Problem 1. According to the Fisher Effect, if the expected rate of inflation increases by 2%, but if the demand for and supply of loanable funds do not change, the equilibrium ex-ante real interest rate will increase by:

(a) 1%

(b) 2%

(c) 3%

(d) 4%

(e) None of the above.

Answer 1: (e). Fisher effect says that expected inflation causes a one-to-one change in the nominal interest rate, but the ex-ante rate remains unchanged.

Problem 2. *True or False?* You borrow money from a bank for your education. This is an example of direct finance.

Answer 2: (false). If you're borrowing from a bank, then it's indirect finance. It's direct finance when you borrow money from a person instead of a financial intermediary.

Problem 3. Assume that the expected rate of inflation is 2%. Then, currently the equilibrium nominal interest rate equals _____ percent. What will be the new equilibrium ex-ante real interest rate if people revise their expectations of inflation upward? In particular assume that they now expect 5% inflation for the future. The new equilibrium ex-ante real interest rate will be _____ percent.
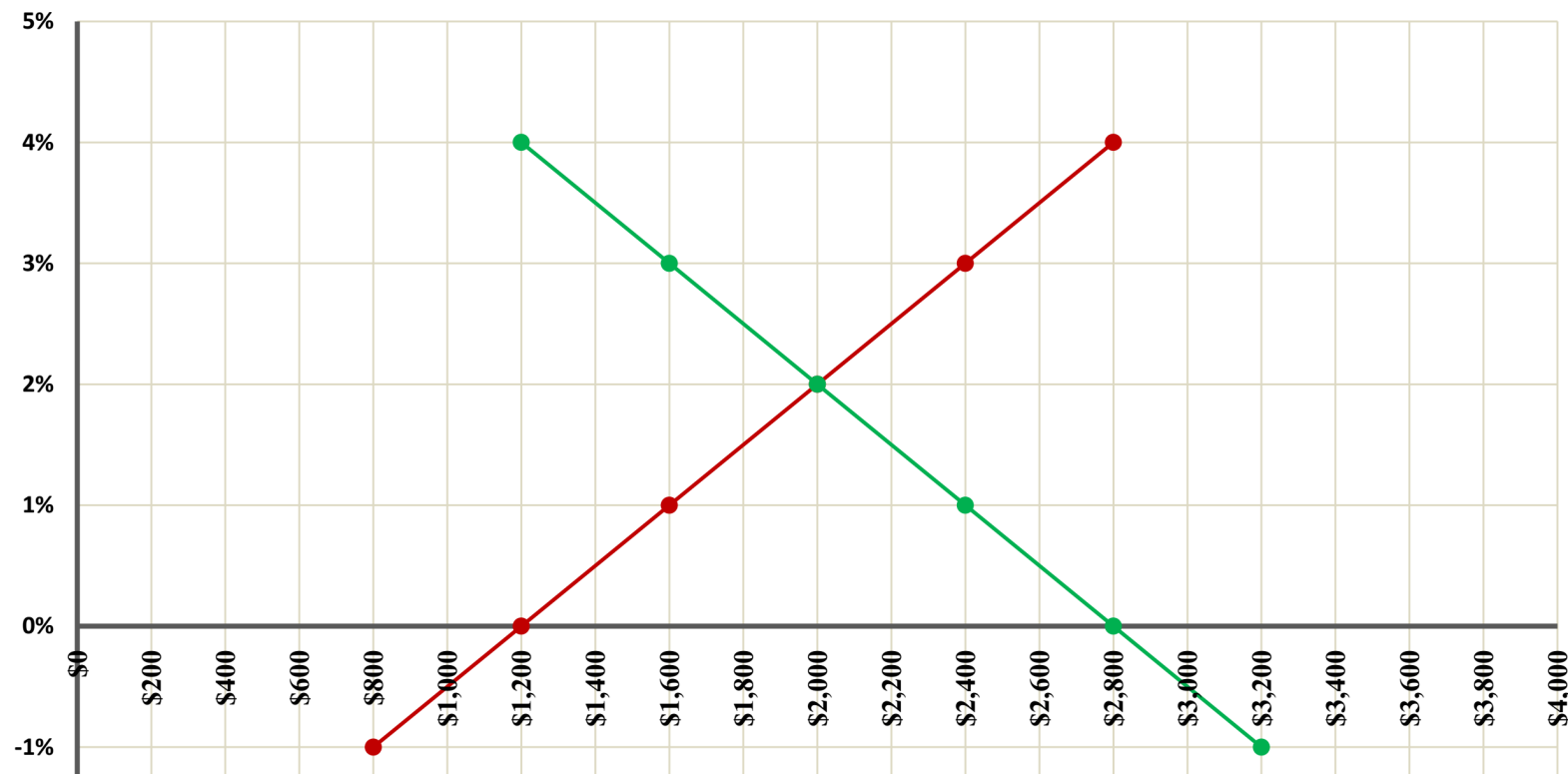
Answer 3.   Current equilibrium ex-ante real rate is 2% and expected inflation is 2%, hence

$$2\% = R - 2\% \implies R = 4\%.$$

If inflation expectations change, the equilibrium ex-ante real rate doesn't change – still 2%.

Problem 4.   The expected rate of inflation is 2%. The demand for loanable funds in the graph consists of the demand by households and firms. Currently, the government is not borrowing any money, because its tax revenue is sufficient to finance its expenditures. Now a war breaks out and to finance the purchase of additional military equipment the government has to borrow in the loanable funds market. Therefore, it comes to the loanable funds market and borrows $1,600 to finance the war effort. The government's borrowing decision is not affected by the real interest rate. So demand for loanable funds increases by $1,600 at every value of the real interest rate. The new equilibrium real interest rate will be _____ percent.

Answer 4. Shift demand, look at where things intersect, yeehaw.
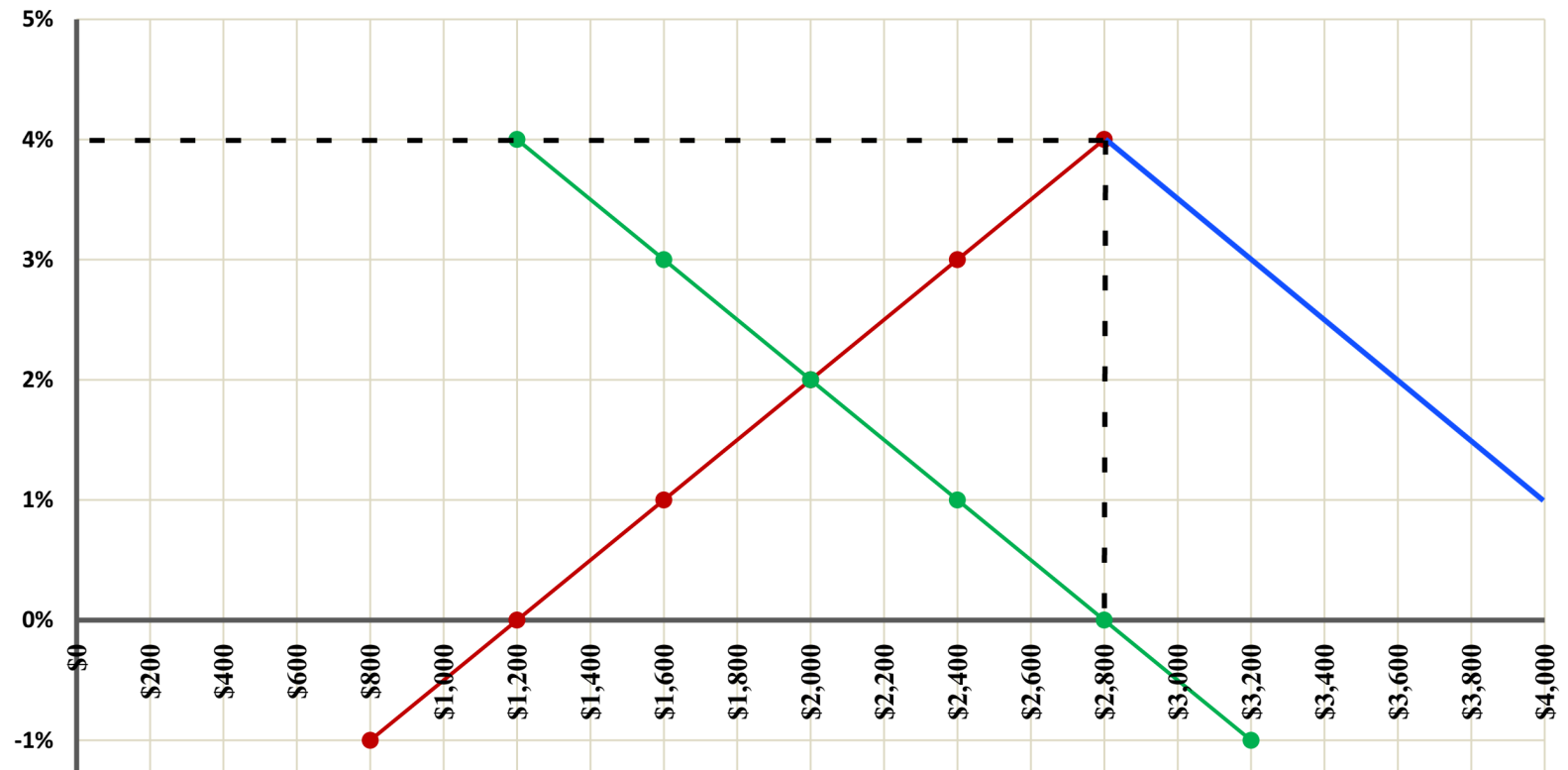
Problem 5.   Assume that the expected rate of inflation is 2%. The demand for loanable funds in the graph consists of the demand by households and firms. Currently, the government is not borrowing any money, because its tax revenue is sufficient to finance its expenditures. Now a war breaks out and to finance the purchase of additional military equipment the government has to borrow in the loanable funds market. So it comes to the loanable funds market and borrows $1,600 to finance the war effort. The government's borrowing decision is not affected by the real interest rate. So demand for loanable funds increases by $1,600 at every value of the real interest rate. The amount of crowding out will equal _____ dollars.
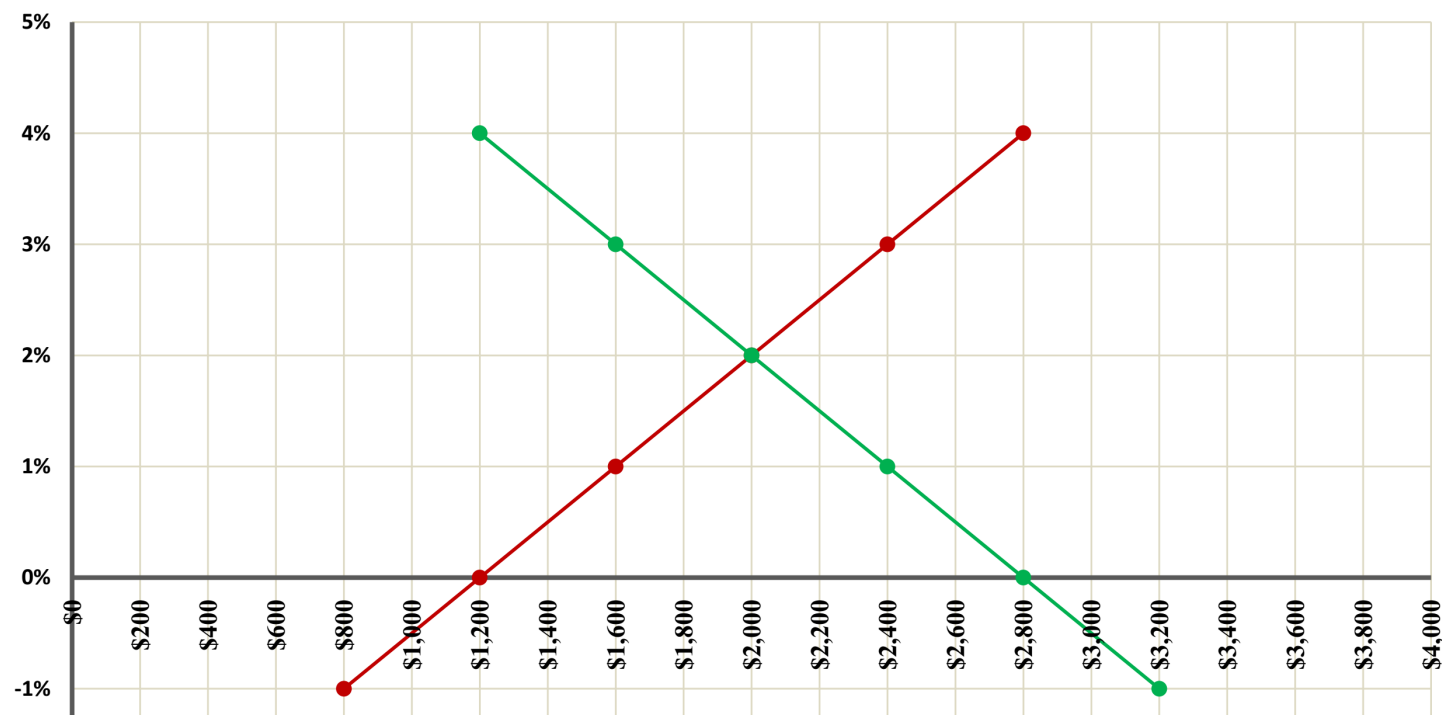
Answer 5.   Shift the demand for loanable funds $1600 to the right. Overall loanable funds will only increase by $800, from $2000 to $2800. Hence there must have been crowding out of $1600 - 800 = \$800$.
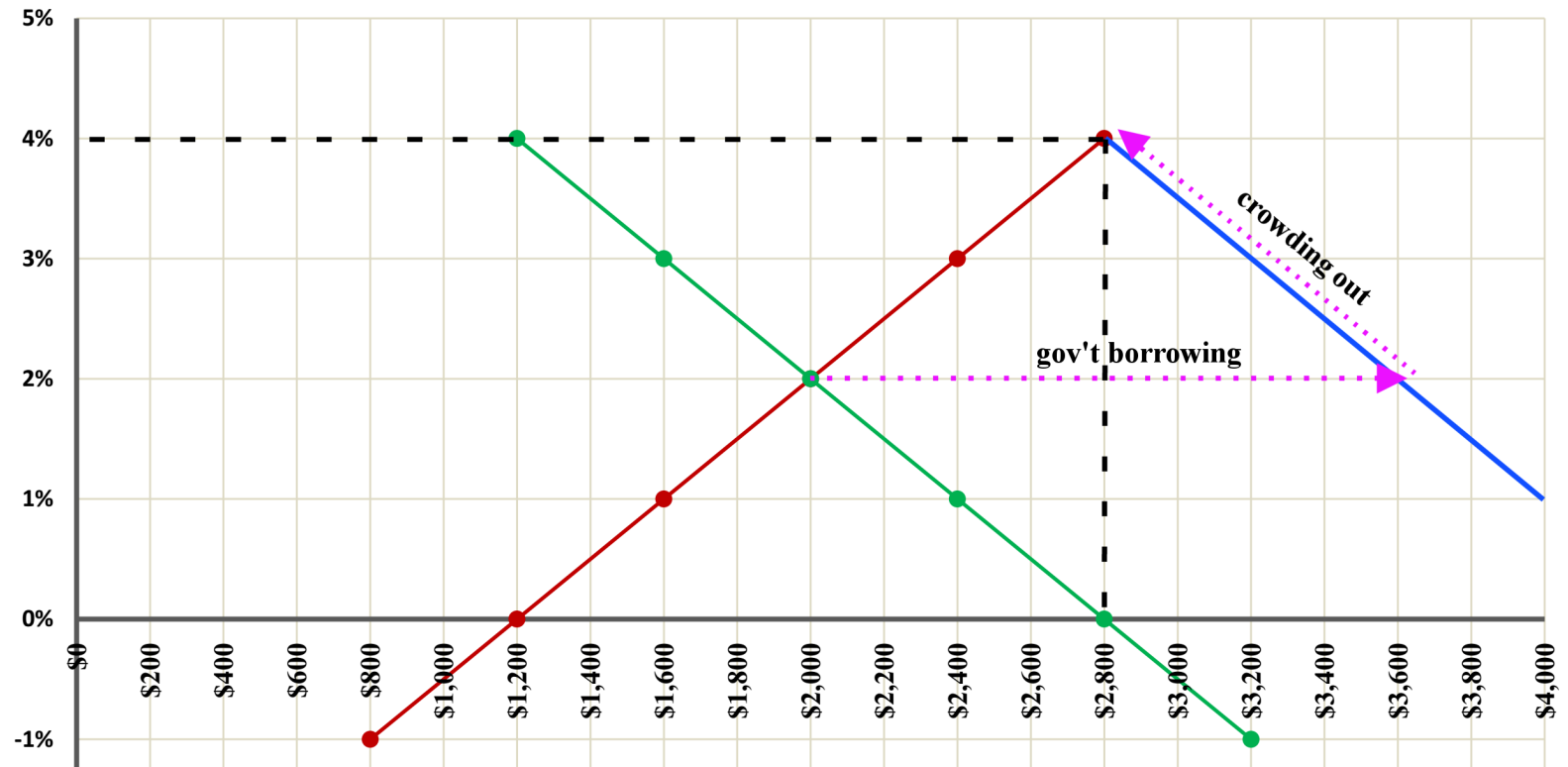
Problem 6. *True or False.* If inflation rate becomes very volatile, as in 1970s, lenders and borrowers may fear that they may end up being losers in the future because of their lending and borrowing activities. As a result, lending and borrowing will decrease. This will adversely affect business investment and real GDP.

Answer 6. True. If π^e is very uncertain, then r^e is very uncertain. Lenders are borrowers are more cautious about lending since they're very uncertain about the real terms of their lending or borrowing. If there's less borrowing and lending, there is less economic activity, especially investment, so there will be less stuff produced, and real GDP falls.

Problem 7.   *True or False?*

(a) If Abe transfers $100,000 from his savings account to his checking account, M1 will increase but M2 will remain the same. Do you agree or not?

(b) Barbara has $250,000 in a time deposit. If she transfers $50,000 from that account to her checking account, M1 will increase but M2 will remain the same. Do you agree or not?

(c) If Samantha transfers $40,000 from his checking account to his savings account, M1 will decrease but M2 will increase. Do you agree or not?

(d) If Davis transfers $20,000 from his savings account to his money market mutual fund account, both M1 and M2 will remain the same. Do you agree or not?

Answer 7.

(a) Yep. The money is now part of M1 with checking, but wasn't before with saving. Since M1 is part of M2, M2 remains unchanged.

(b) False. $250,000 is too big to count as M2. The money that goes into the checking account increases M1. And since it increases M1, it also increases M2.

(c) False. M1 decreases since the money isn't in checking anymore. M2 remains the same because it was part of M1 when it was checking, still part of M2 now that it's in savings.

(d) True. It goes from an M2 category to another M2 category, and M1 need not be considered.

Problem 8. The required reserve ratio is 10%. If the Fed increases the amount of excess reserves in the banking system by $100,000,000, the maximum potential amount of additional money created in the economy will be _____ dollars.

Answer 8. The maximum increase comes when banks lend as much as they can, in this case, when the lend 90% and keep $RRR = 10\%$ of deposits themselves. Hence the maximum potential increase in money is

$$100,000,000 \times \frac{1}{0.10} = \$1,000,000,000.$$

Problem 9. If the required reserve ratio in a country is 25% in a country, the simple money multiplier in that country will be _____.

Answer 9. Here I guess we are implicitly assuming that the banking system is fully lent out, so the multiplier is $1/0.25 = 4$.

Problem 10. Currently the required reserve ratio is 10% and there are $100,000,000 of deposits in the banking system. If the Fed reduces the required reserve ratio to 8%, the maximum potential amount of additional loans created in the economy will be ——————— dollars.

Answer 10. Since there are $100,000,000 deposits in the system, it means that banks are sitting on 10% of that as reserves, that is, $10,000,000. If the RRR is lowered to 8%, it means that they can now loan some of those reserves, in particular, they only have to hold on to $8,000,000 as reserves and now can lend out $2,000,000 that they couldn't before.

An RRR of 8% gives a multiplier of $1/0.08 = 12.5$. Hence the new $2,000,000 that is lent out undergoes the money multiplier processes and overall money supply increases by

$$2,000,000 \times 12.5 = \$25,000,000.$$