Job market and unemployment: what we have learned from the crisis

Peter Diamond

June 25, 2012

Stagflation of the 1970s

Collapse of communism

Global Financial Crisis

Stagflation of the 1970s

- Expectations-augmented Phillips Curve
- Supply-side issues
- Real Business Cycles (RBC)
- Dynamic Stochastic General Equilibrium (DSGE): money; market clearing and sticky price/wage versions

it [is] necessary for man with his limited powers to go step by step; breaking up a complex question, studying one bit at a time, and at last combining his partial solutions into a more or less complete solution of the whole riddle. ... The more the issue is thus narrowed, the more exactly can it be handled: but also the less closely does it correspond to real life. Each exact and firm handling of a narrow issue, however, helps towards treating broader issues, in which that narrow issue is contained, more exactly than would otherwise have been possible. With each step ... exact discussions can be made less abstract, realistic discussions can be made less inexact than was possible at an earlier stage.

Source: Alfred Marshall, *Principles of Economics*, eighth edition. New York: The Macmillan Company, 1948, page 366.

Collapse of communism

- Creating a successful market economy is not easy
  - Firm behavior
  - Consumer behavior
  - Market infrastructure
  - Government regulation

Outline

Crisis

- Causes
- Responses

Economic Theory

- Financial frictions
- Search
- Incomplete markets
- Debt

The impact of any macroeconomic shock can be divided into two components.

One component is the effect of the natural demand and supply adjustments that would occur if prices and their expectations were to adjust continuously. Monetary policy cannot be used to offset this natural consequence of the shock without the risk of inflation being too high or too low.

The other component is the consequence of what economists call nominal rigidities. Monetary policy can be used to offset this latter component without creating undue pressures on inflation.

The challenge for monetary policymakers is to figure out how to divide the observed movements in the unemployment rate into these two components.

Source: "Labor Markets and Monetary Policy", Narayana Kocherlakota, pg 10.

For the Classical Theory has been accustomed to rest the supposedly self-adjusting character of the economic system on an assumed fluidity of money-wages; and, when there is rigidity, to lay on this rigidity the blame of maladjustment.

John Maynard Keynes, 1936, The General Theory of Employment Interest and Money, p. 257.

Richmond Fed's Economic Quarterly

Introduction to the Special Issue on Modern Macroeconomic Theory by Andreas Hornstein

A Perspective on Modern Business Cycle Theory by Nobuhiro Kiyotaki

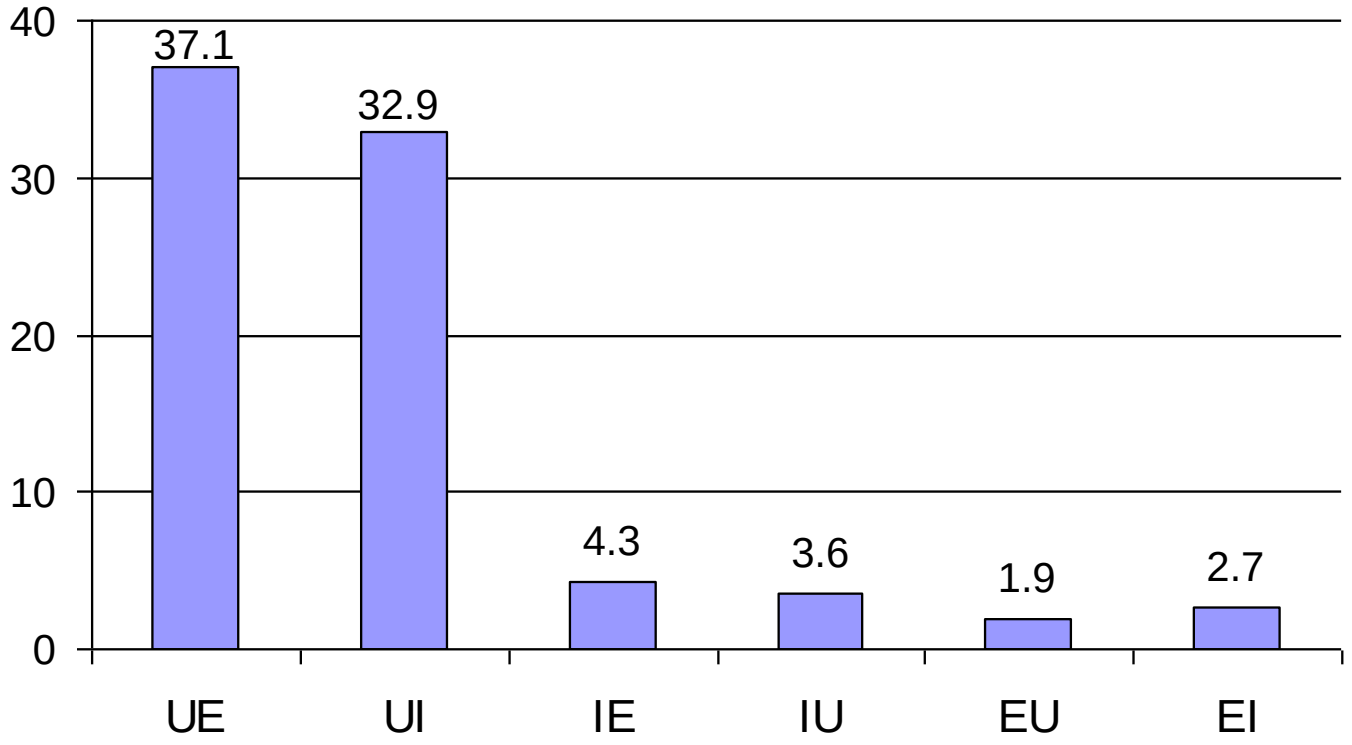
Financial Frictions in Macroeconomic Fluctuations by Vincenzo Quadrini

Macroeconomics with Heterogeneity: A Practical Guide by Fatih Guvenen

Quarterly Job and Worker Flows for the U.S. Private Sector 1990:2-2009:4 (as a percent of employment)

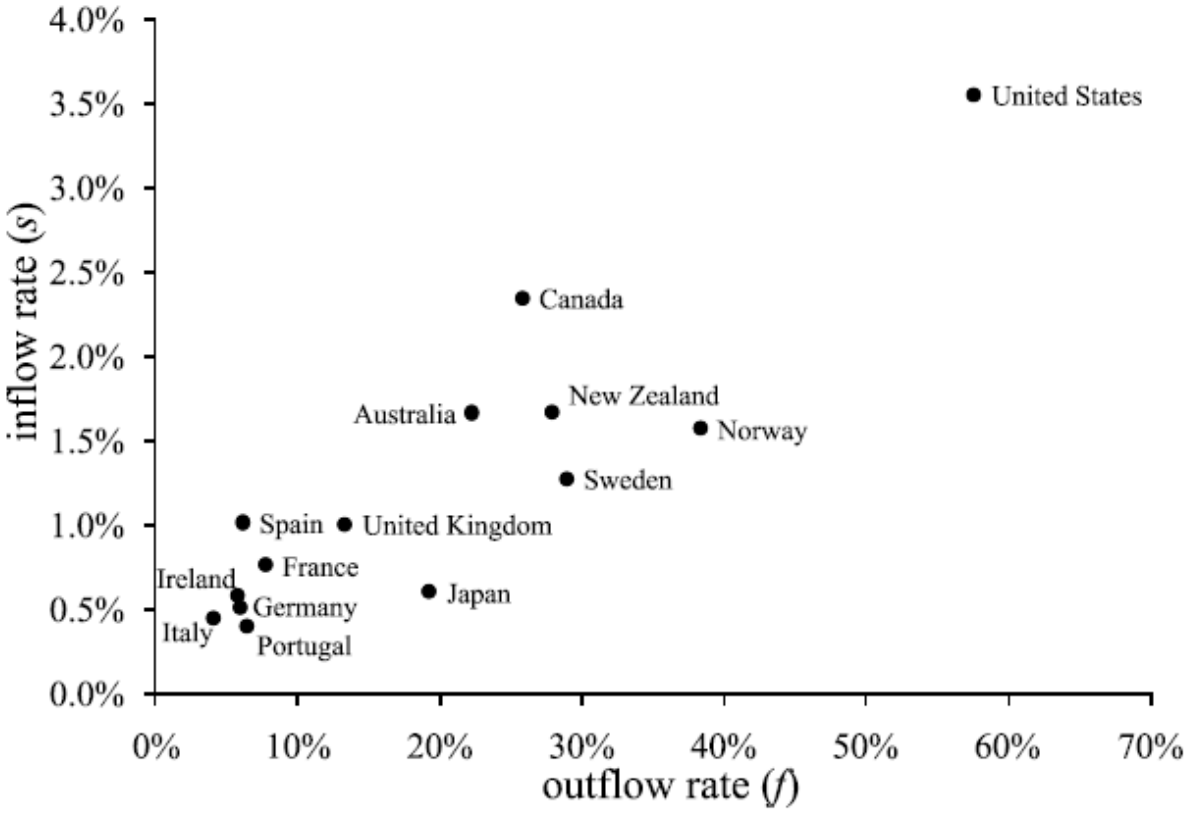
Notes: Series drawn from methodology used in Davis, Faberman and Haltiwanger (2010), "Labor Market Flows in the Cross Section and Over Time". Series measured from Business Employment Dynamics (BED) and Job Openings and Labor Turnover Survey (JOLTS). Pre-2001:3 Hires, Separations, Layoffs and Quits are Model Based Estimates.
Source: John Haltiwanger, personal communication

Monthly Worker Flow Rates, 1990:2 – 2009:4
(as a percent of workers with initial status)

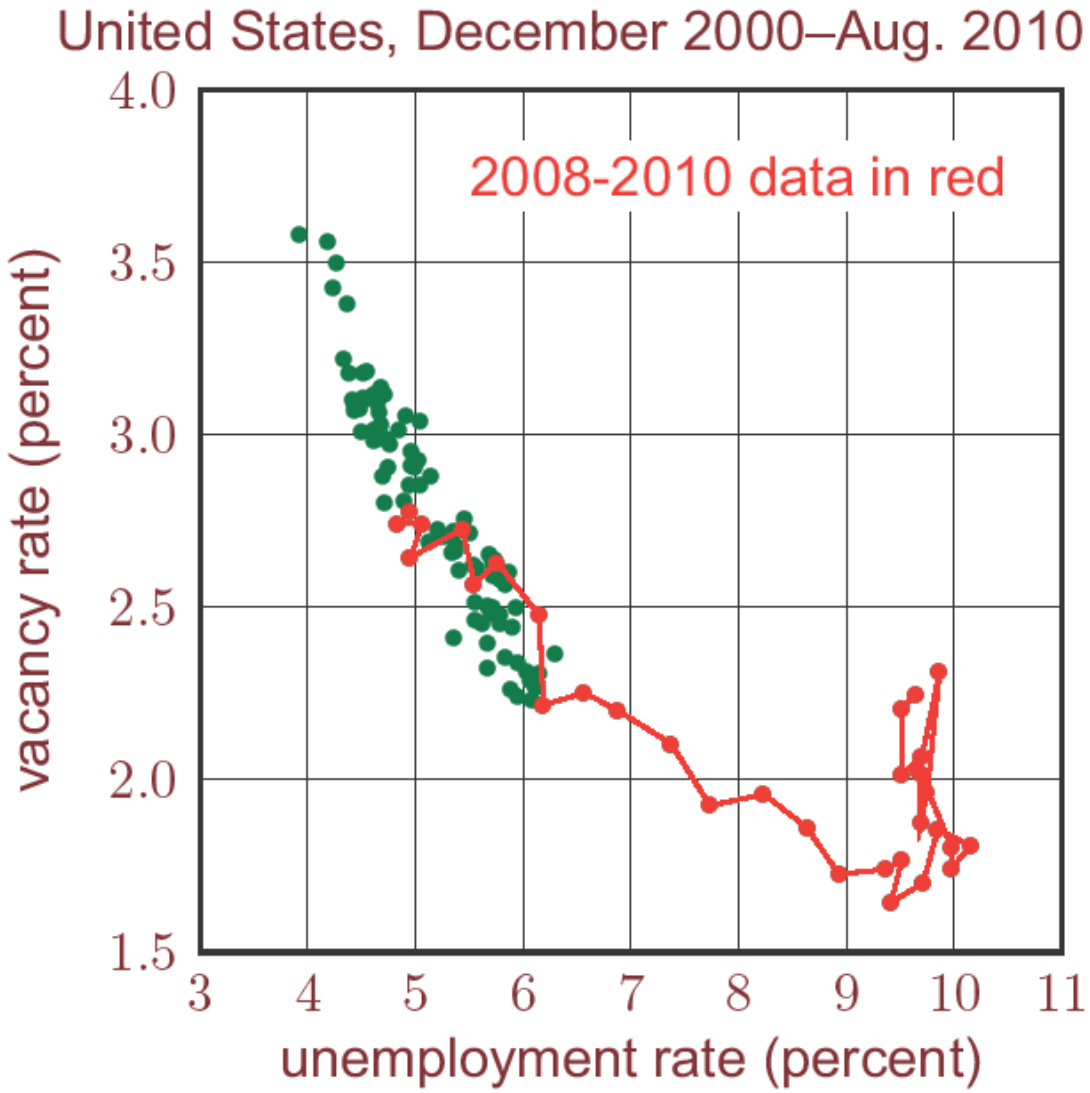


Data constructed by Robert Shimer. For additional details, please see Shimer (2007) and his webpage http://sites.google.com/site/robertshimer/research/flows.

Average Monthly In- and Outflow Rates across Countries



Source: Michael Elsby, Bart Hobijn, and Ayşegűl Şahin “Unemployment Dynamics in the OECD”, Federal Reserve Bank of San Francisco, August 2009, Figure 1.



Source: Robert Shimer, personal correspondence.

"What does this change in the relationship between job openings and unemployment connote? In a word, mismatch. Firms have jobs, but can't find appropriate workers. The workers want to work, but can't find appropriate jobs.

… it is hard to see how the Fed can do much to cure this problem.

… the Fed does not have a means to transform construction workers into manufacturing workers."

Source: Narayana Kocherlakota, President, Federal Reserve Bank of Minneapolis, "Inside the FOMC", August 17, 2010.

WICKSELL LECTURES 1964

THE NATURE AND SOURCES OF UNEMPLOYMENT IN THE UNITED STATES

ALMQVIST & WIKSELL
STOCKHOLM
GÖTEBORG · UPPSALA

“the real issue is not whether technological displacement causes workers to lose their jobs. It undoubtedly does. The real issue is whether over a period of years the continual introduction of new and improved machines and processes is causing a total net increase or decrease in mass employment.

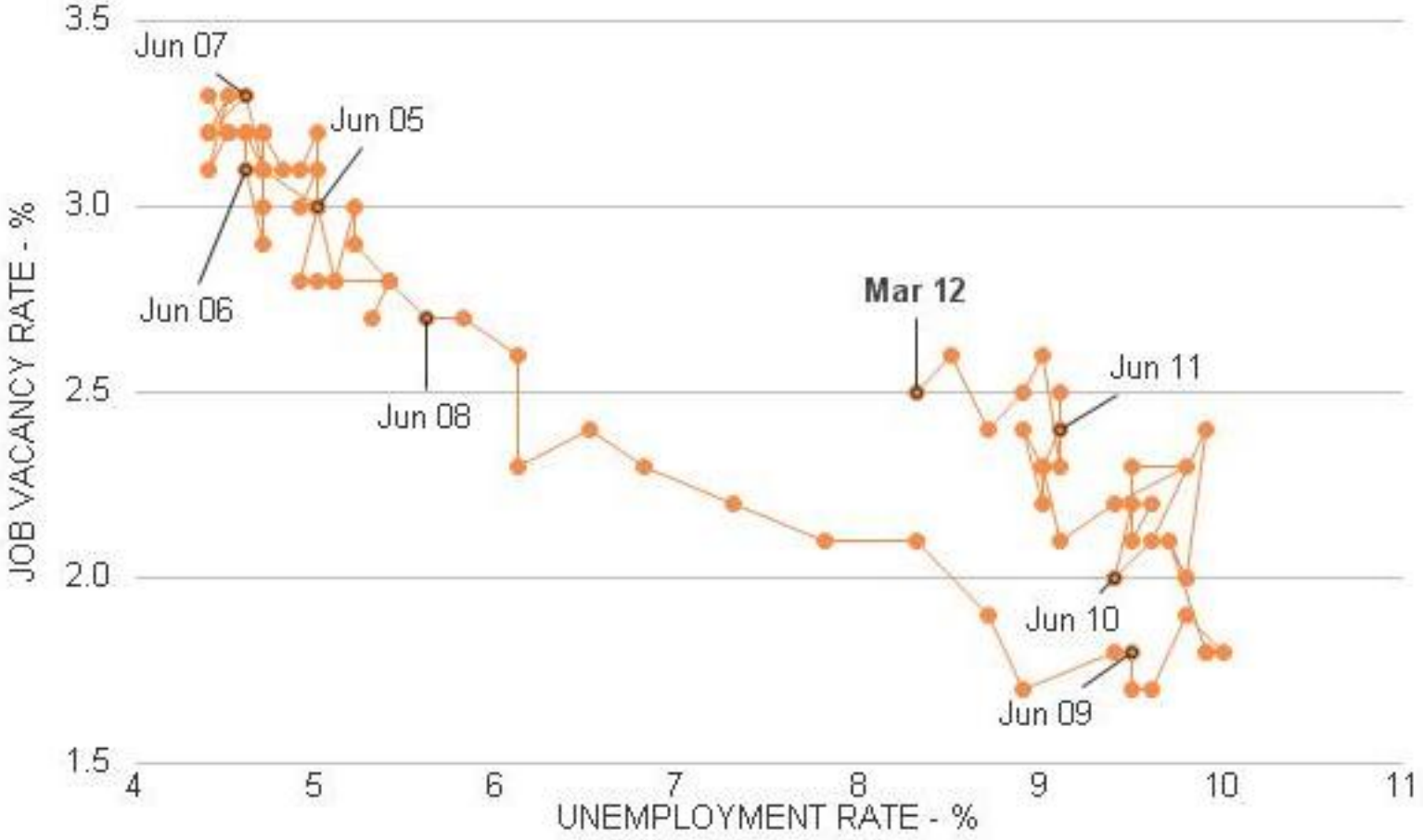
…

On this issue there are two opposing points of view, each held by large numbers of earnest people.”

Source: U.S. Senate, Select Committee on Unemployment Insurance, *Unemployment Insurance*, Part 2, “Report of the Committee on Technological Unemployment to the Secretary of Labor,” November 1931, 72nd Congress, 1st Session, 1931, 560.
Cited in Woirol, Gregory R. 1996. *The Technological Unemployment and Structural Unemployment Debates*. Westport, CT: Greenwood Press, p. 36.

U.S. Beveridge Curve

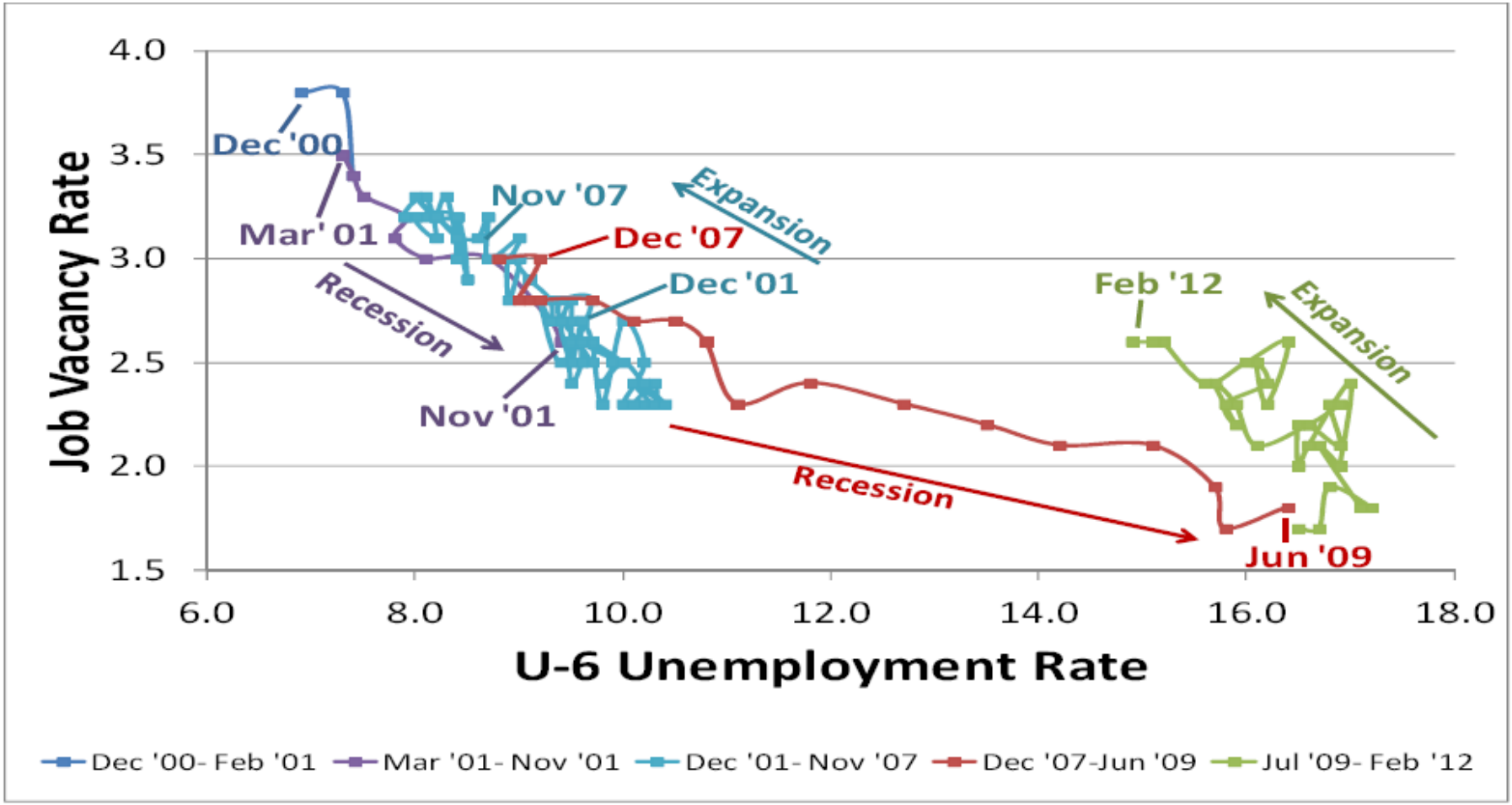
Job vacancy rate tends to be negatively correlated with the unemployment rate



Source: Thomson Reuters Datastream

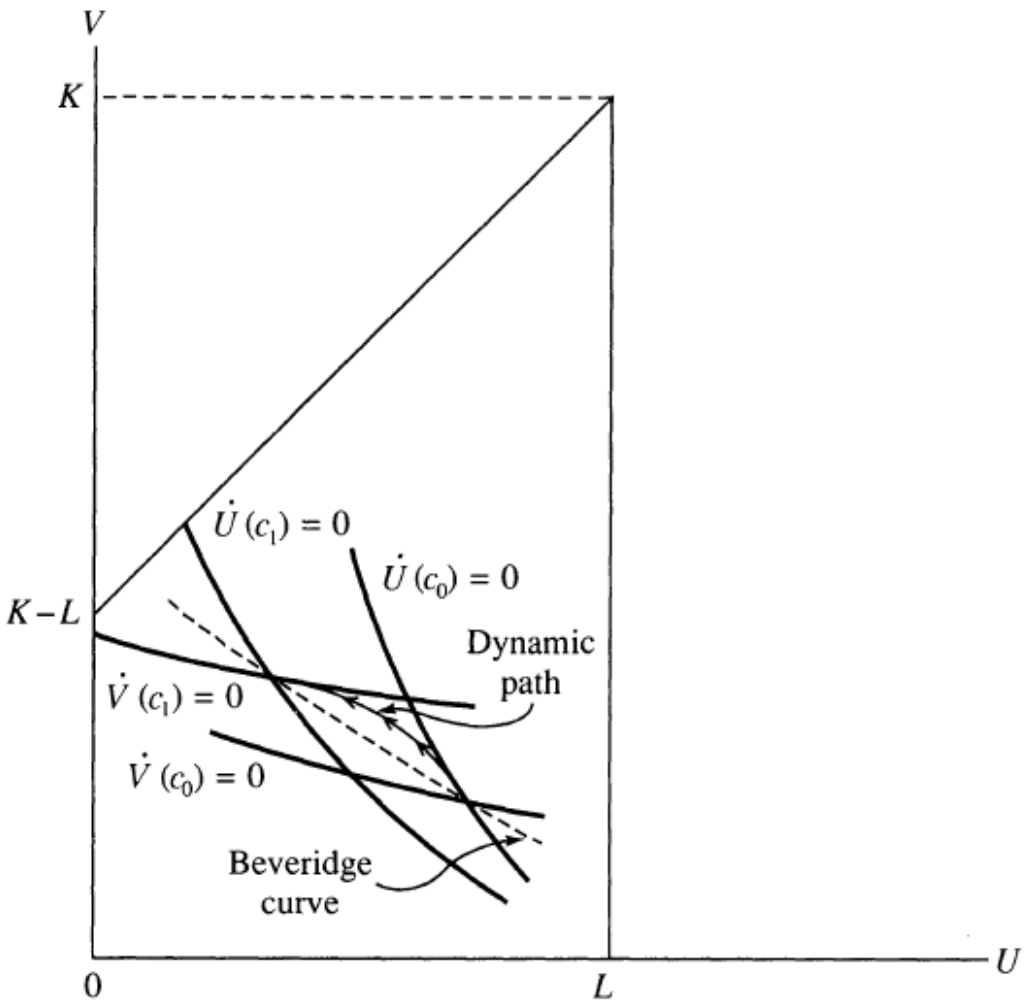
Reuters graphic/Van Tsui 3/26/2012

The Beveridge Curve: Job Vacancy Rate vs. U-6 Unemployment Rate (Seasonally Adjusted)



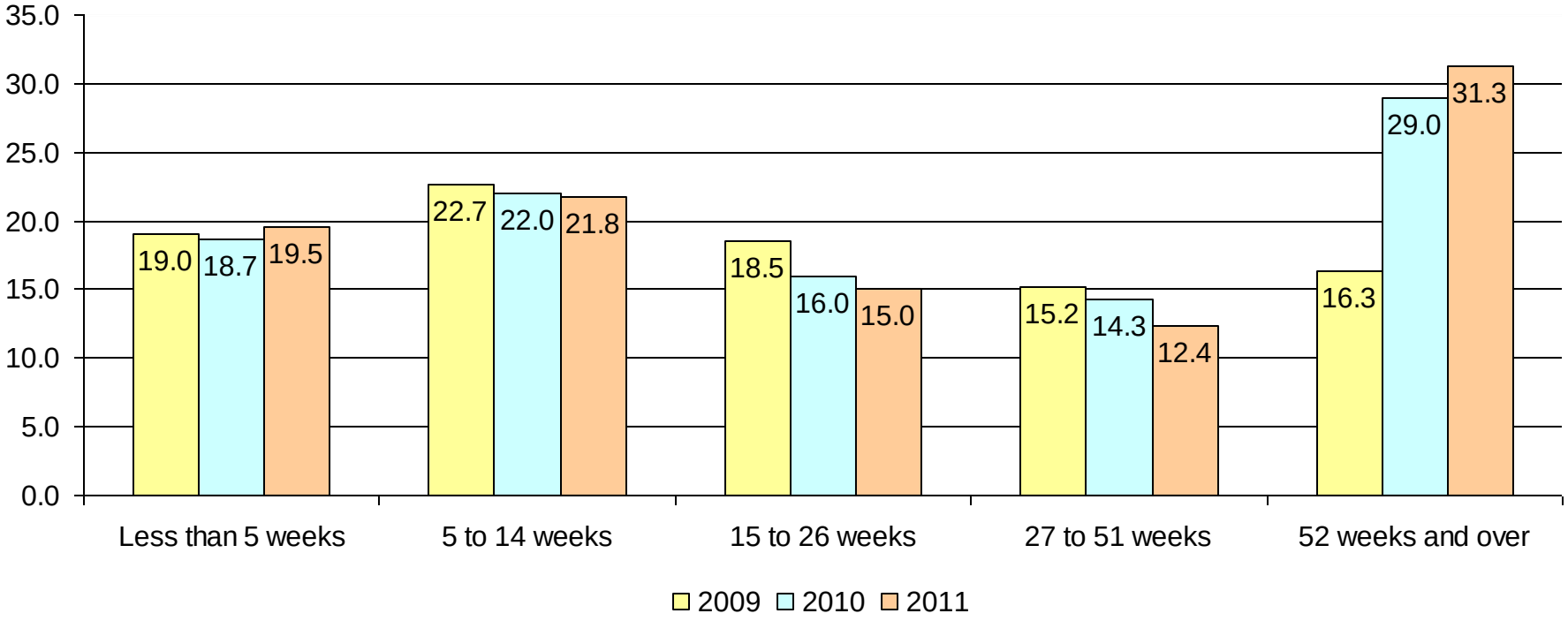
Source: Cumberland Advisors; data from Bureau of Labor Statistics, Current Population Survey and Job Openings and Labor Turnover Rate, April 10, 1012.

Shift in Aggregate Activity (c)



Source: Olivier Blanchard, Peter Diamond "The Beveridge Curve" *Brookings Papers on Economic Activity*, Vol. 1989 No.1., Figure 3.

Unemployed Persons by Duration of Unemployment (Percent Distribution)

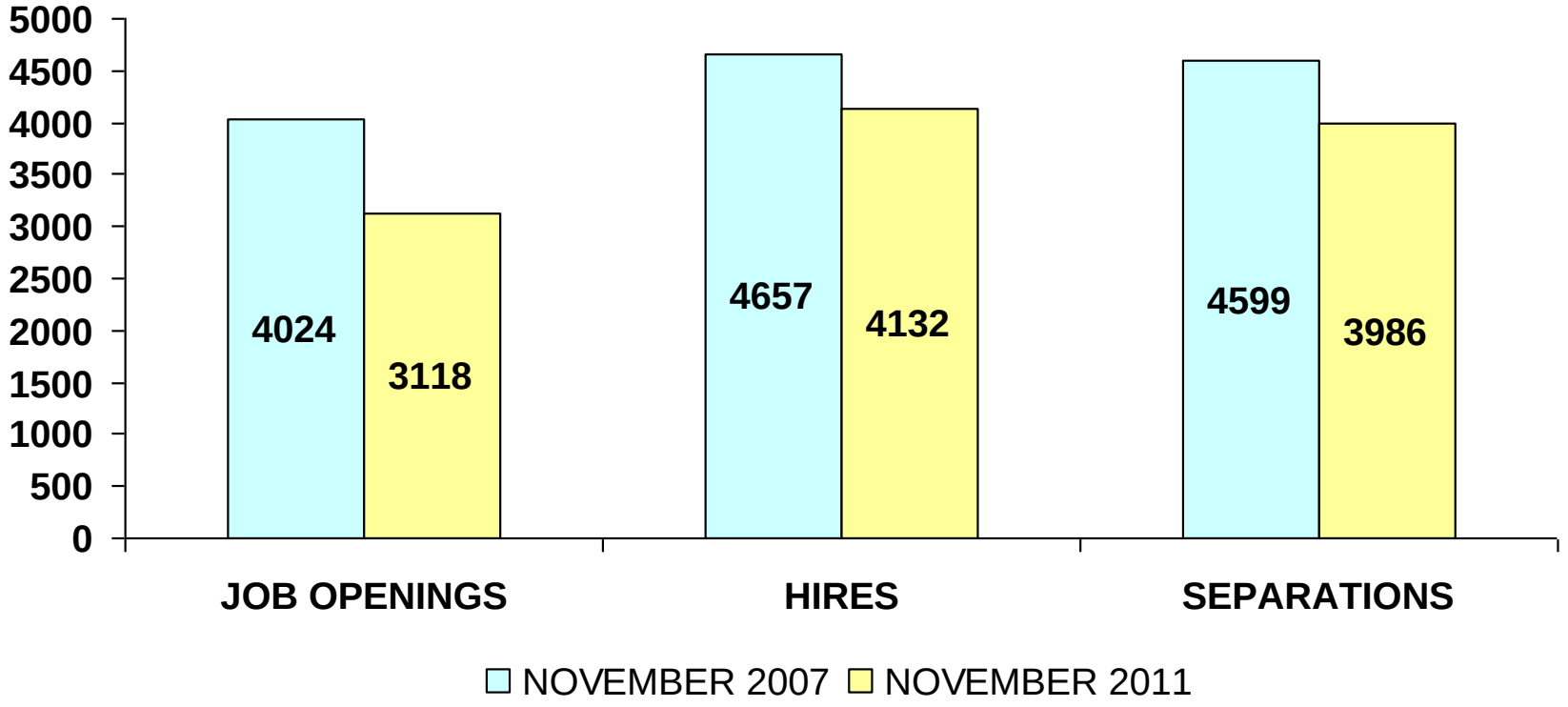


Source: Bureau of Labor Statistics, Household Data Annual Averages.

Job Openings and Labor Turnover

November 2007 and November 2011

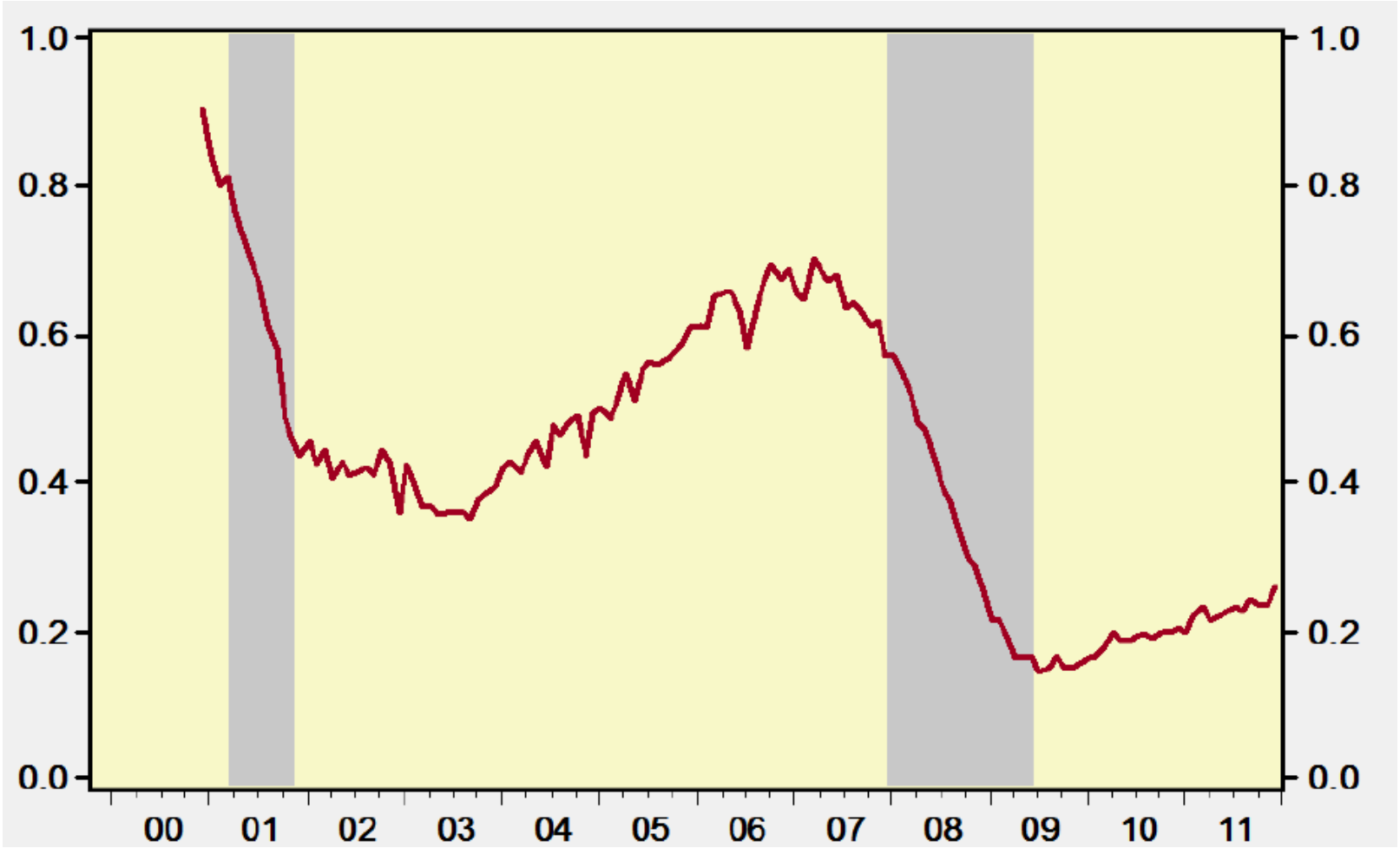
Nonfarm Sector, Seasonally Adjusted



Notes: All numbers are in thousands.

Sources: BLS News Release, JOLTS, February 7, 2012;
BLS News Release, JOLTS, February 12, 2008.

Ratio of Job Openings (JOLTS) to Unemployed (CPS)



Source: Haver Analytics

37 states are providing less funding per student to local school districts in the new school year than they provided last year

30 states are providing less than they did four years ago

17 states have cut per-student funding by more than 10 percent from pre-recession levels.

4 states— South Carolina, Arizona, California, and Hawaii — each have reduced per student funding to K-12 schools by more than 20 percent.

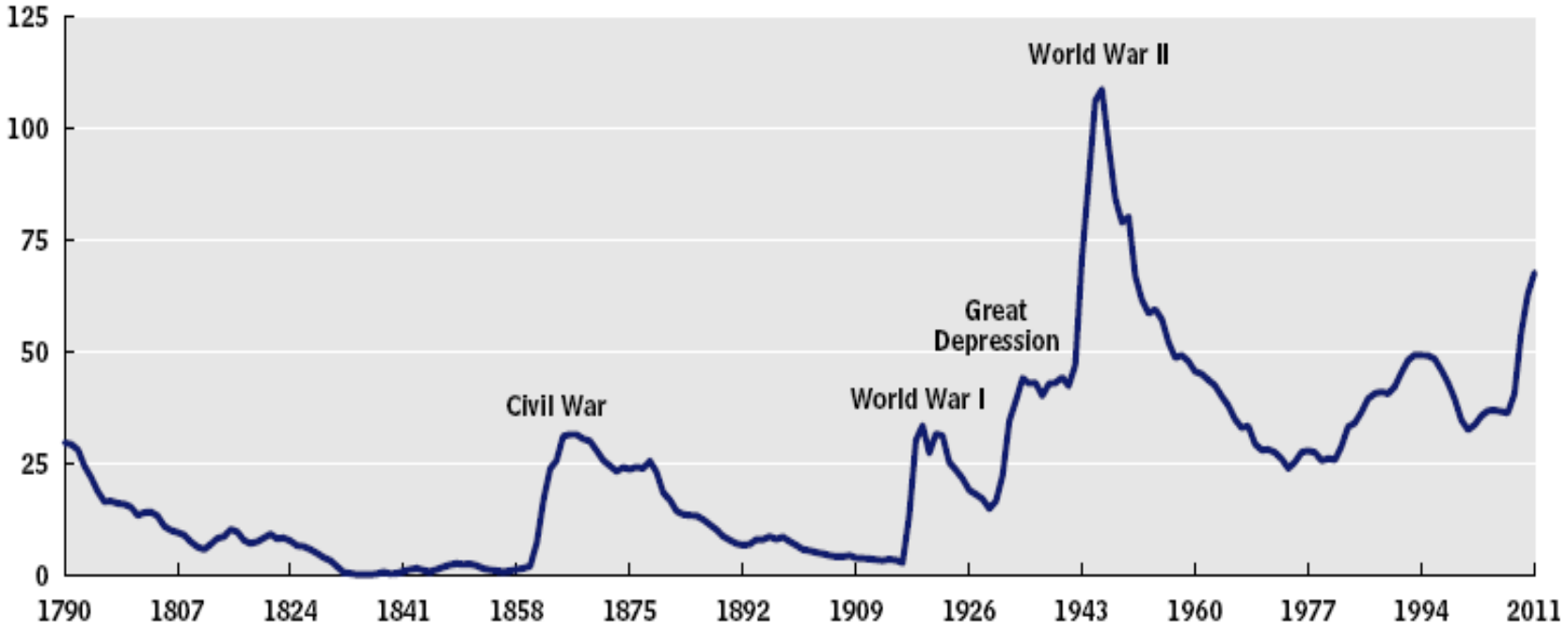
These figures are in inflation-adjusted dollars and focus on the primary form of state aid to local schools.

Source: CBPP, New School Year Brings Steep Cuts in State Funding for Schools, October 7, 2011.

Tension:
the current bad situation
vs.
needs for the future

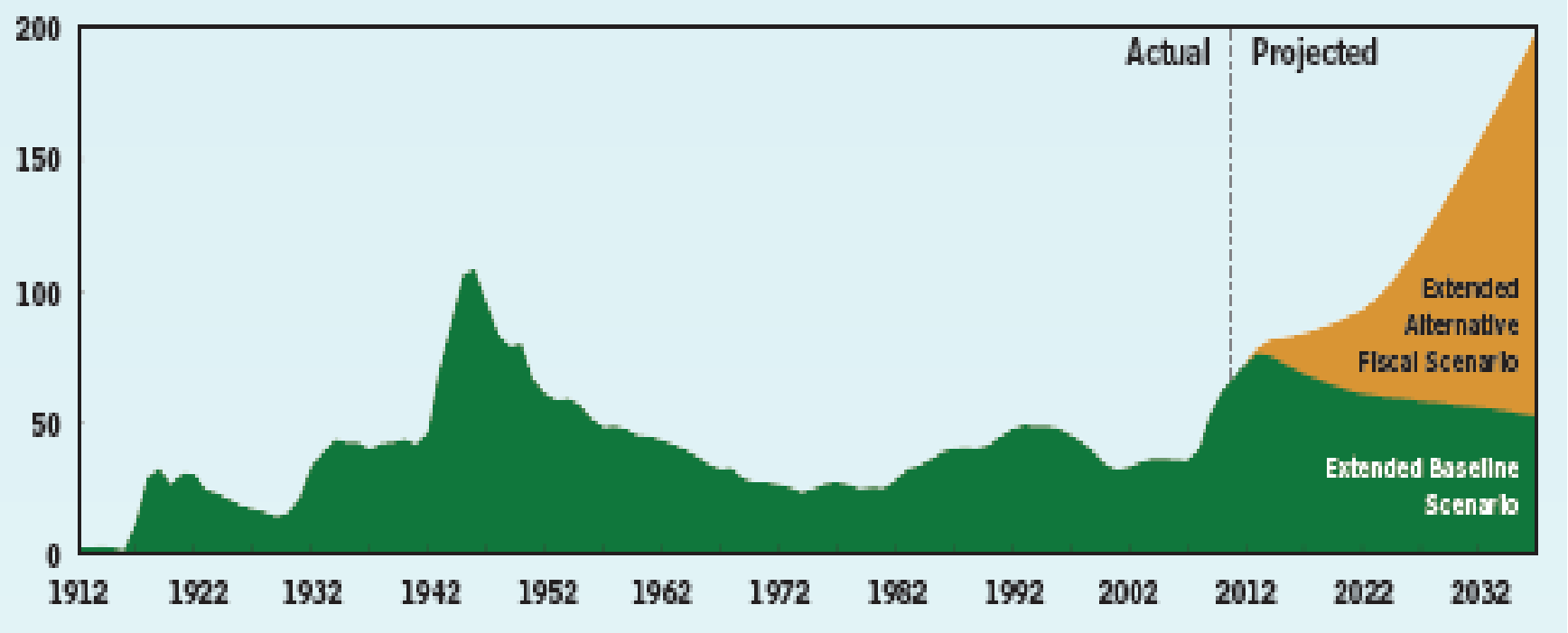
- Unemployment and Sovereign Debt
- Consumer Spending and Debt Deleveraging
- Current Lending and Bank Regulation
- Bank Bailouts and Moral Hazard

Federal Debt Held by the Public, 1790 to 2011
(as a percentage of GDP)



Source: The 2012 Long-Term Budget Outlook, Congressional Budget Office, June 2012.

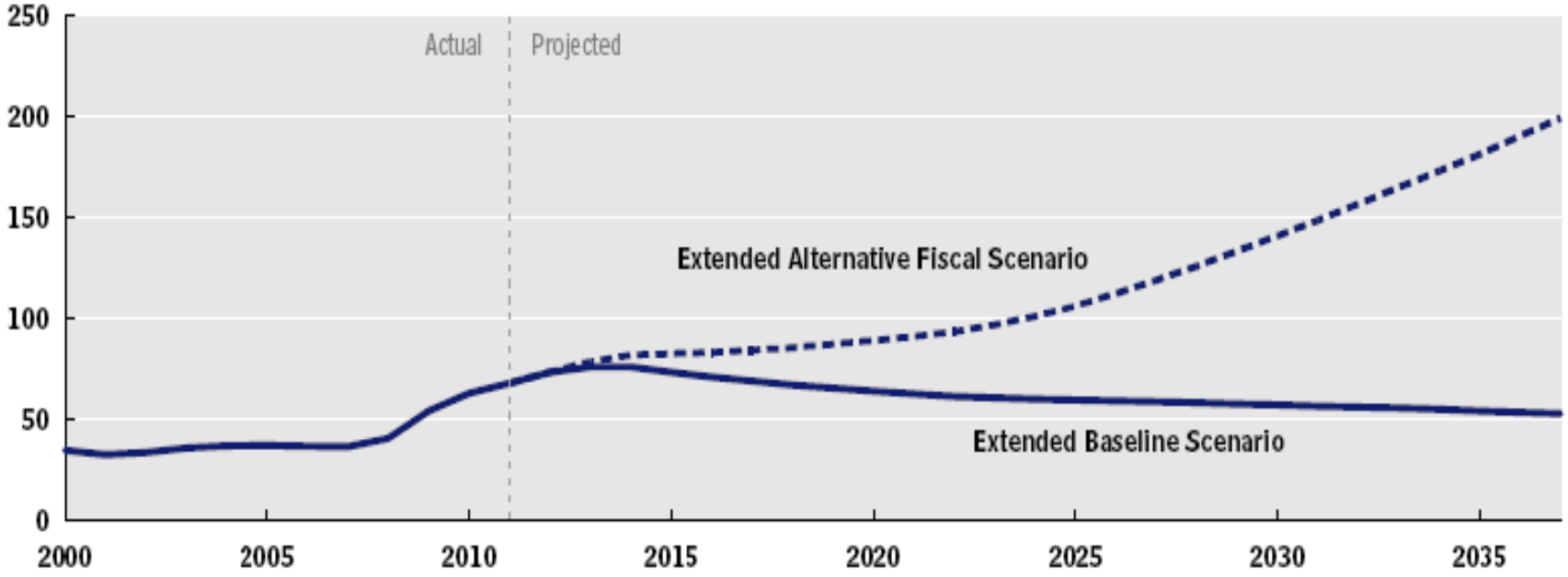
Federal Debt Held by the Public, 1912 to 2037
(as a percentage of GDP)



Source: The 2012 Long-Term Budget Outlook, Congressional Budget Office, June 2012.

Federal Debt Held by the Public under CBO's Long-Term Budget Scenarios

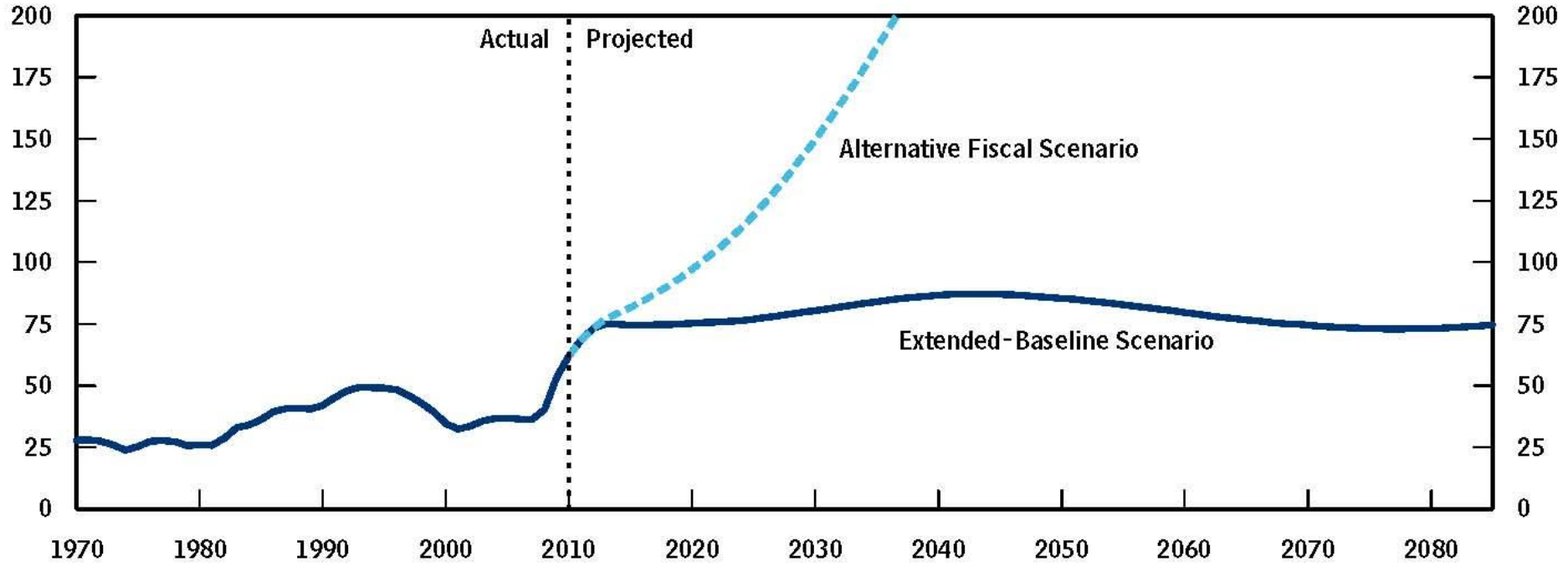
(as a percentage of GDP)



Source: The 2012 Long-Term Budget Outlook, Congressional Budget Office, June 2012.

Federal Debt Held by the Public Under CBO's Long-Term Budget Scenarios Through 2085

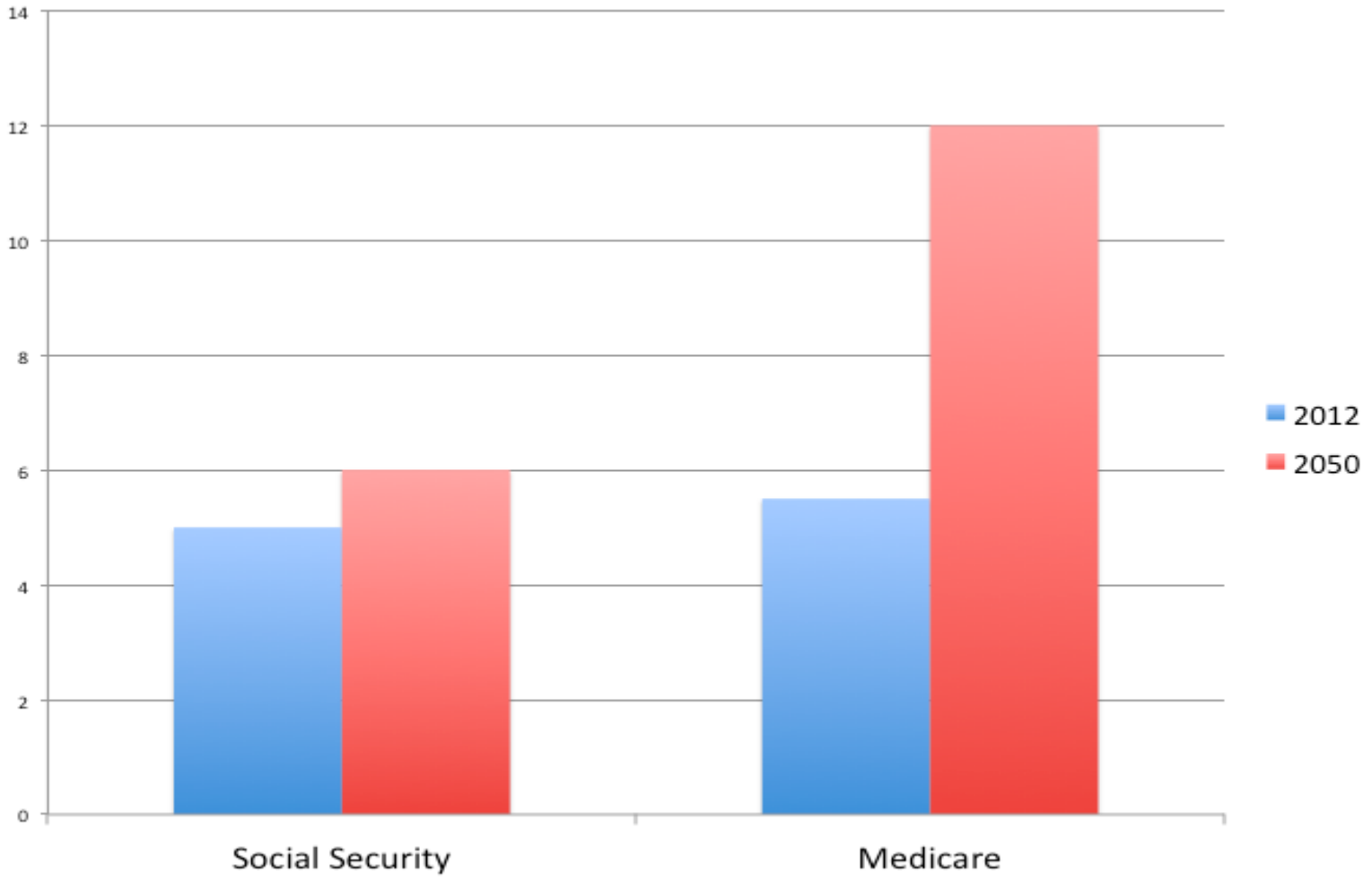
(Percentage of gross domestic product)



Source: Congressional Budget Office.

Note: The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)

Social Security and Medicare Expenses as a Percent of GDP vs. Congressional Budget Office Projections



Source: Peter A Diamond and Peter R. Orszag, Saving Social Security: A Balanced Approach, Brookings Institution Press, 2005.

Tension:
a current good situation
vs.
risks for the future

- Policy action and policy rule
- Complete market model and incomplete market model
  - financial frictions
  - uniform/diverse expectations
  - heterogeneous population

Arrow-Debreu model

Complete markets

- Complete list of states of nature
- Market price for each good in each state of nature over all time
- Single budget constraint for households
- Single non-negative profit constraint for firms
- Only non-pecuniary externalities

Incomplete markets

- Surprises
  - Similar issue contracts
- Market price for today's goods, todays assets
  - Expectations of future prices
- Multiple budget constraints
  - Possible bankruptcy
- Plans involve possible bankruptcy
- Also some pecuniary externalities

Arrow-Debreu model

Complete markets

- Competitive equilibrium is Pareto optimal

Incomplete markets

- Generically competitive equilibrium is not Pareto optimal

Fluctuations in risk premiums

- Differences in risk aversion
  - Hyun Song Shin, Risk and Liquidity (Clarendon Lectures in Finance), Oxford University Press, 2010.
- Differences in expectations
  - John Geanakoplos, The Leverage Cycle, Cowles Foundation Discussion Paper, 2009

Built-in stabilizers

- Income taxes
- Unemployment insurance
- Retirement pensions
- Disability pensions
- Safety net

Financing practices result in payment commitments that are embodied in contracts that reflect market conditions and expectations that ruled when they were negotiated and signed. The payment commitments come due and are discharged as the economy moves through time, and the behavior and particularly the stability of the economy change as the relation of payment commitments to the funds available for payments changes and the complexity of financial arrangements evolves.

Hyman P. Minsky, Stabilizing an Unstable Economy, 1986, p. 197.

There would be very large negative externalities associated with the disorderly failure of any SIFI [systemically important financial institution], distinct from the costs incurred by the firm and its stakeholders.

Tarullo, Daniel K., “Regulating Systemically Important Financial Firms”, Board of Governors of the Federal Reserve System Speech, June 3, 2011, page 2.)

The rationale underlying the expected impact approach is that the expected impact of failure of SIBs [Systemically Important Banks] and non-SIBs should be the same. Given that the failure of a SIB will have a greater economic impact than a non-SIB, the probability of failure of a SIB will need to be lower than a non-SIB in order for the expected impact to be equal across the two groups.

Basel Committee on Banking Supervision, Consultative Document, Global systemically important banks: Assessment methodology and the additional loss absorbency requirement, July 2011, page 23.

Externalities in Complete-Market Arrow-Debreu model

Restore first-best

- Pigouvian tax equal to value of externality
- Regulation to match choice with tax

No trade-offs

Second-best

- Simple tax when need complex
- Can’t measure source of externality, tax related behavior
- Prices vs. Quantities

Trade-off: distortion from imperfect correction, reduction in externality

If trade is brisk all energies are strained to their utmost, overtime is worked, and then the limit to production is given by want of power rather than by want of will to go further or faster. But if trade is slack every producer has to make up his mind how near to prime cost it is worth his while to take fresh orders. And here there is no definite law, the chief operative force is the fear of spoiling the market; and that acts in different ways and with different strengths on different individuals and different industrial groups.

Alfred Marshall, 1920, 1948 edition, Principles of Economics, 8th ed., p. 498.

[On a] streetcorner outside Fenway Park … [t]here are buyers and sellers, neither of whom is willing to budge. The scene is something of a capitalist staring contest, an exercise in supply and demand. … The game has started but his price remains fixed. …

To a casual onlooker, the solution seems simple. Drop the price. But when the idea is brought up, the man in the gray cotton T-shirt quickly shoots it down. … "If you owned a store, and you sold milk, and all your milk was about to go bad, and everyone held out until the last minute to buy your milk, and you dropped the price, what would happen?" … He explains that no one would be willing to buy milk at full price. The integrity of the product would be compromised.

Robert Mays, Globe Correspondent, Losses are piling up for scalpers, August 17, 2010

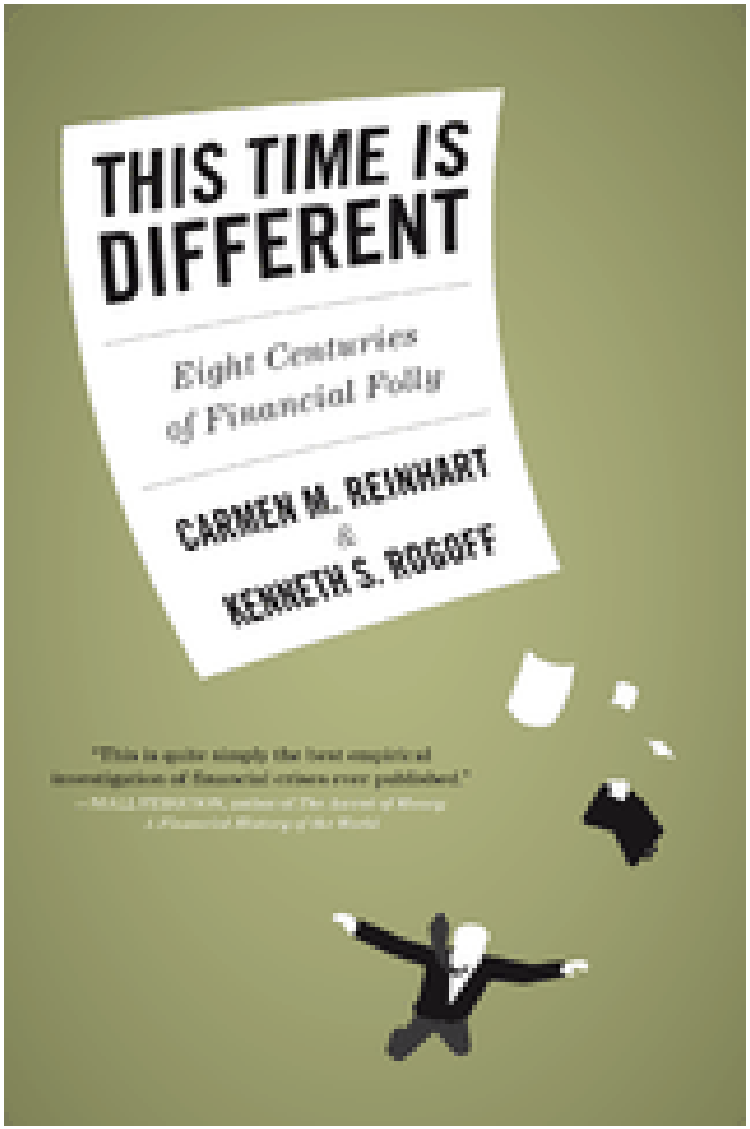
Outline

Crisis

- Causes
- Responses

Economic Theory

- Financial frictions
- Search
- Incomplete markets
- Debt


THIS TIME IS DIFFERENT
Eight Centuries of Financial Folly
CARMEN M. REINHART
&
KENNETH S. ROGOFF

If there is one common theme to the vast range of crises we consider in this book, it is that excessive debt accumulation, … by the government, banks, corporations, or consumers, often poses greater systemic risks than it seems during a boom.

...

Most of these booms end badly. Of course, debt instruments are crucial to all economies, ancient and modern, but balancing the risk and opportunities of debt is always a challenge.

Source: This Time is Different, Carmen Reinhart and Kenneth Rogoff, 2009, page xxv.

the social costs of debt financing are significantly higher than the private costs.

Statement of Sheila C. Bair, Chairman, Federal Deposit Insurance Corporation on FDIC Oversight: Examining and Evaluating the Role of the Regulator during the Financial Crisis and Today before the House Subcommittee on Financial Institutions and Consumer Credit; May 26, 2011.

Stripdowns and Bankruptcy: Lessons from Agricultural Bankruptcy Reform

Thomas J. Fitzpatrick IV and James B. Thomson

Federal Reserve Bank of Cleveland

Derivatives and bankruptcy rules

Chapter 11 bars bankrupt debtors from immediately repaying their creditors, so that the bankrupt firm can reorganize without creditors' cash demands shredding the bankrupt's business. Not so for the bankrupt's derivatives counterparties, who, … can seize and immediately liquidate collateral, readily net out gains and losses in their dealings with the bankrupt, terminate their contracts with the bankrupt, and keep both preferential eve of-bankruptcy payments and fraudulent conveyances they obtained from the debtor, all in ways that favor them over the bankrupt's other creditors.

Mark J. Roe, THE DERIVATIVES MARKET'S PAYMENT PRIORITIES AS FINANCIAL CRISIS ACCELERATOR, *STANFORD LAW REVIEW,* Vol. 63:539

Derivatives and collateral rules

- Collateral adjusted for changes in underlying risk
- Collateral adjusted for rating of debt quality of counterparty

PAUL SOLMAN: The so-called financial engineering these men helped create has been fingered as a key culprit in the economic crisis.
PAUL SAMUELSON: People compare it with the Great Depression, but the Wall Street shenanigans this time are much worse.
PAUL SOLMAN: Well, what did Wall Street do this time that it didn't do last time?
PAUL SAMUELSON: Fiendish Frankenstein monsters of financial engineering had been created, a lot of them at MIT, some of them by people like me.
Nothing like this was present in 1929 when Herbert Hoover and the secretary of treasury, the billionaire Andrew Mellon, were doing the wrong things. They didn't encounter this problem at all.

Source: Nobel Laureates Trace How the Economy Began to Fall Apart

PAUL SOLMAN: The problem of Samuelson's so-called monsters, credit default swaps, say, or mortgage-backed securities, which … could be used to protect an investment or to make huge bets in unregulated markets.
And, says Samuelson...
PAUL SAMUELSON: You not only can bet with them, but you can leverage to a degree that you don't even know you're leveraging.
PAUL SOLMAN: You can, in other words, borrow money with which to bet with them?

Source: Nobel Laureates Trace How the Economy Began to Fall Apart

“element of Time”… “the centre of the chief difficulty of almost every economic problem.”

Alfred Marshall, *Principles of Economics*, eighth edition. New York: The Macmillan Company, 1920/1948 p. ii.