Problem Set A3
Econ 302 - Haworth
Due date: Thursday, July 16 (by 11:59pm)

Note that your answers to this problem set can be submitted via email or uploaded at Blackboard within the Assignments folder.

1. Assume that in Country X, the velocity of money is constant. Read GDP grows at 2% per year and the money stock grows at 10% per year. Let's assume further that the nominal interest rate is equal to 12%.

a. What is the growth rate of nominal GDP?
b. What is the inflation rate?
c. What is the real interest rate?

2. Assume that money demand in Country Z can be described by the following: $\left(\frac{M}{P}\right)^d = \frac{0.2Y}{\sqrt{i}}$

a. Given that real money demand and real money supply are going to be equal, use that information to derive an expression (equation) for velocity from the equation above. What does velocity depend on? Explain why this dependency may occur.

b. Calculate velocity if the nominal interest rate (i) is 4%.

c. If output (Y) is 1000 units and the money supply is $1200, what is the price level (P)?

d. Suppose the announcement of a new Central Bank Chairman is made, and that this Chairman has a reputation as not being a big inflation fighter (i.e. willing to let the price level rise by more than previous Chairmen). Assume that this increases expected inflation by 5 percentage points. According to the Fisher effect, what is the new nominal interest rate?

e. Given what you found in part d, calculate the new velocity of money.

f. If, after the announcement in part d, assume that the economy's output (Y) and current money supply are unchanged. What happens to the price level (P) in that situation?

g. If the new Central Bank Chairman keeps the price level (P) the same, at what level should she set the money supply (M)?