the minimum capital requirements (Pillar 1) and supervisory review process (Pillar 2). Pillar 3 disclosure focuses on capital information, not financial performance, and addresses the company's:

1. Capital structure
2. Risk exposures
3. Capital adequacy

Pillar 3 requires that the information considered for disclosure be material to the company's operations and investors' evaluation of the company's operations. The Basel II Accord considers information material if "its omission or misstatement could change or influence the assessment or decision of a user relying on that information for the purpose of making economic decisions." But under Pillar 3, banks are not required to disclose proprietary or confidential information, including confidential customer information. Under Pillar 3, most banks make their disclosures every six months. There are three exceptions to this standard:

1. Small banks with stable risk profiles are permitted to make yearly dis- closures.
2. Large international banks must publish their Tier 1 and total capital adequacy ratios, as well as those ratios' components, quarterly.

3. Banks can make their qualitative disclosures of a general nature (information about the bank's principles and procedures that it uses to assess its risks) yearly.

Accounting Disclosures

Basel II recognizes that risk disclosures and financial disclosures are dissimilar, and reconciling these two different types of disclosures can be expensive and time-consuming, if not unfair, for banks with stable risk levels. Given the different purposes of financial accounts (investor information) and regulatory risk reports (relationship between risks and capital), any detailed reconciliation between risk disclosures and financial disclosures would be costly and difficult. For many banks, such reconciliation would involve significant systems expenditures. Basel II therefore suggests that banks publish their annual report and other financial statements separately from the required supervisory regulatory reports.

General Disclosure Requirements

The Basel II Accord requires banks to develop formal disclosure policies and processes to validate their disclosure and to reevaluate what information should and should not be disclosed in the future. These policies and procedures should be approved by the bank's board of directors.

Pillar 3 requirements apply to both quantitative and qualitative disclosure with regard to the following:

Bank, group, and subsidiary structure. Disclosure requirements generally apply to the consolidated banking groupthe entire bank, with all its banking and nonbanking subsidiaries.

Capital structure. Banks must disclose details of their capital structure. The qualitative disclosure focuses on the different types of capital the bank has, while the quantitative disclosures include the following:

Amount of Tier 1 capital, by capital source (shares, reserves, etc.), amount of Tier 2 capital, and amount of Tier 3 capital, if needed

Capital adequacy: The bank must discuss how it assesses its capital adequacy (a qualitative disclosure), and the bank's capital requirements for credit risk, market risk, and operational risk; its total capital; and its Tier 1 capital ratio (all quantitative disclosures).

Disclosing Risk Exposure and Risk Assessment

Pillar 3's risk disclosure requirements depend on the approach the bank uses to calculate its required risk capital. The complexity of the approaches used by the bank will dictate what information needs to be disclosed. There are no quantitative operational risk disclosure requirements other than those covered in the capital adequacy disclosures. Finally, banks with interest rate risk in the banking book have to disclose information that allows a qualitative assessment of the models used to assess these risks. Model inputs include assumptions on prepayments and withdrawals of deposits. The quantitative disclosure concerning a bank's interest rate risk would reflect the effects that interest rate changes have on the earnings or value of the bank [9].

Pillar 3 Market DisciplineBasel III Enhancements

Prior to the financial crisis, the market of tradable collateralized debt obligations (CDOs) and other securitized obligations became huge. However, no one realized just how great the exposures were either for an individual bank or to other banks, or even how the financial system had become so interconnected, despite the majority of banks being Basel II compliant. Owing to limitations of the disclosure requirements of Pillar 3 for CDOs and securitizations. There was no detailed reporting of exposures, and market participants did not know much about the concentration of risk involved. There was a general lack of transparency, as it only became apparent how much the banks were holding when the crisis occurred. In response, Basel III strengthened the regulatory framework by improving transparency through increased disclosure. Expanded disclosure requirements were particularly focused on improving disclosures relating to securitizations and regulatory capital.The disclosure requirements for securitization and securitization exposures include information on:

1. Valuation approaches.
2. Sponsorship of off-balance-sheet vehicles, including qualitative disclosures of all securitization activities that the bank sponsors.
3. Internal assessment approach and liquidity facilities, disclosing the approach taken by the bank in determining its capital requirements.
4. The pipeline and warehousing risks of securitization exposures, detailing information about future securitization activities, valuation, and expo- sure levels.
5. The types of risks assumed and retained with securitization.
6. How the processes in place to monitor changes in the credit and market risk for securitization exposures differ from those in place for securitization exposures.
7. The bank’s policy governing the use of credit risk mitigation to mitigate the risks retained through securitization and securitization exposures.
8. The aggregate amount of securitization exposures retained or purchased.

To strengthen the level of confidence in a bank's regulatory capital disclosures, the details of the components of regulatory capital and their reconciliation to reported accounts are required. This includes a thorough explanation of how a bank calculates its regulatory capital ratios.

International Cooperation

There is an element of discretion in the supervision of banks because banking activity is subject to different local regulations; there is no one global banking regulator. Bank supervisors work to ensure that their discretionary supervisory activities are carried out with transparency and accountability. Criteria for the review of capital adequacy for financial institutions should be publicly available. International banks are active in a number of jurisdictions, and therefore are subject to supervision by their home authority (home supervisor) as well as each host authority in countries where they have banking operations (host supervisor). This situation is usually referred to in literature as home-host matters. The new Basel accords require closer practical cooperation between home and host supervisors to help reduce the supervisory burden on such international banking groups.The home supervisor should lead the coordination effort between itself and the host supervisors (those supervisors who would oversee the bank’s branch operations in another country) responsible for a banking group’s operations. The aim should be to reduce the implementation burden on banks and conserve supervisory resources by avoiding redundant or uncoordinated validation work.Following the global financial crisis of 2007–2009, many

countries and economic zones implemented their own legislations to ensure the stability of their financial systems, this localized approach is at times referred to as "ring- fencing." This has greatly complicated the international banking environment, as there are both domestic regulations and a variety of international frameworks being implemented concurrently. Many countries are still implementing Basel II while others have already migrated to the Basel III enhancements. This inconsistency has increased the opportunity for regulatory arbitrage.

Banks, as would any other organization, will take advantage of the differences in both national and international regulatory systems. This concept, referred to as regulatory arbitrage, can include restructuring transactions, financial engineering, and geographic relocation. While taking advantage of regulatory distinctions is perfectly legal, the goal is to have international cooperation progress to the point that regulatory arbitrage opportunities have been minimized or, ideally, eliminated. An example of a domestic development that shows how certain local regulations can cause complications although passed with the best intentions is the UK Banking Reform Act 2013 (largely based on the report known as the Vickers Report, after its chairman), outlined earlier in the book. Contrasting the UK Banking Reform Act to the Dodd-Frank act noted below, provides a good example of how jurisdictions, seeking to protect their industries and citizens, can cause issues in other parts of the world. Two national regulations, which have garnered much international attention, are discussed in the remainder of this section. These affect not only domestic banks but also international financial institutions that operate within the United States and the European Union.

The Dodd-Frank Act

In response to the global financial crisis of 2007–2009, the U.S. authorities passed the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank) in 2010. The Act was aimed at strengthening the U.S. financial system and preventing a repeat of the collapse of major financial institutions. The Act covers both major financial institutions and the protection of consumers. It strengthens supervisory oversight and gives regulators additional powers to tackle financial fraud, conflicts of interest, corruption, and insider trading. The remainder of this subsection outlines the key areas covered by this Act.

Financial Stability Oversight Council

The Dodd-Frank Act created the Financial Stability Oversight Council (FSOC) to monitor and address risks that affect the financial industry. The FSOC makes recommendations to the United States' Federal Reserve for implementing strict rules for capital, leverage, liquidity, risk management, and other requirements as banks and nonbanks increase in size and complexity. In particular, it focuses on requirements for those areas that pose risks to the financial system.

The Council is chaired by the Treasury Secretary, and has nine members drawn from the following U.S. organizations: the Board of Governors of the Federal Reserve System, the Commodity Futures Trading Commission, Federal Housing Finance Agency, National Credit Union Administration, and Office of the Comptroller of the Currency, Securities and Exchange Commission, and Consumer Financial Protection Bureau (see below). It covers both banks and nonbank financial institutions such as hedge funds, asset management firms, and insurance companies.

Too Big to Fail

Under the rules of the Dodd-Frank Act, the FSOC has the authority to break up any bank that is deemed "too big to fail." The FSOC can also require the bank to increase its reserve requirements, enforcing capital and leverage requirements to discourage it from becoming too big. Banks are also required to have plans for a structured and orderly shutdown in the event that they become insolvent. The overriding objective of the Act is to eliminate the use of taxpayer funds to rescue a future failing financial company.

The Volcker Rule

The Volcker Rule (named after the former U.S. Treasury secretary and Federal Reserve chair who proposed it) limits the ability of banks to engage in proprietary trading. Under the rule, a bank is permitted limited trading when necessary for it to operate for example engaging in currency trading to off- set the bank's own foreign currency positions. However, a bank directly owning, investing, or sponsoring hedge funds, private equity funds, or any proprietary trading operations for the purpose of making the bank a profit is deemed to be unacceptable under the Volcker Rule.

Derivative Trading

The Dodd-Frank Act strengthened the authority of the Securities and Exchange Commission (SEC) and of the Commodity Futures Trading Com- mission (CFTC), providing those with additional regulatory tools to better regulate over-the-counter (OTC) derivatives to limit excessive risk taking. The Act requires central clearing and exchange trading for most derivatives with a view to improving transparency, bringing OTC transactions into an exchange-type trading environment for the first time.

Regulation of Credit Agencies

One failing discovered during the financial crisis was the imprecise practices engaged in by credit rating agencies when rating derivatives and mortgage- backed securities. The Dodd-Frank Act addresses this by creating an Office of Credit Ratings at the Securities and Exchange Commission (SEC) to regulate credit rating agencies. Rating agencies are required to have their rating systems reviewed by the SEC and can be decertified if their activities are found to be deficient.

Consumer Protection

In addition to regulating banks that operate in the United States, the Dodd- Frank Act also addresses a perceived need for additional consumer protection by establishing and providing rule-making authority to a new agency, the Consumer Financial Protection Bureau (CFBP). The CFPB's authority extends to banks with more than USD 10 billion of assets and to all mort-gage-related businesses, payday lenders, and other large nonbank financial institutions.

EU Capital Requirements Directive

The EU Capital Requirements Directive IV (CRD IV) goes beyond the simple adoption into the European Union of Basel III standards. In addition to strengthening a bank's ability to absorb losses, it also introduces new regulations that are aimed at reducing systemic effects, restoring trust, and improving the transparency of banks across the whole of the European Union. CRD IV

comprises the Capital Requirements Regulation (CRR) and the Capital Requirements Directive (CRD). Under EU law, a directive gives each country a certain amount of discretion to implement EU requirements, whereas a regulation does not allow this discretion and is directly applicable to all banks across the European Union. CRD IV also adds additional regulations on banks and supervisors to standardize the approach to risk regulation through the establishment of a"Single Rulebook" that creates a single set of rules, which to a large extent removes national discretions. Local supervisors can change the regulations only when justified by national circumstances (e.g., specific issues with the real estate market in any one country), to ensure local financial stability, or to deal with specific issues related to a bank's risk profile. The aim is to ensure a uniform application of Basel III and limit the opportunity for regulatory arbitrage across the European Union.

The main additions to the Basel III framework are:

Remuneration. In order to encourage banks to implement pay and bonus levels that do not encourage staff to take excessive risks, a remuneration framework was implemented. This framework limits an employee's bonus to a maximum of 100% of salary; however, shareholders retain the ability to increase this limit to 200%. Corporate governance: CRD IV includes rules aimed at improving risk oversight by boards of directors, enhancing the risk management function, and ensuring the effective monitoring of risk governance by super- visors. Diversity: Banks are required to improve the range of knowledge and experience at the board level with a view to improving risk oversight. Enhanced transparency: Banks have to disclose more information about their overseas activities and investments, including details on funds, profits, taxes, and subsidies in different jurisdictions. The intention of enhanced transparency is to restore the trust of EU citizens in banks and the financial sector.

Under CRD IV, banks may need to hold an additional systemic risk buffer made up of Common Equity Tier 1 capital. The systemic risk buffer is not set on an individual bank basis, but is to be applied to the whole financial sector within each EU country. The decision to apply the buffer and the level at which it is set are at the discretion of each national supervisor. The aim of the buffer is to address long-term noncyclical systemic risks. Other systemically important institutions buffer. Basel III requires global systemically important financial institutions to hold additional capital. CRD IV goes further by allowing national supervisors to implement a buffer for other systemically important institutions (O-SIIs), which include domestically important institutions as well as those deemed important across the European Union. To limit the impact across the European Union, standardized criteria to identify O-SIIs are used by the national supervisor, and there is a 2% total of risk-weighted assets maximum limit on the size of the buffer.

Beyond Regulatory Capital

Meeting regulatory capital requirements does not relieve the board of directors and senior management of a bank of their responsibility to provide competent and prudent bank leadership and oversight. This includes the maintenance of adequate capital to support the bank's business activities beyond the scope of regulation. By design, regulatory capital defines the minimum capital requirement determined by the supervisor, whose primary concern is banking safety and stability for the general public. In fact, real estate market values fell sharply in 2007 and 2008, affecting most of the banks around the globe. Ultimately, every bank became concerned about the balance sheet of its banking counterparties and questioned whether all possible losses were

being disclosed and positions were being valued properly. Banks attempted to raise capital in any number of ways to shore up their balance sheets.

This resulted in a freezing of credit in the financial system as banks became unwilling to lend funds to each other and to their customers. This catastrophic situation forced governments to establish programs aimed at restoring confidence in the banking system and recapitalizing their banks so that the banks would resume lending money. As previously detailed in this chapter, much of the Basel III framework is aimed preventing a repeat of such a situation. Regulatory capital mandates are designed to help ensure that in the event of distress or the failure of an individual bank, capital levels are adequate to prevent any individual bank's problem from becoming a system wide problem. Consequently, under Basel II the time horizon relating to regulatory capital calculations tends to be short term—10 days for market risk capital, forexample. Basel III takes a slightly different view of regulatory capital, as banks have to hold sufficient capital not just to survive the present short term, but also to be able to absorb losses from periods of significant stress.

Regulators want to ensure that the bank's capital would cover losses if its assets had to be liquidated quickly. Regulatory capital initiatives must be well defined, well tested, and broadly applicable. The methods for calculating regulatory capital are more rigid and focused on particular risks that all banks are likely to face, namely credit, market, and operational risk. A key component of Pillar 2 is directed at supervisory evaluation of the quality of the bank's internal capital adequacy assessment process (ICAAP). Bank management must consider the long-term health and success of the bank, decide its risk tolerance, and set the capital level to be optimal with respect to its acceptable trade-off between risk and reward. Higher capital levels imply that fewer funds are available to lend out or invest, lowering profits. But higher capital levels also imply greater ability to absorb losses, which improves a bank's credit rating and lowers borrowing costs. Given the immense impact of this decision, bank managers must maintain a high- quality capital assessment process that addresses all the particular risks faced by that bank, not just those identified by regulators.

Defining Economic Capital

Economic capital is a related concept to regulatory capital. Whereas regulatory capital can be considered to be the capital a bank needs to meet the minimum requirements of the risk-based regulations, economic capital can be considered as the capital a bank needs to hold to run its business safely on a day-to-day basis. According to the Basel Committee on Banking Supervision (BCBS) of the Bank for International Settlements (BIS), "Economic capital can be defined as the methods or practices that allow banks to consistently assess risk and attribute capital to cover the economic effects of risk-taking activities." Economic capital reflects the capital level a bank must maintain to with- stand large but unlikely losses so that it can survive over the long term. To survive in the long term, a bank needs to overcome periods during which extreme circumstances could cause it to sustain large losses. If the bank has capital levels to support it through such times, it will survive; if it does not have sufficient capital, it will fail. Economic capital measures potential, though unexpected, losses that would have to be covered by capital. Some banks define economic capital as the capital required to survive larger thanexpected losses; and some just consider losses beyond the unexpected level. However, all banks hold economic capital to survive very severe, extreme events. Economic capital considers the same question as VaR but is particularly concerned about the worst-case losses at a very high

confidence level beyond what the bank considers normal losses of running a business. Economic capital modeling involves estimating a probability distribution for the bank's potential losses, deriving the likelihood of each possible loss value or ranges of loss values.

Clearly, there are similarities between the calculation of minimum regulatory capital discussed throughout Chapters 4 through 7 and the calculation of economic capital, and there are practical difficulties that both face. The data to create distributions of losses are difficult to assemble. Unlike regulatory capital, economic capital models can be internally developed models that try to capture specific characteristics of the individual bank and can be more flexible about capturing the effects of features such as diversification, liquidity risk, interest rate risk, and reputational risk. In addition, because economic capital is more concerned with the long-term survival of the bank, the typical time horizon is one year. Note that the time horizon defines the period over which losses are estimated, but does not imply how frequently a bank calculates economic or regulatory capital. That is, to calculate its economic capital, a bank may estimate its potential losses over the next yearevery day. Finally, note that economic capital is an internal bank metric; although bank supervisory agencies look at this and evaluate the bank's approach, economic capital is not the same as required regulatory capital.Banks use economic capital models to decide on the level and structure of capital. The development and implementation of a well-designed economic capital model can help a bank identify, understand, mitigate, and manage its risks more effectively, leading ultimately to a more effective bank.

Risk-Adjusted Performance Measures

Since the formal development of economic capital as a bank management tool, banks have also used economic capital to support capital allocation and to evaluate profitability consistently across business lines. Risk-adjusted return on capital (RAROC) was developed by Bankers Trust in the late 1970s as a means of evaluating profitability from activities with very different risk profiles.

Economic Capital

Where r is the risk-free interest rate. Banks can use RAROC as a means of setting expected thresholds that must be met prior to initiating a new activity and as a means of evaluating the performance of different business units or activities.

CONCLUSION

In conclusion, regulatory capital and supervision are integral components of the financial regulatory framework. They ensure the resilience of financial institutions, mitigate risks, protect stakeholders, and promote the stability and integrity of the financial system. Adequate regulatory capital requirements and effective supervision are essential for maintaining a healthy and well-functioning financial environment.

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CHAPTER 15

AN OVERVIEW ON INSURANCE RISK

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ABSTRACT:

Insurance risk is an inherent aspect of the insurance industry, encompassing the potential for financial losses arising from underwriting, operational, investment, and market-related uncertainties. This abstract provides an overview of insurance risk, highlighting its sources, assessment, and management within the insurance sector. Insurance risk stems from the nature of insurance contracts, where insurers assume the responsibility of compensating policyholders for covered events. Underwriting risk is a significant component of insurance risk and relates to the potential for inadequate pricing, policy selection, and claims estimation, leading to financial losses for the insurer. Operational risk in insurance pertains to risks arising from internal processes, systems, and human factors. It includes risks associated with fraud, errors, inadequate internal controls, and disruptions to business operations. Investment risk refers to the exposure of insurance companies to market fluctuations and uncertainties in their investment portfolios. This risk arises from the potential for losses due to changes in interest rates, equity market performance, credit quality, and other market-related factors.

KEYWORDS:

Bank Risks, Credit Risk,Economy, Insurance Risk, Management, Market Risk.

INTRODUCTION

This chapter addresses the structure and risks of the insurance industry. Many banks offer insurance products alongside banking products, or own insurance companies as subsidiaries. As a result, the risks associated with the insurance industry can be a significant component of a bank's over- all risk profile. This chapter begins by describing the typical business model of insurance companies which is quite different from the business model of a bank and then examines the two principal types of insurance: property and casualty (P&C) and life insurance.

Introduction to the Insurance Industry

Insurance is a contract between an insurer and a policyholder, whereby the insurer agrees to pay to the policyholder a sum of money if a specified eventhappens within a specified period of time. For this service, the policyholder pays a relatively small sum of money, called a premium, to the insurer during the term of the contract. The maximum amount that can be paid out to the policyholder is called the sum assured. If the actual loss suffered by the policyholder is less than the sum assured, then the policyholder will receive the actual loss, rather than the sum assured. Insurance works on the principle of sharing the losses of a few people among a large number of people who support the loss payout through their small contributions or premiums. There are two main types of insurance: property and casualty (P&C) and life insurance. Property and casualty insurance covers losses arising from, for example, fires, car crashes, the sinking of a ship, and

theft. Life insurance pays a sum of money on the death of the policyholder. Life insurance is often linked with pensions, with this aspect of insurance sometimes referred to as "life and pensions." Insurance use by a pension plan would work with the insurance company paying out a sum of money when the policyholder reaches a certain age or when other pre-agreed conditions are met[1].

The Business Model of Insurance Companies

The business model of insurance companies is very different from that of banks. Whereas banks tend to have short-term liabilities and long-term assets, insurance companies often have long-term liabilities but ample short- term assets (although these assets may be invested long-term). Insurance companies make profits in two ways: from the difference between what they receive in premiums and pay out in claims, and from any profits that they receive by investing the premiums that they receive.

Premiums Received

If the insurance company is paying out more in claims and as operating expenses than it is receiving in premiums, this ratio will be more than 100%. If it is receiving more in premiums than it is paying out in claims and as operating expenses, the ratio will be less than 100%. Having a combined ratio that is less than 100% shows that a company does not have to rely on investment income in order to make an operating profit. One way that insurance companies try to ensure that they will have sufficient funds available to pay claims many years in the future is to invest the premiums that they receive in long-term assetseffectively matching the maturity of some of their assets and liabilities. However, their ability to do this is limited by the need to retain some liquid funds to pay out claims made by policyholders in the nearer term.

Even shorter-term liabilities can be difficult to estimate. For example, a company might insure an oil exploration company against the risk that the company will face damages claims for environmental pollution. The exploration company may face no damages for pollution in its normal operation, but it is also possible that if it has a major accident, the damages could be huge. In such cases, it is very difficult for an insurance company to decide how much to charge in premiums. Many forms of insurance rely on the fact that a very large number of similar policies are written, and they assume that although some policies may cost the insurance company more than expected, taken as a whole, the vast majority of policies will behave in the way that the insurance company anticipates. In these cases, insurance companies use statistics to estimate the amount of claims that they will have to pay out. Actuarial science describes the statistical and mathematical tools used by insurance companies to assess the claims that they are likely to face.

EXAMPLE

Insurance Company B offers a life insurance product under which it agrees to pay USD 50,000 per year to policyholders every year they live after the age of 65. In order to price the product correctly, the company needs to estimate when policyholders are likely to die; it needs to estimate how many years it will be paying out USD 50,000 per year.

The company receives applications from two potential policyholders, both of whom are male and were born in 1975. On the application form, Applicant X states that he is a non- smoker, while Applicant Y states that he does smoke cigarettes. From actuarial tables, the insurance company

knows that the average life expectancy of males born in the applicants' country in 1975 is 78 years. However, the actuarial tables also state that the average life expectancy for male nonsmokers is 80 years while for smokers it is only 76 years. Assuming that there are no other factors that differentiate X and Y, the insurance company will charge a higher premium to X, the nonsmoker, because it expects to pay out USD 200,000 more to X than to Y (USD 50,000 per year for four years more than Y)[2].

Differences between Property and Casualty Insurance and Life Insurance

Property and casualty (P&C) insurance is always a personal contract where the insurance company contracts with a customer directly for insurance protection. Life insurance is a non-personal insurance contract. This means that the policyholder and the person being insured do not necessarily have to be the same person (although in many cases they are). P&C insurance insures homes, automobiles, and other personal property. This type of insurance is indemnity insurance. An indemnity is an amount paid by one party (the insurance company) to another (the policyholder) to compensate for a specific loss incurred by the policyholder. In the previous example, Company C's indemnity insurance pays enough money to repair or replace the insured cars of its policyholders in the event of accidents.

In contrast, life insurance insures a life or the life of someone with whom an association exists, such as a spouse, child, sibling, or business partner. When the insured individual dies, the life insurance policy pays a death benefit that is fixed. This is called a valued contract. A valued contract pays a fixed sum of money, regardless of the nature of the loss insured by the contract. The benefit of life insurance is that it can be structured to pay off some or all of the financial obligations that are left after a person dies. It can pay more than that, however, because life insurance pays a fixed amount. Death benefits can be used to pay some or all of the obligations that arise from the death, create wealth for the surviving beneficiaries, or replace income for survivors.

Both types of insurance are necessary to protect the financial value of both life and property. They serve different functions and fill specific diverse roles. P&C insurance is beneficial in that the insurance ensures that, almost regardless of the damage done, the property will be repaired or replaced. While P&C insurance generally has a maximum payout determined by the value of the property, it does not pay a fixed amount, so the insured is not required to estimate how much insurance must be purchased. When buying life insurance, the policy- holder should generally buy only sufficient insurance to cover current and expected future financial liabilities. When purchasing P&C insurance, the maximum coverage should not extend beyond the total replacement value of the property.

Role or Distribution ChannelDescription

Corporate Insurance Agents Many insurance corporate entities are allowed to operate as insurance agents. Historically, they have been quite successful due to huge databases, substantial resources and the ability to penetrate the market across various segments.Corporate insurance agents are only permitted to sell the products of only one company. Insurance Brokers, on the other hand, are allowed the sell the products of a wide variety of companies in the market. This allows them to offer a wide selection of choices to their customers. The bank insurance model ('BIM'), also sometimes known as "banc assurance," is the term used to describe the partnership or relationship between a bank and an insurance company whereby the insurance company uses

the bank sales channel in order to sell its insurance products. BIM allows the insurance company to maintain smaller direct sales teams as their products are sold through the bank to bank customers by bank staff and employees as well. This is considered cross-selling of insurance products and services by banking institutions. The etymology of banc assurance is from French "banc" (bank) + "assurance" (assurance). Other Marketing Channel. This includes other types of marketing such as telemarketing, online selling, sales in shopping malls, and so on[3].

DISCUSSION

Significant Risks That Apply to the Insurance Business

The risks that insurance companies face in valuing long-term liabilities and ensuring that they will have sufficient assets when the time comes to cover those liabilities. However, insurance companies face many other risks, some of which are similar to those faced by banks (for example, credit risk on the counterparties with whom they have invested their funds) and some of which are different. Shows how insurance-related risks such as the ability to pay out claims overlap with other risks. Experience shows that the biggest risks for insurance companies often lie in the area where different risks overlap. Major losses frequently occur when a number of controls, policies, and procedures fail to operate properly.

Property and Casualty Insurance

Property and casualty (P&C) insurance is referred to differently in different parts of the world; property and casualty insurance in the United States and Canada, general insurance in the United Kingdom, and non-life insurance in Continental Europe. There are various example types of property and casualty insurance.

Insurance

Example

RSA Insurance Group is a medium-size international P&C insurer. It describes itself as pro- viding products that "protect people against the risks they face in their daily lives, both per- sonal and commercial." The company provides personal and commercial insurance to more than 20 million customers globally. RSA offers a wide range of personal lines of insurance products, including automobile, home, travel, and pets. These products can be purchased directly, through a broker, or by an authorized partner. Commercial insurance caters to all sizes of businesses—from small and medium enterprises (SMEs) to large multinationals. Its products include marine, construction, power and renewable energy, automobile packages, liability, real estate, and property.

Risk Identification, Mitigation, and Management

The insurer seeks to identify the fluctuations in the occurrence, amount, and timing of its insurance liabilities. It also seeks to identify aggregations of risk that may give rise to large single or multiple claims, including catastrophes. In addition, the insurance firm needs to identify changes to the external environment that may lead to an increase in P&C insurance risk.Further, the firm needs to ensure at all times that it is not exposed to insurance risk in excess of its risk appetite. In doing so, the insurer should be both reactive, responding to actual increases in exposure, and proactive, responding to potential future increases. This involves close coordination among the processes of risk control, risk identification, risk mitigation, and risk

measurement, as potential future exposures need to be identified and understood before effective action can be taken to control them. One example of how this can be implemented is for senior management to set individual underwriting limits for all employees and agents who have the authority to underwrite insurance risk. These include both monetary limits and limits on the types of product coverage that they can underwrite.

Minimum Standards of Risk Management and Controls

Minimum risk management standards include the following:

Management information should be generated from P&C underwriting risk and used to provide insight, inform the operational planning process, and influence resource allocation, including capital planning. Risk appetite statements and tolerances should be clearly defined and refreshed on a regular basis (at least annually) and be regarded as an integral part of the planning process. Regular risk analysis reviews (at least on a quarterly basis) of P&C underwriting systems and processes should be actively performed to ensure that inherent underwriting risks are effectively managed. Adequate controls should be put in place by an independent validator, someone who is not directly involved with the process or activity being controlled.

How Does Life Insurance Work?

Life insurance is designed to protect against the financial burdens that may accompany the death of the insured party. There are two options: term life and whole life. Both require the payment of, usually, a monthly premium by the insured, or someone representing the insured. A term life policy will pay a death benefit in the event of death during the specific time, or term, covered by the policy. A term life policy has a start date and an end date. If death occurs the day after the policy ends, the insurance company does not pay a death benefit. The premiums that are paid for a term life policy cannot be recovered by the policyholder's estate after the term has ended. A whole life policy provides coverage for the entire life of the insured. The insurance company invests the paid premiums, and some of the earnings are put into the insurance policy in the form of cash value.

Inherent Risks of Life Insurance

There are particular types of risks when a business offers life insurance products. These are the risks specific to protection and investment products, including those covering sickness and health. They include risks from longevity, mortality, morbidity, persistence, claims management, underwriting, product development, and expenses, among others. Life insurance risks do not encompass risks associated with investments (covered under market risk) or risks directly associated with the selling process (distribution).

The key inherent risks and definitions for life insurance are:

1. **Longevity risk:**The risk that customers now and in the future live longer than assumed in pricing the product, or longer than assumed in the current embedded value and reserving bases, or through changes in the base level of mortality and future improvements in life expectancy.
2. **Mortality and morbidity risks:**The risks that the incidence of death (mortality) and sickness (morbidity) claims exceeds, in either number or amount, what has been

assumed in the product pricing basis and current embedded value basis. Catastrophe risk also exists where multiple death claims exceed the reinsurance cover purchased.

3. **Persistency risk:**The risk that policyholders terminate their policies in greater numbers or earlier than expected, or the policies are replaced by other insurers, resulting in losses from un recouped expenses, lost future profits, and reputational risk from poor selling practices and customer servicing. Persistency is a complex area and an important risk from both a financial and a reputational perspective. Whether the percentage of policies lapsing or leaving is higher or lower than expected can have a material impact on reserving risk.
4. **Claims management risk:**The risk that claims amounts are greater than expected, or greater than they should be, through poor claims handling processes, resulting in claims being paid when they should be rejected, or claims amounts being greater than acceptable.
5. **Underwriting risk:** The risk that arises when poor underwriting practices allows risks to be accepted at inadequate premium levels, or allows proposals to be accepted that should actually be declined.
6. **Product cycle risk:**The risk that an insurance company's management does not continually review the products in light of emerging experience, and as a result misses opportunities to review costs and/or remove poor products from sale.
7. **Expense risk:**The risk that arises from inadequate management of acquisition and maintenance expenses, leading to losses where actual expenses cannot be met from premiums received.

It is the nature of these risks that some are more material than others, either at a business level by consequence of the products sold or at a total company (sometimes known as group) level when aggregated.

Risk Appetite

It is essential that companies formulate a risk appetite statement that theirbusinesses are required to adhere to, covering each of the risks identified by the company and setting out detailed appetite limits and metrics. The level of risk appetite for the institution is generally set in aggregate terms, which also include the level of risk associated with various individual risks. The risk appetite statement should be regularly reviewed in the light of the changing circumstances and business's risk profile.The risk appetite statement for the risks noted below should contain at least the following:

The longevity risk appetite should be framed in the context of the balance between (existing and new) annuity business plans and the firm's defined benefit pension schemes (retirement plans). The mortality and morbidity risk appetite should reference maximum sums assured for life coverage, critical illness, and disability income, combined with levels of reinsurance used and underwriting practice. The persistency risk appetite should initially cover maximum lapse rates for products sold. Underwriting and claims management appetite statements are difficult to frame quantitatively. However, it should be expected and expressly noted that businesses adopt high-quality processes that are assessed independently. The risk appetite statement should include the constraint that mortality and morbidity risk outside the company's risk appetite should be placed only with a financially strong reinsurer that has passed the company's risk assessment process and is on the company's approved reinsurance list. The risk appetite

statement should espouse good product cycle management, that is, that it will not offer products that have become mispriced or outdated, and that products are managed and reviewed to ensure that adverse experience losses do not exceed agreed limits. Product reviews should also check that products continue to meet customer expectations [4].

Risk Identification, Mitigation, and Management

Life insurers' core measure of their exposure to insurance risk is capital at risk. The capital at risk is calculated in terms of the potential adverse deviation of actual experience from a best estimate of liabilities arising from each line of business. The best estimates of liabilities are informed by actuarial investigations into lapses (persistency), mortality, morbidity, andexpenses, with analysis of deviation from assumptions underpinning products' pricing and existing reserves. The controls described in the following sections provide methods and techniques for mitigating and managing each of these components of life insurance risk.

Minimum Standards of Risk Management and Controls

Minimum required risk management and controls are directly related to the materiality of the risks created by the products being sold. Management information for life insurance risk should be used to pro- vide insight and inform the operational planning process, and to influence resource allocation, including capital. Risk appetite statements and tolerances should be clearly defined and refreshed on a regular basis (at least annually) and be an integral part of the planning process. Regular risk analysis reviews (at least on a quarterly basis) of life insurance systems and processes should be actively performed to ensure that inherent insurance risks are effectively managed. Appropriate internal controls should be put in place to ensure that the pre-defined requirements are met. The key minimum standards of risk management and controls are:

Longevity, mortality, and morbidity risks:

It is important that businesses analyze their own longevity mortality and morbidity experience, and benchmark against emerging industry experience where available, and remain abreast of the latest research on projected improvements

Persistency risk:

Management must be aware of the persistency risks in the business that they write, and regularly monitor emerging experience as it becomes available, comparing that experience with original assumptions, and with market data wherever possible. Management must aim to manage persistency risk at all stages in the product cycle, both before the product is sold through careful product design, and throughout the life of the product

Claims management risk:

A claims management process must be implemented that pays valid claims promptly and efficiently, and satisfies local statutes and regulations. Sufficient detail on individual claims should be retained both to enable detailed analysis of historical experience and to enable investigation of individual claims in case of dispute[5].

Underwriting risk:

A formally documented underwriting philosophy and supporting procedures must be put in place. Appropriate underwriting skills and practices consistent with industry practice must be

applied. Independent reviews of underwriting, usually by reinsurers, should take place regularly. Underwriting practice should also be consistent with reinsurance arrangements and the experience assumed when pricing. When writing unitized business, a clear unit pricing framework should be implemented, covering the calculation and checking of unit prices, the process to take when correcting errors, and addressing customer service, and regulatory requirements.

Reinsurance risk:

Reinsurance is an important element of exposure management. A clear reinsurance strategy and associated procedures should be in place. The security of the reinsurer is of particular importance for long-term life business. The firm's policy on assessment and selection of reinsurers should be contained in the credit policy.

Product cycle risk:

A clear process, including unambiguous accountability, for ongoing product management must be in place. All the insurance risk elements must be reviewed with appropriate regularity. This will include monitoring the experience of key parameters (such as lapses, mortality, and morbidity); management of reviewable rate contracts, accounting for portfolio claims trends and policy claims experience when relevant; and management of claims and claims handling (which can have a major impact on the results of health-related products such as critical illness and income replacement).

Other Types of Risk

Concentration Risk

Concentration risk in insurance, sometimes known as accumulation risk, is the risk arising from concentration of exposure in particular sectors of the market, as well as concentration of exposure to particular reinsurers or geographic accumulation. It is also the risk arising when similar risks across a wide range of products, although individually not material, aggregate to create a material risk for the business. Concentrations of risk in specified reinsurers are regarded as a counter- party credit risk. Risk management techniques include applying a range of limits on the value of business that may be written on a single life or group of lives.

Maximum Probable Loss

Maximum Foreseeable Loss (MFL) The largest loss that the underwriter considers probable. Such an assessment would be made by the underwriter based upon his or her own experience and judgement. The worst loss that could possibly occur because of a single event, but assumes that protective controls will operate as they were intended. The worst loss that can be foreseen due to a single event.

Counterparty Credit Risk

Insurance companies and reinsurance companies incur credit risk for their counterparty exposures on investments and reinsurance transactions. As a result, they must understand and manage counterparty credit risk. This includes establishing principles and procedures for the selection of reinsurance or risk transfer counterparties, taking into account the creditworthiness and diversification of counterparties, as well as the legal jurisdictions in which they are situated.

Market Risk

Insurance entities incur market risk (such as asset risk, currency risk, etc.) on the investment of accumulated premiums and other funds. The company should have in place policies and procedures related to the following: Optimizing investment returns, setting asset allocation and diversification strategies and authorities for investment activities. Approaching inherently risky financial instruments (e.g., derivatives, etc.) Understanding and managing counterparty credit risk, concentration risk, liquidity and other risks, and the impact of non-admitted assets. Matching policy benefits with the appropriate assets, where these are linked to the performance of particular investment instruments or groups of instruments

Pension Obligation Risk

Pension obligation risk is the risk of loss, or of adverse change in the value of insurance liabilities, resulting from events impacting the obligations of the internal pension scheme or retirement plan (e.g., increased longevity, increasing plan liabilities, and changes in accounting policy). Where the insurance firm operates a defined benefit retirement plana type of pension plan promising a specific monthly benefit upon retirement based on various characteristics of the plan holder, such as age, earnings, years of servicepension obligation risk arises where the returns from investments held to meet the liabilities of plan members are less than expected, or as a result of greater than expected increases in the estimated value of the plan's liabilities[7].

Risk management techniques related to these types of plans include:

At specified time intervals (e.g., every three years), the management of the defined benefit plan agrees on the appropriate assumption basis for calculating the funding valuation that is used to identify whether the pension funds are in surplus or deficit. The results of the funding valuation will be used to establish the level of contributions that are required to be paid into each plan to meet the current and future amounts expected to be paid to pensioners (retirees). Valuations of the plan liabilities and assets backing them should be reviewed at least twice a year as well. Due to the uncertainly of pension obligations, assumptions are necessary for estimating both the accumulated benefits to plan members (including current and future retirees) and the amount the company needs to invest to provide those benefits. The assumptions underpinning the calculation of pension liabilities are trends in mortality, plan membership changes, inflation, and interest rates. These assumptions should be subject to periodic stress testing to confirm that the funding liability is appropriate across a range of scenarios.

Catastrophe Risk

Catastrophe risk applies to both P&C and life insurance and reflects the risk of loss, or of adverse change in the value of insurance liabilities, resulting from the significant uncertainty of pricing and provisioning assumptions related to extreme or irregular events.In the case of P&C business, for protection against business events such as natural disasters, epidemics, or terrorist attacks, there may be a significant increase in the number of incidences that may either exceed the level assumed/anticipated in the pricing basis or differ in terms of the timing and frequency of claims.

Exposure to catastrophe risk is managed by:

Setting concentration limits by policy sizes, geographies, and product lines to limit the impact of a catastrophic event. Reinsurance to cover specific events or claims above a certain size.

Reinsurance may also be used to mitigate catastrophe risks that may be out- side the firm's tolerances or to enable the more effective pricing of insurance products.Other risk management techniques related to catastrophe risk include:

A full evaluation should be undertaken of the potential impact of catastrophic events on the profile and frequency of claims or other obligations that may arise under this policy, including stress and scenario testing to identify the full impact of extreme events. Regular reviews of concentration limits to ensure they remain appropriate, taking account of changes in the external environment, the profile of business written, and new business volumes. Actual exposures relative to limits should be subject to monitoring, with variances reported in management information.Annual reviews of catastrophe reinsurance arrangements to ensure that they continue to provide appropriate mitigation for exposure to catastrophic events.

Globally, each political jurisdiction has its own risk and capital regulatory regime in place for insurance. There is no international accord for insurers that is equivalent to the Basel Accords for banks.However, there is a common regulatory approach within Europecalled Solvency 2 that applies to the 28 member states of the European Union, plus three of the European Economic Area countries. The Solvency 2 Directive establishes a revised set of EU-wide capital requirements and as such represents a wholesale change in the risk assessment and capital adequacy regime for the European insurance industry. Other jurisdictions are considering similar implementations.The insurance business in the EU is overseen by the European Insurance and Occupational Pensions Authority (EIOPA). EIOPA is comprised of high- level representatives from the insurance and occupational pensions' supervisory authorities of EU member states.Some of the key risks identified by Solvency 2 that are unique to insurers, in comparison to banks, are underwriting risk, claims risk and actuarial risk (potential loss due to incorrect actuarial assumptions)[8].

Internal Models under Solvency 2

Solvency 2 aims to allow a full internal model approach. In fact, defining and developing internal models is an explicit Solvency 2 Directive requirement. The use of mathematical models to assess risk recognizes the broad range and scale of risks faced by insurers and provides them with the opportunity to build models that better reflect the interaction between risks in their own firms. Model use also allows firms to include in their risk assessment the mitigation effects of their risk mitigation techniques (e.g., diversification). Internal models are developed by the financial institution to determine capital requirements on the basis of the company's specific risk profile.

Pillar 1 of Basel II/III allows a full internal portfolio model approach only for market risk and operational risk. For credit risk, which is the largest component of a bank's capital requirement, companies are only allowed to use internal models to determine parameters (probability of default, loss given default, and exposure at default) to feed into a supervisory-prescribed model. In the field of operational risk for Basel II/III, firms can choose the Advanced Measurement Approach (AMA) backed up by a sophisticated internal model (including scenario and loss distribution approaches).

Solvency 2 permits firms to apply for approval to use full or partial internal models for the calculation of their regulatory capital requirements, as an alternative to applying the results of the

standard formula. The internal modeling activity is required to be integrated into the risk management activity of the firm.

Global Systemically Important Insurers (G-SIIs)

The Financial Stability Board has identified large insurance companies that it considers to be global systemically important insurers (G-SIIs). These G-SIIs have been identified based on criteria such as size, global activity, and the amount of noninsurance businesses they have. Size continues to play a significant role in the designation methodology. One material obligation of an insurer designated a G-SII is the need to draw up recovery and resolution plans to limit the economic fallout if they were to go out of business.

Because there are no global solvency standards, it is difficult to assess what the implications will be for the companies on this list; however, the overall European Solvency 2 standards of this designation will apply to some of them.

Proportionality

The principle of proportionality requires that the governance and control system (including regulations) be proportionate to the nature, scale, and complexity of the risks inherent in the business of an insurance undertaking. This applies to both the low end and the high end of the risk spectrum. Proportionality justifies simpler and less burdensome ways of meeting requirements for low-risk-profile areas. Proportionality says that for more complex risk areas there is an increased likelihood that undertakings will need to apply to more sophisticated methods and techniques.

The Role of Lloyd's of London

Lloyd's of London, while not an insurance company, or a company at all, is one of the more important insurance industry players in the world. Lloyd's is a market that provides specialist, or tailored, insurance coverage by forming syndicates of investors to invest in providing coverage for specifically defined needs.The capital required to support the underwriting and insurance coverage of each syndicate comes from corporate investors, insurance companies and individuals, although the majority of the capital for Lloyd's market comes from corporations. Syndicate investors are technically obligated to be a part of a syndicate for a year, but many will stay beyond that time frame. Each syndicate is operated independent of the other, with no overlapping insurance coverage or legal obligations. Lloyd's brokers, who are specialists in various types of risks, bring business to the market, the investors, and their syndicates. The risks placed by the brokers with the underwriters originate from clients and other brokers and intermediaries from all over the world. Together, the syndicates under- writing at Lloyd's form one of the world's largest commercial insurers and a leading reinsurer.

DISCUSSION

The insurance and banking industries play vitally important and complementary roles in our global risk-based capital system. While operating as separate fields of specialty, the issues they face, and the manner in which they are required to operate are very similar. Both are being challenged by the need to ensure they are identifying and assessing risks properly. The require- ment for a robust and dynamic control system within each company, between industry players, and across borders, as well as their relationships and inter- actions with regulators are virtually

identical. As seen in this chapter on insurance, and throughout the book when discussing the intricacies of the banking industry, there are many ways things can go wrong, with very material and negative resulting consequences. Working in either industry requires a basic understanding of how each operates, why controls are so important, and how to recognize when things may be moving along the wrong path so that issues can be raised within the company at the earliest possible opportunity, to be analyzed and dealt with before they become so large they materially impact the company's operations.

Foundations of Financial Risk is designed to provide that base level of awareness and understanding, bringing into focus in a high level and comprehensive way the issues faced each and every day by those engaged in the banking and insurance industry. Having this broad-based knowledge not only helps create a culture of risk awareness within a company, but also lends mightily to the ongoing objective of guarding against and mitigating the impact of errors and omissions that affect systemic risk in a world that is ever and increasingly interconnected and multinational.

Advanced Measurement Approach the Advanced Measurement Approach is a sophisticated approach to calculate operational risk capital, allowing the bank to use internally generated models to calculate their operational risk capital requirements. Asset and liability management (ALM) Asset and liability management (ALM) in a bank manages the risks that arise due to the mismatches between assets and liabilities in terms of maturity, liquidity, interest rates, etc., and typically focuses on the banking book's interest rate risk and the bank's liquidity risk.

Asset-backed security (ABS) Asset-backed securities, backed by pools of mortgage loans or other types of securitizable cash flow generating assets, are sold to investors who then receive payments based on the cash flows generated by the assets in the underlying pool. Asset-based loan Asset-based loans allow the borrower to pledge a specific asset or a combination of assets, such as inventory, machinery, or equipment, as col- lateral to cover a loan.

Asset conversion loan Asset conversion loans (self-liquidating loans) are loans that are repaid by converting the asset that is used to collateralize the loan into cash. Asset transformation is the process of creating new assets (loan) from liabilities (deposits) with different characteristics by converting small denomination, immediately available, and relatively risk-free bank deposits into loans new relatively risky, large denomination assets that are repaid following a set schedule.

Assets are the various loans, investments, and anything of value that the bank owns. Balance sheet the balance sheet shows all the assets, liabilities, and equity the bank has at one particular point in time. Balloon payment is a large payment at maturity that includes the repayment of the principal and in certain cases all the accumulated interest. Bank A bank takes deposits, makes loans, arranges payments, holds a banking license, and is subject to regulatory supervision by a banking regulator. The Bank for International Settlements, BIS, established in Basel, Switzerland, in 1930, is the principal center of international central bank cooperation. A bank panic occurs when a large number of depositors at multiple different banks simultaneously demand the return of their deposits.

The process of enforcing the rules that govern how banks operate. Usually, supervision is divided into "off-site supervision" whereby supervisors review written information and statistics submitted by the bank and "on-site supervision" whereby inspectors from the supervisory agency

make visits to a bank to meet managers and directors and see for themselves how a bank is operating.

Basel Accords

The Basel Accords (Basel I Accord, the Market Risk Amendment, and Basel II Accord) are the cornerstones of international risk-based banking regulation, the results of a collaborative attempt by banking regulators from major developed countries to create a globally valid and widely applicable frame- work for banks and bank risk management. Basel Committee on Banking Supervision the Basel Committee on Banking Super- vision, a forum for regulatory cooperation between its member countries on banking supervision-related matters, was established by the central bank governors and consists of senior representatives of bank supervisory authorities and central banks from major economies. Basic Indicator Approach (BIA) The Basic Indicator Approach uses the bank's total gross income as a risk indicator for the bank's operational risk exposure and sets the required level of operational risk capital at 15% of the bank's annual positive gross income averaged over the previous three years.

Bond A bond is a legally binding contract through which the borrower (also referred to as the issuer of the bond) borrows the principal, an amount specified in the bond, from an investor and in exchange pays a specified amount of interest, usually at regular intervals, and repays the principal either at maturity or during the life of the bond. Borrower A borrower receives money from a lender in exchange for a promise to repay the full amount borrowed (the principal) plus an additional amount (interest) at a future date(s). Bottom-up approach the bottom-up approach analyzes all processes within each business unit separately and benchmarks each unit's risk profile; it then aggregates identified risks first at the business line and eventually at a corporate level to generate a company-wide risk profile. Business risk Business risk is the potential loss due to a weakening in the competitive position. Call option a call option is a right to buy, while a put option is a right to sell, another financial or real asset. These rights are similar to insurance policies and their price is termed the "premium."

Capital adequacy Capital adequacy is achieved when a bank's capital ratio meets or exceeds the minimum capital ratio, which under the Basel Accords is 8% of risk-weighted assets and can be satisfied with Tier 1, Tier 2, and Tier 3 capital. Tier 1 capital has to account for at least 4% of risk-weighted assets; the remain- der can be satisfied through Tier 2 and, in the case of market risk capital, Tier 3 capital. National banking regulators can deviate from these minimum capital adequacy ratios. Capital ratio Capital ratio is the relationship between risk-weighted assets and regulatory capital. Cash flow-based loan a cash flow-based loan provides funds that are repaid from the cash flow generated from the borrower's operations.

Central Bank

A central bank is the principal monetary authority of a country, or a group of countries, and may also exercise regulatory and supervisory responsibilities over other banks, arrange payment between banks, and when needed, provide stability to the financial and banking system. Charged-off loan a charged-off loan is a loan that has been removed from the bank's financial statements because the bank believes that it will collect nothing of the loan from the borrower. Circulating Assets Highly liquid, current assets also known as floating or working assets. Examples include cash, work-in-progress, and inventory that are expected to be consumed or sold within the course of an operating cycle and replaced by similar assets. Clearinghouse a

clearinghouse guarantees the financial performance of a trade on an exchange by becoming the buyer to each seller and the seller to each buyer and clears the trade between the parties by processing payments and the exchange of instruments.

Collateral is an asset pledged by a borrower to secure a loan or other credit and is forfeited to the lender in the event of the borrower's default. Commercial bank a commercial bank offers a wide range of highly specialized loans to large businesses, acts as an intermediary in raising funds, and provides specialized financial services including payment, investment, and risk management services. Commercial paper Commercial paper is an unsecured, short-term debt security with a maturity range of 30 to 50 days or less issued by a typically large, financially strong, organization that uses the proceeds to finance its operations.

Corporate governance Corporate governance is a set of relationships framed by corporate bylaws, articles of association, charters, and applicable statutory or other legal rules and principles, between the board of directors, shareholders, and other stakeholders of a organization that outlines the relationship among these groups, sets rules how the organization should be managed, and sets its operational framework. Cost of funds the cost of funds is the interest rate, required return, or other compensation associated with securing and using capital.

Counterparty credit risk Counterparty credit risk is the risk that the other party to a contract or agreement will fail to perform under the terms of an agreement. Coupon rate the coupon rate is a percentage of the principal borrowed, and deter- mines the coupon payment, the promised and regularly paid interest payment to the buyer of a bond or other debt security. Covenant a covenant is an agreement that requires one party to refrain from or engage in specified actions and is imposed on the borrower by a lender to prevent a potential deterioration in the borrower's financial and business condition.

Credit derivative a derivative instrument, such as an option, swap, or forward that enables a firm to manage their exposure to credit risk. For example, a credit default swap (in one of its forms) transfers to another counterparty the risk that a lender will not be repaid. The lender pays a fee for this protection to the other counterparty. Credit position although banks classically are "long" the credit market (net lenders, loan assets in the balance sheet), it is also possible to be short credit. This is achieved in the credit derivatives or bond repo markets and can be profitable when a borrower's credit deteriorates. Irrespective of whether the bank is long or short credit, it will always have a position in credit risky assets. In the extreme event, where the bank is neither long nor short credit risk, it is said to have a neutral, or zero credit position. This is rare across an entire bank, but can occur in sub-portfolios or on individual trading desks.

Dividend A dividend is that part of the earnings of a corporation that is distributed to its owners. A dividend is a distribution to shareholders and typically entails the payment of cash or additional shares. Economic capital Economic capital is the amount of capital the bank needs in the case of loss events, covers all risks across a bank, and is essential for the bank to survive in the long term. Effective duration Effective duration goes further than other duration measures and tries to find the same price sensitivity per yield change while additionally taking embedded options into account. Bonds with call and put features, such as callable bonds, put able bonds and U.S. Mortgage Backed Securities, with their implied early redemption option, do not respond well to traditional duration estimates, because these do not take any value change due to the embedded option into account. So, effective duration not only takes into account that the bond's cash flows can change when interest rates change, but also that the cash flows from the

embedded options can change independently thereof. Equity is the capital raised from shareholders plus retained earnings and reflects the ownership interest in a corporation.

Liquidity coverage ratio one of the two liquidity standards introduced in the Basel III Accord. The standard is that banks should hold sufficient high quality liquidity assets (HQLA) to be able to withstand (by selling or pledging those assets) the net outflow of liquidity arising from financial stress lasting 30 days.

Liquidity crisis: Liquidity crisis is a situation when the bank is not able to make payments when they are due, secure needed funds, or trade in the markets.

Liquidity risk: Liquidity risk can be market (transactional) liquidity risk and funding (payment) liquidity risk.

Loan agreement: The loan agreement is a legal contract between the bank and the borrower and includes a description of undertakings and understandings, such as the principal, the stated interest rate and its calculation, the schedule of payments and repayments, the use of collateral, covenants, etc.

Loan loss reserve:A loan loss reserve, or "allowance for loan losses" or a "credit loss reserve," is the portion of loans set aside to absorb anticipated loan losses. Loan-to-value, LTV, ratio Loan-to-value ratio is the ratio of the loan and the collateral supporting the loan.

Long position:A long position, the opposite of short position, represents the ownership position of an asset; when the asset's value increases, the position increases in value and when the asset's value declines, the position decreases in value. Long-term lending Long-term lending has a maturity exceeding 15 years and finances major capital projects or expenditures.

Loss given default (LGD): The actual loss the lender suffers in the wake of a default: a function of the RR and the EAD. LGD is influenced by debt type, asset type, recourse, assignment terms, and payment delays.

Low frequency/high impact, LFHI events LFHI events occur infrequently, but each event has a significant impact on the operations of the bank. Macro-prudential supervision (GS) Supervision that focuses on the stability of a financial system as a whole, rather than on its components. Individual banks may be working within the regulations but collectively their actions could lead to instability in a financial system. Margin (requirement) is the amount investors must post to their brokers and the brokers are obligated to post with the clearinghouse, and is determined by various considerations, including the different types of instruments the broker trades on the exchange, the risk of the instrument, and the overall trading volume. Margin call is the additional amount that needs to be deposited to fulfill the margin requirement imposed by the clearinghouse or the broker. Marked-to-market (accounting) assigns a value to an asset that reflects the value it would fetch on the market. Market discipline is the external monitoring and influencing of another bank's risk-taking activities based on the disclosure of relevant financial, risk or other information that allows external assessment of risk-taking. Market liquidity risk Market liquidity risk refers to the ability to trade assets with negligible price concessions. Market or trading liquidity Market or trading liquidity refers to the ability to trade in and out of a position without significant price concessions.

CONCLUSION

Market risk is defined as the risk of losses in on- and off-balance- sheet positions arising from movements in market prices and under the Basel II Accord encompasses the risks pertaining to interest rate related instruments and equities in the trading book, and foreign exchange risk and commodities risk throughout the bank. The Market Risk Amendment of 1996 required banks to maintain regulatory minimum capital against the bank's positions in various market-traded financial assets such as foreign exchange, fixed income, equity, commodities, and derivatives. It is now superseded by the Basel II Accord which incorporated significant proportions of the amendment.

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CHAPTER 16

AN OVERVIEW ON RANGE OF STAKEHOLDERS

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ABSTRACT:

A large variety of stakeholders will be involved with an organization, some of which may actually be unwelcome to the company. Local neighbors may want to oppose, for instance, if a distribution firm wants to expand its depot. Despite the fact that the business owner may not want to admit it, the locals have a stake in how the firm is run. Divergent stakeholder expectations may exist for the organization. For instance, employees in a sports club will strive for the highest compensation possible. This would go against financiers' demands, who want the team to be as profitable as possible. One of management's responsibilities is to strike a balance between the competing interests of various stakeholders and to put policies into place.

KEYWORDS:

Bank Risks, Credit Risk,Economy, Insurance Risk, Management, Market Risk.

INTRODUCTION

The variety of stakeholders will vary for firms operating in various industries. The general people will be a key stakeholder for government organizations. Depending on the goals of each individual agency, some subgroups of the general public may be stakeholders. A new set of stakeholders would need to be taken into account for organizations that have major environmental interests or exposures. Environmental pressure organizations are often undesirable stakeholders for certain energy corporations. A mining firm that wants to extract minerals and the local populace, which opposes the presence of large industrial activity in the region, may come into serious confrontation[1].

A method for ensuring that a company has the most effective and efficient procedures and operations is called business process re-engineering (BPR). Identifying stakeholders and their expectations serves as a starting point for many BPR efforts. The organization's fundamental processes then take on the task of meeting common stakeholder expectations. The high-level groups of operations that are fundamentally significant to the company are known as core processes. The "delivering success on the pitch" core procedure will be essential for a sports team. Many parties, including fans (or consumers), players (or employees), and sponsors (or financiers), will be interested in this process. The advantage of this strategy is that it allows the organization to be described by a limited number of fundamental procedures that should include compliance, strategy, tactics, and operations. Then, a comprehensive assessment of these essential processes and the potential hazards to them may be made. This strategy will allow risk management efforts to become totally integrated within the company.

According to the stakeholder's characteristics, inquiries should be made regarding the organization's risk awareness, its risk improvement initiatives, and its internal risk governance structures. The company has a right to provide information about its risk profile to relevant

stakeholders. Additionally, they have a right to know about the plans for risk improvement and the measures used to track risk performance. Finally, stakeholders have a right to knowledge about the organization's risk appetite and the procedures for integrating risk into the formulation of strategy. Examples of how various stakeholder expectations for an organization are shown in the box below. These expectations may sometimes be at odds with one another.

It is beneficial for one group of stakeholders to understand what the expectations of the other groups are, even if they are not in conflict.

DISCUSSION

Stakeholder Consultation

A shared knowledge of the organization's objectives should serve as the foundation for any conversations with stakeholders. The discourse must be satisfactory, and that is the board's responsibility. The board will still be in charge overall even if certain organization members may be in charge of certain stakeholder groups' interactions on a daily basis. a summary of the information that a company's shareholders should be given. The emphasis of this information will be on the delivery of precise financial facts. a concise explanation of the company's mission, goals, key markets, and strategy.

Fiscal Information

Information about the company's CSR guidelines Information on compliance with the Combined Code. Information on the share transactions of directors, broken down by component and shareholder size. Access to all press releases and presentations that discuss developments that might impact share price. The specific interests of each stakeholder in the organization's activities will determine the kind and extent of communication with them. The banks that are giving a sports team the essential financial assistance will need to provide different information to the team's followers. Analysis of stakeholders and their expectations is required in order to get the clearest picture possible of the risks that a business is facing. One result of the business cycle's external review stage is the identification of stakeholder expectations. Regarding the demands put on the organization, different stakeholders may have expectations that are incompatible or even mutually exclusive. Whistleblowing falls under the category of stakeholder communication, and the text box below provides an example of how it may benefit the company and should be supported[2].

Policy for Making Complaints

In order to combat fraud, corruption, and unethical business practices, Rank strives to maintain a culture of transparency and honesty. It is Rank's policy to put policies in place and keep them up to date in order to encourage moral business practices, lower the risk of fraud and other irregularities, and facilitate early discovery, investigation, and reporting. According to Rank's fraud and unethical business behavior whistleblower policy, workers have many options for raising concerns about possible fraud, corruption, or unethical business conduct. In the Grosvenor retail casino company, two scams were discovered during the review period, and it would seem that those who weren't directly engaged must have had concerns they never voiced. Due to this, management and the committee are now debating the effectiveness of the whistleblower policy. Despite the fact that reports are filed in accordance with the organization whistleblowing policy, the concerns covered by the reports are almost always concerned with

human resources rather than fraud or unethical business practices. In order to effectively address the cultural reluctance to adopting the whistleblowing policy for the purposes for which it is designed, managers in the enterprises are being contacted.

Rank Group Plc.

Stakeholders and key processes in the annual report and financial statements. The organization's core processes connect to both the internal and external environment and meet stakeholder expectations. Therefore, an incident that has the potential to affect the realization of a stakeholder expectation qualifies as a risk. With this strategy, it is possible to identify internal and external stakeholders as well as their short-, medium-, and long-term expectations. A visual representation of the connection between stakeholders' expectations and the organization's fundamental procedures. Strategic, tactical, operational, or compliance (STOC) processes may be the foundational elements of an organization. Displays the compliance core processes separately, despite the fact that the compliance core processes must also support and serve as the foundation for all other core processes.

The significance of Key Processes

British Standard BS, which addresses risk management viewpoints, acknowledges this division of basic processes into strategic, tactical, and operational categories. Operational perspectives are concerned with the day-to-day operations of the organization, including people, information security, health and safety, and business continuity. Strategic perspectives determine the future direction of the company. Tactics are concerned with putting strategy into action by enacting change. Once again, it is thought that compliance procedures serve as the foundation for all other core processes[3].

Stakeholder expectations-based strategies have various benefits. It makes it easier to fully and thoroughly validate the organization's core processes in light of the demands that each stakeholder has on each core process. A key component of managing an organization is striking a balance between the expectations of the many stakeholders. A risk identification process based on an examination of stakeholder expectations is the most reliable approach to ensure that these risks are identified, analyzed, and mitigated. There are risks associated with attaining this balance.

One of the core needs of the business process re-engineering (BPR) methodology is the examination of stakeholder expectations. It is possible to identify the parties with an interest in the organization's present and future actions. The expectations of each stakeholder may then be assessed in light of each stated goal and the company's purpose. Shared expectations will start to develop, and the organization's basic procedures may then be established (or improved) particularly in terms of fulfilling these expectations. Although analyzing stakeholder expectations may be one of the most effective methods to spot hazards, doing so has ramifications for the time and effort needed for it to be effective. When done properly, BPR may be a highly time-consuming practice. Finding the core processes that are most susceptible to risk occurrences is one of the advantages of using a BPR or core processes approach. This will make it possible to identify the stakeholders whose expectations are most likely to lead to dissatisfaction since they have not been met.

DISCUSSION

Stakeholders, and a plan

Research has unequivocally proven and shown that poor risk management choices connected to strategy may devastate a company's worth more than poor choices related to the operations or projects the firm does. The foundational functions of an organization satisfy the expectations of its stakeholders. Expectations of many stakeholders for a typical sports club. The strategic, tactical, operational, or compliance (STOC) fundamental processes that meet stakeholder expectations are shown in the risk management process' bow-tie depiction in.Major stake-holder groups will demand that the strategic core processes be the most reliable processes in the firm. These stakeholders include investors and other shareholders who are concerned with the organization's long-term performance.

The expectations of fans include strong stadium amenities, and it could be necessary to design a strategic core process to oversee the construction of a new stadium. This would be a significant investment that would need a lot of financial backing. The club will need to be aware of the expectations of the financiers in order to get their support, and they must make sure that the proposed plans for the new stadium and the financial arrangements will meet the needs of all relevant stakeholders. For the club, building a new stadium will be a huge endeavor with a variety of stakeholders to take into account. Consistent performance on the field Good amenities provided at the stadium a wide selection of affordable goods. Excellent compensation and working conditions, world-class coaching standards, and fair team selection practices

Participants and strategies

Stakeholders who are interested in an organization's operations may vary greatly from its tactical stakeholders. Finance is probably needed if an organization's strategies entail making improvements to its goods, making investments in new manufacturing methods, reacting to technical advancements, or responding to other events that call for a project. This indicates that financial institutions will probably play a significant role in projects and other strategic adjustments. Building contractors and suppliers of other specialized professional support, like architects, may be considered additional project stakeholders. It's important to recognize the role that workers play in the execution of strategies. Staff members will be significant stakeholders in the organization's operations and will have an interest in operational concerns. The support of the workforce and effective communication with them are crucial if changes to work practices or product features are to be effectively adopted into the operations of the business[4].

It is crucial to take into account how various stakeholders will be impacted by changes, initiatives, projects, and strategies. Many unforeseen shocks may be prevented by carefully taking into account the interests of stakeholders. A project's effect should be carefully assessed both throughout project execution and after delivery. This should include internal and external stakeholders as well, since both groups may be significantly affected by the changes the project brings about. These adjustments might be made to staffing arrangements as well as environmental conditions that exist both during and after the building process. Including certain individuals who aren't directly engaged in the organization's operations in the project planning stage could be a good idea. This will make it possible for the company to completely comprehend how the work that will be done will have an effect. The degree of specificity when thinking about stakeholder management will often determine how well stakeholders are engaged.

Even with successful initiatives, it may be very helpful to be able to reduce negative effects by paying early attention to important stakeholders and their expectations[5], [6].

Operations and Stakeholders

Stakeholder groups from a variety of industries may participate in an organization's operational operations. Keeping with the sports club model, supporters will have a significant role in many other parts of the club's operations. Positive outcomes on the field will be among the fans' top priorities. They will also be interested in other operational details, such as how tickets will be distributed, access and transportation plans, and the amenities offered within the stadium. Large organizations in general, pharmaceutical corporations have a wide variety of stakeholders. A pharmaceutical manufacturer in particular has a duty to make sure that all of its patients can always have the crucial medicine they need. The pharmaceutical industry should consider patients to be significant stakeholders who have expectations for the accessibility and efficacy of the prescribed prescription[7], [8].

CONCLUSION

Customers, suppliers, and other parties who could be impacted by disruptions to the organization's regular, efficient operation are likely to be among the stakeholder groups with an interest in the operational activities of an organization. Customers, for instance, would probably be impacted if a danger risk materialized. Suppliers are also members of the organization and will suffer if the organization is so disturbed that their products, services, or components are no longer needed. The continuation of the organization's operations will be of interest to other stakeholder groups that might be impacted by hazard threats. Customers will be adversely impacted right away for financial firms like banks if crucial IT systems fail. Models of corporate governance call for proper stakeholder interaction and stakeholder participation. Employee participation on the board may be required in certain countries where workers are seen as stakeholders in the company.

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CHAPTER 17
OPERATIONAL RISK MANAGEMENT

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ABSTRACT:

Operational risk management is a systematic and proactive approach to identifying, assessing, mitigating, and monitoring the risks associated with an organization's operational processes, systems, and activities. It aims to reduce the likelihood and impact of operational failures that could result in financial losses, reputational damage, regulatory non-compliance, or disruptions to business operations.Effective operational risk management has several benefits, including increased operational efficiency, protection of assets, enhanced regulatory compliance, preservation of reputation, and better decision-making. It enables organizations to proactively identify and address vulnerabilities, prioritize resource allocation, and build resilience to withstand unforeseen events.

KEYWORDS:

Bank Risks, Credit Risk,Economy, Insurance Risk, Risk Management, Market Risk.

INTRODUCTION

Operational risk management's significance has long been recognized. Operational risk is regarded as the kind of risk that will interfere with regular daily operations. Operational risk and infrastructural hazards are strongly connected in many ways, as shown by the FIRM risk scorecard categorization system. Operational risks are often hazard hazards, and traditionally, risk transfer via insurance has been heavily used in this field. Operational risk, nevertheless, now has a wider range of applications and a more defined meaning, particularly in financial institutions. Operational risk in financial institutions differs from other categories of risk because it must be quantified in terms of possible financial loss even if it addresses the same kinds of issues[1].

Financial institutions must have enough capital reserves on hand to cover all current and future commitments and losses to the company. This is a crucial need of both the upcoming legislation for European insurance businesses under the Solvency II European Directive and the regulatory framework established for banks in the Basel II Accord. As a result, financial institutions must assess their operational risk exposure. Banks' use of high-risk tactics that left them with inadequate capital when the risks occurred was a significant contributor to the global financial crisis.

Banks must consider their operational risk exposure when calculating their capital needs under Basel II-based capital adequacy criteria. This operational risk management framework should incorporate frameworks for operational risk identification, measurement, and monitoring, reporting, control, and mitigation. Economic capital is a term used often to describe this estimate

of capital needs. As an additional measure of capital requirement, the laws mandate that banks use one of three distinct quantitative techniques. The so-called regulatory capital is this. Two of the strategies are dependent on the financial institution's earnings. The third way requires a high level of statistical quality evaluation of all material operational risk exposures. The Solvency II European Directive requires insurance businesses in the EU to use a comparable methodology[2].

Operational risk definition

Despite the fact that the scope may be larger and the nomenclature a little different, operational risks are fundamentally the same sorts of disruptive hazard risks that are faced by other businesses. The particular issue with operational risk for financial organizations is that it must be measured since the degree of risk must be covered by the institution's available capital. This makes it crucial for the bank to lower operational risk to the lowest level at which it is still cost-effective. Although market risk and credit risk have long been a concern for banks (as well as underwriting risk for insurance firms), Basel II and Solvency II have forced financial institutions to take a wider view of operational risk exposures. Any kind of risk, other than credit or market risk, was formerly referred to as operational risk. In Basel II, operational risk was defined as "the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events," replacing the previous, ambiguous definition. Strategic and reputational risk are not included in the Basel II framework but legal risk is. The following risk categories fall under the Basel II definition:

1. Internal fraud, such as asset theft, tax avoidance, and bribes.
2. Outside fraud, such as theft, hacking, and forgeries.
3. Workplace safety and hiring procedures.
4. Customers, initiatives, and business procedures.
5. Physical asset damage.
6. System outages and business disruptions.
7. Process, delivery, and execution management.

The fact that operational risk is a phrase with several definitions and that certain financial institutions use a different term or a larger definition is also acknowledged. People, process, system, and external hazards are the four kinds of risk identified under the Basel II standard. People hazards include disregard for protocol and a lack of task separation. Process flaws and insufficient controls are examples of process hazards. System hazards include the lack of built-in control mechanisms and the applications systems' inability to fulfill user expectations. External risks also include service provider subpar performance, both internal and external fraud, and regulator action (change in regulation, but not enforcement or disciplinary action). Legal action brought by bank clients over staff carelessness or fraud is another example of an external risk. Regarding financial institutions, it is also important to take into account the concepts of market risk and credit risk. Market risk is the chance that assets' values may drop over time due to changes in the economy or other factors that have a significant effect on the market as a whole. Credit risk refers to the possibility that a customer or client won't be able to pay back the principle and/or interest on a loan or other outstanding obligation on time, if at all. For insurance businesses, underwriting riskthe exposure to the risks of the customer via insurance policiesis also crucial.

Losses resulting from a failure to manage operational risk may be enormous. Sometimes market risk is blamed for losses incurred by so-called rogue traders. The claim is that the losses happened as a result of an unforeseen shift in the market circumstances, which led to large losses manifesting. This study is flawed in terms of operational risk. It would be more accurate to argue that the inability to regulate the activity of traders is what caused the losses. The traders would not have been in a position to endanger sizable bank assets if the activities had been adequately supervised by operational risk controls. It is unfair to attribute the losses to market risk when the bank's significant assets shouldn't have been in the market. Basel II's strict risk and capital management criteria are intended to guarantee that a bank has capital reserves adequate to the risk that the bank exposes itself to via its lending and investing operations. Basel II's goal is to safeguard the global financial system. According to these regulations, the bank must retain a larger amount of capital to protect its solvency and the health of the economy as a whole, the higher the risk to which it is exposed. Basel II aspires to create a worldwide regulatory framework, separate operational risk from credit risk (both of which should be measured), and make capital allocation more risk-sensitive.

National supervisory agencies are attempting to adopt a comprehensive minimum requirement for capital adequacy described in the Basel II Accord. Additionally, Basel II aims to encourage banks to recognize the risks they face and enhance their capacity to manage such risks in order to foster a more forward-looking approach to capital supervision. It is thus meant to be more adaptable and more equipped to change along with improvements in markets and risk management techniques. The success of the agreement has to be measured against the collapse of the financial system. A thorough analysis of that failure's contribution to the global financial crisis has been done[3].

Calculating operational risk

Due to the need to define and assess the operational risk that financial institutions are exposed to, this problem has become more of a focus. Examples of operational risks encountered by a bank or financial institution are provided in the measurement of operational risk, which may entail a range of methodologies that are typically based on historical information, simulated information, or a combination. The following three alternative methods for calculating operational risk for regulatory capital requirements are provided by Basel II. While research was done to verify the first two techniques as proxies for operational risk management exposure, particular organizations may differ significantly from the evaluations these two methods would provide:

1. Utilizing a single indication for the whole risk exposure, the basic indicator technique determines the value of operational risk capital.
2. **Standardized method:** computes operational risk value by multiplying operational loss experience by a wide financial indicator.
3. **Advanced method:** computes operational risk capital using internal loss data and a mix of qualitative and quantitative techniques. The financial institution has to use a systematic method to assess operational risk. Quantification is only achievable if the degree of harm and risk probabilities are established, even after the dangers have been identified. Operational.

Many banks have evaluated and quantified their operational risks in great detail. It has been shown that, in general, the size of the bank as determined by the number of employeesinfluences the magnitude of losses that would be incurred. This seems to suggest that bigger banks often

have bigger clientele. The frequency of losses and bank use are significantly associated, which is the second overarching tendency that has been noticed[4].

Problems with measuring

The need to assess operational risk in financial institutions has led to the growth of interest in operational risk. Quantifying operational risk has presented several difficulties. Even if the likelihood of loss is somewhat well established, expected amounts of loss can only be guessed. Despite the use and development of statistical methodologies, a widely acknowledged strategy is still lacking.

Direct and indirect costs may result from the anticipated losses. The loss of a client is one of the greater indirect expenses. The current worth of that client and any potential future profits from that connection may be used to illustrate this loss. Internal control procedures and internal audit assessment are among the actions that need to be conducted. A financial institution's internal audit has the well-known but crucial function of ensuring that procedures are followed in actual practice and that they are likely to be successful in lowering operational risk. the many types of operational risk that financial and industrial organizations must deal with. The contrasts the nature and consequences of human mistake in an industrial venture and a financial organization. It is obvious that managing employee behavior and activities at financial institutions is far more challenging than managing them in industrial facilities. It is important to note that non-financial organizations may quantify operational risk, therefore a transport firm (for instance) might look into the operational risks connected to its operations. The cost of gasoline, tax responsibilities, and the financial repercussions of delivery errors are among the hazards connected with the activities. Road traffic collisions, other delivery delays, and client changes that are not properly accounted for in the delivery schedule may all result in operational hazards[5].

The most significant operational hazards that a transport firm would likely encounter are likely to be wrong-customer deliveries and traffic accidents. A transport company can focus on the operational risks that have the greatest potential to interfere with regular, efficient operations by quantifying the risk exposures associated with each category of operational risk. The company can then implement the necessary control measures to lower these operational risk exposures. Systems are widely dispersed and very complicated, and the environment is only partially controllable. The interactions between people at work are generally straightforward, and the atmosphere is very controllable. Security of value and assets is a problem in loss prevention. Physical safety, equipment protection, and accident avoidance are the three major focuses of loss prevention. Loss prevention aims to stop the production of defective items (junk) as well as physical injury to persons, property, or equipment. The primary motivation for making errors is monetary gain or self-interest. The primary motivation for generating intentional errors is sabotage or (perhaps) lowering effort. Risk management is a crucial competency in the financial services industry and is crucial to the firm. Despite the fact that the goal is to prevent interruption of the production processes, risk management is not key to operations.

DISCUSSION

The evolution of operational risk

It is important to note that concerns about operational risks are shared across all enterprises before discussing recent advances in operational risk. Despite the fact that banks and other

financial institutions may take a unique approach to operational risk, the problems being thought about are the same problems that concern all other kinds of organizations in the public, private, and third sectors. Non-profit organizations including charities, membership groups, and voluntary organizations are referred to as the third sector. Even if the problems are the same, banks and other financial organizations may take a different approach. It is widely acknowledged that a financial institution's management must take operational risk issues seriously. As their careers move toward the general management side of the company, it is common for management trainees at financial institutions to spend some time in the risk management function. Before the person moves on to other responsibilities, it is hoped that their engagement in risk management will increase their knowledge.

Even after the global financial crisis, which revealed that operational risk exposure was more than most banks had anticipated, measuring operational risk in financial institutions is still proving to be difficult. With the growth of operational risk inside financial institutions, there are further conflicts. The measurement of operational risk is often seen to be more of a compliance need than a commercial potential. Given that operational risk quantification may be fairly technical, management within an organization may have a propensity to believe that it is the operational risk manager's obligation to assume ownership of this effort. The line managers often have responsibility for risk management and the application of controls. It is possible that operational risk management will not be properly incorporated into the administration of the financial institution if this obligation is not recognized, which might have devastating effects. Financial institutions must do this activity because Basel II mandates the calculation of operational risk exposure. Financial firms are pushed by additional corporate governance challenges and rising regulatory requirements. It should be in the organization's best interest to increase operational risk awareness by assessing the degree of risk and thoroughly outlining the importance of risk management to relevant staff members. The company will be better equipped to identify the operational risk sources and take the necessary, cost-effective steps to reduce operational risk exposure[6].The Risk and Insurance Managers Society (RIMS), located in the US, has started to investigate the root causes of the global financial crisis. This review took into account the potential contribution of enterprise risk management (ERM) as well as the reasons why the use of ERM tools and approaches had failed in the past. According to RIMS, the following failings rather than ERM's failure contributed to the global financial crisis:

With the false belief that the "risk quantifications" (used as forecasts) based exclusively on financial modeling were both accurate and adequate instruments to support choices to accept risk in the quest of profit, there was an over-reliance on their usage. Asset protection was too dependent on compliance and controls, and it was believed incorrectly that historical controls and the observation of a few key indicators would be sufficient to alter people's behavior. With the false premise that everyone is aware of the level of risk the company is ready to accept, there was a failure to adequately comprehend, define, express, communicate, and manage risk tolerances. Due to the false belief that there is only one way to perceive a given risk, corporate risk management best practices were not effectively implemented from the top all the way down to the trading floor. An example of how financial organizations report on their operational risks may be seen in the text box below. The extent of operational risk is shown in this excerpt, which also shows that financial institutions (FIs) are subject to the same set of operational hazards as non-FIs. The main distinction is that FIs must estimate their operational risk in order to deploy capital to cover these risks[7], [8].

Operational risk's scope

The business's insurance, market, and operational risk assessment methods are defined and prescribed by the group risk department. It conducts second-line assessments, including those of the capital modeling and reserving procedures, and regularly examines all risks in collaboration with management. The findings of these evaluations are documented in risk registers.

CONCLUSION

Regulatory requirements and industry best practices, such as the Basel Committee's operational risk management framework, provide guidance and standards for effective operational risk management. These frameworks emphasize the importance of strong governance, risk assessment, and internal control systems in managing operational risks.Overall, operational risk management is a critical component of an organization's overall risk management framework. By implementing robust processes and strategies to identify, assess, mitigate, and monitor operational risks, organizations can enhance their operational resilience, protect stakeholders' interests, and achieve sustainable business success.

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CHAPTER 18

AN OVERVIEW ON PROJECT RISK MANAGEMENT

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ABSTRACT:

Project risk management is a systematic process that involves identifying, assessing, mitigating, and monitoring risks associated with a specific project. It aims to proactively manage potential threats and opportunities that may impact project objectives, timeline, budget, and overall success.Effective project risk management enhances the chances of project success by allowing project managers and stakeholders to proactively identify and address potential threats and capitalize on opportunities. It enables informed decision-making, resource allocation, and risk-balanced project planning.

KEYWORDS:

Bank Risks, Credit Risk,Economy, Insurance Risk, Risk Management, Market Risk.

INTRODUCTION

Organizations will work on projects for a variety of reasons. A project (programmer of work) or series of projects will often be required in order to execute the updated strategy while changes to the plan are being made[1], [2]. Additionally, enhancing operational core procedures will call for modifications that will be carried out by starting a project. The organization's techniques for implementing its strategy are determined by the choice of initiatives and work programs. It's critical to distinguish between the project's purpose and project risk management, which focuses on completing the project on schedule, within budget, and to quality. Project risk management is concerned with the risks included in project delivery. There are also project hazards and questions about whether the project is the proper use of funding. Asking if the project's full advantages will really be realized and whether this specific project represents the best strategies for executing strategy can help you identify the project's dangers.

The London Olympics serve as an example of a large project that was completed on schedule, within scope, and with high quality. A far bigger question is whether holding the Olympic Games in London was the right choice and if the legacy of the Olympic structures and other infrastructure will be achieved. Only the overall strategic plan for the City of London and the UK economy can be used to answer this issue, as well as whether or not holding the Olympic Games in London was the best course of action for realizing that goal. It is best to think of project risk management as a continuation of traditional project planning. The three fundamental criteria for every project are that it be completed on schedule, within budget, and according to plan. Risk is often described in terms of uncertainty or departure from needed or anticipated results. The notion of risk as being represented by uncertainty is especially pertinent in connection to project risk management. The diversity of results is very undesirable in project management. As a result,

reducing outcome variability and managing control risks are often the main goals of risk management in projects [3], [4].

Any project will have unknowns relating to things like occurrences, situations, and conditions. In order to effectively manage project risk, it is necessary to recognize the potential sources of uncertainty and take the right action. Control management is the kind of risk management that is most pertinent to project risk management[5], [6].

Along with managing risks and uncertainties, a project manager should also be on the lookout for opportunities that can present themselves when certain project-related events turn out to be more advantageous than anticipated. In order to detect possibilities and reap advantages, project risk management should take into consideration these beneficial changes and make sure the framework for managing risks in projects is sufficiently adaptable. Consider a project to construct a new road, where one of the bridges may be finished much sooner than expected due to favorable ground conditions. So that this gain is not lost in the overall timeframe for delivery of the final finished project, there may be a chance to include the advantage of this early completion into the future project plan. The subsurface conditions and the degree of ground pollution constitute important factors that may significantly affect time and expense for a project as big as erecting Olympic stadiums[7], [8].

Creation of a project risk management system

Control management is a subset of project risk management. Projects might include the delivery of a discrete, focused, or tactical development or process improvement, such as new: construction, products, IT systems, markets, or technology. Organizations place a vital importance on projects and improvements. The majority of initiatives are started either to stay ahead of or to overtake rivals. The project itself may be seen in the perspective of risk management as a risk reduction exercise created to meet certain management goals. The sole reason to invest money in initiatives that improve a firm is to get a competitive or value-for-money advantage. Risk control and (particularly) event management are the two risk management tasks that are most important in the discipline of project risk management. One of the most advanced and fruitful applications of risk management tools and approaches is project risk management. All projects must be completed within the specified budget, timeline, and quality standards. The correlation between specification and performance is known as quality. A new floor at a restaurant, for example, must be built from certain materials, and some projects need that the results meet a set standard. Other projects can need a certain standard of performance, such defining the slip resistance of the floor. Sometimes it will be necessary to have both a specification and a performance.

The nature of projects precludes the availability of historical loss information. Therefore, project risk management must be proactive in order to foresee issues before they materialize. To successfully manage any project, compliance risk, control risk, and opportunity risk must all be taken into account. Failure to get required rights and approvals entails hazards (compliance risks). The project is subject to hazards that might hinder on-time and cost-effective delivery (hazard risks). Project risks include those related to specification, performance, and final product quality (control risks). Finally, there are risks that may speed up project delivery, such earlier than anticipated material availability (opportunity risks).

Project uncertainty

Organizations have a variety of options for potential steps they may take to control uncertainty in projects. A company may choose to react in one of the following ways:Accepting the risk or uncertainty, modifying activities and processes, adopting backup plans and strategies, and avoiding the risk or uncertainty are all options.The company (or project) will typically accept the uncertainty associated with each risk when it has a modest exposure and low uncertainty. The organization will modify operations and processes and implement controls, including (where applicable) insurance, for high exposure/low uncertainty risks. The organization will develop suitable contingency plans for low-risk/high-uncertainty risks and will seek to avoid the uncertainty associated with the risk for high-exposure/high-uncertainty risks. The process of plotting the potential range of project hazards using a risk matrix. The matrix compares the prospective time delay with the potential cost increases brought on by that occurrence. The project manager may use this graphic to determine if the risks fall into the comfortable, cautious, worried, or critical zones. The size of the bubble used to symbolize each risk corresponds to the other variable in the graphic, which represents the probability that each event will occur.

DISCUSSION

Project risk representation using a risk matrix

Any building project may be affected by the state of the ground. Because the earth turned out to be less polluted than anticipated, the Olympic Games' Olympic village development took longer and cost more money. A bow tie is used to symbolize the risk management process in project management. The sources of risk in this use of the bow-tie include conception, planning, execution, and closure. The project's uncertainties are in the center of the bow tie because managing uncertainties is the core of project risk management. This bow-tie illustration serves to show how controls can be implemented to lessen the uncertainties in the bow-tie's center, manage the uncertainties as they develop, and implement additional controls to further reduce the impact of those uncertainties on quality, cost, time, and compliance.

Cycle of a project

One of the most well-established and reputable subfields of risk management is project risk management. Given the dynamic and demanding environment in which many projects are carried out, this is not unexpected.

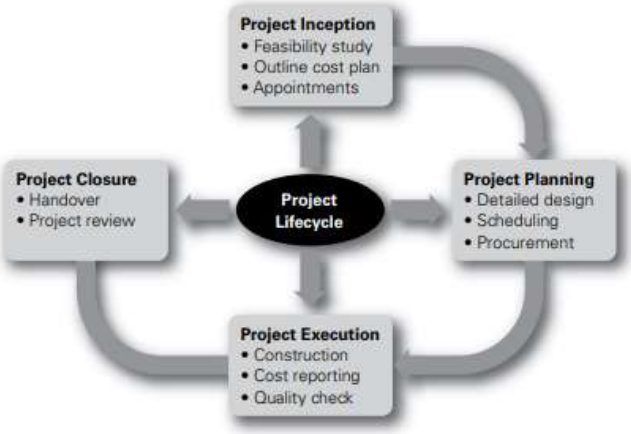

Figure 1: Illustrate the Project lifecycle.

The introduction of new software on a computer system, the construction and completion of a sizable new sports arena, or the staging of the Olympic Games in London are all examples of projects. Figure 1 illustrates the several distinct phases that will always be included in each project, regardless of its size. The crucial phases of a project's lifespan. The client's needs should always take precedence in project risk assessment, which is a crucial added feature. The customer may be an outsider to the company, although they sometimes work together.

Cycle of a project

The four phases of the project lifecycle are listed. Project initiation, planning, implementation, and closing fall under these categories. The figure includes a list of the tasks that fall under each of these four phases. To design and implement risk management inputs into each step and get the necessary advantages, it is crucial to understand the phases in the project lifecycle. The standard risk management approach is comparable to the risk management procedure used in project management. However, due to the dynamic nature of the projects, the framework that underpins the risk management approach in each instance may be extremely different. There will be major risk and uncertainty problems woven throughout every step of the project lifecycle. Each step of the project will have some level of uncertainty due to problems like accurately describing the project, deciding on a timetable and budget, and verifying the performance/specification. Additionally, plans must be made for adjustments and developments within the project's scope as well as plans for any departure from anticipated events. How uncertainty lessens as a project progresses through its different phases. Cost, lead time, and product quality are all variables that might be uncertain. Before any work has started, rather than later in the project, it is simpler and less expensive to make changes to the specification. Since changes and additions become more expensive as the project advances, risk management is essential to ensure that it is completed on schedule, within budget, and with the desired level of quality.

Reducing ambiguity during the project

In what is also known as the project triangle, many companies include a fourth variable. This uncertainty may have to do with the project's scope, the success of the strategies that led to it, or the project's capacity to live up to stakeholder expectations. Regulators will almost probably be among the stakeholders; therefore compliance is often introduced as the fourth output from a project that must be properly completed. Some organizations employ sustainability as an alternative fourth project outcome. The most straightforward strategy is to add sustainability and compliance as a component of the third output of quality, specification, or performance. Take the example of remodeling an apartment complex. Numerous parties, including architects and the main contractor, will be interested. It will also be necessary to include other organizations, such as planning, construction standards, health and safety, environmental protection, and utilities.

Project opportunity

Projects are started because they provide a chance that should be seized or a difficulty that must be solved. Many times, many tasks must be carried out concurrently. This kind of project collection is referred to as a program. Making plans to deal with unforeseen occurrences or conditions is essential to good project planning. This is often referred to as a contingency in a timeline or budget. Contingency may refer to extra time needed to accomplish a work or extra

money that could become necessary to guarantee that the final project output meets the specified specifications. Any apparent issues must be addressed as the project progresses, and chances to lessen their influence must be investigated.

It happens regularly that a project's specifications will alter as work progresses. When requirements change, a well-managed project will take advantage of the potential to increase customer satisfaction and revenue for the company doing the project. The primary chance presented by starting a project is that it will turn out to be the best strategy for achieving the strategic goals. Projects may only be approved in specific organizations if they lower the risks the organization faces. This is especially true for energy organizations, where the goal of projects is to increase production, efficiency, or operational quality. As a result, the danger of decreased productivity, resource wastage, and subpar quality is decreased.

Organizations will want to take advantage of possibilities inside the project as well as the prospects presented by completing the project. These possibilities may save expenses, speed up the process, or improve quality. For instance, if a construction project anticipates a specific amount of ground contamination but finds that this is lower than anticipated, there may be a chance for the project to be completed earlier and at a lower cost. There may be provisions in certain building project contracts for benefit sharing if the situation warrants it. Many existing cities include ancient relics that, if found during the project's excavation phase, may be of significant historical relevance. There is a risk that the construction business may stumble upon such archaeological relics while working to rebuild structures in historic cities throughout the globe. Conscientious building firms will prepare for this possibility and include the effects into the project design. The potential time delays brought on by the discovery of archaeological remains may be planned for in the project schedule, and the extra expenses resulting from these delays may be covered by archaeological insurance, provided it is reasonably priced.

Project risk management and analysis

The Project Risk Analysis and Management (PRAM) tool was created by the Association for Project Management (APM). The main factors supporting the PRAM technique. The fact that there is often no previous data relevant to the project that will allow precise forecasting of the effect of risk-based occurrences is perhaps one of the most crucial arguments raised. The PRAM Guide offers project risk management procedures that are generally similar to those mentioned above. The PRAM technique is an ongoing series of tasks that may be initiated at almost any point in a project's lifespan. The PRAM model may be particularly helpful at the following five times in a project:

Feasibility: The project is most adaptable at this point, allowing for improvements that may lower the risks at a reasonably modest cost.

Sanction: The customer may evaluate the risk exposure related to the project and confirm that all precautions have been taken to mitigate or manage the risks.

1. Through the tendering process, the contractor may guarantee that all risks have been recognized and that risk exposure or contingency limitations have been established.
2. Following the bidding process, the customer may verify that the contractor has identified all potential risks and gauge the chance that the programs will be successful.

3. The chance of finishing the project on budget and within schedule will rise throughout implementation if all risks are properly recognized and controlled.

Additional discussion and guidance on the significance of risk management in projects are provided in the text box below. We'll talk about some key aspects of risk management in projects as well as some strategies for success.

Integrating risk management into projects

Some people mistakenly believe that risk management is merely another project management approach or that it should only be used for big, complicated, or novel projects since it is integrated into project management. These attitudes often lead to the use of risk management without full dedication or attention, which frequently results in the failure of risk management to provide the advantages. Risk management must be tightly incorporated into the whole project management process in order to be completely successful. It must not be considered optional or used irregularly or exclusively on certain projects. Project management must include risk management; it cannot be an add-on.

Built-in risk management consists of two essential elements:

First, choices in project management are made knowing the risks associated. This knowledge encompasses the whole spectrum of project management tasks, such as scope definition, pricing/budgeting, value management, scheduling, resource allocation, cost estimates, quality control, change management, and post-project evaluation. The risk management process has to be connected with the rest of the project management procedures, second. These procedures should have a smooth interface across process boundaries in addition to using risk data. This has ramifications for the project's infrastructure, methodology, and processes.

CONCLUSION

Project risk management is often guided by industry standards, methodologies, and frameworks, such as the Project Management Institute's (PMI) Project Risk Management Body of Knowledge (PMI-RMBOK) or the International Organization for Standardization's ISO 31000 Risk Management guidelines.In conclusion, project risk management is a vital process in project management that ensures risks are identified, assessed, and managed throughout the project lifecycle. By adopting a structured approach to risk management, organizations can increase project success rates, minimize potential disruptions, and optimize resource utilization, ultimately leading to successful project outcomes.

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CHAPTER 19

AN OVERVIEW ON SUPPLY CHAIN MANAGEMENT

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ABSTRACT:

Supply chain management (SCM) is the process of designing, planning, executing, controlling, and monitoring the flow of goods, services, and information from the point of origin to the point of consumption. It involves the coordination and integration of various activities, processes, and stakeholders across the entire supply chain network to optimize efficiency, minimize costs, and enhance customer satisfaction. Effective supply chain management enables organizations to optimize costs, reduce lead times, improve customer service, and gain a competitive advantage. It emphasizes collaboration, transparency, and the efficient flow of information and materials across all stages of the supply chain. Supply chain management is influenced by various external factors, such as globalization, changing customer expectations, market volatility, regulatory requirements, and sustainability considerations. Organizations are increasingly adopting sustainable and responsible supply chain practices, including ethical sourcing, reducing carbon footprint, and ensuring fair labor practices.

KEYWORDS:

Bank Risks, Credit Risk,Economy, Insurance Risk, Risk Management, Market Risk.

INTRDUCTION

The procurement of raw materials is the first step in a supply chain, which involves a number of related processes and resources, and the delivery of goods and services to customers is the last. Producers, suppliers, manufacturers, distributors, wholesalers, vendors, and logistical service providers may all be found in supply chains. They may be both internal and external to a corporation and include buildings, plants, offices, warehouses, and branches.

Large portions of the operations and support functions of many firms are outsourced. This may include anything from using contract cleaners to outsourcing in the areas of transportation, communications, and manufacturing. The products are designed by several top fashion suppliers, who then distribute the final goods via franchised retail locations. All production and distribution tasks are commonly delegated to independent contractors in various regions of the globe. These changes have made supply chain management more crucial. It may be quite difficult to manage the supply chain in today's more competitive and globalized market. Supply chain risks are now more exposed as a result of supply and demand uncertainty, globalization of markets, shortened product lifecycles, and quick technological development. Toyota reportedly evaluated supply chain management to make sure it is ready for such accidents in the future. An executive vice

president from Toyota said[1]:When the next earthquake occurs, we will examine to see what has to be done to permit a recovery within two weeks.

The supply chain is susceptible to a wide range of uncertainties, which has raised the significance of risk management. It is difficult to completely remove risk, but paying enough attention to risk management issues may lessen the chance and severity of any supply interruption. Corporate social responsibility concerns tend to grow when the trend toward acquiring components and completed items continues to expand the usage of manufacturing facilities abroad[2].

Consider a sports team that has chosen to contract out the buying of the gear it sells to its supporters. Fans anticipate that items will be appealing, readily accessible, unique, of suitable quality, and provide good value. The club itself will demand that goods be of a suitable quality, readily available, appealing, profitable, and sourced ethically. It is necessary to evaluate the risks connected to the supply chain and the hazards of handling divergent stakeholder expectations. The club has decided that products must be purchased from a low-cost manufacturer, perhaps headquartered in a nation with lower labour expenses, due to the competing shareholder demands of value for money and profitability. The club may, however, have also elected to employ a third-party procurement agency rather of buying straight from a manufacturer. The items must then be of acceptable quality and purchased from a trustworthy source for the lowest price possible, according to the conditions that will subsequently be set on the procurement agency.

The course of action that the club has chosen to follow has a number of hazards. There could be problems with availability and quality that lead to discontent among fans and lower sales. Corporate social responsibility is another issue that has to be addressed. The choice to engage a third-party importer is probably going to result in fewer issues since the importer should be in a better position to set and enforce corporate social responsibility requirements. The core of many firms' supply chains is that they have transitioned from a scenario of "lowest risk at any cost" to one of "lowest cost at any risk." In reality, it's important to handle both risks and opportunities. In other words, it is just as important to identify and take steps to counteract the possible negative effects of outsourcing as it is to embrace its benefits.

The supply chain's scope

There is growing awareness in the dangers of relying on third parties as outsourcing is used more often. Operations outsourcing is often done because it is believed that costs may be lowered and risks can be shifted. Any choices on supply chain outsourcing should be preceded by a thorough assessment of the risk/reward ratio. The firm should be aware that outsourcing entails not just having to concentrate on its own risks but also having to consider the risks linked to other supply chain linkages. Risk management and supply chain management are connected. Supply chain concerns are increasing in frequency and complexity.

Supply chain management is merely one aspect of the outsourcing of many organizational infrastructure components. Strategic alliances and maybe joint ventures will be necessary for effective supply chain management. The hiring of caterers and cleaners is one example of a straightforward outsourcing choice that is affected by supply chain concerns. The outsourcing of several aspects of building facilities management was very prevalent in the s. In conclusion, the supply chain's reach might include strategic alliances, joint ventures, support services, and the outsourcing of facility management tasks. Additionally, a lot of businesses decide to outsource

their transportation department. Chains of retail outlets often contract with other companies to handle their inventory storage and delivery needs. A franchise agreement may also allow for the outsourcing of the management of the stores itself. The supply chain factors that influenced Nike in the middle of the 20th century are summarized in the box below. The business responded to the concerns expressed about ethical sourcing by taking action. In reaction to unfavorable news, Nike acted swiftly and forcefully to preserve its image[3].

Both the upstream and downstream supply chains are often mentioned. In general, the commodities that are brought to you are considered upstream supplies, while the things that you provide to others are considered downstream supplies. This may be explained by a timber grading business waiting for wood to be supplied from upstream along the side of a river. After classifying the wood, the corporation sends the graded wood downstream to clients. However, this phrase is not always utilized and may cause misunderstandings. Perhaps it would be preferable to think of the supply chain as the items that are supplied or delivered to your customers by you, and the delivery chain as the things that are provided or delivered to you by your suppliers. Whatever the language, it is true that the majority of businesses purchase products and services from manufacturers of individual components or companies that provide outsourced services. Organizations must evaluate the risks connected to each of its suppliers while also taking into account the risks connected to their role as providers of goods and services that are provided to their own customers and clients.

Strategic Alliances

A business will need to carefully pick each strategic partner when setting up agreements to outsource a portion of its activities. For instance, many companies may contract out the creation of an internal magazine. Depending on the value attached to this publication, a company could want to form a strategic alliance with the publisher. When industrial operations are involved, supply chain risk management becomes even more crucial. There are several factors to take into account when a supermarket sets up a supply agreement for manufactured items. A crucial factor will be the supply chain partner's capacity to provide the necessary items on schedule, within budget, and in a sustainable manner[4].

A supermarket may want to form strategic alliances with its suppliers in order to guarantee exclusive supply. In the case of a possible supply outage, these strategic connections will ensure that the supermarket receives priority care. The supermarket will gain from this partnership since it will assure supply continuity and save expenses. A stable market for its products as well as a long-term contract will be advantageous to the provider. The supplier's drawback is that the price could be set, even if there are times when they can get a better deal on the open market. Another drawback is that the provider can be reliant on orders from only one client. Single supplier relationships may raise the risk of company interruption due to an increased emphasis on pricing and the usage of "just-in-time" supply.

The reputation and market share of the business will likely not be sufficiently protected by typical insurance in these situations, despite the fact that firms would want to reduce possible losses by obtaining insurance. Organizations will thus need to consider business continuity plans and creating strategic alliances. These problems help to explain why organizational "resilience" and this new subject are receiving more attention. Strategic relationships created for the benefit of stakeholders may be highly helpful. They sometimes entail two rivals cooperating. The text box below is a description of an excellent example of this kind of relationship. A company's

efforts to safeguard its supply chain may include obtaining priority status from suppliers. However, priority status may not be adequate for particularly important components or support functions. As a result, in order to guarantee priority supply status, many firms look into the potential of forming joint ventures with their suppliers.

Creating joint ventures enables an organization to exert some managerial control over a supplier's business operations and eliminates the risk that the supplier would provide items to a rival under challenging market circumstances. By preventing the rival from accessing the goods made by the joint-venture partner, joint-venture agreements may also be a suitable response to competitive activity. Because the company won't have to come up with all the money needed to adopt the new technology, joint ventures may also be a profitable strategy to react to market changes in technology. These rivalry patterns and technological advancements in the supply chain could be highly important. In reality, it's possible that the resources of already running businesses in the market are insufficient to adapt to these developments. Supply chain continuity may be achieved via joint venture activities, which can also, if done well, result in competitive advantage. All of this is possible while risking less cash[5].

Reducing an organization's reliance on suppliers could be one of its strategic goals. There will be tactical choices available, such as acquiring control of the supplier or establishing a new company with your supplier as a distinct joint-venture organization. The establishment of a joint-venture organization will place the company in a position where more risks are directly under their control. Because it will need less cash and/or resources to be dedicated than would be the case if the supplier were acquired outright, creating such a joint venture may be the best tactical choice. The shared risks of joint businesses are a benefit. Contractual arrangements or the formation of a new business with a predetermined capital distribution are often used to distribute these. The risks associated with the endeavor will also be shared since the money is, and as a result, will be the advantages and profits. Through joint ventures, a business may take advantage of advantages while assuming less risk. For groups who do not have the desire to completely support the project, this will be an appropriate next step.

Operation outsourcing

Outsourcing the fabrication of components to specialized subcontractors has various advantages. Organizations that choose to outsource component manufacturing must be aware of the risks and implement the necessary safeguards. The risks related to the activity are not entirely transferred when component manufacturing is outsourced or transferred. As with any transfer of risk, an appropriate contract must be created and put into effect. This contract should be clear about how risk is distributed throughout the agreement. Contracts that additionally include terms to recognize excellent performance promote better cooperation than those that just have penalty clauses for failure to comply. Examples of the dangers of outsourcing for a vehicle company are given. Supply chain risks may result from the outsourcing of non-core businesses. a list of factors to take into account while creating a contract for the provision of outsourcing help. Organizations must take into account the extent of the outsourcing agreements and the kind of services to be offered. There are several more aspects of the outsourcing agreement that must be addressed. Employee protection laws are established in several nations when an enterprise is outsourced. The employment rights of personnel formerly employed by the organization may be preserved, for instance, if it chooses to outsource the catering or cleaning services. This may be a

big barrier to getting the cost savings that would come from outsourcing some types of facility management and other tasks[6].

Operations outsourcing is often thought of as a way to have a contractor handle non-core tasks. For instance, a company with an office could chose to contract out cleaning, catering, and other aspects of facilities management. The advantages will often be centered on lower costs while also gaining a higher degree of competence from the outsourced contract. The box below examines a few advantages of outsourcing. Although outsourcing is sometimes done to save costs, it may also be done to ensure that the task is completed by a specialized business. For instance, a mortgage lender could contract out property surveys to a business with better resources and experience.

Advantages to outsourcing

The majority of organizations outsource certain tasks, yet doing so is a big choice with fuzzy rewards. By lowering overhead and having an expert do the task, outsourcing may save expenses. Even while it is possible to get this advantage, a business should not solely outsource for this reason. There are two categories of outsourcing advantages. First, there are the immediate advantages of having a specialized business handle the outsourced tasks. Then there are the indirect advantages of concentrating more on internal core operations.

Complex supply chains that are much more fragmented than before are a consequence of the need to save money and get more for your money. Many businesses may contract out important aspects of their operations in order to save money and benefit from the outsourced company's higher degree of specialized knowledge. Additionally, outsourcing allows businesses to concentrate on their own core skills and business processes. Global supply chains have become more complicated as a consequence, making them more susceptible to interruption from outside forces like terrorism, pandemics, and natural catastrophes. In order to make sure that the risks connected with these outsourced services are properly handled, organizations need to conduct a complete risk assessment of their supply chain and outsourcing agreements. Keep in mind that not all risks are transferred when you contract out the provision of products or services. The text box on the next page discusses the range of issues that must be taken into account.

Only when outsourcing agreements provide a practical, affordable, and successful means of doing business should they be used. Decisions on outsourcing that are made with the assumption that all risks would be fully transferred to a third party may turn out to be inaccurate. If the outsourced manufacturing operation produces inferior items or is shown to be engaging in unethical business activities, reputational harm may still result. For instance, a company that chooses to have production done in a region with cheaper labor costs can find that the products don't entirely adhere to safety regulations. There have been instances of toys made in one region of the globe that were prohibited from being marketed in another nation due to the use of lead-based paint[7].

Although it's conceivable that supply costs may go down, there's also a chance that hazards might go up. When outsourcing services and supplies, the business must be certain that the risks involved with the transfer are compatible with its risk attitude, within its risk capacity, and within its risk appetite. Finally, analysis should be done to identify the real risk exposures related to supply chain arrangements that are becoming more complicated. Insurance coverage could be offered for accidents that take place on the supplier's property. However, the terms of the

agreement often stipulate that physical harm, such a fire, flood, or earthquake, must have occurred on the supplier's property. In some situations, the organization's property damage insurance may be eligible for a policy extension. Events like poor component quality, delayed delivery, or supplier insolvency are often not insurable.

Automobile Supply Chain

The complexity of the automotive supply chain is unmatched. An automobile is made up of roughly, pieces, and if even one of them is missing, the whole product cannot be exported. To cope with significant interruptions to their supply chains, automotive manufacturers must reassess their risk mitigation tactics. They have many options available to them, including:Encouraging suppliers to create catastrophe plans so they may prepare to relocate to other manufacturing locations in the event their primary factory is unable to generate goods. Getting rid of sole-source vendors and expanding the capabilities of other businesses is a better option than having five suppliers, which would make it harder to achieve economies of scale. Examining supplier locations and reducing the number of crucial component suppliers that are based in a hazardous region. Examining insurance contracts and deciding whether to get contingent business interruption insurance to defend against losses caused by suppliers' failure to provide[8].

CONCLUSION

In conclusion, supply chain management plays a critical role in the success and competitiveness of organizations. By effectively managing the flow of goods, services, and information, organizations can streamline operations, enhance customer satisfaction, and achieve operational excellence. Continuous improvement, innovation, and collaboration with supply chain partners are key to staying responsive and resilient in an ever-evolving business environment.

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CHAPTER 20

AN OVERVIEW ON THE CONTROL ENVIRONMENT

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ABSTRACT:

The control environment refers to the overall atmosphere and attitude within an organization that influences its internal control system. It sets the tone for how management and employees perceive and prioritize internal controls, ethical behavior, and accountability. The control environment is a crucial component of effective governance and risk management within an organization.An effective control environment provides several benefits to an organization. It helps prevent and detect errors, fraud, and non-compliance with laws and regulations. It also promotes efficient operations, reliable financial reporting, and protection of assets. A strong control environment fosters stakeholder confidence, enhances organizational reputation, and mitigates risks.

KEYWORDS:

Bank Risks, Control Environment, Insurance Risk, Risk Management, Market Risk.

INTRODUCTION

The effective management of an organization's risks depends heavily on its internal control system. Internal control refers to the strategies, protocols, and checks in place to make sure a company or organization achieves its goals. There are several definitions of internal control, some of which are shown in Table. Internal controls may be thought of as the steps taken by management to organize, plan, and supervise the execution of sufficient activities to provide a reasonable level of confidence that goals will be met[1]. For their purposes, internal auditors prefer the term "control environment." 'Internal environment' is what COSO means. The objective is always to allude to the organization's degree of maturity with relation to internal control operations. It is crucial for the company to establish a unified definition for "internal control activities." some of the most well-known definitions of internal control are provided. Additionally, it specifies that a control is any technique, policy, tool, routine, or other activity that reduces risk. The crucial issue raised by the guide is that controls could not always have the desired or anticipated modifying impact. The organizational and hierarchical structure, as well as planning and goal-setting, are all included in internal control. Internal control encompasses not only the examination of controls intended to help the company achieve its goals and carry out its strategy, but also the control of activities to make sure that it does not lose out on economic possibilities. When creating efficient internal controls, the company should consider the systems in place to accomplish the following:

Maintenance of trustworthy systems, prompt creation of trustworthy information, protection of assets, optimum use of resources, and prevention and detection of fraud and mistake are all

important. An essential and well-established component of internal control is the implementation of efficient financial controls, which includes maintaining accurate accounting records. Internal control refers to all of an organization's components that, when combined, assist individuals in achieving the goals of the company. Resources, systems, procedures, culture, structure, and tasks are some of the factors. COSO a procedure carried out by a company's management, board of directors, and other employees and intended to give reasonable assurance about the accomplishment of the following goals: effectiveness and efficiency of operations; reliability of financial reporting; and compliance with relevant laws and regulations. A grouping or purposeful segregation of a number of processes, functions, activities, subsystems, and individuals that enables the successful attainment of objectives and goals. Ensure that the financial information utilized for internal reporting and public reporting is accurate and that the organization is not unduly exposed to financial risks.

Internal control's goal

Internal control procedures are primarily designed to assist the company in achieving its goals. Internal controls typically serve the following functions: to safeguard and protect the organization's assets; to ensure the keeping of accurate records; to promote operational effectiveness and efficiency; to adhere to policies and procedures, including control procedures; to improve the reliability of internal and external reporting; to ensure compliance with laws and regulations; and to protect the interests of shareholders and other stakeholders.

The internal control system covers the structure, roles, and activities involved in internal control. This internal control system's goal is to provide directors the confidence they need to move the business ahead in both good and difficult times. Securing resources and ensuring the accuracy of records and accountability systems are additional goals of the internal control system and internal control activities. The control environment's goal is to guarantee uniform reactions to hazards that occur. The efficient and successful implementation of pre-planned reactions to a crisis scenario will also be guaranteed by a well-developed control environment. The assessment of the control environment may be done using a variety of methods, such as LILAC, Coco, and risk maturity models like FOIL and the Ns[2].

When it comes to the implementation of the chosen structure that will be used to enhance the control environment and raise risk awareness within the company, the usage of a maturity model may be very helpful in assessing the control environment's current state. In conclusion, the Coco model or LILAC will be chosen as the method for influencing and evaluating changes in the control environment. The amount of risk maturity that has been attained, as determined by FOIL and the Ns, will represent the degree of success in applying the chosen framework. The company will be able to provide more complex results from its risk management activities with a higher degree of maturity, as seen in. An organization's risk management state may be benchmarked using risk maturity models, and goals can be established to raise risk maturity.

Regulating environment

The Canadian Institute of Chartered Accountants (CICA) developed the Criteria of Control framework, sometimes known as Coco, as a systematic method of evaluating the effectiveness of the control environment inside a business. The COSO ERM framework refers to the control environment as the "internal environment," and it serves as a gauge of the risk culture inside the company. The Coco framework holds that risk management and internal control activities will be

effectively and correctly carried out provided the control environment is adequate. The framework is made up of four parts, which are shown as a continuous cycle. The elements are founded on an awareness of the organization's direction, its identity and values, its level of competency, and its evolutionary potential[3].

As seen in Figure 1, a number of firms utilize the Coco framework to measure compliance with the internal control element of the COSO ERM framework. Therefore, the foundation of this strategy will be a framework that combines Coco with the other seven elements of the COSO ERM framework. Provides further details on the particular needs of each of the four Coco framework components, as shown below: Monitoring and learning; Commitment; Capability; Commitment; Purpose

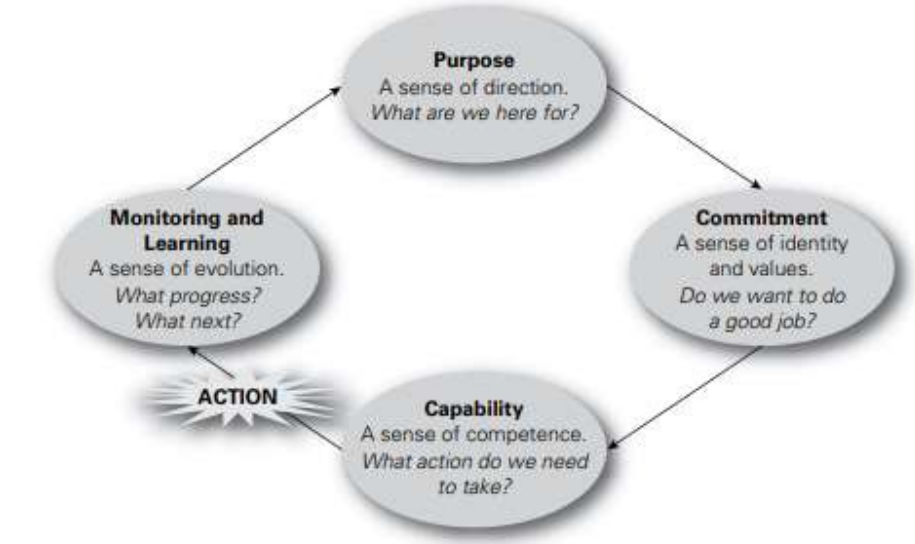

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Figure 1: Illustrate the Criteria of Control (Coco) framework.

The framework provides the following justification for Coco:

When doing a work, a person is supported by capacity, led by awareness of the activity's purpose. For the work to be successfully completed, the individual must feel committed. The individual keeps an eye on both their own performance and the surrounding environment to improve their performance and make any necessary adjustments. The four components mentioned above are the fundamental elements of control in every human organization. The Coco method and the previously described LILAC measure of risk awareness or risk culture have certain similarities. The LILAC strategy contends that when the risk culture exhibits leadership, engagement, learning, accountability, and communication, risk management actions will become ingrained. Each business should choose how it wants to assess its control environment and risk-aware culture. Without a doubt, the effectiveness of risk management implementation depends on the risk culture, regardless of how it is measured. Coco is an internal control framework, however as it is an established framework, it is discussed in this chapter. Since risk management activities and internal control have a close relationship, the Coco framework offers a practical way to assess an organization's risk culture. Effectiveness and efficiency of operations, reliability of internal and external reporting, and compliance with internal rules are the three main goals of controls, according to Coco[4].

DISCUSSION

The control environment's characteristics

Between COSO and Coco, there are a number of important variances as well as some crucial parallels. In comparison to COSO, Coco takes a more comprehensive approach to the control environment. The wider perspective used by Coco, to name two examples, acknowledges the need of controls in the formulation of goals, strategic planning, and appropriate actions, as well as the significance of an organization's control environment in decision-making.A corporation may find that the organization's purpose, dedication, and capacity received high marks when evaluating the control environment using the Coco structure. The monitoring and learning component's score, however, could not be enough. The organization will be able to see that it has to focus more on the areas with tough goals and the underlying assumptions thanks to this information. Better control audits may then be implemented, along with a formal senior management evaluation of risk management and internal control operations. Coco is more explicit about the following issues than COSO is, which one of the main differences in their approaches is: Identification of a need to exploit opportunities; Mitigation of business resilience weaknesses. The significance of individual trust to the quality of the control environment; the need to periodically challenge assumptions.

There are two variants of COSO, and this book goes into great depth on the COSO ERM framework. The control environment is the initial part of the COSO Internal Control framework, which was modified in but was first introduced in. The following characteristics of the control environment are deemed crucial by COSO Internal Control: the organization is dedicated to integrity and ethical values; the board oversees the development and effectiveness of internal control; and management establishes the structures, reporting lines, authorities, and responsibilities.Organization keeps people accountable for internal control duties and works to recruit, develop, and retain competent people.

Coco internal control framework

The formulation and communication of goals, important internal and external risks faced by the organization, and the policies intended to assist attainment of the company's objectives are all addressed in the first part of the Coco framework. Plans to aid in the accomplishment of goals and the inclusion of quantifiable performance targets and indicators are further crucial elements of Coco’s purpose component. Coco makes it apparent that the dangers and opportunities the organization faces should be thoroughly examined while determining and analyzing its mission. Along with highlighting the significance of risk assessment and organizational resilience, it is also important to recognize the sources and causes of risk. Integrity is one of the shared ethical standards that are addressed by Coco’s commitment component. It also addresses internal communication inside the company as well as rules and procedures related to human resources. Along with the need to create a climate of mutual trust, authority, duty, and accountability are also mentioned.

People should have the essential knowledge and skills to support the organization's goals and values, according to the Coco component on capabilities. Decisions and actions made by various divisions of the company should be recognized and conveyed, along with enough relevant information. Coordination and design of activity are essential components of an organization. The Coco framework's monitoring and learning component is concerned with the internal and

external environments and the need of monitoring them in order to gather data. The assumptions underlying the organization's objectives should sometimes be questioned when performance is tracked against goals and indicators. When goals change, the information requirements and associated information systems should be evaluated, and a strategy should be designed and followed to guarantee that the proper change activities take place in these situations. Finally, management should routinely evaluate the efficacy of control inside the firm and share findings with the proper parties[5].

Assessing the environment under control

Many firms have developed their own methods for informing workers of the value of controls and what it means to them to implement such measures. Senior management's dedication to embracing the internal control paradigm is what unites these firms. Executives get the final findings of all audit work completed during the year at self-assessment sessions. The group then considers the dangers that can prevent them from being achieved as well as the company's goals for the next year. For each criterion, the participants give themselves a two-point rating. After that, internal audit compares the data it obtained directly from a business process to the data the team learned about that process from earlier workshops. Internal audit creates an audit opinion on the effectiveness of controls and an audit plan for the next year using the workshop findings. Internal auditing offers additional benefits. A results report for the board of directors to review at its strategic planning meeting. The five greatest risks and five weakest controls for the firm are discussed in the study.

Exemplary safety culture

It is crucial to ensure that the company has a risk-aware culture. When all employees and management see and value the significance of effective risk management, a culture of risk awareness will emerge. Additionally, management and employees must be aware of the part they will play in the effective management of risks and must be eager to perform that part. A risk-aware culture may be exhibited in a variety of ways. Obviously, getting high marks in a Coco study is one approach to show that a culture exists. Although less extensive than the Coco framework, COSO ERM also features an internal environment component. However, the COSO ERM framework may be used to assess the internal environment and the organization's degree of risk awareness. Many businesses see the combination of COSO and Coco as the optimal method to combine the more thorough approach of COSO with the precise approach to assessing culture within Coco. Internal, external, and risk management contexts are all interrelated. When these three environments are analyzed together, information about the organization's risk-aware culture will become available[6].

A dedication to an organization's health and safety management is the result of individual and group beliefs, attitudes, and behavioral patterns that make up a positive safety culture. Communication built on mutual trust, a common understanding of the significance of safety, and faith in the effectiveness of preventive measures are characteristics of organizations with a strong safety culture. In a thorough assessment on the subject, the Health and Safety Executive listed leadership, engagement, learning, responsibility, and communication as the essential elements of a safety culture. Thus, the abbreviation LILAC is created, which is further explained. This illustrates an alternate strategy for the Coco framework's purpose, commitment, capacity, monitoring, and learning components[7], [8].

CONCLUSION

Various frameworks and standards, such as the Committee of Sponsoring Organizations of the Treadway Commission (COSO) Internal Control Framework, provide guidance on establishing and evaluating the control environment.In conclusion, the control environment sets the foundation for effective internal controls and risk management within an organization. By fostering a culture of integrity, ethical behavior, and accountability, organizations can create an environment where controls are valued, respected, and embedded in day-to-day operations. A strong control environment contributes to the achievement of organizational objectives, protection of stakeholder interests, and sustainable business success.

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CHAPTER 21

AN OVERVIEW ON RISK ASSURANCE TECHNIQUES

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ABSTRACT:

Risk assurance techniques are methodologies and approaches used to assess, evaluate, and provide assurance on the effectiveness of an organization's risk management processes and controls. These techniques aim to identify and address gaps, weaknesses, and potential risks that may impact the achievement of organizational objectives. They provide stakeholders with confidence that risks are being appropriately managed and controlled.It is important to tailor risk assurance techniques to the specific needs and context of the organization. The selection of appropriate techniques depends on factors such as the organization's size, industry, risk profile, and regulatory requirements.

KEYWORDS:

Bank Risks, Control Environment, Insurance Risk, Risk Management, Market Risk.

INTRODUCTION

A growing number of companies have determined that having an audit committee is suitable. Almost always, top executive directors attend audit committee meetings together with the audit committee's non-executive members. The non-executive director who chairs it is sometimes referred to as the lead non-executive director, albeit this person is typically not the organization's non-executive chairman. The audit committee is often not regarded as a subcommittee of the board and instead has a position and seniority that allow it to assess all organizational operations, including those of the board[1].

Although the audit committee may be thought of as the organization's watchdog over compliance, its purview is often far more than that. An organization's board will be in charge of overseeing governance throughout the board, including coordinating the functions of specialized risk management. The board is in charge of the first and second lines of defense in this fashion. In other words, the governance and risk aspects of governance, risk, and compliance are the board's responsibility. The audit committee is in a position to assess the organization's governance standards, make sure risk management is given the proper attention, and get confirmation of the compliance levels attained by the company. The audit committee's responsibilities may go much farther than this, and they may also involve assessing the ways in which the board of directors is governed. For senior appointments, such as those to the board, many large organizations set up distinct committees. The nominations committee will often be used to refer to this group. Similar to this, many big firms will have a committee in charge of creating compensation and benefit plans that will be applicable to the whole company.

The position and duties of the audit committee are unaffected by the establishment of a separate nominations or compensation committee. A shared executive and non-executive participation is probable on the nominations and compensation committees, as well as on a few other committees that will be subcommittees of the board. The audit committee will assess the performance of the subcommittees in addition to the effectiveness of the board. The audit committee will continue to serve as the primary arbiter of governance, risk, and compliance across the board in this new capacity. The audit committee will look for assurance on every facet of the organization's strategy, tactics, operations, and compliance[2].

In a big business, an audit committee is often informed on the results and effects of risk management initiatives. Audit committees are responsible for a variety of tasks, one of which is to ensure that the business has enough risk assurance. A list of the audit committee's usual duties. The non-executive nature of audit committees should prevent them from having executive responsibilities for risk management. In a similar vein, they shouldn't be in charge of identifying important risks or choosing and putting into place crucial measures. The audit committee's job is to look for risk assurance and make sure the process for identifying substantial risks is adequate. In addition to ensuring that crucial controls have been appropriately implemented, the audit committee should confirm that the important risks have been accurately recognized. Internal control in the company is a concern of the audit committee. The whole system of financial and other controls created to provide reasonable assurance of effective and efficient internal control and compliance with laws and regulations is referred to as internal control in advice to the UK Corporate Governance Code.

It is important to think about how the audit committee fits within the UK Corporate Governance Code's criteria. The code only applies to businesses that are listed on the London Stock Exchange, but it seems that its guiding principles are becoming more widely accepted. One of the criteria is that businesses without an internal audit department regularly assess the necessity for one. Even if an organization is exempt from these obligations, the audit committee should nonetheless take the necessary steps to ensure that the organization can adequately address these inquiries. The recognition of internal control's limits is a crucial aspect of governance needs[3].

Some common risk assurance techniques include:

1. **Internal Audit:** Internal audit is an independent and objective assurance function within an organization. It examines and evaluates the effectiveness of risk management, control, and governance processes. Internal auditors provide recommendations for improving controls, mitigating risks, and enhancing organizational performance.
2. **Compliance Reviews:** Compliance reviews assess an organization's adherence to laws, regulations, and internal policies. These reviews ensure that the organization is compliant with legal and regulatory requirements and that appropriate controls are in place to mitigate compliance risks.
3. **Control Self-Assessment (CSA):** CSA involves engaging key stakeholders, such as process owners and employees, to assess the effectiveness of controls within their areas of responsibility. It is a collaborative approach that helps identify control gaps, weaknesses, and potential risks.
4. **Risk and Control Workshops:** Risk and control workshops bring together stakeholders from various departments and levels of the organization to assess risks, identify control objectives, and evaluate the effectiveness of existing controls. These workshops facilitate

knowledge sharing, collaboration, and the development of action plans to address identified risks.

5. **Process Mapping and Flowcharting:** Process mapping and flowcharting techniques visually represent the flow of activities, inputs, outputs, and controls within a process. These techniques help identify control points, bottlenecks, and opportunities for improvement.
6. **Data Analytics and Continuous Monitoring:** Data analytics and continuous monitoring techniques leverage technology and data analysis to identify anomalies, patterns, and trends that may indicate potential risks or control weaknesses. These techniques provide real-time insights into the effectiveness of controls and enable proactive risk management.
7. **Independent Reviews and External Assurance:** Independent reviews and external assurance engagements are conducted by third-party professionals, such as external auditors or consultants. These reviews provide an objective assessment of risk management processes, controls, and compliance with standards or regulations.

DISCUSSION

Risk management's function

The duties and responsibilities for risk management and internal control should be outlined in the risk management policy. Risk management is used to fulfill legal responsibilities, provide assurance, aid in decision-making, and contribute to the efficacy and efficiency of key procedures. When dividing up the responsibility for risk management, the following should be taken into account for each of the key hazards that the business is exposed to:

1. Deciding on a plan.
2. Creating controls.
3. Checking for conformity.

For instance, a department at the corporate headquarters may choose the ideal degree of security for a company. The manufacturing division may be in charge of designing the relevant controls. This is acceptable since the production department should have responsibility for security risk, which may be a crucial component of production. In some businesses, it could be acceptable for the security arrangements to be created by the company's head of security or a qualified security consultant. The internal audit department will presumably be in charge of monitoring compliance with the security arrangements. It may be crucial to divide up duties for managing fraud risk across various individuals or departments, even in small organizations.

A non-executive board member might conduct the internal control audit for a small charity, for instance, and provide an unbiased assessment of the efficacy and efficiency of the internal financial controls in place at the organization. The risk manager's role in dividing up these duties ought to be one of convenience. The risk manager may lead a workshop to determine the organization's fraud risks and assign accountability for mitigating them. The risk manager, however, is not permitted to be in charge of putting controls in place or conducting compliance audits. Internal audit and risk management should limit their involvement to assessing the efficacy of the controls and assisting in determining if new, different, or extra controls should be implemented. Risk managers need to understand the benefits of internal audit, which are described in the text box below.

Risk Mitigation

An essential step in the process of managing risks overall is risk assurance. The audit committee will look for confirmation that all key risks are being properly managed and that all crucial controls have been successfully implemented. Audit committees often talk about "how seriously a specific department takes risk management and internal control." Undoubtedly, the risk manager and internal auditor will have insight to provide. The audit committee will, however, need an unbiased assessment of that department's performance. This unbiased assessment of the risk culture inside the department will serve as the audit committee's primary assurance framework. The audit committee has access to other assurance sources. The audit committee may rely on any or all of these sources of assurance depending on the structure of the business. The external auditors may also provide risk assurance, albeit this can just include verifying the accounting procedures and financial results[4].

It will also be necessary to provide assurance of the risk management activities themselves. Typically, the risk management process is represented by the review and monitoring stage as an information and experience loop that feeds back to the process's inception. The following steps should be kept in mind while thinking about the necessary review and monitoring activities. The business may determine that the reliability of departmental reports and internal audit reports will serve as the foundation for risk assurance. The business may also implement a control risk self-assessment (CRSA) method based on the elements outlined in the Financial Reporting Council's risk advice. The executive committee will be informed of any weaknesses found in the CRSA returns, and corrective action will be needed. The firm will be in a stronger position to get the extra money from the bank as a result of all of these steps and will provide the board more certainty. Depending on whether the review is focused on strategy, tactics, operations, or compliance, the company will need to assess several challenges while thinking about risk assurance. Evaluation of the department's effectiveness in managing hazards risks may provide assurance that hazards risks are being managed effectively.

The board or audit committee could demand yearly reports on certain hazard concerns depending on the organization's priority hazards. Boards often receive yearly reports on safety performance due to the significance of health and safety at work. The audit committee will also want a yearly report on any instances of fraud that have been discovered inside the company. This will be particularly true for businesses that deal with huge sums of money. The board or audit committee often reviews risks that are concerned with uncertainty, particularly with the effective execution of projects. A post-implementation review of a project is common in big enterprises. For instance, the audit committee will demand a review of the project's completion if the board of a retail firm has approved the opening of a new shop. The project's timely, cost-effective, and specification-adherent delivery will be assessed as part of this post-implementation evaluation. The audit committee often requests a second post-implementation examination of the first few months of business for the new shop[5].

The development of risk assurance in relation to strategy and opportunity is more challenging. However, there are more and more instances of corporations doing opportunity assessments. In the businesses that provide professional consulting, this has grown more frequent. Many professional consulting businesses have an opportunity evaluation committee that determines if the company wants to offer its services to the client prospect when a new business opportunity

emerges. This kind of opportunity assessment may first be accomplished by including a risk assessment in a brand-new company proposal.

Results of Risk Management

Internal audit and risk management should always focus on the outcomes of the risk management process and the desired effect while working jointly. The goal of internal audit operations is to increase the likelihood that the company will achieve its goals, which is also how risk management contributes. In general, the goal of risk management and internal audit outputs is to improve the organization's performance in the four crucial areas of effective and efficient strategy, tactics, operations, and compliance (STOC). These results will be attained by choosing efficient procedures that are suitable for the company and ensuring that disruptions from hazard hazards to everyday operations are kept to a minimum. Making educated decisions and successfully designing and completing projects are necessary for the selection of effective procedures. To get these results, risk management and internal audit should collaborate[6].

The most significant choices made by an organization are those that affect strategy. Internal audit and risk management both play a part in assisting the business in making strategic choices that lead to the creation of effective and efficient strategy. For instance, risk management should make sure that risk assessment workshops include strategic choices, and internal audit should analyze the effectiveness of the processes used to make strategic decisions. The key deliverables from risk management and internal audit may be summed up as following legal requirements, offering assurance, assisting in decision-making, and confirming the presence of fundamental procedures that are effective and efficient. To get these results, risk management and internal audit should collaborate. Regard should always be given to internal audit's wish to continue operating independently of executive management. Another reason internal audit should avoid becoming too engaged in the executive position and duties associated with risk management is the requirement to maintain this independence.

Control Risk Self-Evaluation

Internal audit departments often allow a process of self-certification of controls in addition to doing physical audits. A system known as "self-certification of controls" requires local senior management to provide a regular (typically yearly) report certifying the department's degree of risk assurance. Control risk self-assessment, often known as CRSA, is a sort of self-certification that is commonly completed electronically and documented on the organization's intranet. The criteria listed in COSO, Coco, or any other applicable internal control framework, such as the risk guidelines from the UK Financial Reporting Council (FRC), may serve as the foundation for the control risk self-assessment form[7].

The CRSA report may include instances when severe control gaps have been found, in addition to confirming appropriate levels of internal control and risk assurance. The internal auditors will be able to determine which areas can benefit from extra controls thanks to this information. The CRSA return may also request details on any material failures that have taken place, in addition to outlining any substantial flaws that have been found. It is recommended to provide a benchmark test for detecting significant failures, which will be far less stringent than the test for materiality used by external auditors.

Advantages of risk management

All firms and their stakeholders have a lot of questions about corporate governance. As a result, risk assurance shouldn't be a formality or checklist activity. Organizations must show that management places a high premium on corporate governance. The need of transparent risk reporting is understood by many companies. This necessitates constant, efficient communication operations. The firm must make sure there are encouraging messages to convey to stakeholders after establishing effective communication initiatives. As stated in the text box above, carrying out risk assurance operations will provide assurance to all stakeholders, including workers, suppliers, customers, government agencies, external audit, and internal audit. Obtaining risk assurance benefits the organization's strategic, tactical, operational, and compliance (STOC) core processes, activities, and decisions and is a crucial component of corporate governance frameworks for all firms. Benefits of sufficient risk assurance include[8]:

1. Increases trust among stakeholders.
2. Gives sponsors and financiers confidence.
3. Demonstrate to regulators excellent practice.
4. Avoids monetary and other shocks.
5. Decreases the possibility of reputational harm.
6. Promotes a risk-taking culture inside the company.
7. Enables more secure authority delegation.

CONCLUSION

Risk assurance techniques provide valuable insights to management, board members, and stakeholders, helping them make informed decisions, strengthen controls, and enhance risk management practices. They play a crucial role in maintaining confidence in the organization's ability to effectively manage risks and achieve its objectives.In conclusion, risk assurance techniques provide assurance and confidence to stakeholders that an organization's risk management processes and controls are robust and effective. By employing these techniques, organizations can proactively identify and address risks, strengthen controls, and improve overall performance and governance.

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CHAPTER 22

INTERNAL AUDIT ACTIVITIES: SCOPE OF INTERNAL AUDIT

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ABSTRACT:

The scope of internal audit activities encompasses the range of responsibilities and areas that internal auditors are tasked with examining and evaluating within an organization. Internal audit plays a critical role in providing independent and objective assurance to management and stakeholders regarding the effectiveness of internal controls, risk management processes, and governance practices.The scope of internal audit activities may vary depending on the organization's size, industry, regulatory requirements, and specific objectives. Internal auditors work closely with management to identify areas of focus and develop an annual audit plan that aligns with the organization's goals and risk profile. By providing independent and objective assessments, internal audit activities contribute to improving internal controls, enhancing risk management practices, and strengthening overall governance. The insights and recommendations provided by internal auditors help management and stakeholders make informed decisions, enhance operational efficiency, and mitigate risks.

KEYWORDS:

Bank Risks, Control Environment, Insurance Risk, Risk Management, Market Risk.

INTRODUCTION

The two departments of internal audit and risk management must collaborate closely. Depending on the organization's structure, kind, and size, different duties will be assigned to each of these roles. This is a crucial working relationship since the following four key risk-based outputs, abbreviated MADE, are necessary for effective risk management. Assurance for the management team and other stakeholders; Mandatory as needed by laws, customers/clients, and standards. Decision-making based on the best information available; Effective and efficient core processes across the firm.It is obvious that all parties involved including risk management and internal audit must collaborate if these outputs are to be properly provided. The variety of tasks connected to risk management. This chapter goes into further depth on the crucial role internal audit plays and the variety of tasks the internal audit department does. The techniques, processes, and checks put in place to make sure a company organization achieves its goals are the subject of internal control.

There is a strong connection between risk management activities and internal control since internal control is focused on the achievement of goals. The internal audit department of a major business is likely to assess internal control operations. The internal audit function may sometimes be contracted out to a third-party accounting company.There are areas of shared interest between internal audit and risk management, despite differences in methodology and

operations. It is commonly agreed that risk management is an executive responsibility that belongs to the organization's leadership team. This leads to the conclusion that an executive board-level director should serve as the risk management committee's chair. The non-executive audit committee of a major business will be concerned with risk assurance, which is the main focus of internal audit. It is incorrect for internal auditors to perform an executive role by aiding management with the selection, design, and implementation of those risk control measures since internal audit is responsible for assessing the controls and procedures in place to manage risk[1].

What internal auditing

The variety of tasks that must be completed to make an ERM endeavor effective. The actions that are essential to the internal audit department's job are listed in the diagram. These actions include assessing the reporting of those risks, analyzing the management of major risks, and assessing risk management procedures. The picture also indicates tasks for which internal audit should not be used. Setting the risk appetite, implementing risk management procedures, and determining risk responses are some of these actions. There are activities between these two groups of activities where it is acceptable for internal audit to become engaged, provided that the necessary protections are in place. The facilitation of risk identification, coordination of ERM operations, development of the ERM framework, and promotion of the implementation of ERM are some of these tasks.

The division of tasks not only works with the three lines of defense strategy, but it really strengthens it and gives a lot of specifics on how responsibilities are distributed. Utilizing the data, a company may assign management first line of defense duties, specialized risk management tasks second line of defense duties, and internal audit third line of defense duties. The audit department's key duty is to establish audit priorities. Internal auditors will need to determine their priorities for the testing of controls in connection to risk management activities. Internal control and risk management have a significant interplay. Professionals in risk management are excellent at evaluating hazards and determining the kind of control that should be implemented. The risk register will often include any existing controls and provide suggestions for adding new ones.

At this time, the internal auditor's main duties begin. The auditor must confirm that the vitally significant controls are implemented in practice and are accurate and efficient after identifying them. Controls are tested to make sure the targeted level of risk is really attained in reality. In other words, the control genuinely shifts the risk level in the manner that was anticipated and often expected, from the inherent level to the desired present level. The control will need to be changed if it is not efficient and effective. Another area where internal audit and risk management have complementary skills is this one. Internal audit and risk management may help promote these talks on controls, but line management members who are in charge of the controls must ultimately decide on the measures and how effective they should be.

Carrying out an internal audit

As shown in Table, conducting an internal audit exercise entails a number of phases. Planning the internal audit exercise, carrying out the fieldwork where controls are tested, preparing the audit report, and ultimately making sure there is proper follow-up are the main processes. The auditor should gather data pertinent to the upcoming audit as part of the auditing process. The auditor will be able to decide on the priorities and review goals after analyzing the data that has

been gathered. For instance, during a supply chain audit, the auditor will need to gather data on the contracts that are in place with suppliers.The audit exercise's fieldwork is, in many respects, its most crucial component. If the audit involves the supply chain, the auditor may need to go to many places, including supplier sites. Understanding the hazards and the controls in place to mitigate those risks is the goal of the fieldwork. To confirm the efficacy and efficiency of the measures already in place, testing of the controls will be done next. The managers and employees will be consulted throughout the testing of these controls, and the actions will be observed as they are performed[2].

The auditor will create the audit report using the fieldwork that has been done. The audit report will include observations about the effectiveness and efficiency of the controls already in place as well as suggestions for future development, if deemed essential. So that assurance may be given to the audit committee, to the degree that this is appropriate, the internal auditor will need to establish an independent assessment on the level of control that has been achieved. Additionally, if the audit report contains suggestions, local/departmental management should be consulted before implementing them. The suggestions should be accepted since doing so increases the likelihood that they will be carried out. However, escalation of the problem will be necessary if the internal auditor determines that controls are insufficient but local management disagrees.

Internal auditing and risk management

The collaboration between risk management and internal audit may be challenging in many big firms. An agenda focused on the efficient application of controls will guide internal audit's activity. Typically, the head of internal audit will report directly to the board's most senior non-executive member, maybe the chairman. The risk manager often reports to a less senior member of the board, usually an executive member of the board. Most likely, this is the financial director or business secretary. The risk manager may feel frustrated by the disparity in reporting lines, but the complimentary nature of risk management and internal audit should be seen as a chance to assure better execution of the risk management protocols and processes.

Both sides should search for opportunities to work together without sacrificing the broader goals of their respective contributions. For instance, risk assessment seminars should be attended by both risk management and internal audit. Risk managers may lead the risk assessment workshop, but the manager of each operational department will always be in charge of risk management. Additionally, line management should not see the presence of an internal auditor at the risk assessment session as a threat. Control measures must be defined in detail so that internal audit specialists may audit them. The effect that the control measures really have in reality is the main focus of internal audit efforts. Internal auditors will ask for and receive information and data during an audit. The internal auditor's strategy is to verify such data in order to ascertain the situation's facts. In conclusion, internal auditors adopt the rather controversial stance that testing plus information equals facts.

The three levels of top management (directors), middle management (managers), and staff or employees make up the main function of management. The duties and responsibilities assigned to the three levels of management are consistent with this categorization. At the corporate or group level, specialized risk management functions may act as a general facilitator of the creation, application, monitoring, and improvement of the risk management framework. Business continuity and health and safety are additional risk management duties. In a more focused area of

risk, these specialized risk management functions provide the same purpose as the group risk management function. Typical roles and duties assigned to risk management activities[3].

Administration, risk, and compliance

The governance, risk, and compliance (GRC) idea is consistent with the three lines of defense strategy. The GRC method is founded on the idea that the board is ultimately in charge of overseeing governance matters for the whole firm. In this capacity, the board will consider all three lines of defense to guarantee that risk is adequately taken into account. Internal audit will be a key source of comfort for the non-executive directors in particular about the wide variety of compliance concerns at the company. All companies must maintain accurate financial records, which are often created by an outside accounting company that also serves as an external auditor. It will be necessary for external auditors to verify and, in certain situations, certify to the correctness of the financial records. These outside auditors might be thought of as the fourth line of defense. Regulators that have jurisdiction over certain rules and regulations will also be present for highly regulated firms. The regulator might be seen as the fifth line of defense in the given situation.

The language employed will differ from organization to organization, just as it does in so many other aspects of risk management and internal control. The box on page explains how the three lines of defense strategy used in tax differs from the strategy described above. To be sure of good governance, compliance, and, in this instance, efficient and effective management of tax risks, the company in this example is realizing that duties need to be separated into three lines of responsibility. Establishing the risk management/internal control priorities for the next year is one area where risk management and internal control may collaborate. When a company creates a risk-based audit program, it wants to make sure that internal audit efforts are focused on the most important risks the company faces. The board can be seeking for a collaborative contribution from risk management and internal audit to help it make better strategic choices, more successful project deliveries, and more effective core operations.

By ensuring that internal audit participates in risk assessment workshops and that risk management and internal audit prepare a combined yearly work plan, the adoption of a risk-based audit program will be supported. The overarching goal is to make sure that the risk register accurately describes the control measures that were addressed at risk assessment workshops and that managers are more aware of and actively carry out their control duties.

There are three defenses for tax.

The idea of three lines of defense seems to be subtly engulfing the whole subject of risk management. It currently seems to be pervasive in the financial services industry and is expanding into a wide variety of new fields, often due to public-sector procurement regulations. However, even if it may be used elsewhere in an organization, the management of risk in tax hasn't seen much usage so far. In order to effectively manage tax risk, roles and responsibilities for data administration, transaction processing, information collection, verification, and escalation must be clearly defined and understood. The three lines theory as it relates to taxes may roughly look like this:

First line: this entails assigning the appropriate individuals strategic responsibility for the fundamental business operations that have an impact on taxes. The thorough and correct

recording of transactions, such as the procedures for recording to pay, reporting to report, and fixed assets, as well as collecting and processing the relevant tax dat.

Second line: this is the regular monitoring process. It requires frameworks and guidelines, developed by the tax and finance functions together, which are designed to facilitate effective monitoring of tax risks, pick up problems early and identify weaknesses in the process. People are human and they do make mistakes.

Third line: Through internal and external audits, this independent assurance has been provided that the tax function is functioning effectively. Internal auditors must become knowledgeable about tax risk issues, and tax departments must embrace the extra confidence that a good audit may provide. A mistake is better caught by your internal auditor than having to defend it to a tax body, after all[4].

A tight working connection between risk management and internal audit has benefits and drawbacks. The two disciplines complement one another in many ways, and there are advantages to sharing a same goal and coordinating preparation for risk management. Additionally, there is a chance to exchange best practices for risk management tools and methods. However, a typical technique has drawbacks as well. It is preferable that line managers understand that choosing the appropriate degree of control for a given risk, putting in place improved controls, and assessing compliance are all independent concerns. Internal audit and risk management may have various reporting connections within a business. Finally, increased engagement in risk management decision-making might jeopardize internal audit's independence, which is something they take great pride in.

Management obligations

Alternative responsibility distribution would place internal audit in charge of the tasks classified as key internal audit jobs. Line management at the appropriate level should be in charge of the roles identified as activities that internal audit should not carry out, while risk management should facilitate and support the activities in the center of the fan identified as legitimate roles for internal audit (with safeguards). This alternate system of responsibility distribution. Each business will have a different approach to how risk management and internal audit interact. The structure that is chosen for an organization will reflect in the roles and duties that are established. The guidelines created by the Institute of Internal Auditors are to be considered when distributing duties and responsibilities. .It is crucial to define the roles and duties of line management, internal audit, and risk management clearly so that risk ownership is understood. In conclusion, risk management may help with the actions involved in risk assessment and the design of the controls. By examining the controls to make sure they are efficient and effective and that they have been effectively applied, internal audit may provide assistance. The executive management of the business continues to have the major duty for risk management, nevertheless. It is crucial that the operations of internal audit and risk management do not in any way lessen or undermine the organization's management's ownership of risk. This method is also in line with the majority of risk management standards' recommendation that risks not be handled outside of the settings in which they originate[5].

Five assurance lines

The three lines of defense model's functioning has generated a lot of controversy. For instance, a company using this strategy will need to think about where the head office tasks fit into the three lines because they often carry out first- and/or second-line activities and may even serve as third-line services. In particular, a major company's head office treasury function will act as first-line managers for the organization's treasury needs. Additionally, the organization's strategy and tactics will be determined by the knowledge of the treasury department. In certain circumstances, a major company's internal audit department explicitly does not have the authority to audit the treasury function. Therefore, the treasury function will be examined and audited by the external auditors. The three lines of defense concept also has the drawback of being more applicable to operational (or hazard) concerns, such as internal financial control. The governance of compliance risks is a good application for the three lines of defense paradigm. The audit committee, however, often does not examine the upside of risk or look for instances where possibilities have been lost. As a result, there may be a discrepancy between the internal audit and risk management departments' areas of responsibility and the complete breadth and extent of enterprise risk management operations[6].

The specific function and standing of the board of directors is another element of the three lines of defense. The board gives confidence, but it's not often thought of as a line of defense. In actuality, the board both delivers and gets assurance from various stakeholders, including external stakeholders. The board will obtain assurance from both internal and external sources, including external auditors, as well as from divisions inside the firm. It's common to display external audit as the fourth line of defense and regulators as the fifth line in the well-known three lines of defense model, which is occasionally expanded to five lines of defense. The five lines of assurance strategy, as it is now being developed, is not represented by this. The alternative strategy of the five lines of assurance has been proposed in order to improve the efficacy of the three (or five) lines of defense concept.The following sources of confidence are suggested by the five lines of assurance model:

The board of directors is ultimately in charge of making sure that efficient risk management procedures are set up and that the other lines are managing risk in accordance with appetite. Senior managers and executives who are in charge of providing accurate information on the key risks as well as developing and maintaining a strong risk management approach. Business unit leaders have assigned ownership or duty for reporting on particular risks, and ensuring resources are safeguarded and goals are being realized. Treasury, safety, the environment, legal, and insurance are a few examples of specialist divisions having competence in certain risk categories and accountability for associated risk management procedures. Internal auditing tasks, creating consolidated reports and giving the board timely, unbiased information on the dependability of the organization's risk management procedures.

There will inevitably be modifications to the model mentioned above, and many businesses will create a structure for the five lines of assurance that is tailored to their particular requirements. The five lines of assurance model's primary improvement over the three lines of defense model is the division of the first line of defense into the board, senior executives, and business unit leaders, each of whom is in charge of providing assurance in relation to their assigned responsibilities. Improved communication between the board of directors, members of the executive, and business unit leaders is one of the advantages of the five lines of assurance

approach. Additionally, there has to be close communication between the internal audit efforts and the professional expert risk teams. Instead than concentrating on the design and execution of controls, the emphasis is on delivering integrated assurance across the business in order to strengthen a risk-aware culture[7].

Therefore, compared to the three lines of defense model, the five lines of assurance model is better applicable to the management of strategic and tactical risks including opportunities. This fact results directly from the five lines of assurance model's enhanced emphasis on assurance rather than the three lines of defense model's emphasis on control. It should be stressed that regulators and external auditors would still carry out their unique duties under both models. The control environment or risk culture should be described in the risk management handbook. Typically, it will include a variety of details. The four types of reports listed above are action plans, incident reports, performance reports, and established processes. When outlining the contents of the risk management handbook, the chapter went into considerable depth about the existing methods. The suggestions that emerge from incident reports and action plans, particularly those that are integrated into the risk register, will help keep risk management as an active set of tasks inside the company.The relevance of risk performance and certification reports has caused us to bring up the topic of risk management documentation once again. In fact, the adoption of the Sarbanes-Oxley Act has greatly raised the significance of these records in recent years. In the majority of the globe, enhanced reporting standards have been implemented for all kinds of enterprises. A company must take care to ensure that the reports it provides meet all applicable standards and are compliant with other obligations.

When a company is listed on the New York Stock Exchange, for instance, there can be certain rules that apply, such as the Sarbanes-Oxley Act. That organization could, however, also be listed on a separate stock market with distinct rules. The corporation may also have affiliates that act as (for instance) insurance companies, maybe captive insurance companies, or are registered as charities. Operational management reports, more formal declarations, and certified reports to stakeholders are all included in risk performance and certification reports. In certain circumstances, a third party will be hired to formally attester the organization's financial outcomes of operations. Usually, an external auditor will carry out this third-party attestation. A written attestation of this kind will also assess the efficiency of the control procedures pertaining to financial reporting. The Financial Reporting Council's (FRC) risk advice lays out a thorough set of duties for the board of a business. Summarizes the responsibilities for risk management assigned to the board; the item on risk reporting and communication is particularly pertinent to this chapter. Taking into account the risk management reporting.

In conclusion, the FrC risk advice mandates that the board pay attention to the risk management process, profile, major risks, and risk mitigation; the business model, strategy, risk appetite, risk culture, and risk reporting; as well as the organization's long-term survival. The terms "communication obligations" and "internal and external communications" are used interchangeably. The requirements also allude to the significance of communicating risk management information to and from the board[8].

The level of information in reporting requirements has increased, and it is sometimes required for firms to create distinct reports for several regulatory agencies. Additionally, some firms may choose to publish certain reports to raise awareness of particular parts of their business. To emphasize their accomplishments in this crucial area, numerous firms, in particular, publish

distinct corporate social responsibility reports. All of the case studies in this book's case studies are taken from reports of firms that are listed on the London Stock Exchange and are provided at the beginning of each portion. These case studies show the vast variety of subjects that listed firms report on in connection to the extensive range of risk management and internal control themes that are addressed in this book.

A number of business scandals in the US led to the creation of the Sarbanes-Oxley Act (SOX). In these incidents, numerous organizations' financial situations were misrepresented, resulting in false financial statements. The main goal of SOX is to make sure that the information reported by businesses that are traded on American stock markets is accurate. Controls must be in place according to SOX requirements to guarantee the accuracy of all information provided by the organization. The SOX mandates that every data generated by the company must undergo validation. Risks that might cause the organization's financial performance to be misrepresented must be thoroughly analysed in regard to financial statements. Many people believe it to be excessively onerous and expensive to complete the processes for generating financial information and having external auditor's attester the financial declarations. These procedures are exceedingly thorough.The risk assessment is intended to find holes in the financial reporting framework while complying with section of SOX. The internal audit department must put in a lot of effort to complete this intricate process. External auditors must analyze the organization's financial results and assess the financial reporting system, and they must certify that they believe the results to be correct.

According to SOX regulations, risks to accurate financial reporting should be assessed using a framework for risk management that has been authorized. The COSO Internal Control structure is suggested for assuring the correctness of financial disclosures. Notably, the COSO ERM framework contains each and every criteria from the previous COSO internal control version. Subsidiaries of US corporations operating abroad must comply with the SOX regulations. If the business is listed on a US stock market, they also apply to firms headquartered abroad. As a result, businesses throughout the globe adopt the internal control version of the COSO architecture.

Many organizations have chosen to establish a disclosures committee to verify all information published by the business in order to adhere to the Sarbanes-Oxley regulations. Numerous businesses with headquarters outside of the United States have also been forced to form disclosures committees as a result of SOX's wide applicability. Whether the Act has improved the veracity of reporting from corporations that are listed on US stock markets has been questioned. Given that the SOX regulations mostly concern reporting accuracy rather than the attainment of improved risk management standards, these arguments are pertinent. The box below is an overview of some of the CEOs of US corporations' opinions.

US company risk reports

Companies that are traded on a US stock market must provide thorough risk factor disclosures. These risk management reports are meant to look forward rather than provide opinion on dangers that have already manifested. The reports are filed on a regular basis using Forms K or F. Several pages devoted to risk factors are not uncommon. This part of the file will typically be between and pages long. A summary of the business, financial, and environmental risks that the identified corporation reported on in Form-F. Table contains excerpts from another example of risk factors that a US-listed firm revealed. .It is typical for a lengthy list with thorough justifications to be

followed by a statement, such as important factors that may cause future financial difficulties include, but are not limited to. Each of the stated dangers would typically be addressed in further depth, by means of a thorough explanation of up to half a page, although it does not cover all the things included in the entire list submitted as part of Form-F. In addition, the Securities and Exchange Commission (SEC) is debating whether to demand more thorough disclosures on the risk committee reporting framework in firms listed on US stock exchanges. The SEC is the government agency in charge of overseeing US stock exchanges, with the goals of safeguarding investors, preserving equitable, efficient, and effective markets, and facilitating capital creation[9].

DISCUSSION

Reporting on risk for charities

In the majority of nations, charities are required to disclose risks. There is a common expectation that charities will have thorough risk management processes that are roughly similar to those demanded of government agencies or businesses that are publicly traded. An abbreviated version of the instructions provided by the UK Charity Commission about risk reporting is as follows. A charity's size and complexity should be reflected in the format and substance of its risk reporting. The Charity Commission is not trying to make risk reporting more uniform. The following information must be included in a narrative-style report that tackles the important issues:

1. An admission of trustees' accountability.
2. A description of the procedure for identifying risks.
3. A sign that significant dangers have been examined or evaluated.
4. Verification of the installation of control systems.

It is acknowledged that certain charities, especially those with greater budgets or more complicated operations, may seek to go beyond this fundamental approach in their reporting as a matter of best practice. It would be desired to address the following basic concepts when this more in-depth reporting style is used, outlining how they have been implemented into the charity's risk management procedures. Relationship between the charity's operational and strategic goals and the identification of important risks. Procedures that include operational, regulatory, and other categories of recognizable risk in addition to financial risk. Relationship between risk assessment and evaluation, chance of occurrence, and potential effects. Ensuring that monitoring and risk assessment processes are continuous and integrated into management and operational practices. Review and examination by the trustees of the key outcomes of risk identification, assessment, and monitoring. Most charities already likely take risk into account while conducting their regular operations. In fact, it has been noted that the most important difficulties confronting the firm right now are risk management and other governance standards. This suggests that charities are becoming less risk-tolerant and putting more time into ensuring compliance than they do into earning money. Even in cases when a formal risk management process has not been finished, it is often viable to bring out specifics of the risk management strategy for feedback. The following is an example of a small charity's risk management report.

There are mechanisms in place for risk assessment to identify the most important hazards that the charity faces. Routine operations include rules, protocols, and procedures for risk management. To find major risks that might affect the plan's delivery, analysis of the strategy is conducted. There are processes in place to make sure that the law is followed, including regular reporting on

legal issues to the board of trustees. Trustees are trained on the corporate governance and risk management topics that are pertinent to the charity. An annual report on risk management activities and an assessment of the control environment is given to trustees. Trustees also get extra reports detailing any material control failures and substantial control deficiencies.

Risk reporting in the public sector

In the majority of nations, risk management is a requirement in all government agencies and other parts of the public sector. The majority of the data on risk management used by government organizations is openly accessible on websites and makes for highly helpful reference material. However, because the data is open to the public, there is often no mention of the risk reporting to outside stakeholders. The UK government has created a set of guidelines for risk reporting. These risk reporting principles include engagement, proportionality, openness and transparency, evidence, and accountability. The functioning of the risk-reporting mechanism inside a government organization is often covered in great detail. The following details are taken directly from a report by a local government entity in the UK. Quarterly clinics are used to monitor every risk listed on the strategic risk registry. The executive committee receives reports from these clinics twice a year. The yearly strategic plan reporting includes information on the strategic risk register, which is given to the whole council. Strategies for service groups contain strategies for service-specific business risks, which are then tracked by the directorates' performance management systems. This involves twice yearly reporting to the appropriate council members.

Report from the government on national security

The willingness of governments to be more forthcoming about security dangers has recently been one of the largest advancements in risk communication. Many nations conduct national security threat analyses and release the findings. For instance, the UK government made public the National Security Strategy of the United Kingdom in a paper. Details on the dangers to UK national security are provided in this paper. The National Risk Register was most recently released by the UK Cabinet Office. The goals or major reliance's of the UK or the UK government are not discussed in this examination. The threat analysis is thorough and in-depth, however. The following are the primary threat categories listed in the document. Natural occurrences such as weather, river and coastal floods, and sickness in humans or animals. Major mishaps in the transportation and industrial sectors. Malicious assaults on populated areas, infrastructure, transportation, and electronic infrastructure (including nuclear or unconventional attack). The paper offers a thorough overview of the numerous hazards and the safeguards put in place to lessen them. The factors influencing the risk profile of countries are also included in the paper.

This report by the UK government is a fascinating illustration of the thorough risk analysis being carried out at the federal level. It proves that risk management has been included into the core of the federal government. The fact that national governments have embraced risk management shows that the value of risk management is acknowledged at the highest level. Demonstrates some of the important national security concerns to the UK that the government had recognized at the time of the assessment. Although the UK government has not categorized risks in this manner, it is feasible to identify the primary dangers to which a government feels confident in its ability to react, such as transportation accidents, cyberattacks, and animal diseases, if the risk attitude structure outlined is utilized. The government would seem to be wary of significant

industrial mishaps, assaults on infrastructure, and extreme weather if it were to employ this arrangement. The administration is worried about assaults on populous areas and coastal floods. Finally, the risk attitude analysis seems to indicate that the government is seeing pandemic human illness as the most important threat to national security.Looking back over the last several years, maintaining national security was not too difficult. Armed forces, with a concentration on land and sea defense, would be used by the government to protect the country. But now, safeguarding national security is far more difficult. The box below raises concerns about the capacity of conventional political systems to handle this complexity.

CONCLUSION

In conclusion, the scope of internal audit activities encompasses a wide range of responsibilities, including financial controls, compliance, operational processes, risk management, IT systems, governance, ethics, and fraud detection. Through their work, internal auditors provide valuable assurance and recommendations to support effective risk management, control implementation, and governance practices within an organization.

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