Basic Topics in Sound Bank Management

Edward A. McNally
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Edward A. McNally
Grammer and Co.

Edited by
Shakil Faruqi

Abstract

This case study has been prepared for those interested in all aspects of managing a banking institution. Topics include: an overview of market-based banking, funding activities including deposit collection and borrowing in financial markets, lending activities, accounting systems, bank financial statements including balance sheets and income and expenditure statements, ratio analysis, asset/liability management, case work, bank analysis in relation to the CAMEL system, bank capital adequacy, bank quality analysis, bank liquidity analysis, bank analysis, bank solvency and safety-net mechanisms, and the philosophy of managing a bank.

Economic Development Institute
of the World Bank
The Economic Development Institute (EDI) was established by the World Bank in 1955 to train officials concerned with development planning, policymaking, investment analysis, and project implementation in member developing countries. At present the substance of EDI's work emphasizes macroeconomic and sectoral economic policy analysis. Through a variety of courses, seminars, and workshops, most of which are given overseas in cooperation with local institutions, EDI seeks to sharpen analytical skills used in policy analysis and to broaden understanding of the experience of individual countries with economic development. Although EDI's publications are designed to support its training activities, many are of interest to a much broader audience.

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The Economic Development Institute’s program in banking and finance focuses on training in prudent methods of bank management, controlling risk, ensuring banks’ financial viability and performance, and bank regulation and supervision. The main objective of this program is to support the reform and development of banking and financial systems and the training of middle- and higher-level banking executives and other members of the financial community in the general principles of bank management, using our trainers’ network. The approach for meeting these objectives consists of training local groups of trainers in banking system issues and the financial management of banks; mobilizing graduates of the trainers’ program in teams that deliver short-term programs for bankers and other financial practitioners; creating a set of materials in print and video form, relying heavily on local partner institutions for production and translation assistance; and building sustainable capacity in our partner institutions.

Significant results have been achieved in these areas, since program commencement in 1992 for the republics of the former Soviet Union. Graduates of the EDI training programs have developed and delivered courses for bankers, practitioners, and undergraduate students in various educational institutions, both as trainers and EDI-sponsored programs, as well as separately. Training teams are operating under EDI sponsorship in Russia, Uzbekistan, Kazakhstan, and Ukraine. In addition, many of the trainers have gone on to hold key positions in central banks, ministries of finance, and major financial institutions in various republics, and to serve as consultants to the government on banking reform as well as to banks on structural, credit, and training issues. They have also been among the first in various republics to publish new texts in banking and finance.

This handbook on Basic Topics in Sound Bank Management is one of a series of training materials in banking and finance developed for the training of trainers and bankers in the former Soviet Union. This manual explores major aspects of managing a banking institution. The focus is on U.S. banks, with attention paid to international banks as well. This handbook was prepared by Edward A. McNally of Grammer and Co., while on assignment with the Economic Development Institute (EDI) of The World Bank and was prepared for publication by Johanna Frontczak. The views expressed herein are entirely those of the author and to not necessarily reflect the views of The World Bank.

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Market-based Banking: An Overview

I. Introduction

Sound bank management involves all aspects of managing a banking institution. This manual will discuss these aspects in detail. The focus will be on U.S. banks. Issues which involve international banks will be noted as appropriate. The introduction will describe fundamental aspects of managing a bank. Key influences such as government regulation will be introduced.

Organization Structure

Well managed banks have a well-defined organization structure. The accompanying chart shows the organization chart for a typical bank.

The board of directors consists primarily of individuals who are not employees of the bank. The board is structured this way in order to emphasize the views of a diverse group of non-employees. Usually there are one or two bank employees on the board. The chief executive officer generally is the key bank employee board member.

Decision-making authority resides with individuals and committees. Authorities and responsibilities for individual executive managers are generally approved and delegated by the board of directors. Committees include an executive committee, loan approval committees, asset and liability management committees, credit policy committees, audit committees, and compensation committees. In some cases outside directors sit on these committees.

Control Mechanisms

Control mechanisms that are effective start with written policies and procedures which are available to and understood by all staff members. Financial control and accounting systems along with management information systems provide excellent controls. Both internal auditors and external auditing firms are an essential part of the control process. Government regulators and their examinations are part of all banks’ controls but necessarily follow banks’ internal controls.
Reporting Procedures and Requirements

Reports are required for many external sources including government regulators, shareholders, and boards of directors. Reports on bank activities are provided to rating agencies, firms which analyze banks, and the media. Internally generated reports include position statements, balance sheets and profit and loss statements for individual bank units, summaries of trading activities, risk positions, and securities portfolios.

Bank Regulators

There is a major trade-off between regulation and providing a safety net for banks. Where deposit insurance exists, banking regulators provide through their policies and examinations, a level of safety for depositors and shareholders. Central banks often provide loans to banks for many purposes.

Central Banks

In addition to their functions of issuing currency and influencing interest rates to balance inflation and economic growth, Central banks provide short-term loans to banks for temporary liquidity purposes, raise or lower bank reserve requirements for money supply regulation, and—in cases of serious problems—arrange mergers with other banks or longer-term, preferred-rate loans.

Risk Management

There is no single more important part of sound bank management than the methods which a bank uses to manage risk. Banking is a risk business. Risk comes in many forms. This manual will discuss three major risks of banking in detail:

1. Credit Risk: the danger that borrowers will not be able to repay their loans as promised. Risks in the loan portfolio include industry risk, country risk, foreign-exchange risk, economic risk, and environmental risk.

2. Interest Rate Risk: striking a balance between the cost of funds and the yields on earning assets. Banks continue to use hedging techniques to mitigate this risk.

3. Liquidity Risk: the inability to meet obligations to depositors. This risk results from one or both of the first two (a run on the bank).
Other risks which banks face are:

- **Operations**: risks in the processing side of the business such as daylight overdrafts (payments made before funds received) can occur quickly and for large sums.

- **Technology**: an inadequate selection in computer systems can lead to mistakes in accounting and inability to adapt quickly to changing market conditions.

- **Leverage**: (capital structure) too little capital or the inability to raise capital can prevent banks from carrying out strategic initiatives.

- **Derivatives**: the recent developments at Bankers Trust and at Barings are excellent examples of the risks involved in the increasingly complex and sophisticated derivatives markets of the 1990s.

- **Fraud and Defalcation**: easy to understand but sometimes hard to control.

II. Market Based Banking: An Overview

1. Profound Changes are Occurring in Market-Based Banking.

   *There is Increased Emphasis on Interest-Sensitive Money for Funding Banks.*

   As evidence:

   - Historically banks relied on demand deposits (checking accounts), stable savings deposits (interest rates were restricted by law), and equity capital. These are called *Core Deposits*. In these times, banks were under-leveraged and over-capitalized.

   - In 1961 CITIBANK introduced the negotiable certificate of deposit (CD) as a fund-raising instrument.

   - Since then, the proportion of interest-sensitive funds has risen, interest rates have become volatile, and interest expense has become the largest cost of banks’ profit and loss statements.
Causes include:

- The growth of core deposits, which was not adequate to fund growth of assets.

- The high level and volatility of interest rates in the 1970s and 1980s, which caused depositors to avoid rate-regulated financial instruments.

- High rates of inflation, which moved savers to look for higher interest rates than regulated banks could offer.

Results:

- Banks' assets increasingly financed by short-term, interest-sensitive market-rate funds. Money was quick to move to the highest rates and safety of principal. The market became more impersonal. "Hot" money is the term for this rapidly moving source of funds. Approved lists of banks based on ratings developed by rating agencies came into being and money often moved out of institutions whose ratings were removed from the approved list. Examples of institutions which were affected negatively include: Continental Illinois of Chicago, First Pennsylvania, and Bank of New England.

- Interest rate risk. As deposits become increasingly tied to the money market, the cost and volatility of a bank's funding tends to increase relative to available asset yields, and the margin of error shrinks. Off-balance sheet activities such as futures, options, derivatives, and foreign exchange activities represent potential exposure to, and protection from, interest rate risk.

B. Rapidly Escalating Loan Losses Affected Nearly All Banks.

As evidence:

- Loans to borrowers in industries such as agriculture, energy, and real estate were the most notable write-offs.

- Credits to lesser developed countries (called LDC loans) resulted in huge write downs and restructuring of the loans.

- Loan loss reserves were totally inadequate to cover the losses occurring at the banks.
Causes include:

- Severe commodity price deflation occurred in oil and in real estate.

- Widespread competition among bankers for business as terms (such as length of loan and adequacy of collateral) for borrowers were too good.

- The development of portfolio concentrations, especially in real estate and LDCs.

- Banks’ enhanced ability to attract lendable funds (albeit highly volatile funds).

**C. Erosion of Capital Strength was a Continuing Factor**

As evidence:

- The growth of assets greatly exceeded the growth of capital. Before 1960, bank capital (meaning common stock) generally was greater than 10 percent of total assets. By the late 1980s, this key number (ratio) ranged between 5 and 8 percent. One of the causes, of course, was inflation.

- The Federal Reserve Bank has accepted the Basel accords which require higher levels of capital (or capital adequacy) for banks worldwide. This will be covered in greater depth later in the manual.

- Conflict arose between regulatory and business concerns If banks were managed to suit the risk preferences of regulators, they would be adequately capitalized BUT probably could not attract investor capital. Conversely, if the regulators relaxed capital standards, some bank managers could not handle the opportunity to be entrepreneurs.

**D. The Growth Of Overhead Expenses.**

As evidence:

- New headquarter buildings, extensive branch networks, new products, computer systems, and staff compensation and benefits.

- The costs of complying with regulators’ demands and increases in FDIC insurance to rebuild the fund which covers loan losses.

- Inflation and its attendant effect on all costs.
There was a three-sided impact on the income stream:

1. Capital adequacy costs prevented adding income through asset growth.
2. Deregulation of deposit interest rates.
3. Competition for assets, including deposits.

Results of this growth in expenses caused the industry to focus heavily on management of efficiency ratios (discussed in detail later in the manual). A dramatic campaign began to reduce costs and improve efficiency ratios.

E. Intensifying Competition: Competition For Banks Increased Dramatically In The 1980s And 1990s.

As evidence:

- There are many more competitors in the marketplace, most notably such non-banking companies as Merrill Lynch, Fidelity Investments, Household Finance, and the General Electric Capital Corporation.

- Foreign banks, including major European institutions and the Japanese banks entered the U.S. market aggressively.

- More choices exist for consumers with ease of access to credit cards, automatic teller machines, banking by phone, and banking by personal computer.

- Large companies and institutions have options other than deposits and loans such as: commercial paper, Eurobonds, interest rate and currency swaps, futures, and derivatives.

F. Expansion Of Bank Holding Companies.

Bank Holding Company Act Amendments of 1970 permitted many new activities.

As evidence:

- Under this act, banks are allowed to own businesses distinct from traditional banking such as mortgage companies, leasing companies, investment advisory companies, and finance companies. These new businesses operate across state lines and are exempt from regulatory examination. The operations of these subsidiaries can be financed with commercial paper and long-term debt. Other banks were purchased by holding companies, particularly after some states passed legislation allowing out-of-state holding companies to purchase banks in their states.
Problem of Bank Holding Companies:

- Often the largest assets of the holding company are the banks it owns. However, the banks are so tightly regulated that the holding company has no access to these assets and must, therefore, depend on dividends only as a source of cash flow. Consequently, cash flow problems can develop for the holding company and special attention should be paid to analyzing them.

2. Regulation (Both Government and Private) has had a Profound Effect on the Operations and Profitability of American Banks in the Following Ways:

A. The Private Marketplace has Taken on a Much Stronger Role as Co-Regulator or Additional Regulator, Along with Traditional Government Regulation.

- Investment bankers persuaded the banks that ratings from independent private agencies were necessary for banks and bank holding companies to sell commercial paper and long-term debt (often in the form of securities).
- Moody’s, Standard and Poor’s, Duff & Phelps, and Fitch Investors Services developed analytic tools for evaluating the credit of bank holding companies.
- The agencies analyze the holding company itself and the key operating subsidiaries.
- Many other organizations such as banks, corporations, and non-U.S. governmental units do their own assessments of banks and bank-holding companies adding a further example of co-regulation.
- Insurance in the form of protection for directors and officers or protection against fraud is an additional level of co-regulation. Insurance costs have skyrocketed in recent years.

Result: All of the above processes added positive levels of market discipline to the banks.

B. There Was a Series of Changes in U.S. Government Regulatory Emphasis Including:

- De-regulation. Two examples are elimination of interest rate ceilings on deposits and elimination of state prohibitions on acquisitions by out-of-state banks.
Basic Topics in Sound Bank Management

• Non-regulation. Regulators allowed the creation by banks of new unregulated products, especially in capital markets (such as derivative instruments). These products let banks compete with securities firms.

• Re-regulation. Regulators seek to respond to banks which exhibit problems by issuing enforcement orders, which require bank directors to correct deficiencies in capital, liquidity, reserves, and management. One example of an Enforcement Order is a memo of understanding (MoU), where a bank agrees to correct certain problems after negotiation with regulators. Another example is a cease and desist order, in which regulators require changes by institutions which have severe problems.

C. Computer Surveillance

• Executed by regulators, especially the Controller of the Currency and the Federal Reserve Bank. Computer-based models substitute for regulators' ability to directly examine all banks.

• Performed effectively by private companies, such as the rating agencies and consulting firms, such as Sheshinoff.

D. Standardization of Examinations

• A uniform rating system agreed to by all regulatory agencies was put into place in 1977. It is called the CAMEL Rating system for banks and the BOPEC Rating system for bank holding companies.

• The CAMEL Rating system will be discussed in depth in Chapter 10.

E. Deposit Insurance Reform - Premiums Paid By Banks For Deposit Insurance Reflect The Risk Profile Of Banks As Measured By The Camel Rating Systems.

F. Internationalization Of Regulation - World-Wide Bank Capital Requirements Were Standardized As Defined By The Basel Accords. This will be discussed later in the manual.
2

FUNDING ACTIVITIES

The funding activities of banks are defined as raising money as part of day-to-day operations. The funds raised are the inventory which a bank purchases. This inventory is then turned into loans, investments, trading activities, and the earning assets of the organization.

Sound bank management is involved with funding activities such as structuring products which are salable in the market place, determining interest rates and maturities to offer, managing a portfolio of funds purchased (often called liability management), and managing the bank's liquidity position. In discussing funding activities, the manual will break down funding into deposit collection and borrowings in the financial markets. Bank and client relationships will be discussed to emphasize the differences between corporate and consumer customers.

I. DEPOSIT COLLECTION

Most of these instruments are insured up to $100,000 by the Federal Deposit Insurance Corporation (FDIC). In return for providing this insurance, U.S. government regulators such as the FDIC exercise many levels of control over the banking system. Examples are: formal examinations of banks, issuance of charters, and development of regulations governing the banking system. Of equal importance is that banks must maintain reserves (in the form of accounts at the Federal Reserve Bank against many of these types of deposits).

Types of deposits and deposit instruments include:

- **Checking Accounts:** (demand deposits - payable to a depositor on demand by writing a check) and savings accounts (time deposits - interest is paid to a depositor if money is left in the bank for a period of time).

- **Money Market Accounts:** (interest paid to depositors based on rates in the financial or money markets; originally created to compete with mutual fund accounts of this kind) and NOW accounts (a type of interest bearing checking account).
• **Certificates of Deposit and Time Deposits:** funds deposited for specific periods of time (e.g. 90 days, one year, two years) in return for which the bank agrees to pay interest, usually at a specific rate.

• **Overseas Deposits:** from a variety of foreign sources such as individuals, corporations, governments, and financial institutions.

**Interest Rate Structure:**

Depending on the type of account, interest payments are made in a variety of ways including: monthly, quarterly, semi-annually, annually, or at the maturity of the instrument.

Interest is calculated in many ways, including compounded. In assessing a bank's deposit mix, it is important to know the methods of interest calculations for the various types of accounts.

**Maturity Structure:**

The management of maturities in terms of amounts and timing is discussed in detail in the asset and liability sections of this manual.

Maturities are related directly to the liquidity of the bank, an important factor in good management.

**Household and Individual Accounts**

Historically, bank branch offices have been large generators of consumer and small- and medium-size business and other types of organizations' deposits. Telephone banking, automated teller machines, bank by mail, and direct payroll and social security deposits are additional ways to accumulate household funds.

**Corporate Accounts**

While branch offices often play a role here, both account officers and product specialists, who solicit this business from corporations, are deeply involved in this type of deposit raising.
Government Accounts and Non Profit Institutions

As with corporate accounts, branch offices play a role, and account officers and product specialists are involved.

Correspondent Banks

Deposits can be raised from other banks (often called correspondents). The bank that holds the funds for the depositing bank often provides services such as check clearing, letters of credit, and many other activities.

II. BORROWING IN FINANCIAL MARKETS

Types of borrowings:

- **Federal funds**: overnight borrowings from other banks in order to meet liquidity or Federal Reserve Requirements.

- **Commercial paper**: short term (30, 60, 90 days) notes at fixed rates of interest to corporations and other organizations.

- **Repurchase Agreements**: securities (usually U.S. government instruments) sold by the bank to investors under agreements to repurchase. They are short-term, generally overnight or over the weekend.

- **Borrowing from the Federal Reserve Bank**: generally done only when severe liquidity problems develop. The Federal Reserve is known as the "lender of last resort." Its terms and conditions for making loans to members most often are aimed at encouraging or requiring significant changes in the bank.

- **Other types of longer term securities** (often five years or more): these are issued by banks, including subordinated notes (priority for repayment is junior to virtually all other forms of debt), capital notes, and unsecured debentures. The interest rates paid on these types of securities are much higher than shorter term instruments, due to the risks associated with their longer maturity.

Borrowing strategies and market considerations:

- Banking is a confidence game: Those who fund the banks (whether consumers or sophisticated investors) must have confidence in the institution.
• In the domestic market, confidence can be in the form of knowledge and familiarity of the bank, research from rating agencies, and evaluations from other firms which assess banks. For example, many corporations and investors have restrictions on purchasing funds from banks which are below investment grade.

• In the overseas market, the ratings and reputations of the banks take on even greater significance due to lack of familiarity with the large number of U.S. banks.

• A key strategy in funding activities is to diversify sources and maturities of funding instruments. The manual will examine this in greater depth in the asset liability management section. In this sense, banking can be regarded as a cash flow business in that the management of its own cash flow is a critical aspect of sound banking practices.

III. BANK AND CLIENT RELATIONSHIPS

The differences in ways that banks raise funds from its clients demonstrate the truly different constituencies banks serve. Soundly managed institutions develop business plans which recognize the differences.

• Marketing Consumers. Advertising, promotions, community service, and tactics such as asking prominent community members to join boards of directors are some of the ways that banks raise their level of recognition in communities. These activities are aimed at developing the confidence level consumers want in order to deposit funds in the bank and to use other bank services.

• Marketing Corporations. The techniques used to raise funds from businesses are centered around the use of specialists to call on businesses for the purpose of selling bank services. Providing various forms of credit is an important tactic in raising corporate deposits, especially from mid-size and small companies. A trade-off develops in which a bank makes a loan in order to obtain a company’s deposits. For large corporations, banks provide an array of cash management products in order to obtain deposits.
LENDING ACTIVITIES: AN OVERVIEW

In viewing the soundness of a bank, the commercial loan portfolio should be examined first because it is often the area of greatest risk for most banks. The bank's loan policies and procedures as well as its adherence to them, are a key to the institution's soundness. Following the Introduction is a credit process chart which describes the steps of the entire credit planning, marketing, approval, monitoring, and collecting cycle. Each of the steps of the cycle will be briefly described in the narrative. Consumer loans will be discussed beginning in part VIII of this section of the manual.

I. INTRODUCTION

Managing a sound commercial loan policy begins with a good business plan. The marketing and credit functions should work together to develop a basic business approach. For example, the strategy could be to focus on small and medium-sized businesses, as well as consumer loans in the bank's market. Target market segments are developed and basic underwriting standards of acceptable credits established. This approach is written down and communicated to all sectors of the bank. An advertising and promotion program can be created and specific plans aimed at markets and potential customers. The ability to resolve the dilemma between making quality loans in order to meet budget targets, and avoiding credit losses, starts with the creation of a business plan by the marketing and credit areas.

Loan Portfolio Management

Sound banking practices involve prudent management of the loan portfolio. Banks are increasingly using technology to assist is this process. In many ways, portfolio management of loans can be compared to managing an investment portfolio.

Some portfolio management methods include:

- Using a legal lending limit (10 percent of capital and surplus in the U.S.) to any single borrower or closely-related names to limit risk concentration.

- Using a house limit (often half the legal limit or less) to control more tightly lending to a single borrower.
THE CREDIT PROCESS

Strategic Plan → Business Plan → Target Markets → Underwriting Guidelines

Initiation
- Customer
- Prospect
- Referral

Analysis
- Purpose
- Business
- Management
- Financials
- Checkings

Negotiation
- Tenor
- Repayment
- Structure
- Covenants
- Security
- Pricing

Application
- Credit
- Approval
- Form
- Key Points

Approval (Rules)
- Sponsoring Officer(s)
- Senior Officer(s)
- Line of Business Manager*
- Executive Officers*
- Credit Policy Committee*
  "as needed"

Documentation
- Standard
- Attorney-Prepared
- Collateral Inspection Review
- Waivers/Exceptions

Disbursement
- Documents
- Executed
- Proper Approvals
- Management Info

Administration
- Monitoring
- Financials
- Covenants
- Repayment
- Formal Reviews
- Watch List
- Non-loan products, services, risks

Orderly Payment
- Principal
- Interest

Repayment
- Problem
- Situation
- Early Recognition
- Strategy
- Renegotiation
- Action Steps/
  Accountability
- Feedback to Start
  of Credit Process

Unforeseen Events
- Collection
- Efforts
- Legal
- Efforts
- Bankruptcy

Monitoring Financials
Covenants Repayment Formal Reviews Watch List Non-loan products, services, risks
Процесс кредитования

Стратегический план → Бизнес план → Определение целей → Основополагающее направление

Начальный этап → Анализ → Соглашение → Практическое осуществление

Одобрения (правила) → Документация → Издержки

Гарантии займа ответственные должности лица менеджер в конкретной сфере бизнеса управляющие делами комитет по выработке политики кредитования

Административное управление → своевременный платеж → Погашение → Проблемные ситуации

Издержки → выплаты

Процент на основную сумму долга

Связанные с инкассацией, связанные с оплатой юридических услуг, банкротство
- Segmenting general banking business into lines of business by industry (such as real estate or agriculture) to focus expertise against risk AND against marketing opportunities.

- Appointing (within industry lines) a world-wide parent account officer to control exposure AND manage marketing to multinational and large customers.

- Creating a central register to monitor outstandings under approved lines of credit AND credit commitments.

- Sub-categorizing risks by geography (countries and regions), collateral, type of loan such as term loans, letters of credit, indirect obligations, guarantors, and affiliates.

- Monitoring loan and risk MATURITIES, especially in relation to the bank’s liquidity and deposit mix.

- Extending the central register to include treasury products, overnight and daylight limits (usually to banks and brokers), derivative products, and investment banking situations. These are tougher than loans to monitor on a timely basis.

- Tracking obligations by fixed rate of interest or floating rate interest to aid allocation of scarce resources to fixed rate.

- Using detailed analytical methods to evaluate and forecast loss probabilities by economic trends, industry, and other criteria.

II. CREDIT ANALYSIS

- Transaction Summary (credit application). Describes the purpose of the loan, the type of business being financed, the history of the business, the management’s background, and includes checking with other sources of credit such as suppliers.

- Analysis of Financial Statements. Calculation and analysis of ratios, cash flow, balance sheets, profit and loss statements, notes to financial statements, financial projections, and other appropriate items are done in this phase. Spread sheets are created with as much uniformity as possible throughout the bank. Much of these calculations can be automated using software programs such as “Turbo Fast.” The comparison of results from period-to-period are included here with detailed explanations of significant changes and emphasis on trends.
• **Loan Structure.** The term and maturity of the facility, the repayment terms, the type of loan (line of credit, revolving credit, demand loan, letter of credit, term loan) are covered in depth.

• **Risk Analysis.** All risks in the transaction and the mitigants to them should be analyzed. Risks include:

  1. Economic factors such as the effect of inflation;
  2. Factors peculiar to specific industries, such as fashion in the clothing business;
  3. Potential hazards with the structure of the loan such as a loan to a holding company;
  4. Country risk in the case of credits to sovereign governments and organizations located in those countries;
  5. Payment risk, such as too much debt in the borrower’s business or inability to meet sales forecast;
  6. Collateral risk, meaning that collateral might be insufficient to pay the loan;
  7. Foreign exchange risk if there is exposure to foreign currencies involved;
  8. Interest rate risk in the sense that if there are major shifts in rates, how will the borrower be affected?
  9. Product risk, for example where in the life cycle is the product being financed?
  10. Management risk, e.g. experience, depth, and integrity.

The types of risks are unlimited. The critical factor is to describe and understand them. Most important is to detail the mitigants to the risks.

• **Collateral.** Collateral such as property or accounts receivable should be analyzed and inspected. Independent views of the value of the collateral are essential. For example, third party appraisals of equipment or real estate are essential.
Collateral should have three characteristics:

1) It should be worth as much or more as the loan advanced;
2) It should be easy to take possession and then to sell;
3) It must be clearly identifiable as the lender's asset.

- **Guarantees.** Detailed assessments of guarantors' capacity to repay the loan are essential. Analysis of guarantors' financial statements, capacity to repay, character, management, and the like are best accomplished before the loan is made.

- **Loan Agreements and Covenants.** Many loans require the preparation of loan agreements, which are legal documents describing the specific obligations of the borrower and the lender. The documents are prepared by bank counsel on a custom basis for a specific transaction. In addition, the bank can have standard counsel prepare documents for less complicated loans. If covenants are part of the agreement, they should be realistic. For example, financial tests such as ratios should be linked to the borrower's historic results and projections.

### III. APPROVALS

Banks use three types of approval methods:

1. **Loan Committees**

   Usually consist of both credit approval and line staff. Dollar levels of authority are pegged to the size of the loans which the bank is allowed to make and the experience level of the committee members. Senior executives, including the Chief Executive Officer, should be on the committee that looks at the largest loans made by the bank. Chief Financial Officers may be included to take into account funding requirements and pricing.

2. **Signature Approvals**

   A chain of approval levels is established. Bank officers will have approval authorities based on their credit skills (such as real estate). The authorities are usually designated by the Board of Directors.

3. **Credit Scoring**

   An experience-based numerical method evaluating key risks of credit cards, consumer loans, and home mortgage loans. Criteria such as years with the same employer, telephone, zip code address are important.
IV. POLICY

Bank loan policies such as advance rates against various types of collateral should be written in a manual and should be updated regularly. A credit policy officer often supported by a staff of credit specialists should handle this function with input from executive management and from line management. The manual should have a section covering loan documentation and procedures for dealing with problem credits. Disbursement procedures, authorities, and requirements can be included in the policy manual.

Exceptions to policy should be written and clearly explained (bad loans frequently arise from exceptions to loan policy.)

- **Loan rating system.** A numerical rating system (for example, one for the best credits through five for the worst) is a requirement for American banks. The rating system can be helpful in assessing trends, developing strategy, and working with regulators.

- **Pricing.** Policies must be written and understood by all staff involved. Matrixes can be created which relate pricing to risk, credit rating, collateral, and other factors. Exceptions should be noted in writing. A balance of credit, line, and financial management, and strategic objectives is an appropriate goal for pricing.

- **Credit file.** The bank’s credit policy will require that a file be maintained for each borrower. The file is standardized throughout the bank with specific definitions of what it must contain. For example, credit applications and analyses, spread sheets, memos describing customer contact, and correspondence, are maintained in the file.

V. OTHER CREDIT FUNCTIONS

- **Loan Review Department** (also known as credit audit). The function of this group is to examine loans after they are made and provide an independent assessment. This may be done on an on-going basis to follow the progress of a credit. An important role of this department is to assess portfolios and departments. It can provide management with important information about trends and weaknesses in the portfolio. It is another important part of sound bank management. Regulators have required the strengthening of this area in response to the surge of loan defaults in the late 1980s and 1990s. In smaller banks, auditors or outside consultants may perform this function.

- **Credit Department.** This department maintains credit files, performs credit analysis, writes up loan proposals, and often serves as a training ground for future loan officers. Another of its functions is to monitor loans and loan portfolios to
alert officers to potential problems by analyzing periodic reports provided by borrowers. Alerting loan officers to missing or expired documents, expiring loans, or issues involving collateral, is a function that often is undertaken by this department. Its members generally are graduates of, or participants in, the bank’s training program for loan officers.

VI. PROBLEM LOANS (workouts)

In determining a bank’s soundness, a review of its approach to managing problem loans is essential. Bank policy in this area generally is written. Committees to manage the problem loan portfolio are created. The committees consist of problem loan specialists, credit policy staff, members of the bank’s accounting staff, and loan review staff. Regularly scheduled meetings (including meetings with executive management and the Board of directors) are held to review problem credits and portfolios. In these meetings credit ratings are changed, classifications assigned, and recommendations are made for actions relating to the establishment of reserves or losses. The creation of trend reports and action plans are critical for sound bank management.

Separate Problem Loans Departments

These departments are staffed by loan work out specialists and are found in many banks.

Classifications

The banking regulators define problem loans in four categories: (Most banks have adopted this system.)

1. **Especially Mentioned.** Loans which have demonstrated weaknesses or potential for problems, such as collateral which has decreased in value, or operating losses.

2. **Substandard.** The possibility of a loss to the bank exists and substantial deterioration of the borrower’s ability to repay has taken place.

3. **Doubtful.** The likelihood of a loss is great. Liquidation of collateral will not repay the loan.

4. **Loss** - No likelihood of recovery.
Problem Loan Management

A good rule of thumb is that any loan with payments more than 90 days past due should be classified, interest accrual discontinued, and prior accrued interest reversed from earnings.

There are many ways to work with borrowers who are experiencing difficulty meeting loan terms:

- The bank should require a formal written business plan with assumptions and containing revised financial projections and budgets.

- Often the lender will ask for additional collateral, guaranties, or injection of capital. These actions may help the bank to improve its position with a borrower whose condition has deteriorated.

- An option exists to re-structure the loan, including maturity, size of payments, terms and conditions, advance rates, and the like.

- In most cases the bank will negotiate for a higher interest rate to reflect the increased risk in a deteriorated credit.

- Legal issues are extremely relevant in problem loan management. Even the most experienced bank work-out staff consult frequently with counsel to review bank positions and actions.

In both a bank’s own analysis of problem loans and the regulatory authorities’ formal examinations, there is much latitude in assigning classifications. Financial information must be analyzed, business plans studied, and other factors such as additional collateral assessed. Most delinquent loans are assigned a classification and loans which are current can receive a classification.

OREO - This category of assets which consists of “other real estate owned” frequently appears on bank balance sheets. This was a major issue for banks after the large number of real estate related loan defaults in the late 1980s and early 1990s. It consists of real estate repossessed (and actually owned by the bank) after a loan defaults. The management of this portfolio requires specialists in real estate.
VII. THOUGHTS ON LENDING

- Good process equals good portfolio.

- Make sure today’s seemingly good risks are not written off tomorrow.

- Bank lending horizons are long term (even though the borrower's horizons may be short term) because the bank must be repaid.

- A bank cannot charge an interest rate high enough to compensate for a loan which cannot be collected.

- Create a “watch list” of loans (to check more frequently than other loans) which have not deteriorated but which may have signs of problems. An example might be loans in an industry which is undergoing some stress.

- Early recognition of problem loans should be rewarded and encouraged in a well managed banking organization. Unfortunately, in some aggressive banks, “the messenger is often shot” – that is the bearer of bad news is punished rather than rewarded for surfacing and reporting an incipient bad loan before it becomes a write-up. This is a key feature in evaluating the quality of bank management.

VIII. CONSUMER LOANS

Another significant area for banks is consumer loans. The management of this portfolio, including establishment of a business plan, loan policies, credit approvals, and problem loan management, has many similarities to the commercial side.

However, since consumer loan portfolios are aimed at consumers, a vast array of consumer marketing and management techniques are utilized by banks. In a soundly managed bank the consumer portfolio should be diversified in terms of product, geography, maturity, collateral, and type of borrower. Examination of delinquencies, problem credits, and chargeoffs are critical sound banking practices. An advantage of the consumer loan business is that it can be highly automated.

- **Types of Consumer Loans**: Credit cards, revolving credits, overdraft lines of credit, car and truck loans, home improvement loans, college loans, boat loans, residential mortgages, and home equity loans.

- **Credit Approval.** Increasingly, scoring systems (sometimes automated) are being developed which assign points for various items in consumer credit applications. For example points may be assigned for home ownership, length of time in a job, income level, and the like. If the total points exceeds a level established for approvals, the loan
may qualify for an automatic approval. An advantage of scoring systems is that the points required for approvals can be raised or lowered depending on the lender’s appetite for this kind of credit.

- **Sources:** Branch offices, media advertising, direct mail, on-line connections with bank customers such as car dealers, “loan by phone,” promotions of specific products, and acquisitions of companies, or portfolios.

*Trends in the consumer loan business:*

- **Increasing Numbers of Participants.** Many non-banking companies have entered the business in all areas, i.e., home mortgage lending and credit cards.

- **Quick Approvals.** Technology and process efficiencies allow lenders to substantially reduce the amount of time to indicate approvals to borrowers. One-hour turnarounds for auto loans is not unusual. Even the home mortgage business is moving in the direction of faster approvals. (See Credit Scoring on Page 3 of Chapter 11, APPROVALS.)

- **Teaser Interest Rates.** Lower rates are offered to attract business; after a specified number of months, the rates are automatically increased.

- **Grace Periods.** No payments are required for some number of months after a loan is made (although interest is accumulated).

- **Debt Consolidation.** Many loans or credit cards are consolidated into one loan. The new loan generally will have a longer maturity and lower payments than the original borrowings.

- **Collections.** Automation of the collection process for easier tracking of results is common. Automatic dialing of phone numbers is another example.

*Advantages of the Consumer Loan Business:*

- Cash flows and delinquency rates are predictable based on analysis of historic results and experience of lenders with similar portfolios.

- Diversification of risk in terms of types of product, customers, collateral, geography, and maturity.

- Structuring of maturities can be accomplished for asset liability management purposes.

- Relationship to consumer spending - allows banks to participate in the vast consumer spending economy, both in the U.S., and overseas.
4
ACCOUNTING SYSTEMS

Accounting systems are one of the key control mechanisms in the sound management of banks. No organization can be managed effectively without an effective accounting system. [Different from financial control--management information, business units, budgets, periodic (usually monthly) management reviews.]

I. INTRODUCTION

- An accounting system must record, assemble, and produce accurate financial information.

- This information translates into the data needed by management to make sound business decisions at any time.

- All accounting systems depend on internal controls, which are simply the policies, procedures, and subsystems with which management safeguards assets and develops financial information for decision making.

- The bank’s accounting system provides information to regulators, investors, depositors, borrowers, and the public.

- The bank’s accounting system and its supporting subsystems are unique in that they are balanced daily with one another. The bank prepares a daily balance sheet to verify that its books are in balance each day. The statement is prepared from the general ledger control accounts after all debit and credit activities for the day have been posted and proved.

There are three major components of a bank’s accounting system. A brief description of each is provided, followed by a more in depth examination of each system.
**Proof and Transit System**

Balances all the bank’s financial transactions daily. It captures critical processing data for both the general ledger and the subsidiary systems.

**General ledger system**

Summarizes the bank’s subsidiary systems into a format that can be used by management for planning, control, and review.

**Subsidiary systems**

Designed to account for the bank’s assets and liabilities and to generate data for related income and expenses.

**II. PROOF AND TRANSIT SYSTEM**

- The focal point of the bank accounting system. It proves the work and sends cash items for collection.

- The objectives of the Proof and Transit System are:
  1. To segregate all incoming checks for proper distribution.
  2. To forward items (checks) for collection so that funds are available as soon as possible.
  3. To determine that deposit and loan payments totals balance with the total shown on deposit tickets and loan payment coupons.
  4. To collect data for general ledger and subsystem posting.

- The Proof Department receives batches of checks, deposit tickets, and loan payments from inside the bank. In addition, it receives checks written by customers and outside sources, such as clearing houses and correspondent banks. It proves the accuracy of batch totals, re-sorts the items for delivery to other departments for further processing, posting to subsidiary records, and reconciliation of totals to the general ledger.
III. GENERAL LEDGER SYSTEM

- Generates information and reports for decision making by management.
- Daily review of the General Ledger will spot any unusual or significant transactions or fluctuations in account balances.
- Specifically, General Ledger Systems report income in a two-part format: interest income against interest expense, and other income against operational expense.
- It accumulates detailed data for numerous account types.
- Most banks use the cost center and/or profitability center features available in most general ledger packages. Thus management can review each area of a bank separately—an example would be a particular product or service which would be assigned a separate account number.

IV. SUBSIDIARY SYSTEMS

- **Investment Securities and Trading.** Bank systems specifically account for each security owned and provide for entry of purchases, sales, related revenue (dividends, interest, etc.), amortization, and accretion accounts.
- **Loans.** Usually divided into three categories: Commercial, Real Estate, and Consumer. Each is set up on a separate subsidiary system. The systems are designed to monitor and process critical information on each loan such as account number, original amount, current balance, payment due date, interest rate, accrued interest receivable, and collateral and loan documentation.
- **Fixed Assets.** Land, buildings, and equipment compose this category. The system records depreciation expense, purchases, and sales of assets.
- **Demand, Savings, and Certificates of Deposit Accounts.** The systems are designed to accrue interest expense daily for interest-bearing accounts, automatically calculate service charges, produce customer statements, and account for accrued interest and maturities of CDs.
V. INTERNAL ACCOUNTING CONTROLS

In each bank accounting system and its subsystems, numerous policies and procedures ensure that daily transactions are processed accurately. These policies and procedures are known as Internal Controls. Banks' reputations are based on public trust, and a series of internal errors or fraud would seriously damage that trust.

Examples of Internal Controls include segregation of duties, timely approval and review procedures, and establishment of monetary limits on transactions by employees.

Periodic tests of computer systems are necessary to guard against business interruptions, fraud, and unacceptable or inaccurate accounting.

CONCLUSION

Increasingly, bank accounting systems are being tailored to provide key information to management as well as the critical function of keeping the books of the bank. An understanding of accounting policies is vital to determining the soundness of a banking institution.
BANK FINANCIAL STATEMENTS

I. BALANCE SHEET

In the discussion of sound bank management it is essential to define the categories of assets and liabilities which appear on balance sheets.

Please review the balance sheets of J.P. Morgan and Summit Bancorporation included at the end of this chapter. These balance sheets will be referred to again in the case work in Chapter 8.

1. Assets

- **Cash and Due from Banks.** Cash and currency held in the bank vaults, deposits with other commercial banks, checks in process of collection, and required reserves on deposit with the Federal Reserve Bank.

- **Interest Earning Deposits with Banks.** Deposit accounts with other banks which earn interest.

- **Investment Securities.** The bank’s investment portfolio. Usually broken out to show U.S. Government Securities, State and Local government Securities, and Other Securities (such as corporate bonds or collateralized mortgage obligations). This category is broken down further to show:
  
  A. Securities held to maturity (at market value;)
  B. Securities available for sale (at market value).

- **Trading Accounts.** The assets available for trading activities, including derivative instruments, foreign exchange, and other securities. These accounts will be stated at market value.

- **Securities Purchased Under Agreements to Resell.** Repurchase agreements acquired by the bank. An arrangement by which a bank provides funds to another bank or investor by buying a financial instrument (usually U.S. Treasury obligations) while, at the same time, agreeing to sell the instrument back at a
* specific price and specific time. These arrangements are generally short term, often overnight transactions.

* **Federal Funds Sold.** Short term (usually overnight) loans to other banks which require funds to maintain required reserves with the Federal Reserve Bank.

* **Loans.** Credits extended to all borrowers. Includes overdrafts on demand deposit accounts.

* **Reserve (Allowance) for Loan Losses.** An account which includes the money set aside from earnings to cover potential loan losses. Losses are subtracted from this account. This allowance is deducted from total loans to show a net loan amount.

* **Accrued Interest Receivable.** Interest on loans and securities which has been earned but not collected.

* **Premises and Equipment.** The value, after subtraction of depreciation, of headquarter buildings, branch offices owned, operations centers owned, leasehold improvements, and equipment owned.

* **Customers' Acceptance Liability.** Bankers acceptances (time drafts) which have been executed by a bank customer in favor of the bank. It is the obligation of the customer to pay the bank for a transaction executed in this manner and in this sense is similar to a loan. 30 to 180 days with an average of 90 days.

* **Other Assets.** Prepaid expenses, Goodwill created from acquisitions of other banks or financial services companies, and direct lease financing. It also includes a category called OREO (Other Real Estate Owned) which is real estate owned by the bank due to foreclosures on real estate loans.

2. **Liabilities**

* **Demand Deposits.** Checking accounts from all sources. These funds are withdrawn by customers on demand in the form of check, wire transfers, and electronic funds transfers.

* **Savings Deposits.** Accounts on which the bank pays interest and generally available on demand.

* **Time Deposits.** Interest bearing accounts which have a maturity date or renewal date. Usually evidenced by a certificate or other instrument.
Note: The deposit accounts are generally broken out between U.S. and overseas offices. Deposits of $100,000 and above are usually broken out and indicate money which is not covered by insurance from the Federal Deposit Insurance Corporation.

- **Short Term Borrowings. (Other Liabilities for Borrowed Money)** Secured and unsecured borrowings from other commercial banks or from the Federal Reserve Bank.

- **Liability on Acceptances.** The other side of bankers’ acceptances where the bank is obligated to pay an acceptance transaction.

- **Federal Funds Purchased.** A bank’s liability to repay a short term loan to another bank in order to meet reserve requirements at the Federal Reserve Bank.

- **Securities Sold Under Agreements to Repurchase.** The other side of a purchase transaction where the bank has sold a security to an investor and is obligated to buy it back at a specified time.

- **Commercial Paper.** Short term unsecured notes payable to investors (usually 30, 60, 90-days) issued to provide short-term funding for the bank.

- **Other Liabilities.** Accrued expenses, accounts payable, taxes due, interest due but not yet paid.

- **Long Term Debt.** Debentures, capital notes, and subordinated debt instruments with specific interest rates and longer term (generally over one year) maturity dates.

3. Capital Accounts

- **Common Stock.** The par or issue value of common stock authorized and outstanding.

- **Capital Surplus.** The sum which was paid for common stock above its par value.

- **Retained Earnings.** Profits which have not been paid out in dividends or transferred to other capital accounts.

- **Net Unrealized Gains On Investment Securities.** A method for showing securities gains which have not yet been taken.

- **Treasury Stock.** Stock which has not been issued. It is deducted from the capital accounts.
Consolidated balance sheet
J.P. Morgan & Co. Incorporated

<table>
<thead>
<tr>
<th></th>
<th>December 31 1993</th>
<th>December 31 1992</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and due from banks</td>
<td>$1,008</td>
<td>$1,149</td>
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<tr>
<td>Interest-earning deposits with banks</td>
<td>1,221</td>
<td>1,516</td>
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<tr>
<td>Debt investment securities:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Available for sale carried at fair value</td>
<td>19,547</td>
<td>-</td>
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<tr>
<td>At lower of cost or market value (market value: $22,233)</td>
<td>-</td>
<td>21,511</td>
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<tr>
<td>Trading account assets</td>
<td>41,349</td>
<td>26,178</td>
</tr>
<tr>
<td>Securities purchased under agreements to resell ($22,645 in 1993 and $9,960 in 1992) and federal funds sold</td>
<td>22,706</td>
<td>10,057</td>
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<tr>
<td>Securities borrowed</td>
<td>10,818</td>
<td>7,076</td>
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<tr>
<td>Loans</td>
<td>24,380</td>
<td>26,438</td>
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<tr>
<td>Less: allowance for credit losses</td>
<td>1,157</td>
<td>1,258</td>
</tr>
<tr>
<td>Net loans</td>
<td>23,223</td>
<td>25,180</td>
</tr>
<tr>
<td>Customers' acceptance liability</td>
<td>406</td>
<td>1,021</td>
</tr>
<tr>
<td>Accrued interest and accounts receivable</td>
<td>4,938</td>
<td>2,691</td>
</tr>
<tr>
<td>Premises and equipment, net</td>
<td>1,833</td>
<td>1,939</td>
</tr>
<tr>
<td>Other assets</td>
<td>6,819</td>
<td>4,879</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td>133,888</td>
<td>103,197</td>
</tr>
<tr>
<td><strong>Liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noninterest-bearing deposits:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In offices in the U.S.</td>
<td>4,681</td>
<td>3,148</td>
</tr>
<tr>
<td>In offices outside the U.S.</td>
<td>839</td>
<td>835</td>
</tr>
<tr>
<td>Interest-bearing deposits:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In offices in the U.S.</td>
<td>2,401</td>
<td>2,656</td>
</tr>
<tr>
<td>In offices outside the U.S.</td>
<td>32,481</td>
<td>25,880</td>
</tr>
<tr>
<td><strong>Total deposits</strong></td>
<td>40,402</td>
<td>32,519</td>
</tr>
<tr>
<td>Securities sold, not yet purchased</td>
<td>18,216</td>
<td>13,127</td>
</tr>
<tr>
<td>Securities sold under agreements to repurchase ($36,306 in 1993 and $23,687 in 1992) and federal funds purchased</td>
<td>39,412</td>
<td>26,444</td>
</tr>
<tr>
<td>Commercial paper</td>
<td>2,573</td>
<td>2,477</td>
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<td>Other liabilities for borrowed money</td>
<td>10,127</td>
<td>10,681</td>
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<tr>
<td>Accounts payable and accrued expenses</td>
<td>6,416</td>
<td>3,035</td>
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<tr>
<td>Liability on acceptances</td>
<td>413</td>
<td>1,028</td>
</tr>
<tr>
<td>Long-term debt not qualifying as risk-based capital</td>
<td>2,817</td>
<td>3,143</td>
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<tr>
<td>Other liabilities</td>
<td>1,194</td>
<td>1,135</td>
</tr>
<tr>
<td><strong>Total liabilities</strong></td>
<td>121,570</td>
<td>93,589</td>
</tr>
<tr>
<td><strong>Total liabilities</strong></td>
<td>124,029</td>
<td>95,889</td>
</tr>
<tr>
<td><strong>Stockholders' equity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preferred stock</td>
<td>494</td>
<td>494</td>
</tr>
<tr>
<td>Common stock, $2.50 par value (authorized shares: 500,000,000; issued: 199,531,757 in 1993 and 196,611,896 in 1992)</td>
<td>499</td>
<td>492</td>
</tr>
<tr>
<td>Capital surplus</td>
<td>1,393</td>
<td>1,234</td>
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<tr>
<td>Retained earnings</td>
<td>6,386</td>
<td>5,302</td>
</tr>
<tr>
<td>Net unrealized gains on investment securities, net of taxes</td>
<td>1,165</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td>250</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total stockholders' equity</strong></td>
<td>9,859</td>
<td>7,308</td>
</tr>
<tr>
<td><strong>Total liabilities and stockholders' equity</strong></td>
<td>133,888</td>
<td>103,197</td>
</tr>
</tbody>
</table>

Certain 1992 amounts have been restated to reflect the adoption of SFAS No. 109, Accounting for Income Taxes, effective January 1, 1992.
### The Summit Bancorporation

#### Average Consolidated Balance Sheet, Net Interest Income and Net Interest Margin (Tax- equivalent Basis)

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Interest</td>
<td>Average</td>
<td>Interest</td>
<td>Average</td>
<td>Interest</td>
</tr>
<tr>
<td>Assets</td>
<td>Balance</td>
<td>Rate</td>
<td>Balance</td>
<td>Rate</td>
<td>Balance</td>
<td>Rate</td>
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<tr>
<td>Short-Term Investments</td>
<td>$279,731</td>
<td>6.49%</td>
<td>$170,229</td>
<td>9.52%</td>
<td>$153,104</td>
<td>12.28%</td>
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<tr>
<td>Investment Securities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. Treasury</td>
<td>$22,144</td>
<td>7.57%</td>
<td>$30,547</td>
<td>7.57%</td>
<td>$9,775</td>
<td>7.57%</td>
</tr>
<tr>
<td>U.S. Government Agency</td>
<td>$621,261</td>
<td>7.57%</td>
<td>$39,020</td>
<td>7.57%</td>
<td>$27,192</td>
<td>7.57%</td>
</tr>
<tr>
<td>State and Municipal</td>
<td>$91,352</td>
<td>6.90%</td>
<td>$38,945</td>
<td>6.90%</td>
<td>$38,945</td>
<td>6.90%</td>
</tr>
<tr>
<td>Other Securities</td>
<td>$215,989</td>
<td>5.32%</td>
<td>$142,175</td>
<td>5.32%</td>
<td>$109,272</td>
<td>5.32%</td>
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<tr>
<td>Total Investment Securities</td>
<td>$455,687</td>
<td>6.19%</td>
<td>$244,962</td>
<td>6.19%</td>
<td>$161,715</td>
<td>6.19%</td>
</tr>
<tr>
<td>Trading Account Securities</td>
<td>1,111</td>
<td>0.00%</td>
<td>1,111</td>
<td>0.00%</td>
<td>1,111</td>
<td>0.00%</td>
</tr>
<tr>
<td>Liabilities and Stockholders' Equity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allowance for Loan Losses</td>
<td>$461,315</td>
<td>0.00%</td>
<td>$461,315</td>
<td>0.00%</td>
<td>$461,315</td>
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</tr>
<tr>
<td>Cash and Due from Banks</td>
<td>$189,299</td>
<td>0.00%</td>
<td>$189,299</td>
<td>0.00%</td>
<td>$189,299</td>
<td>0.00%</td>
</tr>
<tr>
<td>Premises and Equipment</td>
<td>$2,540,340</td>
<td>0.00%</td>
<td>$2,540,340</td>
<td>0.00%</td>
<td>$2,540,340</td>
<td>0.00%</td>
</tr>
<tr>
<td>Accrued Interest Receivable</td>
<td>$21,119</td>
<td>0.00%</td>
<td>$21,119</td>
<td>0.00%</td>
<td>$21,119</td>
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</tr>
<tr>
<td>Other Real Estate Owned</td>
<td>$26,500</td>
<td>0.00%</td>
<td>$26,500</td>
<td>0.00%</td>
<td>$26,500</td>
<td>0.00%</td>
</tr>
<tr>
<td>Other Assets</td>
<td>$70,842</td>
<td>0.00%</td>
<td>$70,842</td>
<td>0.00%</td>
<td>$70,842</td>
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<tr>
<td>Total Assets</td>
<td>$3,674,816</td>
<td>0.00%</td>
<td>$3,674,816</td>
<td>0.00%</td>
<td>$3,674,816</td>
<td>0.00%</td>
</tr>
<tr>
<td>Liabilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>NOW Accounts</td>
<td>$481,278</td>
<td>0.00%</td>
<td>$481,278</td>
<td>0.00%</td>
<td>$481,278</td>
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<tr>
<td>Savings Deposits</td>
<td>$76,568</td>
<td>0.00%</td>
<td>$76,568</td>
<td>0.00%</td>
<td>$76,568</td>
<td>0.00%</td>
</tr>
<tr>
<td>Money Market Accounts</td>
<td>$639,819</td>
<td>0.00%</td>
<td>$639,819</td>
<td>0.00%</td>
<td>$639,819</td>
<td>0.00%</td>
</tr>
<tr>
<td>Money Market Certificates of Deposit</td>
<td>$449,179</td>
<td>0.00%</td>
<td>$449,179</td>
<td>0.00%</td>
<td>$449,179</td>
<td>0.00%</td>
</tr>
<tr>
<td>Certificates of Deposit of $100,000 and Over</td>
<td>$99,544</td>
<td>0.00%</td>
<td>$99,544</td>
<td>0.00%</td>
<td>$99,544</td>
<td>0.00%</td>
</tr>
<tr>
<td>Other Time Deposits</td>
<td>$332,930</td>
<td>0.00%</td>
<td>$332,930</td>
<td>0.00%</td>
<td>$332,930</td>
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</tr>
<tr>
<td>Total Interest Bearing Liabilities</td>
<td>$2,577,596</td>
<td>11.71%</td>
<td>$2,577,596</td>
<td>11.71%</td>
<td>$2,577,596</td>
<td>11.71%</td>
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<tr>
<td>Demand Deposits</td>
<td>$550,349</td>
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<td>$550,349</td>
<td>0.00%</td>
<td>$550,349</td>
<td>0.00%</td>
</tr>
<tr>
<td>Accrued Expenses and Other Liabilities</td>
<td>$81,915</td>
<td>0.00%</td>
<td>$81,915</td>
<td>0.00%</td>
<td>$81,915</td>
<td>0.00%</td>
</tr>
<tr>
<td>Total Liabilities</td>
<td>$3,539,860</td>
<td>0.00%</td>
<td>$3,539,860</td>
<td>0.00%</td>
<td>$3,539,860</td>
<td>0.00%</td>
</tr>
<tr>
<td>Stockholders' Equity</td>
<td>$207,757</td>
<td>0.00%</td>
<td>$207,757</td>
<td>0.00%</td>
<td>$207,757</td>
<td>0.00%</td>
</tr>
<tr>
<td>Total Liabilities and Stockholders' Equity</td>
<td>$3,747,617</td>
<td>0.00%</td>
<td>$3,747,617</td>
<td>0.00%</td>
<td>$3,747,617</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

#### Notes
1. The above table includes nonaccrual loans.
2. Fees on loans have been included in interest on loans.
II. INCOME AND EXPENDITURE STATEMENTS

Please review the income and expenditure statements of J.P. Morgan and Summit Bancorporation included at the end of this chapter. These statements will be used again in the case work in Chapter 8.

1. Income Accounts

*Interest Income*

- **Interest and Fees on Loans.** Interest revenue generated from lending activities.
- **Interest on Federal Funds Sold and from Repurchase Agreements.** Interest generated from sales of federal funds and repurchase agreements.
- **Interest on Securities.** Interest from securities investment activities.
- **Interest from Bank Deposits.** Interest from deposits with other banks.
- **Interest on Trading Account Securities.** Interest from trading activities.

*Fee Income*

- **Service Charges on Deposit Accounts.** Fees charged for deposit services.
- **Trust Activities.** Fees from fiduciary activities for individuals and corporations and other organizations.
- **Trading Activities.** Non-interest income such as commissions and advisory fees earned in trading businesses.
- **Corporate Finance Business.** Fees for securities issuance, advisory work on mergers and acquisitions, and fund raising activities for customers.
- **Investment Management Business.** Fees for advising clients on investment activities such as pension funds and other employee benefit products.
- **Operational Services.** Fees for providing cash management, check clearing, and other products.
- **Net Investment Securities Gains or Losses** - Profits or losses from the bank’s securities portfolio activities.

- **Other Income**: One-time income sources such as the sales of subsidiaries or headquarters buildings.

2. **Expenditures**

*Interest Expense*:

- **Interest on Deposits**. All interest paid to depositors.

- **Interest on Borrowed Funds**. Interest paid on both short-term (such as Federal Funds) and long-term debt obligations, including subordinated debt, debentures, capital notes, and the like. The short and long term categories are usually stated separately.

- **Salaries and Employee Benefits**. Salaries and bonuses paid, as well as benefit programs paid by the bank such as medical and insurance.

- **Net Occupancy Costs**. Maintenance of facilities including rents, direct costs for owned properties, utilities, real estate taxes, and depreciation.

- **Equipment Expense**. Maintenance costs for bank equipment, including data processing gear and software.

- **Provision for Loan Losses**. An estimate of the funds necessary to bring the reserve (allowance) for a loan loss account to an amount sufficient to cover future loan write-offs.

- **Other Expenses**. Advertising, supplies, insurance, and categories not covered in other line items are included in this category.

- **Income Taxes Paid**. Income taxes paid to federal, state, and local governments.

- **DIVIDENDS PAID** - All dividends paid to shareholders.
3. Statement Of Cash Flows

It is necessary to examine this data in order to understand better the bank's cash flow activities from year to year. Included are changes in cash provided by, or used in, bank operating activities such as profits and depreciation. Changes in cash from investing activities like sales and maturities of investment securities are shown in the cash flows. Cash provided or used from financing (funding) activities such as federal funds or commercial paper are included in this category. Effects of changes in exchange rates are listed in the cash flow statement.

Notes to Financial Statements

The notes will nearly always provide much more depth of information about the various categories on the balance sheet and income and expenditure statement. For example, there will be breakdowns of securities, loan portfolios, debt instruments, and trading accounts. Accounting methods will be defined and off balance sheet items described.

*Examining the notes is a key analytical step in determining the soundness of a bank.*
### Consolidated statement of income

**J.P. Morgan & Co. Incorporated**

*In millions, except per share data*

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Net interest revenue</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest revenue</td>
<td>$7,442</td>
<td>$7,281</td>
<td>$7,786</td>
</tr>
<tr>
<td>Interest expense</td>
<td>5,670</td>
<td>5,373</td>
<td>6,302</td>
</tr>
<tr>
<td><strong>Net interest revenue</strong> after provision for credit losses</td>
<td>1,772</td>
<td>1,708</td>
<td>1,484</td>
</tr>
<tr>
<td><strong>Noninterest revenue</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trading revenue</td>
<td>2,039</td>
<td>959</td>
<td>1,297</td>
</tr>
<tr>
<td>Corporate finance revenue</td>
<td>532</td>
<td>439</td>
<td>333</td>
</tr>
<tr>
<td>Credit-related fees</td>
<td>224</td>
<td>214</td>
<td>164</td>
</tr>
<tr>
<td>Investment management fees</td>
<td>464</td>
<td>377</td>
<td>321</td>
</tr>
<tr>
<td>Operational service fees</td>
<td>491</td>
<td>409</td>
<td>351</td>
</tr>
<tr>
<td>Net investment securities gains (losses)</td>
<td>323</td>
<td>388</td>
<td>83</td>
</tr>
<tr>
<td>Other revenue</td>
<td>406</td>
<td>164</td>
<td>69</td>
</tr>
<tr>
<td><strong>Total noninterest revenue</strong></td>
<td>4,490</td>
<td>2,950</td>
<td>2,528</td>
</tr>
<tr>
<td><strong>Operating expenses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee compensation and benefits</td>
<td>2,221</td>
<td>1,738</td>
<td>1,443</td>
</tr>
<tr>
<td>Net occupancy</td>
<td>391</td>
<td>293</td>
<td>360</td>
</tr>
<tr>
<td>Technology and communications</td>
<td>512</td>
<td>409</td>
<td>341</td>
</tr>
<tr>
<td>Other expenses</td>
<td>456</td>
<td>414</td>
<td>343</td>
</tr>
<tr>
<td><strong>Total operating expenses</strong></td>
<td>3,580</td>
<td>2,854</td>
<td>2,487</td>
</tr>
<tr>
<td>Income before income taxes, extraordinary gain, and cumulative effects of accounting changes</td>
<td>2,691</td>
<td>1,749</td>
<td>1,455</td>
</tr>
<tr>
<td>Income taxes</td>
<td>968</td>
<td>619</td>
<td>371</td>
</tr>
<tr>
<td>Income before extraordinary gain and cumulative effects of accounting changes</td>
<td>1,723</td>
<td>1,130</td>
<td>1,114</td>
</tr>
<tr>
<td>Extraordinary gain on early retirement of debt, net of related income taxes</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cumulative effect of change in method of accounting for postretirement benefits, net of related income taxes</td>
<td>(137)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cumulative effect of change in method of accounting for income taxes</td>
<td>-</td>
<td>452</td>
<td>-</td>
</tr>
<tr>
<td><strong>Net income</strong></td>
<td>1,586</td>
<td>1,582</td>
<td>1,146</td>
</tr>
</tbody>
</table>

*Per common share*:

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Income before extraordinary gain and cumulative effects of accounting changes</td>
<td>$8.48</td>
<td>$5.66</td>
<td>$5.63</td>
</tr>
<tr>
<td>Extraordinary gain on early retirement of debt, net of related income taxes</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cumulative effect of change in method of accounting for postretirement benefits, net of related income taxes</td>
<td>(0.68)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cumulative effect of change in method of accounting for income taxes</td>
<td>-</td>
<td>2.29</td>
<td>-</td>
</tr>
<tr>
<td>Net income</td>
<td>7.80</td>
<td>7.35</td>
<td>5.96</td>
</tr>
<tr>
<td>Dividends declared</td>
<td>2.48</td>
<td>2.23</td>
<td>2.03</td>
</tr>
</tbody>
</table>

*Notes:

1. As a result of adopting SFAS No. 118, Accounting for Income Taxes, effective January 1, 1992, income before the cumulative effect of the change for 1993 was reduced by $35.1 million, or $1.18 per share ($1.27 per share assuming full dilution), and net income for 1992 was increased by $20.0 million, or $0.63 per share ($1.02 per share assuming full dilution).

2. Net income per share amounts for 1993 represent both primary and fully diluted earnings per share. Earnings per share amounts for 1992 and 1991 represent primary earnings per share. For 1992 fully diluted earnings per share before and after the cumulative effect of the change in accounting for income taxes were $5.66 and $5.96 respectively. For 1991 fully diluted earnings per share before and after the extraordinary gain were $5.94 and $5.55 respectively.

The accompanying notes are an integral part of these financial statements.*
### Five-Year Financial Summary

**In Thousands Except Per Share Amounts**

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>STATEMENT OF INCOME</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest Income</td>
<td>$274,116</td>
<td>$318,319</td>
<td>$349,981</td>
<td>$362,212</td>
<td>$299,141</td>
</tr>
<tr>
<td>Tax-Equivalent Adjustment</td>
<td>4,149</td>
<td>4,923</td>
<td>6,748</td>
<td>8,398</td>
<td>9,037</td>
</tr>
<tr>
<td>Interest Income (Tax-Equivalent) (1)</td>
<td>278,265</td>
<td>323,242</td>
<td>356,729</td>
<td>370,610</td>
<td>308,178</td>
</tr>
<tr>
<td>Interest Expense</td>
<td>110,779</td>
<td>168,908</td>
<td>203,133</td>
<td>204,187</td>
<td>160,139</td>
</tr>
<tr>
<td>Net Interest Income (Tax-Equivalent)</td>
<td>167,486</td>
<td>154,334</td>
<td>153,594</td>
<td>166,423</td>
<td>148,039</td>
</tr>
<tr>
<td>Provision for Loan Losses</td>
<td>23,498</td>
<td>22,983</td>
<td>79,067</td>
<td>21,047</td>
<td>7,471</td>
</tr>
<tr>
<td>Net Interest Income after Provision for Loan Losses</td>
<td>143,988</td>
<td>131,351</td>
<td>74,527</td>
<td>145,376</td>
<td>140,568</td>
</tr>
<tr>
<td><strong>Noninterest Income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trust Income</td>
<td>10,899</td>
<td>9,817</td>
<td>9,122</td>
<td>8,306</td>
<td>7,435</td>
</tr>
<tr>
<td>Service Fees on Deposit Accounts</td>
<td>14,368</td>
<td>12,385</td>
<td>10,551</td>
<td>9,007</td>
<td>7,245</td>
</tr>
<tr>
<td>Investment Securities Gains (Losses)</td>
<td>743</td>
<td>(566)</td>
<td>(771)</td>
<td>38,206</td>
<td>2,782</td>
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<tr>
<td>Other Income</td>
<td>14,605</td>
<td>11,291</td>
<td>14,632</td>
<td>11,951</td>
<td></td>
</tr>
<tr>
<td>Total Noninterest Income</td>
<td>40,615</td>
<td>32,927</td>
<td>33,534</td>
<td>62,378</td>
<td>29,413</td>
</tr>
<tr>
<td><strong>Noninterest Expense</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries and Employee Benefits</td>
<td>68,144</td>
<td>68,151</td>
<td>64,096</td>
<td>67,935</td>
<td>59,472</td>
</tr>
<tr>
<td>Net Occupancy Expense</td>
<td>15,768</td>
<td>13,110</td>
<td>11,526</td>
<td>10,284</td>
<td>9,096</td>
</tr>
<tr>
<td>Furniture and Equipment Expense</td>
<td>7,991</td>
<td>8,038</td>
<td>8,133</td>
<td>9,011</td>
<td>7,958</td>
</tr>
<tr>
<td>Other Expenses</td>
<td>43,811</td>
<td>40,590</td>
<td>36,223</td>
<td>32,522</td>
<td>29,330</td>
</tr>
<tr>
<td>Total Noninterest Expense</td>
<td>135,714</td>
<td>129,889</td>
<td>119,978</td>
<td>119,775</td>
<td>105,806</td>
</tr>
<tr>
<td><strong>Income (Loss) Before Income Taxes</strong></td>
<td>48,889</td>
<td>34,389</td>
<td>(11,917)</td>
<td>87,979</td>
<td>64,173</td>
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<tr>
<td>Applicable Income Tax Expense (Benefit)</td>
<td>15,306</td>
<td>8,241</td>
<td>(5,828)</td>
<td>27,381</td>
<td>16,461</td>
</tr>
<tr>
<td>Less: Tax-Equivalent Adjustment (1)</td>
<td>4,149</td>
<td>4,923</td>
<td>6,748</td>
<td>8,398</td>
<td>9,037</td>
</tr>
<tr>
<td>Income (Loss) Before Accounting Change</td>
<td>29,434</td>
<td>21,185</td>
<td>(12,837)</td>
<td>52,200</td>
<td>38,677</td>
</tr>
<tr>
<td>Accounting Change (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Net Income (Loss)</strong></td>
<td>$29,434</td>
<td>$21,185</td>
<td>$(12,837)</td>
<td>$42,974</td>
<td>$38,677</td>
</tr>
<tr>
<td><strong>Average Common Share Outstanding</strong></td>
<td>23,186</td>
<td>20,009</td>
<td>19,817</td>
<td>19,817</td>
<td>19,886</td>
</tr>
</tbody>
</table>

**PER SHARE DATA**

| Net Income (Loss) | $1.22 | $1.00 | $(.71) | 2.10 | .88 |
| Cash Dividends Declared | .80 | .80 | .80 | .74 | .65 |
| Common Stock Dividends | — | — | — | — | — |
| Common Stockholders’ Equity at Year-End | $12.82 | $12.05 | $11.61 | $13.49 | $12.14 |
| Common Stock Price at Year-End | 21.00 | 12.25 | 9.13 | 17.00 | 19.75 |

**FINANCIAL RATIOS**

| Return on Average Assets | .76% | .57% | (34)% | 1.19% | 1.18% |
| Return on Average Common Stockholders’ Equity | 9.81 | 8.49 | (5.27) | 16.55 | 16.41 |
| Return on Average Total Stockholders’ Equity | 9.56 | 8.30 | (4.54) | 15.80 | 15.61 |
| Stockholders’ Equity to Assets | 8.33 | 7.09 | 6.73 | 7.44 | 7.38 |
| Tier I Capital to Assets | 8.19 | 6.94 | 6.57 | 7.30 | 7.21 |
| Tier I Capital to Risk-Weighted Assets | 11.80 | 9.86 | 8.79 | 9.34 | 9.07 |
| Total Capital to Risk-Weighted Assets | 13.28 | 11.47 | 10.78 | 11.42 | 11.08 |
| Common Dividend Payout Ratio | 65.57% | 80.00% | (3)% | 35.24% | 34.57% |

**AT YEAR-END (Dollars in Thousands)**

| Assets | $4,058,579 | $3,764,133 | $3,717,677 | $3,865,473 | $3,526,058 |
| Loans | 2,477,919 | 2,499,260 | 2,627,706 | 2,858,935 | 2,505,853 |
| Securities | 1,091,251 | 792,948 | 691,246 | 544,803 | 567,769 |
| Deposits | 3,576,897 | 3,341,369 | 3,247,224 | 3,274,874 | 2,963,958 |
| Long-Term Debt | 15,850 | 20,850 | 50,680 | 122,999 | 131,949 |
| Stockholders’ Equity | 337,880 | 266,975 | 250,340 | 287,633 | 260,296 |
| Trust Assets (Market Value) | 3,137,571 | 2,711,621 | 1,963,787 | 1,823,084 | 1,552,696 |
| Number of Employees (Full-Time Equivalent) | 1,619 | 1,668 | 1,734 | 1,876 | 1,837 |
| Number of Banking Offices | 79 | 77 | 80 | 79 | 78 |

---

(1) Represents the differential between interest income that is partially or wholly exempt from income taxes and interest income that is fully taxable. A 34% Federal tax rate was used for all periods presented.

(2) Represents the cumulative effect on prior years of changing to the accrual method for certain postretirement benefits.

(3) Not meaningful due to 1990 net loss.
6
RATIO ANALYSIS

The manual will cover a series of ratios which provide a foundation for analyzing the soundness of banks. This section shows how to calculate the ratios, describes their purpose, and provide some goals for banks to achieve. These ratios are basic analytical tools and are relatively easily calculated. In addition, they are generally available to analysts in documents published by banks, such as annual reports. While the calculation for a given period (such as year end) is important, it is the trend over a series of comparable periods which provides a view of the direction of the bank being analyzed. The section following will cover analytical techniques, which include many of the ratios described in this section.

I. RETURN ON ASSETS (ROA)

Calculation: \[
\text{INCOME BEFORE EXTRAORDINARY ITEMS} \\
\text{AVERAGE TOTAL ASSETS}
\]

Purpose: Measures ability of banks to earn profits on assets employed in the business.

Goals: Small Banks: 1.5% and higher
       Large Banks: 1.0% and higher

II. RETURN ON EQUITY (ROE)

Calculation: \[
\text{INCOME BEFORE EXTRAORDINARY ITEMS} \\
\text{AVERAGE TOTAL EQUITY CAPITAL}
\]

Purpose: Measures ability of banks to efficiently utilize capital.

Goal: 15% and higher.

This ratio is one of the best indicators of a bank's profitability as it relates to capital employed.
III. NET INTEREST MARGIN

Calculation: EARNING ASSET YIELD MINUS BREAK EVEN YIELD*

Purpose: Measures gross margin or bank's ability to earn profits on lending activities. It is the ratio of net interest income to earning assets and summarizes the judgment of bank management in planning the balance sheet for safety and profit.

Goal: 3.0 to 4.0% and higher

*Please go to the end of this chapter for details of this calculation.

IV. EFFICIENCY RATIO

Calculation: NON-INTEREST EXPENSES
TOTAL EXPENSES

Purpose: Measures ability to control non-interest expenses.

Goals: The lower the better. Below 50% is outstanding. The low 60 percentile is common. Many banks have established a goal of 55%. This ratio is receiving great attention today.

V. NET INCOME PERCENT (%) CHANGE

Calculation: INCOME BEFORE EXTRAORDINARY ITEMS
(THIS YEAR - LAST YEAR)
INCOME BEFORE EXTRAORDINARY ITEMS
(LAST YEAR)

Purpose: Measures % change in profitability year to year.

Goal: 10-12% Increase per year is an excellent performance.

VI. SECURITIES GAINS/LOSSES (NET) TO NET INCOME

Calculation: GAINS (LOSSES) ON INVESTMENT SECURITIES
-APPLICABLE TAXES
INCOME BEFORE EXTRAORDINARY ITEMS
**Purpose:** Shows reliance or lack of reliance on securities gains or losses for profitability.

**Goal:** Depends on bank-compared to previous year.

**VII. LIQUIDITY RATIOS**

1. **Earning Assets to Total Assets**

   **Calculation:**
   
   \[
   \frac{\text{AVERAGE EARNING ASSETS}}{\text{AVERAGE TOTAL ASSETS}}
   \]
   
   Interest bearing balances such as Due from Depository Institutions + U.S. Treasury Securities, U.S. Agency Issues, and Corporate Obligations + Municipal Securities + Any other securities + Federal Funds Sold and Repurchase Agreements + Net Loans and Leases + Assets Held in Trading Accounts.

   **Purpose:** Shows the proportion of bank assets actually earning income as opposed to non-earning assets such as real estate and goodwill.

   **Goal:** The higher the better.

2. **Core Deposit Percent (%) Change**

   **Calculation:** Average of domestic demand deposits + domestic time & savings deposit - CDs and other time deposits of $100m or more. This year minus last year divided by last year.

   **Purpose:** Shows effect of changes in core deposits.

   **Goal:** The higher the better.

**VIII. ASSET QUALITY RATIOS**

1. **Net Charge Offs To Loans**

   **Calculation:**
   
   \[
   \frac{\text{CHARGE OFFS - RECOVERIES}}{\text{AVERAGE LOANS & LEASES}}
   \]
   
   **Purpose:** Calculates magnitude of charge offs net of recoveries as a percent of loans. Shows loan portfolio quality. Gives an indication of effectiveness of collection efforts.
Goal: The lower the better. One-half of 1% is excellent.

2. Gross Charge Offs To Loans

Calculation: \[
\frac{\text{CHARGE OFFS}}{\text{AVERAGE LOANS & LEASES}}
\]

Purpose: Calculates total charge offs as a percent of loans before recoveries.

Goal: Below 1% is an industry norm.

3. Recoveries To Gross Charge Offs

Calculation: \[
\frac{\text{LOAN & LEASE RECOVERIES}}{\text{GROSS LOAN & LEASE CHARGE OFFS}}
\]

Purpose: Demonstrates effectiveness of collection effort.

Goal: The higher the better.

4. Earnings Coverage Of Loan Losses

Calculation: \[
\frac{\text{INCOME BEFORE TAXES AND EXTRAORDINARY ITEMS} + \text{PROVISION FOR LOAN & LEASE LOSSES} + \text{PROVISION FOR ALLOCATED TRANSFER RISK}}{\text{NET CHARGE OFFS}}
\]

Purpose: Shows amounts of profits and reserves which exceed (cover) loan losses.

Goal: The higher the better.

5. Loss Provision To Net Charge Offs

Calculation: \[
\frac{\text{PROVISION FOR LOANS & LEASE LOSSES} + \text{PROVISION FOR ALLOCATED TRANSFER RISK}}{\text{NET CHARGE OFFS}}
\]

Purpose: Shows adequacy of loan loss provision.

Goal: Should be 4-5%.
IX. CAPITAL RATIOS (Covered in more depth in Capital Adequacy Section of Manual.)

1. Equity To Average Assets

*Calculation:* \[
\frac{\text{AVERAGE TOTAL EQUITY}}{\text{AVERAGE TOTAL ASSETS}}
\]

*Purpose:* Measures equity as a percent of assets - leverage.

*Goal:* 6% or higher.

2. Term Debt To Total Capitalization

*Calculation:* \[
\frac{\text{SUBORDINATED NOTES & DEBENTURES + MORTGAGES}}{\text{SUBORDINATED NOTES & DEBENTURES + MORTGAGES} + \text{EQUITY CAPITAL}}
\]

*Purpose:* Shows % of capital which consists of long term obligations.

*Goal:* 20-30% on average.

3. Asset Percent Change

*Calculation:* \[
\frac{\text{AVERAGE TOTAL ASSETS (THIS YEAR-LAST YEAR)}}{\text{AVERAGE TOTAL ASSETS (LAST YEAR)}}
\]

*Purpose:* Shows growth of asset % year to year.

*Goal:* Asset growth of more than 10-15% per year can be difficult to control, especially if the growth is primarily in the loan portfolio.

***NET INTEREST MARGIN CALCULATION - See first page of Key Ratios Discussion

4. Numerator

Earning Asset Yield =
X. TOTAL INTEREST INCOME

*Average:*

Interest Bearing Balances Due from Depository Institutions  
+ U.S. Treasury Securities and U.S. Government Agency and Corporate Obligations  
+ Municipal Bonds  
+ Other securities (debt and equity)  
+ Federal Funds sold and Repurchase Agreements  
+ Loans and Leases net of unearned income  
+ Assets held in trading accounts

1. **Denominator**

Break Even Yield =

XI. TOTAL INTEREST EXPENSE

Average Earning Assets (see above).
Asset/Liability Management involves the structuring of the bank's balance sheet to protect depositors and shareholders, and to earn an optimum profit. Soundness of the organization is related to the success of this process in that mistakes in structuring assets and liabilities can lead directly to funding problems.

- The Asset/Liability Management process involves taking interest rate exposure, which results from the natural dynamics of the marketplace. In addition, because banks operate in a highly competitive environment, they are forced to assume additional interest rate exposure to maintain adequate earnings.

- The interest rate exposure must be managed and the only way to do so is for the bank to have a definite view on interest rates.

- It might seem that a safe way to manage assets and liabilities is to have a perfectly matched book (the maturities of the assets and liabilities are precisely matched). However, to do so would give up earnings opportunities. Of equal importance is that it may not be possible in the money markets to fund each loan perfectly.

II. FORECASTING INTEREST RATES

Reading and interpreting the yield curve is a widely used part of the process of understanding and predicting interest rates. It is published daily in the Wall Street Journal. It is a simpler tool to use than a "back box" or computer model, and it is especially accurate in predicting long term rates. Most asset and liability managers pay attention to the yield curve in their interest rate forecasts. The yield curve is useful in showing expectations of the future direction of interest rates. For example, an upward sloping curve implies higher rates in the future.

However, because it is notoriously inaccurate in forecasting short-term rates, other tools are used as well.
The need to accurately forecast short-term interest rates is critical. For bankers, six months is the long run, due to the need to raise funds quickly and the short-term nature of many assets and liabilities. Therefore, there is a vital requirement to forecast correctly the short-run shifts in the direction of interest rates. We need look no further than 1994’s run up in short-term rates to see how important this is.

- To forecast short-term rates bankers must take into account much subjective information and then make some careful judgments. Required factors are to develop a view on the actions the Federal Reserve Bank will take to control interest rates, to have a view on economic factors such as growth and inflation, to factor in political issues, and to consider international markets. Another critical factor is the internal cost of funds.

How to build a view on interest rates:

- Most banks have an Asset/Liability (ALCO) Committee which is responsible for asset/liability management. It consists of the highest managers of the bank and receives input from the treasurer and the chief financial officer who are responsible for day-to-day management of the portfolio. Input may also be obtained from economists and consultants utilized by the bank. The goal of the ALCO Committee is to develop a management point of view on rates and to structure the bank’s balance sheet accordingly.

- The Histogram. One method used to do this is to create a histogram chart (see accompanying chart on the next page) which assigns probabilities to various scenarios for changes in rates, then asks ALCO members to make a “best guess” as to the probabilities. Utilizing the histogram, the committee can set policy for short-term and long-term strategic decisions on how the bank will structure its balance sheet over time, what assets it should acquire, what funding strategies it should pursue, and what liquidity position and interest rate exposure it can take. The histogram assists the development of a consensus among the ALCO Committee members.

- When all bank assets and liabilities are listed, there is a maturity structure which can be easily determined. It will show if there are gaps in the structure. It is critical to recognize the gaps and to take actions which will mitigate the bank’s exposure to them. These gaps are better described as mismatches of assets and liabilities. An example is to fund long-term fixed rate loans with short-term demand deposits and/or funds purchased in the short-term money market. This is a common mistake in banking in recent years.

- Marginal cost of funds: It is important to understand this concept. Bankers should not confuse the cost of funds which it has booked with the marginal cost of funds. If the bank is thinking of acquiring a new asset, the worst mistake it can make is to
Sample histogram: 1-month horizon (part A: the date-assigned subjective probabilities and best guesses)

Sources and uses of funds committee  
Item: 30-day CD rate  
Date: 7/27/81  
Horizon: 1 month hence

<table>
<thead>
<tr>
<th>Committee member</th>
<th>Best guess Change in basis points</th>
<th>Assigned subjective probabilities of changes in the 30-day CD rate (basis points)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>-800</td>
</tr>
<tr>
<td>Adams</td>
<td>-100</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>25%</td>
</tr>
<tr>
<td>Brown</td>
<td>-100</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>Jones</td>
<td>-90</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>30%</td>
</tr>
<tr>
<td>Smith</td>
<td>-50</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>Wolf</td>
<td>-190</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>Average</td>
<td>-106</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2%</td>
</tr>
</tbody>
</table>

Range of best guesses: -190 to -50 basis points
Expected value of rate change: -113 basis points
Current rate: 17.90%
Expected rate: 16.77%
measure its potential profit on the new asset by subtracting from its yield the cost of funds on its book. Instead, to fund the new asset the bank must acquire funds at the margin (the cost of funds at the date of purchase) because the difference between the two can be substantial.

- The Short-Run/Long-Run Trade-Off: Trading risk for return. A total dedication to near term earnings will almost always work to the bank's disadvantage in the long term. A risk-averse management faced with poor quarterly earnings may choose to prop up short-term earnings at the expense of accepting a possible drag on long term earnings. This decision should be made consciously, and may not be a bad one. A management that wants consistency of earnings should always focus on the long-run, that is, year-by-year profits, rather than on the short-run quarter by quarter results.

III. ADDITIONAL TECHNIQUES FOR RESTRUCTURING ASSET/LIABILITY POSITION.

- Increasing flexibility and speeding response time to take advantage of rate changes a split second before the rest of the market does. This results from access to money market information through on-line computers and technology. It is critical to managing a portfolio today.

- Escaping the balance sheet restraint of capital ratios in the short-run. Banks can utilize futures which are off-balance sheet items to accomplish this (without ballooning assets or liabilities on the balance sheet). Two uses of futures are:

  1. Anticipate rate trends by utilizing futures to lock in attractive borrowing rates (an example is selling futures in anticipation of a rise in short-term rates)

  2. Reversing a previously assumed position when the interest rate outlook changes (an example is using off balance sheet hedging in the Eurodollar book to deal with the fixed maturity aspect of Euro assets and liabilities).

- Banks which carefully track their interest rate exposure, formulate their view of the direction of interest rates, evaluate their confidence in that view, and then make reasoned bets on their view of rates, have mitigated their risks in an appropriate way.

- Protecting Portfolio Positions. Positions are often hedged against rate changes. Astute banks which use hedging will put on and take off hedges in response to changes in the level and tone of the market.
IV. ASSET LIABILITY MANAGEMENT IN HIGH INFLATION ENVIRONMENTS.

This section includes suggestions on managing assets and liabilities in a high inflation period.

1. Assets

- **Shorten maturities** of loan and investment portfolios.
- **Mark up interest rates** of loans to positive real rates.
- **Use floating interest rates** increasingly, **fixed rates** very little.
- **Lend**, as a matter of priority, to borrowers with **export production**.
- **Lend**, as a matter of priority, to borrowers which earn **hard currency**.
- **Lend** to domestic borrowers and projects which have:
  - Strong **demand** in real, inflation-adjusted terms.
  - Proven **productivity** advantages over other industries and competitors.
  - Ability to adjust **prices** upward to meet strong **demand**.
  - Few, structured **supply bottlenecks**.
- **Develop indexed interest rates** to compensate, at least in part, for the erosion by inflation of buying and investing power.
- **Increase frequency of reviews of loan and investment portfolios** to detect early the increased number of **bankruptcies**, as borrowers are unable to **adjust** to inflation quickly enough.
- **Intensify analysis** of new, proposed borrowers (and requests for increased loans to current borrowers) to ensure that the bank does not get trapped into making **speculative loans** to companies with **high leverage**.

2. Liabilities

- **Fund** (take deposits), when possible, in fixed rate obligations.
- **Pay interest** on deposits in relation to the same **index** used to set borrowing rates with a spread (the difference between the rate paid and the rate received) fixed in favor of the bank.
- **Structure the spread** in relation to the **risk rating** and the **maturity** (term) of the loan. The higher the risk rating and the longer the maturity, the wider the spread.
• Maintain easily saleable securities for purposes of liquidity of the bank (to pay depositors), but not for purposes of investment unless indexed or otherwise rate protected.

• Create and use actively an overnight and a daylight interbank (interbranch) market to place excess funds and to borrow for temporary liquidity.

• An inter-association short-term market among affiliated banks will provide greater backup liquidity at lesser risk than interbank operations.

• Each should be set up by the bank(s) to provide the protection of several different layers of liquidity.

• Ensure that additional lines of credit are available from other banks as well as from the central bank.

3. Indexing in High Inflation Conditions

• To borrow 24,000,000 units and repay 1,000,00 units of principal monthly over 24 months plus interest at 10% in real terms.

• Adjust interest (and principal to, if possible) at least monthly to bring it into line with an agreed inflation index.

• In the USA, the index would probably be the Consumer Price Index which is a weighted number of prices of various commodities and is published monthly.

EXAMPLE:

<table>
<thead>
<tr>
<th>Month</th>
<th>Real Value of Repayments Stream</th>
<th>Consumer Price Index or other index</th>
<th>Revised Repayment Stream</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,000,000 (If ZERO inflation (X))</td>
<td>100.0</td>
<td>X x 100</td>
</tr>
<tr>
<td>2</td>
<td>1,000,00</td>
<td>104.0</td>
<td>X x 104</td>
</tr>
<tr>
<td>3</td>
<td>1,000,000</td>
<td>109.0</td>
<td>X x 109</td>
</tr>
</tbody>
</table>

And so forth
CASE WORK

CASE STUDY

I. FRANKLIN NATIONAL BANK

Franklin National was incorporated in 1926 and through 1966 operated successfully in the New York City suburbs of Long Island. In order to take advantage of liberalized branching laws, in 1964 it opened a branch in New York City. In 1967 it purchased a bank in New York City which had 13 branches.

Immediately the bank began to make commercial loans to companies in New York City and elsewhere. From 1964 to 1969 it expanded its loans from $1.5 billion to $3 billion.

To take advantage of overseas opportunities, in 1969 Franklin opened a branch in Nassau in the Bahamas and a representative office in London. By 1972 the London office was upgraded to a full branch. Between 1969 and 1973 its foreign deposits as a percentage of total deposits grew from 7.7 to 30.5 percent, and its foreign loans as a percentage of total loans grew from 2 to 19.8 per cent.

In 1972, an Italian financier named Michele Sindona purchased 21.6% of the stock of the holding company which owned the bank. Mr. Sindona and one of his associates joined the board of directors. Under Mr. Sindona’s influence, the bank became a foreign exchange dealer so as to benefit from the new era of floating exchange rates. In 1971, the bank was trading $19 million of foreign exchange in a given day and three years later that number increased to $3.3 billion.

In 1974, the bank had projected that interest rates would fall and structured its balance sheet accordingly. The bank shortened its domestic deposit maturities through large purchases of federal funds (the portfolio already had a significant amount of short-term borrowings). Also, the bank greatly increased the bond holdings in its trading account.

Because Mr. Sindona owned several banks in Italy, Franklin was able to enter into foreign exchange transactions with these banks. It did so by buying or selling currencies at rates that enabled Franklin’s foreign exchange activities to show a profit.

On May 1, 1974 the Federal Reserve Board denied Franklin’s applications to purchase a finance company called Talcott National Corp.
QUESTIONS

1) What strategic risks did Franklin take?

2) Why did the Federal Reserve turn down the Talcott application?

3) What do you think of Franklin’s liquidity position in 1973-74?
CASE STUDY

II. FIRST PENNSYLVANIA BANK

In the late 1960s and during the 1970s, First Pennsylvania Bank operated extremely successfully and became the largest bank in Philadelphia, Pennsylvania. It was lead by an aggressive chief executive officer named John Bunting. His goal was to expand the bank into a regional financial conglomerate. Among his strategies were:

- Heavy emphasis on innovation.
- Expansion into bond trading.
- Development of the consumer finance business.
- Increased mortgage lending.

In 1971, a bond trading subsidiary was formed which was highly profitable and successful. Its traders were regarded as smart and highly knowledgeable professionals. In the late 1970s, this subsidiary was buying long bonds and funding them with short-term deposits.

Likewise, in 1979, the bank purchased a $1.2 billion bond portfolio funded by short-term liabilities and it earned substantial initial profits.

The mortgage lending and consumer lending operations were performing well in the late 1970s with their portfolios of longer maturities. In order to earn higher interest rates they increased their home mortgage and consumer lending to so-called grade B (weaker) borrowers.

A dramatic increase in interest rates occurred in the late 1970s and early 1980s. In October 1979, the Federal Reserve took the following actions in order to better control interest rates:

- Loosened its control over the Federal Funds Rate and let Fed funds trade freely;
- Increased the reserve requirements on deposits of large banks.
QUESTIONS

1) What do you think of First Penn’s business strategy?

2) What do you think happened after the Federal Reserve’s actions in 1979?
CASE STUDY

III. FIRST CHICAGO BANK

The First Chicago Bank was founded in 1863, and was known as a large, conservative Midwestern regional bank. Gaylord Freeman was made chairman in 1969. Because the bank was prohibited from opening branches in the Chicago area, Mr. Freeman's strategies included establishing a holding company with offices around the U.S., and branches and affiliates in Europe, and around the world. Growth became the hallmark of the company.

As a result of the expansion strategies and the emphasis on growth, the bank's loans increased three fold between 1969 and 1974. Many different loans were made by the bank's rapidly increasing staff of lending officers throughout the world. A specialty was established in loans to real estate investment trusts, and $850 million of loans were made. By 1975, First Chicago had become the ninth-largest bank in the U.S.

In order to select his successor, Mr. Freeman announced in 1972 that four top officers were in competition for the job. His theory was to let the best man win. In 1979, Robert Abboud won the position.

As interest rates rose in the late 1970s, the bank began to lose many low-cost consumer deposits to money-market funds and other higher yielding investments. It also began a large program of fixed-rate commercial lending. As a result, First Chicago turned to purchasing increasing amounts of short-term money in the money markets.
QUESTIONS

1) What do you think of the bank's overall strategy?

2) What are the implications of the aggressive loan growth?

3) What do you think of the process which was put in place to find a successor to Mr. Freeman?

4) What do you think of the bank's funding strategy in the late 1970s?
CASE STUDY

IV. J.P. MORGAN & CO., INCORPORATED

Using the 1993 financial statements provided:

1) Describe the businesses of the bank.

2) Discuss the categories of assets and liabilities on the bank’s balance sheet.

3) Discuss the ways which this bank earns its profits.

4) Calculate the following ratios for the bank:

   - Return on Assets
   - Return on Equity
   - Efficiency
   - Year to year change in profitability
   - Tier one capital to risk based assets
   - Leverage
CASE STUDY

V. THE SUMMIT BANCORPORATION

Using the 1992 financial statements provided:

1) Describe the businesses of the bank.

2) Discuss the categories of assets and liabilities on the bank’s balance sheet.

3) Compare and contrast this bank with Morgan.

4) Calculate the following ratios for the bank:
   - Return on Assets
   - Return on Equity
   - Efficiency
   - Year to year change in profitability

CASE STUDY

VI. MEXICO

1) Describe the potential effects of the 1994-95 Peso crisis on banks in Mexico.

2) How will the profitability of Mexican Banks be affected by the Peso crisis?
CASE STUDY

VII. TERM CREDIT BANK

Please put yourself in the place of the auditor of this bank (next page) and answer the questions included in the case.
THE CASE OF "IF IT COULD GO WRONG, IT WILL"

Recently the Auditor of TERM CREDIT BANK (TCB) sent the following memorandum to the Chairman and the Board of Directors:

At your request I personally investigated the WAZYE Branch bad loan and possible fraud involving the STRATA Vegetable Cooking Oil Company.

STRATA was a client in good standing of WAZYE Branch for several years when the Chairman and Chief Executive Officer visited you 18 months ago for a loan of Rubles 25,000,000 at the then prevailing value of the Ruble to

- Expand the capacity of the STRATA vegetable cooking oil refining plant in WAZYE from 1000 to 4000 metric tons per annum - through the purchase and installation of a turn key (ready-to-operate) West German machine.

- Manufacture locally and install related bulk storage tanks and piping in which to store the new production.

Based on

- WAZYE Branch good experience with STRATA for several years.

- Our favorable impression of its Chairman and Chief Executive Officer as a vigorous and intelligent person.

- The apparent, substantial demand for the product.

- The international reputation of the German manufacturer and machinery.

- The strong relationships we understood STRATA had with its suppliers of raw materials including cotton seed, rape seed, corn, and various other legumes commonly converted into cooking oil.

TCB approved the granting of the loan by WAZYE Branch to STRATA.
ПРОГРАММА ВЫРАБОТКИ НАВЫКОВ МЕНЕДЖМЕНТА
У РУКОВОДЯЩИХ РАБОТНИКОВ БАНКА

АНАЛИЗ СЛУЧАЯ НА ТЕМУ: "ЕСЛИ ДЕЛО МОГЛО ПОЙТИ НАПЕРЕКОСЯК, ТАК ОНО И БУДЕТ"

Не так давно аудиторы банка "Терм Кредит Бэнк" (ТКБ) направили следующий меморандум Президенту и Совету директоров:

В ответ на Ваш запрос я лично расследовал ошибочно выданную ссуду и возможное мошенничество, затрагивающее компанию-производительницу растительного масла (кулинарного жира) "СТРАТА".

Полтора года назад Президент фирмы СТРАТА и главный администратор посетили Ваш банк и обратились к Вам с просьбой предоставить заем в размере 25 млн рублей по тогдашней текущей ставке. До этого в течение нескольких лет СТРАТА была благонадежным клиентом Вашего филиала в ВЭЙЗИ. Заем предназначался для осуществления следующих задач:

- Для расширения мощностей по производству растительного масла в ВЭЙЗИ с 1000 до 4000 метрических тонн в год путем приобретения и сдачи "под ключ" западнogerманской производственной линии.

- Производство на месте и установка наливных резервуаров для хранения масла, полученного после ввода новых мощностей, и системы трубопроводов.

Банк принял за основу следующее:

- Филиал в ВЭЙЗИ за несколько лет накопил положительный опыт работы с фирмой СТРАТА.

- Президент фирмы и главный администратор произвели впечатление энергичных и умных людей.

- Продукция фирмы пользуется очевидным широким спросом.

- Германский производитель и его машины получили международное признание.

- СТРАТА имеет собственных поставщиков сырья, включая хлопковые семена, семена рапса, рожь и различных овощей, обычно перерабатываемых в растительное масло.
Almost immediately, problems began:

- STRATA had little experience in international transactions. STRATA did not anticipate the sudden exchange volatility between the Ruble and the Deutsche Mark with the changing to a market economy and free exchange rate. The immediate consequence was that their costs in Ruble terms more than tripled before the equipment was shipped 10 months ago.

- The West German exporter apparently got expropriation, nationalization, and payment insurance in Deutsche Mark terms through the German Government Insurance Agency Hermes. This does not appear to benefit STRATA.

- TCB did not provide foreign exchange advice to STRATA. The WAYZE Branch Manager who had some international experience was transferred the next month to manage a group of branches in another region. His successor as Branch Manager has no international experience and only two years domestic banking experience.

- The new WAYZE Branch Manager says he had every intention of following the STRATA loan but he was very busy indoctrinating new staff and learning his own new responsibilities. He also did not really know STRATA management.

- STRATA management was NOT able to plan for and execute *simultaneously*
  - building the specially reinforced floor for the new machine
  - overseeing the construction of the new tanks and pipelines
  - negotiating with suppliers for the increased flow of raw materials, especially as suppliers wanted higher prices than anticipated (to make up for their increased costs to raise and harvest) and were taking from 10 to 12 days longer to ship raw materials because of highway repair problems and diesel fuel shortages
Практически сразу после этого начались проблемы:

- СТРАТА не обладала значительным опытом в международных операциях. СТРАТА не предугадала внезапных колебаний обменного курса рубля по отношению к западногерманской марке, наступивших в связи с переходом к рыночной экономике и свободному обменному курсу. Непосредственным последствием этого было почти троекратное повышение рублевых затрат фирмы к тому моменту, когда 10 месяцев назад было отгружено оборудование.

- Западногерманский экспортер, по-видимому, взял страховку на случай экскроприации, национализации и платежей в западногерманских марках через Германское государственное страховое общество "Гермес". Это не пошло на пользу фирме СТРАТА.

- ТКД не предоставил фирме СТРАТА консультации по вопросам валютного обмена. Управляющий филиала в ВЭЙЗИ, обладающий некоторым опытом международной деятельности, был месяц спустя переведен для руководства филиалом корпорации в другом регионе. Его преемник на посту управляющего филиала не обладал опытом международной деятельности, а только опытом банковской деятельности внутри страны.

- Новый Управляющий филиала в ВЭЙЗИ утверждает, что он намеревался непосредственно заняться судой фирме СТРАТА, но был слишком озабочен переучиванием персонала собственным методам работы и сам приспосабливался к своим новым обязанностям. Помимо этого, он был слабо знаком с администрацией фирмы СТРАТА.

Администрация фирмы СТРАТА была НЕ в состоянии спланировать и одновременно выполнить следующие задачи:

- построить специально укрепленный пол для нового оборудования;
- контролировать строительство новых резервуаров и трубопроводов;
- вести переговоры с поставщиками для увеличения сырьевых поступлений, в особенности в связи с тем, что поставщика стали запрашивать более высокие цены, чем ожидалось (для возмещения возросших затрат на посев и уборку урожая), и на 10-12 дней затягивали отгрузку сырья в связи с ремонтом шоссейных дорог и дефицитом дизельного топлива;
- getting plant workers to work harder and more effectively on these projects

- negotiating with the same workers for additional salary and benefit payments almost every two weeks, as the buying power of the ruble declined

- ensuring that the supply of electricity would be increased (and special wiring in place) in time for the new plant opening

- improving the output of the old machinery and tying it to the output of the new machinery to achieve increased production beyond the rated capacity of both plants

- preparing the raw materials for feeding into the new machinery which requires two unanticipated, additional washing and mashing steps not needed with the old machinery

- and getting the new plant to function properly since training the workers to run it and coaching them in daily preventative maintenance was much more difficult and time-consuming than planned for.

- All these factors plus difficult cold weather delayed construction including setting of concrete and installation of the new machinery and the new tanks for more than 70 days.

- The financial impact of these problems has been enormous:

  - During this period the Ruble devalued from 100 per US$1 to 375 per US$1 with a similar impact on the Ruble-Deutsche Mark with the result that the company was required to pay additional Rubles 66,000,000 for the new plant.

  - Additional costs for the other problems listed above is probably over Rubles 30,000,000, although the total cost is lost in a number of separate expense vouchers that the STRATA accounting department (only two staff, one adding machine, all hand-posted ledgers) is about 45 days behind time in posting.
- В разгар этих событий Председатель Правления фирмы СТРАДА лег на десять дней в больницу с открывшейся язвой, кровотечение которой было вызвано чрезвычайным стрессом, ночами, проведенными на заводе, питанием всухомятку и работой по 18 часов в сутки в течение последних 5 месяцев. Утверждалось, что его жена грозила подать на развод на том основании, что за последние полтора месяца он даже не разу не поел у себя дома.

- Президент фирмы СТРАДА, согласовавший целый ряд контрактов с подрядчиками и снабженцами, в особенности с поставщиками сырья и строительными организациями, был обвинен в вымогательстве комиссионных, размер которых определялся величиной каждого контракта.

- Поставщики выдали его, поскольку он потребовал более 20% от контрактов, а не 10-12%, как раньше. Его освободили от занимаемой должности до окончания расследования, хотя полиция настолько перегружена, что начать рассмотрение дела до следующего года вряд ли представляется возможным.

- По предварительным оценкам, убытки, включая счета, завышенные для компенсации потерь поставщикам, вызванные этими убытками, составили целых 9 млн рублей.

- Производство растительного масла за этот период снизилось из-за халатного отношения к работе со стороны персонала и поломок старого оборудования, а также из-за отвлечения нескольких лучших специалистов по ремонту и профилактике на работу по введению новой линии.

- По этой причине объем нереализованной продукции составил до 26 млн рублей. Маржа прибыли на эту сумму составила бы 14%.

- В настоящее время работает и старое, и новое оборудование, однако производительность значительно отстает от проектной мощности. Вот уже 6 месяцев не погашается ни основная сумма долга, ни проценты по кредиту. Притока денежных средств с трудом хватает на покрытие основных расходов. Спрос на растительное масло по-прежнему высок.

- Недавний анализ производимого растительного показал превышение в нем норм загрязняющих и отправляющих веществ, а также радиоактивности по сравнению с прошлыми показателями, хотя эти нормы по-прежнему в пределах, установленных несколько лет назад сельскохозяйственным департаментом. Вопрос состоит в том,
- Fuel costs alone are probably about Rubles 11,000,000 so the Rubles 30,000,000 is surely a low figure.

- The Chairman of STRATA was hospitalized for ten days in the middle of this with a bleeding ulcer, caused by extreme stress and by sleeping and eating at the plant and working 18 hour days for over five months. His spouse is alleged to be threatening to divorce him because he has not even eaten at their apartment for the last month and one half.

- The President of STRATA who negotiated many of the external contractor and supply agreements, particularly with raw materials suppliers and construction companies, has been accused of asking for a percentage of each contract.

- Suppliers reported him because he was asking for over 20% whereas he had previously requested 10 to 12%. He has been suspended from his job pending the outcome of investigations, although the police backlog of work is so large that they will not be able to start a proper investigation until early next year.

- A preliminary estimate of the extent of losses involving overbilling to compensate suppliers for these payments may be as high as Rubles 9,000,000.

- Production of vegetable cooking oil during this period has been declining due to poor work habits among laborers and to breakdowns in the old machinery as well as the transfer of several of the best maintenance workers from the old plant to help set up the new.

- For this reason, sales not made over the last 10 months could exceed Rubles 26,000,000 on which the usual profit margin would have been 14%.

- Old and new machinery are now both working, but not near capacity. No loan payments of principal or interest have been made in 6 months. Cash flow is barely enough to pay essential expenses. Cooking oil demand appears good.

- A recent test of the vegetable cooking oil being produced showed that it was somewhat higher in impurities, contamination, and radiation than previously recorded, although apparently still within ranges or norms set some years ago by the Agricultural Department. The question is whether these norms are still valid, given some of the pollutants now carried by air and water.
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The Chairman reports that the storage tanks are almost full, although an on-site inspection last Friday at which I was present indicates that the water content (moisture percentage) is about 17%. This shows that some oil has been siphoned off and replaced by water. The usual water percentage is between 1% and 2%.

This situation would indicate some theft which must be investigated, and that the inventory is worth about 15% less than it would appear, and that the oil in storage must be re-filtered or further refined to get the water content down to an acceptable level.

RECOMMENDATIONS  The following are my recommendations:
(Working in your groups, acting as the auditor, develop these recommendations. Be prepared to present your recommendations for discussion.)
правомочны ли эти нормы сегодня, учитывая общее загрязнение воздуха и воды.

- Председатель Правления докладывает, что резервуары для хранения продукции практически полны, а проводящая инспекцию комиссия, в работе которой я участвовал в прошлую пятницу, указывает на то, что содержание воды (уровень влажности) составляет 17%. Это говорит о том, что некоторое количество масла было сжигено и заменено водой. Обычный уровень влажности составляет от 1 до 2%.

- Эта ситуация указывает на кражу, которую необходимо расследовать, а также на то, что количество наличного товара в реальности на 15% уступает объявленному. Масло в резервуарах нуждается в повторной фильтрации и дальнейшем рафинировании для снижения содержания воды до приемлемого уровня.

РЕКОМЕНДАЦИИ. Привожу свои рекомендации.
(Действуя в качестве аудитора, разработайте рекомендации. Будьте готовы представить их на обсуждение.)

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BANK ANALYSIS: CAMEL RATING SYSTEM

A common method for evaluating the soundness of U.S. Banks is to understand the CAMEL Rating System. This system was designed by regulatory authorities to quantify the performance and the financial condition of the banks which it regulates. This chapter is intended as an introduction to the rating system and does not attempt to provide all of the information required to calculate the ratio. The important issue is to understand the concept of this kind of system.

The system serves as a report card to bank management and directors. Regulators utilize it to compare and contrast the banks which they cover. The Federal Reserve Bank, the Comptroller of the Currency, and the Federal Deposit Insurance Corporation all use the CAMEL System.

I. INTRODUCTION

Each letter of the word CAMEL covers a separate part of the rating:

C = CAPITAL ADEQUACY. The amount of capital which the bank has to protect its depositors. Ratios are used for this part of the evaluation. The core includes common and preferred stock, retained profits, and general or legal reserves. Supplementary capital includes revaluation reserves on fixed assets, unencumbered provisions for future loan losses, and various types of debt instruments which can be subordinated to depositors.

A = ASSET QUALITY. An assessment of the collectability of the bank’s assets and off balance sheet items. This is determined at an on-site examination of the bank. Problem loans are classified based on a detailed analysis of collectability. The classifications are substandard, doubtful, and loss--they are used to judge the adequacy of the provision for loan losses.

M = MANAGEMENT. An evaluation of management based on performance, policies established, controls, depth, and adherence to law and regulation. Policies examined include critical banking areas such as lending, foreign exchange, and liquidity. Systems and controls are evaluated to ensure policies are carried out and adhered to. Adherence to laws and regulations includes timely and accurate submission of reports.
to the regulators. Management depth means the development of executives. It is the last element analyzed because it includes the others, and it certainly is subjective.

**E = EARNINGS/PROFITABILITY.** A measurement of profitability to see if it is sufficient to fund future growth. Return on Average Assets (ROA) is the ratio used for this part of the evaluation. ROA is calculated:

\[
\text{Net Profit After Tax (Before payment of dividends)} \\
\text{Average Assets in which the Profit was earned}
\]

Non-recurring items and adherence to proper accounting standards are also considered in evaluating earnings.

**L = LIQUIDITY.** A determination of whether the bank is liquid enough to meet regular and most unplanned obligations. This means the bank must be able to quickly convert assets to cash, or raise funds quickly to meet obligations. The latter can be accomplished by having available back-up sources. Several ratios are utilized here. The review consists of checking to see that policies are in place to set liquidity targets and limits to meet statutory requirements, determining if reporting systems and data bases are sufficient to provide quick and accurate information on a bank's position, and seeing the amount of reliance placed on deposits or other funding which can be withdrawn on short notice. The review is conducted with a combination of on-site examination and calculation of ratios.

### II. COMPOSITE RATING

Once the five factors have been completed, a *Composite Overall Rating* is given to the bank. The Composite Rating is determined as follows:

- Each of the five components is rated from one (strongest) to five (unsatisfactory).
- The five ratings are added together and divided by five to determine the composite rating.
- The regulators then have a number which indicates whether the bank is sound (strong), satisfactory, fair, marginal, or unsatisfactory.
- Most importantly, the composite rating is an important indicator of the extent and degree of follow up or supervisory action that may need to be taken with the bank.
- Of course, the CAMEL Rating system is only as effective as the skills and judgment of the regulators who are doing the examinations.
CONCLUSION

An understanding of the CAMEL rating system greatly assists the process of evaluating sound banking practices. Most of the critical issues in sound management of banks are covered at least in a general way in the CAMEL system. However, because the details of CAMEL ratings are not available to the public (and often the ratings themselves are not available,) other techniques for analyzing the soundness of banks are necessary. These techniques can often be used by evaluating information that is available to the public in the form of annual reports to shareholders, reports submitted to securities regulators, and articles in the press. The manual provides several analytical techniques and discussions of issues such as accounting practices which can affect bank soundness.
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BANK CAPITAL ADEQUACY

Another of the key indicators of the condition of banks is the adequacy of their capital. This manual has made several references to adequacy of capital, and provided some ratios to examine. This issue took on great importance in worldwide banking in the late 1980s and early 1990s, with the creation of Risk Based capital guidelines.

In the late 1980s, international banking regulators developed a system which defined capital ratios for banks. The Bank for International Settlements actually provided the forum for negotiating the agreement. Twelve countries initially joined the negotiations and adopted the system. The U.S. Federal Reserve Board required its member banks to adhere to the capital adequacy ratios in 1991-92. The purpose of the ratios is to require banks to increase their capital to the levels of the ratios in the wake of loan losses of the 1980s. Most important, these guidelines are now part of the CAMEL Rating system. The upshot of the adoption of this system is that most banks were required to raise capital. The majority of banks chose to exceed the criteria for “well capitalized banks.”

The guidelines are called Risk Based Capital and consist of three ratios:

I. Tier 1 Capital to Risk Based Assets Ratio:

Tier 1 Capital (Common stock, Preferred stock, Reserves, Retained Earnings)
Risk Based Assets (Loans, Trading Accounts, Investments)

The minimum requirements to meet this ratio are:

- Well Capitalized Banks - 6%.
- Adequately Capitalized Banks - 4%.
Undercapitalized Banks - Under 4%.
II. Total Capital to Risk Based Assets Ratio

Tier 2 Capital consists of debentures, subordinated debt, capital notes, and loan loss reserves.

\[ \frac{\text{Tier 1 plus Tier 2 Capital (Total capital)}}{\text{Risk Based assets}} \]

The minimum requirements to meet this ratio are:

- 10% in Well Capitalized Banks.
- 6% in Adequately Capitalized Banks.
- Under 6% in Undercapitalized Banks.

III. Tier 1 Capital to Average Total Assets Ratio (also known as Leverage)

\[ \frac{\text{Tier 1 Capital}}{\text{Average Total Assets}} \]

This ratio must exceed:

- 5% in Well Capitalized Banks.
- 4% in Adequately Capitalized Banks.
- Under 4% in Undercapitalized Banks.
BANK QUALITY ANALYSIS

Sound bank management involves a review of a number of quality issues:

- **Credit Quality.** Much discussed in previous sections of the manual. It is generally the first place to look in evaluating a lending institution.

- **Investment Quality.** Another area of interest is the quality of the investment portfolio in terms of the financial instruments (such as government bonds) in which a bank invests. No matter how well an investment fits into the bank’s asset and liability plan or its liquidity plan, an investment in an instrument which deteriorates in quality (and causes losses) is a red flag in sound management. Generally banks have written policies for the investment portfolio including required ratings from rating agencies, diversification, maturities, and the like.

- **Management Quality.** Management quality is viewed in terms of its ability to work with all of the institution’s activities and produce desired results. Viewing management in light of its experience in leading an organization in difficult economic times is a good opportunity to assess its effectiveness. The issues on management discussed in the CAMEL Ratings Section of the manual are useful in looking at management.

- **Earnings Quality.** We have discussed earnings quality a number of times. However, earnings quality is important enough to emphasize again.

The factors which influence earnings quality are most often directly under the control of management of banks. Factors which influence earnings quality include:

1. Selection of accounting techniques: This is an important area for review in many corporations and in banking. Often different accounting techniques can be used to account for items on the balance sheet and income statement. For example, there is much debate in the industry on whether loans should listed on bank balance sheets at their market value rather than book value to properly reflect their current worth.

2. More important, is the treatment of non-recurring or one time items such as sales of fixed assets (buildings, etc.) or gains and losses on securities transactions.

The goal is to determine what the bank is earning from its on-going operations and to segregate non-recurring item. The latter then can be analyzed separately.
Sound bank management always involves prudent actions to assure liquidity. Adequate liquidity to deal with commitments and unanticipated need for funds at a reasonable price is a hallmark of a well-managed banking company. In previous sections, the manual discussed ratios used in calculating liquidity and how liquidity is measured in CAMEL ratings. In this section, liquidity will be examined in more detail.

I. BACKGROUND

In reality, liquidity and interest rate exposure are directly linked—changing one always alters the other. For example, suppose a bank that is funding variable rate (floating rate) loans decides that it needs more liquidity. In order to obtain it, the bank must buy a large amount of six-month CD money. By doing so, the bank increases its liquidity, but at the same time it increases its interest rate exposure. This is because if interest rates fall, the bank may be funding with high cost long-term money, but loan yields are falling or even tumbling down. The rates on the loans are falling because they are floating, but the CDs funding them are paying a fixed rate of interest.

- As a first step in managing a balance sheet, the banker must separate liquidity and interest rate exposure by determining the amounts of liquidity and rate exposure. This accomplishes several things:

  1. provides knowledge of exactly where the bank stands at the present time;
  2. clarifies the implications of any moves that might be made;
  3. prevents the bank from falling into the trap of making a liquidity decision when it thinks it is making an interest rate exposure decision and vice versa.

Remember, the definition of liquidity: having money when the bank needs it. Specifically, the ability to ensure the availability of funds to meet commitments at a reasonable price at all times.
II. FUNCTIONS OF LIQUIDITY

- **Reassurance** to creditors, especially retail depositors, holders of certificates of deposit, time deposits, repurchase agreements, other financial institutions (such as correspondent banks), and holders of debt securities. Lack of liquidity and public knowledge of it can lead to a “run” on the bank.

- **Ensures ability to meet prior commitments** such as commitments to make loans. These commitments can be legal and formal, such as revolving credit loans or informal, such as a typical seasonal line of credit.

- **Avoids forced sales of assets.** For example, if a bank becomes illiquid in a high interest rate environment, it can be forced to sell securities at a likely substantial discount. In addition, it can be forced to sell loans—also at a discount.

- Precludes having to “pay up” in the market. A bank with liquidity problems will surely have to pay substantially higher rates for deposits, CDs, debt securities, and the like. As an example, consider two banks operating in the following environment: in 1980, interest rates were high and about to peak. One bank, having correctly anticipated a possible peak in rates, protected itself by buying long-term funds and thus could stay out of the market for a long time. The other bank, counting on a downturn in rates which never materialized, relied too much on purchases of overnight funds (short-term money) and was forced to add to its liquidity by buying long term funds at the worst possible time—when rates were at their peak.

- **Avoids use of the Federal Reserve Discount Window.** The Federal Reserve Bank is the “lender of last resort” for banks, and any institutions utilizing it can be assured of increased scrutiny or more likely punitive actions.

III. SOURCES OF LIQUIDITY

- **Assets maturing in the near term.** These include securities and money market instruments, maturing loans which are not renewed, and loan payments. Another technique is increasing the interest rates on loans (usually short-term loans) as they mature. The interest rates on loans such as broker loans can be increased, and the borrowers will repay them by using available credit at other banks.

- **Readily salable short-term assets.** This includes assets that are near maturity and that can be counted on for a bid (includes long-term securities nearing maturity and money market instruments). Usually the bank can rely on these securities being sold at or near book value. Interestingly, most large banks cannot count on sales of
government bonds for liquidity, because they have already sold them in repurchase agreements and must repay the repurchase agreement when the bonds are sold.

- **Access to purchasable funds.** The ability to sell CDs both domestic and Euro, to buy Federal Funds, to buy Euro Time Deposits, to do more repurchase agreements. Wide discrepancies exist among banks in their access to purchased money. The discrepancies reflect the fact that an individual bank’s access to purchased money is directly and positively related to its size and with the market’s perception of how good a name it is, that is, its credit worthiness.

- **Loan participations.** By participating out pieces of loans, banks can raise liquidity. It may do this in times of lack of liquidity.

- **Liquidity cushion.** In purchasing funds, it is a good rule for a bank that cannot always immediately buy whatever amount of new money it may need, to buy more money than it needs to support its present asset structure. This is called a liquidity cushion. There are two good reasons for such cushions:
  1. A bank lacking a cushion could see a terrific opportunity but not be able to take advantage of it because it has no money to do so, and cannot raise the money rapidly enough or at all. Example: a bank may have an opportunity to purchase a $5 million safe loan at the good rate of prime plus 1% but cannot do it due to lack of liquidity.
  2. The cushion ensures that forced liquidation of desirable assets will not take place.

- **Last resort borrowing.** Many banks have available lines of credit with other banks (often correspondent banks) so they can raise funds on a temporary basis.

**IV. DETERMINING LIQUIDITY NEEDS**

To determine liquidity, three types of information are required:

1. Projections of absolute liquidity requirements, which means forecasting loan demand, deposit levels, and shifts in customer loan and deposit preferences.
2. Forecasts of interest rates.
3. Determinations of its confidence in its projections—if less confident, a larger liquidity cushion should be established.

- **Forecasting loan demand.** Econometric models based on macroeconomic forecasts can be used, although historically they have been unreliable. Another method is called the building block approach. This involves checking what is in the
pipeline and making estimates based on this, and interest rate forecasts (if rates are high, loan demand will be, as well).

- **Forecasting deposits.** Forecasting demand deposits can be done with some accuracy as they often follow predictable and seasonal trends.

- **Predicting shifts in customer preferences.** Banks must try to perceive the trend in interest rates before its customers do and predict how the customers will react to the trend. For example, suppose a bank feels early on that rates are going to rise. Then it knows that sooner or later its borrowers will request longer maturities because they want to lock in rates.

- **Assessing the outlook for rates.** Banks need to know is whether rates are going to rise or fall. However getting the correct forecast down to the last ten basis points is unnecessary. The shape of the yield curve is a useful tool in assessing general expectations on rates. For example, if the bank anticipates a rise in rates and the yield curve is steeply positive, the yield curve is saying that the bank’s expectations on rates coincide with general expectations. Thus, the bank should move quickly to acquire additional liquidity. Conversely, a negatively sloped yield curve would suggest that the world disagrees with the view of the bank.

- **Degree of confidence.** The bank’s need for liquidity will always be inversely correlated with the degree of certainty that it feels about the future—this is a good rule to keep in mind in the sound management of a bank.

V. LIQUID: TO BE OR NOT TO BE

If the bank has a high degree of confidence in its rate predictions there are times to take risks:

- If the bank is convinced that rates are going to tumble, it is an opportunity to be as liquid as the bank dares. This is the moment to lend long-term at peak rates, let CDs run off, and to borrow heavily in the overnight market.

- Conversely, the best time for a bank to be as liquid as possible, even to the point of being overly liquid, is when interest rates have been low and are about to rise.

Implications of too much or too little liquidity: Too much or too little liquidity over a long period of time will cost the bank money.
Before discussing the analytical techniques themselves, it is useful to look again at the key risks in the banking business. Because sound bank management involves risk management, this manual emphasizes risk control and assessment as critical issues.

I. THE SEVEN DEADLY RISKS OF BANKING

1. **Asset quality risk.** Asset quality risk is the inability to collect 100 cents on the dollar. The margin of error is small—losses of 3% can cause a severe risk of failure. Interestingly, charge offs are usually *not* a sign of pending failure because they occur too late in the failure process. Levels of non-performing loans or non-accruing loans are a sign of asset quality problems, however, like charge offs, they are numbers which are calculated after problems occur. Better indicators are sudden build-ups or large increases in loan categories.

2. **Funding risk.** This risk is the refusal of unsecured creditors such as holders of CDs to renew. An example is Continental Illinois Bank which at the time was the second largest bank in Chicago and one of the 25 largest banks in the U.S. When its large holders of CDs refused to renew, a literal “run” on the bank resulted and the U.S. government regulators were required to bail out the bank.

3. **Interest rate risk.** Essentially, funding fixed-rate assets with floating rate sources or vice versa in periods of dramatic changes in interest rates. The best example in the savings bank industry is the United States in the early 1980s. The savings bank loan portfolios were primarily long-term fixed-rate home mortgages, funded by short-term deposits. When the interest rates which they paid on deposits rose rapidly, the thrifts had to “pay up” in order to roll over the deposits. The banks’ interest margins declined precipitously. Soon the interest paid on deposits exceeded the fixed-rate mortgages and a classic mismatch or disintermediation occurred. In large banks, losses can result due to interest rate mismatches, but it is usually not fatal because of the banks’ access to different sources of deposits and loans.

4. **Control risk.** Losses arising from other than lending money. Fraud is the best example. Failure to follow procedures or limits established to define authorities are other examples. Poor loan documentation is an area of high vulnerability. All banks
5. can fall victim to control problems. Start up ventures should be watched carefully for control problems.

5. **Overhead risk.** Operating expenses so high that speculative ventures are designed to cover costs. An example is Franklin National Bank, which in the early 1970s expanded into the high-cost New York City market to compete with the large and well-established banks. It attracted only business with low margins and thus could not cover costs.

6. **Strategy risk.** The selection of a dead-end corporate strategy. Continental Illinois again provides a good example in its aim to become the largest corporate lender in the U.S. and its resulting low-profit margins and loan losses.

7. **Capital risk.** A bank in the U.S. must meet the government requirements for capital. More important, a bank must be able to attract new capital in the capital markets--it must be regarded highly enough to attract the new capital.

II. BANK FINANCIAL STATEMENTS - THE BASIS OF ANALYSIS

In each factor in the analytical process, the manual shows an *Analytical Model*, which provides an alternative to the presentations in bank-published financial material. The financial statements of J.P. Morgan & Co., Incorporated and The Summit Bancorporation will be used as cases for practicing analytical techniques.

1. Important Factors in the Analytical Process -

   A. **Bank balance sheets are not structured in order of maturity and marketability.**

   • In businesses other than banking, assets and liabilities are presented in financial statements in order of their closeness to cash, which is in turn a function of maturity and especially marketability.

   *Analytical Model.* Temporary investments are the closest to cash of all categories. They include Federal Funds sold, time deposits in other banks, and investment securities due in one year or less. Separating bank assets into *earning* and *non-earning* assets is critical in providing a more accurate analysis of the bank. Many ratios and analytical techniques used in the manual will refer to earning and non-earning assets.
• Summary of Chart of Accounts

• Total Assets

_Earning Assets_

⇒ Temporary Investments-Fed Funds, Time Deposits, > one year investments
⇒ Other Investment Securities-Over one year maturates salable at a price
⇒ Loans and Leases-Least salable and most difficult to value

_Other (Non Earning) Assets_

⇒ Cash and Due from Banks (Questions - How liquid are these assets?)
⇒ Fixed Assets-Buildings, Land, Computer Systems
⇒ Goodwill-From acquisitions

• Total Liabilities

_Funding Sources_

⇒ Large Liabilities-CDs of $100 million and over, Time Deposits in Foreign Offices.
⇒ Short Term Borrowings.
⇒ Core Deposits-Demand Deposits, Savings Accounts, Time Deposits of greater than $100 million.
⇒ Other Liabilities-Long-term debt, debentures, subordinated debt Capital/Common Stock, Preferred Stock

B. Bank balance sheets may not reflect the realities and practices of banking today.

• Balance sheets contain more detail on investments than on loans—there is often not enough description of the maturity, industry concentration, rate-sensitivity, or credit risk of the loan portfolio or the trends of performance.

• They do not adequately distinguish between the various kinds of deposits—for example, it implies that “Cash and Due from Banks” is spendable, which it often is not.

• Most important, there is often not enough description of the increasing amounts of “off balance sheet” items such as loan commitments, standby letters of credit, loan sales, and derivatives.
Analytical Model. Increased detail is necessary to properly evaluate major balance sheet categories. In summarizing investments, tax exempt and taxable securities should be separated. Tax exempts should be detailed because:

- Banks have a limit on their ability to shelter tax-free income since tax-exempt securities use up most of that capacity.
- Many banks purchase local tax-exempt instruments which can be non-marketable.
- The tax-equivalent yield on tax-exempt securities usually exceeds other investment yields and can exceed loan yields.

Details on loans not usually described in bank financial statements includes in-depth descriptions of foreign loans, maturities, interest rate sensitivity, industry, and geographic concentrations, co-variance risk (does a problem with one area affect others i.e., if oil prices in a region drop, what happens to real estate prices?) and intrinsic credit risk. Also, detailed breakdowns of consumer loan portfolios including home mortgages, credit cards, car loans, etc., is useful.

C. Bank Profit and Loss statements do not clearly organize the various sources of profitability.

- Gross profit (after interest expense), which is the income available to pay operating expenses, is not included.
- The fully tax-equivalent income resulting from tax-sheltered assets (the only reason these assets are acquired) is lacking.
- A simple summary of all the operating expenses is usually not shown.

Analytical Model. A Summary Income Statement as follows is recommended:

⇒ Interest Income less Interest Expense=Net Interest Income.
⇒ Add Non Interest Income (Fees) except Securities Gains/Losses=Adjusted Operating Income. Inc.
⇒ Less Loan Loss Provision
⇒ Less Operating Expenses}=Pretax Net Operating Income.
⇒ Less Applicable Income Taxes.
⇒ Plus or Minus Securities Gains/Losses=Net Income.
⇒ +
⇒
⇒
This format was adopted by the regulatory agencies in 1983 but it is useful to examine it as a reminder.

**Note:** Extraordinary Items (Non-Recurring Items) or one-time events should be examined carefully and not included as part of ongoing operations. Also, expenses related to OREO (other real estate owned-foreclosed properties) should be analyzed separately from ongoing operations.

**D. Bank assets and liabilities are not presented on an average basis.**

- End of period listings of assets and liabilities can be extremely misleading. Some banks build up assets at period ends for various purposes in a process called “window dressing.”

- Averaging best reflects the business of the institution for the period under review.

- Ratios calculating yield and margins can be meaningfully computed only if averages are used. For example, interest income is accumulated every day and thus average loans should be used in calculating the yield on loans.

**Analytical Model.** If the bank being analyzed uses period end numbers instead of averages, the period end numbers for the previous periods can be used (for example, four period end quarters).

**E. There is insufficient recognition in bank balance sheets that assets have realizable values, which can be different from their carrying values.**

- Loans are the best example of this. Loans to Latin American countries made in the early 1980s are particularly relevant. If loans of this type are “marked to market” it has an effect both on net worth and the income statement.

**Analytical Model.** Look at asset yield rates to determine potentially under performing assets. Assets with an extremely high yield can also be high risk. One bank’s Project Finance Loan Portfolio of $400 million is an example—it generated huge fees and high interest rate yields but an almost 100% write-off.
F. Bank financial statements may not be adjusted to reflect mergers and acquisitions made during the period.

- Merger adjusted history is preferable in order to make comparisons with past history. For example, a bank which does not adjust its historic financial statements to include a merger can grossly overstate its rate of growth in loans, etc.

Analytical Model. Statements should be adjusted to show how the bank would look if the mergers had been completed in the past.

G. The Analysis of Trends is Critical to Understanding the Direction of Any Bank.

- This is a simple statement, but the examination of trends over a four- or five-year period is a vital part of analysis. It can detect potential problems, spot new and potentially risky businesses, or show positive developments.

III. BANK ANALYSIS

The analysis of bank profits is a key to the overall analysis of any bank. An organization which loses money year after year can sometimes attract more capital, but it must eventually return to profitability if it is to be economically viable.

Profits are essential to:

- Absorb loan losses and to build adequate reserves.
- Finance the internal growth of capital so as to attract investors’ capital.
- Attract (or be attracted by) merger partners.
- To help a bank holding company meet cash flow needs.

Four of the ratios already discussed can be used to analyze profitability:

- Return on Average Assets—ROA
- Return on Equity Capital—ROE
- Growth of Net Income (period to period) —The source of next year’s ROA and ROE.
- Securities Gains and Losses—Securities gains may mask operating problems; conversely, securities losses may cover-up efficient operations.

Two other considerations are important when looking at bank earnings:

- Non-recurring gains such as the sale of a piece of real estate can mask operating problems in the same manner as securities gains. Also, the loan loss provision may be overstated or understated at the discretion of bank management.

- If bank dividends are used to service holding company debt, the profitability of the bank may be distorted because the payment of debt interest is not recognized as an expense.

Analytical Point. It is critical to determine if profitability is being overstated or distorted and the reasons for it.

The ratios, which are indicators of bank profitability, are now evaluated in more detail as a follow up to our previous discussion of ratios. The ratios are now actually being used to understand better what is going on with bank profitability.

- **ROA Ratio.** This ratio definitely varies according to the size of the bank. Thus the analyst should only compare banks of similar size. Generally speaking, smaller banks earn 1.5% or more on their assets, while larger banks earn less. This is primarily because larger banks usually have more wholesale (corporate) business and operate on lower profit margins. Also, the proportion of common equity (which earns no interest) may be higher in the smaller banks (equity to average assets—also called leverage—in smaller banks can often be twice as high as larger banks). This has an obvious effect on ROA.

- **ROE Ratio.** This ratio is extremely dependent on the equity to average assets (leverage) ratio. The ROE of a bank with a lower equity to average assets ratio will be higher than that of a bank with a higher ratio. In other words, ROEs generally will be higher in banks with lower amounts of equity than their peers, if earnings are relatively the same.

### RETURN ON EQUITY CALCULATIONS

<table>
<thead>
<tr>
<th>ROA</th>
<th>Equity/Assets (Leverage)</th>
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<tr>
<td>1.25%</td>
<td>8% 15.6% 17.9% 20.8% 25.0%</td>
</tr>
<tr>
<td>1.00</td>
<td>12.5 14.3 16.7 20.0</td>
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<tr>
<td>0.75</td>
<td>9.4 10.7 12.5 15.0</td>
</tr>
<tr>
<td>0.50</td>
<td>6.3 7.1 8.3 10.0</td>
</tr>
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QUESTIONS

1) Given an ROA of 0.75%, what degree of equity leverage is needed to produce an ROE of 15%? Answer: 5%.

2) Given an equity leverage of 6%, what ROA is required to produce an ROE of 20%? Answer: Almost 1.25%.

- **Net income % Change Ratio.** Comparing period to period net income percent changes is a key ratio, as it measures positive or negative performance in profitability.

  Earnings per share changes are important because again, earnings can be distorted if more shares are issued and profitability does not increase proportionately. For example, if net income grows 10% but there are 11% more shares outstanding, earnings per share will decrease 1%.

  Two cautions when analyzing net income growth:

  1. Small distortions in either of the two periods being measured can have a significant effect on the percentage change. Example: if a bank shifts from a policy of building its loan loss reserve to one of depleting it (or vice-versa,) the effect on earnings change will be significant.

  2. Net income growth percentages are apt to be magnified when the ROA is depressed (when earnings are low). This volatility can be misleading–a 50% growth in earnings will have a smaller effect on ROA if the starting ROA is low rather than high.

- **Securities Gains/Losses (Net) to Net Income.** The key here is that gains or losses are often discretionary and postponable rather than the recurring product of an actively managed portfolio. Clearly these transactions should be treated as separate activities and analyzed separately as well.

**SUMMARY:** The above ratios are informative in increasing knowledge of the soundness and profitability of the bank. The next section will cover six other factors influencing bank earnings.
IV. SIX FACTORS WHICH INFLUENCE SOURCES OF PROFITABILITY

1. EARNING ASSET GROWTH

The analysis of earning asset growth includes a look at the trends within the structure of earning assets and supporting liabilities.

The ratio of earning assets to total assets highlights some of the differences between banks:

- It measures the percentage of total assets which directly contribute interest income. A low ratio (or a falling trend) could indicate a high level of bad loans or some other non-earning asset such as excess goodwill from acquisitions.
- A bank with a low ratio clearly is at an ROA disadvantage compared to a bank with a high ratio.

2. NET INTEREST INCOME

Net interest income results from interest income minus interest expense. Management must attempt to maintain net interest income at an appropriately high and steady level in relation to expenses and other income. It is a widely-accepted indication of how effectively a bank is managing the relationship of its lending and funding activities.

Net interest income is important because it makes up a substantial portion of Adjusted Operating Income (as much as 75-90% at many banks). Net Interest Margin is the further extension of net interest income. Slight changes in net interest margin can have a substantial effect on ROA and net income growth. It can wipe out the positive effects of small changes in earning assets, fee income, expense control, and loan loss provision.

The chart below illustrates the changes in Net Interest Margins of four fictional banks during 1981-85, a period of volatile interest rates. It is followed by a brief interpretation of the action which the banks may have taken.

<table>
<thead>
<tr>
<th>Net Interest Margin</th>
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<tr>
<td></td>
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<tr>
<td>Bank A</td>
</tr>
<tr>
<td>Bank B</td>
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<tr>
<td>Bank C</td>
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<tr>
<td>Bank D</td>
</tr>
</tbody>
</table>

**Bank A** shows a steady improvement except for 1984. It reflects a good management of Net Interest Margin and may indicate a bank which is operating its business to move contrary to the rise and fall of interest rates—consequently its NIM fell in 1984 but rose again in 1985. It may have rate sensitive liabilities which exceed rate sensitive assets—a common explanation for this situation.

**Bank B** displays a decrease through 1984 and a rise in 1985. Its portfolio was managed to move NIM down as rates dropped but continued to decrease when rates moved up. An adjustment was made and a slight improvement occurred in 1985 with the rate increase.

**Bank C** shows a steady 4.0% NIM and most likely is managing itself to achieve a balanced condition—this is the exception rather than the rule and is probably difficult to achieve.

**Bank D** certainly looks like more of a risk taker with its NIM moving in a volatile way. It should be carefully examined in that it may be taking above-average risks.

**SUMMARY:** A gradual decline in NIM is acceptable if it is accompanied either by an offsetting decline in overhead, an offsetting increase in fees, or both. Clearly there are tradeoffs in managing a bank.

3. **NON-INTEREST INCOME TO ADJUSTED OPERATING INCOME**

Includes recurring income such as fees, trading profits from trading accounts, fees and commissions from off balance sheet products such as standby letters of credit, loan commitments, and loan sales, etc. It can also include non-recurring events such as the sale of a building or taking profits on equity investments.

Several factors to keep in mind when looking at non-interest income:

- The more normal and steady the ratio, the less analysis time is necessary. In most banks this figure should be rising, reflecting an emphasis on fee-generating products and less reliance on loans (due to more strict credit standards or less demand). A very low or very high ratio deserves attention to determine management’s strategy.

- Non-interest income often arises from sources other than bank assets and liabilities (trust division fees or merchant banking fees). If it is a high number, it can result in a higher ROA than in a bank with low net interest income and heavy reliance on Net Interest Margin. Look carefully at trading income for large swings.

- Non-recurring events can cause major swings in this ratio.
4. OVERHEAD

Typically the most influential factor on the level and trend of earnings next to NIM. Often it can be 50-70% of NIM.

There are three important measures of overhead and incidentally they are measures of productivity:

1. **Overhead to Adjusted Operating Income (AOI)**. AOI is the income stream available to cover expenses, taxes, and dividends, thus the higher the overhead, the less available for profits, etc.

2. **Personnel Expense to AOI**. Measures the relationship of salaries and benefits to Overhead. Normally, the ratio is half-and-half. Differences from this norm raise questions regarding the mix of expenses and the relative importance of people costs, premises, and systems.

3. **Overhead % Change**. Measures the ability to control year-to-year expenses. This has received much attention in recent years.

Another interesting item to observe is amounts of costs and writedowns associated with foreclosed real estate (OREO) costs. These expenses are not charged to the loan loss reserve since the assets are no longer loans. Instead they are charged as miscellaneous expenses and are part of general overhead. A large rise in these expenses can greatly influence the overhead ratio.

5. LOAN LOSS PROVISION

The ratio utilized to measure this is **Loan Loss Provision to AOI**. Its normal range is 6-8%, but it will increase in times of poor loan quality. It is a discretionary number and rarely corresponds to actual loan loss experience. It is depleted by gross chargeoffs and replenished by recoveries and input of cash when necessary.

Two other helpful ratios for measuring loan quality are:

1. Loan loss provision to net charge-offs.
2. Loan loss provision to loans.

6. INCOME TAX PROVISION

Income tax provision should be fairly standard for banks in most countries. The analyst should calculate the marginal tax rate of the bank and check to see if the actual rate exceeds it. The marginal rate for many U.S. banks is 46%, and higher if there are state taxes as well.
BANK SOLVENCY AND SAFETY-NET MECHANISMS

In banks which are managed soundly, efforts to operate with solvency and safety net mechanisms revolve around a number of topics.

I. LOAN LOSSES

For most banks the most critical solvency issue is to protect against loan losses. A wide variety of internal and external steps are available to provide this protection:

- **Internal steps.** Written credit policies, lending authorities, frequent loan portfolio reviews, portfolio management to avoid concentrations, loan review departments, auditors, early problem recognition, and credit training all need to be in place.

- **External steps.** Examinations from government regulators, outside auditing firms, and even outside directors are essential to a soundly managed loan portfolio.

- **Management prudence is vital to the process.** “Risk prone managements” are gone says Moody’s, one of the private rating agencies.

- **In a good performing and well structured loan portfolio, payments should generally match deposit maturities.**

- **The purchase of credit insurance is being investigated by banks as a another tool for reducing vulnerability to loan losses.** While banks have not traditionally used credit insurance, its availability could be a significant development.

In terms of loan portfolio management, the ability to sell-off portions of larger credits to other banks and the development of the securitization business are two techniques which banks are using more frequently. The ability to diversify loan portfolios and reduce concentrations is receiving a long overdue emphasis.
II. FRAUD

Fraud in its many forms is another major threat to bank solvency. Protection against fraud is accomplished in many ways:

- Policies and procedures which provide dual controls, dual signatures, and separation of responsibilities, are vital to this process.

- Audits by both internal and external auditors provide another element of protection. The auditors are most effective when they coordinate with each other and share information. The audits also provide a key piece of management information to bank executives.

- The hiring process is an opportunity to spot employees who have the potential for fraudulent activities. Background checks and vetting techniques are critical steps in fraud avoidance.

- Personnel policies which require employees to take vacations so as to be away from the bank for a period of time are another opportunity to prevent fraud.

III. TRADING LOSSES AND LOSSES IN SECURITIES PORTFOLIOS

In light of recent experience with financial firms such as Barings, and Kidder Peabody, much attention is being paid to methodologies which can control trading losses:

- Policies and procedures which restrict the size of positions which traders can take are required.

- Management information systems, which can help managers oversee traders’ positions and exposures to various types of instruments, markets, and currencies are receiving much more emphasis.

- In the same manner, the development of policies and procedures for the investment side of the bank are essential to managing responsible portfolios. Frequent reviews of investment strategies and positions are part of management and outside directors’ key responsibilities.
IV. DEPOSIT INSURANCE

The deposit insurance provided by institutions such as the Federal Deposit Insurance Corporation is an important safety net mechanism.

- It provides comfort to bank customers knowing that they are protected from imprudent actions by bank managements.

- It serves as a reminder to bankers that they are *fiduciaries*. They must act prudently on behalf of depositors and shareholders. Bankers must be self-regulated as well as externally-regulated.

- Directors liability and accountability is increasingly important among banks in Europe, Japan, the U.S., and Canada. Outside directors in particular, must remain independent of bank management in their oversight role. Government regulators look to directors to have the interests of depositors as an vital part of their function.

V. OTHER SAFETY NET MECHANISMS

- When the need arises, there are a variety of options available to banks to provide raise funds. These options are described in detail in the Liquidity and Asset and Liability Management Sections of the manual.

VI. MANAGEMENT ISSUES

- There is no substitute for frequent (monthly) reviews of business plans, budgets, and policies and procedures. Bank managers and directors should have these activities as among their highest fiduciary priorities.

- Development of additional safety-net mechanisms such as *capital markets* efforts to sell off loans, or portions of them, to provide liquidity, *and* back up credit lines from other banks to be used only in emergency, is another critical function of bank managers.
SUMMARY - PHILOSOPHY OF MANAGING A BANK

Memorandum from Hugh McCulloch, United States Comptroller of the Currency

"Let no loans be made that are not secured beyond a reasonable contingency. Do nothing to foster and encourage speculation. Give facilities only to legitimate and prudent transactions. Make your discounts on as short a time as the business of your customers will permit, and insist upon the payment of paper at maturity, no matter whether you need the money or not.

Distribute your loans rather than concentrate them in a few hands. Large loans to a single individual or firm, although sometimes proper or necessary, are generally injudicious and frequently unsafe. Large borrowers are apt to control the bank, and when this is the relation between a bank and its customers, it is not difficult to decide which in the end will suffer.

Every dollar that a bank loans above its capital and surplus it owes for, and its managers are therefore under the strongest obligation to its depositors, as well as to its stockholders, to keep its discounts constantly under its control. Treat your customers liberally, bearing in mind the fact that the bank prospers as its customers prosper, but never permit them to dictate your policy. If you doubt the propriety of an offering, give the bank the benefit of doubt and decline it.

If you have reason to doubt the integrity of a customer, close his account. Never deal with a rascal under the impression that you can prevent him from cheating you. The risk in such cases is greater than the profit.

It should be a chief aim of the managers of the banks to make their respective institutions strong, not only to keep their capital from being impaired but to gradually create a surplus that will be a protection to their capital and to their depositors in the trying times that sooner or later happen to all banking institutions. There are few items that have a better look upon the balance sheet, and none that is better calculated to give aid and comfort to the managers of a bank and to secure for it the confidence of the people, than a large surplus fund.
Pursue a straight-forward, upright, legitimate banking business. Never be tempted by the prospects of large returns to do anything but what may be properly done under the National Banking Act.

'Splendid financiering' is not legitimate banking."

(This sounds like it could have been written in 1935 or 1995, but was written in 1863.)
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