

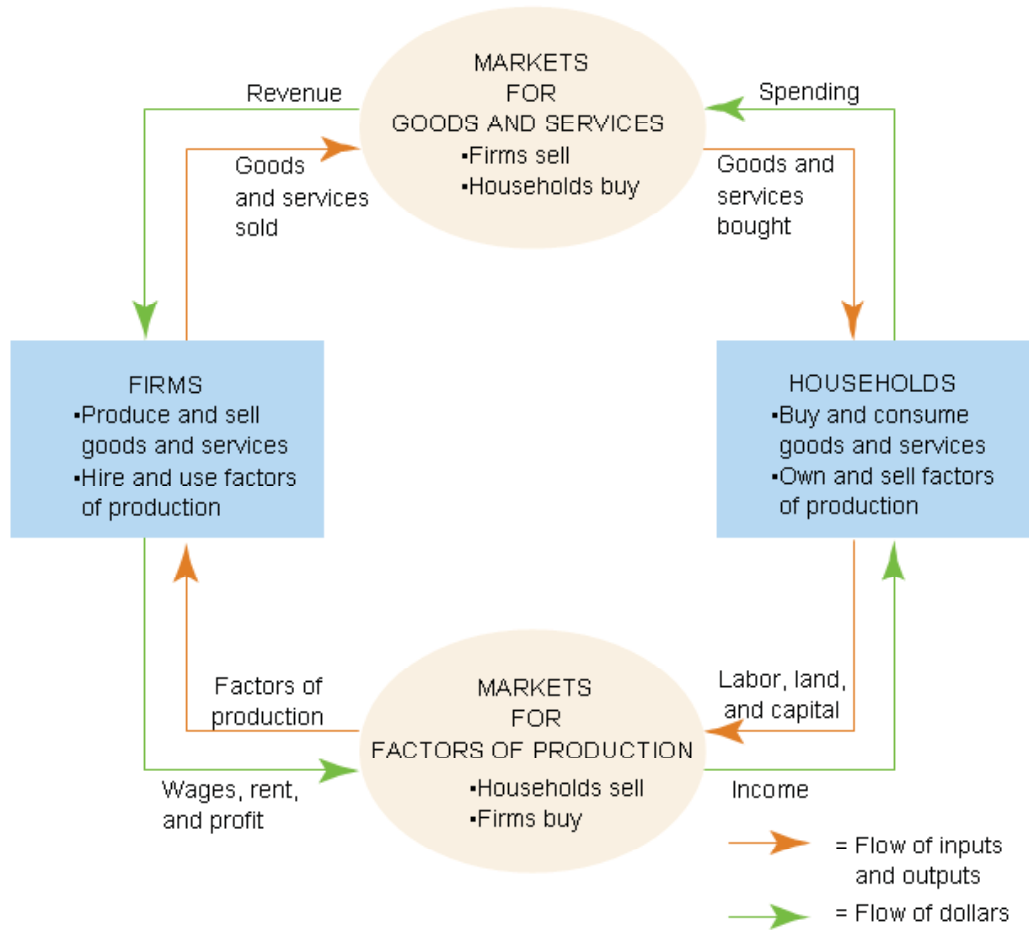
Economics AP

Unit 3: Measuring the Economy's Performance

Covers Ch 8 & 10

Economic Circulation Flow

National Income Accounting - A macroeconomics way of calculating national income and its components (ex. GDP, NDP, NI, etc.)



Importance of Price Systems	
Profits	The cost of production that provides entrepreneurs rewards for producing their services.
Total Income	The sum of all individual incomes earned in a year. The total income includes wages, rent, interest payments, received by individuals. Profits are received by workers, landowners, capital owners, and entrepreneurs.
Final Goods and Services	Goods and Services that have reached their final form of production and will no longer be transformed into another form of goods or services.

Economic Circulation Flow (GDP)

Total Income Transactions	
Type	Description
Product Markets	When households are buyers and businesses are sellers, consumer goods and services flow to household demanders while money flows to business suppliers.
Factor Market	When households are sellers and businesses are buyers, households sell labor, land, capital, and entrepreneurial abilities for business demanders while money flows to household suppliers.

Gross Domestic Product (GDP) - a measurement of a nation's economy that is defined by all final goods and services produced within in a country in a given period of time.

Stress on Final Output	
Type	Description
Intermediate Goods	A type of goods that is not counted in GDP because they are goods that are used up within the production of a final good.
Value Added	The total dollars of an industry's sales minus the dollars values of intermediate goods.

Financial Transactions not included in GDP	
Type	Description
Securities	The act of selling and buying shares of existing stocks do not count towards GDP since no producing activity is consumed.
Government Transfer Payments	Transfer Payments paid by the government that do not include any productive services in exchange such as Social Security benefits.
Private Transfer Payments	A private transfer of funds from one individual to another which does not constitute any productive activity.

Transfer of Secondhand Goods - Secondhand selling and buying are not included in GDP as they were included when they were first produced.

Other Transactions not included in GDP	
Type	Description
Household Productions	Any form of household work done within one's own household are not paid through the marketplace.
Otherwise Legal Underground Transactions	Legal income that are not reported and taxed such as paying babysitters cash that are never legally declared as income.
Illegal Underground Activities	Any illegal activity such as prostitution, gambling, and the sale of illicit drugs.

Two Main Methods of Measuring GDP	
Type	Description
Expenditure Approach	A method to calculate GDP by totaling all dollar value of all goods and services at market prices.
Income Approach	A method to calculate GDP by totaling all of national income with its components including wages, rents, and profits.

Economic Circulation Flow Cont.

Deriving GDP by Expenditure Approach			
Type	Symbol	Description	
Consumption Expenditures	C	Income spent on durable consumer goods, nondurable consumer goods, and services.	
		<i>Durable Consumer Goods</i>	Goods that have a lifespan of more than 3 years.
		<i>Nondurable Consumer Goods</i>	Goods that have a lifespan of less than 3 years.
		<i>Services</i>	Mental or Physical help/labor purchased by consumers.
Gross Private Domestic Investment	I	The making of capital goods such as factories and machines that will create production for future consumption. Also includes repairs made on factories and buildings.	
		<i>Investment</i>	Any use of current resources to expand production and future consumption.
		<i>Producers Durables/ Capital Goods</i>	Goods used by businesses to produce other goods and services.
		<i>Fixed Investment</i>	Purchased business make in producers durables/ capital goods.
		<i>Inventory Investment</i>	The difference between goods produced (production) and goods sold (sales) including all inventorial supplies.
Government Expenditures	G	Any goods and services purchased by the government and all wages paid to government employees are government expenditures.	
Foreign Expenditures (Net Exports)	X	Foreign expenditures is equal to the foreign exports minus the imports. <i>Net Export (X) = Total Export - Total Import</i>	

The Expenditure Approach	Wages, Net interest, Rent, Profits		
<p>Mathematical Representation for GDP using Expenditure Approach</p> $GDP = C + I + G + X$ <p>Depreciation (Capital Allowance Consumption) - Reduction in the value of any capital good due to physical wearing (old age) or tear (damage that affects performance) in a one year period.</p> <p>Net Domestic Product (NDP) - GDP with depreciation</p> $NDP = GDP - \text{Depreciation}$ $NDP = C + I + G + X - \text{Depreciation}$ $NDP = C + \text{Net } I + G + X$ <p>Net Investment - The Gross domestic investment minus the depreciated capital goods</p>	<p>Can calculate the value of GDP by looking at total factor payments (income)</p> <table border="1"> <tr> <td>Gross Domestic Income (GDI)</td> <td>The sum of all income (wages, interest, rents, profits) paid to the four factors of production. Although uses expenditure instead of income, it will be nearly identical to GDP.</td> </tr> </table> <p>Non-expenditure calculation of GDP</p> $GDP = C + i + G + (X-M)$	Gross Domestic Income (GDI)	The sum of all income (wages, interest, rents, profits) paid to the four factors of production. Although uses expenditure instead of income, it will be nearly identical to GDP.
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Domestic Income/National Income

Comprised of four parts.

Wages	Includes salaries and other forms of labor income (such as income in kind and incentive payments), as well as Social Security taxes.
Interest	For GDI calculating purposes, interest is in net terms, meaning the difference between interest received (from savings accounts, certificates of deposit, etc.) and interest paid (on mortgage payments, credit cards, loans, etc.).
Rent	Income earned by individuals for the use of their real (non-monetary) assets (farms, houses, etc.). Royalties also fall under this category.
Profits	Total corporate profits + proprietors' income (income from unincorporated businesses)

However, Domestic Income/National Income is not equal to GDP. **Nonincome expense** items must be factored in to get the actual value of GDI.

Vocabulary

Per capita real GDP	The amount of real GDP per person. <i>(Real GDP)/(Total population)</i>
Chain-weighted real GDP	Measures using changes in index from year to year. The Bureau of Economic Analysis (BEA) used to calculate GDP using a weighted sum of components of consumer spending, investment, government spending, and net foreign trade ("fixed-weight measure"). Now GDP is weighted depending on the relative spending of the 4 different components (or "chain-weight") index instead of specific numbers.
Foreign exchange rate	Price of one currency in terms of another. Can calculate relative GDP by adding a country's GDP in local currency and dividing by the exchange rate.
Purchasing power parity	Adjustment in exchange rate conversions that take into account differences in the true cost of living across countries.

Components of GDP / GDI

GDI	GDI and GDP come out to essentially the same value, so income can be used to calculate GDP. <i>GDI = Wages + Net Interest + Rent + Profits + Business taxes + Depreciation</i>
National income (NI)	income earned by factors of production. <i>National income = NDP - indirect business taxes</i>
Personal income (PI)	Income households get before they pay personal income taxes. <i>Personal income = National income + transfer payments - income earned but not received</i>
Disposable personal income (DPI)	Personal income after personal income taxes have been paid. <i>Disposable personal income = Personal income - income taxes</i>
Nominal values	When variables like GDP and investment are expressed in "money values" or current dollars (current market price) *See graph on Pg 6*
Real values	Value of variables like GDP and investment after adjusting for inflation
GDP Correction	Need to account for inflation in GDP for accuracy; once corrected, the new GDP is called real GDP. One way to do this is to divide nominal GDP by price level index.
Constant dollars	Dollars corrected for general price level changes; in terms of "real purchasing power"

Nonincome Expense Items

Nonincome expense items - Indirect business taxes + Depreciation

Indirect business taxes	All business taxes except the tax on corporate profits, such as sales and business property taxes
Depreciation	Depreciation must be added to Net Domestic Income to get GDI. Depreciation is equivalent to the part of this year's GDP that is used to replace physical capital used in the process of production. Since someone paid to replace it, depreciation should be added into GDI.

Difference between S&D and Aggregate S&D

Supply and demand shows the relationship between price and quantity for a period of time for individuals.

Aggregate supply and demand shows the total expenditure and production of a country, which allows for the calculation of the Real GDP and overall market price level.

Granted they may look the same, but they are used to calculate very different economic values.

Aggregate demand	All expenditures in the economy of a country
Aggregate supply	All production in the economy of a country

The Aggregate Demand (AD) Curve

$$AD = C + I + G + X$$

Aggregate Demand = Consumption + Investment + Government + Net Export

The curve is a graphic representation of how much people will spend at each price level.

Question: Why does the aggregate demand curve slope down? If it depends on price level, shouldn't the Real GDP (Money spent) be the same?

Answer: No.

Why? Three reasons

Real-balance effect	When prices levels rise, the real value of their total wealth drops so people as a whole are compelled to spend less on goods and services. Also known as the wealth effect.
Interest rate effect	When price levels rise, people believe they need to borrow money to compensate, but with increased borrowing comes increased interest rates. Higher interest rates discourage people from buying houses or cars. Businesses are also less likely to build new offices or buy more equipment.
Open economy effect	With a world economy, people have the option to use products from another country. If price levels of the country they live in rise, they will just buy products from other countries as substitutes. This way, it reduces the amount of money being actually spent in the country.

Think X being the difference of imports from exports. With more imports, the X goes down overall.

The Two Aggregate Supply Curves

There are two aggregate supply curves.

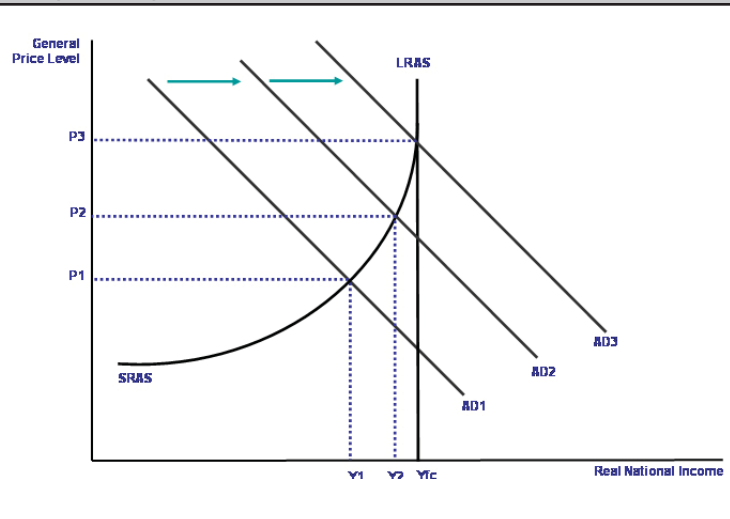
Long-run aggregate supply curve (LRAS)	A vertical line representing the total GDP after all adjustments. It basically means the total real GDP produced by the economy at with current endowments and full employment Endowments - Total resources; both natural and human including innovation and management skills, etc.
Short-run aggregate supply curve (SRAS)	Relationship between supply and price level. The slope is usually positively sloped.

The output of the economy can be expanded beyond the limitations of the actual market endowment. These concepts only affect the **SRAS** because in the long run the market will return to equilibrium.

1. Employers can create incentives for existing workers to work more, thus creating more productivity. Workers can also move from maintenance work to production work.
2. Existing equipment can be used more.
3. If wages increase, it gives younger and older workers more incentives to start working.

The SRAS, contrary to the linear AD curve, is shaped like a power function. The limits of the expanding output of an SRAS becomes more and more taxing as a company tries to push output to its maximum.

AD, LRAS, SRAS chart



Shifts in Aggregate Curves

Main reasons for shifts in the Aggregate Curves

Aggregate demand shift

1. Inflation
2. Interest Decrease
3. Money Supply - Printing
4. Future Expectations
5. Foreign Competition

Short-run with Long-run supply shift

1. Technology - efficiency
2. Cheaper resources
3. Corporate tax cuts
4. Future expectations
5. Free trade
6. Deregulation
7. Interest rates

SRAS only

Some events such as quick price changes could change just the SRAS, leaving the LRAS in original efficiency. Most of these only last a limited amount of time.
IE. Embargo.

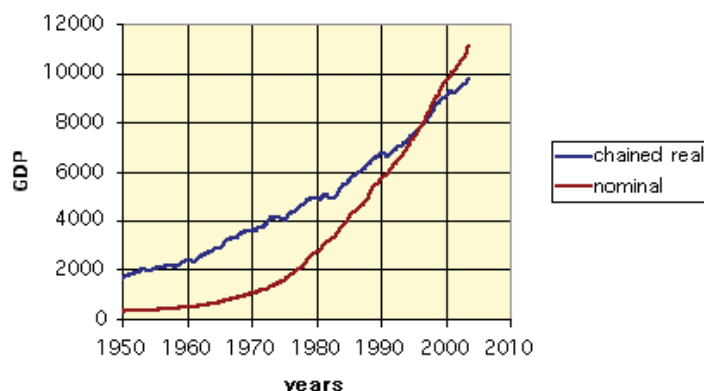
Consequences of Changes in the Aggregate curves

Equilibrium	When the AD and the SRAS curves intersect on the LRAS Real GDP line.
Aggregate demand shock	A shock to the economy causing the AD curve to shift outwards or inwards.
Aggregate supply shock	A shock to the economy causing the SD curve to shift outwards or inwards.
Contractionary gap	The gap that appears whenever the equilibrium level of real GDP is less than the LRAS.
Expansionary gap	The gap that appears whenever the equilibrium level of real GDP is more than the LRAS.

Inflation (Not needed for the test)

Demand-pull inflation	Inflation due to the increase in aggregate demand not met with an increase in aggregate supply, thus shifting off equilibrium.
Cost-push inflation	Inflation caused by a decreasing SRAS curve.

Real and Nominal GDP



The area between the two lines show the price level changes.