

# Economic Crisis: What Have We Learned and Where are We Heading?

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September 10, 2009

## What is Shadow Banking?

### Traditional Banking

Assets	Liabilities
Loans	Deposits
Reserves	Capital

- Regulated
- Liquidity, Solvency
- Monetary Policy

### Shadow Banking

Assets	Liabilities
Securitized loans	MM Funding
Swaps	RP
	ABCP
	Eurodollar

- Unregulated
- Liquidity, Solvency
- Monetary Policy?

## Reform Proposals

- “Toxic Assets” problem?
  - Underwriting, incentives, transparency, accounting
  - Consumer protection
- MM funding problem?
  - tri-party repo, auction rate securities
  - MMMF reform, international monetary reform
- Credit enhancement problem?
  - CDS clearing, derivatives regulation
  - Capital requirements
  - “credit insurer of last resort”
- Political economy problem?
  - Reining in financial sector, narrow banking

## Securitization and the Shadow Banking “System”

CDO		Invest. Bank		Insurance	
A	L	A	L	A	L
MBS	Hi Tranche Mid Tranche Lo Tranche	Loans			

Shadow Bank		Pension/Insurance		Hedge Fund	
A	L	A	L	A	L
Hi Tranche	MM Funding	Mid Tranche	DB/Annuity	Lo Tranche	Capital Loans

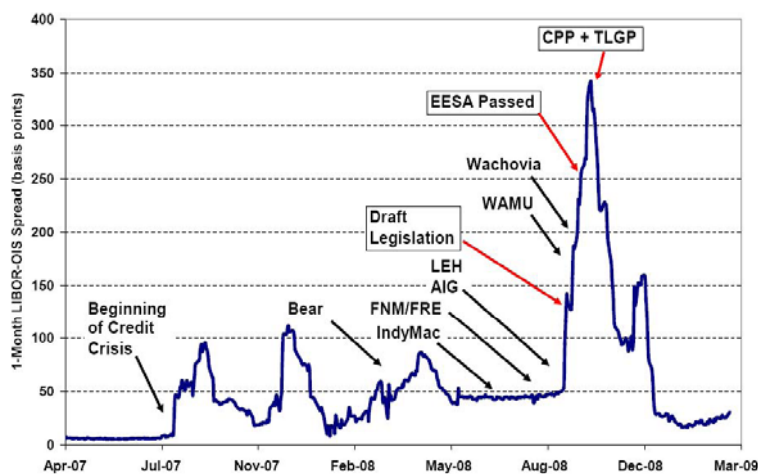
## Credit Risk and the Shadow Banking "System"

CDO		Invest. Bank		Insurance	
A	L	A	L	A	L
MBS	Hi Tranche Mid Tranche Lo Tranche	Hi CDS  Loans	Mid CDS Lo CDS		Hi CDS

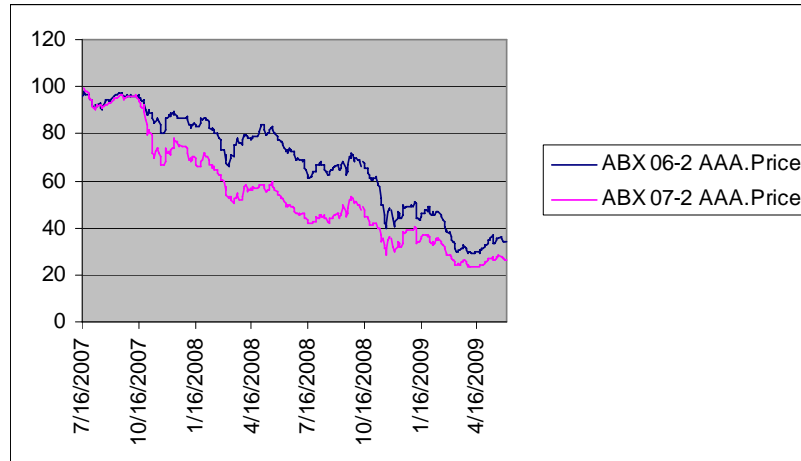
Shadow Bank		Pension/Insurance		Hedge Fund	
A	L	A	L	A	L
Hi Tranche Hi CDS	MM Funding	Mid Tranche Mid CDS	DB/Annuity	Lo Tranche Lo CDS	Capital Loans

## MM Funding Stress

(Swagel 2009)



## “Toxic Asset” Valuation Stress



## Credit Risk System Stress

CDO

Lehman

AIG

A	L	A	L	A	L
MBS	Hi Tranche Mid Tranche Lo Tranche	Hi CDS Loans	Mid CDS Lo CDS		Hi CDS

Shadow Bank

Pension/Insurance

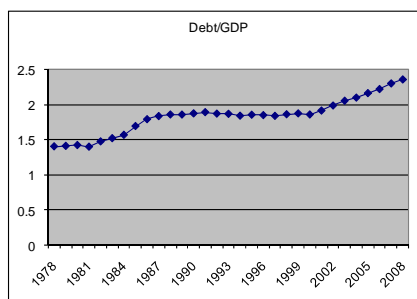
Hedge Fund

A	L	A	L	A	L
Hi Tranche Hi CDS	MM Funding	Mid Tranche Mid CDS	DB/Annuity	Lo Tranche Lo CDS	Capital Loans

## Drivers

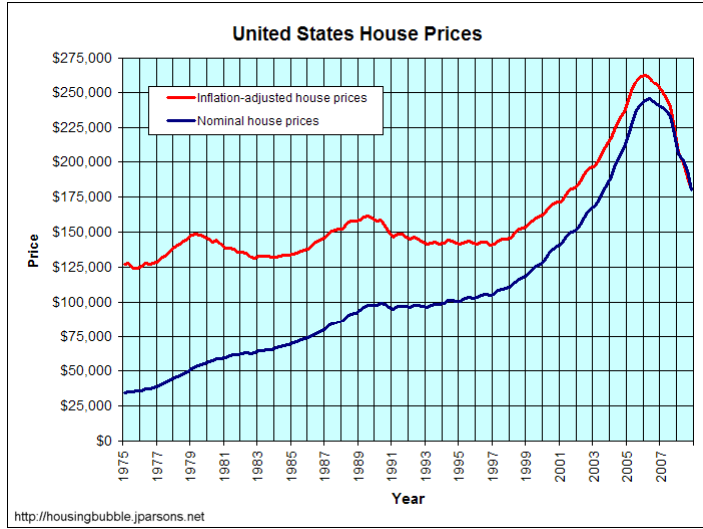
- **Demand** for dollar fixed income assets
  - Global imbalances (China surplus)
  - Financial globalization (Europe)
  - Demographics (pension, insurance)
- **Supply** of dollar fixed income assets
  - US Housing policy
  - Securitization technology (GSE)
  - Credit Default Swap technology
- **Regulation**
  - 1988 Basel Capital Accord
  - 1999 Financial Services Modernization Act
  - Monetary Policy?

## Consequence: Debt Explosion



	HH %	Bus %	Govt %
1981	34.6	38.1	27.3
1993	34.1	29.7	36.2
2006	44.3	32.1	23.6

# The Bubble



# Consumer De-leveraging

	2007				2008				2009	
	I	II	III	IV	I	II	III	IV	I	II
Borrowing (FoF)	940	949	784	766	410	53	7	-272	-152	
Cons. (PCExp.)	9659	9763	9866	10019	10095	10195	10220	10010	9988	9997
Saving	2.0	1.8	1.6	1.5	1.2	3.4	2.2	3.8	3.7	5.0

## Policy Response

- Lender of Last Resort ~ \$2 Trillion
  - Traditional Banks
    - absorb Shadow Bank Assets
    - fund using Fed's Term Auction Facility
  - International Banks
    - Central Bank Swap Line
  - Shadow Banks
    - MMMF Facility
    - Commercial Paper Facility

## Policy Response: Macro

- TARP
  - From Asset Purchase to Recapitalization
- Monetary Policy
  - Zero Interest Rate Policy
- Fiscal Policy
  - Automatic Stabilizers (tax revenue)
  - Obama Stimulus Package

## Credit Default Swaps, Explicit and Implicit

Shadow Bank

Assets	Liabilities
Security CD Swap [T bond]	MM funding  [Security]

Insurer (AIG/Fed)

Assets	Liabilities
[Security]	CD Swap T Bond]

## Fed Policy: Stage 3 TALF = Funding + Insurance

**Investor**

Assets	Liabilities
Securitized Loans, AAA	90% Loan LIBOR +100 Non-recourse 10% Capital

**NYFRB**

Assets	Liabilities
Loan 10% TARP Ins.	Reserves Suppl. Fin.

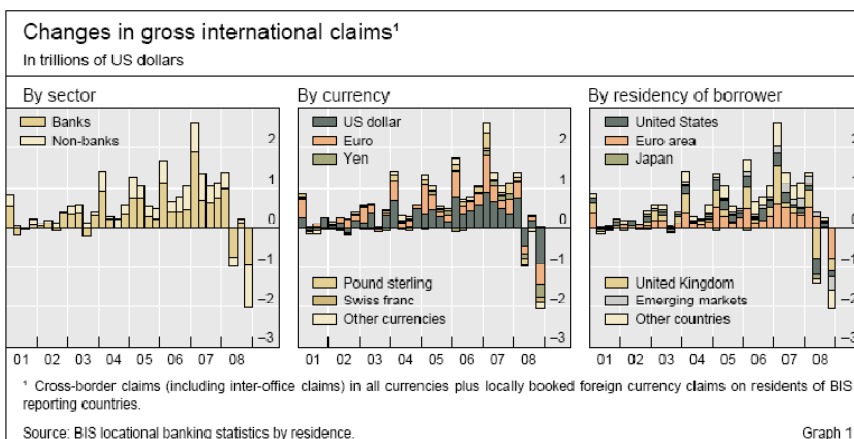
First consumer loans,  
then CMBS, then legacy  
Challenge: Separate insurance from funding

## Credit Insurer of Last Resort

- Analogue to Bagehot principle
  - 1873: “Lend freely but at a high rate”
  - 2009: “Insure freely but at a high premium”
- Price of systemic insurance as policy instrument
  - Ex ante pricing of systemic risk externality
  - Countercyclical control
- Other benefits
  - Penalize complexity, reward simplicity
  - Rating agency oversight

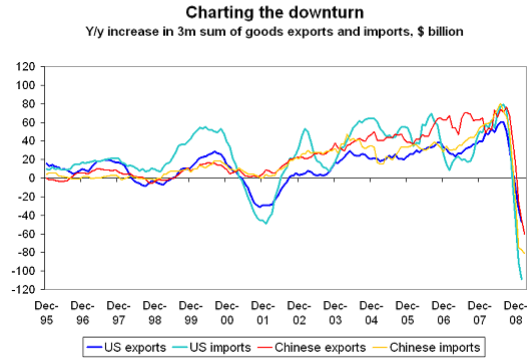
## Financial De-globalization

(BIS June 8, 2009)



# Collapsing world trade

(Brad Setser, CFR, April 19)



# World Industrial Output

(Eichengreen and O'Rourke, 2009)

