Homework 3

Name___________________________________

Part I

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) Which major actor is at the center of the foreign exchange market?
   A) Central banks
   B) Non–bank financial institutions
   C) Corporations
   D) Commercial banks
   E) None of the above.

2) Which one of the following statements is the most accurate? Trades of U.S. dollars for Canadian dollars in New York are executed with
   A) A one-day lag
   B) A zero-day lag
   C) A three-day lag
   D) A four-day lag
   E) A two-day lag

3) What accounts for most of the activity in the foreign exchange market?
   A) Government transfers
   B) Sale of good and services
   C) Government purchase of assets
   D) Inter–bank trading
   E) Foreign imports

4) The largest trading of foreign exchange occurs in
5) Which one of the following statements is the most accurate?
   A) The dollar rate of return on euro deposits is approximately the euro interest rate minus the rate of depreciation of the dollar against the euro.
   B) The dollar rate of return on euro deposits is the euro interest rate plus the rate of depreciation of the dollar against the euro.
   C) The dollar rate of return on euro deposits is the euro interest rate minus the rate of depreciation of the dollar against the euro.
   D) The dollar rate of return on euro deposits is approximately the euro interest rate plus the rate of depreciation of the dollar against the euro.
   E) The dollar rate of return on euro deposits is approximately the euro interest rate plus the rate of appreciation of the dollar against the euro.

6) Which one of the following statements is the most accurate?
   A) Since dollar and yen interest rates are measured in comparable terms, they move quite the same over time.
   B) Since dollar and yen interest rates are not measured in comparable terms, they can move quite differently over time.
   C) Since dollar and yen interest rates are measured in comparable terms, they can move quite differently over time.
   D) Since dollar and yen interest rates are measured in comparable terms, they still move quite differently over time.
   E) None of the above.

7) What is the exchange rate between the dollar and the British pound if a pair of American jeans costs 60 dollars in New York and 30 Pounds in London?
   A) 3.5 dollars per British pound
   B) 2 dollars per British pound
   C) 1.5 dollars per British pound
   D) 2.5 dollars per British pound
   E) 0.5 dollars per British pound

8) When a country’s currency depreciates,
   A) Foreigners find that its exports are cheaper; however, domestic residents are not affected.
   B) Foreigners are not affected, but domestic residents find that imports from abroad are more expensive.
   C) Foreigners find that its exports are more expensive, and domestic residents find that imports from abroad are cheaper.
   D) Foreigners find that its exports are more expensive, and domestic residents find that imports from abroad are more expensive.
   E) None of the above.
9) Which one of the following statements is the most accurate? The term spot exchange rate is
A) Misleading because even spot exchanges usually become effective only three days after a deal is struck
B) Misleading because even spot exchanges usually become effective only two days after a deal is struck
C) Misleading because even spot exchanges usually become effective only six days after a deal is struck
D) Misleading because even spot exchanges usually become effective only four days after a deal is struck
E) Misleading because even spot exchanges usually become effective only five days after a deal is struck

10) Which of the following statements is the most accurate?
A) For a given U.S. interest rate and a given expectation with regards to the future exchange rate, a rise in the interest rate paid by euro deposits causes the dollar to depreciate.
B) For a given U.S. interest rate and a given expectation with regards to the future exchange rate, a rise in the interest rate paid by euro deposits causes the dollar to appreciate.
C) A rise in the interest rate paid by euro deposits causes the dollar to appreciate.
D) A rise in the interest rate paid by euro deposits does not affect the value of the dollar.
E) None of the above.

11) Which one of the following statements is the most accurate?
A) A depreciation of a country’s currency makes its goods cheaper for foreigners.
B) A depreciation of a country’s currency makes its goods cheaper.
C) A depreciation of a country’s currency makes its goods more expensive for foreigners.
D) A depreciation of a country’s currency makes its goods cheaper for its own residents.
E) None of the above.

12) If the goods’ money prices do not change, an appreciation of the dollar against the pound
A) Makes British sweaters more expensive in terms of American jeans
B) Makes American jeans cheaper in terms of British sweaters
C) Makes British sweaters cheaper in terms of American jeans
D) Doesn’t change the relative price of sweaters and jeans
E) None of the above.
13) The action of arbitrage is
   A) The process of selling currency at different prices in different markets
   B) The process of buying a currency cheap and selling it high
   C) The process of buying a currency high and selling it cheap
   D) The process of buying and selling currency at the same price
   E) None of the above.

14) How many British pounds would it cost to buy a pair of American designer jeans costing $45 if the exchange rate is 1.50 dollars per British pound?
   A) 30 British pounds
   B) 10 British pounds
   C) 25 British pounds
   D) 20 British pounds
   E) 35 British pounds

15) Which of the following statements is true about a vehicle currency?
   A) The pound sterling, once second only to the dollar as a key international currency, is beginning to rise in importance.
   B) It is widely used to denominate contracts made by parties who reside in the country that issues the vehicle currency.
   C) The dollar is sometimes called a vehicle currency because of its pivotal role in many foreign exchange deals.
   D) There is much skepticism that the euro will ever evolve into a vehicle currency on par with the dollar.
   E) Only A and C.

16) How many dollars would it cost to buy an Edinburgh Woolen Mill sweater costing 50 British pounds if the exchange rate is 1.25 dollars per one British pound?
   A) 62.5 dollars
   B) 60 dollars
   C) 40 British pounds
   D) 50 dollars
   E) 70 dollars
17) If the dollar interest rate is 10 percent, the euro interest rate is 12 percent, and the expected return on dollar depreciation against the euro is negative 4 percent, then
   A) An investor should be indifferent between dollars and euros.
   B) An investor should invest only in euros.
   C) An investor should invest only in dollars.
   D) It is impossible to tell given the information.
   E) All of the above.

18) What is the exchange rate between the dollar and the British pound if a pair of American jeans costs 50 dollars in New York and 100 Pounds in London?
   A) 2.5 dollars per British pound
   B) 3.5 dollars per British pound
   C) 0.5 dollars per British pound
   D) 2 dollars per British pound
   E) 1.5 dollars per British pound

19) An appreciation of a country’s currency,
   A) Raises the relative price of its exports and lowers the relative price of its imports.
   B) Lowers the relative price of its exports and raises the relative price of its imports
   C) Decreases the relative price of its exports and lowers the relative price of its imports
   D) Raises the relative price of its exports and raises the relative price of its imports
   E) None of the above.

20) If the dollar interest rate is 10 percent and the euro interest rate is 6 percent, then
   A) An investor should be indifferent between dollars and euros.
   B) An investor should invest only in euros.
   C) An investor should invest only in dollars.
   D) It is impossible to tell given the information.
   E) All of the above.

21) How many British pounds would it cost to buy a pair of American designer jeans costing $45 if the exchange rate is 1.60 dollars per British pound?
   A) 28.125 British pounds
   B) 38.125 British pounds
   C) 48.125 British pounds
   D) 58.125 British pounds
   E) 18.125 British pounds
22) An economy’s long-run equilibrium is

A) The equilibrium that would occur if prices were perfectly flexible and always adjusted immediately.

B) The equilibrium that would occur if prices were perfectly flexible.

C) The equilibrium that would occur if prices were perfectly fixed at the full employment point.

D) The equilibrium that would occur if prices were perfectly fixed to preserve full employment.

E) The equilibrium that would occur if prices were perfectly flexible and always adjusted immediately to preserve full employment.

23) Which one of the following statements is the most accurate?

A) A rise in the average value of transactions carried out by a household or a firm causes its demand for money to fall.

B) A rise in the average value of transactions carried out by a household or a firm causes its demand for money to rise.

C) A reduction in the average value of transactions carried out by a household or a firm causes its demand for money to rise.

D) A rise in the average value of transactions carried out by a household or a firm causes its demand for real money to rise.

E) A rise in the average value of transactions carried out by a household or a firm causes its demand for nominal money to rise.

24) Using year-by-year data from 1989–2000 show that

A) there is a strong positive relation between average Latin American money-supply growth and inflation.

B) it is difficult to find a strong positive relation between average Latin American money-supply growth and inflation.

C) there is a strong negative relation between average Latin American money-supply growth and inflation.

D) there is a weak positive relation between average Latin American money-supply growth and inflation.

E) there is a strong positive relation between average Latin American money-supply growth and deflation.

25) All else equal we assume:

A) a rise in interest rate causes the demand for money to fall

B) a decline in interest rate causes the demand for money to rise

C) a rise in interest rate causes the demand for money to rise

D) a decline in interest rate causes the demand for money to fall

E) The change in demand is ambiguous.
26) Which one of the following statements is the most accurate?

A) Given PU₅ and YU₅, when the money supply rises, the dollar interest rate declines and the dollar depreciates against the euro.

B) Given PU₅, when the money supply rises, the dollar interest rate declines and the dollar depreciates against the euro.

C) Given PU₅ and YU₅, when the money supply decreases, the dollar interest rate declines and the dollar depreciates against the euro.

D) Given PU₅ and YU₅, when the money supply rises, the dollar interest rate declines and the dollar appreciates against the euro.

E) Given YU₅, when the money supply rises, the dollar interest rate declines and the dollar depreciates against the euro.

27) In a classic paper, Columbia University economist Phillip Cagan drew the line between inflation and hyperinflation at an inflation rate of

A) 10 percent per month
B) 50 percent per month
C) 20 percent per month
D) 5 percent per month
E) 25 percent per month

28) The aggregate demand for money can be expressed by:

A) Md = R × L(R, P)
B) Md = L × P(R,Y)
C) Md = P × Y(R, L)
D) Md = R × L(P,Y)
E) Md = P × L(R,Y)

29) A sustained change in the monetary growth rate will,

A) eventually affect equilibrium real money balances by raising the money interest rate.
B) immediately affect equilibrium real money balances by raising the money interest rate.
C) eventually affect equilibrium real money balances by raising the real interest rate.
D) eventually affect equilibrium real money balances by reducing the money interest rate.
E) eventually affect equilibrium nominal money balances by raising the money interest rate.
30) The family summer house on Cape Code pays a return in the form of
A) interest rate
B) capital gains
C) the pleasure of vacations at the beach
D) A, B, and C.
E) B and C only.

31) The aggregate real money demand schedule L(R,Y)
A) Slopes downward because a fall in the interest rate reduces the desired real money holdings of each household and firm in the economy
B) Has a zero slope because a fall in the interest rate keeps constant the desired real money holdings of each household and firm in the economy
C) Slopes upward because a fall in the interest rate raises the desired real money holdings of each household and firm in the economy
D) Slopes downward because a fall in the interest rate raises the desired real money holdings of each household and firm in the economy
E) None of the above.

32) Exxon Mobil want to pay €160,000 to a German supplier. They get an exchange rate quotation from its own commercial bank and instructs it to debit their dollar account and pay €160,000 to the supplier’s German account. If the exchange rate quoted is $1.2 per euro, how much is debited to Exxon Mobil’s account?
A) $160,000
B) $172,000
C) $180,000
D) $192,000
E) None of the above.

33) How many dollars would it cost to buy an Edinburgh Woolen Mill sweater costing 50 British pounds if the exchange rate is 1.80 dollars per one British pound?
A) 100 dollars
B) 40 dollars
C) 90 dollars
D) 50 dollars
E) 95 dollars
34) Which one of the following statements is the most accurate? Countries in the euro zone includes A) Austria, Belgium, Finland, France, Germany, Italy B) Austria, Belgium, Finland, France, Germany, Greece C) Austria, Belgium, Finland, France, Germany D) Austria, Belgium, Finland, France, Germany, Ireland E) All of the above statements are correct.

35) Futures contracts differ from forward contracts in that A) Future contracts ensures you will receive a certain amount of foreign currency at a specified future date B) Future contracts bind you into your end of the deal C) Futures contracts don’t allow you to realize a profit of a loss right away D) Future contracts are a disadvantage if your views about the future spot exchange rate are to change E) Future contracts allow you to sell your contract to an organized futures exchange

36) How many British pounds would it cost to buy a pair of American designer jeans costing $45 if the exchange rate is 2.00 dollars per British pound? A) 30 British pounds B) 22.5 British pounds C) 12.5 British pounds D) 32.5 British pounds E) 40 British pounds

37) How many dollars would it cost to buy an Edinburgh Woolen Mill sweater costing 50 British pounds if the exchange rate is 1.50 dollars per one British pound? A) 70 dollars B) 50 dollars C) 80 dollars D) 75 dollars E) 60 dollars

38) If there is an excess supply of money: A) The real money supply shifts right to make an equilibrium B) The interest rate rises C) The real money supply shifts left to make an equilibrium D) The interest rate falls E) A and C.
39) If there is initially
A) excess supply of money, the interest rate falls, and if there is initially an excess demand, it further falls.
B) excess demand for money, the interest rate falls, and if there is initially an excess supply, it rises.
C) excess supply of money, the interest rate falls, and if there is initially an excess demand, it rises.
D) excess supply of money, the interest rate increases, and if there is initially an excess demand, it falls.
E) None of the above.

40) Money demand behavior may
A) change as a result of demographic trends but not as a result of financial innovations such as electronic cash-transfer facilities.
B) change only as a result of demographic trends.
C) change as a result of demographic trends or financial innovations such as electronic cash-transfer facilities.
D) not change as a result of demographic trends or financial innovations such as electronic cash-transfer facilities.
E) change only as a result of financial innovations such as electronic cash-transfer facilities.

41) An American call option on foreign exchange
A) Gives you the right to buy foreign currency at a known price at any time during the period of the option
B) Gives you the right to buy foreign currency at a known price at a specific day in the future
C) Gives you the right to sell foreign currency at a known price at any time during the period of the option
D) Obligates you to buy foreign currency at a known price at any time during the period of the option
E) None of the above.

42) A change in the level of the supply of money
A) increases the long-run values of the interest rate and real output.
B) decreases the long-run values of the interest rate and real output.
C) has no effect on the long-run values of the interest rate and real output.
D) has no effect on the long-run value of only the interest rate.
E) has no effect on the long-run values of only real output.
43) Between 2002 and 2004, the exchange rate of the U.S. and the Canadian dollar
   A) Has stayed the same
   B) Has fallen
   C) Has risen
   D) Too difficult to determine from the information given
   E) None of the above.

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

44) Calculate the interest rate in the United States, if interest parity condition holds, for the following 15 cases:

<table>
<thead>
<tr>
<th>Case</th>
<th>RE</th>
<th>E</th>
<th>R$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.06</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0.06</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.06</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.12</td>
<td>-0.04</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0.18</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>0.06</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>0.06</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>0.06</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>0.12</td>
<td>-0.04</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>0.18</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>0.06</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>0.06</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>0.06</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>0.12</td>
<td>-0.04</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>0.18</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

45) Determine for each, whether the interest parity condition holds or not, if $E_{\$/€} = 1.10

<table>
<thead>
<tr>
<th>Interest Rate for the Dollar R$</th>
<th>Interest Rate for the Euro RE</th>
<th>Exchange Rate $E_{$/€}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.04</td>
<td>0</td>
<td>1.037</td>
</tr>
<tr>
<td>0.07</td>
<td>0.02</td>
<td>0.99</td>
</tr>
<tr>
<td>0.08</td>
<td>0.08</td>
<td>0.948</td>
</tr>
<tr>
<td>0.09</td>
<td>0.04</td>
<td>1.047</td>
</tr>
<tr>
<td>0.2</td>
<td>0.1</td>
<td>1</td>
</tr>
<tr>
<td>0.1</td>
<td>0</td>
<td>0.99</td>
</tr>
<tr>
<td>0.12</td>
<td>0.04</td>
<td>0.948</td>
</tr>
</tbody>
</table>
46) Show graphically a drop in the interest rate paid by euro deposits. What is the effect on the dollar?

47) Compute how many dollars would it cost to buy an Edinburgh Woolen Mill sweater costing 50 British pounds for the following exchange rates?

<table>
<thead>
<tr>
<th>Exchange Rate</th>
<th>Number of Dollars per One British Pound</th>
<th>Price of a Sweater in British Pounds</th>
<th>Price in Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50</td>
<td>50</td>
<td>25</td>
</tr>
<tr>
<td>1.1</td>
<td>50</td>
<td>50</td>
<td>24.5</td>
</tr>
<tr>
<td>1.2</td>
<td>50</td>
<td>50</td>
<td>24</td>
</tr>
<tr>
<td>1.25</td>
<td>50</td>
<td>50</td>
<td>23.75</td>
</tr>
<tr>
<td>1.3</td>
<td>50</td>
<td>50</td>
<td>23.13</td>
</tr>
<tr>
<td>1.4</td>
<td>50</td>
<td>50</td>
<td>22.75</td>
</tr>
<tr>
<td>1.5</td>
<td>50</td>
<td>50</td>
<td>22.5</td>
</tr>
<tr>
<td>1.6</td>
<td>50</td>
<td>50</td>
<td>22.33</td>
</tr>
<tr>
<td>1.7</td>
<td>50</td>
<td>50</td>
<td>22.14</td>
</tr>
<tr>
<td>1.75</td>
<td>50</td>
<td>50</td>
<td>22</td>
</tr>
<tr>
<td>1.8</td>
<td>50</td>
<td>50</td>
<td>21.75</td>
</tr>
<tr>
<td>1.9</td>
<td>50</td>
<td>50</td>
<td>21.5</td>
</tr>
<tr>
<td>2</td>
<td>50</td>
<td>50</td>
<td>21.25</td>
</tr>
</tbody>
</table>
48) Assume that the euro interest rate is constant at 5 percent, and that the expected exchange rate is 1.05 dollars per one euro. Find the expected dollar return on euro deposits for the following cases.

<table>
<thead>
<tr>
<th>Case</th>
<th>Today's Dollar/Euro Exchange Rate</th>
<th>Interest Rate on Euro Deposits</th>
<th>Expected Dollar Depreciation Rate Against Euro Deposits</th>
<th>Expected Dollar Return on Euro Deposits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.07</td>
<td></td>
<td>(1.05 – E)/E</td>
<td>Re + (1.05 – E)/E</td>
</tr>
<tr>
<td>2</td>
<td>1.06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1.02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1.01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>0.99</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>0.98</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

49) Using figures for both the short run and the long run, show the effects of a permanent increase in the U.S. money supply. Try to line up your figures to the short and long run equilibria side by side. Assume that the U.S. real national income is constant.
50) Explain the following figure

51) For the data in the previous question, plot today’s dollar/euro exchange rate against the expected dollar return on euro deposits. (Use a separate page if necessary.)

52) Combine the graph showing the interest parity condition and one showing money demand and supply to demonstrate simultaneous equilibrium in the money market and the foreign exchange market. How would an increase in the U.S. money supply affect the Dollar/Euro exchange rate and the U.S. interest rate? Illustrate your answer graphically and explain.

ESSAY. Write your answer on a separate sheet of paper.

53) Explain why depreciation in a country’s currency today lowers the expected domestic currency return on foreign currency deposits.

54) In the year 2000, Americans flocked to Paris. What economic forces made French goods appear so cheap to residents of the United States?
55) Explain the purpose of the following figure. Show the effects of German unification on Germany's interest rate.

![Diagram showing interest rates (percent per year) from 1976 to 1998. The figure includes lines for Dollar rate and Deutschmark rate.]

56) Analyze the effects of an increase in the European money supply on the dollar/euro exchange rate.

57) What are the factors that determine the amount of money an individual desires to hold?

58) Explain why the interest parity condition must hold if the foreign exchange market is in equilibrium.

59) What happens to the money supply and the demand for domestic currency when domestic interest rates are lowered?
Part II

Consider a two period endowment economy. The preferences of households are described by the utility function

$$\sqrt{C_1} + \frac{1}{1.1}\sqrt{C_2}$$

where $C_t$ denotes consumption in period $t = 1, 2$. Households are endowed with 10 units of goods in each period. Also, households must pay lump sum taxes $T_1$ and $T_2$ in periods 1 and 2 respectively. Finally, households have zero initial financial assets and can borrow and lend between periods in the world market, at an interest rate of ten percent (i.e. $r^* = 0.1$).

There is a government that has zero initial financial wealth and has expenditures $G_t = 1$ in period $t = 1, 2$. It finances those expenditures by collecting the taxes $T_1$ and $T_2$ and by borrowing or lending in the world market at the interest rate $r^* = 0.1$.

(i) Compute the equilibrium levels of consumption, the trade balance, and the current account in periods 1 and 2. (Hint: Ricardian Equivalence holds in this model. Do you understand why? One implication is that you may assume that the budget is balanced, i.e. $G_t = T_t$, $t = 1, 2$. Now solve the household’s decision problem.)

(ii) Now suppose that $T_1 = 0$. What is $T_2$? Compute private, public, and national savings in periods 1 and 2.

(iii) Suppose instead that $T_1 = 2$. What is $T_2$? What happens with the budget deficit and the current account in period 1? Explain.

(iv) Finally, suppose that government expenditures increase to $G_t = 2$, $t = 1, 2$. What is the response of the current account in period 1? Compare your answer to that of the previous question.