

1. **Keynes's View of Say's Law in a Money Economy** – according to Keynes, a decrease in consumption and subsequent increase in saving may not be matched by an equal increase in investment. Thus, a decrease in total expenditures may occur. This is because individuals invest for a variety of reasons, not just fluctuation in interest rates. In other words, Says Law does not hold
2. Wage rates will not fall as unemployment rises, because workers will resist. For example, unions or federal laws may prevent the wage cuts. If wages are not cut, then the market cannot return to equilibrium, and will be stuck in a recessionary gap.
3. **Efficiency Wage Models** – these models hold that it is sometimes in the best interest of business firms to pay their employees higher than equilibrium wage rates. Does anyone remember Henry Ford? If workers are paid more, they are usually more productive, and spend less time complaining.
4. When a surplus is present, prices may not fall due to anticompetitive or monopolistic elements in the economy
5. Eventually, the economy will self regulate and adjust, it's just a matter of time. Sometimes it can take years.
6. If the classic view of the economy was correct, where was Say's Law during the Great Depression?
7. **Consumption Function** – the relationship between consumption and disposable income.  
Consumption = autonomous consumption + MPC \* Disposable Income
8. **Marginal Propensity to Consume** – the ratio of the change in consumption to the change in disposable income
9. **Autonomous Consumption** – the part of consumption that is independent of disposable income
10. **Induced Consumption** – the part of consumption that is dependent on disposable income
11. **Marginal Propensity to Save** – the ratio of the change in saving to the change in disposable income
12. **Average Propensity to Consume** – consumption divided by disposable income
13. **Average Propensity to Save** – Saving divided by disposable income
14. As disposable income rises, so does Consumption. As Real GDP rises, so does consumption
15. Investments are thought to remain constant no matter the change in Real GDP
16. Government purchases are thought to remain constant no matter the change in Real GDP
17. **Total Expenditures** – the total amount that the three sectors (household, business, government) want to buy
18. **Total Production** – the total amount of production
19. The economy is said to be in equilibrium when TE = TP, disequilibrium when they're not equal
20. If TE is lower than TP, then inventory rises. If TE is higher than TP, businesses clean out their inventory
21. It is possible for the economy to be in equilibrium, but be in a recessionary gap, if the equilibrium GDP is below the natural GDP
22. **Keynes Multiplier** – the number that is multiplied by the change in autonomous spending to obtain a change in Real GDP. Multiplier =  $1/(1 - MPC)$ . A change in autonomous spending can lead to a much greater change in Real GDP. However, the multiplier, since it's based on consumer consumption, takes many months to show its effect, and idle resources must be available, or else the increase in autonomous spending would only increase prices, leaving the real GDP unchanged.
23. Businesses may not invest more even if interest rates fall. If they do not need more machines, then why buy more, even if they have the ability?

Added 11/16/02

1. **When aggregate demand changes, companies on the short run change production, not prices**
  - a. Implicit contract w/ the customers - customers don't like prices going up and down constantly
  - b. Don't know whether the change in demand is permanent or just due to economic fluctuation, and changing production is easier and than changing prices
  - c. Pay for workers don't increase immediately during an expansion either. If new workers get paid more than old ones, the old ones might become disgruntled, and ask for a raise. If the boom is only short term, wages will change all the time and workers won't be happy.
2. **Potential GDP** – the average level of GDP over a given number of years. Potential GDP depends on the economy's aggregate supply, which is determined by the available capital, labor, and technology.
3. When firms produce more than what they would at potential GDP, it's usually due to a rise in aggregate demand. More people are employed (producing more), and want more goods/services
4. When firms produce less than potential GDP, it's because demand has dropped. Companies cut production and lay off workers, which drops demand even more
5. **Stick price assumption** – prices do not move quickly in response to a change in supply or demand
6. **Flexible price assumption** – prices adjust instantaneously to a change in supply or demand – not usually true
7. In general, firms hire more workers during expansions and lay off workers during recessions (duh)
8. **Real Business Cycle Theory** – shifts in potential GDP are a primary cause of fluctuation in real GDP. Shifts in potential GDP are usually caused by changes in technology
9. Potential GDP usually grows steadily since we don't just forget how to use technology or lose all our capital in a single disaster. Real GDP fluctuates around the potential GDP
10. **Forecasting Real GDP**

- a. Recall the four components of Real GDP (Y), which is equal to aggregate demand
    - i. C – consumption by households
    - ii. I – investments by firms in machines and equipment, consumer housing purchases
    - iii. G – government spending
    - iv. X – net exports – exports – imports
  - b. To forecast the GDP in the foreseeable future, forecast each component and add them all together
    - i. If economies overseas are in a recession, then the forecasted net exports would be lower
    - ii. If the interest rates are high, then consumption at home would be low
  - c. **Conditional forecasting** – what would the GDP look like if one share was changed
    - i. If the government demands 100 billion less, firms produce 100 bil less and GDP drops by 100 mil
    - ii. Stuff like this, all about predicting GDP
    - iii. This assumes that C, I, and X are not affected by these conditional changes
- 11. Simplified forecasting GDP Model where C, I, and X can change – doesn't take into account interest rates**
- a. Consumption Function – the amount people consume at each income level – usually a line
  - b. **Marginal Propensity to Consume** – slope of consumption function
    - i. MPC = change in consumption/change in income
    - ii. Marginal refers to the additional amount of consumption that is due to a change in income
    - iii. Propensity refers to the inclination to consume
  - c. **Aggregate Income** – real GDP
  - d. **Disposable Income** – income that households receive in wages, dividends, interest payments, government transfers minus taxes
  - e. When calculating the MPC for household consumption, we theoretically should use disposable income
  - f. However, since aggregate income and disposable income grow and fall together, the graphs using either income looks the same, except the axis might be different. And, since aggregate income is equal to real GDP, the number is more easily accessible, so this value is the one that is most commonly used
  - g. **Now assume government spending changes**
    - i. If G changes, real GDP decreases
    - ii. Real GDP is the same as income, hence income decreases
    - iii. Consumption depends on income by the consumption function, hence consumption decrease
    - iv. Logic: If the government spends less money on defense, the defense contractors have to lay off workers, and those workers will consume less since they now have no job
- 12. The 45 Degree Line** – the line showing that expenditure equals aggregate income
- a. This line just says that spending always equals income (economies neither borrow or save)
- 13. The Expenditure line** – another relationship between the sum of the four components of spending and income
- a. The consumption function shifted up to include exports, government purchases, and investments
  - b. This assumes that I, G, and X are not affected by income like consumption is.
  - c. This model generally says that the sum of the four components depends on income
  - d. Since the slope of the consumption function is the MPC, and the expenditure line is parallel to the consumption function, then the slope of the expenditure line is the MPC
  - e. The line can shift if G, I, or X rises or falls
  - f. When taxes rise, people have less money to spend, hence the curve shifts down
  - g. This model is inherently flawed. If income is 0, we cannot possibly still spend, as the expenditure line suggests. This function is only useful when combined w/ the 45 degree line
- 14. Now remember that the 45 degree line says that income must equal expenditures**
- a. **Pt of spending balance** - level of real GDP where the expenditure line intersects the 45 degree line
  - b. **Equilibrium income** – another name for the point of spending balance
15. This idea doesn't work magically. If the GDP or Income is above consumption, firms produce less until GDP = aggregate expenditure since they don't want excess products. If GDP is less than consumption, firms produce more since they can make more money if they do so, up until GDP = income = aggregate expenditure
- 16. Better model to forecast real GDP**
- a. Now that we know that a decrease in government purchases will decrease consumption, we know that the expenditure line will shift down, so there will be a new point of spending balance
  - b. That new point of spending balance will have a new income, or new level of real GDP, that's significantly lower than just the dollar value of money that the government decided not to spend. This more accurately forecasts GDP
  - c. The change in GDP due to government spending is the amount the government decides to spend (either more or less) \* the Keynesian multiplier, which equals  $1/(1 - MPC)$
- 17. Potential GDP in the puzzle**
- a. The spending balance can predict GDP in the near future, and it doesn't have to equal potential GDP
  - b. If the government spends more, the expenditure curve shifts up, real GDP rises above potential GDP
  - c. If the government spends less, the expenditure curve shifts down, real GDP drop below potential GDP
  - d. Either way, it has to intersect the 45 degree line in order for it to satisfy the equation  $Y = C + I + G + X$