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Why Do We Use Currency?

- Currency is a **medium of exchange**
 - This means that currency is the intermediate commodity between transactions
 - Instead of **bartering**, we can use currency for exchange
 - * Problems with bartering
 1. **Double Coincidence of Wants** = both parties must actively want each others goods
 - Currency fixes this, as one person can desire a good, and the seller can desire the purchasing power associated with some amount of money
 2. Some goods cannot be split into smaller denominations
 - Currency fixes this by being offered in everything from pennies to hundred dollar bills
- **Wealth** = the totality of someone's assets
 - Assets include
 - * Land
 - * Capital
 - * Labor power
 - *You damn commie*
- **Income** = the rate at which someone's wealth changes with time

Commodity Currency vs Fiat Currency

- **Commodity currency** = a system of currency where the item of exchange has **intrinsic utility** to people
 - **Intrinsic utility** = a use or benefit that exists *within* the item of exchange
 - *e.g.*
 - * Slips of paper that can be turned in at any time for food or water
 - * Gold standard
 - The intrinsic utility of gold is doubtful, but I guess some people are stupid and like shiny things
- **Fiat currency** = a system of currency where the item of exchange has only **extrinsic utility** to people
 - **Extrinsic utility** = a use or benefit that exists *externally* to the item of exchange

- * This means that money is not useful in and of itself—aside from maybe warmth if you burn it
- *e.g.*
 - * Basically every modern economy(USD, Euro, British pound, etc)
 - * I.O.U.'s

Three Functions of Currency

1. **Medium of exchange** = the currency can be easily used to purchase goods and services
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2. **Unit of account** = producers use the currency to broadcast the prices of their goods or services
 - If all the shops are charging for shekles, you're going to be justifiably confused
3. **Store of value** = the currency can be saved
 - Explains why spoilable goods do not make for good currency

What Makes for a Good Currency?

1. **Widely accepted** = similar to the “unit of account” idea
 - Fiat currency is valuable if we all think it is
2. **Scarcity** = cannot be easily reproduced
3. Dividable into smaller denominations
 - **Purchasing power** = the amount of goods and services a unit amount of currency can purchase
 - **Inflation/Deflation** = the process of changing purchasing power with time
 - Can be caused by all kinds of things

Liquidity

- **Liquidity** = the difficulty by which an asset can be used as a medium of exchange
- Three levels
 1. **M1(Highest liquidity)**
 - *e.g.*

- * Circulating currency
 - * Checking accounts
 - 2. **M2(Near-Moneys)**
 - *e.g.*
 - * All of M1
 - * Invested currency
 - 3. **M3(Unliquid)**
 - *e.g.*
 - * Assets that cannot be easily transferred
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The Financial Sector

- **Financial sector** = a web of entities that link people who want to borrow with people who want to lend
 - *e.g.*
 - * Banks
 - * Mutual funds
 - * Pension funds
 - **Assets** = anything tangible or intangible that is owned
 - **Liability** = outstanding debts or obligations
 - **Loan** = an agreement between a lender and a borrower to give some assets from the lender to the borrower
 - * Typically is associated with an **interest rate**

Personal Finance vs Investment

- This class is focused on Macroeconomics, so **personal finance** isn't really covered
 - **Personal finance** = the method by which individuals and small economic units allocate assets to be spent and saved
- The business equivalent of spending is **investment**
 - This grows capital stock and increases real GDP

Bonds vs Stock

- **Bond** = an agreement where individuals or small economic units lend assets to a larger institution (*e.g.* the government)
 - Owning a bond is like owning a promise that the money will be paid back in the future, with interest
 - These investments hold little risk, so their interest rate is smaller
 - * If interest rate of bond market *decreases*, then demand for current bonds will decrease, and older bonds will raise in demand
 - Bonds do **not** transfer a stake in the organization
 - * Rather, it's just debt
- **Stock** = an agreement where economic entities purchase a proportion of ownership of a private enterprise
 - This kind of investment is more risky
 - * Because the company you are investing in could be successful or unsuccessful
 - Different from **bonds** because return on investment is not guaranteed
- **KEY POINT:** bond price and interest rates are inverseley related

Time Value of Money

- Essential idea is that money *now* has a different value from money in the future
- This can be thought of in a few ways
 - **Interest rates:** there's an opportunity cost associated with using the money now rather than saving
 - **Human psychology:** I want it all and I want it now
 - * *plz.*
- Present value of money

$$Present\ Value = \frac{P}{(1 + R)^N}$$

- where P is principle, R is rate per compound iteration, and T is the number of times that the principle compounds over the time period
- Future value of money

$$Future\ Value = P(1 + R)^N$$

- where P is principle, R is rate per compound iteration, and T is the number of times that the principle compounds over the time period

Demand For Money

- **Transaction demand for money** = there is some level of current demand for everyday transactions
 - People need a medium of exchange for daily necessities
- **Asset demand for money** = there is some level of current demand for less liquid assets
 - This is because non-liquid assets are less risky
 - * There is an inverse relationship between liquidity and risk

Interest Rates and Demand For Money

- As interest rates increase, the opportunity cost of immediate consumption is higher
 - So, people invest in lower-liquidity assets
- As interest rates decrease, the opportunity cost of immediate consumption is lower
 - This is because putting away money to accrue interest won't give you much return
- In general, there is an inverse relationship between interest rates and quantity of money demanded
- Shifters of money demand curve
 1. Inflation/Deflation
 - If prices suddenly change, your saving habits change, and demand for money changes
 2. Changes in income
 - If income changes, your saving habits change, and demand for money changes
 3. Changes in technology

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Money Supply

- The **federal reserve** tries to change interest rates by manipulating **money supply**

- **Money supply** = the total amount of currency in an economy
- On the interest rates vs quantity graph, it is vertical
 - * Similar to LRAS
- The equilibrium point is where money demand(MD) and money supply(MS) intersect
- This tool is called **monetary policy**
 - * A right shift is an *increase* in the money supply
 - * A left shift is a *decrease* in the money supply



Figure 1: Money Supply/Demand Graph

Money Supply and Aggregate Demand

- Because the demand for money(MD) is downward sloping, a change in money supply creates a new equilibrium point
 - The new interest rate will change the rate at which businesses invest
 - * This shifts aggregate demand
- An increase in MS causes
 1. A lower equilibrium interest rate
 2. More investment
 3. Higher AD
 4. Lower unemployment
 5. Higher price level
- A decrease in MS causes
 1. A higher equilibrium interest rate
 2. Less investment
 3. Lower AD
 4. Higher unemployment
 5. Lower price level

Fractional Reserve Banking

- **Fractional reserve banking** = the practice of banks using its customers deposits as the source for loans
 - Usually isn't a problem, because people only occasionally come to withdraw
 - * But, if a massive recession hits, and everyone goes and demands their deposits, that would be a problem
 - This situation is called a **bank run**
 - Banks are required by law to hold at least some percentage of deposits available
 - * This amount is called the **required reserves**
 - * The remaining assets that can be loaned are called the **excess reserves**
- **Demand deposits** = an event where some economic entity deposits currency into a private checking account
 - Bank thinks to itself: *ooooooooohh, I won't lend this to idiots. Probably*
 - * Really the bank planned on loaning it to idiots the whole time
- **Balance sheet** = a metric of the net wealth of a bank
 - Considers

- * Assets
- * Liabilities
- * Net worth