Chapter 9

Bank balance sheet, a list of the bank’s assets and liabilities.

Sources of bank funds (liabilities and capital) and uses to which the funds are put (assets).

A bank acquires funds by issuing (selling) liabilities, which are the sources of funds the bank uses. The funds obtained from issuing liabilities are used to purchase income-earning assets.

Checkable deposits are bank accounts that allow the owner of the account to write check to third parties.

Checkable deposits are payable on demand

Nontrans action deposits are the primary source of bank funds; owners cannot write checks on nontrans action deposits, but the interest rates paid on these deposits are usually higher than those on checkable deposits.

Time deposits have a fixed maturity length, ranging from several months to over five years.

Borrowings from the Fed are called discount loans (advances); banks also borrow reserves overnight in the federal (fed) funds market from other U.S. banks and financial institution.

Bank Capital (net worth), equals the difference between total assets and liabilities. Bank capital is raises by selling new equity (stock) or from retained earnings. Bank’s capital is its cushion against a drop in the value of its assets, which could force the bank into insolvency, which occurs when a bank has liabilities in excess of assets, meaning that the bank can be forces into liquidation.

A bank uses the funds that it has acquired by issuing liabilities to purchases income-earning assets, naturally referred to as uses of funds and the interest payments eared on them are what enable banks to make profits.

All banks hold some of the funds they acquire as deposits in an account at the fed. Reserves consist of these deposits plus currency that is physically held by bank (called vault cash because it is stored in bank vaults overnight)

Some reserves, called required reserves, are held b/c of reserve requirtments, the regulation that for every dollar of checkable deposits at a bank, a certain fraction much be kept as reserves. The fraction is called required reserve ratio.

Banks hold additional reserves, called excess reserves, b/c they are the most liquid of all bank assets and a bank can use them to meet its obligations when fund are withdraw, either directly by a depositor or indirectly when check is written on an account.

These securities can be classified into three categories: U.S. government and agency securities, state and local government securities, and other securities. The U.S. government and agency securities are the most liquid b/c they can be easily traded and converted into cash with low transaction costs. B/c of their high liquidity, short-term U.S. government securities are called secondary reserves.

A loan is a liability for the individual or corporation receiving it but an asset for a bank, b/c it provides income to the bank. Loans are typically less liquid than other assets b/c they cannot be turned into cash until the loan maturities.

The major difference in the balance sheet of the various categories of depository institutions is primarily in the type of loan in which they specialize.

The physical capital (bank building, computers, and other equipment) owned by banks is included in the other assets category.  
asset transformation: Banks make profits by selling liabilities with one set of characteristics (a particular combination of liquidity, risk, size, and return) and using the proceeds to buy assets with a different set of characteristic. The process is often referred to as asset transformation.

T-account : is a simplified balance sheet, with lines in the form of a T, that lists only the changes that occurs in balance sheet items starting from some initial balance sheet position.

A increase in the bank’s reserves equal to the increase in checkable deposits.

When a bank receives additional deposits, it gains an equal amount of reserves; when it loses deposits, it loses an equal amount of reserves.

Deposit outflow : that is, when deposits are lost b/c depositors make withdraws and demand payment. To keep enough cash on hand, the bank must engage in liquidity management, the acquisition of assets that are liquid enough to meet the bank’s obligations to depositors.

Banks manager must pursue an acceptably low level of risk by acquiring assets that have a low rate of default and by diversifying asset holding (asset management).

Liability management : concern is acquiring funds at low cost.

Capital adequacy management: decide the amount of capital the bank should maintain and then acquire the needed capital.

Credit risk: the risk arising b/c borrowers may default, and how it manage interest-rate risk, the riskiness of earning and returns on bank assets caused by interest-rate changes.

If a bank has ample excess reserves, a deposit outflow does not necessitate change in other parts of its balance sheet.

A second method of reducing its loan is for the bank of sell them off to other bank.

The foregoing discussion explains why banks hold excess reserves even though loans or securities earn a higher return when deposit outflow occurs, excess reserves enable the bank to escape the costs of (1) borrowing from other banks or corporations, (2) selling securities (3) borrowing from the fed, or (4) calling in or selling off loans.

Excess reserves are insurance against the costs associated with deposit outflows. The higher the cost associated with deposit outflows, the more excess reserves a bank will want to hold.

To maximize its profits, a bank must simultaneously seek the highest returns possible on loans and securities, reduce risk, and make adequate provisions for liquidity by holding liquid assets.

First bank try to find borrowers who will pay high interest rates and are unlikely to default on their loans; second banks try to purchase securities with high returns and low risk; third, in managing their assets, banks must attempt to lower risk by diversifying; Finally, the bank must manage the liquidity of its asset so that it can meet deposit outflows and still satisfy its reserve requirements without bearing huge costs.

Two main reasons for emphasis on asset management. First, more than 60% of bank funds were obtained through checkable (demand) deposits that by law could not pay any interest. Second, b/c the markets for making overnight loans between banks were not well develop, banks rarely borrowed from other banks to meet their reserve needs

Capital adequacy management: first, bank capital helps prevent bank failure, a situation in which the bank cannot satisfy its obligations to pay its depositors and other creditors and so goes out of business. Second, the amount of capital help affects returns for the owners (equity holder) of the bank; Third, a minimum amount of bank capital (bank capital requirement) is required by regulatory authorities.

A bank maintains bank capital to lessen the chance that it will become insolvent.

ROA = ; the return on assets provides information on how efficiently a bank is being run b/c it indicates how much profit is generated, on average, by each dollar of assets.

ROE = ; net profit after taxes per dollar of equity(bank) capital.

EM = ; measures how well the owners are doing on their investment, the amount of assets per dollar of equity capital. EM = ROA EM

Given the return on assets, the lower the bank capital, the higher the return for the owners of the bank.

Bank capital benefits the owners of a bank in that it makes their investment safer by reducing the likelihood of bankruptcy.

A shortfall of bank capital is likely to lead a bank to reduce its assets and therefore is likely to cause a contraction in lending.

Adverse selection in loan markets occurs b/c bad credit risks ( those most likely to default on their loans) are the ones who usually line up for loans; who are most likely to produce an adverse outcome are also the mostly to be selected.

Moral hazard exists in loan market b/c borrowers may have incentives to engage in activities that are undesirable from the lender’s point of view. Once borrowers have obtains a loan, they are more likely to invest in high-risk investment projects-projects that pay high returns to the borrower if successful.

For managing credit risk: screening and monitoring, establishing of long-term structure customer relationships, loan commitment, collateral and compensation balance requirements, and credit rationing.

Screening: adverse selection in loan markets requires that lender screen out the bad credit risks from the good ones, so that loans are profitable to them.

Monitoring and enforcement of restrictive covenants: to reduce this moral hazard, financial institutions must write provisions (restrictive covenants) into loan contracts that restrict borrowers from engaging in risky activities.

Long-term customer relationship: If a prospective borrower has had a checking account, a saving account, or a loan with a bank over a long period of time, a loan officer can look at past activity on the accounts and learn quite a bit about the borrower.

Loan commitments: a loan commitment is a bank’s commitment (for a specified future period of time) to provide a firm with loans up to a given amount at an interest rate that is tied to some market interest rate.

Compensating balance: A firm receiving a loan must keep a required minimum amount of funds in a checking account at the bank; In addition to serving as collateral, compensating balance increase the likelihood that a loan will be paid off. Specifically, by requiring the borrower to use a checking account at the bank, the bank can observe the firm’s check payment practices, which may yield a great deal of information about borrower’s financial condition.

Credit rationing: refusing to make loans even though borrowers are willing to pay the stated interest rate, or even a higher rate. First, occurs when a lender refuses to make a loan of any amount to a borrower, even if the borrower is willing to pay a higher interest rate. Second, occurs when a lender is willing to make a loan but restricts the size of the loan to less than the borrower would like.

If a bank has more rate-sensitive liabilities than assets, a rise in interest rates will reduce bank profits, and a decline in interest rates will raise bank profits.

The sensitivity of bank profits to change in interest rates can be measured more directly using gap analysis, which the amount of rate-sensitive liabilities is subtracted from the amount of rate-sensitive asset.

Maturity buckets, the maturity bucket approach, is to measure the gap for several maturity subintervals; so the effects of interest-rate change over a multiyear period can be calculated. The second refinement, called standardized gap analysis, accounts for the differing degree of rate sensitivity amount rate-sensitive assets and liabilities.

Duration analysis, examines the sensitivity of the market value of the bank’s total assets and liabilities to change in interest rate. Duration analysis is based on what is known as Macaulay’s concept of duration, which measure the average lifetime of a security’s stream of payments.

Percent change in market value of security percentate-point change in interest rate duration in years

Duration analysis involves using the average (weighted) duration of a financial institution’s assets and of its liabilities to see how its net worth responds to a change in interest rates.

Off-balance-sheet activities involved trading financial instruments and generating income from fees and loan sales, activities that affect bank profits but do not appear on bank balance sheets.

A loan sale, secondary loan participation, involves a contract that sells all or part of the cash stream from a specific loan, and thereby removes the loan so that it is so longer an asset on the bank’s balance sheet.

Value-at-risk: the institution develops a statistic model with which it can calculate the maximum loss that its portfolio is likely to sustain over a given time interval, dubbed the value at risk, or VaR.

With the value-at-risk approach and stress testing, a financial institution can assess its risk exposure and take steps to reduce it. In addition, the bank for international settlements is developing additional bank capital requirements based on value-at-risk calculation for a bank’s trading activities.