

Lecture 5a: Banking + Bank Regulation

(p.1)

Bank Balance Sheet

Assets

reserves + cash items

securities

- US gov't
- State + local gov't + other

loans

- commercial + industrial
- real estate
- consumer
- interbank
- other

other assets (e.g. physical capital)

Liabilities

checkable deposits

non-transaction deposits

- small denom time deposits plus savings deposits
- large denom time deposits

borrowings

bank capital

Liabilities

→ checkable deposits - lowest cost source of funds because zero or low interest paid (depositor gets liquidity)

→ non-transaction deposits - savings accounts and certificates of deposit

→ borrowings - from the Fed, other banks and corporation to obtain adequate deposits at Fed to meet reserve req't

→ bank capital - raised by selling new equity (stock) or from retained earnings

Assets

→ reserves - held at Fed or in vault

- reserve requirement

→ securities - income earning assets

- Banker cannot hold stock

→ loans - most important source of bank revenue



Basic Banking + Money Multiplier

→ assume new \$100 deposit + 10% reserve req't

- liabilities rise by \$100
- assets: \$10 increase in reserves
\$90 increase in loans

→ if the \$90 in loans comes back as a deposit, then a total of \$1000 = \$100/10% in new deposits are created

General Principles of Bank Mgmt

Liquidity Mgmt

→ must have sufficiently liquid assets to meet obligations to depositors

→ using the previous example

- note that if Depositor Jane (who just deposited \$100 yesterday) asks to withdraw her \$100 deposit then you must take it from reserves

- if you have already issued \$90 in new loans from that deposit, then you will have to meet reserve req't by

 - borrowing from other banks

 - sell securities

 - borrow from Fed (at discount rate)

+/OR → reduce loans (do not issue new loans until enough paid back)

→ to avoid these outcomes, banks hold excess reserves

Asset Mgmt

p. 4

"Bank utopia" → high returns

→ low risks

→ liquid assets

→ need to screen borrowers - WHO are the good credit risks?

→ reduce risks by diversifying assets

→ US gov't securities very liquid, but fetch a low return

Liability Mgmt

→ growth of Federal Funds Mkt (beginning in 1960s) enabled banks to acquire funds quickly when necessary *reducing need for excess reserves*

→ negotiable CDs

• like traditional CD, but larger denomination

• *depositor can sell the CD (on 2nd ry mkt)*

• ability to sell makes it a liquid asset so attractive to depositors (do not have to wait until maturity)

→ growth of Fed Funds Mkt + development of new financial instruments enabled banks to acquire funds (i.e. liabilities) quickly + set aggressive goals for asset growth

Capital Adequacy Mgmt

bank capital: helps prevent bank failure
BUT there is a tradeoff because more capital means shareholders receive lower return on equity

Example: if \$10 million in home loans go south then bank capital reduced by \$10 million, but if bank undercapitalized then obligations to depositors cannot be met (and bank fails)

but: return on equity (ROE) $\equiv \frac{\text{net profit after taxes}}{\text{equity}}$

so more equity (i.e. bank capital) means shareholders receive a lower return

So if loans go south, how does a bank raise capital?

- issue new shares
 - pay smaller dividends
 - reduce loans +/or sell securities
- } WILDLY UNPOPULAR

Suppose you need \$1 in capital to support \$9 of loans + ~~securities~~ securities

Suppose initially

assets		liabilities	
reserves	10	deposits	90
loans	50	capital	10
securities	40		

Now suppose \$5 of loans goes south

assets		liabilities	
reserves	10	deposits	90
loans	45	capital	5
securities	40		

Need to reduce loans +/or securities until loan + securities = 45

~~But suppose you sell off~~

To meet the $\frac{\text{loans}}{\text{capital}} = 9$, you might sell \$35 of securities + call in \$5 loans

assets		liabilities	
reserves	50	deposits	90
loans	40	capital	5
securities	5		

Note that this would cause a credit crunch → very difficult for firms to acquire funds necessary for investment
economic recession

☆ → Deleveraging is painful ← ☆



Managing Credit Risk is Important - VERY IMPORTANT

- screening + monitoring
- focus on long-term customer relationships (so know who the good risks are)
- collateral
- compensating balances ← protection against default
- credit rationing ← do NOT lead to those willing to pay higher rate

Interest Rate Risk

Suppose initially:

Assets		Liabilities	
<u>Rate Sensitive Assets</u>	<u>20</u>	<u>Rate Sensitive Liab</u>	<u>50</u>
Fixed Rate Assets	80	Fixed Rate Liab	50

Now suppose interest rates rise 5% p.a.

Δ Assets	Δ Liabilities
$+5\% * 20 = +1$	$+5\% * 50 = +2,5$

So if a bank has more rate sensitive liabilities than rate sensitive assets then an increase in interest rates will reduce bank profits

→ vice versa if interest rates fall

→ vice versa if bank has more rate sensitive assets than liabilities

Could hedge this risk by betting on an increase in interest rates in the futures market

Off - Balance Sheet Activities

→ generate income from fees + loan sales

Loan Sales

→ if you can originate a loan ~~for~~ for \$100,000 w/ 10% interest rate

→ another bank, investor, etc. may be willing to buy it for \$105,000

→ they get a lower return, but it's still attractive

→ during the "bubble years" ~~big~~ investment banks would buy these + securitize them

Fee Income

Trading Activities

→ helps manage interest rate risk
(e.g. trading in futures, etc.)

→ may also be profitable to speculate