Practice Questions 2 - Econ 136 - Fall 2002

Review Questions

1. Relative to 100% monetary exchange, explain why credit exchange adds extra “lubricant” to an economy, acting as a substitute for monetary exchange.

2. What are “big ticket transactions”? Why is the opportunity cost of holding money especially important for big ticket transactions?

3. Use the idea of fast money to give one explanation why velocity $V$ typically goes down in recessions and up in expansions.

4. What will happen to $V$ if: (a) the amount of short term cash management increases? (b) The amount of credit exchange decreases? (c) The proportion of fast money transactions decreases? (d) The amount of asset balances increases? Briefly give the intuition for each case.

5. What does the equation of exchange say? Why does it imply that the amount of liquidity in an economy does not depend only on its money supply $M$? Illustrate the idea behind the equation using a BIG circle of exchange, with all buyers in a month on one side and all sellers in a month on the other side.

6. What did Classical Economists assume about the form of the money demand function? Carefully explain why this form implies (a) a constant velocity of money $V$, (b) a vertical LM curve which hits the horizontal axis at $\frac{M}{P} \times \frac{1}{k}$, and (c) a monetary theory of business cycles.

Exercises

1. **Credit exchange** Suppose an individual spends $500 continuously each month on consumer goods. Assume he does no STCM.

   a. Using a saw-tooth diagram, illustrate his transaction balances through time assuming he always uses cash for quid pro quo.

   b. **Some credit exchange** Now illustrate his transaction balances and credit balances through time assuming he does 4/5 of his transactions using cash and 1/5 using his credit card. (He pays his credit card balance at the end of each month.) Compare his average transaction balances in the two situations.

   c. **100% credit exchange** How much money would the individual have to hold if he could pay for everything with his credit card? Illustrate by showing his transaction and credit balances through time in a pair of saw-tooth diagrams.

2. **Credit exchange and velocity** Assume the monthly payments and asset balances on the Island Economy are as in the previous problem set. That is: $C = 1000m$, $S = 400m$, $I = 400m$, $G = T = 600m$, and $M_{asset} = 500m$. Assume no one on the island does short-term cash management, and all monetary transactions are slow-money transactions. But besides monetary exchange, there also is some credit exchange. In particular, all expenditures on $G$ and $I$ involve monetary exchange, but consumers do half their transactions using money and half using credit cards. So, in aggregate, 500m of the 2,000m of final expenditures each month involve credit exchange. Use saw-tooth diagrams to illustrate the aggregate transaction balances and credit balances of buyers and sellers through time. What must the island’s money supply equal, assuming the money-market is in equilibrium? What happens to $V$, relative to the case of 100% monetary exchange?

3. **Fast money and velocity**

   a. **micro level** Suppose, in addition to his everyday consumption of $500 (\text{on household})$, the individual in Question 1 decides to buy a new refrigerator at the beginning of month $t$. It costs $1,500$, so it’s a big ticket item. Assume he always pays using cash, and he does no short-term cash management except for this big ticket transaction. Modify your saw-tooth diagram of Question 1a. in an appropriate way to illustrate how the refrigerator purchase will affect his transaction balances through time, assuming it’s a fast money transaction. How much have his average transaction balances changed?

   b. **macro level** Moving to the macro level, assume the monthly payments and asset balances on the Island Economy are as in Question 2. Also assume all transactions involve monetary exchange (no credit exchange), and there is no short-term cash management except for fast money transactions. All investment expenditures $I$ (so 400m) and 20% of all consumption expenditures $C$ (so 200m) are fast money transactions, all remaining expenditures are slow money transactions. Use saw-tooth diagrams to illustrate the aggregate transaction balances of buyers and sellers through a typical month on the island given this mix between slow-money and fast-money transactions. What must the island’s money supply equal? What
happens to \( V \), relative to the case of only slow money transactions?

4. **Classical monetary theory** Suppose \( X = 2,000m, P = 2, \) and \( \frac{M^d}{P} = \frac{1}{5}Y \). If the money market is in equilibrium, what must the money supply \( M \) equal? What must velocity \( V \) equal? Find the equation of the economy’s LM curve, and draw it.