

Central banks in chaotic times

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Changes in central bank procedures
during the subprime crisis and their
repercussions on monetary theory

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Motivation

- The financial crisis has forced central bankers to modify their procedures.
- It has also forced them to explicitly reject some elements of textbook monetary theory.
- It also has some implications for heterodox (post-Keynesian) monetary theory.
- We have already looked at the Bank of Canada. So now I look at the Federal Reserve.



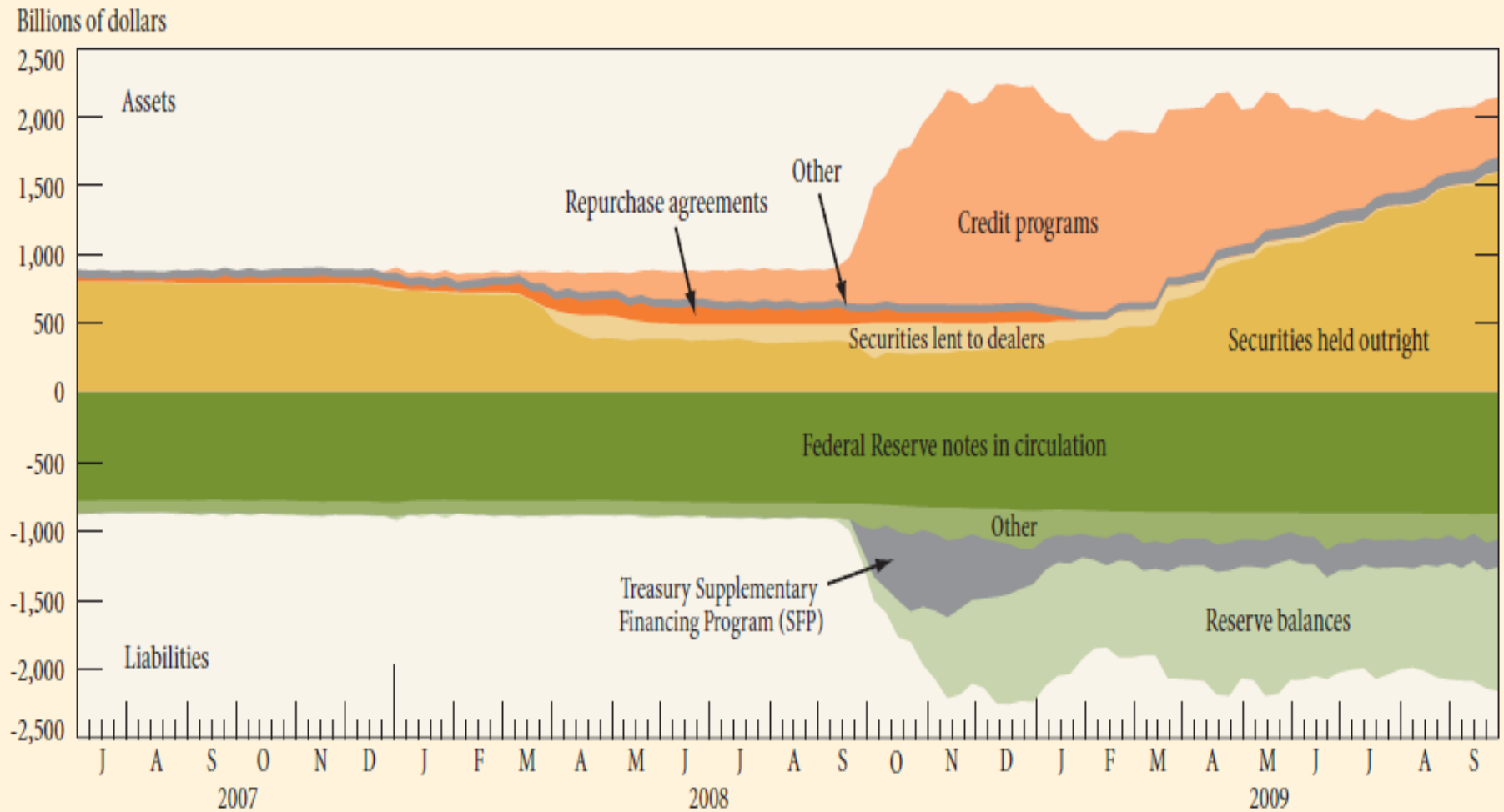
Outline

- Operating procedures of the Fed since August 2007.
- Implications of the new procedures for textbook monetary theory and PK theory.
- The PR problem of central banks today.



Source: Keister, Martin, McAndrews 2008)

Assets and Liabilities of the Federal Reserve System



Source: Federal Reserve Statistical Release H.4.1, "Factors Affecting Reserve Balances."

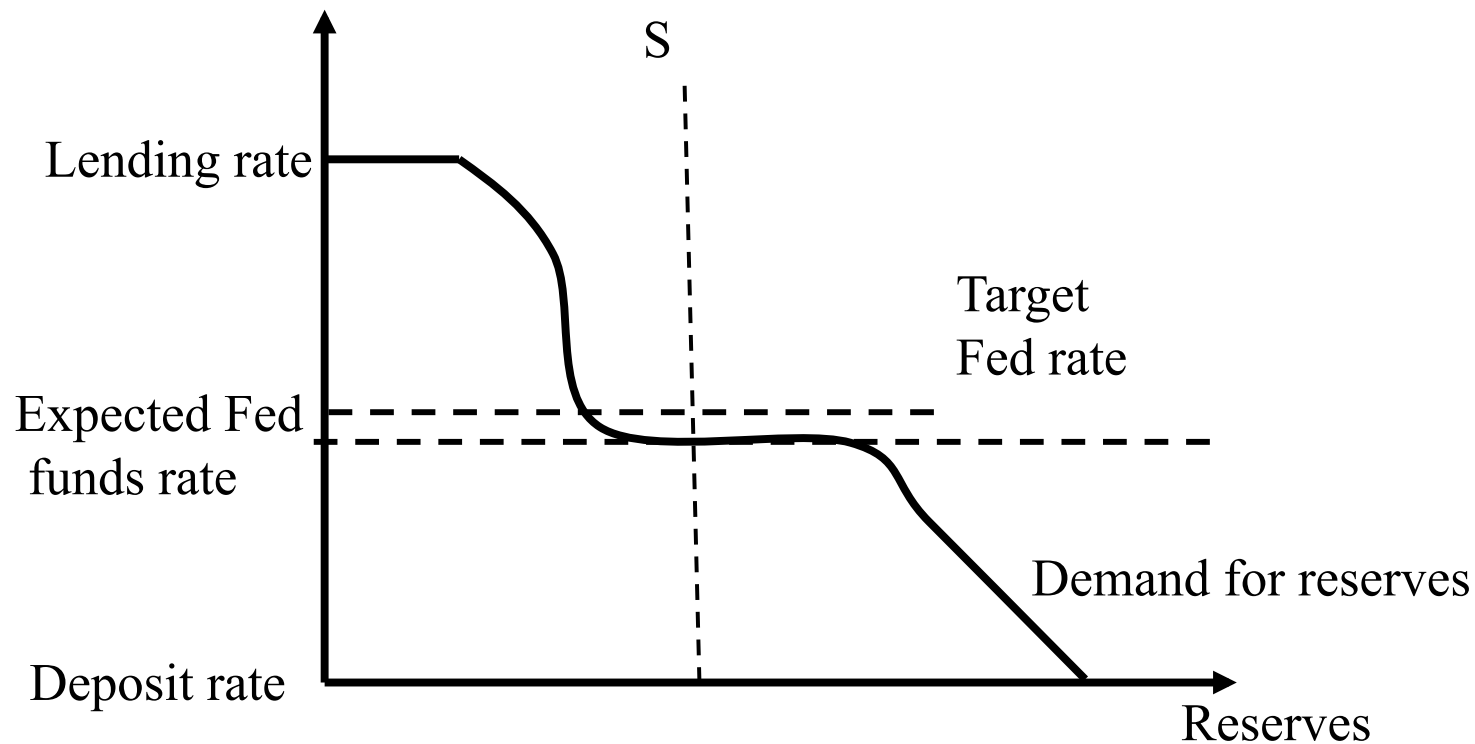
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The timeline at the Fed I

- Financial pressures started in mid-August 2007.
- Real financial pressures started at the end of December 2007. The Fed is forced to make use of its lending facilities, providing loans (liquidity) to banks.
- The expansionary effects of the central bank loans are neutralized by open market operations.
- Until 12 September 2008, the Fed is able to move the federal funds rate next to the FOMC target interest rate (2%).
- It is able to do so because the neutralizing operations of the Fed keep reserves at their approximate required level.



Initially, the Fed keeps the supply of reserves on line with the demand for them, and the expected fed funds rate is the target rate



Standard deviation of discrepancy between effective and target fed funds rate

Period	2001	2002	2003	2004	2005	2006	2007-01-01 2007-08-08
Standard deviation	17.7	5.2	6.1	3.9 4.2*	7.1	5.4	2.9
Peak monthly value	50.1 (Sept)	8.4	13.2	7.0	10.9	8.3	3.4
Period	2007-08-09 2007-09-14	2007-09-17 2007-12-31	2008-01-01 2008-09-14	2008-09-15 2008-10-08	2008-10-09 2008-11-05	2008-11-06 2008-12-05	2008-12-16 2010-04-30
Standard deviation	18.8	10.8 15.6*	9.0	62.8	16.9	19.4	4.1
Peak monthly value		23.5 (Dec)	11.0				5.2

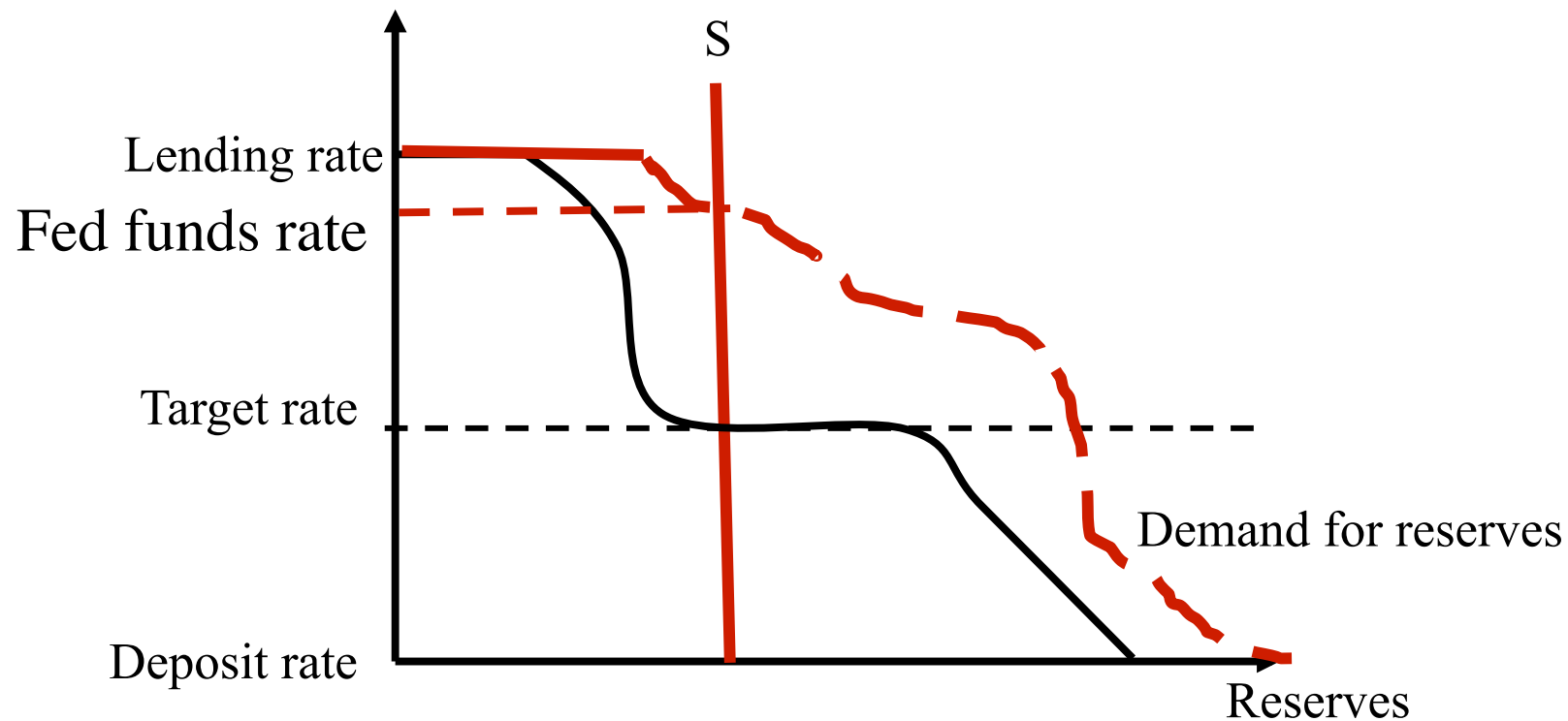
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Timeline at the Fed II

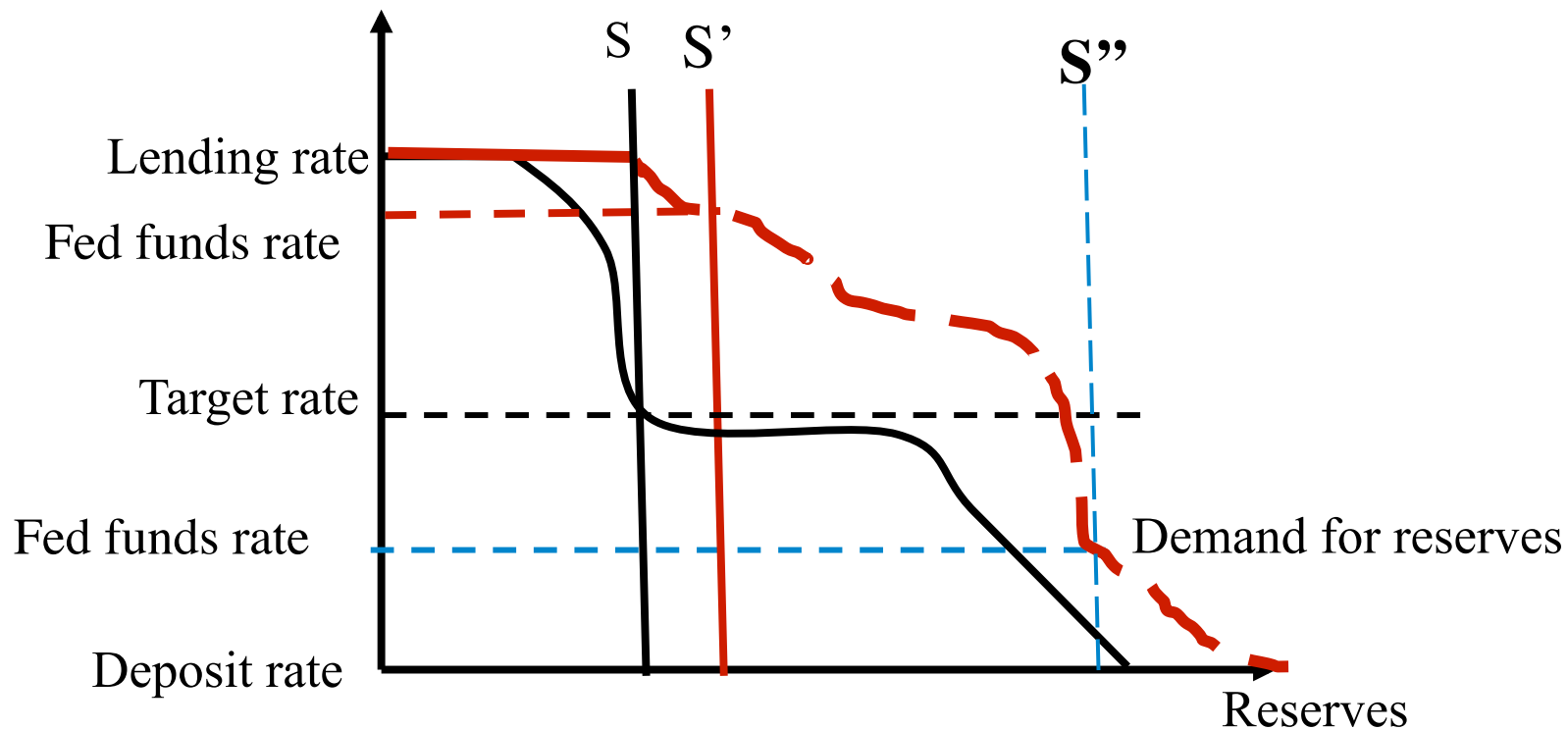
- On 15 September 2008, the Lehman Brothers declares chapter 11 bankruptcy (a buyer could not be found and Paulson/Bernanke decline to nationalize it).
- From then on, the Fed is unable to achieve its target (fed funds rate is at first too high)
- From 19 September 2008, the Fed decides to inject huge amounts of liquidities (provide huge lending facilities to the banks (and AIG)), without neutralizing them.
- This is when the balance sheet of the Fed starts exploding.
- The Fed loses control of the fed funds rate.



The demand for excess reserves explodes as the banks lose confidence in each other: the fed funds rate rises



The demand for excess reserves keeps exploding: the Fed stops neutralizing its lending facilities: fed funds rate drops

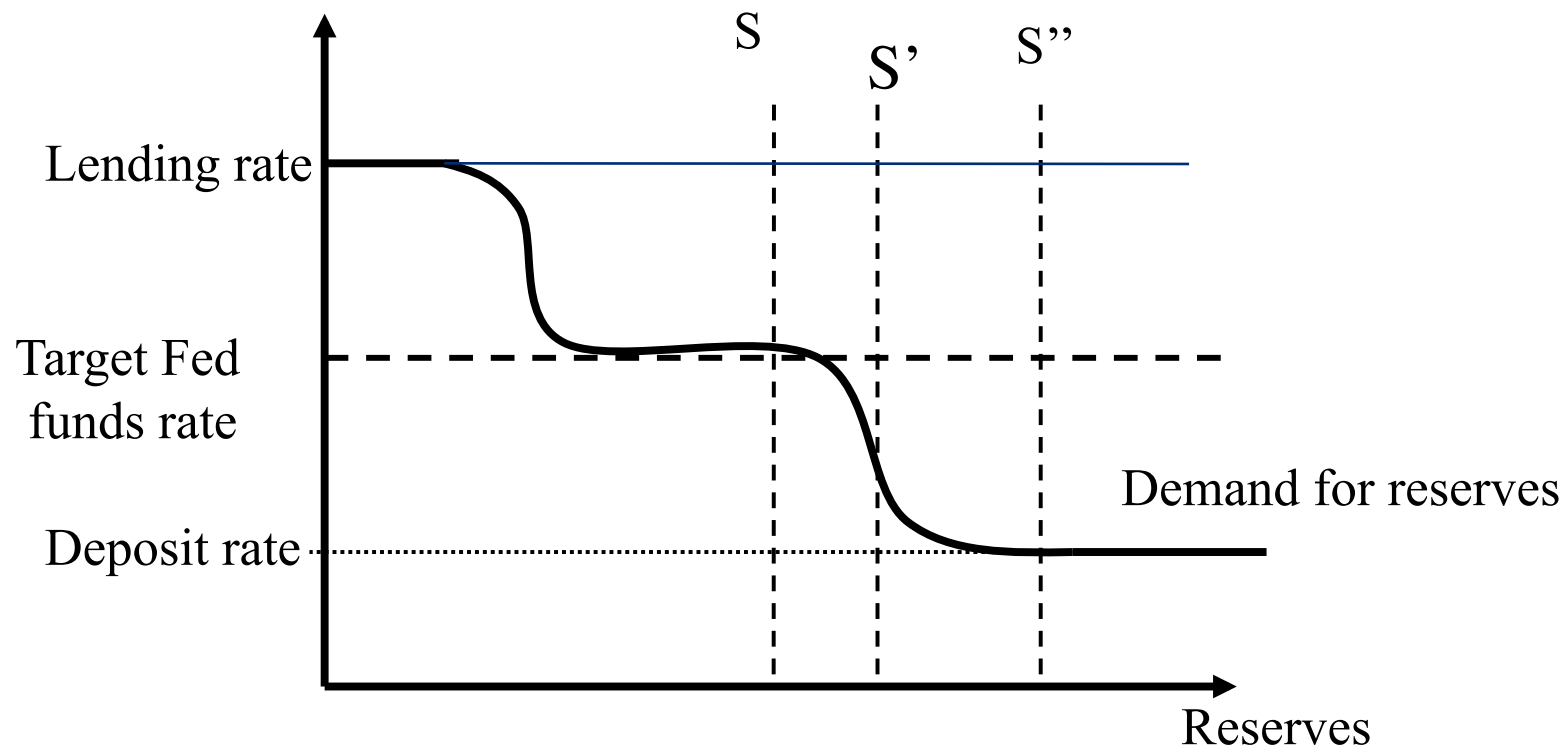


Timeline at the Fed III

- On 6 October 2008, the Fed gets the authority to set interest rates on (excess) reserves, thus setting up a corridor system, with a ceiling (the discount rate) and a floor (the interest rate on reserves).
- On October 22, the corridor gets reduced from 100 basis points to 50 basis points, as in Canada.
- Despite this, the Fed lost control of the federal funds rate, with a target at 1.50% and fed funds rate hovering between 0.67% and 1.04%.



This is what should have happened with the corridor system: the fed funds rate is at least equal to the deposit rate

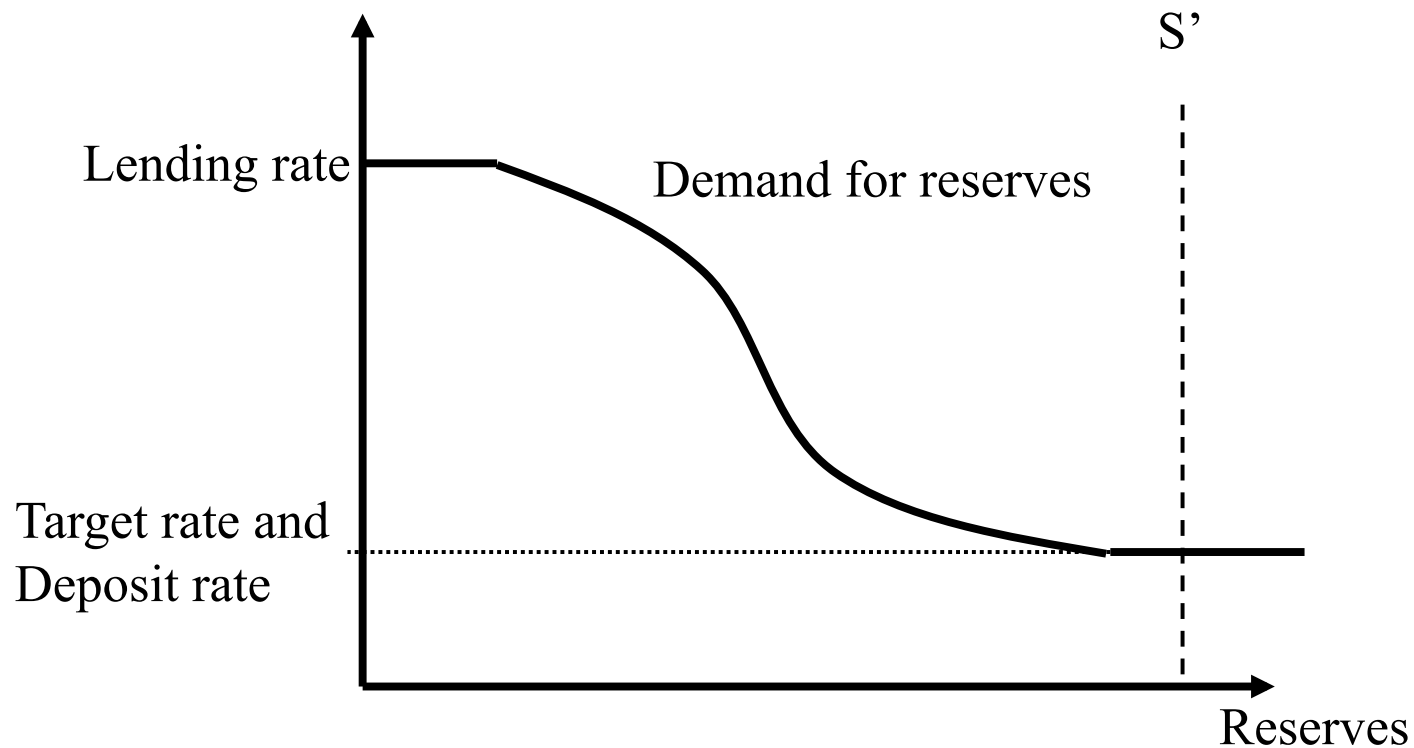


Timeline at the Fed IV

- On 6 November 2008, the Fed interest rate on all reserves is set as the target fed funds rate (1%).
- Despite this, the fed funds rate hovers between 0.10% and 0.62%, getting ever lower.
- Finally, on 17 December 2008, the Fed announces a target between 0 and 0.25%, with a rate on reserves at 0.25%, and actual fed funds rate in 2009 between 0.10 and 0.24%.



This is what should have happened with the target rate set at the deposit rate, and with a large amount of reserves : the fed funds rate is exactly equal to the deposit rate



Why doesn't the fed funds rate stay at the bottom of the corridor?

- Not all participants (GSEs) to the fed funds market are eligible to receive interest on their reserve balances.
- There are also foreign institutions that hold balances at the Fed that don't get interest on reserves.
- They may thus lack bargaining power and being forced to lend their surplus funds at a rate below the floor.



IMPLICATIONS FOR MONETARY THEORY



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The Decoupling Principle

- With the target interest rate set at the floor of the corridor, central banks (FED, BOC) can now set the target rate at the level of their choice and simultaneously set the amount of reserves at the level of their choice. There is no relationship anymore between reserves and overnight rates.
- This is the decoupling principle (Borio and Disyatat 2009)
- This was recommended by Woodford (2000, p. 255), Goodfriend (2002, p. 3), Fullwiler (2005) and Ennis and Keister (2008), and in more detail by Keister et al. (2008).
- It was endorsed in New Zealand and Norway **before** the crisis.



Implications for PK theory

- On a day-to-day basis, the supply of reserves is vertical (as represented here).
- A standard assertion of PK theory was that the supply of reserves is demand-determined, at the target overnight rate (the supply of reserves is horizontal).
- With the target overnight rate set at the floor of the corridor, this is no longer true.
- The supply of reserves can exceed the demand for reserves. The central bank can maintain excess reserves.



A point of controversy

- Some PK or NK authors believe that paying interest on excess reserves leads to more credit rationing and less economic activity, with banks being induced to make less loans to producing firms (Palley 2010, Stiglitz 2010).
- They propose to remove interest on reserves, or to tax excess reserves.
- These authors don't seem to realize that, as pointed out by Fullwiler (2005), "banks cannot use reserve balances for anything other than settling payments or meeting reserve requirements; reserve balances do not fund additional lending".
- Their beliefs, ultimately, must be based on some implicit version of the money multiplier story.

The problem of central banks today

- Standard theory says that reserves create money, and money creates price inflation.
- So if there are large excess reserves, this should lead to excess money supply or at least overly low interest rates, and hence inflation.
- But the decoupling principle shows there is no relation between reserves and interest rates, and hence no relation with prices.
- « There is a concern that markets may at some point, possibly based on the 'wrong model', become excessively concerned about the potential inflationary implications of these policies » (Bordo Disyatat, BIS, p. 22).
- Gone are models of rational expectations within a single model of the macroeconomy!



Central bank communications

- There is a big effort by central bankers in the US to convince financial experts that the correct monetary theory has changed: excess reserves do not lead to inflation
- As said by William Dudley (2009, p. 1), the President and CEO of the New York Fed, “it is not the case that our expanded balance sheet will inevitably prove inflationary. It is important that this critical issue be well understood”
- Keister and McAndrews, NYFRB (2008, 2009) claim that no inflationary pressures can arise when the target fed rate is the deposit rate.
- The reason given is that banks have no opportunity cost in holding these reserves, and hence will not try to use them by lending them.
- They reluctantly give some credibility to the multiplier story when the target rate is set in the middle of the corridor, where it should be normally.



My critique to Keister (January 2009)

- “You seem to imply that the textbook multiplier still applies when reserves earn no interest. I think that this is a misleading statement. It implies that there is a bunch of agents out there, waiting for banks to provide them with loans, but that there are being credit rationed because banks don’t have access to free reserves. ...Rather what happens when excess reserves are being provided with no remuneration of reserves is that the fed funds rate drops down, as banks with surplus reserves despair to find banks with insufficient reserves, having no alternative but a zero rate. The drop in the fed funds rate may induce banks to lower their lending rates, and hence induce new borrowers to ask for loans or bigger loans, but it really has nothing to do with the standard multiplier story. If there is no change in the lending rate, new creditworthy borrowers just won’t show up. There is never any money multiplier effect.”



Keister (NYFR) in personal communication, January 2010

- “I agree with you on the money multiplier, but I would state things in a slightly different way....I understand your comment to be that this mechanism is not the ‘money multiplier’ as commonly described. We decided to be more generous to the textbooks and say that this mechanism must be what they had in mind, even if they left out the part about interest rates to simplify things for the students. Importantly, I think we agree on the point that discussions of the money multiplier have done more harm than good in terms of helping people understand what is going on.”



Implications for fiscal policy

- If reserves can be remunerated at a rate of interest which is not far from that of Treasury bills, why bother selling T-bills when running a federal government deficit?
- The deficit can be as well financed by forcing banks to hold more reserves.

Conclusion

- The financial crisis may end up getting the false money multiplier story out of textbooks.
- It led to a small change in PK monetary theory.

