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ECN100: Section A — Summer 2016

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Homework Week 8

Unemployment and Inflation

1. In the U.S., the inflation rate in January 2000, the Dexter's family applied for home mortgage to a bank and locked up a fixed interest rate of 9% for the first two years, and then the "adjustable rate" for the next five years was up to 11%. Right after the contract is signed, the inflation between the years 2000 through 2007 was 4.8%.

a) Assess the Dexter's situation. Were they better off with their mortgage deal? Think in terms of "real" terms. Calculate the change in real interest rates they are paying (when they signed, the first two years, the next five years).

Fixed Rate = 0.09 Adjustable Rate = 0.11 Inflation = 0.048

Fixed Rate – Inflation = Real Interest Rate

$0.09 - 0.048 = 0.042 = 4.2\%$

Adjustable Rate – Inflation = Real Interest Rate

$0.11 - 0.048 = 0.062 = 6.2\%$

For the first two years the Dexter family had a better deal ($4.2\% < 4.8$) but the next five years they paid nearly 30% more with the adjustable rate.

b) In 2008 until 2010, the price of houses had gone down by 30% of the peak 2007 price. And inflation rate turned into deflation of 2% during those years, and the Dexter's refinanced their mortgage rate into 6%, how would this affect the Dexter's these two years; and what would be their "real" mortgage rate now?

New Rate – Inflation = Real Interest Rate

$0.06 - (-0.02) = 0.08 = 8\%$

The new rate is higher than before, but considering it could have been even higher with an initial rate of 11% it is less now than it could have been.

2. For each situation below, state whether the unemployment is frictional, structural or cyclical.

a) Jasmine has recently moved to Florida because she loves the warm climate there. Being new to the area, she will need to spend a few weeks looking for a new job.

Frictional unemployment

b) As the United States becomes a more high-tech producer, labor-intensive factories relocate to low-wage countries. Factory workers lose their jobs and the unemployment rate rises.

Structural unemployment

c) As it becomes more acceptable for mothers to work, more women enter the labor market looking for work. The unemployment rate rises.

Frictional unemployment

d) Foreign economies slow and demand fewer U.S. exports. Unemployment rate rises.

Cyclical unemployment

3. Sarah works for a firm that automatically adjusts her wages to the annual rate of inflation. Bob works for a firm that grants its employees a 5% annual income increase. Milt is retired and receives two payments: a pension payment that is fixed at \$2,000 per month and a Social Security payment of \$1,000 per month. The Social Security payment is indexed to the inflation rate in the community.

Suppose the rate of inflation is 8% this year. Describe the effect of this inflation rate on Sarah, Bob, and Milt. Who is left in worse shape with this inflation? Does anyone end up better off despite this inflation rate?

Sarah's wage would match the annual rate of inflation so the rate of inflation increasing does not really affect her in any way. Bob's 5% annual income increase would be 3% less than the 8% rate of inflation so he would effectively have 3% less income. Milt's income, due to being split two ways, works differently in that his Social Security payment would rise to match the rate of inflation, but his fixed payment would be worth less. No one really ends up better, but Sarah is completely unaffected by the change.

4. Checking BLS.gov:

a) Check for the level of Unemployment rate before the housing crisis (Aug 2007) and after crisis (Dec 2009).

August 2007 Unemployment rate = 4.6%

December 2009 Unemployment rate = 9.9%

b) Check for the level of CPI for the above two dates; then calculate the inflation rate.

August 2007 CPI = 0.2%

December 2009 CPI = -0.2%

$$\text{Inflation} = ((\text{CPI}_{2009} - \text{CPI}_{2007}) * 100) / \text{CPI}_{2007}$$

$$\text{Inflation} = ((-0.002 - 0.002) * 100) / 0.002$$

$$\text{Inflation} = -0.4 / 0.002$$

$$-200\%$$

c) Check for BLS.gov/OOH for Occupations that are closest to what you are studying/aiming right now, pick TWO professions, write down the skills requirement and salary level.

Computer Programmer

Skill Requirement: Develop, create, and modify general computer applications software or specialized utility programs. Design software or customize software for client use.

Salary Level: Mean Hourly Wage: \$49.12, Mean Annual Wage: \$102,160

Multimedia Artist/Designer for Software Publishers

Skill Requirement: Create special effects, animation, or other visual images for video, computer, and computer games.

Salary Level: Mean Hourly Wage: \$33.80, Mean Annual Wage: \$70,300

d) Pick ONE more profession from OOH that are distance from your study, but you might consider that you could develop an interest given time.

Soil and Plant Scientist

Skill Requirement: Conduct research into the breeding, physiology, production, yield, and management of crops and agricultural plants or tree as they relate to plant or crop growth.

Salary Level: Mean Hourly Wage: \$ 31.72, Mean Annual Wage: \$65,980