2017-02-27

What is Aggregate Demand

- **Aggregate Demand** = a metric of overall demand for *all* goods
  - You can think of it as a **demand schedule** of all the goods and services people are willing to purchase at different price levels
    - The same relation applies
      - Increasing price yields lower quantity demanded
      - Decreasing price yields higher quantity demanded
  - A useful way of looking at it is that aggregate demand is *really* just real GDP
    - This actually makes sense, because it is basically just the market value of all goods at any given time

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

    - where C is consumer spending, I is investment, G is government spending, and ΣX is net exports
- You can construct a demand curve using **price level(PL)** and **Real GDP** just like with price and quantity demanded

Why is the Aggregate Demand Curve Downward-Sloping?

1. **Wealth Effect** = a change in price level changes the purchasing power of a dollar, and thus the quantity of transactions changes
   - Increasing price yields lower "GDP demanded"
   - Decreasing price yields higher "GDP demanded"
2. **Interest-Rate Effect** = a change in price level changes interest rates that lenders charge
   - If price level increases, the lend is more risky, so a higher interest rate is charged
   - If price level decreases, the lend is less risky, so a lower interest rate can be charged
3. **Foreign Trade Effect** = a change in domestic price level invokes a kind of substitution effect wherein foreign goods are bought more or less
   - If domestic price level increases, GDP demanded(which doesn't include foreign production) will decrease because consumers are purchasing foreign goods
   - If domestic price level decreases, GDP demanded(which includes domestic production) will increase because consumers are purchasing more domestic goods

Shifters of Aggregate Demand

1. Change in consumer spending
    - Can be caused by many things
        1. Change in disposable income of consumers
        2. Expectations about future economic growth or contraction
            - If people are fearful of a recession, they won't spend as much
        3. Consumer debt
        4. Changes in consumer taxes
2. Change in investment spending
    - Can be caused by many things
        1. Change in interest rates
        2. Expectations about future demand trends
            - If a new industry pops up and shows potential for growth, investment will increase
        3. Changes in labor productivity or automation
            - If productivity(output vs input ratio) increases, companies will invest to take advantage of that
        4. Changes in business taxes
3. Change in government spending
    - Is only caused by a change in government expenditures
        - *e.g.* Buying more drones to bomb Libya with
4. Change in net exports
    - Can be caused by many things
        1. Change in exchange rates
            - If the USD->Euro exchange rate changes, the purchasing power of each respective currency changes, and net exports change
        2. Change in domestic economic well-being
            - Generally, countries with high GDP-per-capita spend more on foreign goods

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2017-02-28

Aggregate Supply

- **Aggregate supply** = the quantity of goods and services businesses will produce(Real GDP) at certain price levelsj

  - Has different behaior depending on time interval
    * **Short-run aggregate supply** = input costs(wages, natural resources, etc) do not increase as price level increase
      · If there is a right shift in aggregate demand, businesses can generate more profit, so they scale production
    * **Long-run aggregate supply** = input costs(wages, natural resources, etc) *will* increase as price level increases
      · If there is a right shift in aggregate demand, businesses can scale for more profit, but eventually input costs will rise

Shifters of Aggregate Supply

1. Change in input costs
   - **Supply shocks** = some event that rapidly affects the availability of some good
2. Change in taxes, regulations, or subsidies
3. Change in productivity

2017-03-01

Inflationary and Recessionary Gaps

- **Inflationary gap** = a situation in which the equillibrium point on the AD-AS graph is to the right of the LRAS line
- **Recessionary gap** = a situation in which the equillibrium point on the AD-AS graph is to the left of the LRAS line
  - Is generally caused by a shift in AD, but can be caused by a shift of AS
  - **Stagflation** = a situation caused by a negative supply shock that stagnates growth and causes inflation
    * Is caused by a leftward shift of aggregate supply

2017-03-02

Aggregate Supply In the Long Run

- Generally, a shift of aggregate demand will correspond with a long-term opposite shift in aggregate supply
  - For example, an increase in AD will result in a higher equillibrium price, and eventually input costs will increase(i.e. wage pressure) causing a decrease in AS
  - If AD decreases, equillibrium price will decrease, so producers will scale their production down
    - With less demand for inputs(labor, resources, etc), their price will go down
      - That decrease in input costs causes an increase in AS
- **Capital stock** = the amount of capital goods purchased or produced by an economy to increase output
  - This is the *only* thing that can shift the LRAS line

2017-03-03

Classical Economics vs Keynesian Economics

- **Classical economics** = a theory of economics developed by Adam Smith and Hayek
  - Basic premise is that AS is always a vertical line
    - In other words, producers are constantly trying to produce at max level
      - Thus, AS is a vertical line determined by labor productivity and resources
  - Touts that government intervention is *inefficient*; that the market will regulate itself
- **Keynesian economics** = a theory of economics developed by Keynes
  - Basic premise is that AS is a horizontal until it meetes with demand, where it starts going up
  - **Sticky wages** = a characteristic of input costs to stay relatively constant
- **Intermediate range** = a section of upward sloping AS curve meant to link the classical and keynesian AS curve

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2017-03-06

Phillip's Curve

- **Phillip's curve** = a graph that demonstrates an inverse relationship between inflation and unemplyoment

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2017-03-07

Fiscal Policy

- **Car analogy** = a model of the economy that states a car is analogous to the entire economy
  - *You could go really fast, but its not sustainable*
  - *You could go really slow, but you're losing out on potential*
  - *You should go at the "right" speed, because it maximizes growth & production without causing inflation*
  - In this scenario, gas mileage is like the LRAS curve
    - If you improve efficiency or reduce input costs, you can go at a faster speed without reprocussions

The Role of Consumers

- In this world, your duty is to *consume*
  - "The last remaning American passtime is... BUYING THINGS" — George Carlin
  - **Autonomous consumption** = a type of consumption that doesn't scale with disposable income
    - *e.g.*
      - Food
      - Gas
      - Clean water
  - **Disposable income** = the level of income that a person has to spend after autonomous consumption
  - **Dissaving** = the effect when incomes are less than that required for autonomous consumption
    - As a result, people are actually *losing* money with time

Government Action

1. **Fiscal policy** = actions taken by Congress to modulate economic growth or consumption
    - Essentially, Congress can change *spending* or *taxes*
    - **Discretionary Fiscal Policy** = the act of passing a *bill* to enact economic change
        - Takes a hideously long time, due to buraeucratic inefficiency
    - **Non-Discretionary Fiscal Policy** = mechanisms in bills that have already passed that enact economic change
        - Also called **Automatic stabilizers**
        - *e.g.*
            * Welfare = when unemployment rises, welfare programs will provide aid to stimulate consumption
            * Unemployment ensurance = when unemployment rises, unemployment insurance ensures that individuals can still consume
            * Minimum wage = when labor costs dip, minimum wage ensures consumption doesn't fall too low
    - **Contractionary Fiscal Policy** = a form of fiscal policy that increases taxes to inhibit consumption/investment while decreasing government spending
        - Can technically be discretionary or non-discretionary, but is *usually* discretionary
    - **Expansionary Fiscal Policy** = a form of fiscal policy that decreases taxes to increase consumption/investment while increasing government spending
2. **Monetary policy** = actions taken by the Federal Reserve Bank to modulate economic growth or consumption

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2017-03-09

Multiplier Effect

- **Multiplier effect** = the tendency for consumption to set off a chain reaction of transactions
    - A buys from B
    - B uses profit to buy from C
    - C uses profit to buy from D
    - D dives into their Scrooge McDuck money pool

- This effect modifies the behavior of government spending
  - If a government increases expenditures by $10 million, the actual increase in aggregate GDP demanded will increase by some multiple of that
    - If money has a high velocity, that money will be used in many transactions—each of which contribute to GDP
    - If people save because of a recession, the velocity of money is decreased
      - Thus, the money the government spends won't spur as much consumption
- Essentially, if I gave you $100, you would likely spend some portion of it and save some portion of it
  - If you are a compulsive consumer, your consumption will spur economic growth
    - CONSUME. OBEY.
  - **Marginal Propensity to Consume(MPC)** = a metric of the tendency for consumers to increase their consumption with a corresponding increase in income

$$MPC = \frac{\Delta Consumption}{\Delta Income}$$

  - **Marginal Propensity to Save(MPS)** = a metric of the tendency for consumers to increase their savings with a corresponding increase in income

$$MPS = \frac{\Delta Savings}{\Delta Income}$$

  - There is a simple equation that relates these two quantities

$$MPC + MPS = 1$$

    - This is true because one can only *spend* or *save* any additional income
      - Thus, the fraction of dollars spent and the fraction of dollars saved must add up to 100%

How is GDP "Multiplied" by Government Spending?

- The formula is actually farely simple
- **Multiplier** = a quantity that measures the degree of increase of GDP that corresponds

$$Multiplier_{Government\ Spending} = \frac{1}{MPS}$$

- And this is the relation of GDP to multiplier

$$\Delta GDP = Multiplier \times \Delta(Government\ Spending)$$

How is GDP "Multiplied" by Taxes?

- There is a multiplier for changes in taxes, but it is less pronounced
  - This is thought to be related to how consumers and businesses react when they hear that taxes will increase or decrease
  - Formula for tax multiplier

$$Multiplier_{Taxes} = \frac{MPC}{MPS}$$

$$Multiplier_{Taxes} = \frac{1 - MPS}{MPS}$$

$$Multiplier_{Taxes} = \frac{1}{MPS} - \frac{MPS}{MPS}$$

$$Multiplier_{Taxes} = \frac{1}{MPS} - 1$$

$$Multiplier_{Taxes} = Multiplier_{Government\ Spending} - 1$$

- Then,

$$\Delta GDP = Multiplier_{Taxes} \times \Delta(Tax\ Revenue)$$