**Macroeconomics**

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**Chapter 1. Introducing the Economic Way of Thinking**

-economics- science of choice; how society will allocate its scarce resources to satisfy unlimited wants

-scarcity- the condition in which human wants are forever greater than the available supply of time, goods, and resources; affects individuals, governments, societies

-what combination of goods and services to produce, how to produce them, who is going to get them

-macroeconomics- decision making for the economy as a whole; business cycle, and what the government can do to smooth out these fluctuations to promote full employment, and economic growth, and minimize inflation

-microeconomics- studies decision making for an individual, household, firm, industry, or level of government

1. What to produce- mix of goods and services; scarcity
2. How to produce- existing technology and resources; resources, factors of production, inputs: A) land- any natural resource provided by nature, above or below ground B) labor- mental and physical capacity of workers, number and skills, education, health, experience C) capital- human-made good used to produce; plants, machinery, equipment, roads, bridges; not financial capital, entrepreneurs
3. For whom to produce- how the economic pie is divided, might be decided by government
4. Identify the problem
5. Develop a model- simplified assumptions, theory
6. Gather data and test- forecast or predict
7. Formulate a conclusion
8. Ceteris paribus assumption- while certain variables change, all others remain unchanged
9. Causation and correlation- if one event follows another event, like stock market, does not mean that it caused the other event

-economist agree, free trade good, deficit spending good to get out of recession, private healthcare bad

-efficiency- producing best combination of goods and services and maximizing production

-equity- fairness in way production is distributed to members of society

-trade-off, foreign companies, environment, income taxes, international trade

-positive economics- objectively deals with facts that can be tested, what is true or false about how economy works

-normative economics- subjective, what ought to be, value judgements, cannot be proven true or false

-art of economics is applying knowledge gained from positive economics to formulate policies to enact goals of what ought to be in normative economics

**Chapter 2. Production Possibilities, Opportunity Cost, and Economic Growth**

-production possibilities model- scarcity means that society’s capacity to produce combinations of goods is constrained by its limited resources and technology 1) fixed resources, consumer goods or capital goods 2) fully employed resources 3) fixed technology

-opportunity cost- the next best alternative that was sacrificed when making a choice

-because of scarcity, the 3 basic questions cannot be answered without sacrifice or cost; scarcity choice and cost

-marginal analysis- examines the effects of incremental additions to or subtractions from a current situation

-rational decision maker- decides on an option only if the marginal benefit exceeds the marginal cost

-production possibilities curve- shows the maximum combinations of 2 outputs that an economy can produce in a given period of time with its available resources and technology; each point represents the maximum production possible with existing resources and technology

-productive efficiency- occurs when society produces the most it can with existing resources and technology; a situation where more of one good can only be produced by producing less of another good; all points maximum production, all points productive efficient; point inside is inefficient production, point outside is currently unattainable

-scarcity limits an economy to points on or below its production possibilities curve

-allocative efficiency- occurs when society allocates, or channels, its limited resources into the production of those products which are most desired by society; only 1 point

-law of increasing opportunity costs- opportunity cost rises because workers are not equally suited to making both tanks and sailboats; holding the stock of resources and technology constant, ceteris paribus, the law of increasing opportunity costs causes the production possibilities curve to display a bowed-out shape

-international trade and finance, no increasing opportunity costs, straight line PPC

-economic growth- PPC shifts outward, ability of an economy to produce greater levels of output

-increase in resources: more natural resources (land), baby boom (labor), more factories (capital), PPC shift outward

-reduction in resources: fire destroying lumber (land), pandemic casualties (labor), destruction factories war (capital), PPC shift inward

-increase productivity of existing resources, shifts PPC outward, labor health education and training

-technological change, invention, innovations of entrepreneurship, shifts PPC outward

-training for one good does not crossover to training for another good  
-choosing between capital goods and consumer goods, the output combination for the present period can determine future production capacity

-depreciation- just enough capital produced to replace the capital being worn out each year

-sacrificing consumers goods for capital production causes a lower standard of living

-long-run benefit from accumulation of capital, and short-run opportunity cost from sacrificing consumer goods

-public capital- roads and bridges, green technology, education; higher productivity and/or higher living standards

-investment- accumulation of capital like factories and machinery and inventories, used to produce goods and services

**Chapter 3. Market Demand and Supply**

-market economy- goods and services are bought and sold by individuals coming together as buyers and sellers in markets

-demand curve- a curve or schedule showing the different quantities of a product consumers are willing to purchase at various prices during a specified period of time, ceteris paribus; find quantity demanded at any selling price

-law of demand- inverse relationship between the price of a good and the quantity consumers are willing to purchase during a given period of time, ceteris paribus; negative slope, decrease in price (vertical axis) causes an increase in quantity demanded (horizontal axis)

-market demand- horizontal sum of individual demand schedules

-change in quantity demanded- movement along points on a stationary demand curve, ceteris paribus, that results from a change in price of the product

-change in demand- increase, rightward shift, or decrease, leftward shift, in the quantity demanded at every possible price

**Change in Demand, Nonprice Determinants**

1. ***Number of buyers***

-direct; population growth increases number of buyers and shifts demand curve rightward, trade restrictions imposed by other nations decreases the number of buyers and shifts the demand curve leftward

1. ***Tastes and preferences***

-direct; fads fashions advertising and new products, Covid 19 (gyms leftward, exercise bikes rightward)

1. ***Income***

-normal good- good with a direct relationship between changes in income and demand curve, new cars

-inferior good- good with an inverse relationship between changes in income and demand curve, used cars

1. ***Expectations of buyers***

-direct; war and gas prices, increases demand now

1. ***Prices of related goods***

-substitute good- competes with another good for consumer purchases; direct relationship between price for one good and demand for its substitute

-complementary good- jointly consumed with another good; inverse relationship between price for one good and demand for its complement

-change in price of good causes a change in quantity demanded, movement along demand curve; change in nonprice determinants causes a change in demand curve, shifts outward or inward

-supply- relationship between various prices and quantity supplied

-law of supply- positive slope, direct relationship between price of a good and the quantity sellers are willing to supply in a given time period, ceteris paribus; increase in price leads to increase in quantity supplied

-supply curve- quantity supplied, horizontal axis, and price, vertical axis; different quantities of a product sellers are willing to produce and offer for sale at various prices

-change in quantity supplied- movement along stationary supply curve, ceteris paribus, that results from a change in price of the product

-market supply curve- horizontal summation of individual supply curves for suppliers in the market

**Change in Supply, Nonprice Determinants**

-increase or decrease in quantity supplied at each possible price

1. ***Number of sellers***

-direct, drought reduces sellers, trade barriers can increase or decrease

1. ***Technology***

-direct, shifts supply curve to the right

1. ***Resource prices***

-inverse, natural resources, land, capital, entrepreneurship

-increase in labor costs shifts supply curve leftward, reduction in production costs shifts supply curve rightward

1. ***Expectations of sellers***

-inverse, war suppliers hold more oil to sell at higher prices later, shifting supply curve leftward; farmers anticipate drop in prices will sell more now, shifting supply curve rightward

1. ***Prices of other goods the firm can produce***

-inverse, price of corn increase because demand for ethanol increases, corn supply curve will shift rightward, wheat supply curve will shift leftward, higher opportunity cost of producing wheat

-changing the price of a good causes movement along the supply curve, change in quantity supplied, changes in nonprice determinants causes a change in supply, shift in curve

-market- any arrangement in which buyers and sellers interact to determine the price and quantity of goods and services

-surplus- market condition existing at any price where quantity supplied is greater than quantity demanded

-shortage- market condition existing at any price where quantity supplied is less than quantity demanded

-equilibrium- occurs at any price and quantity where quantity demanded and quantity supplied are equal; intersection of supply curve and demand curve

-price system- mechanism that uses the forces of supply and demand to create equilibrium through rising and falling prices; plays a rationing role because the prices established in markets distribute scarce and limited goods and services only to those willing and able to pay at prevailing market prices

-increase in demand causes an increase in equilibrium price and quantity; first demand curve shifts outwards, then increase in quantity supplied leads to a decrease in quantity demanded, increasing price and quantity

-increase in babysitters causes supply curve to shift outwards, leads to a decrease in price, and movement down demand curve and supply curve, lower price and greater quantity

**Curve Shifts**

| **Change** | **Equilibrium price** | **Equilibrium quantity** |
| --- | --- | --- |
| Demand increases | increases | increases |
| Demand decreases | decreases | decreases |
| Supply increases | decreases | increases |
| Supply decreases | increases | decreases |

-simultaneous changes in supply and demand, use chart

**Chapter 4. Markets in Action**

-in a competitive market, the equilibrium is an efficient use of resources

-efficiency, society doing the best it can with existing resources and technology

-rational decision maker decides on an option only if marginal benefit, consumer preferences, exceeds marginal costs, opportunity cost

-demand is marginal benefit, supply is marginal cost

-demand curve, consumers’ willingness to pay for a product, marginal benefit curve

-supply curve, minimum price necessary for producers to cover the opportunity cost of production and offer a product for sale, marginal cost curve

-competitive equilibrium market, efficient, MB = MC

-market failure, when market equilibrium results in too few or too many resources being used in the production of a good or service

-Consumer surplus represents the benefit consumers receive from buying a good or service, while producer surplus represents the benefit producers receive from selling it. Together, they form the total economic surplus in a market. Consumer surplus is the difference between what consumers are willing to pay and what they actually pay. Producer surplus is the difference between what producers receive and what they are willing to accept for their goods.

-consumer surplus is the area below the demand curve and above the market price line

-producer surplus is the area above the supply curve and below the market price line

1. Lack of competition- businesses seek to replace consumer sovereignty with big business sovereignty; by restricting supply through artificial limits on the output of a good, firms can enjoy higher prices and profits, so these firms waste resources and slow technology and innovation; if firms reduce competition by colluding to restrict supply, there is an inefficient equilibrium with artificially high price and too few resources devoted to the production of the good
2. Externalities- side effects, cost or benefit imposed on people other than the consumers and producers of a good or service; spillovers, spillover effects, neighborhood effects; third parties; external cost or negative externality (overallocation of resources, supply curve fails to consider external costs, low price and high quantity), and external benefit or positive externality (underallocation of resources, demand curve fails to include external benefits, price low and quantity low)
3. Public goods- private goods are produced through the price system; 1) users collectively consume the benefits 2) free riders, nonexclusive, there is no way to bar people who do not pay from consuming the public good; if public goods are only available in the marketplace, people wait for someone else to pay, and there is an underproduction or 0 production of the public good

**Policies to Correct Market Failure**

1. Regulation- laws for workplace safety, protecting the environment, banking; regulation is used to override market inefficiencies
2. Price controls- A) price ceiling- legally established maximum price a seller can charge; rent controls, essential service, results in a shortage, set above equilibrium price is ineffective; opportunity cost of waiting lists to avoid higher prices, and black market; 1) cuts maintenance expenses reducing long-term quantity supplied 2) discriminatory practices like pet ownership or family size B) price floor- legally established minimum price as seller can be paid, minimum wage, results in surplus; set below equilibrium price is ineffective
3. Taxes and subsidies- tax shifts supply curve leftward and raises price and reduces quantity; subsidy shifts demand curve rightward, raises price and increases quantity

**Chapter 5. Gross Domestic Product**

-business cycle, expansion and contraction

-no accounting prior to Great Depression, Kuznets published report in 1934 on national income accounting

-gross domestic product, GDP- market value of all final goods and services produced in a nation in 1 year; excludes production abroad by U.S. businesses; counts only new domestic production, counts only final goods and services

-changes in GDP affect employment, incomes, further spending, standards of living

-no secondhand transactions (used cars) or nonproductive financial transactions (transfer payments, private gifts, or stocks and bonds)

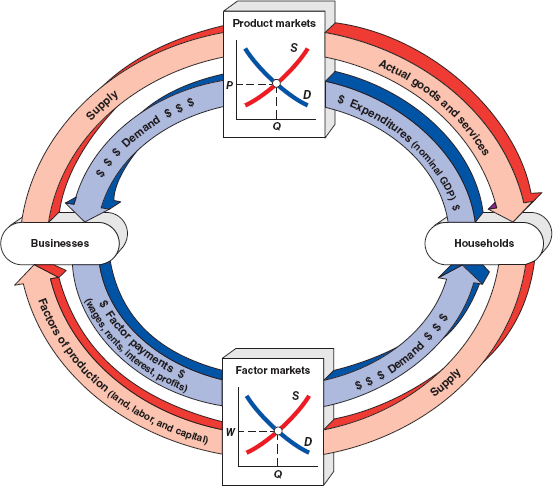
-double counting- counting inprocess goods and services, no intermediate goods (resources), non wholesalers, only final sales to consumers

-circular flow model- shows the exchange of money, products, and resources between households and businesses; goods and services flow clockwise, payments flow counterclockwise

-upper half is product markets, where households exchange money for goods and services produced by firms; red supply arrow represents all finished goods and services delivered to consumers by businesses; blue demand arrow represents why businesses make this effort to satisfy households

-bottom half is factor markets, where firms demand the natural resources labor capital to produce the goods and services sold in the product markets; red supply arrow represents flow of resources from households to firms; blue demand arrow represents flow of money payments to households for these resources

-model assumes no savings by households, they spend all their money in the factor market on products



-arrows are flows, not stocks; all measurements in circular flow model are flows, not stocks

-flows- rate of change in a quantity during a given time period, units per time period

-stocks- quantity measures at one point in time

-expenditure approach- measures GDP by adding all the spending for final goods during a time period; GDP = C + I + G + (X - M)

1. Personal consumption expenditures, C- spending by households, durable goods, nondurable goods, services; largest category, nondurable used up in 3 years, service is largest part
2. Gross private domestic investment, I- spending by firms, fixed investment, change in business inventories; no personal investments in stocks or bonds
3. Government consumption expenditures and gross investment, G- federal, state and local; no transfer payments like welfare, state and local far exceed federal; police and teachers, tanks, buildings, bridges
4. Net exports of goods and services, X-M- spending by foreigners, exports X, imports M; higher exports than imports increases GDP; since 1983, U.S. is net importer

-fixed investment- expenditures for newly produced capital goods, such as commercial and residential structures, machinery, equipment, tools, computers

-change in business inventories- net change in spending for unsold finished goods

-income approach- measures GDP by adding all the incomes earned by households in exchange for the factors of production for a time period

-GDP = compensation of employees + rents + profits + net interest + indirect taxes + depreciation (capital consumption allowance)

-as shown in circular flow model, each dollar of expenditure paid by households to businesses in the product market means a dollar of income flows to households through the factor markets as payment for resources; money does not disappear in the economy

-compensation of employees- largest account, 55%, supplements consist of employer taxes for social security and unemployment insurance; fringe benefits from private health insurance and pension plans

-rental income- smallest source

-profits- 1) proprietors income, unincorporated businesses 2) corporate profits, before taxes, all income earned by stockholders regardless of whether they received it; dividends, undistributed corporate profits (retained earnings), and corporate income taxes

-net interest- difference between interest income earned and interest payments

-indirect business taxes- levied as a percentage of the prices of goods sold and therefore become part of the revenue received by firms; sales taxes, federal excise taxes, license fees, business property taxes, custom duties; are not income payments to suppliers of resources, rather firms collect indirect taxes for the government

-depreciation, consumption of fixed capital- portion of capital worn out producing GDP; portion of GDP not available for income payments, estimates not accurate amounts

**GDP Shortcomings**

-GDP was never meant to be a quality of life measure, because more production is not necessarily better, considering environmental impacts

1. Nonmarket transactions- unpaid activities, such as homemaker production, child rearing, and home repairs; GDP increases for laundromats, not at home laundry 1) hard to collect data and assign dollar value 2) which unpaid activities to include?; reason developing nations have lower GDPs than industrialized nations, because they do more at home work themselves
2. Distribution, kind, and quality of products- wealthy percentage, public goods
3. Neglect of quality of life- happiness variables such as leisure time; wealthier nations have more leisure time; life expectancy at birth, infant mortality rate, literacy rate
4. Underground economy- gambling, prostitution, loan-sharking, guns, drugs, tax evasion, criminal activities; trade and barter 9% of GDP
5. Negative externalities- pollution and environmental damage, GDP overstates nation’s wellbeing
6. GDP alternatives- include nonmarket work and leisure 1) Measure of Economic Welfare (MEW), discounts wasteful military spending, accounts for environmental damage, and leisure activities 2) Genuine Progress Indicator (GPI), income distribution 3) Human Development Index (HDI), life expectancy and education 4) Happy Planet Index (HPI), no measure of market transactions, rather health systems, schools, and environmental sustainability
7. National income NI- GDP - depreciation
8. Personal income PI- total income received, not earned; NI - corporate profits - social security contributions (FICA) + transfer payments
9. Disposable personal income DI- income to spend after taxes, PI - personal taxes

-nominal GDP- value of final goods and services based on prices during time period; current dollar or money GDP; grows in 3 ways 1) output rises with constant prices 2) prices rise and output is constant 3) both output and prices rise, typical

-real GDP- value of all final goods and services produced based in prices from a base year; constant dollar GDP, considers inflation and deflation, comparisons over time

-GDP chain price index- compares changes in prices of final goods and services to a base year; broad deflator index calculated with chain-weighted geometric series

-when GDP chain exceeds 100, prices have risen, causing real purchasing power of dollar to fall

-nominal GDP increases faster than real GDP because of inflation

Real GDP = nominal GDP/GDP chain price index x 100

**Chapter 6. Business Cycles and Unemployment**

-business cycle- alternating periods of economic expansion and contraction, market economies, rise and fall of real GDP, which mirrors changes in employment; changes in aggregate expenditures cause the business cycle and changes in real GDP

-peak, recession, trough, recovery

-peak- real GDP reaches its maximum after rising during a recovery, expansion or upturn, in a business cycle, on production possibilities curve

-recession- a downturn in the business cycle during which real GDP declines, business sales and profits fall, unemployment rises, and production capacity is underutilized; 2 consecutive quarters, 6 months, of decline in real GDP, inside production possibilities curve

-depression is deep and long recession

-trough- where the level of GDP bottoms out after falling during a recession; length of time between peak and trough is recession

-expansion- upturn in the business cycle during which real GDP rises

-economic growth- an expansion in national output measured by the annual percentage increase in a nation’s real GDP; increases our average absolute standard of living, bigger economic pie

-business cycle indicators- leading indicators, coincident indicators, lagging indicators

| **Leading Indicators** | |
| --- | --- |
| Average workweek | **Coincident indicators** |
| Unemployment claims | Nonagricultural payrolls |
| New consumer goods orders | Personal income minus transfer payments |
| Delayed deliveries | Industrial production |
| New orders for plant and equipment | Manufacturing and trade sales |
| New building permits | **Lagging indicators** |
| Stock prices | Unemployment rate |
| Money supply | Duration of unemployment |
| Interest rates | Labor cost per unit of output |
| Consumer expectations | Consumer price index for services |
|  | Commercial and industrial loans |
|  | Consumer-credit-to-personal-income ratio |
|  | Prime rate |

-leading indicators- government’s chief forecasting gauge for business cycles; variables that change before real GDP changes; Conference Board’s Consumer Confidence Index, survey of households for 6 months, consumer pessimism results is lower consumer spending, and lower business investment spending (I)

-coincident indicators- change at the same time real GDP changes; employment, personal income, industrial production, sales

-lagging indicators- change after real GDP changes; unemployment

-changes in total spending, aggregate expenditures or aggregate demand, cause variations in real GDP, final goods purchased by households

-Employment Act of 1946, amended by Full Employment and Balanced Growth Act of 1978, consistent with free competitive enterprise

-BLS, monthly survey of 60,000 households, working 1 hour for pay or 15 hours in family business unpaid, employed; unemployed is looking for work in the last month

-unemployment rate- percentage of people in the civilian labor force who are without jobs and are actively seeking jobs; babies, full-time students, and retired people are not counted as unemployed; ill or severely disabled

-civilian labor force- number of people 16 and older either employed or unemployed, excluding military, homemakers, discouraged workers, and others

-discouraged workers- have given up on looking for a job, have not looked for work in 6 weeks, but are willing to work

Unemployment rate = unemployed/ civilian labor force x 100

-highest unemployment rate was 25% in 1933 during Great Depression, lowest was 1.2% in 1944; 9.6% 2010, 8.2% 2020

-overstating unemployment rate- needed to be looking for a job for welfare, or employed in illegal activities

-understating unemployment rate- not counting discouraged workers, wants to work but has given up looking because no good job offers, turn to welfare for support; by BLS anyone who has looked for work in last 12 months, but is no longer looking, rises during a recession, underestimation increases during downturn; includes part-time workers as fully employed

-underemployment- taking a lower job, or getting hours cut, losses of work potential are greater during a recession, but are not counted in unemployment rate

-frictional unemployment- transitional or search unemployment, temporary unemployment caused by the time required for workers to move from one job to another, normal search time required by workers with marketable skills who are changing jobs, entering the labor force, or reentering the labor force, cause is either the transition time to a new job, or the lack of information required to match an applicant with immediately with a job vacancy, normal condition permitting freedom of job choice, internet job listings to disseminate information reduces frictional unemployment

-cyclical unemployment- lack of jobs during a recession, recessionary unemployment, most unacceptable form of unemployment, macroeconomic policy focused on reducing cyclical unemployment; no cyclical, at natural rate of unemployment

-structural unemployment- long-term or permanent, normal part of unemployment, caused by a mismatch of the skills of workers who are out of work and the skills required for existing job opportunities; require additional education or retraining; 1) lack of education; teenagers, poor, minorities 2) changes in consumer demand; textile workers, defense spending 3) technological advances; 4) globalization; outsourcing and offshoring; poor schools, changes in demand for products, new technology, worker immobility, foreign competition, geographic differences, restricted entry into jobs, shifts in government priorities; minimum wage contributes to structural unemployment, offer a subminimum wage for training

-outsourcing- company having its work done by a different company in another country

-offshoring- when a domestic company hires workers from another country to perform jobs once done by Americans

-natural rate of unemployment, full employment- situation in which an economy operates at an unemployment equal to the sum of the frictional and structural unemployment rates, that which exists without cyclical unemployment; 1960s, 4%; 1980s, 6%; 2020, 5%, 3% frictional and 2% structural

-in 60s and 80s, participation of women and teenagers in the workforce increased, higher unemployment rates than men; transfer payments make increase in unemployment rate not as painful

-GDP gap- when people in an economy are unemployed, society forfeits production; difference between actual real GDP and full-employment real GDP (potential real GDP); can be positive (boom) or negative (recession), measures the cost of cyclical unemployment

-negative GDP gap measures the economic cost of unemployment, which is the loss of potential goods and services that cant be realized

-people’s self-image suffers when they are unemployed, suicides, crime, mental illness, heart attacks, despair, fam ily breakups, political unrest

-the burden of unemployment is not felt evenly within our society

**Chapter 7. Inflation**

-full employment and economic growth, keep prices stable

-high unemployment and high inflation

-inflation- an increase in the general average price level of goods and services in an economy

-deflation- a decrease in the general average price level of goods and services in an economy

-not the price change of an individual product, basket of goods

-consumer price index CPI, cost of living index- changes in the average prices of consumer goods and services

-GDP chain price index, considers business and government purchases, CPI does not

-BLS, each month contact retail stores, homeowners, and tenants in cities for basket of goods prices; market basket of typical goods by urban family

-food housing apparel transportation medical care entertainment other

-33 cents out of every consumer dollar spent on housing, 17 cents on transportation; computers and phones have been added, base year changes every so often

CPI = current year/ base year x 100

-1982-1984 base year

Inflation Rate = (CPI current year - CPI previous year) / CPI previous year x 100

-inflation rate- percent change in CPI from one year to the next

-disinflation- reduction in the rate of inflation

-CPI criticism- 1) not actual market basket of goods; retired people buy more medical care, prices increase faster, inflation rate may understate the impact of inflation on retired people 2) changes in quality; when quality improves, increases in CPI overstate inflation; when quality deteriorates, inflation is understated 3) substitution bias problem, CPI will overstate impact for higher prices of oranges on the price level, use of a single-base year market ignores the laws of demand

-inflation can affect standard of living, bigger or smaller piece of the pie

-the greater the rate of inflation, the greater the decline in quantity of goods we can purchase with a given nominal income, money income

-nominal income- actual number of dollars received over a period of time; does not measure real purchasing power

-real income- actual number of dollars received, nominal income, adjusted for changes in the CPI; the amount of goods and services that can be purchased with one’s nominal income

-if CPI increases and nominal income remains same, real income falls, purchasing power

-if nominal income fails to keep pace with inflation, standard of living decreases

Real Income = Nominal Income / CPI (in decimal form, CPI/100)

-COLA, cost of living adjustment, union contracts

Salary in given year = salary in previous year x CPI given year/ CPI previous year

-measures of economic well-being- income and wealth

-income- flow of money earned by selling factors of production

-wealth- value of the stock of assets owned at some point in time; real estate, stocks, bonds, bank accounts, life insurance policies, cash, cars

-inflation benefits wealth holders because value of assets rises ad prices increase, houses

-nominal interest rate- the actual market rate of interest earned over a period of time

Real interest rate- nominal interest rate - inflation rate

-adjustable rate mortgages, ARMs- home loans that adjust the nominal interest rate to changes in an index, such as Treasury securities that reflect changes in inflation; subprime loan crisis

-hyperinflation- extremely rapid rise in the general price level; 100% per year 1) inflation psychosis, buy quickly today when prices are rising 2) jeopardizes debtor-lender contracts; credit cards, home mortgages, life insurance policies, pensions, bonds, savings 3) wage-price spiral 4) speculative investments that might yield higher returns, because future inflation rates are hard to predict 5) results from increasing money supply

-hyperinflation robs you of what you have now, savings, whereas recession robs you of what you might have had, higher standard of living if economy grew

-inflation rate for healthcare exceeds general inflation rate, 4.7% to 1.2% in 2020; healthcare expenditures were 9% of GDP in 1980, 18% of GDP in 2020; demand has increased faster than supply, due to growing and aging population and rising incomes and technological advances

-reasons for high healthcare costs 1) administrative costs 2) drug prices 3) defensive medicine to reduce malpractice 4) overutilization of expensive specialists 5) overuse of medically unnecessary expensive technology 6) price gouging 7) fraud and abuse

-common healthcare goals 1) maximize accessibility to healthcare, timely and appropriate manner 2) maximize public health outcomes, average life expectancy, infant mortality rates

-demand-pull inflation- a rise in the general price level from an excess of total spending, aggregate demand or aggregate expenditures; too much money chasing too free goods; occurs at full employment, economy at full capacity; total spending increasing faster than production

-cost-push inflation- a rise in the general price level resulting from an increase in the cost of production; OPEC price hike, increase in resource costs of production, or raising prices to increase profits

-expectations influence both

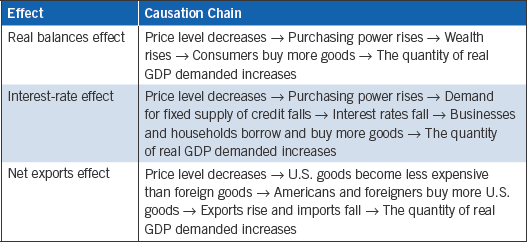
**Chapter 10. Aggregate Demand and Supply**

-AD curve- downward sloping, level of real GDP purchased by households, businesses, governments and foreigners (net exports) at different price levels during a time period, ceteris paribus; total dollar amount of goods and services demanded in the economy at various price levels

-horizontal axis market supply and demand curve measures physical units; horizontal axis AD and AS curve measures final goods and services, quantity of aggregate production demanded, measured in base-year dollars; vertical axis is index of overall price level measured by CPI

***Why AD Curve slopes downward***

1. Real balances effect- impact on total spending and real GDP caused by the inverse relationship between the price level and the real value of financial assets with fixed nominal value; consumers spend more on goods and services when prices fall because the purchasing power of their money increases
2. Interest-rate effect- impact on total spending and real GDP caused by the direct relationship between the price level and the interest rate; inflation causes interest rates to rise; higher interest rates discourage borrowing and spending and cause purchases to fall; assuming a fixed supply of credit money, an increase in the price level increases the demand for money and interest rates rise; with higher cost of borrowing, households and businesses borrow less and spend less, reducing AD
3. Net exports effect- impact on total spending and real GDP caused by the inverse relationship between the price level and net exports in an economy



-changes in real GDP demanded- changes in price level, movement along the curve

-changes in AD- nonprice-level determinants, curve shifts; optimism, tax cuts, government spending, net exports

-AS curve- level of real GDP produced at different price levels during a time period, ceteris paribus, total dollar amount of goods and services produced in an economy at various price levels

1. Keynesian horizontal AS curve- actively manage AD to avoid a continued or worsening depression or recession; price and wage inflexibility during a recession means that unemployment can be a prolonged affair; Reasons prices and wages are fixed: Upward inflexibility 1) idle resources, so producers are willing to sell at current prices because there are no shortages to put upward pressure on prices 2) supply of unemployed workers willing to work for the prevailing wage rate diminishes the power of workers to increase their wages; Downward inflexibility A) union contracts prevents businesses from lowering wage rates B) minimum wage laws prevent lower wages C) employers believe that cutting wages lowers worker morale and productivity; freeze wages and lay off workers or reduce hours during a recession; demand creates its own supply, when the AS curve is horizontal and an economy is in recession below full employment, the only effects of an increase in AD are increases in real GDP and employment, while the price level does not change
2. Classical vertical AS curve- laissez faire, economy is self-fixing; real balances effect, why prices and wages are completely flexible; when the AS curve is vertical at the full-employment GDP, the only effect over time of a change in AD is a change in price level, supply creates its own demand

-Keynesian theory rejects the classical theory’s notion of a self-correcting economy; they say that during a recession, prices and wages do not adjust downward to restore an economy to full-employment real GDP

1. Keynesian range- horizontal segment of AS curve, economy in severe recession; increase AD until the economy reaches full employment; substantial idle production capacity including unemployed workers, can be put to work at existing prices; as AD increases in the Keynesian range, the price level remains constant as real GDP expands; inflation no problem
2. Intermediate range- rising segment of AS curve, economy approaching full-employment output; in the intermediate range, increases in AD increase both the price level and the real GDP level; inflation factors, minor problem: 1) bottlenecks, some firms at productive capacity and other operate below capacity 2) shortage of labor skills with increasing profits leads business to think that labor will use its power, so they increase wages 3) as the economy approaches full employment, firms must use less productive workers and machinery; inefficiency leads to higher production costs which lead to higher prices
3. Classical range- vertical segment of AS curve, economy at full-employment output; inflation major problem; once the economy reaches full-employment in the classical range, additional increases in AD cause inflation, not more real GDP;

-at macroeconomic equilibrium, sellers neither overestimate or underestimate the real GDP demanded at the prevailing price level

-AD curve moves along a stationary AS curve

-nonprice-level determinants- technological change, taxes, subsidies, regulations; AD curve is stationary and AS curve shifts from these; increase in production costs shifts AS curve leftward

**AD nonprice level determinants, total spending**

1. Consumption (C)
2. Investment (I)
3. Government spending (G)
4. Net exports (X-M)

**AS nonprice level determinants**

1. Resource prices, domestic and imported
2. Taxes
3. Technological change
4. Subsidies
5. Regulation

-cost-push inflation- rise in price level from decrease in AS curve with fixed AD curve

-demand-pull inflation- rise in price level from increase in AD curve with fixed AS curve

-stagflation- high unemployment and rising prices

**Chapter 11. Fiscal Policy**

-expansionary discretionary policy, combat a recession

-contractionary discretionary fiscal policy, combat inflation; reduce government spending or increase taxes

-fiscal policy- use of government spending and taxes to influence the nation’s output, employment, and price level

-Keynesian fiscal policy- changing AD to fine tune the economy

-supply-side fiscal policy- increasing AS to achieve long-run growth

-discretionary fiscal policy- deliberate use of changes in government spending or taxes to alter AD and stabilize the economy

| Expansionary Fiscal Policy. | Contractionary Fiscal Policy |
| --- | --- |
| Increase government spending | Decrease government spending |
| Decrease taxes | Increase taxes |
| Increase government spending and taxes equally | Decrease government spending and taxes equally |

Initial change in government spending (x) spending multiplier = change AD, total spending

-spending multiplier SM- amplifies the amount of new government spending; change in AD, total spending, resulting from an initial change in any component of AD, including consumption, investment, government spending, and net exports

-bottlenecks occur throughout the upward sloping range of the AS curve, which means that prices rise as production increases in response to greater AD

-in the intermediate portion of the AS curve, the required increase in government spending to achieve full employment will be smaller than the required increase in AD because of the spending multiplier

-marginal propensity to consume, MPC- change in consumption spending resulting from a given change in income

MPC = change in consumption spending/ change in income

-any initial change in spending, either by government, households, firms, or foreigners, creates a chain reaction of further spending, which causes a greater cumulative change in AD

-spending multiplier= 1/ (1-MPC); 1/MPS

-marginal propensity to save, MPS- change in saving resulting from a change in income

MPC + MPS = 1

-cutting taxes results in more spending

-tax multiplier, TM = 1 - spending multiplier; change in AD, total spending, resulting from an initial change in taxes

-a tax cut has a smaller multiplier effect on AD than an equal increase in government spending

Change in taxes (x) tax multiplier = change in AD

-budget deficit, fiscal deficit- expansionary fiscal policy, amount by which government expenditures exceed government revenues; combat recession

-budget surplus, fiscal surplus- contractionary fiscal policy, amount by which government revenues exceed government expenditures; combat inflation

-balanced budget multiplier- equal change in government spending and taxes, which changes AD by an amount of the change in government spending

Cumulative change in AD= government spending multiplier effect + tax multiplier effect

Government spending multiplier effect = initial change in government spending (x) spending multiplier

Tax multiplier effect = initial change in taxes (x) tax multiplier

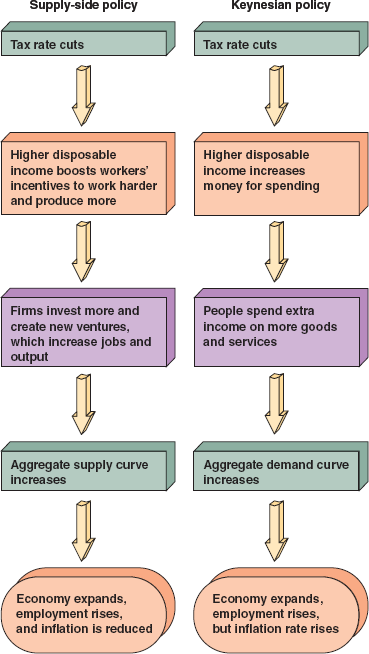
-regardless of the MPC, the net effect on the economy of an equal initial increase or decrease in government spending and taxes is an increase or decrease in AD equal to the initial increase or decrease in government spending

-automatic stabilizers- policy tools built into the federal budget to fight unemployment and inflation, while spending and tax laws remain unchanged; federal expenditures and tax revenues that automatically change and stabilize an economic expansion or contraction; nondiscretionary fiscal policy, no action needed; transfer payments and taxes; moderate changes in AD, diminish or reduce swings in real GDP; offset recession when GDP falls, and offset inflation when GDP rises

-supply-side fiscal policy- government policies that increase AS for growth, stagflation of 1970s; shift supply curve right, full employment and lower prices; cuts in resource prices, technological innovations, subsidies, reduction in government taxes and regulation; trickle down economics

-Keynesian expansionary fiscal policy- shifts AD curve rightward, higher government spending or lower taxes through multiplier effect to increase AD; demand-pull inflation, full employment but price level rises

-Keynesian economics- tax cuts to increase disposable income work through tax multiplier to increase AD; supply-side economists say that reduction in taxes leads to incentive for people to work save and invest



**Chapter 14. Money and the Federal Reserve System**

-the amount of money spent in an economy affects production, employment, and income levels

-barter- the direct exchange of one good or service for for another good or service rather than money; coincidence of wants, the problem

-use of money simplifies and therefore increases market transactions; money prevents wasting time that could be devoted to production, thereby promoting economic growth by increasing a nation’s production possibilities

-money- anything that serves as a medium of exchange, unit of account, and store of value

-medium of exchange- primary function of money to be widely accepted in exchange for products

-unit of account- the function of money to provide a common measurement of the relative value of goods and services

-store of value- ability of money to hold value over time

-credit card statement is the unit of account; fail store of value criterion, not money, loans

-liquid- immediately available to spend without additional expense

-scarce, but not too scarce, not sand, counterfeiting

-portable and divisible and uniform

-bitcoins are money

-commodity money- anything that serves as money while also having market value based on the material from which it is made; intrinsic worth

-fiat money- money accepted by law, not because of redeemability or intrinsic value; keep inflation under control and maintain its purchasing power over time, public’s confidence in government

-M1- narrowest definition of money; measures the currency and checkable deposits held by the public at a given time, day month or year; M1= currency + checkable deposits

-currency- coins and paper money, Federal Reserve notes, that the public holds for immediate spending, small purchases; 39% of M1

-checkable deposits- the total money in financial institutions that can be withdrawn on demand by writing a check; 61% of M1; checking account balance, demand deposits; Depository Institutions and Monetary Control Act of 1980; savings and loan associations, credit unions, mutual savings banks

-M2- adds near monies to M1; M1 + savings deposits + small time deposits less than 100k; M1 30% of M2

-savings deposits- interest bearing accounts that can be easily withdrawn, passbook savings accounts, money market accounts, mutual fund accounts

-small time deposits- time deposit, CDs, interest bearing for specified time

-M1 is more liquid than M2

-Federal Reserve System- central bank of the United States and provides banking services to commercial banks and the federal government, 1907 Panic, 1913 Act

-congress oversees the Fed, not day to day operations; Fed chairman reports to congress twice a year, and coordinates with president and treasury; 12 central banks that service banks within districts; 25 branch banks; US only country with 12 central banks, comprise between traditionalists central bank and populists decentralized

-Board of Governors- 7 member board, appointed by president and confirmed by senate, serve 14 year terms; chair 4 year term

-earns operating interest from loans, gives profits to treasury

-federal open market committee, FOMC- directs the buying and selling of US government securities, to control money supply; 7 member board, New York chairman, and 4 other chairs; FOMC directives, meet 8 times a year

-federal advisory council, 12 important commercial bankers, selected by 12 chairs

-3000 fed member banks, 70% of deposits, National Banks, and 8000 commercial banks

**Roles of Fed**

1. Controlling money supply-
2. Clearing checks- fed clearinghouse process speedier than commercial banks clearing with each other
3. Supervising and regulating banks- examines banks’ books, sets limits for loans, approves bank mergers, and works with FDIC; 1933 agency that ensures deposits if a bank fails; state agencies supervise state chartered banks that are not a member of the Fed or FDIC; 2008 act raised limit from 100k to 250k, 25k at Great Depression
4. Maintaining and circulating currency- fed does not print money, US bureau of engraving and printing in DC and Texas for notes; Treasury coins; replace worn out currency and meet public demand for holidays
5. Protecting consumers- 1968, Equal Credit Opportunity Act, no discrimination, women can get loans without a man, married women own names; 2010, Consumer FInancial Protection Bureau, independent within federal reserve
6. Maintaining federal government checking accounts and gold- federal salaries, social security, tax refunds, veterans benefits, defense, highways; New York fed has gold vault of foreign gold, move bars to consummate transactions
7. Lender of last resort- to prevent banking crisis

-before 1980s, commercial banks offered interest on checking accounts, not usurious, and thrifts offered savings accounts

**Monetary Control Act of 1980**

1. The authority of the fed over nonmember depository institutions was increased
2. All depository institutions are eligible to borrow money from the federal reserve banks- discounting and check clearing
3. Commercial banks, thrifts, money market mutual funds, stock brokerage firms, and retailers can offer more financial services
4. Eliminated interest rate ceilings- eliminated advantage of S&Ls on passbook accounts

-1999, Financial Services Modernization Act, removed depression are restrictions

-Savings and Loan Crisis, 125 billion cost, S&Ls changed from long-term mortgages to riskier commercial and corporate loans, and failed; Federal savings and loan insurance corporation, FSLIC, was absorbed by FDIC, and 1989 Thrift Bailout Bill, and Resolution Trust Corporation RTC to bail out thrifts

-2010 Dodd-Frank Act; subprime mortgages derivatives, adjustable rate mortgages; Volcker Rule, banks cannot use their own accounts for risky loans; created CFPB

**Chapter 15. Money Creation**

-bank loan creates money, or adds to the money supply; loan repayment decreases the money supply

-single bank can create money by its excess reserves; banking system can create money by a multiple of its excess reserves

-goldsmiths were founders of modern day banking; bank italian bench banco; goldsmith issued a receipt and took a cut, and whoever had the receipt could withdraw the gold; goldsmith receipts circulated like and exchange like money; eventually fractional reserve banking, where goldsmiths loaned out more money than they had

-bank liabilities, checkable deposits, asset for customers

-bank assets, required reserves, excess reserves, loans

-required reserves- minimum balance of reserves that the fed requires a bank to hold in vault cash or or on deposit with the fed; keep minimum amount to maximize profits

-required reserve ratio- determines the minimum required reserves; % of deposits that the fed requires a bank to hold in vault cash or on deposit with the fed rather than being loaned; lower for smaller banks, in 2020 fed reduced all bank reserve requirements to 0

-excess reserves- potential loan balances of reserves held in vault cash or on deposit with the fed in excess of required reserves

-depositing coins or currency has no initial effect on the M1 money supply; also, writing a check from one bank to another does not increase the money supply

-when a bank makes a loan, it creates deposits, and the money supply increases by the amount of the loan because the money supply includes checkable deposits

-although a single bank is limited to increase the money supply equal to its excess reserves, the entire banking system can increase the money supply by a multiple of its initial excess reserves; this is because the reserves lost by one bank when a loan is made are gained by another bank in the system

-money multiplier, deposit multiplier- gives the maximum change in the money supply, checkable deposits, due to an initial change in the excess reserves held by banks

MM = 1/ required reserve ratio RRR

Actual money supply change = initial change in excess reserves x money multiplier

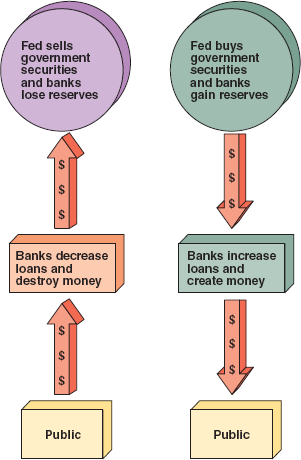
1. cash leakage, reduces the money multiplier
2. Banks may not use all their excess reserves to make loans

-monetary policy- feds use of open market operations, changes in the discount rate, and changes in the required reserve ratio to change the M1 money supply; can limit or expand loans the deposit creation process

-open market operations, FOMC- buying and selling of government securities by the federal reserve system; NY trading desk executes orders

Actual money supply change- initial checkable deposit + (initial change in excess reserves x MM)

-a purchase of government securities by the fed injects reserves into the baking system and increases the money supply; a sale of government securities by the fed reduces reserves in the baking system and decreases the money supply



-discount rate- interest rate the fed charges on loans of reserves to banks; a lower discount rate encourages banks to borrow reserves and make loans; reduce discount rate and expand money supply

-federal funds market- a private market in which banks lend reserves to each other for less than 24 hours; no effect on money supply

-federal funds rate- the interest rate banks charge for overnight loans of reserves to other banks; primary rate in media

-federal funds market more commonly used than discount window

-inverse relationship between size of the required reserve ratio and the money multiplier; changing reserve ratio is not frequently used

**Monetary Policy Shortcomings**

1. Money multiplier inaccuracy- larger in economic upturns because banks are more willing to make loans
2. Which money definition should the fed control- M2 more closely correlates with changes in GDP
3. Lags in monetary policy v. fiscal policy

-inside lag- between the time a policy change is needed and the time the fed acts; fairly short, because financial data available daily, inflation and unemployment monthly, and GDP quarterly; inside lag for monetary policy is shorter than for fiscal policy because fiscal policy involves congressional action

-outside lag- between the time a policy decision is made and the time the policy change has its effect on the economy; length of time it takes the money multiplier and spending multiplier to have their full effect on aggregate demand, and thus employment price level and real GDP

-total lag for monetary policy 3-12 months, total lag for fiscal policy 3 years

**Chapter 16. Monetary Policy**

-how demand and supply of money interact to determine interest rate

-how changes in the money supply impact aggregate demand

-opportunity cost of holding money in lost profits from investing

3 reasons to hold money 1) transactions demand 2) precautionary demand 3) speculative demand

-transactions demand for money- stock of money held for everyday transactions

-precautionary demand for money- unpredictable expenses, mattress money, rainy days

-speculative demand for money- held to take advantage of future changes in investments prices; wait until bond rates increase

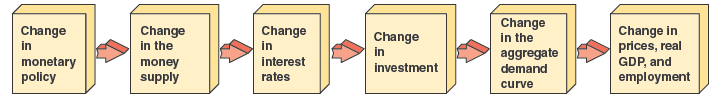
-demand for money curve- quantity of money people hold at different interest rates, ceteris paribus; slopes downward because as the interest rate falls, people hold more money for speculative purposes; transactions and precautionary demand are % of real GDP; shifts to the right if increases in transactions or precautionary demand

-supply of money curve- vertical line because the quantity of money supplied does not respond to changes in the interest rate; assumes that Fed has used its tools to set supply

-inverse relationship between bond prices and the interest rate that enables the money market to reach equilibrium

-assuming a stationary demand for money, the equilibrium rate of interest changes in response to changes in monetary policy

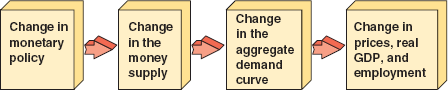
**The Keynesian Monetary Policy Transmission Mechanism**



-classical economists believe that the interest rate determines the level of investment spending; Keynesians believe that expectations of future profits drive investment, with the interest rate the financing cost

-monetarism- changes in the money supply directly determine changes in prices, real GDP, and employment; focus on money supply; laissez faire, and that price system is good for macro economy

**The Monetarist Monetary Policy Transmission Mechanism**



-equation of exchange- MV = PQ

1. M- money supply M1
2. V- velocity of money, average number of times in a year a dollar is spent on final products
3. PQ- nominal GDP, price x quantity

-quantity theory of money- changes in the money supply are directly related to changes in the price level; V and Q are fixed; monetary policy directly affects the price level

-cause of inflation is too much money chasing too few goods, does not consider external shocks such as oil embargoes; ignores effects of taxes fiscal policy and spending on price level

-modern monetarists, velocity is not constant, and economy not alway at full employment; M and P are correlated, but not proportional; dont think the interest rate is so important

-monetary rule- the money supply should increase by a constant rate each year equal to the potential annual growth rate of real GDP; fed should not intervene in the money supply

-Keynesians think the fed needs to change the money supply in response to changes in velocity; with a constant money, supply, greater velocity means greater aggregate demand and inflation, less velocity means less spending and unemployment

### **Comparison of Macroeconomic Theories**

| **Issue** | **Classical** | **Keynesian** | **Monetarist** |
| --- | --- | --- | --- |

|  | Adam Smith  Side view of Adam Smith.  Library of Congress Prints and Photographs Division [LC-USZ62-17407] | John Maynard Keynes  John Keynes is smiling.  Walter Stoneman/Samuel Bourne/Hulton Archive/Getty Images | Milton Friedman  Milton Friedman is seated in a chair.  Bachrach/Archive Photos/Getty Images |
| --- | --- | --- | --- |
| Stability of economy | Stable in long run at full employment | Inherently unstable at less than full employment | Stable in long run at full employment |
| Price-wage flexibility | Yes | No | Yes |
| Velocity of money | Stable | Unstable | Predictable |
| Cause of inflation | Excess money supply | Excess aggregate demand | Excess money supply |
| Causes of unemployment | Short-run price and wage adjustment | Inadequate aggregate demand | Short-run price and wage adjustment |
| Effect of monetary policy | Changes aggregate demand and prices | Changes interest rate, which changes investment and real GDP | Changes aggregate demand and prices |
| Effect of fiscal policy | Not necessary | Spending multiplier changes aggregate demand | No effect because of crowding-out effect |

-classical economics- economy will restore to full employment without government intervention, before Great Depression, Adam Smith, The Wealth of Nations, no need for discretionary fiscal or monetary policies; prices and wages will decrease to reach full employment; vertical AS curve in the long run, originating at the full-employment real GDP

-Keynesian economics- The General Theory, change AD, use fiscal policy more than monetary policy; crowding out effect, the government competing with private borrowers for same set of funds, insignificant because investment demand curve is steep or vertical

-monetarism- follow monetary rule of annual increases to money supply