

The Global Financial Crisis: **Lessons for Economic and Financial** **Theory and Policy**

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General Consensus

- Federal Reserve fell down on the job in
 - Anticipating the downturn
 - Taking actions to prevent the crisis
- Given kudos for bringing the economy back from the brink
 - But measures have failed to restart lending
 - Shadow banking system remains in shambles
 - Potential fiscal costs (with pass through of profits/losses to Treasury) are huge
 - Policies engendered large redistributions that have called into question institutional frameworks (independence)

Not Yet a General Consensus...

- On why the Fed failed so badly
 - Flawed models
 - Flawed judgments
 - Too low interest rate (Taylor)
 - Flawed regulatory policies
- On what the Fed should have done
 - In the run up to the crisis
 - In response to the crisis
- On changes in policy framework
- On changes in governance
 - Though there is a political consensus *against* the Fed
 - Reflected in recent votes in Congress

Some Broad Lessons

Some new, some old that need to be relearned

- *Old lesson:* Markets, by themselves, may not be either efficient or stable
 - Theory had already explained that with imperfect information and incomplete risk markets, market equilibrium is not in general (constrained Pareto) efficient
 - Self-regulation doesn't work
- *Old lesson:* Hard to reconcile observed behavior with hypothesis of rationality, rational expectations
 - Ideas that have played central role in economic theory

Some Broad Lessons

Some new, some old that need to be relearned

- *New lesson:* Macroeconomic models need to do a better job of modeling financial sector
 - Banking sector, shadow banking sector
 - Understanding better the limits to monetary policy

Flawed Policy Framework

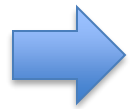
1. Maintaining price stability is necessary and almost sufficient for growth and stability
 - It is not the role of the Fed to ensure stability of asset prices
2. Markets, by themselves, are efficient, self-correcting
 - Can therefore rely on self-regulation
3. In particular, there cannot be bubbles
 - Just a little froth in the housing market

Flawed policy framework

4. Even if there might be a bubble, we couldn't be sure until after it bursts
5. And in any case, the interest rate is a blunt instrument
 - Using it to break bubble will distort economy and have other adverse side effects
6. Less expensive to clean up a problem after bubble breaks

Flawed policy framework

- Implication of this framework: DO NOTHING
 - Expected Benefit is small
 - Expected Cost is large



**EACH of the propositions was
FLAWED**

1. Inflation targeting

- Distortions from relative commodity prices being out of equilibrium as a result of inflation second order relative to losses from financial sector distortions
 - Both before the crisis and—even more—after the bubble broke
 - Clear that ensuring low inflation does not suffice to ensure high and stable growth
 - Bubbles themselves give rise to relative price distortion, given that different prices adjust in different ways
- *Inflation targeting risks shifting attention away from first order concerns*

2. Markets are efficient and self-correcting

- Flawed
- **General theorem:** whenever information is imperfect or risk markets incomplete (that is, always) markets are not constrained Pareto efficient
 - Pervasive externalities
 - Pervasive agency problems
 - Manifest in financial sector (e.g. in their incentive structure)

2. Markets are efficient and self-correcting

- Greenspan should not have been surprised at risks – financial sector had incentives to undertake excessive risk
- Systemic consequences (externalities, which market participants will not take into account when making decisions) are the reason we have regulations
- Especially significant when government provides (implicit or explicit) insurance
 - Problems of too-big-to-fail banks had grown markedly worse in the previous decade as a result of the repeal of Glass-Steagall

3. There cannot be bubbles

- False
- Bubbles have marked capitalism since the beginning
- Bubbles are even consistent with models of rational expectations
- Collateral-based credit systems are especially prone to bubbles

4. *“Can’t be sure...”*

- All policies are made in the context of uncertainty
- As housing prices continued to increase—even though real incomes of most Americans were declining—it was increasingly likely that there was a bubble

5. “*We had no instruments...*”

- False – they had instruments
- Congress had given them additional authority in 1994
 - Could have gone to Congress to ask for more authority if needed
- Could have used regulations (loan to value ratios) to dampen bubble
 - Had been briefly mentioned during tech bubble
- Ideological commitment not to “intervene in the market”
- But setting interest rates *is* an intervention in the market
 - General consensus on the need for such intervention
 - “Ramsey theorem”: single intervention in general not optimal

6. Less expensive to clean up the mess

- Few would agree with that today
- Loss before the bubble burst in hundreds of billions
- Loss after the bubble in trillions

Flawed Models

- Key channel through monetary policy affects the availability of credit (Greenwald-Stiglitz, 2003, *Towards a New Paradigm of Monetary Policy*)
 - And the terms at which it is available (spread between T-bill rate and lending rate is an endogenous variable, which can be affected by conventional policies and regulatory policies)

Insufficient Attention to Microeconomics of Banks

- Banks are critical to the provision of credit to small and medium sized enterprises (source of job creation)
- Especially important in understanding how to recapitalize banks, in order to
 - Restart flow of credit
 - Determination of spread between T-bill rate and lending rate
- Need to understand both role of incentives and constraints
 - At organizational level (“too big to fail banks”)
 - At individual level
 - And relations (corporate governance)
 - What role did change in organizational form (from partnerships to joint stock companies) play?

The Limits of Monetary Policy

- Monetary policy may have stopped systemic collapse, but it has not been able to restore economic growth
 - Keynes' argument: pushing on a string
 - But situation is markedly different from Keynesian liquidity trap
 - Relates to behavior of banks
 - Clearly “real interest rate” as measured by T-bill is not the driving force
 - Considerable uncertainty about the conduct of monetary policy

Fiscal Policy

- Whole world were Keynesians—for a moment
- Worked in stimulating the economy
 - US stimulus was too small, not well-designed
 - But impacts were reasonably accurately anticipated
 - Highlights importance of the design of the stimulus
 - Worries about “crowding out” were misplaced
 - Record low levels of interest rates
- For the U.S. a second stimulus is needed
 - The U.S. can finance
 - A well-designed stimulus (focusing on investment) would lower long term national debt

Other Failures of Prevalent Models

- Insufficient attention to “architecture of risk”
 - Including analysis of how systemic stability can be affected by policy frameworks
- Insufficient attention to “architecture of information”
 - Including an analysis of how moving from “banks” to “markets” predictably led to deterioration in quality of information

Insufficient Attention to “Architecture of Risk”

- Theory was that diversification would lead to lower risk, more stable economy
 - Didn’t happen: where did theory go wrong?
 - Mathematics: Assumed concavity; world marked by convexities
 - In former, spreading risk increases expected utility
 - In latter, it can lead to lower economic performance
 - Two sides reflected in standard debate
 - Before crisis—advantages of globalization
 - After crises—risks of contagion
 - Standard models only reflect former, not latter
 - Should reflect both
 - Optimal electric grids
 - Circuit breakers
 - Stiglitz, AER 2010, Journal of Globalization and Development, 2010

Insufficient Attention to “Architecture of Risk”

- Market incentives both on risk taking and risk sharing distorted
- Can show that there is systematically too much exposure to risk
- Can give rise to bankruptcy cascades
- Giving rise to systemic risk

Can Be Affected by Policy Frameworks

- Bankruptcy law (indentured servitude)
 - Lenders may take less care in giving loans
- More competitive banking system lowers franchise value
 - May lead to excessive risk taking
- Capital market liberalization
 - Flows into and out of country can give risk to instability
- Financial market liberalization
 - May have played a role in spreading crisis
 - In many LDC's, financial market liberalization has been associated with less lending to SME's

Can Be Affected by Policy Frameworks

- Central banks need to pay attention to systemic stability which is affected by
 - Exposure to risk
 - The extent to which shocks are amplified and persist
 - The extent to which there are automatic stabilizers and destabilizers
 - Changes in the structure of the economy can lead to an increase or decrease in systemic stability
 - Movement from defined benefit to defined contribution old age pension system

Key Controversy in Regulatory Reform

- Senate Committee: FDIC-insured institutions should not be engaged in swaps trading
 - Fire insurance important for mortgages
 - But banks should not be in business of writing fire insurance
 - And if they are, make sure that they have adequate capital—not underwritten by US taxpayer
- Banks, Bernanke, Administration wanted to continue exposure to risk, implicit subsidy
 - But several regional Presidents supported Senate Committee

Insufficient Attention to “Architecture of Information”

- Moving from “banks” to “markets” predictably led to deterioration in quality of information
 - Shadow banking system not a substitute for banking system
 - Leading to deterioration in quality of lending
 - Inherent problems in rating agencies
 - But also increased problems associated with renegotiation of contracts
 - Increasing litigation risk
 - “Improving markets” may lead to lower information content in markets
 - Extension of Grossman-Stiglitz (1980)
 - Problems posed by flash-trading (In zero sum game, more information rents appropriated by those looking at behavior of those who gather and process information)

Market Equilibrium Is Not Generally Efficient

- Derivatives market—an example
 - Large fraction of market over the counter, non-transparent
 - Huge exposures—in billions
- Undermining ability to have market discipline
 - Market couldn't assess risks to which firm was exposed
 - Impeded basic notions of decentralizability
 - Needed to know risk position of counterparties, in an infinite web
- Explaining lack of transparency:
 - Ensuring that those who gathered information got information rents?
 - Exploitation of market ignorance?
 - Corruption (as in IPO scandals in US earlier in decade)?

Some Implications

- Cannot rely on self-regulation
 - And even less so on rating agencies
 - Distorted incentives
 - Competition among rating agencies made matters worse
- Need to focus on shadow banking system as well as on banking system
 - New role for Fed, over \$1.2 trillion in mortgages
 - Two are related in complex ways
 - Going back to Glass-Steagall is not enough—a failure of investment banks can put economy in jeopardy

Some Implications

- Need to use full gamut of instruments—conventional instruments as well as regulatory instruments to affect lending
- There are supply side and demand side effects of monetary policy
- Bank behavior may not depend just on amount of capital
 - Bank managers' interest may differ from that of bondholders and shareholders: have to look at their incentives
 - Private bank owners' interests may differ from that of other suppliers of capital (including government)
 - Increasing capital adequacy requirements may not lead to less risk taking (reduced franchise value)

Some Implications

- More attention needs to be focused on dealing with failed financial institutions
 - Especially in the presence of systemic failure
 - Miller/Stiglitz argued for a “super-chapter 11” for corporations in event of systemic crisis
 - Need to think about how to handle mortgages
 - Need to think about how to handle banks
 - Failure to restructure mortgages will contribute to slow recovery of America
 - Way banks were bailed out led to less competitive banking system and exacerbated problems of moral hazard
 - Regulatory reform bill did not fix the problem—key issue was not resolution authority

Conclusion

- Models and policy frameworks many Central Banks used contributed to their failures before and after the crisis
- Fortunately, many Central Banks are now developing new models and better policy frameworks
 - Focus not just on price stability but also in financial stability
 - Credit availability/banking behavior
 - Credit interlinkages
 - Gallegati *et al*, Greenwald-Stiglitz, Haldane, Haldane-May

Conclusion

- Less likely that a single model, a simple (but wrong) paradigm will dominate as it did in the past
 - Trade-offs in modeling
 - Greater realism in modeling banking/shadow banking may necessitate simplifying in other, less important directions