# Introductory Macroeconomics

Pre-Tutorial #2
Week Starting 15th March 2021

**The Tutorial.** This week's tutorial looks at issues relating to inflation, interest rates, employment and unemployment.

Note that your tutor is under no obligation to go through the answers to the pre-tutorial work in detail. The focus in the tutorial will be on the tutorial work itself – the questions here are preparatory.

**Reading Guide.** You should look carefully over your lecture notes for Week 2. You may also find Chapters 3 and 5 of BOFAH useful.

**Key Concepts.** Inflation and interest rates. Employment and unemployment.

**Problems.**

1. Why do many economists believe that inflation reduces the efficiency with which prices allocate resources?

2. What do we mean by a 'real interest rate'? Can a real interest rate be negative? Why or why not?

3. Frank is going to lend Sarah \$1000 for 1 year. Frank and Sarah agree that Frank should earn a 2% real rate of interest on the loan. The CPI index is 100 at the time Frank makes the loan and is expected to be 110 in one years time. What nominal rate of interest should Frank charge Sarah? Suppose after one year that the CPI is 112 instead of 110. In this case who is better off than expected? Who is worse off than expected?

4. Deflation is a decline in the price level. Economists typically argue that deflation is costly since it discourages consumption and investment. Explain why this is the case.

5. Consider the simple model of labour market transitions with two states, employment $E_t$ and unemployment $U_t$ and labour force $L_t = E_t + U_t$. Let $u_t = U_t/L_t$ denote the unemployment rate. The change in unemployment from one period to the next is

$$U_{t+1} - U_t = sE_t - fU_t$$

with constant job separation rate $s = 0.03$ per month and constant job finding rate $f = 0.47$ per month.

   (a) Suppose the labour force is 10 million people. Calculate the number of employed and number of unemployed people in 'steady state' where $U_{t+1} = U_t$. Calculate the steady state unemployment rate.

   (b) Suppose the job separation rate increases to $s = 0.04$. Calculate the new steady state unemployment rate. Is this higher or lower than in (a)? Explain.

   (c) Consider again the economy in part (a). The government would like to pass some legislation that economists estimate will increase *both* the job separation rates and job finding rates by 50%. What effect would this legislation have on steady-state unemployment? Explain. What effect would it have on the composition of short- and long-term unemployment and employment? Explain.