Money and Banking Part I

It is well enough that the people of the nation do not understand our banking and money system, for if they did, I believe there would be a revolution before tomorrow morning.

Henry Ford

Facilitating the Exchange of Goods

- Without money, you would have to use barter to get items you want.
  - **Barter** is the direct exchange of one good for another, without the use of money. I trade you some of my eggs for some of your milk.

The Barter System

- There are difficulties with barter systems.
  - *Double Coincidence of Wants* - Only when the wants for buying and selling goods of different persons coincides is the exchange of goods possible. Jim may have what Bob wants but Bob won't be able to exchange for it unless Bob has something Jim wants.
  - *Lack of a Standard Unit of Account* – The lack of a standard unit of account with which to measure values of different goods and services makes exchange or trade difficult. Is one dog the equivalent of two goats? If so, is that true of any dog?

The Barter System

- Continued...
  - *Impossibility of Subdivision of Goods* – What do you do if you have a cow and want to exchange for a dozen apples? The whole cow is much too valuable but butchering the cow will result in it losing much of its value.
  - *Lack of Information* – Bartering requires a great deal of information about a huge variety of products, something for which not many have the time or resources.

The Barter System

- Continued...
  - *Production of Large and Very Costly Goods not Feasible* – Even if a person had the ability and resources to build a tractor, there would be little incentive since it's unlikely he'll be able to find someone who has and will trade all of the other resources he needs (and that are equivalent to the value of the tractor).

What Is Money?

- Fortunately, “money” can help minimize the problems of a barter system.
- We define something as money not based on what it looks like but based on what it does.

Functions of Money

- Therefore, anything that serves the following functions can be thought of as money. That includes serving as a
  - **unit of account**- common standard for measuring relative worth of goods and services
  - **medium of exchange** - Is accepted as payment for goods, services and debts
  - **standard of deferred payment** – only money makes credit possible ... credit would be difficult in a barter system
  - **store of value** - value can be retained over time and easily used for buying and selling
- Money is any good that is widely accepted in exchange of goods and services, as well as payment of debts.

Characteristics of Money

Further, money has the following characteristics.

- **Durability** -- Objects used as money must withstand physical wear and tear.
- **Portability** -- People need to be able to take money with them as they go about their business.
- **Divisibility** -- To be useful, money must be easily divided into smaller denominations, or units of value.
- **Uniformity** -- Any two units of money must be uniform, that is, the same, in terms of what they will buy.
- **Limited Supply** -- Money must be available only in limited quantities.
- **Acceptability** -- Everyone must be able to exchange the money for goods and services.

Many Types of Money

- In colonial America, there were no US dollars so many different things were used as mediums of exchange.
- After independence, state-issued paper money acted as money along with gold, silver or commodities.

Many Types of Money

- The first paper money issued by the federal government was printed in 1861 to finance the Civil War.
- The National Banking Act of 1863 gave the federal government permanent authority to issue money.

Modern Concepts

- **Money** is anything generally accepted as a medium of exchange.
- The "greenbacks" we carry around today are not the only form of money we use.
- Checking accounts can and do perform the same market functions as cash.

Modern Concepts

- Credit cards are another popular medium of exchange but are not money.
- They are only a payment service with no store of value in and of themselves.

Diversity of Bank Accounts

- There are many forms of bank accounts.
- Some bank accounts are better substitutes for cash than others.

The Money Supply

- The total quantity of money in the economy at any one time is called the **money supply**.
- Economists measure the money supply because it affects economic activity.
- What should be included in the money supply?
  - those things that serve as media of exchange
  - the items that provide this function have varied over time

M1: Cash and Transaction Accounts

- **Money supply (M1)** includes currency in circulation, transaction-account balances and traveler's checks.
  - the narrowest of the Fed's money supply definitions, the most liquid
  - A **transaction account** is a bank account that permits direct payment to a third party with, for example, a check.
  - The distinguishing feature of transaction accounts is that they permit *direct* payment to a third party (by check or debit card).

M2: M1 + Saving Accounts, etc.

- **M2 money supply** – M1 plus balances in most saving accounts and money market mutual funds.
  - a broader measure of the money supply with less liquid components
  - Saving-account balances are almost as good a substitute for cash as transaction-account balances.

Definitions of the Money Supply

- We measure the money supply because the amount of money available affects consumers' ability to purchase goods and services, and so aggregate demand.
  - **Aggregate demand** is the total quantity of output demanded at alternative price levels in a given time period, *ceteris paribus*.
- Although M1 and M2 are commonly used, there are numerous definitions of the money supply.

Table: Definitions of the Money Supply

Type of money	M0	MB	M1	M2	M3	MZM
Notes and coins in circulation (outside Fed banks and the vaults of depository institutions)	✓	✓	✓	✓	✓	✓
Notes and coins in bank vaults		✓				
Federal Reserve Bank credit		✓				
Traveler's checks of non-bank issuers			✓	✓	✓	✓
Demand deposits			✓	✓	✓	✓
Other checkable deposits (OCDs), which consist primarily of NOW accts at depository institutions and credit union share draft accts			✓	✓	✓	✓
Savings deposits				✓	✓	✓
Time deposits less than $100,000 and money-market deposit accounts for individuals				✓	✓	
Large time deposits, institutional money market funds, short-term repurchase and other larger liquid assets					✓	
All money market funds						✓

Diagram: Components of the Money Supply, 12/2013

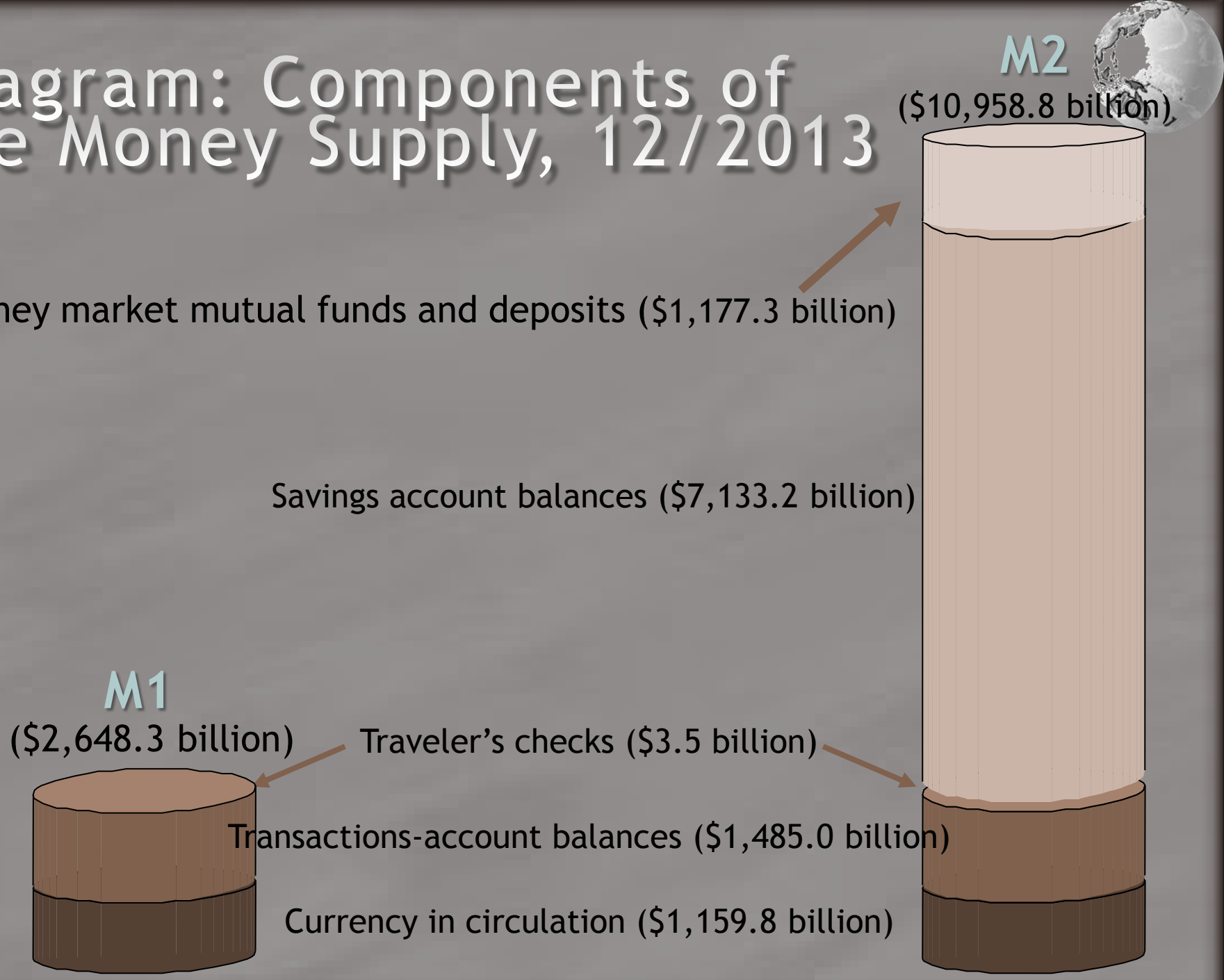
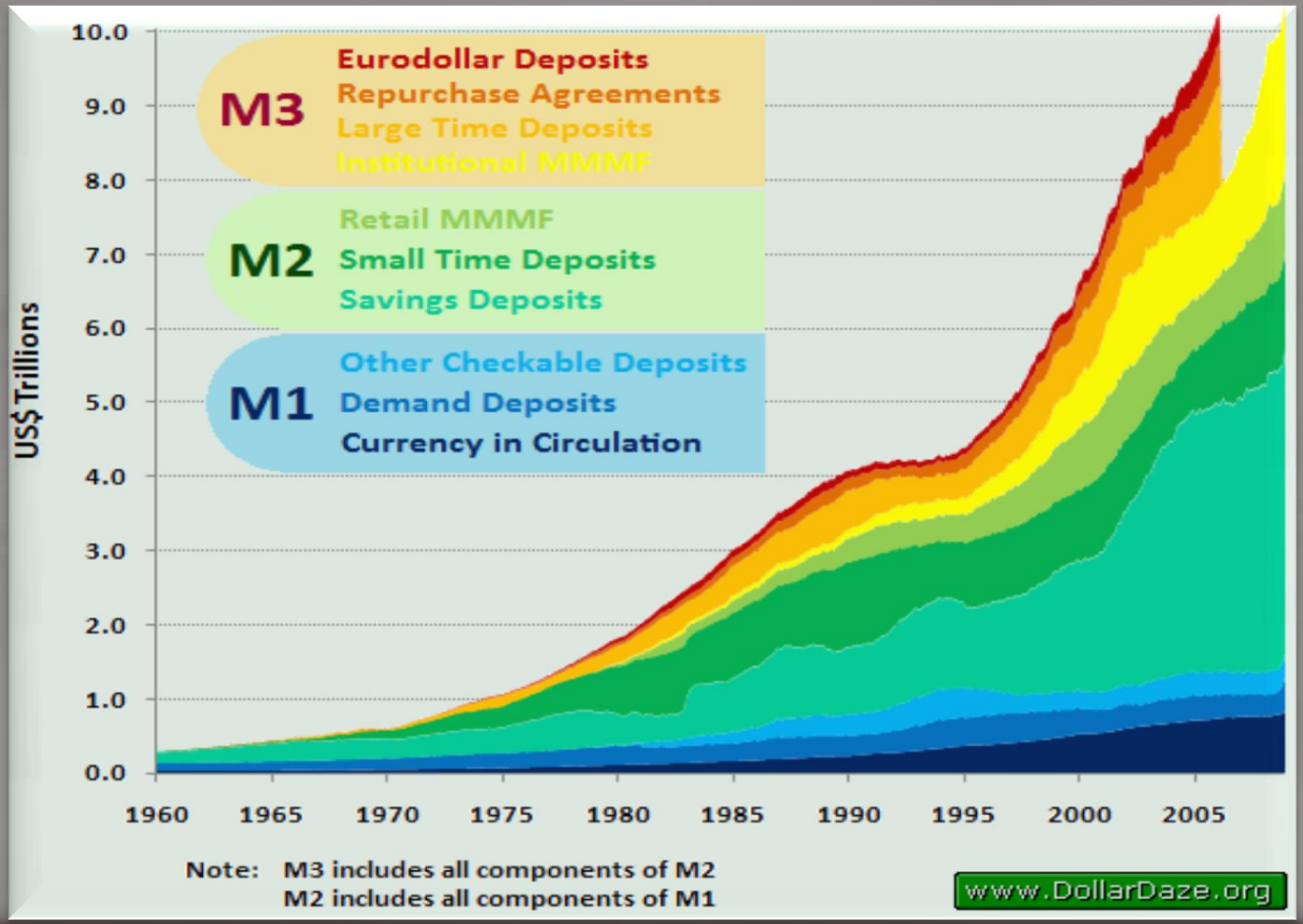


Chart: Components of the Money Supply Over Time



Example: Components of the Money Supply

When someone deposits cash or coins in a bank, they are changing the *composition* of the money supply, not its size.

Creation of Money

- Currency is printed by the Bureau of Engraving and Printing (Treasury Department, which has facilities in Fort Worth and DC.
- Coins are minted by the US Mint in Philadelphia, West Point, San Francisco or Denver.

Deposit Creation

- When a bank lends someone money, it simply credits that individual's bank account.
- **Deposit creation** is the creation of transaction deposits by bank lending.

Deposit Creation

When a bank makes a loan, it effectively creates money because transaction-account balances are counted as part of the money supply.

Deposit Creation

- There are two basic principles of the money supply:
  - Transaction-account balances are a large portion of our money supply.
  - Banks can create transaction-account balances by making loans.

Bank Regulation

- The deposit-creation activities of banks are regulated by the government.
- The Federal Reserve System limits the amount of bank lending, thereby controlling the basic money supply.

Deposit Creation

- A student deposits $100 from his/her piggy bank into the bank and opens a new checking account.
- The bank loans the $100 to Campus Radio station by crediting its checking account.
- Money has been created because checking accounts are money.

Example: Money Creation

University Bank

Assets	Liabilities
+$100.00 in coins	+$100.00 in deposits

Money Supply

Cash held by the public	-$100
Transaction-deposits at bank	+$100
Change in M	0

Example: Money Creation

University Bank

Assets	Liabilities
+$100.00 in coins	+$100.00 in your account
+$100 in loans	+$100.00 in borrower's account

Money Supply

Cash held by the public	same
Transaction-deposits at bank	+$100
Change in M	+$100

The T-Account of the Bank

- **T-Account** - an informal term for a set of financial records that use double-entry bookkeeping.
- The term T-account describes the appearance of the bookkeeping entries, with the account title appearing just above the T, the debits listed under the top line of the T on the left side and the credits listed under the top line of the T on the right side. (See University Bank's T-account on the previous 2 slides.)
- The credits and debits on each side of a bank's T-account must always match because all of the assets of the bank must belong to someone (its depositors or its owners).

Constraints on Deposit Creation

- There are three major constraints on deposit creation:
  - **Deposits** – Consumers must be willing to use and accept checks rather than cash.
  - **Borrowers** – Borrowers must be willing to borrow the money that banks provide.
  - **Regulation** – The Federal Reserve sets the ceiling on deposit creation.

Fractional Reserves

- **Bank reserves** are assets held by a bank to fulfill its deposit obligations.
- Bank reserves are only a fraction of total transaction deposits.
- The **reserve ratio** is the ratio of a bank's reserves to its total deposits.

$$\text{Reserve ratio} = \frac{\text{Bank reserves}}{\text{Total deposits}}$$

Fractional Reserves

The Federal Reserve System requires banks to maintain a minimum reserve ratio defined by the Fed.

Continued in Money and Banking Part II