Economics 470/570
Winter 2014
Midterm 1

(1) (a) If no banks existed, it would be difficult for the 10 individuals to find each other and then agree to pool their money for the loan. They would also need a loan contract (which could mean hiring a lawyer), credit checks, etc. to make sure borrower is worthy. For these reasons (difficulty in finding each other, expenses associated with making the loan), the loan is unlikely to be made. With a bank, it is easier. When the 10 people deposit the money, it gets pooled so that $50,000 is available, the bank has standard loan contracts, the ability to run credit checks, etc. at low cost => loan much more likely to be made. Thus we are likely to make more efficient use of our resources (more loans and hence more investment) with banks than without.

[cont.]

① (b) Banks also reduce transactions costs (easier for borrowers - lenders to find each other, easier to pool, write contracts), reduce default risk (experts at assessing loan risk so default should ↓)

② (a) The Fomc has 19 members, the 12 regional Bank presidents plus the 7 members of the Board of Governors. However, at any given time, only 12 vote:

7 Board of Gov
4 → rotating among all regional Feds except NY
1 → NY Fed (when open mkt operations are conducted

12

The main task of the Fomc is to set monetary policy (meet 8 times/year to do this)

[cont.]

(2) (b) The Fed is fairly free from political pressure because

1. 14 year, non-renewable terms for Fed governors. The term is longer than President who appointed them, and since the term can't be renewed, they won't change policies in an attempt to please the president and get reappointed.

2. The Fed is independent financially. The Fed holds securities, and makes billions per year from them (buys them by printing money). From these earnings, it can finance itself completely and still have funds left over (it gives these to the Treasury at end of fiscal year). So it cannot be pressured by Congress through the "power of the purse strings."

3. It can mostly refuse audits by GAO (General Accounting Office) giving it further financial independence

[cont.]

Factors against independence

1. Congress can pass legislation to take independence away. So freedom is not unlimited.
2. Fed chair appointed by President, chair testifies before Congress, and is subject to political pressure.
3. Public opinion may limit policy. If, everyone thy go, the public expresses extreme displeasure with policy, can affect board members.

(3) To simplify, suppose Fed sells a security to a bank. Bank's balance sheet changes as follows

Bank A

A	L
+ Sec 10,000	
− Res 10,000	
+ Res 10,000	
− Loans 10,000	

Bank is short Reserves, so it reduces its loans by 10,000 to ↑ Reserves (loan payments ↑ New loans ↓)

The $10,000 in loan payments come from, say, bank B (paid by check since no cash)

A	L
−R 10,000	−D 10,000
−Loans 9,000 +R 9,000	

lost 10,000 in reserves, but is only holding 1,000 against deposit

So short 9000 in req. res makes up by ↓ loans (loan payments > new loans)

Loan payments come from, say, bank C

−R 9000	−D 9,000
−8100 L +8100 R	

only holding 900 in req. res, so, 8100 short

→ paid by check from, say, bank D

A	L
−8100 R	−8100 D
−7290 L +7290 R	

etc

[cont.]

$M = C + D$, but $C = 0$ so $\Delta M = \Delta D$

$$\Delta M = (-10{,}000 - 9000 - 8100 - 7290 - \cdots)$$
$$= (1 + .9 + .9^2 + .9^3 + \cdots)(-10{,}000)$$
$$= \left(\frac{1}{1-.9}\right)(-10{,}000)$$
$$= \left(\frac{1}{.1}\right)(-10{,}000)$$

↳ So, must $= \frac{1}{r_D}$ ↳ res req

(b) In the above example,

$\Delta D = -10{,}000 - 9{,}000 - 8100 - 7290 - \cdots$

However, if people hold currency, or banks hold excess reserves, each of these numbers (except the first) will be smaller. For example, if the $10,000 reduction in loans is paid in part by reducing currency holding,

Then the Reduction in deposits at Bank B will be less than $10,000 (e.g. Sam paid with $1,000 in cash, $9000 from checking, then Bank B above changes to):

A	L
-10,000 R	-10,000 D
-9,000 L	
+9000 R	

Before
(C=0)

-9,000 R	-9,000 D
-8100 L	
+8100 R	

Bank C $C \neq 0$

etc	-8100 D

In this case,

$\Delta D = -10{,}000 - 8100 - \cdots$

$\downarrow$ less than

$9{,}000$

So, Total $\Delta D \downarrow \Rightarrow$ mult $\downarrow$.

If banks hold ER, the result is similar. ΔD will be smaller at each step (because it won't need to make up as much in lost reserves). Eg let banks hold 10% in ER.

Bank B

− R 10,000	−D 10,000
L 8,000	
+ R 8,000	

Now, only 8,000 short (when no ER, was 9,000 short)

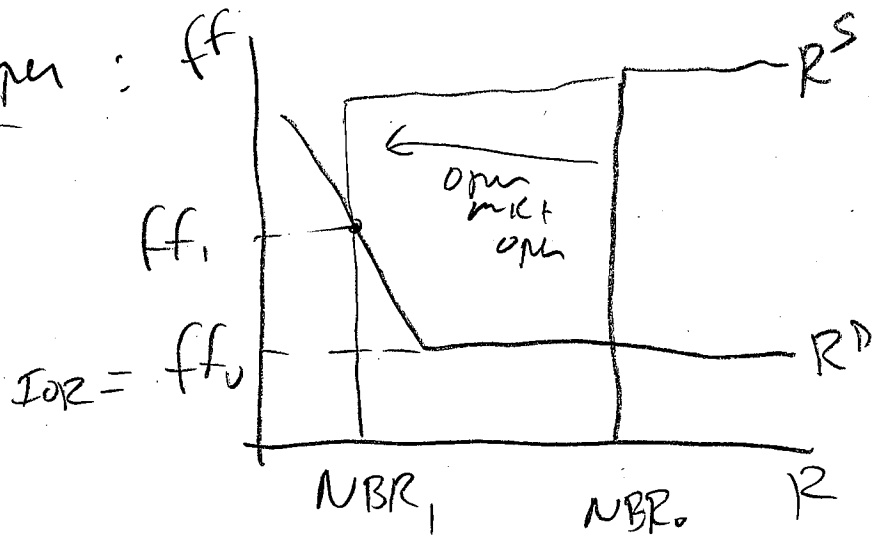
→ Before 9,000

So, ΔD at next bank smaller, and total ΔD smaller ⇒ must ↓

(4) Excess reserves are insurance against
(a) losses. But the opportunity cost of holding ER is the fed. funds rate (since they could lend to other banks).
As ff ↓ → cost of insurance ↓
→ hold more insurance (R = RR + ER ↑)

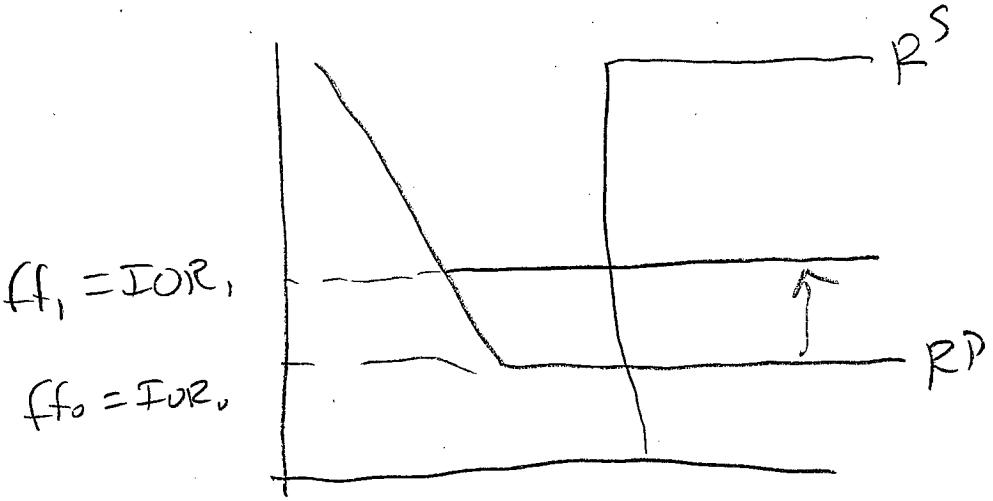
(b) <u>Open mkt ops</u>:

By selling assets, fed causes R ↓, and, if sale is large enough, ff ↑



<u>IOR</u>

Raising IOR → floor ↑. Since ff at floor, ff ↑ as well



(c) If the supply of Res ↑ enough to put the economy far out on flat part of RD curve (as now in US economy), it could require a huge sale of assets to get to the sloped part of RD curve and ↑ the ff rate. Such a large sale might disrupt financial markets, and, to avoid that possibility fed would prefer to change IOR.

[redacted]

5. (a) money serves as a

medium of exchange: money used to purchase goods/services. This overcomes the "double coincidence of wants" problem under barter (i.e. there are large search costs associated with finding someone who has what you want and wants what you have for every transaction. money solves this).

unit of account: money gives us a convenient way to express prices. Without money, each good must be priced in terms of every other good (eggs to pencils, eggs to soup, etc., etc.) => proliferation of prices. With money, each good only has one price.

Store of Value: gives people a perfectly liquid way of storing their wealth (w/o money, less liquid).

(b) easily standardized (so its easy to verify value)
widely accepted (e.g. no offensive pictures)
Divisible (hard to make change if money = cows)
Easy to carry (not too heavy, too big, etc.)
storable/durable (so savings don't deteriorate)
Supply can be controlled (or M will expand until valueless and useless)