

### Chapter 2: Production Possibilities Frontier

The PPF is a graph that shows the various combinations of output that the economy can possibly produce given the available factors of production and the available production technology that firms use to turn these factors into output.

The two endpoints represent extreme possibilities (if the economy uses all of its resources in one industry).

If the point is outside of the PPF then it is unobtainable with the technology and resources available. In order to expand the PPF, there must be new technology or more resources.

If the point is within the PPF, then it is an inefficient outcome because the economy is producing less than it could be from the resources it has available. This could be due to unemployment.

If the point is on the PPF, then it is an efficient outcome because the economy is utilizing all of its available resources

### Chapter 5: GDP and Measuring Well-Being

GDP measures the total income of a nation, and is thought to be the best measure of a society's economic well-being. It measures total income + total expenditure

It is the market value of all final goods + services produced within a country in a given period of time. So, it uses market prices to measure the value of economic activity, excludes illegal items and items produced + consumed at home, and only deals with goods + services currently produced.

GDP = Consumption + Investment + Government Purchases + Net Exports (Y = C + I + G + NX)

### Chapter 5: GDP and Measuring Well-Being (cont)

Consumption includes spending by households on goods + services, including durable and nondurable goods as well as education. Investment includes the purchase of capital goods which will be used in the future to produce more goods and services (structures, equipment, intellectual property products).

Real GDP uses prices fixed at past levels. Nominal GDP is the production of goods and services valued at current prices.

The GDP Deflator reflects only the prices of goods and services, and is found with:  $(\text{nominal gdp}/\text{real gdp}) \times 100$

The inflation rate is the percentage change in some measure of price from one period to the next, and is found with:  $\text{ir} = \frac{y_2 - y_1}{y_1} \times 100$

Issues with GDP: some goods don't have a market value (housing previously constructed, aircraft carriers), there are some productive activities not included in GDP (blogs, illegal activities, and household production)

Per capita GDP is used to see the standard of living - but some things aren't included: leisure (and lack of leisure increases GDP), goods and bads are treated the same, environmental damage caused by goods, and income inequality.

The Human Development Index (HDI) measures knowledge, life expectancy, and standard of living.

### Chapter 9: Present Value + Risk

Present Value =  $\text{Future Value}/(1 + \text{Rate})^{\text{Time}}$

Rate =  $(\text{Future Value}/\text{Present Value})^{1/\text{Time}} - 1$

A fair gamble is when the expected payoff equals the certain value. The risk averse rejects a fair gamble - the expected payoff must be greater than the certain value.

As wealth rises, happiness (utility) increases at a decreasing rate, making us risk averse.

When it comes to insurance, a high-risk person benefits more, causing adverse selection. Insurance also disincentives good behavior, causing moral hazard.

In order to avoid moral hazard, deductibles and penalties are put into place for accidents.

When diversifying stocks, there are two types of risk: firm-specific and market. You have to consider the expected return versus the risk of investing.

The Efficient Markets Hypothesis states that given people form rational expectations, security prices reflect all available info, and therefore the Price always equals the Value.

Those who think that the stock is undervalued are the buyers and those who think that it is overvalued are the sellers, which balances out to uphold the EMH.

Weak Form Efficient (technical analysis): Today's P reflects all info from historical P, Semi-Strong Form Efficient (fundamental analysis): Today's P reflects all publicly available info, and Strong Form Efficient: Today's P reflects both public and private info



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### Chapter 12: Quantity Theory of Money + Inflation

Prices rise when the government prints too much money.

### Chapter 3: Trade

Trade allows people to specialize in what they do best, allowing both parties to consume outside of their PPF.

Absolute advantage goes to the producer that requires a smaller quantity of inputs to produce a good.

Comparative advantage deals with the opportunity cost of producing one good over the other.

It is possible for a producer to have an absolute advantage in both goods but the producers must each have comparative advantage in one good.

For both parties to gain from trade, the price at which they trade must lie between their opportunity costs

### Chapter 6: CPI

CPI is a measure of the overall cost of the goods and services bought by a typical consumer.

To calculate it: 1) fix the basket by surveying customers to see what they buy, 2) find the prices for the goods and services in the basket at different times, 3) total up the basket's price for each year, 4) choose the base year and compute the index, and 5) compute the inflation rate

$CPI = (\text{current year price} / \text{base year price}) \times 100$  and  $y2 \text{ inflation rate} = ((y2 \text{ CPI} - y1 \text{ CPI}) / y1 \text{ CPI}) \times 100$

The core CPI is all goods and services except food and energy, and the Producer Price Index (PPI) is the cost of a basket bought by firms.

### Chapter 6: CPI (cont)

Problems in measuring the cost of living include substitution bias (a fixed basket ignores substitution), new products bias (increased variety = lowered cost), and quality bias (quality is hard to measure).

The GDP deflator is a ratio of nominal GDP to real GDP, and reflects the current level of prices relative to the level of prices in the base year.

The GDP deflator refers to domestically produced current goods and the CPI refers to a fixed basket of goods bought by consumers.

$\text{Value in \$ today} = \text{value in yr T} \times (\text{CPI today} / \text{CPI yr T})$   
 $\text{Real Value} = (\text{nominal value yr T} / \text{CPI yr T}) \times 100$

Indexation is correcting an amount for inflation and it is used for things like social security.

Real interest rates are corrected for inflation while nominal interest rates reflect the change in dollar amounts.  $\text{Real IR} = \text{Nominal IR} - \text{Inflation}$

### Chapter 10: Unemployment + the Job Search

Unemployment measures the strength/weakness of the labor market through establishment and household surveys.

The Civilian Non-Institutionalized Potential Workers (CNIP) includes everyone who is above 16 and not in prison or the military.

Employed = any amount of paid work, unpaid family business work, or temporary leave. Unemployed = actively seeking a job within the past 2 weeks but not employed, or on recall.

### Chapter 10: Unemployment + the Job Search (cont)

Natural (noncyclical) employment is normal. Frictional is short-term unemployment caused by switching jobs or sectoral shifts. Structural unemployment means there is an insufficient number of jobs for people who want one, or a skills mismatch.

Cyclical unemployment is unemployment that deviates from the natural rate.

Frictional unemployment can be valuable because it allows people to find a match. Policies that reduce frictional unemployment include employment agencies or skills training, and a policy that increases it is unemployment insurance.

In a frictionless market, firms and workers have perfect info and firms can instantly hire or fire workers. This is not realistic.

### Chapter 13: Open-Economy Macroeconomics

$\text{Net exports} = \text{the value of exports} - \text{the value of imports}$

if there is a trade surplus, NX is positive, and if there is a trade deficit then NX is negative.

Factors that influence exports, imports, and net exports include the exchange rate, government policies, incomes, and transportation costs.

$\text{Net capital outflow} = \text{purchase of foreign assets by domestics} - \text{purchase of domestic assets by foreigners}$

There are two forms of investment: portfolio (stocks + bonds) and direct (buying property/factories etc.).

Factors that influence the flow of financial assets include the real interest rate of bonds, government policies, and risks vs. return.



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### Chapter 4: Supply + Demand

A market is a group of buyers and sellers of a particular good or service. The buyers determine demand and the sellers determine supply.

In a perfectly competitive market, there are so many buyers and sellers that each one has a negligible impact on the market price, no one entity controls the price, there are identical goods, and there is an easy entry and exit into the market.

The law of demand states that the quantity demanded of a good falls when the price of a good rises. The quantity demanded is the amount of a good that buyers are *willing and able* to purchase.

If demand for a good falls when income falls, the good is normal. If demand for a good rises when income falls, then it is an inferior good.

When a fall in the price of one good reduces demand for another good, they are substitutes. When a fall in the price of one good raises the demand for another good, they are complements.

Variables that influence buyers include: the price of the good, income, prices of related goods, tastes, expectations, and the number of buyers.

The law of supply states that other things being equal, when the price of a good rises, the quantity supplied also rises, and vice versa. This is because as the price increases, there's more incentive to join the market and it is easier to turn a profit.

Shifts in the supply curve can be caused by: input prices, technology, expectations, and number of sellers.

Surplus = quantity supplied > quantity demanded, Shortage = quantity demanded > quantity supplied

### Chapter 8: Loanable Funds Market

The loanable funds market is the supply-demand model of the financial world.

Loanable funds include all income that people have chosen to save and lend out as well as the amount that investors borrow to fund new projects, and are supplied by private, public, or foreign sources.

Saving is the source of the supply for loanable funds, while investment is the source of the demand.

The interest rate is the price of a loan, representing the amount that borrowers pay for loans and the amount that lenders receive on their savings.

Because a high interest rate makes borrowing more expensive, as the interest rate rises the quantity demanded falls. But because a high interest rate makes saving more attractive, the quantity supplied rises with the interest rate.

There will be none of the  $S=I$  identity equations on this exam.

### Chapter 11: Monetary Policy

Money serves 3 functions: a medium of exchange, a unit of account, and a store of value.

Anything can serve as money as long as it is socially acceptable, of standardized quality, valuable relative to its weight (easily transferrable) and divisible.

Bartering requires a double coincidence of wants (finding someone who has what you want and wants what you have).

M1: currency, demand deposits, etc. M2: all of M1, time deposits, savings, money market accounts

Banks only hold a fraction of your money in reserve. They want to hold onto as little as possible because they want to loan out as much as possible.

### Chapter 11: Monetary Policy (cont)

The Fed's Tools are: open market operations, discount policy (rate when banks borrow from the fed), required reserves, and interest on reserves.

The Fed's Instruments are: the federal funds rate (the interest rate for loans between banks), and private bank reserves.

The Fed's Targets are: long-term interest rates and the money supply.

The Fed's Goals are: price stability, high employment, economic growth, and stable financial needs.



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