Lab 10 – Macroeconomics and Test Review

GDP

1. Gross Domestic Product – the market value of final goods and services produced by workers and other resources located within the boarders of a nation over a period of one year
2. GDP does not include intermediate goods, illegal activities, homemaking activities, or the sale of used goods
3. GDP is calculated by multiplying the quantity of each individual type of final product by its market price. The dollar values of all final products derived in this way are then added to obtain a sum that equals the market value of the economy's aggregate production of final products
4. Components of GDP = C + I + G + NE
   a. Personal Consumption (C) – purchase of final products by households and individuals
   b. Gross Private Domestic Investment (I) – the purchase of final products by business firms for use in production or as additions to inventories and the purchase of new homes by households
   c. Government Purchases (G) – include expenditure on final products of business firms and all input costs, including labor costs, incurred by all levels of government
   d. Net Exports (NE) – the trade balance, where the total imports are subtracted from total exports (this value can be positive or negative)
5. Nominal verses Real
   a. Nominal – a variable that is not adjusted for the dollar's changing value
   b. Real – a variable adjusted for changes in the dollar's value

Business Cycles

1. Definitions
   a. Business Cycle – fluctuations in real GDP around its long-term growth trend
   b. Expansion – a period of increasing real GDP
   c. Peak – the point at which GDP reaches its maximum during an expansion
   d. Recession – a period of declining of declining or abnormally low real GDP growth
   e. Trough – the point at which real GDP reaches its minimum during a recession
   f. Recovery – an expansion in economic activity after a trough if the expansion follows a period of contraction severe enough to be classified as a recession

2. Actual Unemployment = Frictional + Structural + Cyclical Unemployment
    a. Frictional Unemployment – results from employees leaving jobs they are unsuited for and people re/entering workforce
    b. Structural Unemployment – joblessness arising from mismatches between workers' skills and employers' requirements or between workers' locations and employers' locations
    c. Cyclical Unemployment – results from changes in production over the business cycle (results from declines in real GDP)
    d. Full Employment – a situation in which there is no cyclical unemployment
    e. Natural Rate of Unemployment = Structural + Frictional Unemployment
3. Potential GDP is the level of real GDP that would prevail if the economy achieved the natural rate of employment

Price Levels

1. Price Level – an indicator of how high or low prices are in a given year compared to prices in a base period
2. Price Index – a number used to measure the price level, the value of the index is set at 100 in the base period
3. Consumer Price Index – the price index most commonly used to measure the impact of changes in prices on households
    a. Index is based on a standard basket of goods and services purchased by a typical urban family
    b. CPI = $\frac{Cost\ of\ basket\ at\ current\ prices}{Cost\ of\ basket\ at\ base\ year\ prices} * 100$
4. Inflation – the rate of upward movement in the price level for an aggregate of goods and services
    a. Measured by percentage change in a Price Index

Test Review

1. Economic verses Accounting Costs
    a. Accounting costs only factors in Explicit Costs
    b. Economic costs includes Accounting cost and Implicit Costs
    c. Economic costs > Accounting costs
2. Production
    a. Short run – a period of production during which some inputs cannot be varied
    b. Long run – a period of production that gives managers adequate time to vary all the inputs used to produce a good
    c. If there are fixed costs, then you are in the short run
3. Cost Definitions
    a. Fixed Cost – costs that do not change as a firm varies its output TFC = FC = AFC*Q
    b. Variable Cost – costs that change with output TVC = AVC*Q
    c. Total Cost – sum of all costs used to produce output TC = TFC+TVC = (AFC+AVC)*Q
    d. Marginal Cost – the extra cost of producing one more unit of output $\delta TC/\delta Q$

4. Law of Diminishing Marginal Returns – extra production obtained from increases in a variable input will eventually decline as more of the variable input is used together with fixed inputs

5. Monopoly verses Perfect Competition
    a. Demand
        i. In perfect competition, each firm faces a perfectly elastic demand that is equal to the market price. P=MR=D
        ii. A monopoly faces the market demand which is not necessarily perfectly elastic. D=AR=MR/2
    b. Profit Maximization
        i. Profits = TR – TC, take the derivative and set equal to 0
        ii. MR – MC = 0, so firms set MR = MC and determine output from this
        iii. Notice: MR is different in perfect competition and monopoly, but profit maximization is still the same
        iv. Another way to write Profits = (P – AC)*Q
    c. Shutdown point
        i. A firm will shutdown when P<AVC
        ii. A firm operates at a loss when AC<P<AVC, but they do not shutdown
    d. Social Cost of Monopoly
        i. Measure of the loss in the potential net benefits that results from monopoly control of price and supply
        ii. Graphically, sum up the area between the Demand and Supply curves from Quantity of the monopoly to the Quantity of perfect competition