I’ll frame my comments by drawing parallels between financial crisis policy and emergency management.

The 4 steps of emergency management:

1) Risk assessment
2) Risk mitigation -- building resilience.
3) Response
4) Recovery
1. Risk assessment

Before the crisis many of us worried about high household debt.

- Elizabeth Warren documented increasing household default rates at the first household finance conference at HBS in Fall 2006.

- I did a focus session on household liabilities at the CEPR in the summer of 2007 [http://faculty.haas.berkeley.edu/vissing/gerz2007call.pdf](http://faculty.haas.berkeley.edu/vissing/gerz2007call.pdf)

The talk described trends in indebtedness and called for more work on:

1) **Drivers of increased debt** (funding from abroad, reduced government borrowing, innovations in securitization and credit rating systems, government borrowing subsidies etc.)

2) Whether some households were overborrowing and the possible need for policy interventions.
Why wasn’t more done to slow down borrowing and housing boom?

1) Inflation was low: suggestion no overheating.

2) Volatility was low: VIX, spreads, realized volatility (great moderation).

3) Conventional wisdom was that monetary policy should react to asset markets only via their effects on growth and inflation (Bernanke and Gertler’s 1999 Jackson Hole talk).

4) Many didn’t appreciate that beliefs are often based on extrapolative expectations that overweight the recent past:
   Consumers thought house prices would keep rising.
   Academics thought the great moderation was a permanent reality.

5) Lack of appreciation of lack of resilience to shocks.
More macroeconomists are working on/supportive of models without rational exp.
2. Risk mitigation/resilience

Only Raghu Rajan fully appreciated the lack of resiliency of a deregulated financial sector taking on correlated tail risks via e.g. CDS issuance.

Several related facts made the economy un-resilient once housing market started declining:

1) High leverage concentrated risk among highly levered borrowers
2) Tranching of mortgages concentrated risk among buyers of the lowest tranches
3) Complex intermediation chains (including global banking) caused asymmetric information about who held the risk.

Macro did not focus on any of this because most models ignored financial intermediation.
Post-crisis policy efforts have involved resilience-building:

1) Reduced leverage via increased capital requirements
2) Liquidity requirements
3) Stress-tests: Similar to emergency management monitoring and warning systems
4) Living wills
5) Financial stability and micro and macroprudential regulation have become standard concerns of central banks/regulators around the world.

Macroeconomics is realizing that competitive markets are not naturally resilient.
3. Response

Some lessons:

- A lot of the response was about stopping emerging panics.

- Policy worked partly via lowering risk/risk premia:
  - Effects of QE on pre-payment risk premium (MBS), default risk premium (corporate)
  - Massive effect of monetary policy on stock prices via lower equity premium.
  - Policy had a “Fed put” nature, consistent with a desire to stop emerging panics.

(Krishnamurthy and Vissing-Jorgensen (2011, 2013), Cieslak, Morse and Vissing-Jorgensen (2018), Cieslak and Vissing-Jorgensen (2017))

Macro and finance are more intertwined than we thought.
Stock returns over the FOMC cycle:

Equity premium over FOMC cycle:
Fed put in target changes:

Fed put in even-week stock returns:
4. Recovery – what do I worry about

a) Both fiscal and monetary policy has been and is extremely lax. Non-policy fundamentals are much worse than they look.

b) The “Fed put” has led to artificially low volatility and possibly moral hazard in risk taking.

c) Expansionary fiscal policy has led to high Debt/GDP.

   US is running a deficit of over 4% of GDP this year. Debt/GDP projected to increase from 78 to 96% over the next 10 years.

   - A recession could make the US fiscal situation unstable.
   - An increase in inflation could lead to fiscal dominance and unanchoring of inflation.

d) Cyberattack on the financial sector.