

The FED in the Crisis and Beyond: New Policies, Old Principles

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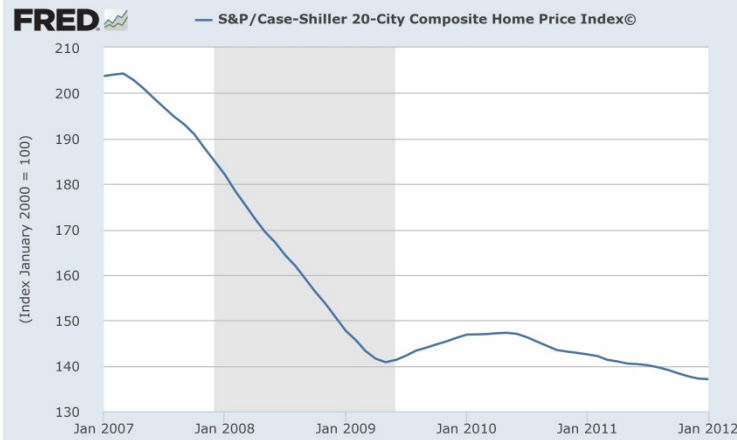
What was the Fed looking at?...



Source: S&P Dow Jones Indices LLC
Shaded areas indicate US recessions - 2014 research.stlouisfed.org



Source: U.S. Department of Labor: Bureau of Labor Statistics
Shaded areas indicate US recessions - 2014 research.stlouisfed.org



Source: S&P Dow Jones Indices LLC
Shaded areas indicate US recessions - 2014 research.stlouisfed.org



Policymaking under true Knightian uncertainty



- React with force: “whatever it takes.”
- Required unprecedented response.
- But deeply rooted in central bank history and practice.

Lending to the financial sector

- The financial system is inherently fragile.
- It is built on:
 - » Borrowing short and lending long.
 - » Leverage.
 - » Confidence.

When confidence leaves the financial sector...



- Bad things happen...
 - » Runs on banks.
 - » Fire Sales of assets.

Wall Street Death Spiral

- The viability of banks is questioned.
- Which lead to runs on banks and fire sales.
- Which lead to banks becoming less viable.
- Go to step one and repeat...

Main Street Death Spiral

- Financial sector troubles.
- Which lead to tighter credit.
- Which leads to reduced spending, higher unemployment, and greater defaults.
- Go to step one and repeat...

Walter Bagehot on Central Bank actions to stop a panic...



“The holders of the cash reserve must be ready not only to keep it for their own liabilities, but to advance it most freely for the liabilities of others. They must lend to merchants, to minor bankers, to ‘this man and that man,’ whenever the security is good.”

- Walter Bagehot, *Lombard Street: A Description of the Money Market* (1873)

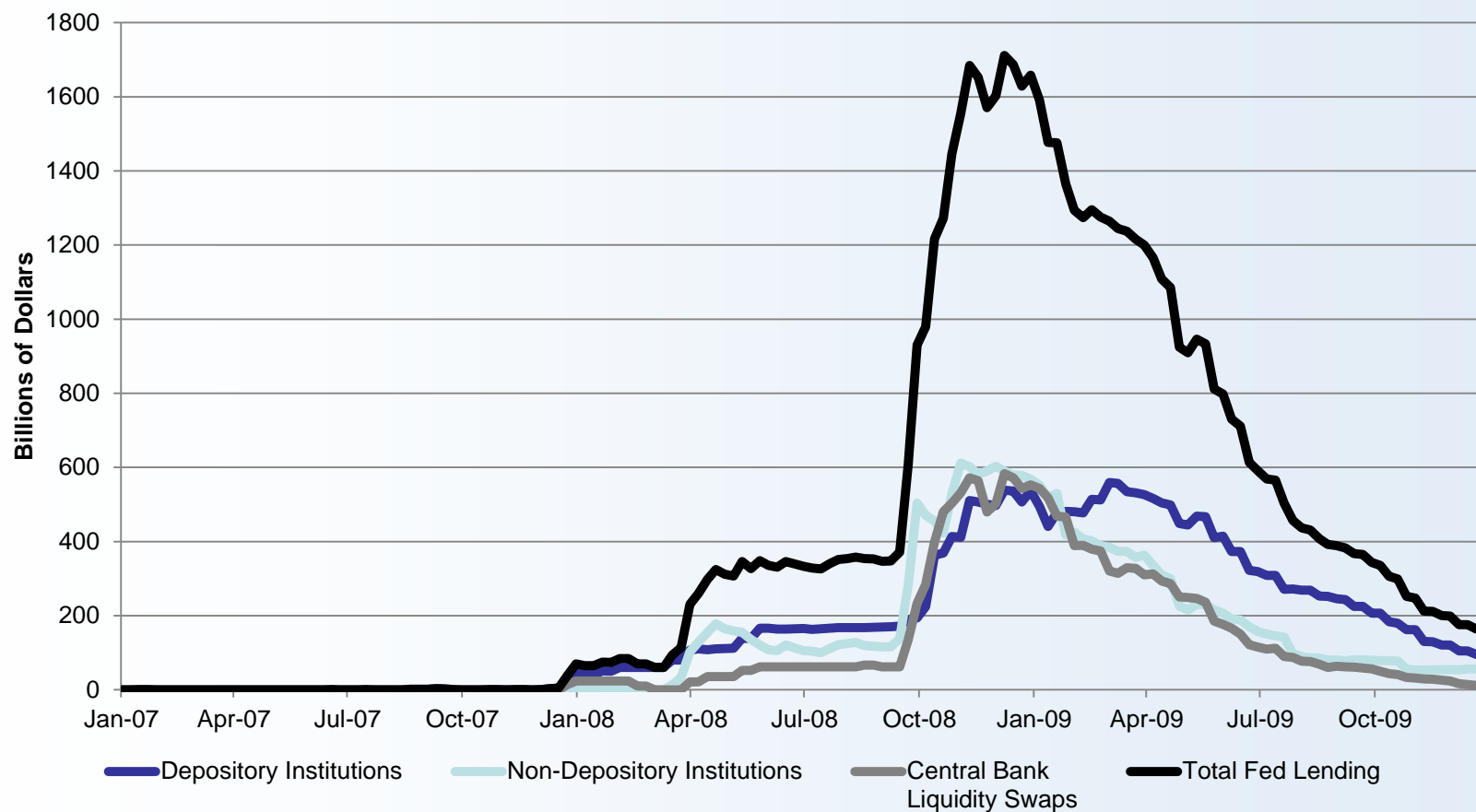
Central Bank Playbook

- In case of a panic:
 - » **Lend Freely.**
 - » **To solvent institutions.**
 - » **At a penalty rate.**
 - » **Against sound collateral.**



Lending to depository and non-depository institutions

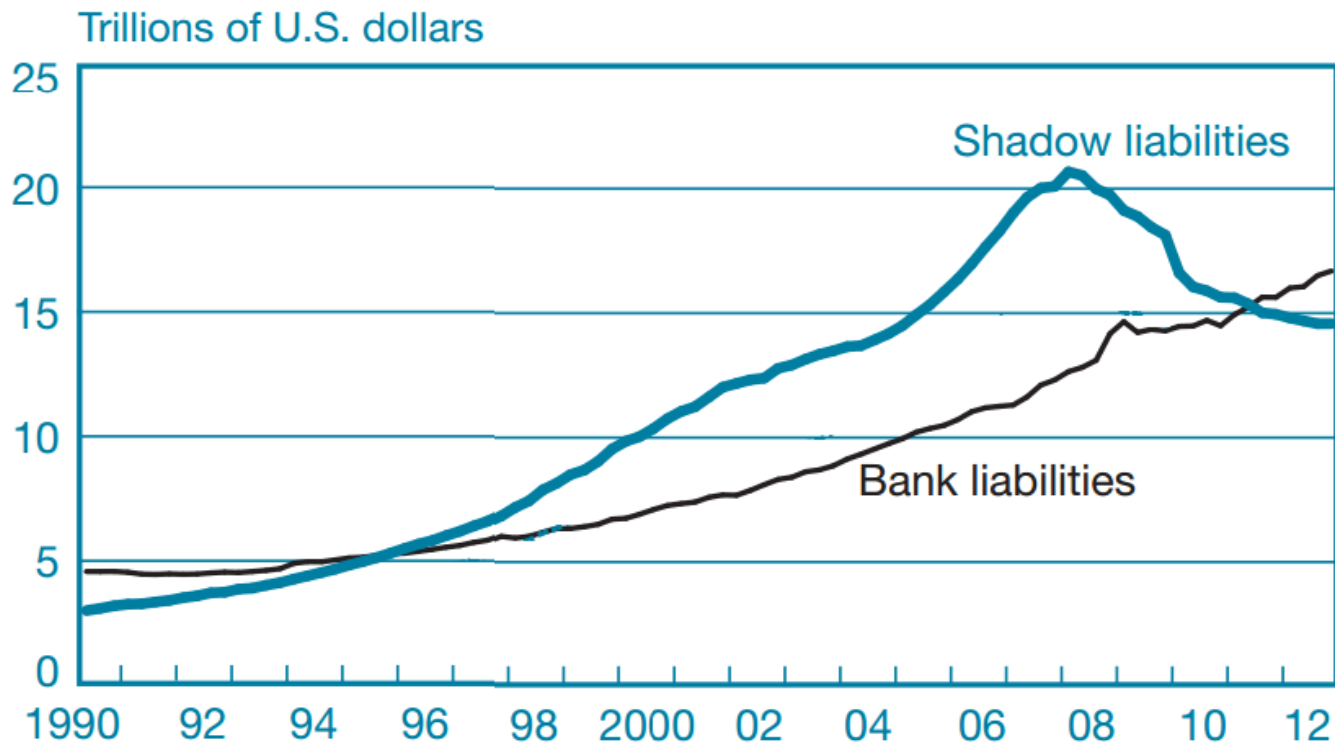
Lending by the Federal Reserve



Source: Federal Reserve Board, Flow of Funds

Changing Financial System

Shadow Bank Liabilities versus Traditional Bank Liabilities



Source: Reproduced from Pozsar, Pozsar, Tobias Adrian, Adam Ashcraft, and Hayley Boesky. 2013. *Shadow Banking*, FRBNY Economic Policy Review, December 2013.

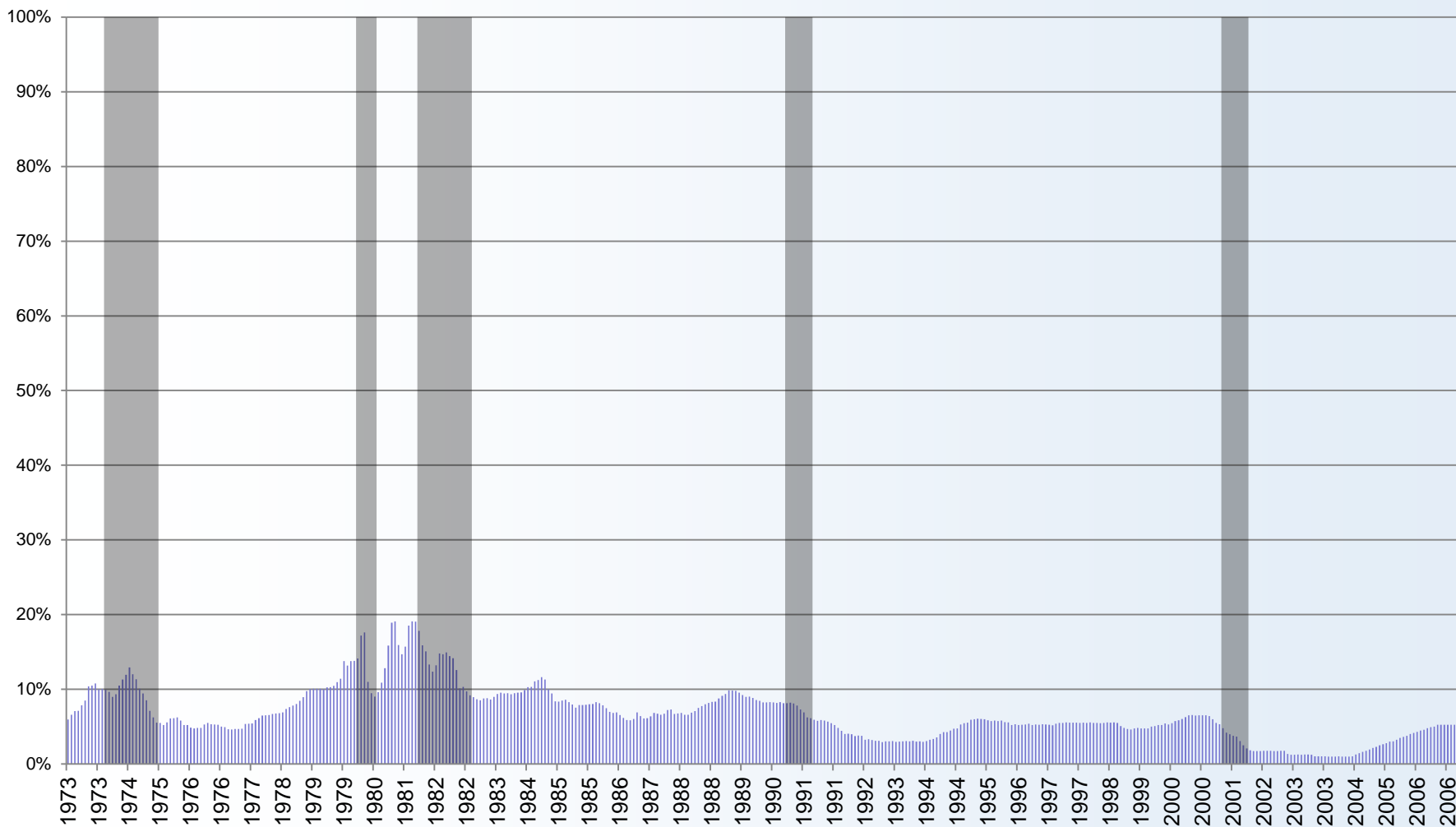
Central Bank Liquidity Swaps

- Foreign Banks had...
 - » More dollar assets than liabilities.
 - » And their liabilities were short-term while their dollar assets were long-term mortgages.
- Efforts to fund dollar assets raised US interest rates.
- The Fed lends dollars to foreign central banks so central banks can lend dollars to banks.

Did it work? Were these bailouts?

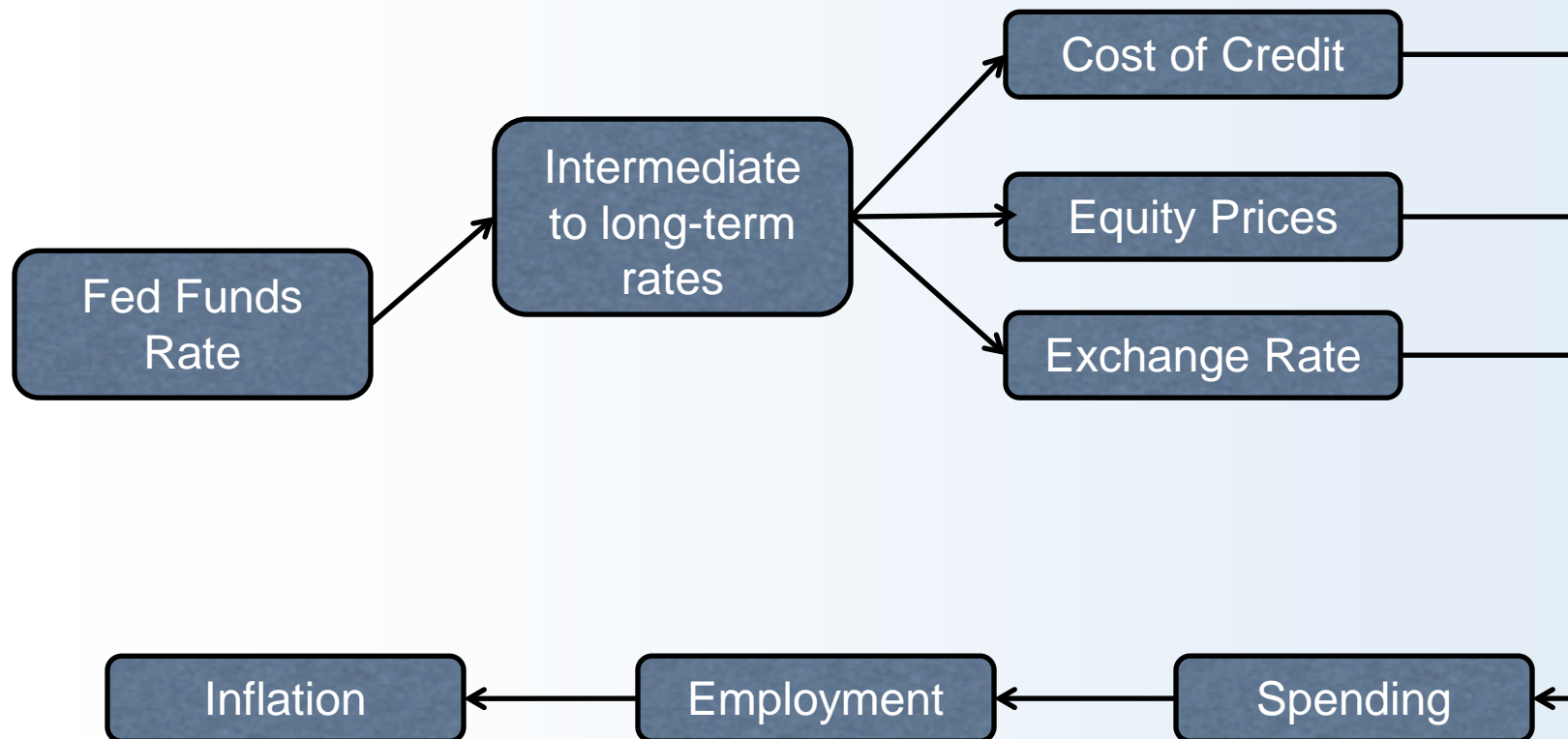
- Did it work?
 - » Yes, eventually.
- Were these actions bailouts?
 - » For the most part, no. The institutions were clearly sound; the loans were repaid in full.
 - » There were borderline cases when the FED lent to troubled institutions (i.e. for purchase of Bear Sterns, AIG, Citi, BoA).

Interest Rate Policy: The Federal Funds Rate

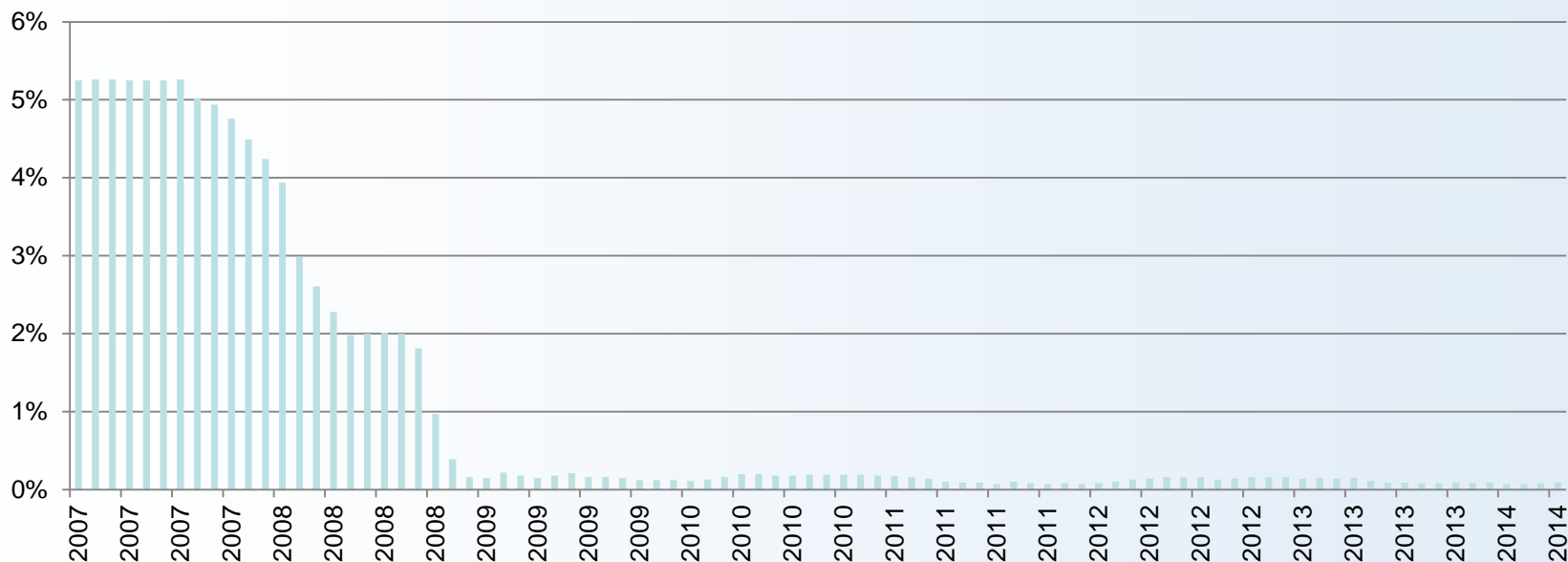


Source: Federal Reserve Board

Moving through the chain...



Federal Funds Rate at the Zero Lower Bound



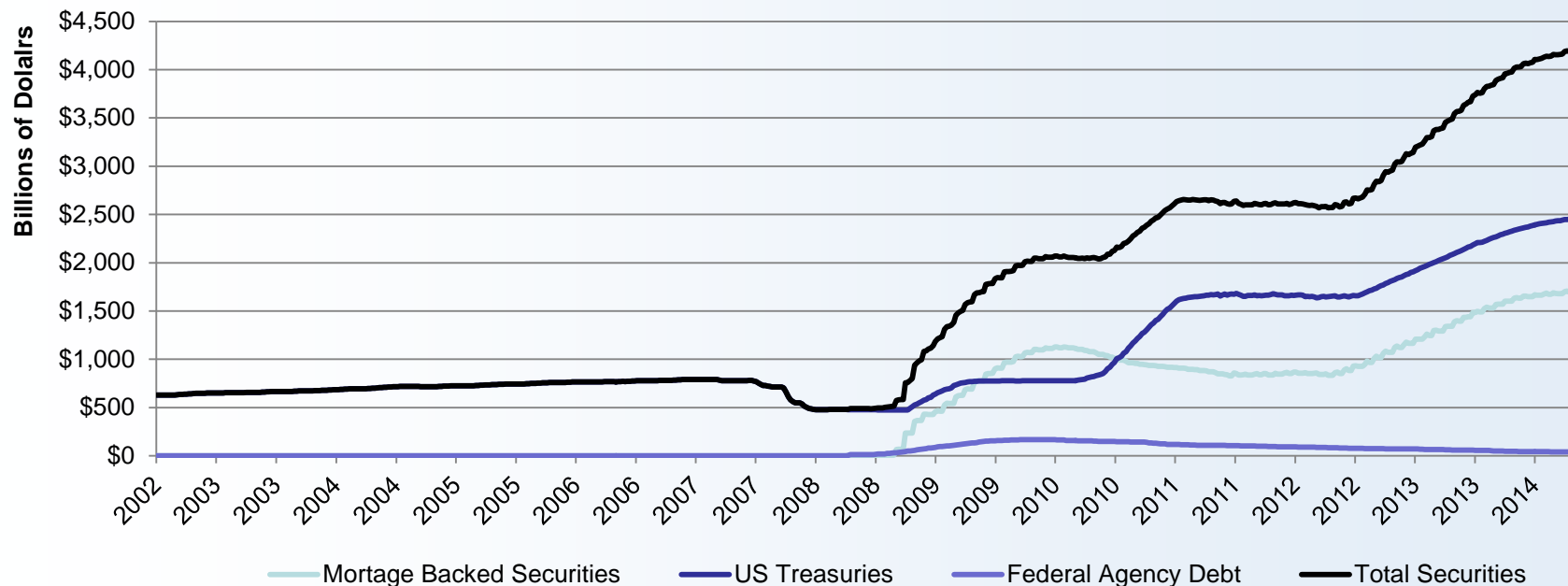
Source: Federal Reserve Board

- What to do?
- Start targeting longer term rates directly.

Large Scale Asset Purchases/Quantitative Easing

- QE1 – Nov '08 to March '09: \$1.25 billion in MBS and Treasuries.
- QE2 – Sep '10 to June '10: \$600 billion in long-term treasuries.
- Operation Twist: bought \$400 billion in long-term Treasuries; sold \$400 billion in short-term Treasuries.
- QE3: Sep '12 to Oct '14: \$40 billion/mo in MBS. \$45 billion/mo in Treasuries.

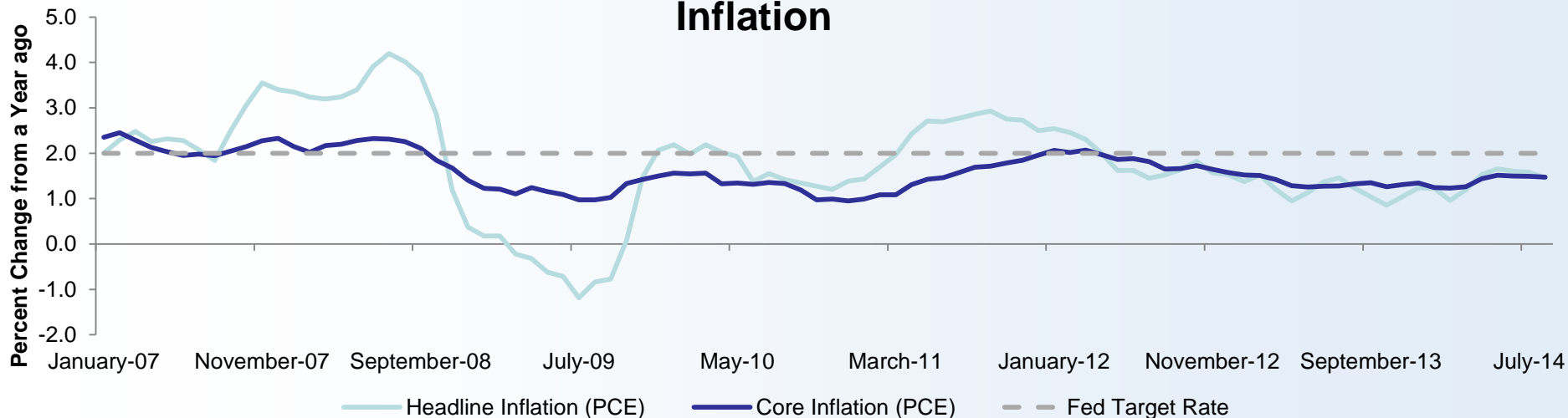
Federal Reserve Securities Portfolio



- Large scale asset purchases had two effects on longer term rates...
 - » A direct price effect: portfolio balance channel.
 - » A signal effect: expectations channel.

The Dual Mandate: Why were multiple steps needed?

Inflation



Unemployment



Give forward guidance on interest rates

- Forward Guidance was designed to bolster market expectations that monetary policy will remain loose...
 - » December 16, 2008:
 - “... the Committee anticipates that weak economic conditions are likely to warrant exceptionally low levels of the federal funds rate **for some time...**”
 - » March 18, 2009
 - “...the Committee...anticipates that economic conditions are likely to warrant exceptionally low levels of the federal funds rate **for an extended period...**”

Give forward guidance on interest rates

- » August 9th, 2011
 - “likely to warrant **exceptionally low levels** for the federal funds rate at least through mid-2013.”

- » December 12th, 2012
 - “appropriate at least as long as the **unemployment rate remains above 6-1/2 percent, inflation ... is projected to be no more than a half percentage point above the Committee’s 2 percent longer-run goal**”

- » October 29th, 2014
 - “the Committee will **assess progress**--both realized and expected--**toward its objectives** of maximum employment and 2 percent inflation.” and “maintain the current range for a **considerable time** after the asset purchase program ends.”

Did it work?

- Interest rates fell and asset prices increased.
- But the economic recovery was lackluster.
- The counterfactual: What would the economy have been like if the Fed had not acted?

Fed Exit from an “unprecedented response”

- Quantitative Easing
 - » Purchases have wound down and will stop in October 2014. The portfolio will remain large for some time.
- Zero Interest Rates
 - » When – risk management. It is better to raise rates too late than too soon.
 - » How – raising rates with a very large portfolio. This requires new tools.

Conclusion

- In unprecedented circumstances innovate until something works to achieve the Fed's goals.
- New tools should be based on rigorous analysis and proven principles.
- Public communication is hard but essential.