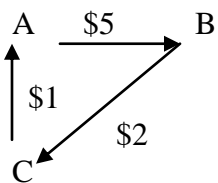


1. Given the reserve required ratio of 5%, the Fed purchases \$250 million in government securities from a dealer who deposits her check in Bank 1. Assuming that banks are “loaned up” and that there is no cash leakage, we can say that:

- Bank 1’s total reserve will rise by \$250 (m).
- Bank 1 will lend out \$237.5.
- The money supply in the banking system as whole will rise by \$5000.
- The overall lending in the system will rise by \$4750.
- The total reserve of the banking system will rise by \$250.

2. Consider the following exchanges between individuals A, B and C:



- The amount of money, M, needed to consummate these transactions is \$5.
- The average price, P, in these exchanges is $\$8/3 = \2.67 .
- The average velocity of circulation of money, V, is $[(\$1)(3) + (\$1)(2) + (\$3)(1)]/5 = 8/5 = 1.6$.

3. The demand for money, Md, is given by

$$M_d = 220 - 10i$$

where i is the rate of interest in percentage points.

The money supply, Ms, is set at

$$M_s = \$120$$

- The equilibrium rate of interest is 10.

$$M_d = M_s \qquad 220 - 10i = 120 \qquad i = 10$$

b) Assume that the required reserve ratio is 20%. The Fed decides to reduce the interest rate to 5%. The Fed must increase the money supply by \$50. If the Fed decides to use open market operations to change the money supply, it will have to buy bonds. The multiplier is 5. Thus, to achieve an interest rate of 5%, the Fed will have to buy bonds in the amount of \$10.

c) Suppose the interest rate is 5%, and marginal propensity to consume is 2/3 and the national income at equilibrium is \$2750. The Fed decides after a while to reduce the equilibrium level of national income to \$2000. The Fed must sell government securities. This will cause the interest rate to rise and the interest sensitive expenditures to fall by \$250.