2. A movement toward a unified monetary policy within the European Union has led to an increase in real interest rates in member countries, but not in the United States. Explain how this increase in real interest rates will affect each of the following.

   (a) Purchases of United States financial assets by foreigners
   (b) The international value of the United States dollar
   (c) United States exports
   (d) United States imports

3. Janet Smith deposits $1,000 of her cash holdings in her checking account at First Federal Bank. The reserve requirement is 20 percent and the bank has no excess reserves.

   (a) What is the immediate effect of her deposit on the money supply? Explain why.
   (b) What is the maximum amount of money First Federal can initially loan out? Explain how you determined this amount.
   (c) What is the maximum amount of money the entire banking system can create? Explain how you determined this amount.
   (d) Give one reason why the money supply may not increase by the amount you identified in (c).

END OF EXAMINATION

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Question 3

Correct answer:

Since both cash and checking account balances (demand deposits) are part of the money supply (M1), there will be no change in the money supply from her switching dollars between cash and her checking account. With an additional $1,000 of cash reserves, First Federal may increase its loans by $800. With a 20 percent reserve requirement, $200 of the $1,000 must be kept as required reserves. The money supply could experience a net increase of $4,000. With a 20 percent reserve requirement, the money supply multiplier is 5. A new cash deposit of $1,000 could generate a $5,000 increase in the money supply; taking into account the reduction of $1,000 in cash, the money supply increases by $4,000. Alternatively, the $800 of new reserves available for loans can generate a $4,000 increase in the money supply. (In this later case the $1,000 of lost cash is replaced exactly by the $1,000 of required reserves. So, the maximum change in the money supply is the $4,000.) The full increase in the money supply will not occur when funds are not fully redeposited (i.e., a leakage to cash or currency) or if banks hold excess reserves.

2+2+2+1 =7 points

(a) **1 point** **No immediate change** in the money supply

1 point Currency falls but demand deposits increase ($M = \bar{C} + D$)

(b) **1 point** **$800**

1 point **1000 – 200 of required reserves = 800**
(where 200 = 1000 x 0.20)

(c) **1 point** **$4,000**

1 point $4000 found by: **$1000 x 5 and then subtract the $1000** that was already part of the money supply: $5000-1000 = $4000
or $4000 found by multiplying **$800 x 5**
(where **5 = Money multiplier = 1/ rr = 1/ 0.2**)

Alternate explanation worth 1 point: $5000 found by **$1000 x 5**

(d) **1 point** **Possible answers:**

- the public **holding cash and not redepositing** funds in banks
- **banks are unwilling to loan out all excess reserves** (voluntary excess reserves)
- the public is **unwilling to demand loans** (insufficient loan demand)

Not acceptable:

- **A change in reserve requirements** (because this would change the maximum amount that can be lent out, but not the ability for the banking system to lend all that money)