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BANK 410
Graduation Project

THE EFFECTIVE USE OF CAPITAL IN THE BANKING SECTOR

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OUTLINE

- **Finally, deposit services are typically price to encourage customers to conduct to bulk of their banking business with one firm.**

EFFECTIVE USE OF CAPITAL IN BANKING SECTOR

1.INTRODUCTION:

1.1-CAPITAL: The Key To Success

There is a great deal of discussion within the banking industry today with respect to building shareholder value. This is understandable in light of the importance placed upon a bank's capital position. Capital has been called with good reason, the mother's milk of commercial banking. Because, when available in the proper amount it perpetuates growth and strength; when absent, we risk stagnation and eventually, atrophy.

Having taken great liberty with the application of this analogy, let's examine, by way of review, whether there is evidence to support such a comparison.

What are some of fundamental applications for an adequate capital position?

- To satisfy regulatory requirement. This issue has to faces. One side represents, at times, an annoying mandate that must be met in order to be in compliance. The other, makes it very clear where the boundaries are and thus makes it easy to know the acceptable limits and the consequence for non-compliance.
- As an essential mechanism to respond to business cycles: Since business is never totally predicable, need capital as insurance during down-cycles and as a tool to maximize opportunities during up-cycle.
- To support growth. A bank, no more than any other business, cannot expect to grow in a stable manner without a solid base.
- To maintain flexibility. Successful banks (businesses) need to maintain an adequate capital position in order to adjust a respond to the ever-changing competitive environment.
- To fulfil the Board's responsibilities. Any board would be hard pressed to meet the tenants of "Safety and Soundness" as defined by the regulators and increase shareholder value without a strong capital base in place at all times.

The large number of bank failures, the decline in FDIC insurance fund reserves in the early 1990s, as well as the creation of new product powers have focused increased attention on the adequacy of bank capital. Regulators want high capital requirements to better protect depositors and the viability of the insurance fund, and the reduce overall risk-taking.

Historically, bankers preferred lower capital requirements which increased financial leverage and the multiplier effect on ROE. Low capital requirements also allowed for substantial asset growth. In an environment of increased competition and consolidation, however, the market rewards banks with substantial capital by valuing their stock highly because they are viewed as the firms most likely to survive as acquirers. In the early 1990s, the Federal Reserve Board of Governors (FED), Federal Deposit Insurance Corp. (FDIC), and Office of the comptroller (OCC) imposed minimum risk-based capital (RBC) standards that help control bank risk-taking. These RBC standards mean that higher levels of capital are required against higher risk bank assets. The Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA) established a system of prompt regulatory action with sanctions for undercapitalized institutions. These requirements have expedited consolidation within the banking industry and increased the cost of offering banking services.

Capital plays a significant role in the risk-return trade-off at banks. Increasing capital reduces *risk by cushioning the volatility of earnings, restricting growth opportunities, and lowering* the probability of bank failure. It also reduces expected returns to shareholders, as equity is more expensive than debt. The fundamental asset and liability management decision regarding capital thus focuses on how much capital is optimal. Firms with greater capital can borrow at lower rates, make larger loans, and expand faster through acquisitions or internal growth. In general, they can pursue riskier investments. A second important decision concerns the form in which new capital is obtained, because regulators allow certain types of debt and preferred stock to qualify as capital to meet the requirements.

The cost of capital is a one of the biggest problem of banks in Turkey and T.R.N.C. Especially, in T.R.N.C. the market is not very big to all banks and besides these banks are also competing with the banks in Turkey. All these factors forcing them to keep the interest rates high than the competitors both in Turkey and T.R.N.C. On the other hand, they should sell these money to investors with a lower rate as possible as. Otherwise they can lost their's costomers to competitors. To move with in these limits is not always easy, if you consider that the risk factors in our capital market .

(Source: http:// www.nubank.com/stories/capital-keyto-success -4-26-01/index.html)

1.2-ORIGINS OF BANK

Economies have always developed methods for providing what we call financial services. As economic systems change, the nature of the enterprises providing these services adapts to the technology and preferences of the customers. Most professors of money and banking fondly discuss the medieval goldsmiths, who took in gold for safekeeping, and whose receipts eventually became money. Goldsmith added value by reducing information and transaction costs for their clients. They assayed samples and certified their quality (via a hallmark stamp). In other words, they produced information and made that information easily verifiable. They issued receipts, which were easier to carry than gold bullion, thus reducing transaction costs. From here it was a short step to making loans. "

The goldsmith experience has several lessons for today. First, many of these functions still survive; although modern banks methods of providing a convenient means of payment and a loan are certainly different. Second, the institutional form has changed drastically, from guild to corporation. Banking is not combined with goldsmith today and you really can't blame this split on the Bank Holding Company Act of 1956. Note that goldsmiths, as part of a guild system, were not corporations, either.

Finally, we should consider the heavy role of government even at the dawn of banking history. Though other merchants offered credit in medieval times, goldsmiths became particularly important because of Henry VIII's suppression of monasteries and religious charities (1545), which released their accumulated gold and silver back into circulation. Deposits with goldsmiths increased dramatically after 1640, when Charles I seized the specie and bullion at the mint in the Tower of London. Even earlier than the goldsmiths, the organizers of the Champaign Fairs in the 12^{th} and 13^{th} centuries performance similar functions. They issued tokens to the participating merchants, with each token representing deposits of coin, plate, and bullion that had been tested. The merchants used these tokens to net out their accounts before clearing and settling in the deposited gold. At the same time, many functions we consider banking were undertaken by scriveners-clerks who were needed to write letters and contracts in an illiterate age. They became general advisors, because they were needed to reduce transaction costs.

Institutions more recognizable as banks, such as the Casa de San Giorgio in 1407 and the Bank of Amsterdam in 1609 (made famous by Adam Smith's descriptions in the Wealth of Nations) also arose. These banks provided the functions of safekeeping and security, assessed and certified quality, and enabled transfer payments. Even though at first both parties had to

meet at the bank to transfer funds, transaction costs were lower than by lugging gold though to streets of Genoa or the canals of Venice. Often these banks kept deposit and lending functions separate, so that deposits were not used to fund loans. The Bank of England formally separated its deposits and lending functions in 1844 with Peel's Act, but the Risk bank of Sweden, which was founded in 1956, was separated into "narrow" bank and a lending bank from the start.

(Source:Article: "The Functions and Future of Retail Banking" by Jerry L. Jordan President and Chief Executive officer Federal Reserve Bank of Cleveland (10.01.1996))

2.WHAT IS A BANK?

In everywhere, the customers expect from their's banks to performs three basic functions:

1- It accepts and safeguards deposit of money from customers;
2- It permits money to be withdrawn or transferred from one account to another;
3- It lends the surplus of deposited money to customers who wish to borrow

If you mention a bank most people will think the banks that are commonly known as clearing banks, because they are members of the bankers Clearing House through which many thousands of cheques and credits are 'cleared' or sorted daily. These, with other, smaller, clearing banks and a range of more specialized banks such as merchant banks, foreign banks and saving banks, together with the central bank, the central bank make up the varied structured of banks in any country and develop monetary and capital policies according to the economic conditions of the country .(For example, The Bank of England-which despite its name, controls all aspects of banking throughout Britain)

The banking structure are considered .

2.1 RESPONSIBILITIES OF BANKS

A sound banking system depends partly on the control exercised by the central bank and, to a large extent, on trust: that is, the customer's trust that his deposits will be looked after in the best possible way and that when he wishes to withdraw his money, the funds will be available. The banks have a major responsibility to behave like good citizens in business: while profitability remains a major consideration, this must sometimes be set a side in favour of an informed and ethical judgement that takes account of the interests of others. For example, in Britain in the early 1970s, for instance, some banks made errors of judgement in lending too much to certain sectors of the business community, notably in the property market. Several of the smaller banks would have failed if it had not been for assistance organized by the Bank of England, funded mainly by the clearing banks. Whenever banks

lend money it is their customers money that is being advanced, so it is important that they should lend where there is a minimal risk of non-repayment. They have often been criticized for not lending more freely, but a high risk of loss will frequently deter them from granting an advance, even if the highest rates of interest could be charged.

(Source: "The Bank Management" by Timothy W.Koch and S.Scott MacDonald, published by The Dryden Press, Fourth Edition)

2.2 THE ROLE OF THE BANKS

While some specialize in meeting the needs of particular groups of customers, such as companies or small savers, the clearing banks provide a range of services to satisfy the financial needs of all types of customer, from the smallest personal account holder to the largest company.

These services can be grouped under the following headings:

a-Deposits and saving;

b-Advances

c-Money transmission

d-Financial and advisory services

e-Foreign services

a- Deposit and saving:

Deposits are the funds that customers leave in their accounts, whether these are current accounts, which are for 'current' money that is not intended to be saved, or deposit or saving accounts which are for money that will not be required immediately. Customers with a current account are usually issued with a cheque book which enables them to draw or write out cheques that instruct the bank to pay cash from the account or to make payments to other people. Deposit and savings account holders do not have the benefits of a cheque book; instead they are paid interest on monies left with the bank.

b- Advances:

Advances are the monies lent by a bank, generally in the form of an overdraft on a current account, by which the customer draws out more money than he has put in to the account. They may also be made by means of a loan or personal loan. Interest is charged on all advances, the rate varying with the method of granting the advance, the creditworthiness of the customer and the length of time for which the funds are borrowed. Advances represent

that part of customers deposits which the bank considers may safely be lent, while the remainder is retained in the form of cash and other asset.

c- Money transmission:

Money transmission enables customers to make payments without having to carry around large sums of cash, because the cheque is a convenient method of settling a debt. Equally a customer can pay in money at any bank branch for the credit of an account at another branch by completing a simple form known as bank giro credit. He may also instruct his bank to debit or deduct amounts from his account to make regular payments to meet recurring debts, such as club subscription, life assurance premiums or mortgage repayments, by means of the standing order or direct debit system. Besides enabling customers and to some extent, non-customers to transfer funds quickly and easily by means of a piece of paper, the banks physically move many thousands of pounds worth of notes and coin from branch to branch each day. This is to ensure that branches which regularly pay out more notes and coin than they receive will never be short of cash. For instance, some denominations of coin are in constant demand by shopkeepers and other coins are needed by private customers for gas and electricity meters. So some branches particularly those where gas and electricity boards and bus companies pay in, regularly have surpluses of coin needing to be transported to other branches that have a deficit.

d- Financial and advisory services

Financial and advisory services cover a wide range of facilities that can be tailored to suit the individual needs of the customer. Financial services vary one form is the cheque guarantee card for personal customer, which can be used to guarantee or 'back up' a cheque when paying for goods in a shop or drawing cash and branches other than that at which the account is maintained. Another might be a business service such as factoring, in which the bank administers a client's sales ledger and enables a company to obtain an advance against debts which are due to it. The major banks are always willing to give advice, from suggesting suitable investments to a customer with a few hundred pounds, to advising a private limited company of the best time to 'go public' that is, to have its shares quoted on a stock exchange.

e- Foreign services

Foreign services of the banks include traveller's cheque and currency services; they also make international payments. All large banks have links with overseas banking groups, so payments

of this kind can easily be made. Some banks have linked more formally with a number of overseas banks to form consortia which are able to provide large-scale finance to suit the needs of multi-national corporations.

(Source: "The Bank Management" by Timothy W.Koch and S.Scott MacDonald, published by The Dryden Press, Fourth Edition)

2.3-THE ECONOMIC IMPORTANCE OF BANKS

. A developed banking system permits payments by one person to another to be made safely at reasonable cost both in country and overseas. Such payment enables trade and industry to function more efficiently and the role of the banks in assisting exporters with the financial side of their business is a considerable contribution to the economy of country. The banks are important economically because they act as intermediaries between the large number of depositors and those who wish to borrow: in this way they encourage saving by providing the means of attracting and collecting funds through the various types of accounts they offer and their extensive branch network, while at the same time they put such funds to effective use. The provision of finance to businesses encourages enterprise and leads to the provision of extra jobs, increased production and less reliance on the import of foreign goods. Lending to personal customers, on the other hand, stimulates demands for goods which again help to increase production. The banks are able to "create" money by granting loan or overdraft facilities to a costumer to buy goods, since paying for these goods effectively produces new money as soon as the borrower's cheque is paid in to the seller's bank account. Thus by allowing and advance, a bank deposit has been created; this process is known as the credit-creation multiplier.

If we take as example of Britain, Britain has a highly developed banking and financial system: over 60 per cent of the adult population have a bank account of some kind. The most popular bank account is the current account, and nearly 50 per cent of adults have such an account. The London clearing banks have between them nearly 12000 branches, mainly in England and Wales, while in other parts of the United Kingdom branch networks are maintained by the Scottish clearing banks and the Northern Ireland banks. The result is that anywhere in Britain it is difficult to be more than a few miles from a bank In January 1979 their total deposits in sterling amounted to 31.122 million and their sterling advances to customers to 20.822 million, much of this being lent to help finance the commerce and industry that is so important to a trading and manufacturing nation such as Britain. During the nineteenth century London developed in to a major financial centre of the world, and today still places an

important part in the provision of worldwide financial services. All major world banks are represented in London and in few other cities is it possible to find such a wealth of expertise. British banking, by providing services overseas and to overseas customers, contributes greatly to the nation's balance of payments (the account which records imports and exports of Britain in money terms). Banking and other financial services provided by the City of London are known as invisible exports because they are services rather than tangible goods. In 1977 banking services contributed 254 million to the nation's invisible earning everybody in Britain is affected by the word of the banks, whether as a personal deposit customer, as a borrower or simply in working for a business that benefits from a bank advance and the expertise of British banking services it follows that, with such an important role in the economy, there should be adequate supervision and control of banking system and this is provided by the central bank.

(Source: "The Bank Management" by Timothy W.Koch and S.Scott MacDonald, published by The Dryden Press, Fourth Edition)

3.BANK REGULATION

Commercial banks are the most heavily regulated financial institution in the United States. This largely reflects the historical role of banks in the payments system and providing credit to individuals and businesses, as well as the fact that banks carry Federal Deposit insurance corporation (FDIC) insurance on their deposits. Prior to the establishment of the Federal Reserve System in 1913, private are banks operated free of closed government scrutiny. The frequency of abuses and large number of failed banks during the Depression forced the federal government to redesign its regulatory framework encompassing supervision and deposit insurance.

3.1 REASONS FOR REGULATION

There are five fundamental objectives of bank regulation.

These are;

3.1.1-The first is to ensure the safety and soundness of banks and financial instruments.

The purpose is to maintain domestic and international confidence, protect depositors and ultimately taxpayers, and maintain financial stability. With safety and soundness, a financial the payments system is reliable and institutions willingly extend credit that stimulates economic growth. This goal is generally accomplished by limiting risk taking at individual institutions, by limiting entry and exit, and by the federal government's willingness to act as a

lender of last resort. The difficulties with federal deposit insurance and the large number of failed institutions during the late 1980sand early 1990s demonstrate that risk-taking among depository institutions had been subsidized by U.S. taxpayers as they bore the brunt of the cost.

3.1.2-The second objective of bank regulation is that the Federal Reserve System uses regulation to provide monetary stability.

This is evidenced by efforts to control the growth in the nation's money supply and maintain the efficient operation of the payments system.

3.1.3-The third objective is to provide an efficient and competitive financial system.

Regulation has attempted to prevent undue concentration of banking resources that would be anticompetitive, yet allow firms to alter their product mix and delivery systems to meet economic and market needs. This goal has generally mean been accomplished by restricting mergers and acquisitions that reduce the number and market power of competing institutions.

3.1.4- The fourth objective is to protect consumers from abuses by credit granting institutions.

Historically, some individuals found it difficult to obtain loans for reasons not related to their financial condition. Thus, regulations now stipulate that borrowers should have equal credit opportunities such that banks cannot discriminate on the basis of race, gender, age, geographic location, etc. Lenders must also disclose why a borrower is denied a loan. The Community Reinvestment Act (CRA) will prevent a bank from acquiring another institution if the parent receives a poor CRA evaluation; that is, it is not doing enough to insure that their credit and services are available to all members of the defined community.

3.1.5-The final objective is to maintain the integrity of the nation's payments system.

Thomas Hoeing, president of the Federal Reserve Bank of Kansas City, argues that the payments system revolves around banks. As long as regulators ensure that bank clear checks and settle no cash payments in a fair and predictable way, participants will have confidence that the payments media can be used to effect transactions. This is especially important given the trend toward electronic commerce and e-cash. It is also important to recognize that regulation cannot achieve certain things. For example, regulation does not prevent bank failures. It cannot eliminate risk in the economic environment or in a bank's normal operations. It does not guarantee that bankers will make sound management decisions or act ethically. It simply serves as a guideline for sound operating policies. Three separate federal agencies along with each state's banking department issue and enforce regulations related to a wide variety of commercial bank activities. The federal agencies are the Federal Reserve, the

Federal Deposit insurance corporation (FDIC), and the Office of the Comptroller of the currency (OCC).most regulations can be classified in one of three basic categories linked to the reasons for regulation introduced earlier:

- Supervision, examination, deposit insurance, chartering activity, and product restrictions are associated with safety and soundness.
- Branching, mergers and acquisitions, and pricing are related to an efficient and competitive financial system.
- Consumer protection

(Source: "The Bank Management" by Timothy W.Koch and S.Scott MacDonald, published by The Dryden Press, Fourth Edition)

4-FUNDAMENTAL FORCES OF CHANGE IN BANKING

4.1-INCREASED COMPETITION

The McFadden Act of 1927 and the Glass-Steagall Act of 1933 determined framework within which U.S.Financial institutions operated for the next 50 years. The McFadden Act saw to it that banks would be sheltered from unbridled competition with other banks by extending state restrictions on geographic expansion to national banks. The Glass-Steagall Act forbade banks from underwriting equities and other corporate securities, there by separating banking from commerce. Commercial banking means deposit taking and lending. Investment banks emerged to underwrite and distribute securities. Following the enactment of the Glass-Steagall Act through the early 1980s, the commercial banking industry was quite stable. Individuals who wanted to start a new bank found it difficult to get a charter from either federal or state regulators. The Federal Reserve System (FRS), in turn, limited interest rates that banks could pay depositors, effectively subsidizing banks by mandating low-cost sources of funds. Depositors had few substitutes for saving unless they held more than $ 100,000. As a result, bank deposit grew systematically with economic conditions. Regulations also specified maximum rates that banks could charge on certain types of loans. Such usury ceilings were intended to protect customers from price gouging and essentially passed through a portion of the value of low cost bank deposits to bank borrower. During the period banks could not compete on price because the price of their inputs (deposit) was regulated (regulation Q) and the price of their outputs (loans) was regulated (usury ceilings). For all practical purposes, all banks had the same price. Hence banks had to find other ways to compete. Banks would give away toasters, silverware sets, and wine and dine prospective

customers as one means of product differentiation. Many senior bank executives spent considerable time out of the office e attempting to earn business. They would take customers to lunch, dinner, golf, and so on, trying to win their business. Today, the world of banking is quite different. Banks are basically free to set the price for their services and other companies are also free ton offer banking type services at competitive prices. Bankers now compete directly on price, product offerings and service.

4.2-COMPETITION FOR DEPOSIT

The free ride of a guaranteed spread between asset yields and liability costs abruptly ended during the late 1970s. The primary catalyst was high inflation due a part to foreign control of the oil market and the doubling of oil prices. Although ceiling rates on bank deposits limited interest to 5.25 percent on savings accounts (5.50 percent at S & Ls) and nothing on checking accounts, 8 to 12 percent inflation rates guaranteed that consumers lost purchasing power. Individuals had two choices: save less and spend more or find higher-yielding investments. In 1973 several investment banks created money market mutual funds (MMMFs), which accepted deposits from individuals and invested the proceeds in Treasury bills, large certificates of deposit (CDs), and other securities that paid market yields. Not surprisingly, the attractiveness and growth of money market mutual funds (MMMFs) tracked the spread between money market interest rate and Regulation Q ceiling. Without competing instruments, money market mutual funds (MMMFs) increased from $ 10.8 billion in 1978 to $ 186 billion in 1981. During this interval, tree-month Treasury bill rates exceeded the ceiling rate on banks savings accounts by as much as 9 percent. MMMF growth came largely at the expense of banks and thrifts small time deposits as depositors simply shifted to mutual fund shares. Banks argued vigorously for a level playing field-equivalent regulation that would allow them to compete-such as Congress declaring MMMFs illegal or forcing them to hold reserves against shares. In a practical sense, once depositors realised they could earn market rates on transaction or savings balances, Congress dared not deny them the opportunity. Instead, it passed legislation enabling banks and thrifts to offer similar accounts including money market deposit accounts (MMDAs) and super NOW's. Both represented interest-bearing checking accounts. Money market deposit accounts (MMDAs) limited individuals to six transfers per month (three buy checks and three buy telephone), so were effectively savings accounts with some transactions privileges. Super NOW's paid interest on all balances with unlimited checks. Money market deposit accounts (MMDAs) were enormously successful after their introduction in 1982 as they grew from just over $43 billion to almost

$600 billion outstanding in 1987. In subsequent years, outstanding money market deposit accounts (MMDAs) declined as Congress eliminated interest rate ceilings and minimum denominations for deposits. Customer could then earn market rates on all time deposits so there was less incentive to shift to MMDAs. Bank liability rate deregulation was thus complete. Most banks offer interest-bearing checking accounts today under a different label than super NOW's. In today's environment deposit competition takes many forms.

- **First, institutions are virtually unconstrained in the terms they can offer.**

Thus customers can negotiate any minimum denomination, market interest rate, and maturity. Firms cannot discriminate, so they make the same deposits available.

- **Second, wide variety of accept time deposits and offer checking accounts.**

Almost every investment company that offers mutual funds also offers a cash management account for high balance customers (some as small as $5,000) to use as part of their investment activity. Individuals can have proceeds from all financial transaction automatically invested at marked rates until they make new investment decisions. Until that time, they can write checks against outstanding balances. Customers can transfer money from a core money market account to over 7,000 mutual funds withy many investment companies such as Fidelity Investments. American Express, GE, and Sears similarly offer their credit card customers the opportunity to invest in small time deposits that pay competitive rate. For high-balance depositors, foreign banks and branches of large U.S. banks offer Eurodollar deposits that pay higher rate than domestic certificates of deposits.

- **Finally, deposit services are typically price to encourage customers to conduct to bulk of their banking business with one firm.**

Thus, as a customer's balances increase, yields increase and service charges decline. The providers often make other services, such as travel discount and life insurance, available in a package with deposit accounts.

4.3-COMPETITION FOR LOANS

4.3.1-COMMERCIAL PAPER

As bank funding costs increased, competition for loans put downward pressure on loan yields and interest spreads over the cost of bank funds high quality corporate borrowers have always had the option to issue commercial paper or long- term bonds rather than borrow from banks. The growth in money market mutual funds (MMMFs) accelerated the development and growth of the commercial paper market and improved investment banks' ties with non-financial corporations. Investment banks continued to underwrite commercial paper issues

developments permanently altered the commercial banking industry. The growth in junk bonds reduced pool of good-quality loans and lowered risk-adjusted yield spreads over bank borrowing costs. Banks generally responded either by increasing the riskiness of their loan portfolios or trying to move into investment banking and other service areas that generate fee income. Bank choosing the first path sacrificed long-term profitability and solvency for short-term gains. They maintained yield spread temporarily, but increased default risk on the loans, which ultimately eroded earnings through higher loan charge- offs. Most banks seeking greater fee income have had limited options. They would like to provide a full range of securities underwriting services, sell new types of insurance, and offer other products without the inherent credit risk of loans. This would allow them to diversify their assets base and revenue stream and lower the risk of failure. Regulation, however, has been slow in opening many of these activities today different size banks pursue different strategies. Small-to medium-size banks continue to concentrate on loans but seek to strengthen customer relation-ships by offering personal service. Day now measures their cost better and priced loans and deposits to cover their costs plus meet profit targets. The best evidence is that most banks now calculate their own cost of funds and price loans off this index rather than off a money centre bank's prime rate. Many of these same banks have rediscovered the consumer loan (figure 1.1) consumer loans have increased from 36 percent of total loans to a high of 45 percent in 1995. During this same period, commercial loans have decreased from 64 percent to 55 percent. The growth in consumer loans has slowed some-what since 1995, due primarily to the rapid increased in default rates and personal bankruptcy rates we have seen in the late 1990s. Historically, rates charged on consumer loans have far exceeded the respective default rates and the cost of financing such that net profits have exceeded those on commercial loans. A further advantage with retail customers is that consumer deposits are much less rate sensitive then large certificates of deposit and other borrowed funds. The biggest losers are low-balance depositors who have seen service charges double to cover the bank's costs of providing transactions services.

4.4-COMPETITION FOR PAYMENT SERVICES

Once the exclusive domain of banks and other depository institutions, the nation's payment system has become highly competitive. Even the Federal Reserve System's role in processing and clearing checks could be replaced by new technology. This, of course, would not come without risks. Only the Fed can prevent default by one large institution from causing the system to collapse. The real challenge for the Fed and banks in the delivery of payment

processing services is emerging electronic payment systems, such as smart and stored-valued cards, automatic bill payment, and bill presentment processing. Many private companies offer these products but the Fed still settles the accounts. In an article in wired magazine, former Citicorp chairman and CEO Walter Wriston said that their were 300,000 smart cards issue during the 1996 Olympics in Atlanta, that 7-Eleven is issuing smart cards, and that more than 400 million smarts cards were shipped to Asia. Smarts cards are like an electronic *wallet.* (Source: Bass Thomas A., "The Future of Money", Wired, October 1996).They can hold a specific amount of money and be use for any amount-hence small denominations and changes are easily handled. When the stored value on the card is used up, some smart cards are designed to be thrown away; others can be "refilled."

4.5-COMPETITION FOR OTHER BANK SERVICES

Banks and their affiliates offer many products and services in addition to deposits bank loans. A partial list includes trust services, discount brokerage, data processing, securities underwriting, real estate appraisal, credit life insurance, and personal financial consulting. Although a bank cannot underwrite securities domestically, it can own a Glass-Steagall Section 20 affiliate. In 1987 commercial banks won permission from the Federal Reserve to underwrite and deal in securities and five banks set up the necessary Section 20 subsidiaries. Since then the number has grown nine fold. At the beginning of 1998 there were 45 Section 20 companies. Initially, the Fed only allowed banks to earn 5 percent of the revenue in their securities affiliates. This was raised to 10 percent in 1989 and to 25 percent in March 1997. All Section 20 affiliates have Tier 1 powers-the authority to underwrite and deal in certain municipal revenue bonds, mortgage-related securities, commercial paper, and consumer-receivable-related securities. In early *1998, about 27 Section20 affiliates also had Tier to* powers-allowing them to underwrite and deal in corporate debt and equity securities. The Federal Reserve Board made Bankers Trust's purchase of Alex Brown, Nations bank's purchase of Montgomery Securities, and BankAmerica's purchase of Robertson Stephens possible by two recent changes in section20 affiliate restrictions. First, the Fed increased the revenue limit to 25 percent. Second, the Fed made it easier for banks to stay within the 25 percent income limit by reclassifying interest income on securities that banks have long been allowed to own, such as commercial paper as income that does not count toward the amount of income a Section 20 can receive from its securities underwriting activities. In both 1997 and 1998 the Fed relaxed its stand on the required firewalls between the Section 20 affiliates activities and those of the banks. It is expected that the fed will eliminate most if not all of

these firewalls and effectively allow banks with Section 20 powers to operate with powers similar to those of the larger brokerage houses. Regulators see the ideal structure as a one–stop financial conglomerate that offers a full range of deposit, credit, insurance, investment, and consulting services.In essence, current distinctions between financial firms would be eliminated. Commercial banks find these services attractive because traditional suppliers have often earned higher returns than banks. Regardless of what period is considered, commercial banks ranked near the bottom in terms of overall profitability measured by return on assets (ROA) their volatility of returns measured by the coefficient of variation of ROA, however was very low, indicated that other firms typically experienced wider swings in annual returns the final column indicates the correlation between ROAs of bank holding companies and each industry group as indicator of diversification potential. A high correlation suggests that earnings move together so that little diversification benefit would be realised. Although this correlation is quite high for insurance firms and agents, it is occasionally negative, as it was with securities companies and commodity brokers from 1970 to 1989 and real estate and other investment companies from 1980 to 1989 the implication is that banks earn less on average relative to their asset base, but exhibit less volatility in earnings. These data suggest that securities firms, real estate, and other investment company activities would be the better merger partners because of the negative correlation in returns and hence the potential diversification benefits. The 1980s represented a period of intense competition where non-bank competitors aggressively entered traditional banking business lines. Commercial banks suddenly found themselves competing with non-bank banks, finance companies, in high-growth thrifts for loans and deposit. Once-loyal customers moved their business for better terms. Unfortunately, the increased competition coincided with many banks loan problems in energy, real estate, and agriculture which made it even more difficult to maintain quality assets and market share. Competitors such as investment banks, captive automobile finance companies, other finance companies, and technology firms engage in activities that many banks would like to pursue and demonstrate the degree of competition involved.

(Source: "The Bank Management" by Timothy W.Koch and S.Scott MacDonald, published by The Dryden Press, Fourth Edition)

5-SECURITIZATION

During the early 1980s deregulation and financial innovation increase the risk of commercial bank operations. Borrowing costs increased as depositors converted low-rate saving accounts and demand deposits into deposits bearing market rates. Deposit balances also became less stable because customers were increasingly rate sensitive, moving their balances to firms paying the highest rate. *With banks, savings and loans, credit unions, and mutual funds* competing for the same deposits, depositors could easily find high-rate alternatives. Because loans offer the highest gross yields, many banks tried to compensate for declining interest margins by increasing loan-to-asset ratios. Loan yield subsequently fell relative to borrowing cost as lending institutions competed for a decreasing pool of quality credits. In many cases this eventually led to greater loan loses and long-term earnings problem. High loan growth also raises bank capital requirements. Regulators consider most loans to be risky asset and require banks to add to their loss reserves and capital base the greater are their loans. Higher provisions for loan loses reduce reported net income. Because equity capital is more expensive than debt, higher capital requirements, in turn increase the marginal cost of financing operations. One competitive response to asset quality problems and earning pressure has been to substitute fee income for interest income by offering more fee-based services. Banks also lower their capital requirements and reduce credit by selling. Assets and servicing the payments between borrower and lender, rather then holding the same asset to earn interest. This process of converting assets into marketable securities is called securitization. A bank originates assets, typically loans, compines them in pools with similar features, and sells pass-through certificates, which are secured by the interest and principal payments on the original assets. Residential mortgages and mortgage-backed pass-through certificates served as the prototype. The originating bank charges fees for making the loans. If it services the loans, it collects interest and principal payments on the loans, which it passes through to certificate holders minus a servicing fee. If the bank sells the certificates without recourse, regulators permit it to take the original assets off its books. The bank does not have to allocate loan-loss reserves against the assets, and its capital requirement decline proportionately. Securitization also eliminates interest rate risk associated with financing the underlying assets. In essence, the bank serves as an investment banker generating fee income from servicing the loans without assuming additional credit risk.

The objectives behind securitizing most mortgages and other loans include:

- Freeing capital for other uses
- Improving return on equity via servicing income

- Diversifying credit risk
- Obtaining new sources of liquidity
- Reducing interest rate risk

The process itself is costly because a bank must pay underwriting expenses and fees for credit enhancement guarantees. Such credit enhancements normally involve a letter of credit that guarantees the investor in the underlying securities that obligated payments will be made. For this guarantee, a bank will pay approximately 50 basis points. The increased securitization of financial assets is one of the dominant financial trends of the 1980s. Banks, in particular, are eager to securitize and sell a broader base of loan receivables. This makes them loan originators as much as lenders with full credit risk. Since 1985 banks have successfully securitized commercial loans, residential mortgages, automobile loans, computer leases, Small Business Association guaranteed loans, mobile home loans, home equity loans and credit card receivables. Most of these arrangements have been facilitated by an investment bank and involve a letter of credit guarantee from a foreign bank or insurance company, which retains some recourse with the originating bank. Banc one's credit card sale (see contemporary issues: Securitizing Credit Card Loans) is one example that did not involve such a guarantee. Recent Federal Reserve Board rulings have expanded banks ability to underwrite their own securitized issues, and banks with investment banking affiliates are now major participants in this market. Not all assets can be securitized. Loans that best qualify exhibit standard features regarding maturity, size, pricing, collateral, and use of proceeds. They typically demonstrate predictable losses over time. Residential mortgages have been the most popular because they are similar regardless of the geographic area where they originate. Commercial loans, in contrast, represent negotiated contracts and thus exhibit substantially different characteristic. Diversity increases the difficulty of pooling loans and attracting investors who do not want to investigate the features of each loan in the pool. Commercial loan losses are also highly variable to securitize commercial loans; banks must facilitate the process by accumulating less risky credits and standardizing the loan features. Through 1998, creditcard receivables, automobile paper, and home equity loans dominated the non mortgage asset-backed issues at banks. Securitization enhances competition for the underlying assets. With standardized features, such as those of government-guaranteed mortgages borrowers can easily compare prices and select the least costly alternative. Securitization also changes the composition of bank balance sheets because not all assets can be securitized. High-risk loans to small businesses, for example, are designed to meet the specific needs of a single firm. Because they do not have identical features, it is difficult to determine the credit quality of an

entire pool of loans and to use them as collateral against security issues. Banks generally want to keep these loans in there portfolios because of their higher promised yields and the lack of a secondary market to sell or securitize the loans. This is changing, however, as several national firms are currently attempting to support the securitization of many types of small business loans. Credit card receivables and automobiles loans, however, offer a sharp contrast. Terms are fairly standard and losses are predictable. The effect is that the credit quality of loans kept on the bank's books is declining.

(Source:Lynn Brenner, "Credit Card Deal may be Model for Securitization,"American Banker (April 14,1986)

6.-GLOBALIZATION

Financial markets and institutions are becoming increasingly international in scope. U.S. corporations, for example, can borrow from domestic or foreign institution. They can issue securities denominated in U.S. dollars or foreign currencies of the countries in which they do business foreign corporations have the same alternatives. Investors increasingly view securities issued in different countries as substitutes. Large firms thus participate in both domestic and foreign markets such that interest rates on domestic instruments closely track foreign interest rates. Globalization is the gradual evolution of markets and intuitions such that geographic boundaries do not restrict financial transactions. One country's economic policies affect the economies of other countries. Funds flow freely between countries because of efficient money and capital markets and currency exchange. The establishment of the European community (EC) in 1992 represents a prime example. Under the original formal agreement, 12 industrialized nations in Western Europe eliminated most trade restrictions standardized basic product designs, reduced taxes and fees, and linked monetary control in order to facilitate trade. Today there are now 16 countries in the EC. The original intent was to have a common currency and fully integrated market that operates as one without borders. Starting January 1999, the Euro (European unified currency) has been usable in wholesale financial transactions in all European Union countries except for Sweden, Denmark, and the United Kingdom. This should sharply lower inflation rates and enhance export opportunities. Globalization requires that businesses, individuals, and government recognize that evens throughout the world influence their domestic performance. They should be aware of foreign competition and foreign opportunities when developing market strategies, most large money centre banks have the capability and expertise to help customer's access capital in any currency in the form of either debt or equity. Many firms have offices all over the world and offer services in a wide range of product markets. Several Japanese banks, for example, serve

as primary securities dealers in activities with the U.S. Federal Reserve. Some of the best known U.S. investment banks, Lehman, Goldman Sachs, PaineWebber, Blackstone, and Wasserstein, are at least 12.5 percent owned by foreign investors. Borrowers look less at where the supplier of a good or service is located and more at the quality and price of the good or service. Clearly, only the largest firms can successfully compete worldwide. Globalization in financial services implies that the top layer of firms will consist of a few, very large consolidated organizations.

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7.-WHY WORRY ABOUT BANK CAPITAL?

Bank regulators primary objective is to ensure the safety and soundness of the U.S financial system. It is generally believed that failures of individual banks, particularly large institutions, might erode public confidence in the financial system. The federal government attempts to limit the magnitude and scope of bank failures and ensure confidence in the banking system by imposing minimum capital requirements for individual banks. Requirements are met when banks obtain an acceptable amount of financing in the form of qualifying equity capital and related long-term dept sources. Such capital reduces the risk of failure by acting as a cushion against loses, providing access to financial markets to meet liquidity needs, and limiting growth. Bank supervision has reached the point where regulators now specify minimum amounts of equity and other qualifying capital that banks must obtain to continue operations. Historically regulators stipulated minimum capital-to-asset ratios but did not worry about the quality of bank assets. While bank capital-to-asset ratios averaged near 20 percent at the turn of the century, comparable ratios today are closer to 8 percent. Clearly, solvency risk in the banking system has increased in the aggregate over time because asset quality has not improved sufficiently to compensate for the lower percentages of capital. More importantly, under the old capital regulation two banks of the same size of would have to operate with the same amount of capital independent of their risk profiles. Thus, a bank that held on the Treasury securities needed the same capital as the same size bank that held speculative real estate loans. Does this seem reasonable? The answer depends on the role that capital is expected to serve and whether regulators want to control bank risk. Capital-to-asset ratios at commercial banks and savings and loans are below similar ratios at other financial institutions and well below capital ratios at other non financial businesses. This difference reflects the intermediation function of depository institutions and thus is not remarkable. High financial

leverage, however, increases the relative riskiness of operations by providing less protection to creditors upon liquidation of the firm. Bankers also recognize that high leverage increases potential profitability, so they attempt to minimize external equity financing. Regulators, in contrast, want to increase bank equity financing and focus on balancing solvency risks with an individual bank's profit potential.

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7.1-RISK BASED CAPITAL STANDARDS

Historically, bank regulators specified minimum capital standards for banks that were independent of the riskiness of each institution. During the 1970s the regulatory agencies established capital adequacy by creating bank peer groups, setting target capital ratios for each groups, and then adjusting those targets on a case by case basis with no specific minimum capital requirement. During this period, capital ratios declined steadily as the capital ratios of many large banks declined, and several large banks failed. In 1981, the Federal Reserve Board and the comptroller of the currency adopted explicit numerical capital standards for two of three groups established based on asset size. The three groups were defined as multinational, regional, and community. The largest multinationals were treated on a case-by-case basis with no explicit capital ratio requirement but with the expectation that they would increase their capital positions or explicit requirements would be in place. Regional banks (assets between $ 1 billion and $ 15 billion) and community banks (assets below $ 1 billion) were required to maintain a primary capital to asset ratio of at least 5 percent and 6 percent, respectively. Primary capital consisted of common and perpetual preferred stock, surplus, undivided profits, contingency and other capital reserves, mandatory convertible debt, and the allowance for loan and lease losses. Regulator recognized secondary capital to include balance sheet items such a long-term subordinated debt and limited life preferred stock. Primary plus secondary capital equated total capital, with the minimum set at 6 percent of total bank assets. One notable problem was that these requirements were established without regard to a bank's asset quality, liquidity risk, and interest rate risk. Thus, when banks feel under pressure to increase earnings, as in the case of declining net interest margins, capital requirement imposed no constraints to risk-taking other than limiting growth. Bank regulators did force banks to have more capital than the minimums when they perceived bank risk to be excessive, but this determination often occurred long after management made risky loans.

The Basle Agreement

In 1986, U.S Bank regulators proposed that banks be required to maintain minimum amounts of capital that reflect the riskiness of bank assets. By the time it was implemented, the proposal included risk-based capital standards for banks in 12 industrialized nations. U.S. bank regulators phased-in the requirements starting in 1990with the regulations in place by the end of 1992. Importantly, savings and loans have been required to meet the same risk-based capital standards since 1992. Today, countries that are members of the organization for Economic Cooperation and Development (OECD) enforce risk-based requirements on their own banks. Although the terms varied between nations, primarily in terms of what constitutes capital, the Basel Agreement contained several importants elements. First, a bank's minimum capital requirement is linked by formula to its credit risk as determined by the composition of assets. The greater is credit risk, the greater is required capital. Second, stockholders equity is deemed the most critical type of capital. As such, each bank is expected to cooperate with a minimum amount of credit risk. Third, the minimum total capital requirement increase to 8 percent risk-adjusted assets. Finally, the capital requirements were approximately standardized between countries to " level the playing field" that is, to remove competitive advantages that banks in one country might have over banks in other countries because of regulatory or accounting differences.

(Source:Basle Committee on Banking Supervision, Basle,March 1998)

7.2-RISK –BASED ELEMENTS OF THE PLAN

To determine minimum capital requirements for a bank to be adequately capitalized, bank manager follow a four-step process.

1- Classify assets into one of four risk categories, appropriate to the obligor, collateral, or guarantor of the asset
2- Convert off-balance sheet commitments and guarantees to their on-balance sheet "credit equivalent" values and classify them in the appropriate risk categories.
3- Multiply the dollar amount of assets in each risk category by the appropriate risk weight; this equals risk-weight assets.
4- Multiply risk-weighted assets by the minimum capital percentages, either 4 percent for Tier 1 capital or 8 percent for total capital for a U.S. bank to be adequately capitalized.

The process ensures that assets with the highest perceived credit risk have the highest risk weights and require the most capital. In addition to these credit risk-based standards, the Fed,

FDIC, and OCC adopted measures related to the supervisory treatment of interest rate risk and market risk capital requirements.

8.-CAPITAL REQUIREMENTS

The regulatory agencies have long required commercial banks to operate with minimum amounts of capital. Historically, they enforced capital requirements in terms of balance sheet ratios that specified minimum amounts of capital as a fraction of total assets. Effective in 1992 banks had to meet capital standards, which tied required capital to the riskiness of bank assets. The intent is to limit risk taking. In general, bank regulators want to increase minimum capital requirements, especially when they do not have other means to monitor of control bank risk taking. With the widespread savings and loan failures and deficiencies in deposit insurance funds, bank stockholders were expected to assume more risk. Congress thus passed legislation that imposed formal risk-based capital requirements on all banks. Increased capital reduced risk to the insurance funds because more assets can default before a bank fails in 1998 a large hedge fund, Long Term Capital Management, effectively failed because it assumed considerable risk. Large foreign and U.S. commercial and investments banks were heavily exposed to the firm because they had loaned substantial amounts of funds to the firm for it to use as it chose. It was clear after the firm ran in to problems that the banks had not monitored their risk exposure well. Regulators responded by suggesting closer scrutiny of loans that banks make to hedge funds.

The ramifications of greater capital requirements are enormous:

First, equity is more expensive than debt because interest payments are deductible to the bank while dividends on stock are not. It is those costly to issue new stock.

Second, the majority of banks do not have ready access to the equity market and most banks subsequently find it extremely difficult to add capital externally. Small banks stocks are simply not broadly traded. Banks that nered capital must rely either on retaining earnings or finding a merger partner.

Thus the final impact is that increased capital requirements lead to consolidation. The largest banks, however, have found access to equity markets much quicker, easier, and cheaper. Capital rich firms have market power to purchase to capital deficient firms relatively inexpensively.

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9.-WHAT CONSTITUTES BANK CAPITAL?

According to the accounting definition, capital or net worth equals the cumulative value of assets minus the cumulative value of liabilities and represents ownership. Interest in a firm. It is traditionally measured on a book value basis where assets and liabilities are listed in terms of historical cost. In banking, the regulatory concept of bank capital differs substantially from accounting capital. Specifically, regulators include certain forms of that and loss reserves when measuring capital adequacy. This policy raises numerous issues regarding bank capital's function and optimal mix. Accounting capital includes the book value of common equity and preferred stock outstanding. Total equity capital equals the sum of common stock, surplus, undivided profits, and capital reserves, and net unrealized holding gains (losses) on available-for-sale securities cumulative foreign currency translation adjustments, and perpetual preferred stock as defined below:

- **Common stock** equals par value of common stock outstanding; thus, if there are one million shares outstanding with part value of $ 10 per share, common stock will show $10 million.
- **Surplus** equals the excess over par value at which common stock was issued plus the value of undivided profits allocated to surplus. Suppose, in the above case, that one million common stock shares were originally sold in the market place to net a bank $15 per share or $5 million, would be allocated to surplus.
- **Undivided profits and capital reserves. Undivided profits** equal the value of cumulative retained earnings minus transfer to surplus. Retained earnings increases when a bank reports net income that exceeds dividend payments, and decreases when net income is less than dividends or the banks reports a loss.
- **Capital reserves** for contingencies and other capital reserves equal the value of cumulative reserves established for deferred taxes or contingencies. Contingencies include expected payments to retire outstanding preferred stock settle lawsuits, and satisfy other extraordinary obligations. These reserves have been combined with undivided profit for reporting purposes since 1978.
- **Net unrealized holding gains (losses) on available-for-sale securities.** For risk-based capital purposes, common stockholders equity capital includes any net unrealized holding losses on available-for-sale equity securities with readily determinable fair values, but excludes other net unrealized holding gains (losses) on available-for-sale securities. FASB 115 requires banks and other firms to mark certain

developments permanently altered the commercial banking industry. The growth in junk bonds reduced pool of good-quality loans and lowered risk-adjusted yield spreads over bank borrowing costs. Banks generally responded either by increasing the riskiness of their loan portfolios or trying to move into investment banking and other service areas that generate fee income. Bank choosing the first path sacrificed long-term profitability and solvency for short-term gains. They maintained yield spread temporarily, but increased default risk on the loans, which ultimately eroded earnings through higher loan charge- offs. Most banks seeking greater fee income have had limited options. They would like to provide a full range of securities underwriting services, sell new types of insurance, and offer other products without the inherent credit risk of loans. This would allow them to diversify their assets base and revenue stream and lower the risk of failure. Regulation, however, has been slow in opening many of these activities today different size banks pursue different strategies. Small-to medium-size banks continue to concentrate on loans but seek to strengthen customer relation-ships by offering personal service. Day now measures their cost better and priced loans and deposits to cover their costs plus meet profit targets. The best evidence is that most banks now calculate their own cost of funds and price loans off this index rather than off a money centre bank's prime rate. Many of these same banks have rediscovered the consumer loan (figure 1.1) consumer loans have increased from 36 percent of total loans to a high of 45 percent in 1995. During this same period, commercial loans have decreased from 64 percent to 55 percent. The growth in consumer loans has slowed some-what since 1995, due primarily to the rapid increased in default rates and personal bankruptcy rates we have seen in the late 1990s. Historically, rates charged on consumer loans have far exceeded the respective default rates and the cost of financing such that net profits have exceeded those on commercial loans. A further advantage with retail customers is that consumer deposits are much less rate sensitive then large certificates of deposit and other borrowed funds. The biggest losers are low-balance depositors who have seen service charges double to cover the bank's costs of providing transactions services.

4.4-COMPETITION FOR PAYMENT SERVICES

Once the exclusive domain of banks and other depository institutions, the nation's payment system has become highly competitive. Even the Federal Reserve System's role in processing and clearing checks could be replaced by new technology. This, of course, would not come without risks. Only the Fed can prevent default by one large institution from causing the system to collapse. The real challenge for the Fed and banks in the delivery of payment

processing services is emerging electronic payment systems, such as smart and stored-valued cards, automatic bill payment, and bill presentment processing. Many private companies offer these products but the Fed still settles the accounts. In an article in wired magazine, former Citicorp chairman and CEO Walter Wriston said that their were 300,000 smart cards issue during the 1996 Olympics in Atlanta, that 7-Eleven is issuing smart cards, and that more than 400 million smarts cards were shipped to Asia. Smarts cards are like an electronic *wallet.* (Source: Bass Thomas A., "The Future of Money", Wired, October 1996).They can hold a specific amount of money and be use for any amount-hence small denominations and changes are easily handled. When the stored value on the card is used up, some smart cards are designed to be thrown away; others can be "refilled."

4.5-COMPETITION FOR OTHER BANK SERVICES

Banks and their affiliates offer many products and services in addition to deposits bank loans. A partial list includes trust services, discount brokerage, data processing, securities underwriting, real estate appraisal, credit life insurance, and personal financial consulting. Although a bank cannot underwrite securities domestically, it can own a Glass-Steagall Section 20 affiliate. In 1987 commercial banks won permission from the Federal Reserve to underwrite and deal in securities and five banks set up the necessary Section 20 subsidiaries. Since then the number has grown nine fold. At the beginning of 1998 there were 45 Section 20 companies. Initially, the Fed only allowed banks to earn 5 percent of the revenue in their securities affiliates. This was raised to 10 percent in 1989 and to 25 percent in March 1997. All Section 20 affiliates have Tier 1 powers-the authority to underwrite and deal in certain municipal revenue bonds, mortgage-related securities, commercial paper, and consumer-receivable-related securities. In early *1998, about 27 Section20 affiliates also had Tier to* powers-allowing them to underwrite and deal in corporate debt and equity securities. The Federal Reserve Board made Bankers Trust's purchase of Alex Brown, Nations bank's purchase of Montgomery Securities, and BankAmerica's purchase of Robertson Stephens possible by two recent changes in section20 affiliate restrictions. First, the Fed increased the revenue limit to 25 percent. Second, the Fed made it easier for banks to stay within the 25 percent income limit by reclassifying interest income on securities that banks have long been allowed to own, such as commercial paper as income that does not count toward the amount of income a Section 20 can receive from its securities underwriting activities. In both 1997 and 1998 the Fed relaxed its stand on the required firewalls between the Section 20 affiliates activities and those of the banks. It is expected that the fed will eliminate most if not all of

these firewalls and effectively allow banks with Section 20 powers to operate with powers similar to those of the larger brokerage houses. Regulators see the ideal structure as a one–stop financial conglomerate that offers a full range of deposit, credit, insurance, investment, and consulting services.In essence, current distinctions between financial firms would be eliminated. Commercial banks find these services attractive because traditional suppliers have often earned higher returns than banks. Regardless of what period is considered, commercial banks ranked near the bottom in terms of overall profitability measured by return on assets (ROA) their volatility of returns measured by the coefficient of variation of ROA, however was very low, indicated that other firms typically experienced wider swings in annual returns the final column indicates the correlation between ROAs of bank holding companies and each industry group as indicator of diversification potential. A high correlation suggests that earnings move together so that little diversification benefit would be realised. Although this correlation is quite high for insurance firms and agents, it is occasionally negative, as it was with securities companies and commodity brokers from 1970 to 1989 and real estate and other investment companies from 1980 to 1989 the implication is that banks earn less on average relative to their asset base, but exhibit less volatility in earnings. These data suggest that securities firms, real estate, and other investment company activities would be the better merger partners because of the negative correlation in returns and hence the potential diversification benefits. The 1980s represented a period of intense competition where non-bank competitors aggressively entered traditional banking business lines. Commercial banks suddenly found themselves competing with non-bank banks, finance companies, in high-growth thrifts for loans and deposit. Once-loyal customers moved their business for better terms. Unfortunately, the increased competition coincided with many banks loan problems in energy, real estate, and agriculture which made it even more difficult to maintain quality assets and market share. Competitors such as investment banks, captive automobile finance companies, other finance companies, and technology firms engage in activities that many banks would like to pursue and demonstrate the degree of competition involved.

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(Source: "The Bank Management" by Timothy W.Koch and S.Scott MacDonald, published by The Dryden Press, Fourth Edition)

7.1-RISK BASED CAPITAL STANDARDS

Historically, bank regulators specified minimum capital standards for banks that were independent of the riskiness of each institution. During the 1970s the regulatory agencies established capital adequacy by creating bank peer groups, setting target capital ratios for each groups, and then adjusting those targets on a case by case basis with no specific minimum capital requirement. During this period, capital ratios declined steadily as the capital ratios of many large banks declined, and several large banks failed. In 1981, the Federal Reserve Board and the comptroller of the currency adopted explicit numerical capital standards for two of three groups established based on asset size. The three groups were defined as multinational, regional, and community. The largest multinationals were treated on a case-by-case basis with no explicit capital ratio requirement but with the expectation that they would increase their capital positions or explicit requirements would be in place. Regional banks (assets between $ 1 billion and $ 15 billion) and community banks (assets below $ 1 billion) were required to maintain a primary capital to asset ratio of at least 5 percent and 6 percent, respectively. Primary capital consisted of common and perpetual preferred stock, surplus, undivided profits, contingency and other capital reserves, mandatory convertible debt, and the allowance for loan and lease losses. Regulator recognized secondary capital to include balance sheet items such a long-term subordinated debt and limited life preferred stock. Primary plus secondary capital equated total capital, with the minimum set at 6 percent of total bank assets. One notable problem was that these requirements were established without regard to a bank's asset quality, liquidity risk, and interest rate risk. Thus, when banks feel under pressure to increase earnings, as in the case of declining net interest margins, capital requirement imposed no constraints to risk-taking other than limiting growth. Bank regulators did force banks to have more capital than the minimums when they perceived bank risk to be excessive, but this determination often occurred long after management made risky loans.

The Basle Agreement

In 1986, U.S Bank regulators proposed that banks be required to maintain minimum amounts of capital that reflect the riskiness of bank assets. By the time it was implemented, the proposal included risk-based capital standards for banks in 12 industrialized nations. U.S. bank regulators phased-in the requirements starting in 1990with the regulations in place by the end of 1992. Importantly, savings and loans have been required to meet the same risk-based capital standards since 1992. Today, countries that are members of the organization for Economic Cooperation and Development (OECD) enforce risk-based requirements on their own banks. Although the terms varied between nations, primarily in terms of what constitutes capital, the Basel Agreement contained several importants elements. First, a bank's minimum capital requirement is linked by formula to its credit risk as determined by the composition of assets. The greater is credit risk, the greater is required capital. Second, stockholders equity is deemed the most critical type of capital. As such, each bank is expected to cooperate with a minimum amount of credit risk. Third, the minimum total capital requirement increase to 8 percent risk-adjusted assets. Finally, the capital requirements were approximately standardized between countries to " level the playing field" that is, to remove competitive advantages that banks in one country might have over banks in other countries because of regulatory or accounting differences.

(Source:Basle Committee on Banking Supervision, Basle,March 1998)

7.2-RISK –BASED ELEMENTS OF THE PLAN

To determine minimum capital requirements for a bank to be adequately capitalized, bank manager follow a four-step process.

1- Classify assets into one of four risk categories, appropriate to the obligor, collateral, or guarantor of the asset
2- Convert off-balance sheet commitments and guarantees to their on-balance sheet "credit equivalent" values and classify them in the appropriate risk categories.
3- Multiply the dollar amount of assets in each risk category by the appropriate risk weight; this equals risk-weight assets.
4- Multiply risk-weighted assets by the minimum capital percentages, either 4 percent for Tier 1 capital or 8 percent for total capital for a U.S. bank to be adequately capitalized.

The process ensures that assets with the highest perceived credit risk have the highest risk weights and require the most capital. In addition to these credit risk-based standards, the Fed,

FDIC, and OCC adopted measures related to the supervisory treatment of interest rate risk and market risk capital requirements.

8.-CAPITAL REQUIREMENTS

The regulatory agencies have long required commercial banks to operate with minimum amounts of capital. Historically, they enforced capital requirements in terms of balance sheet ratios that specified minimum amounts of capital as a fraction of total assets. Effective in 1992 banks had to meet capital standards, which tied required capital to the riskiness of bank assets. The intent is to limit risk taking. In general, bank regulators want to increase minimum capital requirements, especially when they do not have other means to monitor of control bank risk taking. With the widespread savings and loan failures and deficiencies in deposit insurance funds, bank stockholders were expected to assume more risk. Congress thus passed legislation that imposed formal risk-based capital requirements on all banks. Increased capital reduced risk to the insurance funds because more assets can default before a bank fails in 1998 a large hedge fund, Long Term Capital Management, effectively failed because it assumed considerable risk. Large foreign and U.S. commercial and investments banks were heavily exposed to the firm because they had loaned substantial amounts of funds to the firm for it to use as it chose. It was clear after the firm ran in to problems that the banks had not monitored their risk exposure well. Regulators responded by suggesting closer scrutiny of loans that banks make to hedge funds.

The ramifications of greater capital requirements are enormous:

First, equity is more expensive than debt because interest payments are deductible to the bank while dividends on stock are not. It is those costly to issue new stock.

Second, the majority of banks do not have ready access to the equity market and most banks subsequently find it extremely difficult to add capital externally. Small banks stocks are simply not broadly traded. Banks that nered capital must rely either on retaining earnings or finding a merger partner.

Thus the final impact is that increased capital requirements lead to consolidation. The largest banks, however, have found access to equity markets much quicker, easier, and cheaper. Capital rich firms have market power to purchase to capital deficient firms relatively inexpensively.

(Source: "The Bank Management" by Timothy W.Koch and S.Scott MacDonald, published by The Dryden Press, Fourth Edition)

9.-WHAT CONSTITUTES BANK CAPITAL?

According to the accounting definition, capital or net worth equals the cumulative value of assets minus the cumulative value of liabilities and represents ownership. Interest in a firm. It is traditionally measured on a book value basis where assets and liabilities are listed in terms of historical cost. In banking, the regulatory concept of bank capital differs substantially from accounting capital. Specifically, regulators include certain forms of that and loss reserves when measuring capital adequacy. This policy raises numerous issues regarding bank capital's function and optimal mix. Accounting capital includes the book value of common equity and preferred stock outstanding. Total equity capital equals the sum of common stock, surplus, undivided profits, and capital reserves, and net unrealized holding gains (losses) on available-for-sale securities cumulative foreign currency translation adjustments, and perpetual preferred stock as defined below:

- **Common stock** equals par value of common stock outstanding; thus, if there are one million shares outstanding with part value of $ 10 per share, common stock will show $10 million.
- **Surplus** equals the excess over par value at which common stock was issued plus the value of undivided profits allocated to surplus. Suppose, in the above case, that one million common stock shares were originally sold in the market place to net a bank $15 per share or $5 million, would be allocated to surplus.
- **Undivided profits and capital reserves. Undivided profits** equal the value of cumulative retained earnings minus transfer to surplus. Retained earnings increases when a bank reports net income that exceeds dividend payments, and decreases when net income is less than dividends or the banks reports a loss.
- **Capital reserves** for contingencies and other capital reserves equal the value of cumulative reserves established for deferred taxes or contingencies. Contingencies include expected payments to retire outstanding preferred stock settle lawsuits, and satisfy other extraordinary obligations. These reserves have been combined with undivided profit for reporting purposes since 1978.
- **Net unrealized holding gains (losses) on available-for-sale securities.** For risk-based capital purposes, common stockholders equity capital includes any net unrealized holding losses on available-for-sale equity securities with readily determinable fair values, but excludes other net unrealized holding gains (losses) on available-for-sale securities. FASB 115 requires banks and other firms to mark certain

Banks that fall into one of the bottom three categories prompt some explicit regulatory action. Undercapitalized banks are institutions that do not meet at least one of the three minimum capital requirements. Significantly undercapitalized banks have capital that falls significantly below at list one of the three standards. Finally, critically undercapitalized banks do not meet minimum threshold levels for the three capital ratios. A bank that is undercapitalized must limit its asset growth, suspend dividends, and offer a capital restoration plan among other requirements. For a bank that is significantly undercapitalized regulators can specify deposit rates and the pay of bank officers, clearly decisions that senior management normally makes in the general course of business operation. Critically undercapitalized banks are near failure and treated accordingly. Once a bank reaches this stage, regulators can place them under receivership within 90 days. A review of the top panel reveals that such banks can have positive tangible equity capital equal to almost 2 percent of assets, be technically solvent, and still be closed by regulators. The impact of Federal Deposit Insurance Improvement Act (FDICIA) is much broader than that suggested by these provisions. Clearly, problem or undercapitalized institutions must obtain capital to remain in business. This often requires entering into a merger or acquisition because is difficult to enter the primary markets and issue new capital. Similarly, bank managers know that if they maintain strong capital positions the regulators will let them operate without much restriction. . If the regulators believe that risk is above average for any reason, they can impose additional requirements.

These requirements are;

10.1.-CAPITAL REQUIREMENTS FOR INTEREST RATE RISK

In response to the Federal Deposit Insurance Improvement Act (FDICIA)'s stipulation that regulators systematically measure and monitor a bank's interest rate risk position, banks are required to have additional capital beyond that evidenced by default risk when they take excessive interest rate risk. However, there is no explicit supervisory model or standard to determine whether or when a bank has excessive interest rate risk exposure and what the correspondent additional capital requirement might be. Since 1998, regulators have used a case-by-case approach to access capital adequacy for interest rate risk. Regulators have adopted guidelines that advise bank directors to ensure the use of formal models to measure risk, establish interest-rate-risk limits, appoint officials to oversee policy, and monitor management compliance.

10.2-CAPITAL REQUİREMENTS FOR MARKET RISK USING INTERNAL MODELS

Many large banks have dramatically increased the sized and activity of their trading accounts, resulting in greater exposure to market risk. Market risk is the risk of loss to the bank from fluctuations in interest rates, equity prices, foreign exchange rates, commodity prices, and exposure to specific risk associated with debt and equity positions in the bank's trading portfolio. Market risk exposure is, therefore, a function of the volatility of these rates and prices and the corresponding sensitivity of the bank's trading assets and liabilities. Banks and bank holding companies with significant trading activities must measure and hold capital for exposure to general market risk. Qualifying banks and bank holding companies are those whose trading account position, assets plus liabilities, exceeds $1 billion or 10 percent of total assets. Hendricks and Hirtle (1997) estimated that at the end of 1996, 17 banks, that controlled almost 98 percent of the trading position of all U.S. banks, met these requirements. The market risk capital rules require that an institution measure its general market risk using an internally generated risk measurement model. This model is then used to calculate a value-at-risk (VAR) based capital charge. An institution may measure its specific risk through a valid internal model or by the so-called "standardized approach". The standardized approach uses a risk-weighting process developed by the Basle Committee on banking supervision. Regulatory requirements propose that an institution electing to use an internal model approach to measure market risk be subject to the following eight standards:

1- Value-at-risk should be computed each business day and should be based on a 99 percent (one-tailed) confidence level of estimated maximum loss.
2- The assumed holding period used for the VAR measure must be 10 business days.
3- The model must measure all material risk incurred by the institution.
4- The model may utilize historical correlations within broad categories of risk factors (interest rates, exchange rates, and equity and commodity prices), but not among these categories. That is, the consolidated value-at-risk is the sum of the individual VARs measured for each broad category.
5- The nonlinear price characteristics of options must be adequately addressed.
6- The historical observation period used to estimate future price and rate changes must have a minimum length of one year.
7- Data must be updated no less frequently than once every three months and more frequently if market conditions warrant.

8- Each yield curve in a major currency must be modelled using at least six risk factors, selected to reflect the characteristics of the interest rates sensitive instruments that the institution trades. The model must also take account of spread risk.

The explicit market risk capital requirements are designed to capture both general market risk as well as specific market risks. General market risk refers to changes in the market value of on-balance sheet assets and off-balance sheet items resulting from broad markets movements. General market risk includes risk common to all securities, such as changes in the general level of interest rates, exchange rates, commodity prices or stock prices. Specific market risks are those risks specific to a particular security issue such as the underlying credit risk of the firm who issued a bond. The market risk capital standard also imposes a set of qualitative standards in addition to the quantitative measure discussed above. The qualitative standards are designed to ensure that banks using internal models to measure market risk have conceptually sound risk management systems and that these systems are implemented with integrity. In particular, there are three qualitative elements required:

- The bank's internal risk measurement model should be closely integrated in the daily risk management process and serve as a basis for reporting of risk exposures to senior officers.
- The bank should routinely evaluate its exposures to highly stressful events via stress tests to identify the circumstances to which their particular trading portfolios are most vulnerable.
- The bank's risk control unit should be completely independent of the business units that generate the market risk exposures.

Banks and regulators are in the early stages of developing these internal market risk models. These models must undergo back-testing and verification and may eventually be expanded to help analyze credit, operational, and even legal risk in the future.

(Source: "The Bank Management" by Timothy W.Koch and S.Scott MacDonald, published by The Dryden Press, Fourth Edition)

11.BANKING RISKS AND RETURNS:

11.1-THE PROFITABILITY, LIQUIDITY, AND SOLVENCY TRADE-OFF

The fundamental objective of bank management is to maximize shareholders wealth. This goal is typically interpreted to mean maximizing the market value of a firm's common stock. Wealth maximization, in turn, requires that managers evaluate the present value of cash flows under uncertainty with larger, near-term cash flows preferred when evaluated on a risk-adjusted basis. Profit maximization appears to suggest that the bank manager simply invest in assets that generate the highest gross yields and keep costs down. But profit maximization differs from wealth maximization. To obtain higher yields, a bank must either take on increased risk or lower operating costs. Greater risk manifests itself in greater volatility of net income and market value of stockholders equity. Wealth maximization requires the manager to evaluate and balance the trade-off between the opportunity for higher returns, the probability of not realizing those returns, and the possibility that the bank might fail. A bank's profitability will generally vary directly with the riskiness of its portfolio and operations. Although some risks can be sought out or avoided, others are inherent in the prevailing economic environment and specific markets served. Banks in agriculture or energy-related areas, for example, lend to businesses involved in cyclical industries. Even though management can control the credit evaluation procedure, returns to the bank vary with returns to its customers.

11.2 RISK MANAGEMENT

Risk management is the process by which managers identify, assess, monitor, and control risk associated with a financial institution's activities. The complexity of and the range of financial products have made risk management more difficult to accomplish and to evaluate. In larger financial institutions, risk management is used to identify all risks associated with particular business activities and to aggregate information such that exposures can be evaluated on a common basis. This enables these institutions to manage risks on both a transactions basis and by portfolio in light of the institution's exposures in a global strategic environment. The Federal Reserve Board has identified six types of risk.

1- Credit risk
2- Liquidity risk

3- Market risk

4- Operating risk

5- Reputation risk

6- Legal risk

Although capital or solvency risk is not listed as a separate risk category by either the Fed or the OCC, it represents the summery of all listed risks. Each of these risks is fundamental to the likelihood that currents events or potential events will negatively affect an institution's profitability and the market value of its assets, liabilities, and stockholders equity. Risk can be absorbed by sufficient bank capital such that the institution will remain solvent. As a result, capital or solvency risk is addressed separately and represents a summary of the six risks listed above.

11.2.1-CREDIT RISK

Credit risk associated with the quality of individual assets and the likelihood of default. It is extremely difficult to assess individual asset quality because limited published information is available. In facts, many banks that buy banks are surprised at the acquired bank's poor asset quality even though they conducted a due diligence review of the acquired bank prior to the purchase. Whenever bank acquires an earning asset, it assumes the risk that the borrower will default, that is, not repay the principal and interest on a timely basis. Credit risk is the potential variation in net income and market value of equity resulting from this non-payment or delayed payment. Different types of assets and off-balance sheet activities have different default probabilities. Loans typically exhibit the greatest credit risk. Changes in general economic conditions and a firm's operating environment alter the cash flow available for debt service. These conditions are difficult to predict. Similarly, an individual's ability to repay debts varies with changes in employment and personal net worth. For these reason, banks perform a credit analysis on each loan request to assess borrower's capacity to repay. Unfortunately, loans tend to deteriorate long before accounting information reveals any problems. In addition, many banks enter in to off-balance sheet activities, such as loan commitments, guarantee offers, and derivative contracts. The prospective borrowers and counterparties must perform or the bank may take a loss. These risks can be substantial, but are difficult to measure from published data. Bank investment securities generally exhibit less credit risk because the borrowers are predominantly, federal, state, and local governmental units. Banks are also generally restricted to investment grade securities, those rated Baa (BBB) or higher, which exhibit less default risk. Even municipal bonds are subject to defaults,

such as the 1983 default of the Washington Public Power Supply System on $2.25 billion in bonds to finance nuclear power plants.

Banks evaluate their general credit risk by asking three questions: what are the historical loss rates on loans and investments? What are expected losses in the future? How is the bank prepared to weather the losses?

Credit risk measures focus predominantly on these same general areas. Managers typically focus their attention on a bank's historical loan experience because loan exhibit the highest default rates. Ratios (as a percentage of total loans and leases) that examine the historical loss experience include: gross losses, net losses, and recoveries. The UBPR provides aggregate loss data as well as loss data by type loans

Gross loan losses (charge-offs) equal the dollar value of loand actually written off as uncollectible during a period. **Recoveries** refer to dollar amount of loans that were previously charged-off but now collected. **Net charge-offs** equals the different between gross charge-offs directly reduce reserves that a bank sets aside for potential losses. Net charge-offs are not reported on the income statement, as are provisions for loan losses. Provisions for loan losses represent a transfer of funds (deferral of income taxes because it is deducted from income before determining taxes) to build the allowance for loan losses (loan loss reserve) up to its desired level. That a bank's balance sheet lists the allowance for loan and lease losses under gross loans as a contra-asset account. Note that this allowance or loan loss reserve is only an accounting entry and does not represent funds ion some cookie jar that a bank can go to when it needs cash. The greater a bank's loss reserves, the more it has provided for loan losses but not charged off. Ratios that examine expected future loss rates include loans past due, non-accrual, total non-current loans, and classified loans as a fraction of total loans**. Past due loans** represent loans for which contracted interest and principal payments have not been made within 90 days after the due date but are still accruing interest. **Non-accrual loans** are those with pasts due payments which are not currently accruing interest. **Total non-current loans** are the sum of these two types of loans. Restructured loans are loans for which the lender has modified the required payments on principal or interest. **Classified loans** are a general category of loans in which regulators have forced management to set aside reserves for clearly recognized losses. Because some loans, such have speculative construction loans, are riskier than others, an analyst should examine the composition of a bank's loan portfolio and the magnitude of past due, non-accrual, non-current, restructured, and classified loans relative to total loans. The UBPR presents a series of ratios that examine a bank's ability to handle current and expected future losses. These include the bank's provisions for loan losses

and loan and lease loss allowance (loan loss reserve) as a percentage of total loans, earning coverage of net losses, and loan and lease loss allowance to net losses. When management expects to charge-off large amounts of loans, it will build up the allowance for loan losses. It does this by adding to provisions for loan losses. Thus, a large allowance may indicate both good and bad performance. If asset quality is poor, a bank needs a large allowance because it will need to charge-off many loans. The allowance should be large because charge-offs will deplete it. Cash flows from loans will decline alone with reported interest income. In this case, a high loss reserve signals bad performance. With high quality assets, banks charge-off fewer loans, so the allowance can be proportionately less. A bank with a large allowance for loan losses and few past due, non-accrual, or performing loans will not need all of the reserve to cover charge-offs which will be low. Such a bank has reported provisions for loan losses that are higher than needed such that prior period net income is too low. Provisions are a deduction from income. Ideally, management should relate the size of the loan loss reserve to nonperforming loans, which represent potential charge-offs. With a reserve equal to nonperforming loans (100 percent coverage), a bank should be well protected because it shouldn't expect to charge-off all nonperforming loans. Another ratio used to measures a bank's ability to cover current ratio period losses is **earnings coverage of net losses.** This is a measure of net operating income before taxes, securities gains (losses), extraordinary items, and the provision for loan losses divided by net loan and lease losses. It indicates how many times current earnings can cover current net charge-offs. A higher ratio rates signals greater coverage and thus greater protection. Two other sources of credit risk should be identified. First, banks with high loan growth often assume greater risk, as credit analysis and review procedures are less rigorous. In many instances the loans perform for a while, but losses eventually rise. Thus, high loan growth rates, particularly when the loans are generated externally through acquisitions or entering new trade areas, often lead future charge-offs. Second, banks that lend funds in foreign countries take country risk. **Country risk** refers to the potential loss of interest and principal on international loans to due to borrowers in a country refusing to make timely payments, as per a loan agreement. In essence, foreign governments and corporate borrowers may default on their loans due to government controls over the actions of businesses and individuals, internal politics that may disrupt payments, general market disruptions, and problems that arise when government reduce or eliminate subsidies used as a source of repayment. Ideally, it would be useful to examine the credit files of a bank to assess the quality of specific loans although this information is provided to regulators, it is not available to the public. Regulators, in fact, assign each bank a rating for

asset quality (a for asset quality) as part of the CAMELS rating system. There has been some discussion of publishing these ratings, a policy that analyst's desire but bankers fear.

11.2.2-LIQUIDITY RISK

Liquidity risk is the current and potential risk to earnings and the market value of stockholders equity that a bank cannot meet a payment or clearing obligations in a timely and cost-effective manner. This risk can be the result of either funding problems or market liquidity risk.

Funding liquidity risk is the inability to liquidate assets or obtain adequate funding from new borrowing. The inability of the bank to easily unwind or offset specific exposures without significant losses from inadequate market depth or market disturbances is called **market liquidity risk.** This is greatest when risky securities are trading at high premiums to low-risk treasury securities because markets participants are avoiding high-risk borrowers. Liquidity risk is greatest when a bank cannot anticipate new loan demand or deposit withdrawals and does not have access to new sources of cash. Liquidity is generally discussed in terms of assets with reference to an owner's ability to convert the asset to cash with minimal loss from price depreciation. Most banks hold some assets the can be readily sold near par to meet liquidity needs. However, banks can access new funds both through the sale of liquid assets and by directly issuing new liabilities at reasonable cost. Thus, when bank need cash they can either sell assets or increase borrowing.

Risk measures indicate both the bank's ability to borrow funds and its liquid assets near maturity or available-for-sale. The equity-to-asset ratio and volatile (net non-core) liability-to-asset ratio represent the bank's equity base and borrowing capacity in the money markets.

Volatile liabilities or not non-core liabilities as they are listed in the UBPR, include large CDs (over 100,000), deposits in foreign offices, federal funds purchased, repurchase agreements, and other borrowings with maturities less than one year. If two banks hold similar assets, the one with the greater equity and lower financial leverage can take on more debt with less chance of becoming insolvent. A bank that relies less on jumbo CDs, federal funds, RPs, Eurodollars, and commercial paper, can issue greater amounts of new debt in this form. In both instances, the cost of borrowing is lower than that for a bank with the opposite profile.

Core deposits are stable deposits that are not highly interest rate-sensitive. These types of deposits are less sensitive to the interest rate paid but more sensitive to the fees charged, services rendered, and location of the bank. Thus, a bank will retain most of these deposits even when interest rates paid by competitors increase relative to the bank's own rates. As

such, the interest elasticity of the demand for core deposits is low. Core deposits include demand deposits, NOW accounts, MMDAs, and small time deposits that the bank expects to remain on deposits ever the business cycle. The greater the core deposits, the lower unexpected deposit withdrawals and potential new funding requirements. Volatile or purchased liquidity is also related to asset quality. The lower are high risk assets relative to equity, the greater is the bank's borrowing capacity and the lower are its borrowing costs. Banks purchase short-term securities for yielding to satisfy liquidity needs. Federal fund sold, resale's or securities purchase under agreement to resell, and unpledged available-for-sale securities are the most liquid assets, short-term securities are generally more liquid than longer-term securities because they are less volatile in price and the banks gets its principal back earlier if it holds the securities until maturity. However, banks are generally more willing to sell any security that currently trades at a price above book value because, at worst, they can report a securities gain.

Pledging requirements often stipulate that banks pledge either Treasury or municipal securities as collateral against deposit liabilities such as treasury deposits, municipal deposits, and borrowing from Federal Reserves banks. These pledged securities are often held by a third-party trustee and cannot be sold without a release. The greater the proportion of securities pledged, the smaller the proportion that might be available for sale.

Cash asset are held to meet customers withdrawals and legal reserved requirements or to purchase services from other financial institutions. Banks attempt to minimize cash holdings because they do not earn interest. For this reason, cash assets do not represent a source of long-term liquidity for the bank. Cash balances held at banks for clearing purposes can decline temporarily but must be replenished to meet reserves or pay for correspondent services. Cash items in the process of collection vary with the volume of checks handled and cannot be manipulated by the bank. Cash assets as a group are thus illiquid because a bank cannot reduce its holdings for any length of time. **Liquid asset** therefore consist of unpledged, marketable short-term securities that are classified as available-for-sale, plus federal funds sold and securities purchased under agreement to resell.

Loan provides liquidity in two ways. First, cash inflows from periodic interest and principal payments can be used to meet cash outflows. Second, some loans are highly marketable and can be sold to other institutions. For example, a large portion of loans guaranteed by the Small Business Administration (SBA) are guaranteed by the federal government. This guaranteed portion of an SBA loan is highly marketable because default risk is low. It is difficult to assess loan liquidity, however, from general balance sheet information. Finally, held-to-

maturity securities are not liquid because they cannot be sold prior to maturity unless certain restrictive conditions are met.

11.2.3-MARKET RISK

Market risk is current and potential risk to earnings and stockholders equity resulting from adverse movements in market rates or prices. The three areas of market risk are interest rate or reinvestment rate risk, equity or security price risk, and foreign exchange risk. Traditional **interest rate risk** analysis compares the sensitivity of interest income to changes in asset yields with the sensitivity of interest expense to changes in interest costs of liabilities. This is done via **funding GAP** analysis. The purpose is to determine how much net interest income will vary with movements in market interest rates. A more comprehensive portfolio analysis approach compares the duration of assets with the duration of liabilities via **duration gap analysis** to assess the impact of rate changes on net interest income and the market value (or price) of stockholders equity. Duration is an elasticity measure that indicates the relative price sensitivity of different securities.

Both funding GAP and duration gap focus on mismatched asset and liability maturities and durations as well as potential changes in interest rates. An asset or liability is **rate sensitive** if it can be reprised within a certain time period. A bank's net interest sensitivity position, of funding GAP, between assets and liabilities is approximated by comparing assets with liabilities that can be reprised over similar time frames. The dollar difference between rate-sensitive assets and rate-sensitive liabilities for 30 days, 30 to 90 days, and so forth, indicates whether more assets or liabilities will reprise within a given time interval. If this measure is positive, the bank will likely realize a decrease in net interest income if the level of short-term interest rate falls. If the measure is negative, the bank's net interest income will likely increase with a decline in rates, but decrease with rising rates. The larger the absolute value of the ratio, the greater the risk. In practice, most banks conduct sensitivity or simulation analysis to examine volatility in net interest income and stockholders equity to best identify interest rate risk exposures. Unfortunately, data contained in the UBPR are insufficient to evaluate a bank's interest rate risk position. Equity and security price risk examines how changes in market prices, interest rates, and foreign exchange rates affect the market values of any equities, fixed-income securities, foreign currency holdings, and associated derivative and other of-balance sheet contracts. Large banks must conduct value-at-risk analysis to assess the risk of loss with their portfolio of these trading assets. Small banks identify their exposure by conducting sensitivity analysis. Foreign exchange risk arises from changes in foreign

exchange rates that affect the values of assets, liabilities, and off- balance sheet activities denominated in currencies different from the bank's domestic (home) currency. It exists because some banks hold assets and issue liabilities denominated in different currencies. When the amount of assets differs from the amount of liabilities in a currency, any change in exchange rates produces a gain or loss that affects the market value of the bank's stockholders equity. This risk is also found in off-balance sheet loan commitments and guarantees denominated in foreign currencies. This risk is also known as foreign currency translation risk. Banks that do not conduct business in non-domestic currencies do not directly assume this risk. Most banks measure foreign exchange risk by calculating measures of net exposure by each currency. A bank's net exposure is the amount of assets minus the amount of liabilities denominated in the same currency. Thus, a bank has a net exposure for each currency for which it books assets and liabilities. The potential gain or loss form the exposure is indicated by relating each net exposure to the potential change in the exchange rate for that currency versus the domestic currency.

11.2.4-OPERATING RISK

Operating risk refers to the possibility that operating expenses might vary significantly from what is expected, producing a decline in net income and firm value. There are many causes of earnings variability in a bank's operating policies. Some banks are relatively in efficient in controlling direct costs and employee processing errors. Banks must also absorb losses due to employee and customer theft and fraud. A banks operating risk is closely related to its operating policies and processes and whether it has adequate controls. This risk is difficult to measure directly but is likely greater the higher the numbers of divisions or subsidiaries, employees, and loans to insiders. Typical measures of operating risk are linked to expense control or productivity and include ratios such as total assets per employee and total personnel expense per employee. Because operating performance depends on the technology a bank uses, success in controlling this risk depends on whether a banks system of delivering products and services is efficient and functional. Many banks have in-house support systems that provide check-clearing and cash settlement services. Other banks contract these services out to third-party vendors such as IBM and EDS. Operational risk also arises from the more difficult to measure risks of unexpected losses that might occur as the result of inadequate information systems, operational problems, breaches in internal controls, fraud, or unforeseen catastrophes. There is no meaningful way to estimate the likelihood of fraud or other contingencies from published data.

11.2.5-LEGAL AND REPUTATION RISK

Almost by definition, legal and reputation risk are quite difficult to measure. **Legal risk** is the risk that enforceable contracts, lawsuits, or adverse judgments could disrupt or negatively effect the operations, profitability, condition, or solvency of the institution. **Reputation risk** is the risk that negative publicity, either true or untrue, adversely affects a bank's customer base or brings forth costly litigation, hence negatively affecting profitability. Because these risks are basically unforeseen, they are all but impossible to measure.

11.2.6-CAPITAL OR SOLVENCY RISK

1. Capital risk is not considered a separate risk because all of the risks mentioned previously will in one form or another affect a bank's capital and hence solvency. It does, however, represent the risk a bank may become insolvent and fail. A firm is technically insolvent and fail. A firm is technically insolvent when it has negative net worth or stockholders equity. The economic net worth of a firm is the difference between the market value of its assets and liabilities. Thus, **capital risk** refers to the potential decrease in the market value of assets below the market value of liabilities indicating economic net worth zero or less. If such a bank were to liquidate its assets, it would not be able to pay all creditors, and would be bankrupt. A bank with equity capital equal to 10 percent of assets can withstand a greater percentage decline in asset value than a bank with capital equal to only 6 percent of assets. One indicator of capital risk is a comparison of stockholders equity with the bank's assets. The greater equity is to assets, the greater the amount of assets that can default without the bank becoming insolvent. A bank that assumes too much risk can become insolvent and fail. Operationally, failed banks cash inflows from debt service payments, new borrowings, assets sales are insufficient to meet mandatory cash outflows due to operating expenses, deposit withdrawals, and maturing debt obligations. A cash flow deficiency is caused by the markets evaluation that the market value of bank equity negative. High credit risk typically manifests itself through significant loan charge-offs. High interest rate risk manifests itself through mismatched maturities durations between assets and liabilities. High operating risk appears with costs being out-of-control. Banks operating with high risk are expected to have greater capital than banks with low risk. When creditors and shareholders perceive that a bank has high risk, they demand a premium on bank debt and bid share prices lower. This creates liquidity

problems by increasing the cost of borrowing and potentially creating a run on the bank. Banks ultimately fail because they can not independently generate cash to meet deposit withdrawals and operate with insufficient capital to absorb losses if they were forced to liquidate assets. A such, the market value of liabilities exceeds the market value of assets capital risk is closely tied to financial leverage, asset quality, and banks overall risk profile; the more risk taken, the greater is the amount of capital required. High amounts of fixed-rate sources of funds increase expected volatility of a firm's income because interest payments are mandatory. If a bank was funded entirely from common equity, it would pay dividends, but these payments are discretionary. Omitting dividends does not produce default. Firms with high capital risk – evidenced by low capital-to-asset ratios – exhibit high levels of financial leverage, have a higher cost of capital, and normally experience greater periodic fluctuations in earnings. Finally, many banks engage in activities off-balance sheet. This means that they enter into agreements that do not have a balance sheet reporting impact until a transaction is effected. An example may be a long-term loan commitment to a potential borrower. Until the customer actually borrows the funds, no loan is booked as part of the banks assets. Banks generally earn fees when they engage in off-balance sheet agreements. These agreements, in turn, entail some risk, as the bank must perform under the contract. **Off-balance sheet risk** refers to the volatility in income and the value of bank equity that may arise from unanticipated losses due to these off-balance sheet liabilities. To account for the potential risk of off-balance sheet activities, the new risk-based capital requirements require a bank to convert off-balance sheet activities to "on-balance" sheet equivalence and hold capital against these activities. Appropriate risk measures include all the risk measures discussed earlier as well as ratios measuring the ratio of: tier 1 capital and total risk based capital to risk weighted assets, equity capital to total assets, dividend pay out, and growth rate in Tier 1 capital. **Tier 1 capital** is total common equity capital plus non-cumulative preferred stock, plus minority interest in unconsolidated subsidiaries, less ineligible intangibles. **Risk weighted assets** are the total risk adjusted assets where the risk weights are based on four risk classes of assets.

TABLE 1.-REGIONAL NATIONAL BANK (RNB), RISK-BASED CAPITAL

	Assets $1000	Risk Weight	Risk Weighted Assets
Category 1: zero percent			
Cash & reserve	104,525	0.00%	0
Trading account	830	0.00%	0
U.S treasury & agency secs	45,882	0.00%	0
Federal reserve stock	5,916	0.00%	0
Total category	157,153		0
Category 2: 20 percent			
Due from banks/in process	303,610	20.00%	60,722
Int. bearing dep./F.F.S	497,623	20.00%	99,525
Domestic dep. Institutions	38,171	20.00%	7,634
Repurchase agreements (U.S. Treas. & agency)	329, 309	20.00%	65,862
U.S agencies (gov sponsored)	412,100	20.00%	82,420
State & municipal secured tax Authority	87,515	20.00%	17,503
C.M.O backed by Agency secs.	90,020	20.00%	18,004
SBAs (govt. Guaranteed portion)	29,266	20.00%	5,853
Other category 2 assets	0	20.00%	0
Total category	1,787,614		357,523
Category 3: 50 percent			
C.M.O backed by mtge. Loans	10,000	50.00%	5,000
State & Muni's/all other	68,514	50.00%	34,257
Real estate: 1- 4 family	324,422	50.00%	162,211
Other category 3 assets	0	50.00%	0
Total category 3	402,936		201,468

Category 4: 100 percent			
Loans: comm./ag./inst./leases	1,966,276	100.00%	1,966,276
Real estate, all other	388,456	100.00%	388,456
Allowance credit loss	(70,505)	0.00%	0
Other investment	168,519	100.00%	168,519
Premises, equity, other assets	194,400	100.00%	194,400
Other category 4 assets	0	100.00%	0
Total category 4	**2,647,146**		**2,717,651**
Total asset before off-balance Sheet	**4,994,849**		**3,276,642**
Off-Balance Sheet contingencies			
0% collateral category	0	0.00%	0
20% collateral category	0	20.00%	0
50% collateral category	0	50.00%	0
100% collateral category	473,365	100.00%	473,365
Total contingencies	**473,365**		**473,365**
Total assets and contingencies	**5,468,214**		**3,750,007**

Capital requirements	**Total Assets**	**Capital %**	**Risk Adjusted Assets**
Tier 1: 4%	199,794	4.00%	150,000
Total capital	399,588	8.00%	300,001

(Source:Federal Financial Institutions Examination Council FFIEC Report Forms available on the internet at http://www.ffiec.gov/.)

TABLE 2

GENERAL DESCRIPTION OF ASSETS IN EACH OF THE FOUR RISK CATEGORIES

Asset Category	Risk Weight	Effective Total Capital Requirements	Obligator, Collateral, or Guarantor of the assets
1	0%	0%	Generally, direct obligations of the federal Government; e.g., currency and coin, government securities, and unconditional government guaranteed claims. Also balances due or guaranteed by depository institutions.
2	20%	1.6%	Generally, indirect obligations of the federal government; e.g.; most federal agency securities, full faith and credit municipal securities, and domestic depository institutions. Also assets collateralized by federal government obligations are generally included in this category; e.g. repurchase agreements (when treasuries serve as collateral) and CMOs backed by government agency securities.
3	50%	4%	Generally, loans secured by 1 – 4 family properties and municipal bonds secured by revenues of a specific project (revenue bonds).
4	100%	8%	All other claims on private borrowers.

- Equals 8% of risk-weighted assets and represents the minimum requirement to be adequately capitalized.

(Source:Federal Financial Institutions Examination Council FFIEC Report Forms available on the internet at http://www.ffiec.gov/.)

TABLE:3

REGIONAL NATIONAL BANK (RNB), OFF-BALANCE SHEET CONVERSION WORKSHEET

	$Amt	Credit Conversion Market	Credit Equivalent $ Amount
Contingencies 100%conversion factor			
Direct credit substitutes	165,905	100.00%	165,905
Acquisition of participations in BA,			
Direct credit substitutes	0	100.00%	0
Assets sold w/recourse	0	100.00%	0
Futures & forward contracts	50,000	100.00%	50,000
Interest rates swaps	75,000	100.00%	75,000
Other 100% collateral category	0	100.00%	0
Total 100% collateral category	290,905		290,905
Contingencies 50% conversion factor			
Transaction-related contingencies	0	50.00%	0
Unisedd commitments > 1 year	364,920	50.00%	182,460
Revolving underwriting facilities (RUFs)	0	50.00%	0
Other 50% collateral category	364,920		182,460
Contingencies 20% conversion factor			
Short-term trade-related contingencies	0	20.00%	0
Other 20% collateral category	0	20.00%	0
Total 20% collateral category	0		0

Contingencies 0% conversion factor			
Loan commitments < 1 year	0	0.00%	0
Other 0%collateral category	0	100.00%	0
Total 0% collateral category	0		0
Total Off-Balance sheet commitment	655,825		473,365

Risk Weights And Risk Categories For Specific Balance Sheet Items

Category 1: 0%

(1) Currency and coin (domestic and foreign) held in the bank or in transit

(2) Securities issued by the U.S. government and other OECD central governments (including U.S. Treasury securities)

(3) Claims that are unconditionally guaranteed by the U.S. government and its agencies and other OECD central governments (including GNMA and SBA securities and loans guaranteed by the export-import banks)

(4) Gold bullion held in the bank's vaults or in another's vaults on an allocated basis, to the extent offset by gold bullion liabilities

(5) Credit equivalent amount of those off-balance sheet direct claims on, or claims unconditionally guaranteed by the U.S. government and other OECD central governments

Category 2: 20%

(1) Cash items in the process of collection (CIPC)

(2) Balance due from (claims guaranteed by) U.S depository institutions and other OECD banks

(3) Short-term (one year or less)claims guaranteed by, non-OECD banks

(4) Securities, loans, local currency, and other claims conditionally guaranteed by the U.S. government and its agencies and other OECD central governments (e.g. VA and FHA mortgage loans and student loans on which the U.S. Department of Education acts as a reinsurer)

(5) Claims on, guaranteed, or collateralized by securities issued by U.S. Government-sponsored agencies (e.g., loans collateralized by FHLMC pass-through securities) or official multilateral lending institutions or regional development banks (e.g. the World Bank including the International Finance Corporation)

(6) Certain privately issued mortgage-backed securities representing indirect ownership of U.S. government agency or U.S government-sponsored agency mortgage-backed securities (e.g. GNMA, FNMA, and FHLMC pass-through securities)

(7) General obligation claims on (municipal securities), and the portion of claims that are guaranteed by the full faith and credit of local governments and political subdivisions in the U.S. and other OECD local governments

(8) Credit equivalent amount for those off-balance sheet items that are risk weighted at 20 percent; e.g. credit equivalent amount of claims collateralized by cash on deposits (standby letters of credit collateralized by cash)

Category 3: 50%

(1) loans that are fully secured by first liens on 1- 4 family residential properties and loans fully secured by first liens on multifamily residential properties that have been prudently underwritten

(2) privately issued mortgage-backed securities representing direct and indirect ownership of the mortgage loans (if the mortgages that are prudently underwritten and are not restructured, past due, or in non accrual status)

(3) revenue bonds (municipal revenue securities) or similar claims that are obligations of U.S. state or local governments, or other OECD local governments, for which the government is committed to repay the debt only out of revenues from the facilities financed

(4) credit equivalent amount, for those off-balance sheet items that are to be risk weighted at 50 percent; e.g. credit equivalent amounts of interest rate and foreign exchange rate contracts that are not accorded a lower risk weight as a result of the counterparty, collateral, or a guarantee

Category 4: 100%

(1) All other loans, debt securities, and other claims where the counterparty is a private obligor

(2) Premises and fixed assets

(3) Margin accounts on futures contracts

(4) Other real estate owned

(5) All other assets not already reported above

(6) Credit equivalent amount of those off-balance sheet items where the counterparty is a private obligor and which are not accorded a lower risk weight as a result of collateral or a guarantee

(Source:Federal Financial Institutions Examination Council FFIEC Report Forms available on the internet at http://www.ffiec.gov/.)

TABLE:4

SUMMARY OF OFF-BALANCE SHEET CONVERSION FACTORS FOR RISK-BASED CAPITAL REQUIREMENTS

100% Conversion Factor

1. Direct credit substitutes (general guarantees of indebtedness and guarantee-type instruments,including standby letters of credit serving as financial guarantees for, or supporting, loans and securities).

2. Risk participations in bankers acceptances and participations in direct credit substitutes (for example, standby letters of credit).

3. Sale and repurchase agreements and asset sales with recourse, if not already included on the balance sheet.

4. Forward agreements (that is, contractual obligations) to purchase assets, including Financing facilities with certain drawdown.

50% Conversion Factor

1. Transaction-related contingencies (for example, bid bonds, performance bonds, Warranties, and standby letters of credit related to a particular transaction)

2. Unused commitments with an original maturity exceeding one year, including underwriting commitments and commercial credit lines.
3. revolving underwriting facilities (RUFs), not issuance facilities (NIFs), and other similar arrangements.

20% Conversion Factor

1. short-term, self-liquidating trade-related contingencies, including commercial letters of credit

0% Conversion Factor

1. unused commitments with an original maturity of one year or less, or that unconditionally cancelable at any time.
2. Credit conversion process for off-balance sheet interest rate, foreign exchange, equity derivative, and commodity and other contract

(Source:Federal Financial Institutions Examination Council FFIEC Report Forms available on the internet at http://www.ffiec.gov/.)

In general, to calculate the credit equivalent amount for these contracts, a bank should, for each contract, at:

The mark-to-market value (only if a positive value) of the contract; i.e., the contracts current credit exposure or replacement cost), and an estimate of the potential future increase in credit exposure over the remaining life of the instrument. For risk-based capital purposes, potential future credit exposure of a contract is determined by multiplying the national principal amount of the contract (even if the contract had a negative mark-to-market value) by the appropriate credit conversion factor from the chart presented below(existence of a legally enforceable bilateral netting agreement between the reporting bank and a counterparty may be taken into consideration when determining both the current credit exposure and the potential future exposure of off-balance sheet derivative contracts.)

Remaining Maturity	Interest Rate Contracts	Foreign Exchange and Gold Contracts	Equity Derivative Contracts	Precious Metals (except gold)	Other Commodity Contracts
One year or less	0.0%	1.0%	6.0%	7.0%	10.0%
More than one year through five years	0.5%	5.0%	8.0%	7.0%	12.0%
More than five years	1.5%	7.5%	10.0%	8.0%	15.0%

(Source:Federal Financial Institutions Examination Council FFIEC Report Forms available on the internet at http://www.ffiec.gov/.)

year (364,920) are classified as 50 percent conversion items, while standby letters of credit (direct credit substitutes 165,905) futures and forwards contracts (50000), and interest rate swaps (75000) are converted using a 100 percent conversion factors. Figures in the final column represent converted amounts. Once converted to on-balance sheet equivalemt all of these commitments are classified as category 4 assets subject to a 100 percent risk weighting. The second and third columns of figures indicate the associated risk weight and the dollar value of each balance sheet figure, respectively for RNS. Risk-weighted assets are calculated by multiplying the dollar value of assets in column one by its respective risk weight. Total risk-weight. Total risk-weighted asstes are the sum of risk-weighted assets in each category, including off-balance sheet items. Total risk-weighted asstes for RNB thus equaled $3,75 billion at the end of 1998. Finally, RNBs minimum capital requirements are specified as a fraction of total risk-weighted assets.

The next section describes the components of bank capital under the standarda. At this point, it is sufficient to know that banks must meet three capital standards. To be adequately capitalized a banks Tier1 capital must equal no less than 4 percent of risk-weighted assets, total capital must equal at least 8 percent of risk-weighted assets, and leverage capital must equal no less than 3 percent of adjusted total asstes. Figures at the bottom of exhibit indicate

that RNB must have at least $150 million in Tier1 capital and $300 million in total capital based on risk-adjusted assets. Leverage capital is discussed later.

12.-WHAT CONSTITUTES BANK CAPITAL?

According to the accounting definition, **capital** or **net worth** equals the cumulative value of assets minus the cumulative value of liabilities and represents ownership interest in a firm.

- It is traditionaly measured on a book value basis where asstes and liabilities are listed in terms of historical cost. In banking, the regulatory concept of bank capital differs substantially from accounting capital. Specifically, regulators include certain forms of debt and loss reserves when measuring capital adequacy. This policy raises numerous issues regarding bank capitals function and optimal mix. Accounting capital includes the book value of common equity and preferred stock outstanding. **Total equity capital** equals the sum of common, stock, surplus, undivided profits, and capital reserves, and net unrealized holding gains (losses) on available-for-sale securities, cumulative, foreign currency translation adjustments, and perpetual preferred stock as defined below:
- **Common Stock** equals par value of common stock outstanding; thus, if there are one million shares outstanding with part value of $10 per share, common stock will show $10 million.
- **Surplus** equals the excess over par value at which common stock was issued plus the value of undivided profits allocated to surplus. Suppose, in the above case, that one million common stock shares were originally sold in the market place to net a bank $15per share. The excess, $5 per share or $5 million, would be allocated to surplus.
- **Undivided Profits and Capital Reserves. Undivided profits** equal the value of cumulative retained earnings minus transfers to surplus Retained earnings increases when a bank reports net income that exceeds dividend payments, and decreases when net income is less than dividends or the bank reports a loss.
- **Capital Reserves** for contingencies and other capital reserves equal the value of cumulative reserves established for deferred taxes or contingencies. Contingencies include expected payments to retire outstanding preferred stock, settle lawsuits and satisfy other extraordinary obligations. These reserves have been combined with undivided profits for reporting purposes since 1978.

- **Net unrealized holding gains (losses) on available-for-sale- securities.** For risk-based capital purposes, common stockholders equity capital includes any net unrealized holding losses on available-for-sale equity securities with readily determinable fair values, but excludes other net unrealized holding gains (losses) on available-for-sale securities. FASB 115 requires banks and other firms to mark certain available-for-sale securities to their market value. These unrealized losses (gains) directly affect equity reported on the balance sheet, but do not affect qualifying capital for risk-based calculations.
- **Preferred Stock** includes the book value of aggregate preferred stock out-standing. While it figures many of the same characteristics as long-term bonds, preferred stock represents ownership in a firm with claims superior to common stock but subordinated to all debt holders. It is issued either in perpetuity or with a **fixed maturity** (limited life). Most issues are callable, and some are convertible to common stock. Dividend payments may be fixed, much like coupon payments on bonds, or may vary with some market index over the life of the issue. Unlike coupon payments, dividends are not deductible for corporate income tax purposes. Regulatory capital ratios focus at least in part on the book value of equity. This equals the book value of bank assets minus total liabilities. Most analysts try to estimate the market value of bank equity when assessing financial performance and risk. This can be done in several ways. One procedure is to multiply the number of outstanding shares of stock by the most recent stock price per share. Another procedure requires estimating the market value of bank assets and subtracting the market value of bank liabilities. Regulators also include long-term **subordinated debt** in Tier2 capital, which is part of the broader definition of total bank capital. The term subordinated means that claim of the debt holders are paid only after the claims of depositors. Subordinated debt takes many forms. It includes straight bonds with long maturities that carry fixed rates. It also includes variable rate bonds, capital notes, or bonds that are convertible into the bank's common or preferred stock. The fact that non-equity accounts constitute capital relates to regulatory perceptions of capital's function. Mandatory convertible debt and subordinated long-term debt are included because they carry relatively long-term maturities and creditors claims are subordinated to those of depositor. These funding sources, therefore, provide solvency protection for insured depositors and the insurance funds.

Risk-based capital standards utilize two measures of qualifying bank capital. **Tier 1** or **core capital** consists of common stockholders equity, noncumulative perpetual preferred stock and any related surplus, and minority interest in equity capital accounts of consolidated subsidiaries, minus intangible assets like goodwill and disallowed deferred tax assets. For most banks, Tier 1 capital will equal common stockholders equity capital less any net unrealized holding gains or losses on available-for-sale equity securities. **Tier 2** or **supplementary capital** is limited to 100 percent of Tier 1 capital and consists of cumulative perpetual preferred stock and any related surplus, long-term preferred stock, limited amounts of term subordinated debt and intermediate-term preferred stock, and a limited amount of the allowance for loan and lease losses (up to 1.25 percent of gross risk-weighted assets).

Regulators are also concerned that a bank could acquire a sufficient dollar amount of low risk assets (federal government securities) such that risk-based capital requirements would be negligible. Suppose, in this case, its risk-weighted assets would equal zero and its Tier 1 and total capital requirements would be zero. This would allow (at least theoretically) RNB to operate with no equity capital! To prevent this from accuring, regulators impose a minimum 3 percent **leverage capital ratio,** defined as Tier 1 capital divided by total assets net of goodwill, other disallowed intangible assets, disallowed diferred tax assets. The impact is that all banks must maintain some minimum amount of equity capital relative to their total assets in recognition of risks other than default risk.

(Source: The Definitions of Tier 1 and Tier 2 capital are from Instructions for Preperation consalidated reports of Condition and Income (FFIEC 031,032,033, and 034), federal Financial Institutions Examinations Council. FFIEC Report Forms available on the internet at http://www.ffiec.gov/.)

DEFINE OF QUALIFYING CAPITAL

Components	**Minimum requirements**
Tier 1 (core) capital	
Common stockholders equity	Must equal or exceed 4 percent
Noncumulative perpetual preferred stock	of risk-weighted assets no limit
and any related surplus	No limit, regulatory caution
Minority interest in equity capital accounts	against undue reliance
	No limit,regulatory caution

of consolidated subsidiaries	against undue reliance
Less:	
Goodwill, other disallowed intangible assets, and disallowed deferred tax assets, and any other amounts that are deducted in determining Tier 1 capital in accordance with the capital standards issued by the reporting bank's primary federal supervisory authority	
Tier 2 (Supplementary) Capital	Total of Tier2 is limited to 100
Cumulative perpetual preferred stock and any related surplus	percent of Tier1
Long-term preferred stock (original maturity of 20 years or more) and any related surplus (discounted for capital purposes as it approaches maturity)	No limit within Tier 2
Auction rate and similar preferred stock (both cumulative and noncumulative)	No limit within Tier2
Hybrid capital instruments (including mondatory convertible debt securities)	Subordinated debt and intermediate-term preferred stocks are limited to 50 percent of Tier 1, amortized for capital purposes as they approach maturity
Term subordinated debt and intermediate term preferred stock (original weighted average maturity of five years or more)	50 percent of Tier 1 capital (and discounted for capital purposes as they approach maturity)
Allowance for loan and lease losses	Lesser of the balance of the Allowance account or 1.25 Percent of gross risk-weighted Assets
Deductions	
Deductions are made for:	as a general rule, one-half of

Investments in banking and finance subsidiaries that are not consolidated for regulatory capital purposes; Intentional reciprocal cross-holdings of banking organizations capital instruments; and other deductions as determined by the reporting banks primary federal supervisory authority	aggregate investments would be deducted from Tier1 capital and one-half from Tier2 capital
Total Capital (Tier 1+Tier 2-Deductions)	Must equal or exceed 8 percent of Risk –weighted assets for most Banks, total risk-based capital will Equal the sum of Tier1 and Tier 2 capital

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(Source:Federal Financial Institutions Examination Council FFIEC Report Forms available on the internet at http://www.ffiec.gov/.)

13.-WHAT IS THE FUNCTION OF BANK CAPITAL?

Much confusion exists over what purposes bank capital serves. The traditional corporate finance view is that capital reduces the risk of failure by providing protection against operating and extraordinary losses. While this holds for non-financial firms that rely on long-term debt with relatively low financial leverage, it is less applicable to commercial banks. From the regulators perspective, bank capital serves to protect the deposit insurance funds in the case of bank failures. When a bank fails, regulators can either pay-off insured depositors or arrange a purchase of the failed bank by a healthy bank. The greater is a bank's capital; the lower is the cost of arranging a merger or paying depositors. An additional benefit of minimum capital requirements is that the owners of equity and long-term debt impose market discipline on bank managers because they closely monitor bank performance. Excessive risk taking lowers stock prices and increases borrowing costs, which adversely affect the wealth of these monitoring parties.

The function of bank capital is thus to reduce bank risk. It does so in three basic ways:

- It provides a cushion for firms to absorb losses and remain solvent.
- It provides ready access to financial markets and thus guards against liquidity problems caused by deposit outflows.

- It constrains growth and limits risk taking.

13.1-BANK CAPITAL PROVIDES A CUSHION TO ABSORB LOSSES.

Consider the balance sheets for two hypothetical firms. The manufacturing firms have 60 percent currents assets and 40 percent fixed assets. Its financing is composed of 60 percent debt and 40 percent equity. Exactly one-half of the debt is short-term, such that its current ratio equals 2. The commercial bank, in contrast, operates with very few fixed assets and finances 92 percent of its assets with debt and just 8 percent with equity. Its current ratio is less than 1. The value of the manufacturing firm's assets would have to decline by more than 40 percent before the firm sees its equity fall below zero and is technically insolvent. And 8 percent decline in assets values would similarly make the bank insolvent. Equity reduces the risk of failure by increasing the proportion of allowable problem assets that can default before equity is depleted. The issue, however, is not this simply. For example, why do creditors allow banks to operate with far greater financial leverage than manufacturers? One reason is that banks exhibit little operating risk because fixed assets are low. Yet, several factors suggest that banks should have more equity. First, the market value of bank assets is more volatile than the value of assets at a typical manufacturing firm. Market values change whenever interest rates change and whenever bank borrowers experience difficulties. Manufacturing companies own proportionately fewer financial assets and are not as sensitive to interest rate fluctuations. Second, banks rely proportionately more on volatile sources of short-term debt, many of which can be withdrawn on demand. It seems reasonably probable that banks might be forced to liquidate assets at relatively low values. On the positive side, however, most of a bank's assets are financial and hence are generally more liquid and less risky (everything else equal) than the real assets held by non-financial companies. After all it is often easier to sell treasury securities and high quality bank loans than an automobile assembly plant!

This capital discrepancy can be largely explained by federal deposits insurance and bank regulatory policy. Depositor's funds at each member institution are insured up to $100,000, even if a bank fails, an insured depositor is fully reimbursed. This system prevents massive withdrawals of small denomination deposits and makes uninsured creditors the arbiters of bank risk. Just as significantly, bank regulators provided de facto insurance for uninsured creditors at the largest financial institutions. Rather than let these banks fail, regulators arranged mergers or acquisitions that allowed such firms to continue operations without liquidation. In the case of Continental Illinois in 1984 and First City Bank Corporation in

1987, the U.S. government effectively guaranteed the claims of both debt holders and preferred stockholders who lost little when the banks collapsed.In these extreme cases, no private capital is technically required for the banks to continue operations. In general, deposit insurance and regulatory policy increase bank liquidity, which reduces the amount of equity financing required. Interestingly, bank regulators shifted their policy with the failures of First Republic Bank Corp. in 1988 and Mcorp. in 1989. These bank holding companies had $27 billion and $16 billion in assets, respectively, at the time they failed. Still, the regulators created bridge banks that took over the subsidiary banks and stripped the holding companies of their assets. This left common and preferred stockholders to file claims behind bondholders and other uninsured creditors for what little remained. For the first time, investors in the nation's largest banks suffered substantial losses. The role of capital ass a buffer against loan losses is clear when put in the context of cash flow rather than accounting capital. Consider a bank whose customers default on their loans. Defaults immediately reduce operating cash inflows because the bank no longer receives interest and principal payments. Cash outflows are largely unaffected except for incremental collection costs. The bank remains operationally solvent as long as it's overall operating cash inflows exceed its c outflows. Capital serves as a buffer because it reduces obligated outflows. Banks can defer dividends on preferred and common stock without being in default. Interest payments on bank debt, in contrast, are mandatory. Banks with sufficient capital can, in turn, issue new debt or stock to replace lost cash inflows and buy time until any asset problems are corrected. Thus the greater a bank's equity capital, the greater the magnitude of assets that can default before the firm is technically insolvent and the lower bank risk.

13.2-BANK CAPITAL PROVIDES READY ACCESS TO FINANCIAL MARKETS

Adequate bank capital minimizes operating problems by providing ready access to financial markets. As long as a bank's capital exceeds the regulatory minimums, it can stay open and has the potential to generate earnings to cover losses and expand. FDICIA demonstrates that banks with the greatest capital-to-risk asset ratios will have the greatest opportunities to operate without restraint and to enter new businesses. Capital enables the bank to borrow from traditional sources at reasonable rates. As such, depositors will not remove their funds and assets losses will be minimized. Any losses that arise can be charged against current earnings or, ultimately, against equity research on the link between bank capital and the risk of failure suggests mixed conclusions. Some analysts attribute failures to bad management and argue that well-managed banks should be allowed to operate with low capital-to-asset ratios. In

these studies, banks with low capital-to-asset ratios do not exhibit any greater tendency toward insolvency, compared to banks with higher capital ratios. Other researchers attribute failures to liquidity problems and generally ignore capital. When depositors withdraw their funds, a bank must either liquidate assets from its portfolio or replace the deposit outflows with new borrowings. Forced assets sales can be accomplished only through lowering asset prices. These losses, in turn, would be charged against equity, bringing the bank closer to insolvency. Most banks therefore rely on substitute debt sources. If, however, the volume required financing is large, the bank must pay an interest premium, which reduces current earnings and depresses potential equity. Uncertainty regarding the link between capital and liquidity problems and bank failure reflects misunderstanding of accounting versus economic value. What is important is the market value of bank capital, not its accounting value. As long as the market value is positive, banks can issue debt to offset liquidity problems. This is true regardless of whether accounting capital is positive or negative. If the market value of capital were negative, no private lender would extend credit. Failures, then, are tied directly to market values, not accounting values. Regulatory interference confuses the true purpose of capital. When regulators guarantee bank debt or create artificial capital, they improver liquidity. The intent is to postpone problems until thru firms are self-sufficient. Capital, as such, is meaningless to the firm's continued operation. Capital serves the same purpose as federal guarantees when regulatory assistance is not openly provided.

13.3-CAPITAL CONSTRAINS GROWTH AND REDUCES RISK.

By limiting the amount of new assets that a bank can acquire through debt financing, capital constrains growth. As regulator imposes equity capital requirements as a fraction of aggregate bank assets. If banks choose to expand loans or acquire other assets, they must support the growth with additional equity financing. Because new equity is expensive, expected asset returns must be high to justify the financing. This restriction is extremely important because many bank failures in the 1980s were linked to speculative asset growth financed by brokered deposits. Rigid capital requirements reduce the likelihood that banks will expand beyond their ability to manage their assets successfully and thus save to reduce risk.

14.-HOW MUCH CAPITAL IS ADEQUATE?

The issue of bank capital adequacy has long pitted regulators against bank management. Regulators, concerned primarily with the safety of banks, the viability of the insurance funds, and stability of financial markets, prefer more capital. This reduces the likelihood of failure and increases bank liquidity. Bankers on the other hand, generally prefer to operate with less capital. The smaller is a bank's equity base, the greater its financial leverage and equity multiplier. High leverage converts a normal return on assets into a high return on equity (ROE). Exhibit ... illustrates this point. Suppose that the manufacturing firm and commercial bank each earn 1 percent on assets during the year. The firm's equity multipliers (ratio of total assets to stockholders equity) equal 2.5 and 12.5 respectively. This difference in leverage produces a 2.5 percent ROE for the manufacturer that equals only one-fifth of the 12.5 percent ROE for the bank. Alternatively, the manufacturer must generate and ROA equal to five times that for the bank, 5 percent in this example, to produce the same ROE. Leverage thus improves profitability when earnings are positive. Whether a specific bank's capital is adequate depends on how much risk the bank assumes. Banks with low-quality assets, limited access to liquids funds, severe mismatches in assets and liability maturities and durations, or high operational risk should have more capital. Low-risk firms should be allowed to increase financial leverage the regulatory agencies periodically assess specific bank risks via on-side examinations. A through review includes an evaluation of the bank's assets quality particularly the probability of defaults on interest and principal payments in the loan portfolio loan review policies, interest rate risk profile, liquidity profile, cash management and internal audit procedures, and management quality. The FDIC rates banks according to the Uniform Financial Institutions Rating System, which encompasses six general categories of performance, labelled CAMELS: C= capital adequacy, A= asset quality, M= management quality, E= earnings, L= liquidity, S= sensitivity to market risk. The FDIC numerically rates every bank on each factor, ranging from the highest quality (1) to the lowest quality (5). It also assigns a composite rating for the bank's entire operation. A composite ranking of 1 or 2 indicates a fundamentally sound bank, while a ranking of 3 through 5 signifies a problem bank with some near-term potential for failure.

(Source: "The Bank Management" by Timothy W.Koch and S.Scott MacDonald, published by The Dryden Press, Fourth Edition)

(Source: "The Bank Management" by Timothy W.Koch and S.Scott MacDonald, published by The Dryden Press, Fourth Edition)

16.-THE EFFECT OF CAPITAL REQUIREMENTS ON BANK OPERATING POLICIES

Regulatory efforts to increase capital impose significant restrictions on bank operating policies. Many large banks with access to national markets can issue common stock, preferred stock, subordinated capital notes to support continued growth and are relatively unaffected by minimum capital ratios. Smaller banks, however, do not have the same opportunities. They lack a national reputation, and investors generally shy away from purchasing their securities. These banks often rely instead or internally generated capital and find their activities constrained by a deficiency in retained earnings.

16.1-LIMITING ASSET GROWTH

Minimum capital requirements restrict a bank's ability to grow. Additions to assets mandate additions to capital for a bank to continue to meet minimum capital-to-asset ratios imposed by regulators. Each bank must limit its assets growth to some percentage of retained earnings plus new external capital consider the $100 million bank in exhibit 13.11 that just meets the minimum 8 percent total capital requirement. Initially, the bank has $8 million in capital, of which $4 million is undivided profits and $4 million is other capital. Various effects of planned asset growth are shown in the following columns of data, which represents projections of balance sheet and income statement data for the upcoming year. The bank's initial plan, designated as case1, calls for 8 percent asset growth with a projected 0.99 percent ROA and 40 percent dividend payout rate. In this scenario, the bank would have $108 million in assets and $640,000 in retained earning for the year. The 8 percent target capital ratio would be just met. Suppose that profitable credit opportunities are available to generate 12 percent asset growth within acceptable risk limits. The last three columns of data identify three distinct strategies to grow and still meet minimum capital requirements. One option (case 2) is for the bank to generate a higher ROA. This bank would need $960.000 in additional retained earnings to support the $112 million in assets:

$$\$ \text{ Undivided profits} = \text{total assets} \times \text{ROA} \times (1 - \text{dividend payout rate})$$

$$960{,}000 = \$112{,}000{,}000 \times 0.0099 \times (1 - 0.40)$$

Because competition prevents banks from raising yield spreads on high quality loans, they can achieve higher returns only by acquiring riskier assets or generating greater fee income from services. This sample bank would have to increase its ROA by 0.44 basis points to 1.43 percent if it did not change its dividend policy or obtain additional capital externally. If banks substitute riskier loans for lower yielding and less risky assets, the benefit from increased profits may be offset by future loan losses or higher capital requirements.

A second option is for the bank to increase retained earnings by decreasing dividends (case 3). In this scenario, the bank must lower its 40 percent payment rate to 13.42 percent with the same 0.99 percent ROA, to leave capital ratios unchanged. This option is often unattractive because any unanticipated dividend reduction encourages shareholders to sell stock, which lowers share prices immediately. It would then be extremely difficult and costly to issue stock anytime in the near future. The final option (case 4) is to finance part of the assets growth with new capital, such as new common stock or perpetual preferred stock. Here the growth in the retained earnings would total $660,000 so $300,000 in new external capital would be needed. Such equity is considerably more expensive than debt if the bank actually has access to the stock market. In practice, a bank would likely pursue some combination of these strategies, or may simply choose not to grow. If the bank in this example decides not to alter its initial policies, asset growth is restricted to 12.5 (100/8) times the addition to retained earnings. In other words, each dollar of retained profits can support $12.50 in new assets.

16.2- CAPITAL PLANNING

Capital planning is part of the overall asset and liability management process. Bank managements make decision regarding the amount of risk assumed in operations and potential returns. The amount and type of capital required is determined simultaneously with the expected composition of assets and liabilities and forecasts of income and expenses. The greater is assumed risk and asset growth, the greater is required capital.

Capital planning begins with management generating pro forma balance sheets and income statements for the next several years. The bank projects the dollar funding available from alternative deposit and non-deposit sources and the likely asset composition, given the bank's product mix and expertise. Assuming various interest rate scenarios and projections of non-interest income and expense, management forecast earnings. Asset growth in excess of that financed with new debt or internally generated capital must be financed with external capital. Once a bank recognizes that it needs to obtain additional capital externally, it evaluates the costs and benefit of each source.

The planning process can be summarized in three steps:

1- Generate pro forma balance sheets and income statements for the bank.

2- Select a dividend payout.

3- Analyze the costs and benefits of alternative sources of external capital.

The first step provides an estimate of how much capital is needed to finance assets. Total equity capital required equals the residual between expected assets and expected debt. The amount of qualifying primary and secondary capital must be at least equal the regulatory minimums. If management chooses to shrink the bank by liquidating assets, it may find that total capital required declines. Typically, additional equity capital is needed.

Step 2 identifies how much capital will be generated internally and what amount of external capital is necessary. Divident payment reduces the amount of retained earnings and adds pressure for external capital funding.

The third step involves evaluating alternatives. Management should project bank needs over several years so that it can develop a long-term plan. To be flexible, it should not rely extensively on any single source of capital in the short run, so that is can retain that option in futures years. If for example, a bank is leveraged to the maximum, it may be forced to issue new stock at a time when its share price is low.

(Source: "The Bank Management" by Timothy W.Koch and S.Scott MacDonald, published by The Dryden Press, Fourth Edition)

17.CONCLUSION:

A developed banking system in a country enables trade and industry to function more efficiently and the role of the banks in assisting exporters with the financial side of of their business is a considerable contribution to the economy of country. The banks are important economically by transfering savings to depositors who wish to borrow. By this way, they provide extra jobs , increased production and less reliance on the import of foreign goods. The banks are able to "create" money by granting loan or overdraft facilities to a costumer to buy goods, since paying for these goods effectively produces new money as soon as the borrower's cheque is paid in to the seller's bank account. Thus by allowing and advance, a bank deposit has been created; this process is known as the credit-creation multiplier.

As much as the banks are important to economies of countries the capital is the most important factor in banking sector. The capital position of the banks should be strong in order to provide growth and strength. On the other hand, when the bank have a capital problem then it cause the lost of bank's soudness and safety. The adequate capital position provides the bank to achive its fundamental applications such as:

- To satisfy requlatory requirement.
- As an essential mechanism to respond to business cycles.
- To support growth.
- To maintain flexibility
- To fulfil the Board's responsibilities.

High percentage of the bank failures is the cause of the inadequacy of bank capital. Because of these reason requlators want high capital requirements to better protect depositors and the viability of the insurance fund and the reduce overall risk-taking.From the bankers view high capital requirements is the increased financial leverage and the multiplier effect on Return On Equity(ROE).Low capital requirements also allowed for substantial asset growth.

With the establishment of risk based capital standarts and The Federal Deposit Insurance Corporation Improvent Act of 1991 (FDICIA) established a system of prompt reulatorry action with sanctions for undercapitalized institutions which are caused to increase the cost of offering bank services

The passage of FDICIA in 1991 further categorized banks as being well capitalized, adequately capitalized or being undercapitalized and imposed operating restrictions on

undercapitalized institutions. This act and the specific minimum capital requirements forced banks to slow growth, limit their loan expousure, change their asset composition and find new methods of generating profits and obtaining external capital during the early 1990s. Capital levels have increased dramatically in the late 1990s due to good profitability so that risk based capital requirements have not been as binding. A final impact is that banks now actively prepare and analyze capital plans as part of their annual risk-return performance review.

Capital plays a significant role in the risk return trade off at banks. Increasing capital reduces risk by causing restricting of growth opportunities, lowering the probability of bank failure and cushioning the volatility of earnings. It also, reduces expected returns to shareholders , as equity is more expensive than debt. Then the most important question is which should be answer by bank's managements is to decide how much capital is optimal.

Capital planning is part of the overall asset and liability management process. Bank management make decision regarding the amount of risk assumed in opeations and potential returns. The amount and type of capital required is determined simultaneously with the expected composition of assets and liabilities and forecasts of income and expenses . The greater is assumed risk and asset growth means greater capital is required.

Capital planning begins with management generating pro forma balance sheet and income statements for the next several years. The bank projects the dollar funding available from alternative deposit and non-deposit sources, given the bank's product mix and expertise. Assuming various interest rate scenarios and projections of non-interest income and expense, management forecast earnings. Asset growth in excess of that financed with new debt or internally generated capital must be financed with external capital. Once a bank recognizes that it needs to obtain additional capital externally, it evaluates the costs and benefit of each source.

The planning process can be summarized in three steps:

1-Generate pro forma balance sheets and income statements for the bank which provides an estimate of how much capital is needed to finance assets.

2-Select a dividend payout which identifies how much capital will be generated internally and what amount of external capital is necessary.

3-Analyze the costs and benefits of alternative sources of external capital.To be flexible, It should not rely extensively on any single source of capital in the short run so that is can retain that option in futures years.

As it is seen that the main reason of capital planning is the results of regulations of the financial instutions in the countries.

There are five objectives of bank regulations, these are;

- The first is to ensure the safety and soundness of banks and financial instruments.
- The second objective of bank regulation is that the Federal Reserve System uses regulation to provide monetary stability.
- The third objective is to provide an efficient and competitive financial system.
- The fourth objective is to protect consumers from abuses by credit granting institutions.
- The final objective is to maintain the integrity of the nation's payment system.

These requlations are aimed to strength the bank against the risks and make them more stronger against the bad effects of theirs results. The Complexity of and the range of financial products have caused develop risk management which is the managers identify, assess, monitor and control risk associated with a financial institution's activities.

The Federal Reserve Board has identified six types of risk.

1. Credit risk
2. Liquidity risk
3. Market risk
4. Operating risk
5. Reputation risk
6. Legal risk

Although capital or solvency risk is not listed as a separate risk category by either the Fed or the OCC, it represents the summary of all listed risks. Each of these risks is fundamental to the likelihood that currents events or potential events will negatively affect an institution's profitability and the market value of its assets, liabilities, and stockholders equity. Risk can be absorbed by sufficient bank capital such that the institution will remain solvent. As a result, capital or solvency risk is addressed separately and represents a summary of the six risks listed above.

Capital risk is not considered a separate risk because all of the risks mentioned previously will in one form or another affect a bank's capital and hence solvency. It does, however, represent the risk a bank may become insolvent and fail. A firm is technically insolvent and fail. A firm

is technically insolvent when it has negative net worth or stockholders equity. The economic net worth of a firm is the difference between the market value of its assets and liabilities. Thus, **capital risk** refers to the potential decrease in the market value of assets below the market value of liabilities indicating economic net worth zero or less. If such a bank were to liquidate its assets, it would not be able to pay all creditors, and would be bankrupt.

The cost of capital and the capital risk is the most important problem in our banking sector both in Turkey and T.R.N.C. The main reason is that because of economic conditions to sell the money is not easy and especially in T.R.N.C customer's of banks prefer to invest their's moneys to high interest deposit accouns. Then the amount of money in saving accounts is more than the credit accounts of the banks. Especially, in recent years with the falling of the overnight rates in Turkey make the cost of the capital more higher than before. Under these conditions the capital is not bringsthe safety, but brings problems to banks in T.R.N.C.

18.-REFERANCES:

1. (Source: http:// www.nubank.com/stories/capital-keyto-success -4-26-01/index.html)
2. (Source:Article: "The Functions and Future of Retail Banking" by Jerry L. Jordan President and Chief Executive officer Federal Reserve Bank of Cleveland (10.01.1996))
3. (Source: "The Bank Management" by Timothy W.Koch and S.Scott MacDonald, published by The Dryden Press, Fourth Edition)
4. (Source: Bass Thomas A., "The Future of Money", Wired, October 1996).They can hold a specific
5. (Source:Lynn Brenner, "Credit Card Deal may be Model for Securitization,"American Banker (April 14,1986)
6. (Source:Basle Committee on Banking Supervision, Basle,March 1998)
7. (Source:Federal Financial Institutions Examination Council FFIEC Report Forms available on the internet at http://www.ffiec.gov/.)
8. (Source: The Definitions of Tier 1 and Tier 2 capital are from Instructions for Preperation consalidated reports of Condition and Income (FFIEC 031,032,033, and 034), federal Financial İnstitutions Examinations Council. FFIEC Report Forms available on the internet at http://www.ffiec.gov/.)