Econ 522: Intermediate Macroeconomics, Fall 2017 – Test # 2

Name: _____

Instructions: This is a closed-book, closed-note exam. You may use a calculator (but not on a phone or on a device capable of connecting to the internet). Do not look at any other students' paper or attempt to communicate with any other students during the exam. Failure to comply with these instructions will result in a grade of zero on this exam.

1. What institution is responsible for carrying out monetary policy in the U.S.? Who is currently the chair of that institution? (2)

2. According to the classical model, what is the primary driver of inflation in the long run? (2)

3. Identify either two of the three functions of money, or the two types of money that an economy could use. Indicate which you are identifying. (2)

4. What are the Fed's two top policy goal priorities in making monetary policy decisions (dual mandate)? Which of the two related macroeconomic variables has been more of a mystery based on recent data (over the last couple of months)? Which of the two would the classical model, as we have seen it in Chapters 3-6, be less appropriate to use to try to explain? (4)

5. Identify two of the tools used by the Fed for monetary policy (you can select from any of the tools, past or present, which were identified in class or in the textbook). For each tool you identify, explain what it is and how it changes the money supply. Also, specifically identify what type of change the Fed would need to make using each tool in order to increase the money supply. (8)

   Tool 1: _____

   Tool 2: _____

   Explanation of Tool 1:

   Explanation of Tool 2:

   Policy change needed to increase money supply using Tool 1:

   Policy change needed to increase money supply using Tool 2:

6. Write out the quantity equation in growth rate form. (1)

7. Write out the equation associated with the Fisher effect. (1)

8. Assuming constant velocity, if real GDP is growing by 3% per year over the long run, what rate of money supply growth would the central bank need to target to achieve zero inflation (on average over the long run)? (1)

9. Assume the money supply is growing at 5 percent per year, real output is growing at 2 percent per year, the real interest rate is 4 percent, and velocity is constant. If the Fed increases the annual money supply growth rate by 2 percentage points, what will happen to the inflation rate and the nominal interest rate?[1] (4)

[1] You may solve for the changes using equations, or you may describe what would happen based on the underlying theory. In either case, try to incorporate both direction (ex., increases, decreases, stays the same) and magnitude (ex., more than, less than, same amount, no amount) in your answers.

10. Define:
    (a) Net exports (1)

    (b) Net capital outflow (1)

11. If the nominal exchange rate is $e = .8524$ Euros/U.S. Dollar, the price of a textbook in the EU is 80 Euros, and the price of the same textbook in the U.S. is \$100,
    (a) What is the implied real exchange rate? (1)

    (b) How would you interpret that number? (1)

12. Consider a small open economy described by the following equations:

$$\begin{aligned} Y &= C + I + G + NX, & C &= 250 + 0.75(Y - T), \\ Y &= 5,000, & I &= 1,000 - 50r, \\ G &= 1,000, & NX &= 500 - 500\epsilon, \\ T &= 1,000, & r &= r^* = 5 \end{aligned}$$

(a) In this economy, solve for national saving, investment, net capital outflow, and the equilibrium exchange rate. Does the economy have a trade deficit, balanced trade, or a trade surplus? (5)

(b) Imagine now that G increases to 1,250. Solve for national saving, investment, net capital outflow, and the equilibrium exchange rate. (Or, if applicable, indicate that the particular variable does not change). Is trade in deficit, balanced, or in surplus now? (3)

(c) Draw the loanable funds market and foreign exchange market graphs starting from balanced trade. Show what happens to national savings, investment, net capital outflow, and the real exchange rate when government spending increases. Label each curve and graph axis. Use numbers (ex, S_1, S_2) or arrows to indicate the direction of changes. You may use the equations and numbers in this problem if helpful, or draw the graphs from memory and without reference to number values. (8)

(d) Explain what happens to (1) national savings, (2) the world real interest rate, (3) investment, (4) net capital outflow, (5) the real exchange rate, and (6) net exports when government spending increases, starting from balanced trade, in a small open economy. (6)