

Luncheon Address

Liquidity Crisis of 2007: How Should Policymakers Respond?

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The Liquidity Crisis of 2007: How Should Policymakers Respond?

Stephen G. Cecchetti
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2 November 2007



Outline

- Symptoms of the Crisis
- Causes of the Crisis
- Central Bankers' Objectives & Tools
- Federal Reserve Interventions

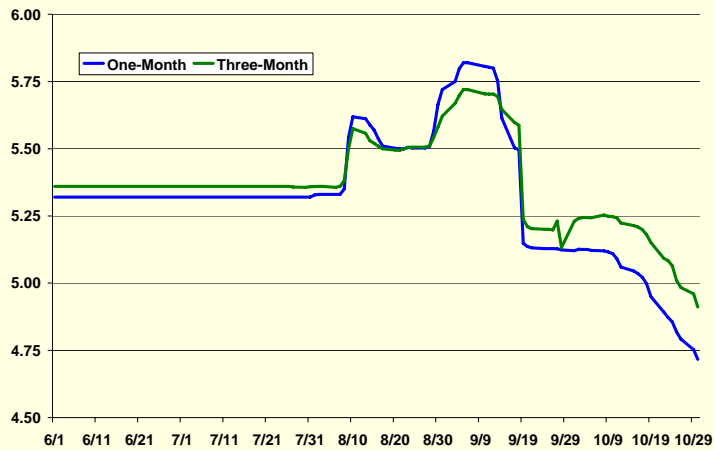


Symptoms

- **Interest Rates**
 - Libor
 - Treasury Bills
 - Commercial Paper
- **Commercial Paper Issuance**
 - Total
 - Asset-backed
- **Bank Credit**



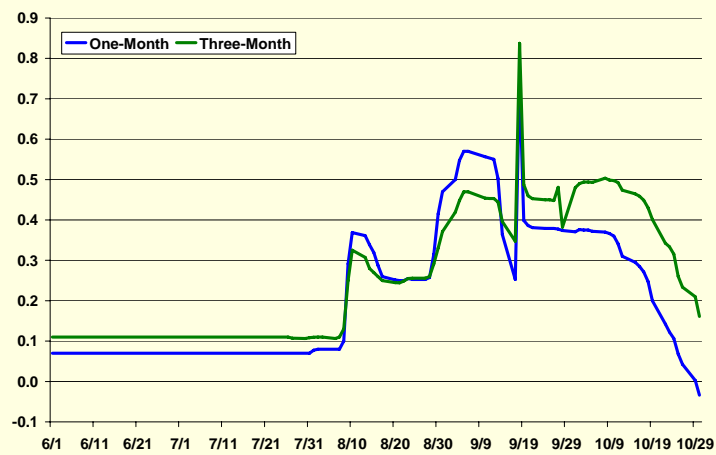
Dollar Libor



Brandeis University | INTERNATIONAL BUSINESS SCHOOL Source: BBA

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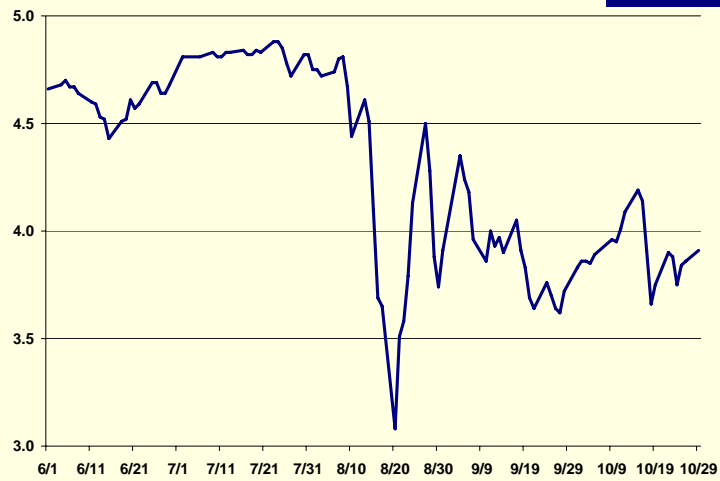
Dollar Libor – Fed Funds Spread



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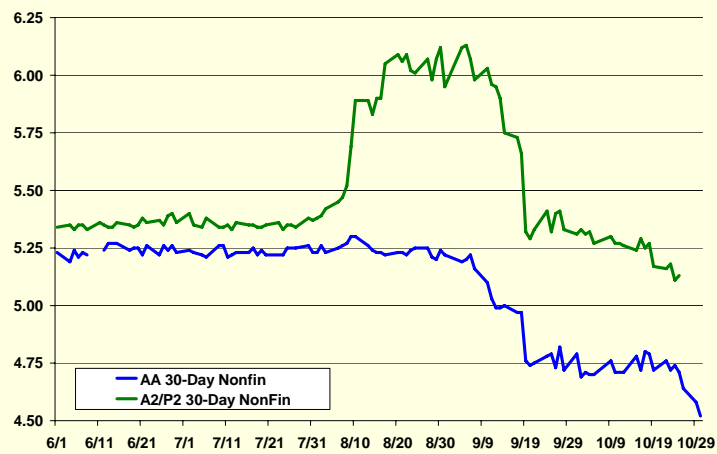
3-Month Treasury Bill Rate



Brandeis University | INTERNATIONAL BUSINESS SCHOOL Source: FRB H.15

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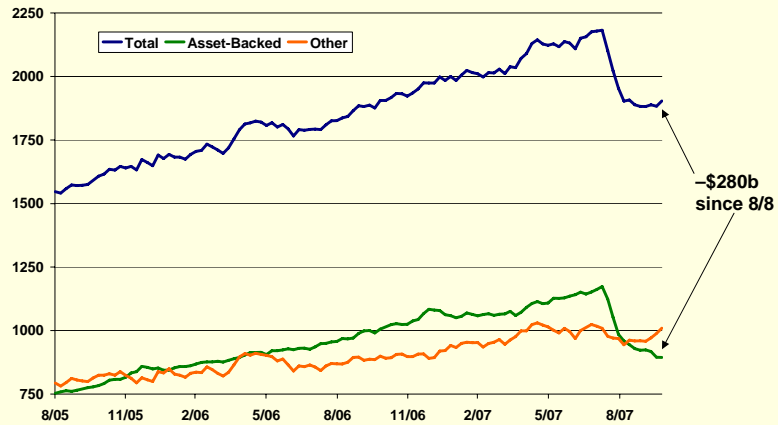
Commercial Paper Rates



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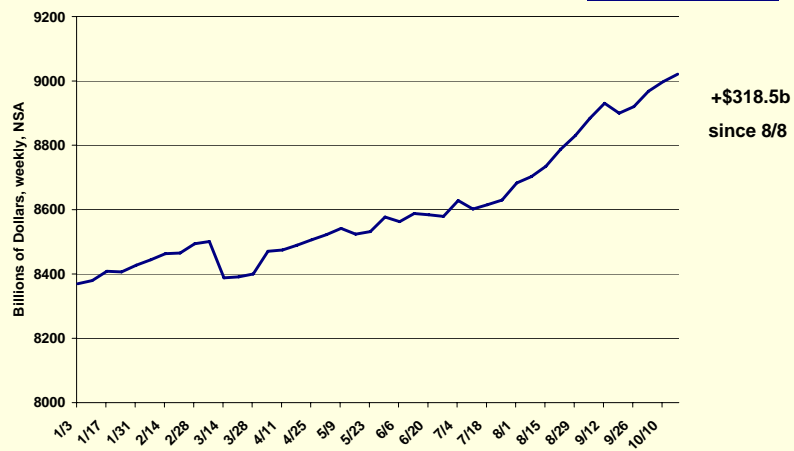
Commercial Paper Outstanding



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Bank Lending



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Symptoms

1. Risk premia have risen
2. Declining willingness to accept collateral of uncertain quality
3. Borrowers shifted from direct issuance to bank credit



Changes in the Financial System

■ Financial Innovation

- Allows individuals to purchase & sell virtually any payment stream with any risk characteristics they want.
- Ideally, risk goes to those most able to bear it.
- Breaks geographic relationship between sources and uses of resources

■ Consequences:

- Macroeconomic stability: Faced with income volatility, individuals can smooth consumption



Causes of the Crisis

- Failure of delegated monitoring in lending
- Investors imposed insufficient discipline on sub-prime mortgage originators
- Created complex and insufficiently transparent securities difficult to value



Causes of the Crisis

“ [T]he growth of tranching CDOs and other structured credit products with substantial embedded leverage has made it more difficult to assess the degree of leverage of individual institutions or of the financial system as a whole.”

Federal Reserve Vice Chairmen Donald Kohn
16 May 2007



Causes of the Crisis

■ Information Asymmetries Worsened:

- Losses have been larger than expected
- Investors question previous risk assessments
- Possibility of sales by leveraged participants
- Increase in the cost of capital
- Reduction in risk tolerance



Central Bankers' Objectives

1. Macroeconomic Stability

- Low, Stable Inflation
- High, Stable Growth

2. Financial Stability

- Liquid Markets
- Low Price Volatility

Achieving Objectives Reduces Systematic Risk



Central Bankers' Objectives

"It is not the responsibility of the Federal Reserve – nor would it be appropriate – to protect lenders and investors from the consequences of their financial decisions."

Federal Reserve Chairmen Ben Bernanke
31 August 2007



The Fed's Balance Sheet

Assets	Liabilities
Securities	Currency
Foreign Exchange Reserves	Government's Account
Loans	Accounts of the Commercial Banks (Reserves)



The Fed's Balance Sheet

Assets		Liabilities	
Securities	\$820bil	Currency	\$810bil
Foreign Exchange Reserves	\$21bil	Accounts of the Commercial Banks (Reserves)	\$13bil
Loans	\$0.3bil	Other	\$88bil
Other	\$70bil		

Approximate numbers, October 2007, FRB H.4.1.



Central Bankers' Operational Tools

- Balance Sheet Size
- Asset Composition



Central Bankers' Operational Tools

■ Balance Sheet Size

- Use: Influence Risk-Free Rate
(Federal funds rate target)

- Methods:
 - Open Market Operations (Policymaker decides)
 - Discount Lending (Borrowers decide)



Central Bankers' Operational Tools

Open Market Operations

1. Temporary
 - a. Morning: 8:30 or 9:40
 - b. Repurchase agreements

2. Permanent
Infrequent outright purchases
(last one was May 3, 2007)



Central Bankers' Operational Tools

- **Balance Sheet Size**
- **Asset Composition**
 - Use: Influence risk premia/spreads
 - Methods:
 - What to buy/accept in OMO
 - What to accept as collateral in Lending



Using the Operational Tools

- **Long Term: Interest Rate Target**

“Are current financial conditions appropriate to attain medium-term macroeconomic stabilization objectives?”



Using the Operational Tools

- **Short Term: Balance sheet size and composition**

“Do financial institutions and markets have sufficient funds to carry out their daily business?”

“Do market determined risk spreads accurately reflect current uncertainties in economic fundamentals?”



Using the Operational Tools

- Fed does not “set” the federal funds rate
- They could stand ready to borrow & lend at the target.
 - Borrowing means paying interest on reserves
 - Lending means taking credit risk since the loans are uncollateralized



Federal Reserve Interventions

- 9 August: Open Market Operations
- 17 August: Discount Rate
- 18 September: Federal Funds Target
- 31 October: Federal Funds Target



Federal Reserve Interventions

- 9 August: Open Market Operations
 - Balance Sheet Size:
25+ bps decline in fed funds rate
 - Asset Composition:
Collateral primarily MBS



Federal Reserve Interventions

- **17 August: Discount Rate & Statement**
 - Balance Sheet Size:
Signaled possible reduction
 - Asset Composition:
 1. 50 bps Reduction in Primary Lending Rate
 2. Increase in the term of the loans to 30 days
 3. Emphasized broad collateral acceptance

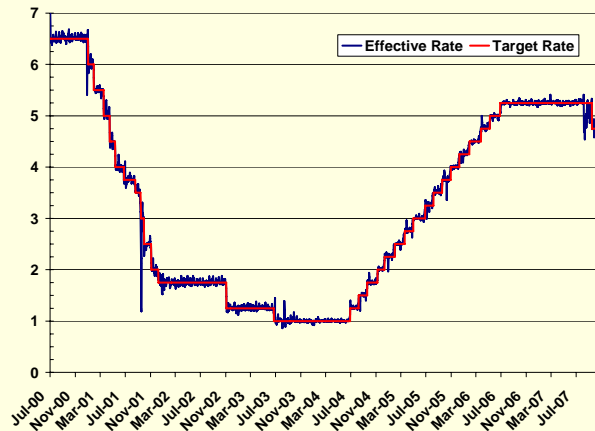


Federal Reserve Interventions

- **18 September:**
Federal Funds Rate & Discount Rate
 - Balance Sheet Size:
Cut both rates 50bps
- **31 October:**
Federal Funds Rate & Discount Rate
 - Balance Sheet Size:
Cut both rates 25bps



Federal Funds Rate: Effective & Target



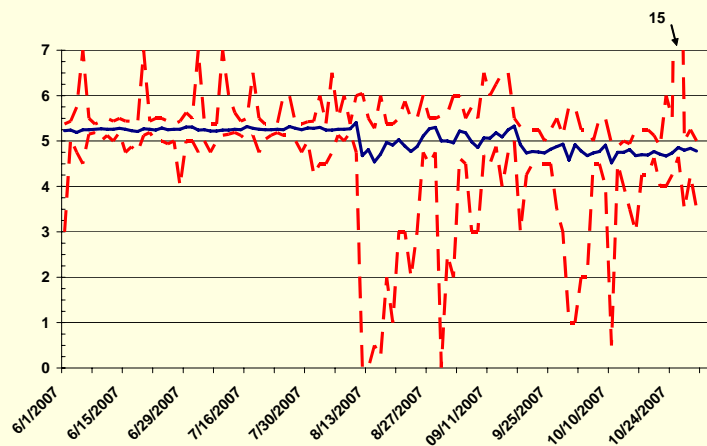
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Source: FRB H.15

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Federal Funds Rate: Effective & Range



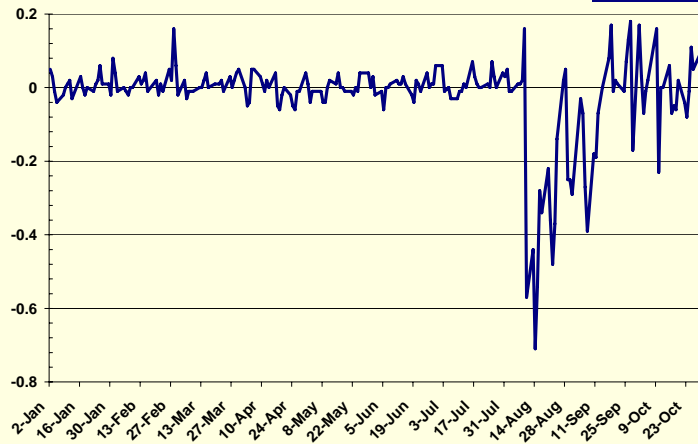
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Source: FRBNY

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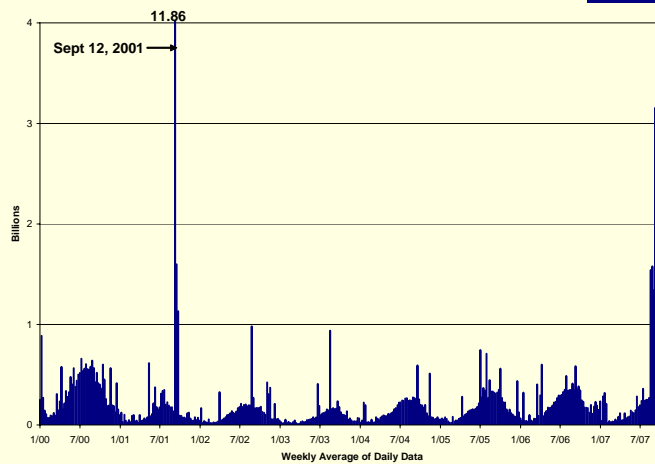
Fed Funds: Effective – Target



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Federal Reserve Lending



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Federal Reserve's Short-Term Objectives

“Do financial institutions and markets have sufficient funds to carry out their daily business?”

- Ensure markets remain liquid

“Do market determined risk spreads accurately reflect current uncertainties in economic fundamentals?”

- Encourage rational valuation of collateral



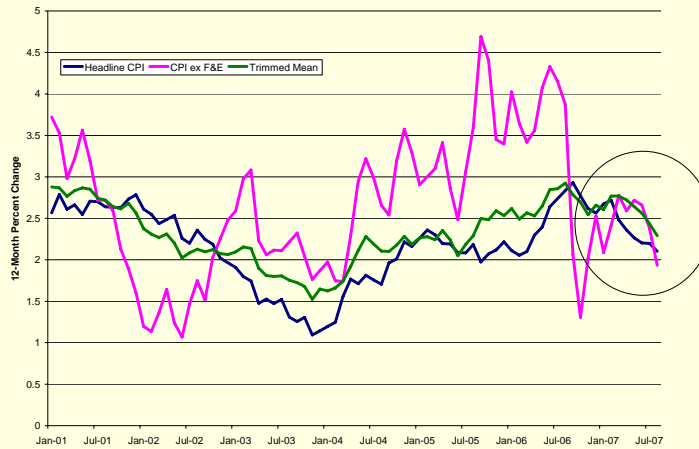
Federal Reserve's Long-Term Objectives

“Are current financial conditions appropriate to attain medium-term macroeconomic stabilization objectives?”

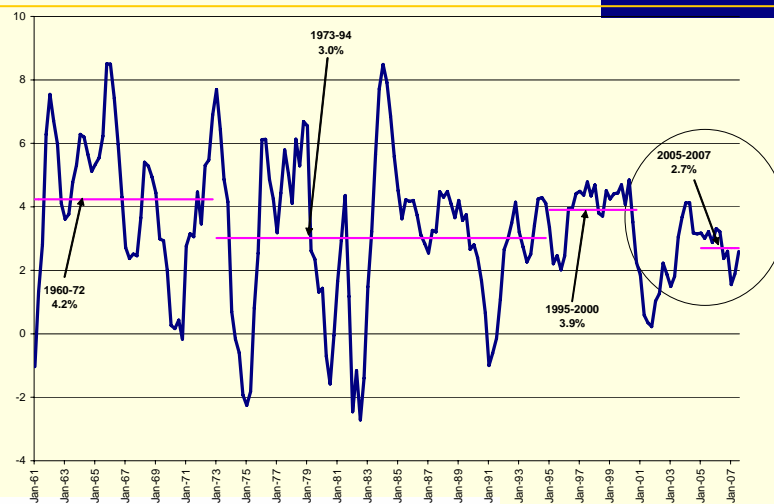
- Do the Sept & Oct rate cut jeopardize
 - Medium term inflation objectives?
 - Maximum sustainable growth?



Inflation: Is Trend Falling?



Real Growth: What is the trend?



Policy Issues

■ Short Term:

- What is the State of Financial Markets?

■ Long Term:

- Inflation Risks: Appear Low
- Growth Risks: Seem High



What's Next?

Taylor Rule:

$$i = r^* + \pi^* + \frac{1}{2}(y - y^*) + \frac{1}{2}(\pi - \pi^*)$$

$$r^* = 2.75 \quad \pi^* = 1.5 \quad y \approx y^* \quad \pi = 2$$

$$\Rightarrow i \approx 4.25.$$



Structural Questions

1. Do policymakers have the tools for the job?

- Mix of Collateral in Open Market Operations
- Price, Term, and Collateral in Lending
- Public Disclosure of Actions

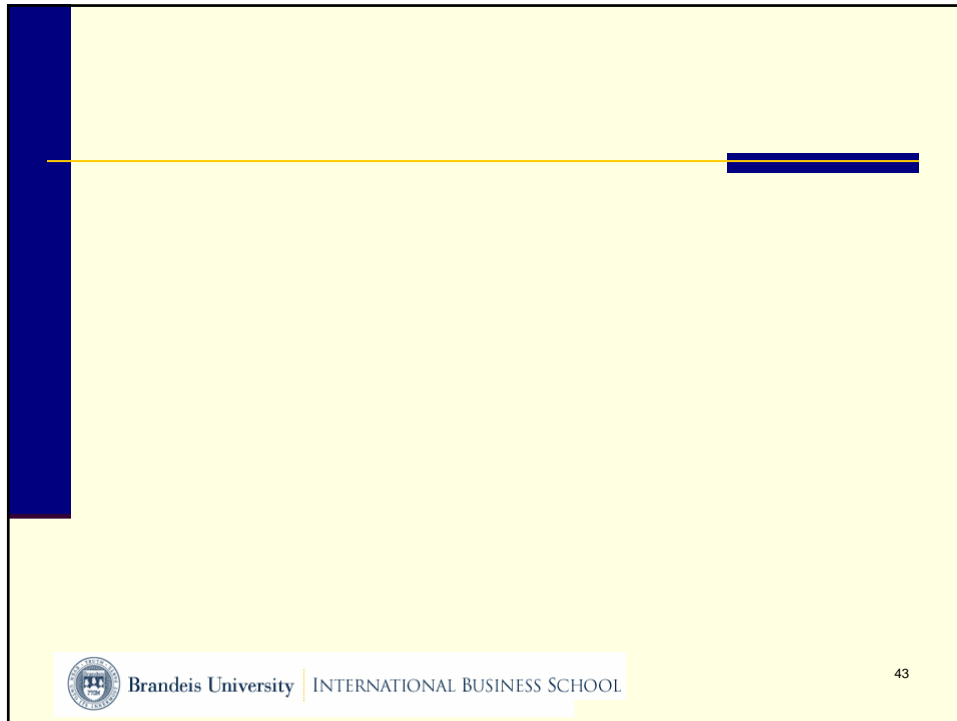


Structural Questions

2. How can we mitigate information problems that plague financial arrangements?

- Collateral, Net Worth
- Ratings agencies
- Data collection and disclosure
- Exchange-trading and the Clearinghouse





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