**Finance 30220**
**Solutions to Problem Set #6**

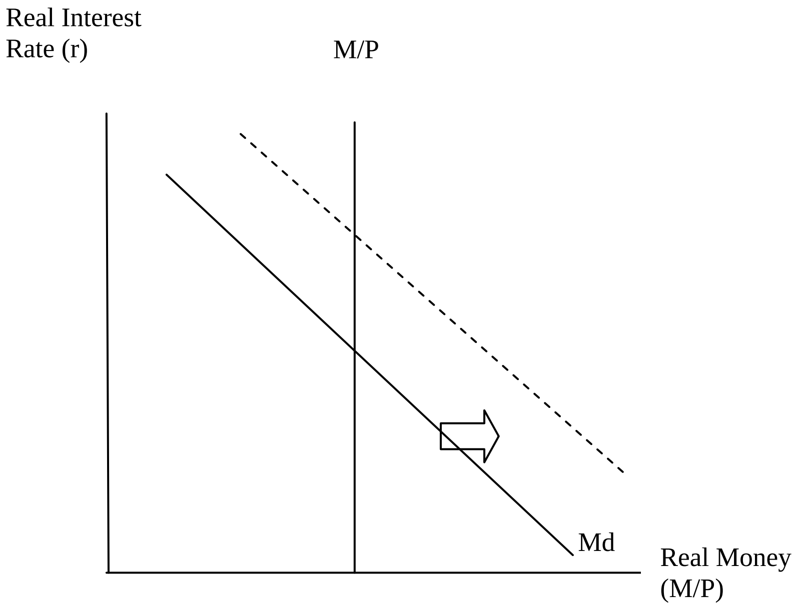
1) Recall that the formula for the money multiplier is:

$$mm = \frac{C/D + 1}{C/D + rr}$$

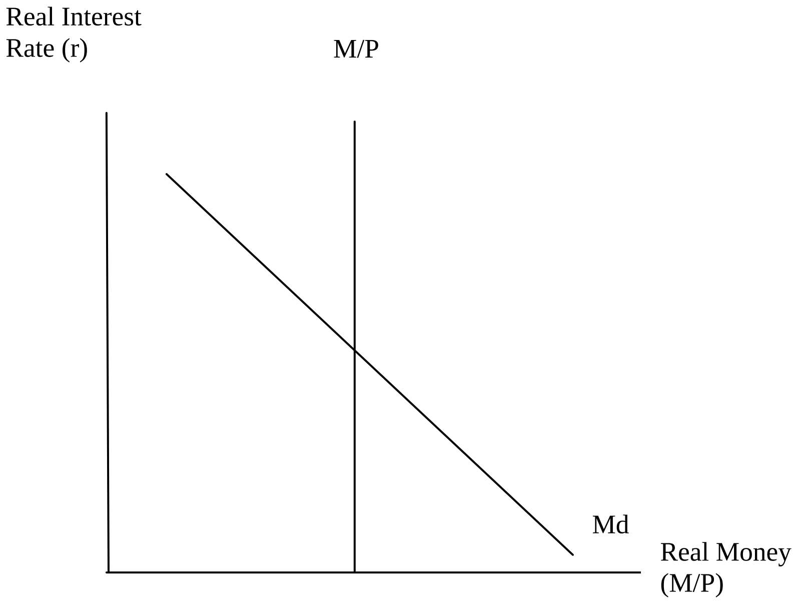
a) The multiplier will be 4. The purchase of securities represents a $100 million increase in the monetary base, so M1 increase by $400 million.
b) If C/D falls to .05, the multiplier rises to 7. Therefore, the change in M1 would be $700 million.

2)

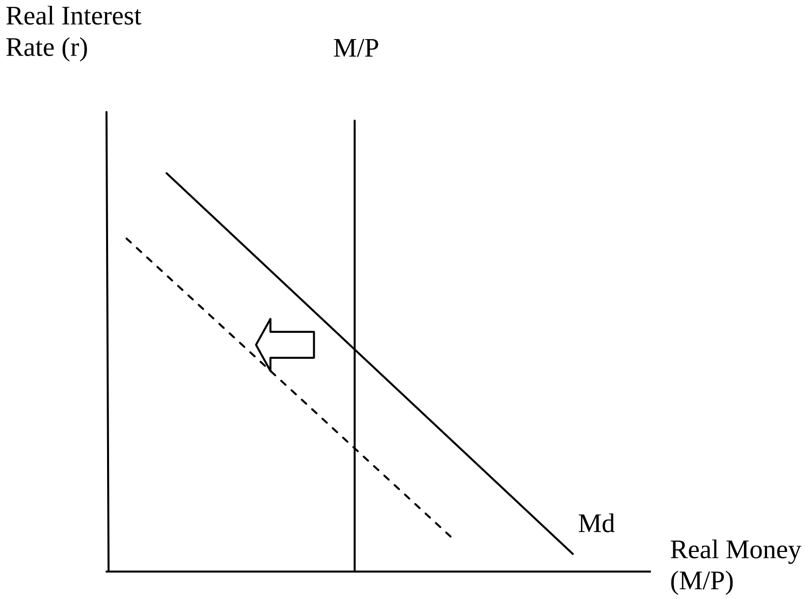
a) An increase in output should increase money demand. Money supply is unchanged. Interest rates rise.



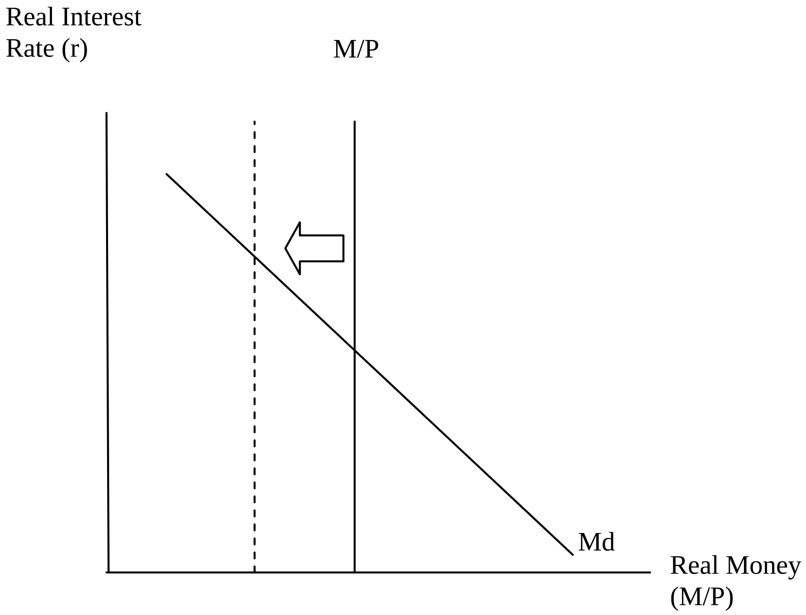
b) Credit cards only represent short-term loans – neither affecting the supply nor demand of money. Therefore, interest rates are unaffected.


Real Interest
Rate (r)
M/P
Md
Real Money
(M/P)

c) Inflation acts as a tax on money holdings by lowering its purchasing power. A rise in expected inflation will cause money demand to drop. Interest rates will fall.



d) An open market sale will lower the supply of money. Interest rates rise.


Real Interest
Rate (r)
M/P
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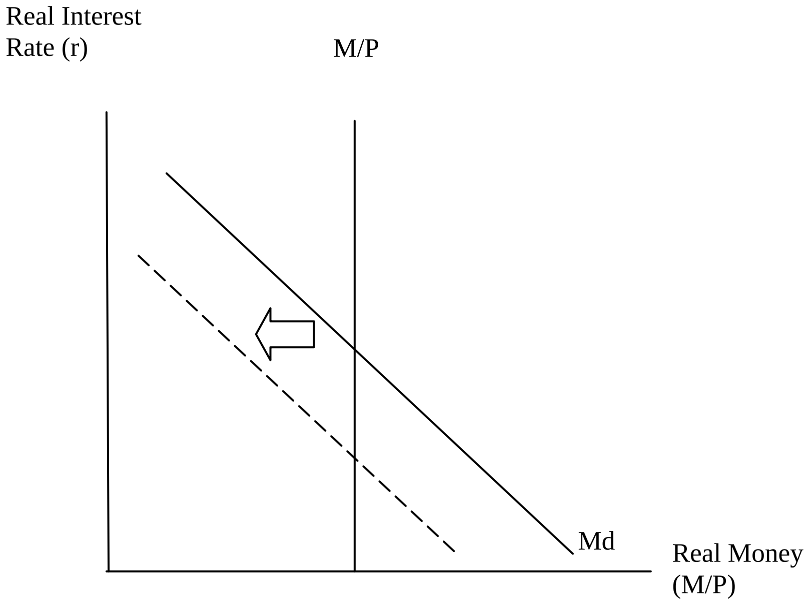
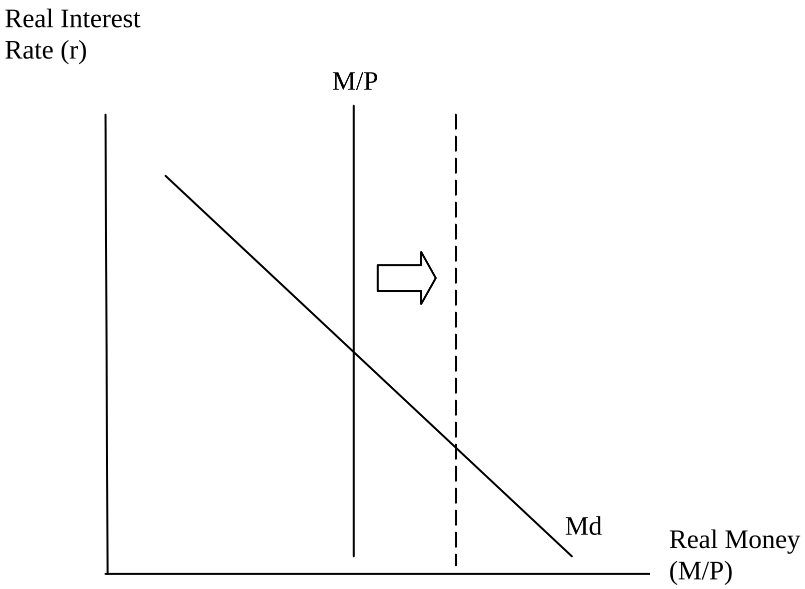
Real Money
(M/P)

3) With lower transaction costs, consumers can keep more money in the bank and carry lower cash balances. This should reduce the demand for money. The result would be a lower interest rate.


Real Interest
Rate (r)
M/P
Md
Real Money
(M/P)

4) The importance here is to remember what happens to money demand.

a) A one-time increase in the stock of money has no effect on money demand. The increase in money supply causes a drop in the interest rate.


Real Interest
Rate (r)
M/P
Md
Real Money
(M/P)

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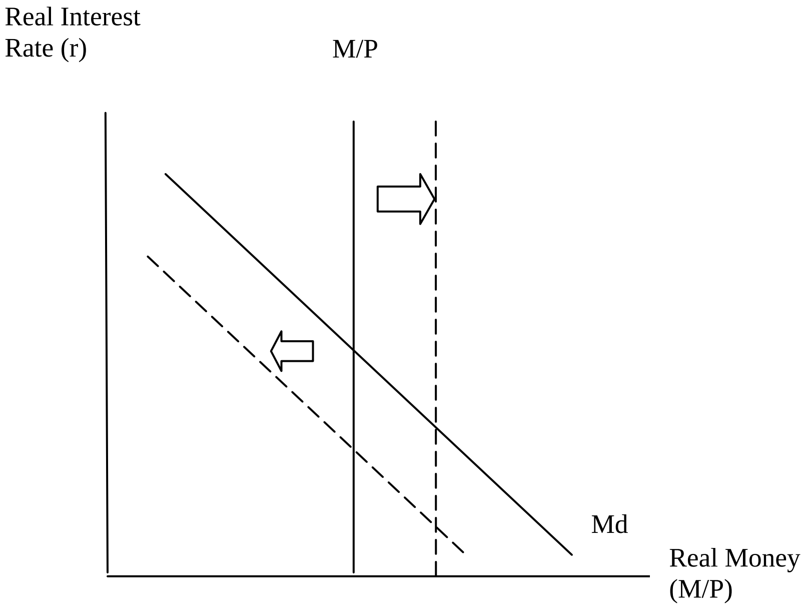
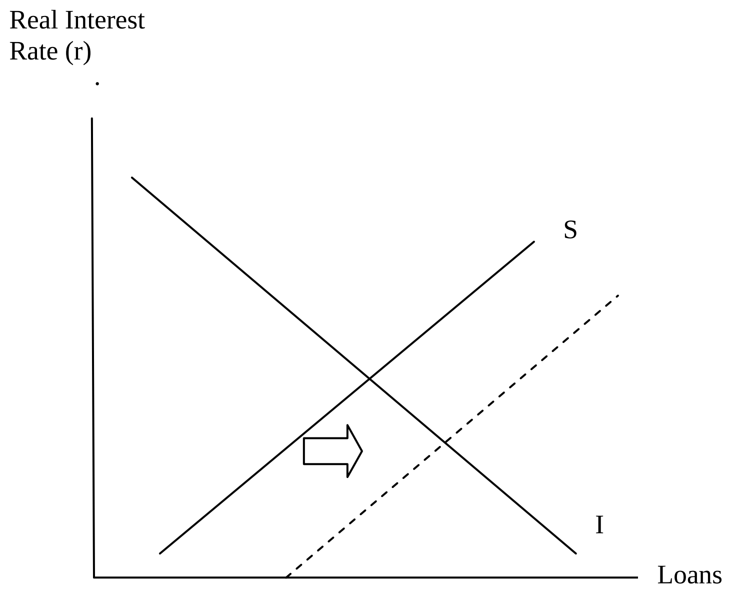
b) An increase in the growth of money creates an increase Inflation expectations. Money demand falls due to higher inflation expectations, which creates an magnified drop in the interest rate.

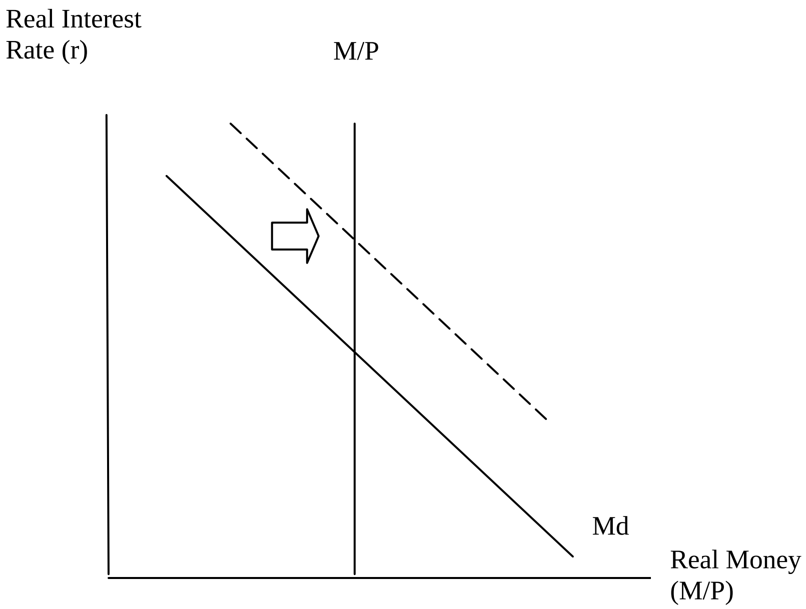

Real Interest
Rate (r)
M/P
Md
Real Money
(M/P)

1) Suppose that the economy experiences a temporary rise in productivity.
   a) Explain the impact of this event in the capital market. What happens to the interest rate?



The temporary increase in productivity increases savings (income temporarily increases). The interest rate falls.

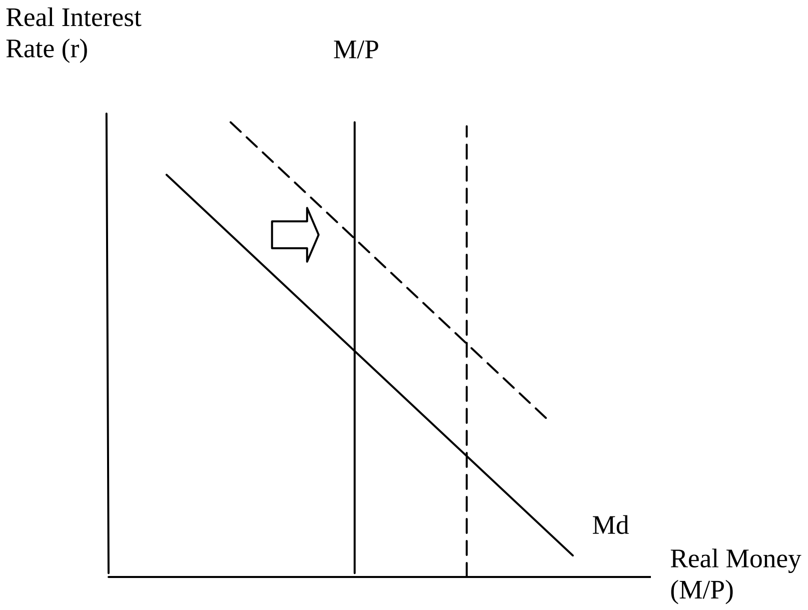
   b) Explain the impact of this event on the money market. What happens to the interest rate?



Higher income increases money demand – interest rate increases.

c) Given your answers to (a) and (b), what happens to the price level?

If the interest rate is higher in the money market than the capital market (in this case it should be), the price level will have to fall – this raises the real supply of money and lowers the interest rate in the money market.


Real Interest
Rate (r)
M/P
Md
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(M/P)