Announcements

- Midterm Exam 1 next Thursday!!

- Extra office hours next week (Mon 10/3: 9:00-10:30am & Wed 10/5: 9:30-10:30am)

- No Discussion section next week.

- Please take the mid-semester TA survey.

From last week

- Clarification on unemployment definitions:

  - Natural Rate of Unemployment: No cyclical unemployment. Consists of BOTH structural and frictional unemployment. (around 5%)
  - Full Employment: Level of employment when the unemployment rate is at the natural rate.

A few words on models...

- "All models are wrong, but some are useful" - George Box (started the UW-Madison stats dept.)

- Occam's Razor - *When you have two competing theories that make exactly the same predictions, the simpler one is better.* (i.e. don't overcomplicate your models)

Goals for this session

- Understand Labor Demand, Supply, Marginal Product (MPL)

- Build simple F(K,L, tech) output model.

  - SHOCK SHOCK SHOCK - understand how this model changes with shocks

- Real Business Cycle (RBC) model

- 'Crowding out' caused by government spending

Important Concepts

- $MPL = \frac{W}{P}$ = REAL WAGE - this arises from two assumptions:

  1. Diminishing returns to labor: MPL decreases as L increases.
  2. Perfect competition: MB = MC.

  Putting 1 and 2 together this implies w = mpl*p (the wage you are willing to pay is equal to your revenues from hiring your last worker). Therefore mpl = w/p.

Problems

1. You're in charge of running a pizza shop, and want to understand how many people you need to hire to produce enough pizzas to satisfy demand.

   (a) Complete the MPL column in the following table:

Pizzas produced (Y)	Employees (L)	Marginal Product (MPL)
50	1	50
80	2	
100	3	
110	4	

   (b) Graph this curve. Does it follow the principle of diminishing returns?

2. Shocks! For each of the following below, draw an output and labor market graph and illustrate the shocks. Be sure to always label each axis, curve, and equilibrium points. Explain what happens to the following equilibria after the shock:

   - Level of Full Employment
   - Real Wage
   - Output Level

   (a) The US relaxes immigration laws, so there is a huge influx of new immigrant laborers.

      i. Explain to your neighbor the wage 'story', how do real wages adjust to the new equilibrium level?

   (b) A tornado rips through the midwest, destroying many factories/machines.

   (c) Bill gates invents the Windows computer.

   (d) Obama pushes through an increase to employment taxes before leaving office. (explain two possible outcomes)

   (e) Obama declares that every Friday is now a national holiday!

3. The RBC model argues that _____ shocks are the major cause of economic fluctuations.

4. Crowding out: The US has a(n) _____ (open/closed) economy. When the government increases its spending, what happens to C, I, NX, and Y if the economy is at full employment? Why is full employment a necessary assumption here?

Good Luck on the Exam!!! On Wisconsin!!!