What serves as M?

"The pivotal issue, then, is not whether you respond to my needs by cash or by check but for how much."

Commercial Banks   M+B 4

- Checking accts serve as Money
- In US, Checking Accts are liabilities of Federally Insured Commercial Banks (CBs) (or thrifts).
- Most CBs (such as CitiBank) are owned by Bank Holding Companies (BHCs). Often these have a similar name (eg Citigroup), but they are separately incorporated.
- A CB is not liable for the debts of its BHC or vice-versa. If a BHC fails, its CB(s) simply get new owners.

The Monetary Aggregates

(5/09, $ billions, s.a.)

Official M1:

• Currency in circulation		849.8	(53.2%)
• Checkable Deposits (excl Sweep Accts)		741.0	(46.4%)
Demand Deposits	406.6		
Other (NOW etc)	334.4		
Non-Bank traveler's checks		5.2	(0.3%)
• Total M1		**1,596.0**	

M1-S (Unofficially computed for this course):

• Currency in circulation		849.8	(35.5%)
• Checkable Deposits (incl Sweep Accts)		1,536.2	(64.2%)
Official	741.0		
Sweep Accts (est.)	795.2		
• Non-Bank traveler's checks		5.2	(0.2%)
Total M1-S		**2,391.2**	

M2:

• M1	1,596.0
• Savings Deposits (incl. MMDA)	4,445.0
• Small time deposits	1,307.3
• Retail Money Market Mutual Funds	979.2
Total M2	**8,326.6**

MZM (Zero-Maturity M, computed by St. Louis Fed per Wm. Poole):

• M1		1,596.0
• Savings Deposits (incl MMDA)		4,445.0
• All Money Market Mutual Funds		3,517.6
Retail	979.2	
Institution-only	2,538.4	
• Total MZM		**9,558.6**

MMDA = Money Market Deposit Account, a Bank/Thrift liability.
MMMF = Money Market Mutual Fund, *not* a Bank/Thrift liability.

Data sources: *Federal Reserve Statistical Release H.6*; St. Louis Fed (http://research.stlouisfed.org/aggreg/swdata.html) for estimated Sweep Accounts.

(M3 discontinued)

Commercial Bank Assets and Liabilities
Insured Commercial Banks
Dec. 31, 2010
(billions of dollars)

Assets			Liabilities & Net Worth			
Required Reserves		71	Checkable Deposits		945	in M1
Vault Cash	57		Demand Deposits	689		
Balances w/ Fed	14		NOW Accounts	256		
Excess Reserve Balances		487	Savings Deposits		5286	
			MMDA	3257		
Other Cash Assets		305	Other Savings	1084		in M2
Debt Securities		2321	Time Deposits (CDs)		1212	
			Small (< \$100,000)	886		
Loans		6450	Large (≥ \$100,000)	326		
Fed Funds Sold		454	Deposits at Foreign Branches		1549	
Other Assets		1896	Fed Funds Purchased		520	
			Other Liabilities		1672	
			Total Liabilities = L		10,653	
			Equity Capital (Net Worth) = A − L		1331	
A = Total Assets		11,984	Liabilities + NW		11,984	

Adapted from Insured Commercial Bank Assets and Liabilities, Domestic and Foreign Offices (4.20), Consolidated Report of Condition, Dec. 31, 2010. Required Reserves are for all depository institutions. Vault Cash pro-rated from domestic offices of banks with foreign branches. Fed Funds Sold include funds lent under repurchase agreements. Fed Funds Purchased include funds borrowed under repurchase agreements. Minority interest in consolidated subsidiaries consolidated into Other Liabilities.

CB Liabilities + M Components

Checkable Deposits (in M1)

1. Traditional Demand Deposits

Could not pay interest, 1933-2010.

Only held by CBs

2. Other Checkable Deposits (OCD)

Mostly NOW Accts.

Negotiable Order of Withdrawal

May pay interest

Held by CBs or Thrifts

Authorized nationally by 1980 DIDMCA

Non-Business only

- Same reserve requirements by 1980 DIDMCA

DIDMCA

"Didmik"

Depository Institutions Deregulation & Monetary Control Act of 1980

- Permitted banks, thrifts to offer NOW accts.
- Set uniform reserve requirements for all banks, thrifts.
- Phased out deposit interest ceilings on savings.

Near-Moneys (in M2)

1. Passbook Savings Deposits

- Fixed present value, 0 maturity.
- Interest accumulates
- No checking
- Pre-1970's, only non DD type of Bank Deposit.

2. Small Time Deposits (< $100,000) or Certificate of Deposit CD

- Fixed Maturity, int. rate
- Penalty for early withdrawal
- 1971 innovation
- in M2 if < $100,000 "small"

3. Money Market Mutual Funds
MMMFs

- Not a bank or thrift liability
- Set up as a Mutual Fund, regulated by SEC.
- Holds only short-term, marketable debt.
  - Treasury Bills
  - Corp. Commercial Paper (CP)
  - Bank Certificates of Deposit (CDs)

$\Rightarrow$ Stable share value (unlike equity funds)

- Most "penny round"
- But investor bears residual Present Value + Credit risk (until 2008).
- Most allow limited checking through a C.B.
- Not Federally insured, yet safe (ordinarily)

- Early 1970's innovation to avoid deposit interest ceilings.
- In M2 if retail
- In MZM whether retail or institution-only.

Sept 2008 developments with MMMFs:

- CP Ratings
  - P-1 – Safest
  - P-2 – Moderately risky

- Some MMMFs enhanced yields with P-2 CP, since T-Bills, P-1 yields near 0.

- Summer 08 – P-2 CP fell to a yield discount of ~5%/yr rel. to P-1 paper, T-Bills.

- Sept. 08 –
  Primary Reserve Fund (a MMMF) "broke buck"
  i.e market value of portfolio fell more than ½%, so couldn't "penny round" to $1.00
  in fact, fell to 97¢/$.

- → Treasury, Fed moved to support P-2 CP market to prevent negative returns on high-risk MMMFs.

- Makes no more sense than protecting stock Funds from neg. daily returns!

4. Money Market Deposit Accts. (MMDA)

- Pay interest – No ceiling since inception in 1983
- No reserve requirements since 1/91
- Limited checking. 6/month.
- Fixed present value like Savings, Checking.
- General liability of issuing CB or Thrift, unlike MMMF.
- Federally insured. (FDIC)
- Authorized by 1982 Garn-St Germaine Act.
  - to compete with MMMF
  - effective 1/83
    ⇒ MMMF ↓ 25% immediately without incident

5. Sweep Accts

- MMDA balances that act as unlimited checking accts
- Now half of all checking accts.
- In M1-S, M2, <u>not M1!</u>
- Important since 1995
- More next class.

Fractional Reserve Banking

Req'd. Reserves = 60.7 B "R_R"
5/09

Checkable Dep. = 1536 B "D"
Incl est. Sweeps, 5/09

$$f_R = \frac{R_R}{D} = \underline{4.0}\ \% \quad (5/09)$$

= required reserve ratio.

Other assets <u>less liquid</u>.

$\Rightarrow$ <u>potential illiquidity problem</u>

- <u>Banks make 0 int. on R_R</u>
  $\Rightarrow f_R$ acts as <u>tax on D</u>

- <u>Since 10/08, Fed pays interest on excess R (only)</u>

- <u>Before 10/08, Banks kept R very near R_R.</u>

Commercial Bank Assets, 12/10

"Loans"	54% of A.
Unsecuritized loans	
- Customer relationship	
- Less marketable, less liquid	
- Higher interest rates	
"Securities"	19%
Securitized loans (not equities)	
- Bonds, Bills, Commercial Paper	
- More marketable, more liquid	
- Lower interest rates	
- May have interest rate risk even if high grade	
Excess Reserves	4%
Other Cash Assets	3%
Required Reserves	1%
Other Assets	19%

Commercial Bank Loans by Type, 12/10

Real Estate	55%
Incl. HELOC*	
Personal	19%
Incl. Auto, Credit Card	
Commercial & Industrial	17%
Other	9%

Prime Rate

- = Interest rate banks charge "Prime Customers".
- Many variable rate loans, lines of credit tied to Prime Rate.
- Below-Prime discounting common since 1980s. "Super-Prime" Rate?

* HELOC = revolving Home Equity Line of Credit.

From Insured Commercial Bank Assets and Liabilities, Domestic and Foreign Offices (4.20), 12/31/10

Commercial Bank Securities by Type, 12/10

Mortgage-Backed Securities 55%

Pass-through pools of mortgages
Guaranteed by Fannie Mae, Freddie Mac, other parties

Govt Agency Bonds 10%

Fannie Mae, Freddie Mac, etc.

US Treasury 8%

Bills (<1yr), Notes (<10 yr), Bonds (to 30 yr)

State & Local Bonds etc. 7%

Exempt from Federal Income Tax

Other 20%

Corporate bonds, Commercial Paper etc.

Bank loans far exceed monetary deposits.

Financial Intermediation (F.I.)

When banks fund loans with CDs, they act as Financial Intermediaries.

- Important, but non-monetary function of banks.

- No illiquidity risk or interest rate risk if CDs have same maturities as corresponding loans.

- More in Ch. 27.

"Near Moneys"

Passbook Savings, MMDA

- 0 maturity
- MMDAs have limited checking

- Gray area between money, Financial Intermediation.

Federal Funds Market

Fed Funds

Funds on deposit w/ Fed
Used as clearing balances
count as legal reserves

Fed Funds Rate

Rate banks charge each other
for use of Fed Funds
overnight or short-term

FF "purchased" (L) = borrowed	\$520 B	(12/10)
− FF "sold" (A) = lent	− \$454 B	
= NonBank Repos:	\$66 B	

(More on Repos next lecture)

Net Worth
(Capital Accounts)

$NW = A - L$

Balance sheet identity:

$$\boxed{A \equiv L + NW}$$

Solvent if $NW > 0$

Insolvent if $NW < 0$

NW protects Depositors, FDIC against losses on Assets

NW = equity interest of banks' shareholders.

$NW/A = 11.1\%$ 12/10 (was 6.8% 12/02)

A/NW = "Leverage" - M+B5

= 9.0:1 12/10 (was 14.7:1 12/02)

Federal Deposit Insurance

FDIC

: Federal Deposit Insurance Corp.

- Founded 1935
- Insures depositors

  to $250,000 per depositor
  per bank.

  Since 10/08

  $100,000 previously, 1982-2008.

- Controls entry into banking by withholding ins. to new banks.

Glass-Steagall Act 1933

Separated Commercial Banks from Investment Banks.

- CBs –
  - hold Deposits
  - make Loans
  - do not underwrite new securities
  - Federally Insured

- IBs –
  - No Deposits
  - Underwrite new security issues.
    - – high risk
  - Not Federally Insured,

- Single Holding Co. could not own or control both CB + IB.

Glass-Steagall Repealed 1999

— Gramm Leach Bliley Act

- Bank Holding Cos (like Citigroup) may now own both CB's (like Citibank), IBs, + Insurance Cos.
- CB subsidiaries are still separately incorporated, but may be induced to make risky, undiversified loans to I.B.
- "Firewalls" are supposed to prevent this.
- But often CB, BHC hard to untangle in practice.
- BHCs often control 100's of legal entities, operate in dozens of countries.
- More in Ch. 28