

What Happens During Recessions, Crunches and Busts?

Stijn Claessens, M. Ayhan Kose and Marco E. Terrones

Financial Studies Division, Research Department
International Monetary Fund

Presentation at the

*IMF-World Bank Conference on
Risk Analysis and Risk Management
October 2, 2008, Washington, D.C.*

*Disclaimer! The views presented here are those of the authors and do
NOT necessarily reflect the views of the IMF or IMF policy* ¹

Motivation

"We believe the effect of the troubles in the sub-prime sector on the broader housing market will likely be limited, and we do not expect significant spillovers to the rest of the economy or to the financial system"

Ben Bernanke, Chairman of the FRB, May 15, 2008

"... asset-price-bust recessions do not appear to be necessarily more costly than other recession episodes. Specifically, ..., recessions that follow swings in asset prices are not necessarily longer, deeper, and associated with a greater fall in output and investment than other recessions..."

Roger W. Ferguson, January 12, 2005

Ferguson was the Vice Chairman of the FRB over 1997-2006

Issues Facing Us Today

- Financial systems of advanced countries, especially the United States, under severe stress
- Very tight credit in many markets
- Large changes in the structure of the financial sector
- Sharp decline in house prices (US, UK, Spain, ...)
- Lower equity prices globally
- Sharp slowdown in economic activity (US, EU, Japan, ...)
- **Concerns about length of asset price declines....**
- **Concerns about recession: duration and amplitude...**

Some Issues Have Been Studied

- Theoretical channels linking financial factors to business cycles
 - Wealth and substitution (direct) effects
 - Credit channel
 - Financial accelerator (indirect) effects
 - Bernanke & Gertler (1989), Kiyotaki & Moore (1997)
 - Fisherian (1933) deflation stories

But Knowledge Still Limited

- Generally, relationships between credit, asset price movements, and economic activity not well understood, especially not in recessions
 - So far only a small sample of (case) studies have been studied
 - Often extrapolate single country experiences, of limited value given rare events
 - Know little about the global aspects of these events, coinciding or not

Objective: Three Questions

- How long do recessions, credit crunches and asset price busts last, and how severe/deep are they?
- Are recessions associated with credit crunches and asset price busts different than other recessions?
- How do macro and financial variables behave around recessions, crunches and busts?

How? By providing a comprehensive analysis of many recessions, crunches, busts
(purely statistical exercise; event study; no discussion of causation or potential sources)

Results

- How long do recessions, credit crunches and asset price busts last, and how severe/deep are they?

Episodes of financial markets' difficulties last a long time, much longer than recessions, and can be deep

- Are recessions associated with credit crunches and asset price busts different than other recessions?

Yes. Recessions associated with crunches and busts tend to be longer and deeper

- How do macro and financial variables behave around recessions, crunches and busts?

Mostly procyclical. Residential investment and credit key variables to understanding the direction of the economy

Outline of Presentation

- Sample of Countries and Data
- Methodology for Business and Financial Cycles
- Recessions, Credit Crunches, Price Busts
 - Duration, Amplitude, Typical Pattern
- Overlap Business and Financial Cycles
 - Duration, Amplitude
- Policy Responses
- Summary
- Caveats and Future Research

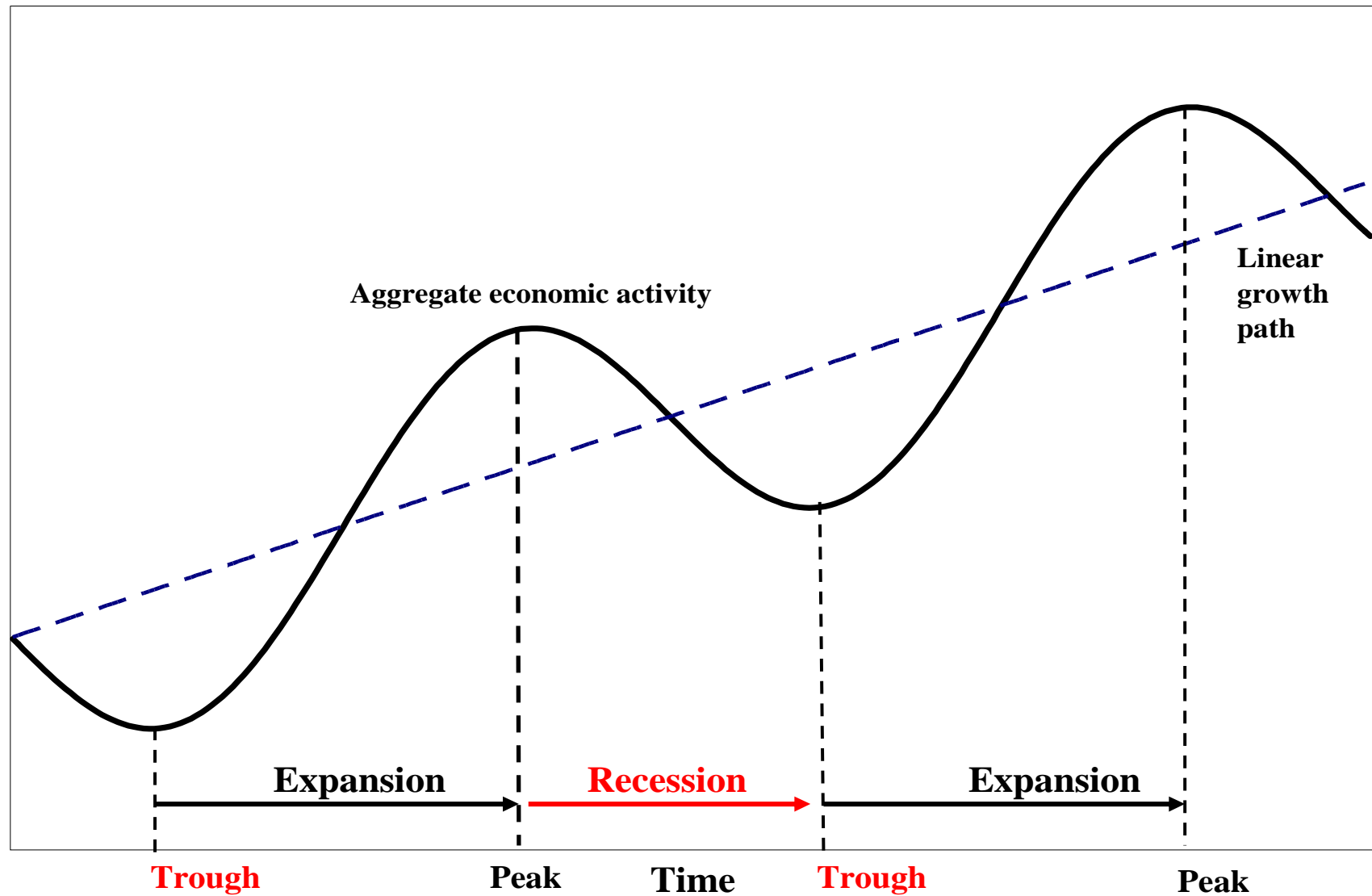
Countries Included and Period

- *21 countries:* Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States
- Period 1960-2007
- Quarterly Data

Business Cycle Methodology

- Find turning points in macro and financial variables using business cycle dating algorithm
- Differentiate by severity
 - Severe Recession: a peak-to-trough decline in GDP in the worst quartile of all declines
 - Credit Crunch: a peak-to-trough contraction in credit in the worst quartile of all credit contractions
 - Asset Price Bust: a peak-to-trough decline in asset prices in the worst quartile of all price declines

Evolution of Business/Financial Cycle



Business and Financial Cycles

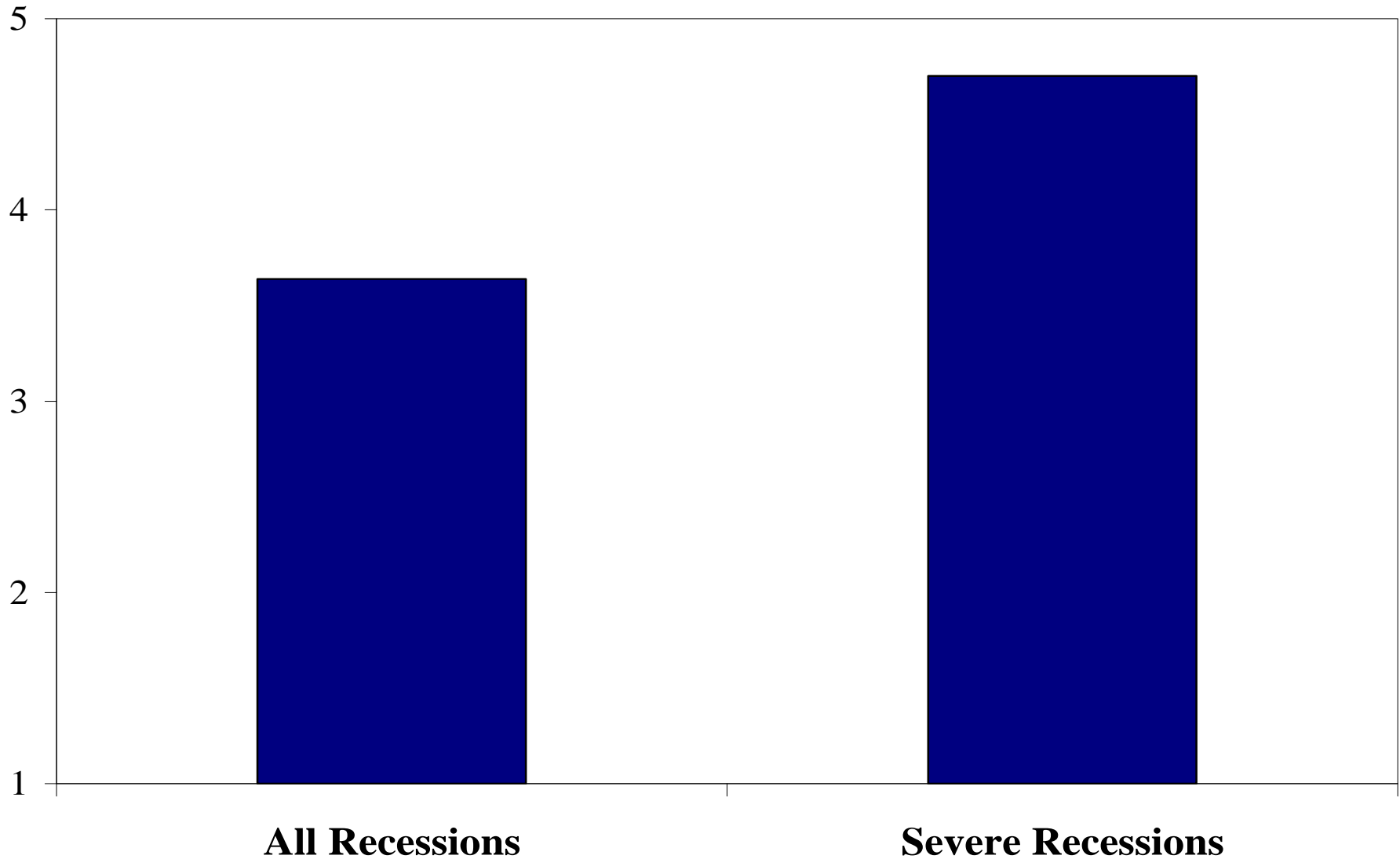
- Large Dataset of Business and Financial Cycles
- Output Recessions: 122 (**30 Severe**)
- Financial Contractions
 - Credit: 112 Contractions (**28 Crunches**)
 - House Prices: 114 Declines (**28 Busts**)
 - Equity Prices: 234 Declines (**58 Busts**)

Duration and Amplitude

- Recessions typical last 4 quarters, but credit crunches and asset price busts last much longer, up to 10-18 quarters
- Recessions mean declines (peak to trough) in GDP of 2 percent, with severe recessions declines of 5 percent
- Credit crunches and asset busts mean substantial declines in credit and asset prices, 15 to 50 percent
- While output can recover during a credit crunch or housing bust, (residential) investment always drops significantly

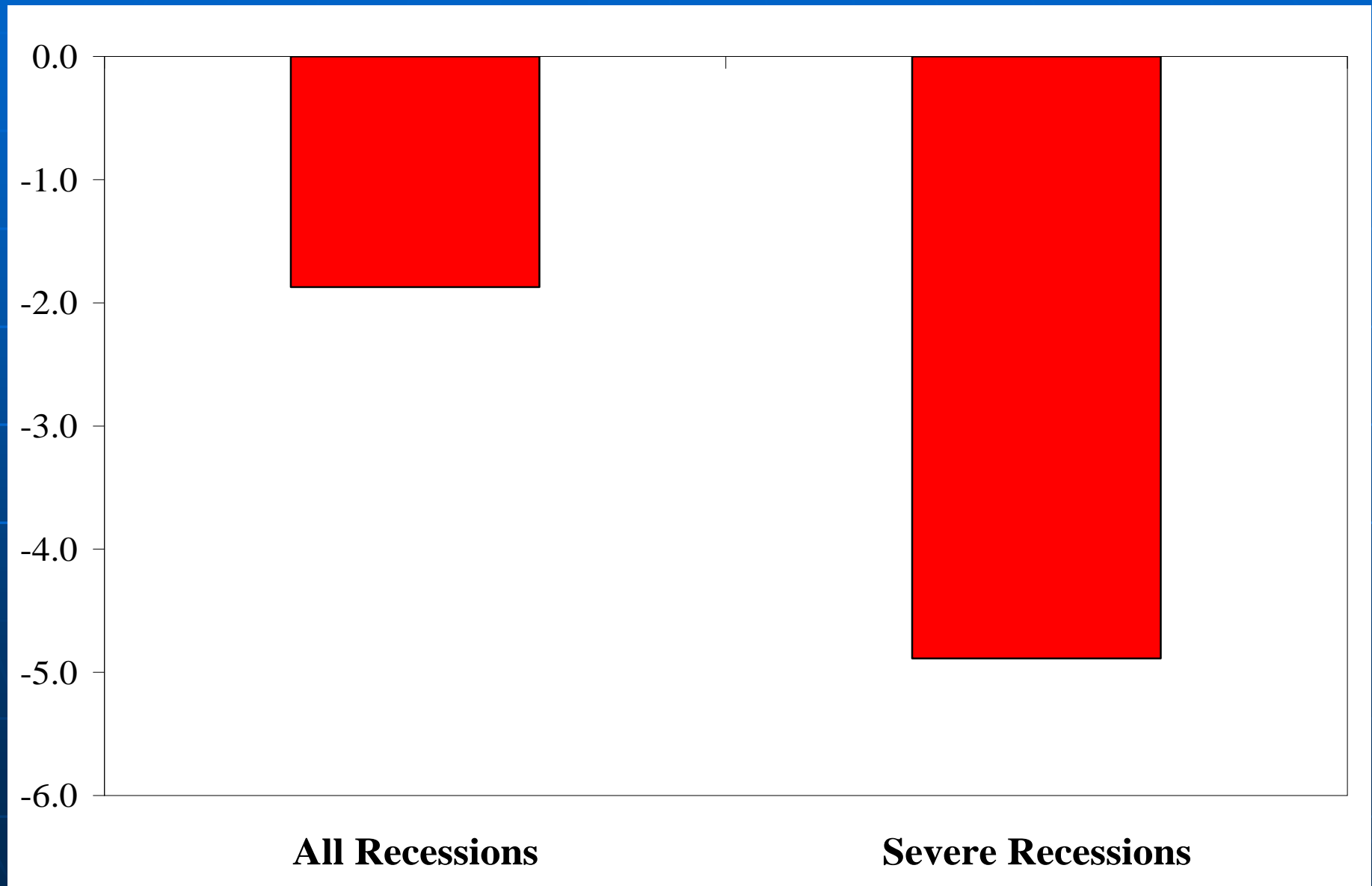
Typical Recession Lasts 4-5 Quarters

(# of quarters from Peak to Trough)



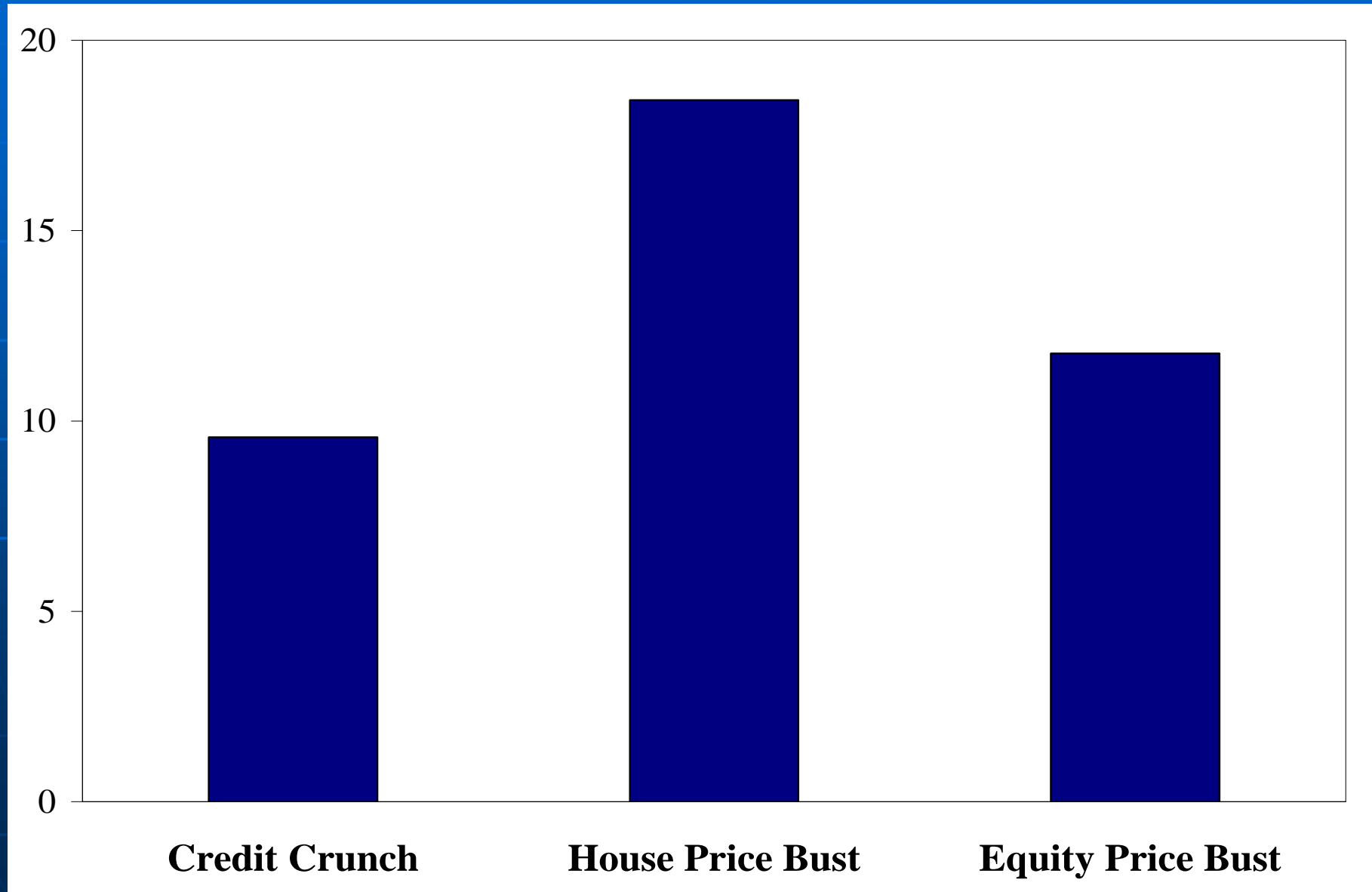
But Recessions Vary Greatly in Severity

(percent change in GDP from Peak to Trough)



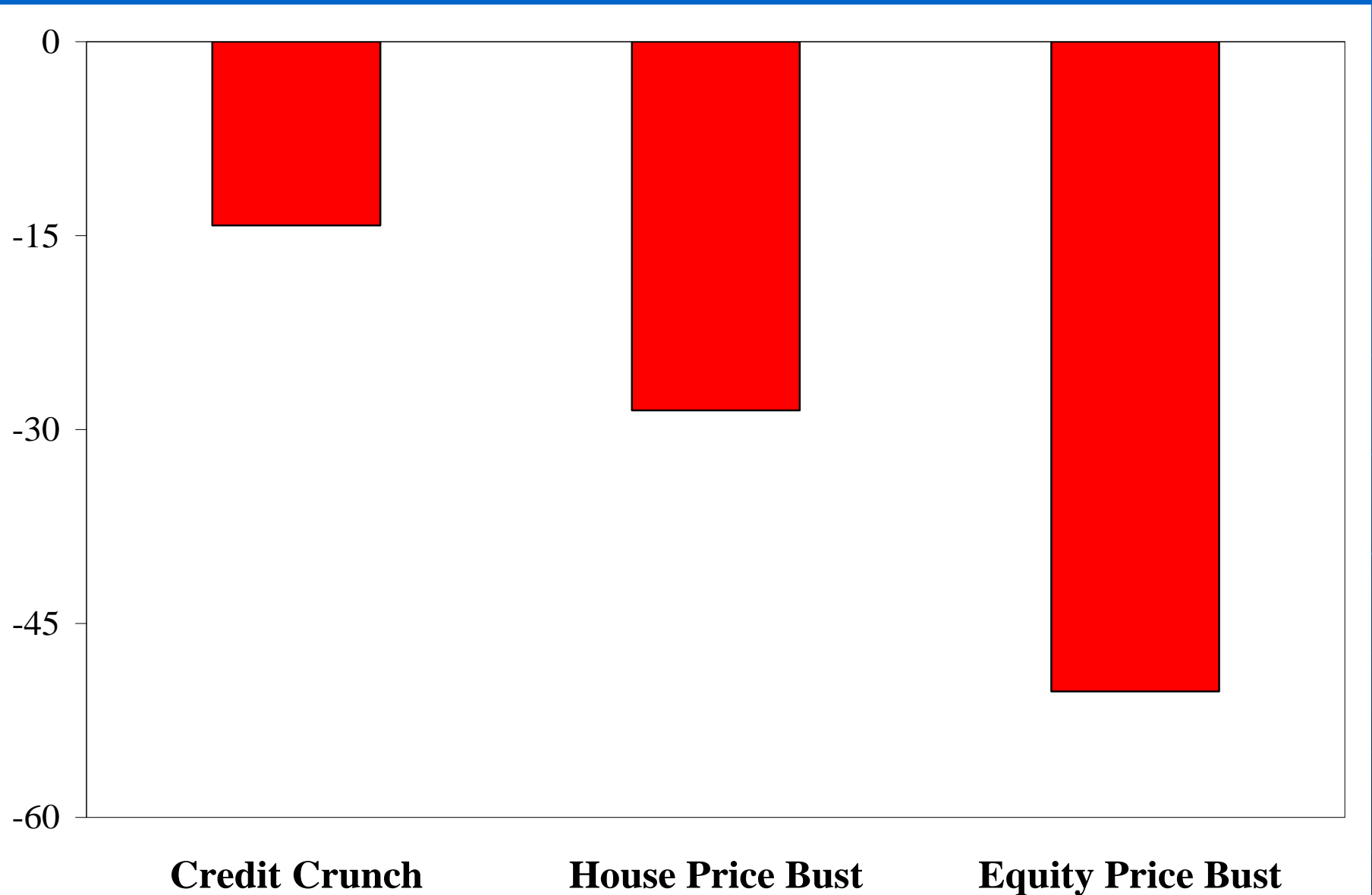
Crunches and Busts Last Much Longer

(# of quarters from Peak to Trough)



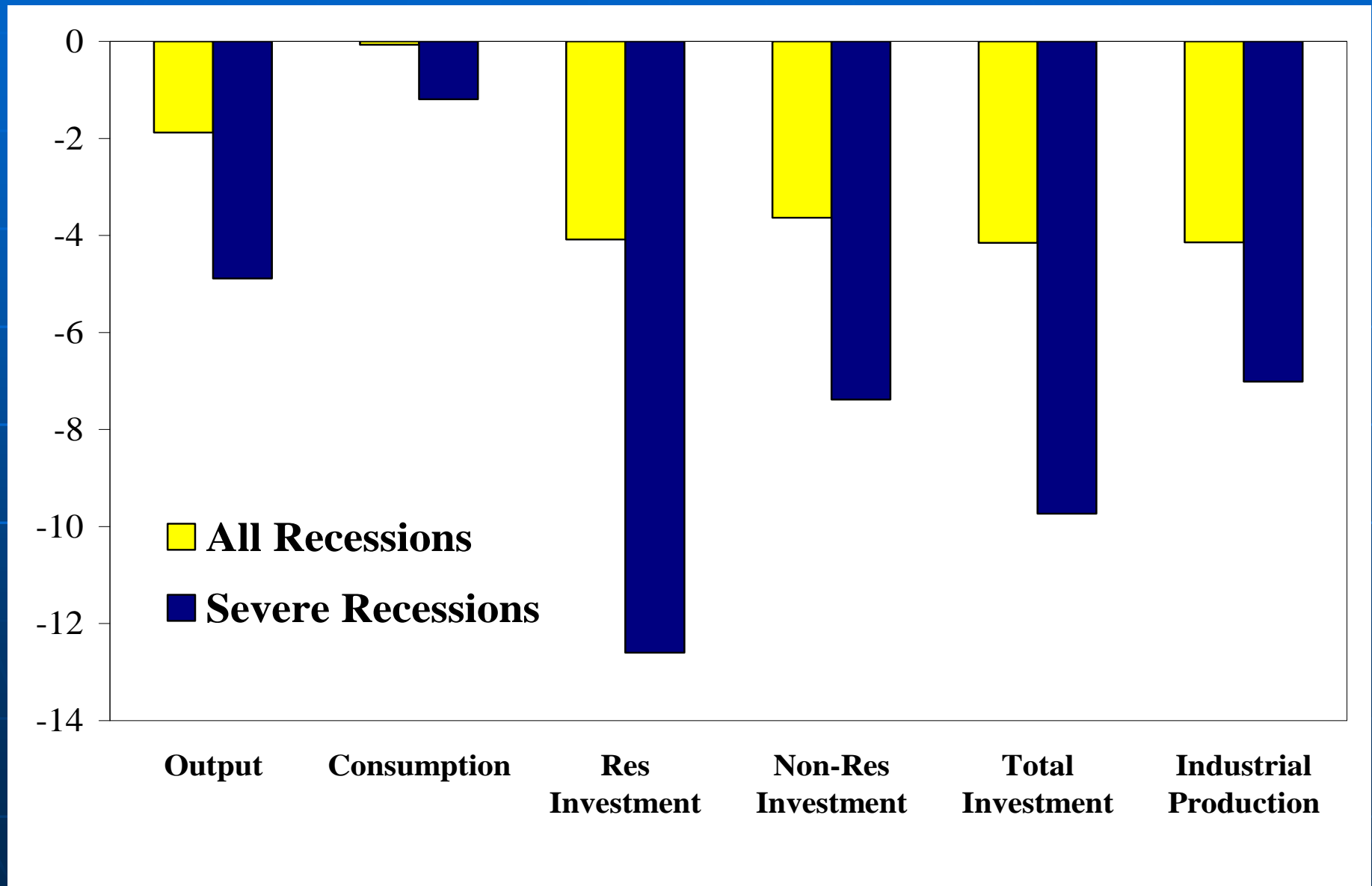
And Have Larger Amplitudes

(percent change from Peak to Trough)



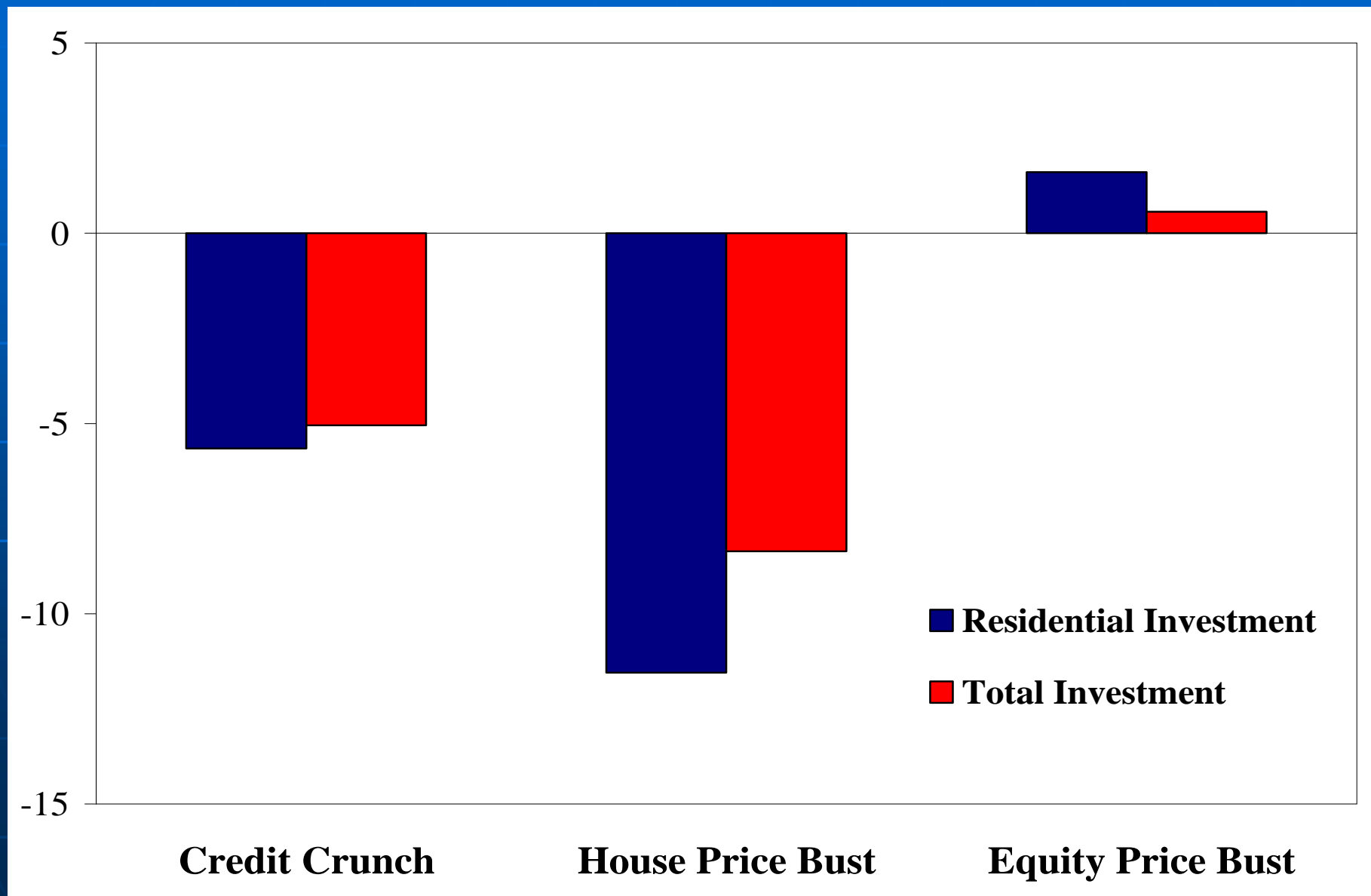
Some Economic Variables Decline More

(percent change from Peak to Trough)



Res'l Investment Falls in Crunches & Busts

(percent change from Peak to Trough)

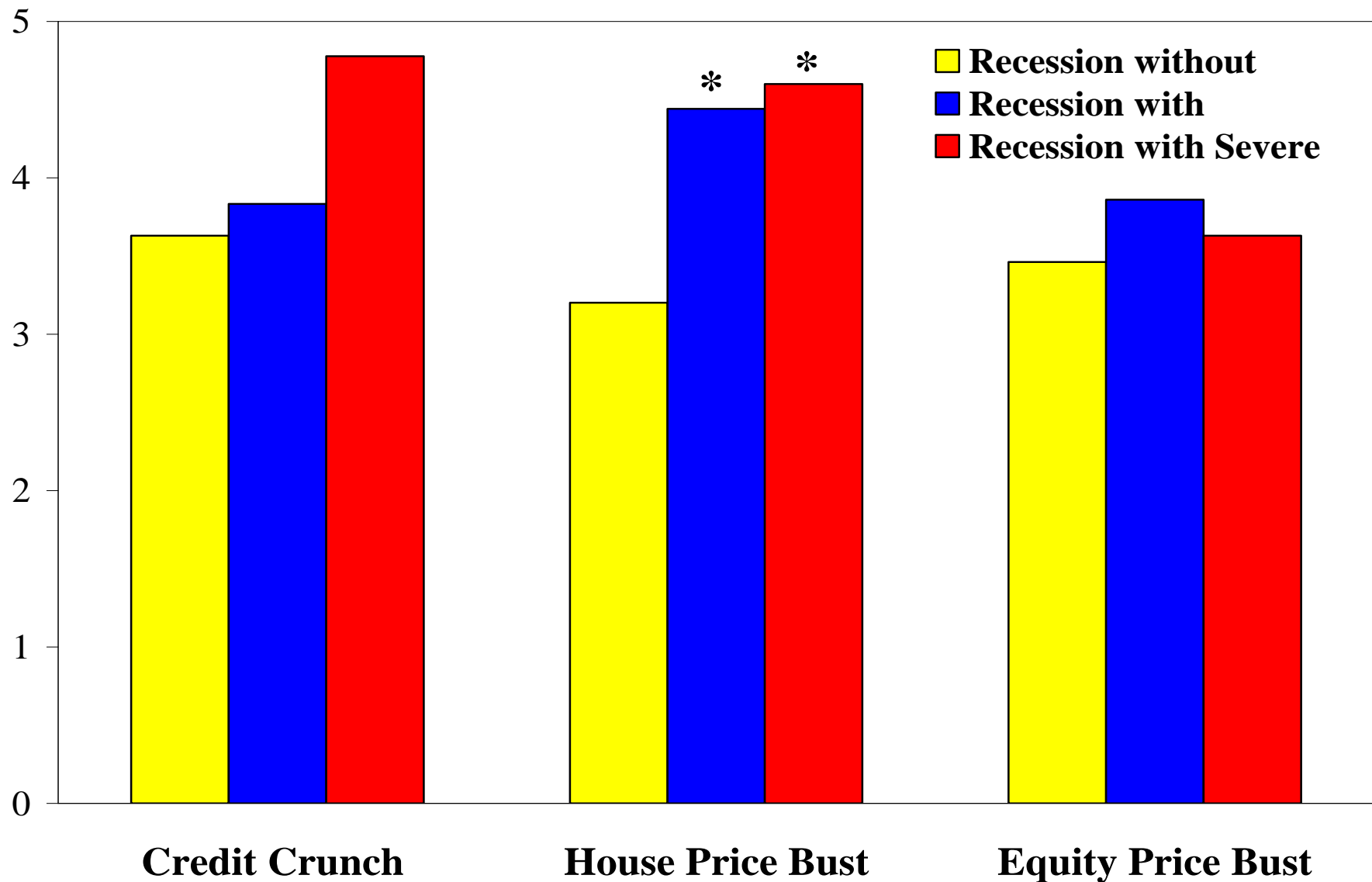


Recessions, Crunches and Busts

- Identify recessions coinciding with credit crunches, asset price busts (starting before or occurring at the same time)
 - 18 Recessions overlap with Credit Crunches
 - 34 Recessions overlap with House Price Busts
 - 45 Recessions overlap with Equity Price Busts
- **Main Finding:** Recessions with credit crunches and housing price busts are on average associated with longer and deeper recessions, with greater declines in residential investment and higher unemployment, and some differences in inflation

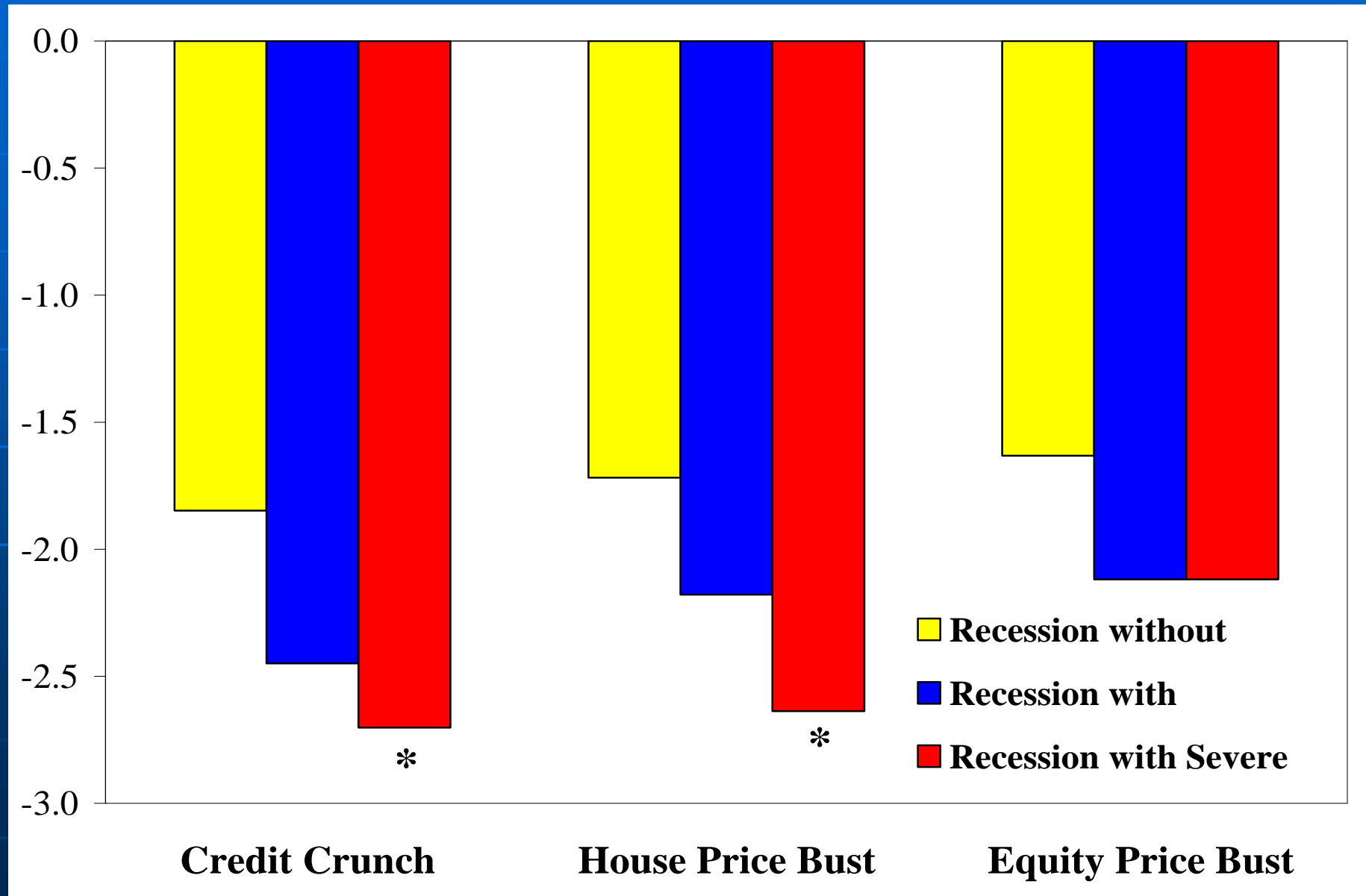
Recessions w/ Crunches and Busts Last Longer

*(# of quarters from Peak to Trough; * is statistically significant)*



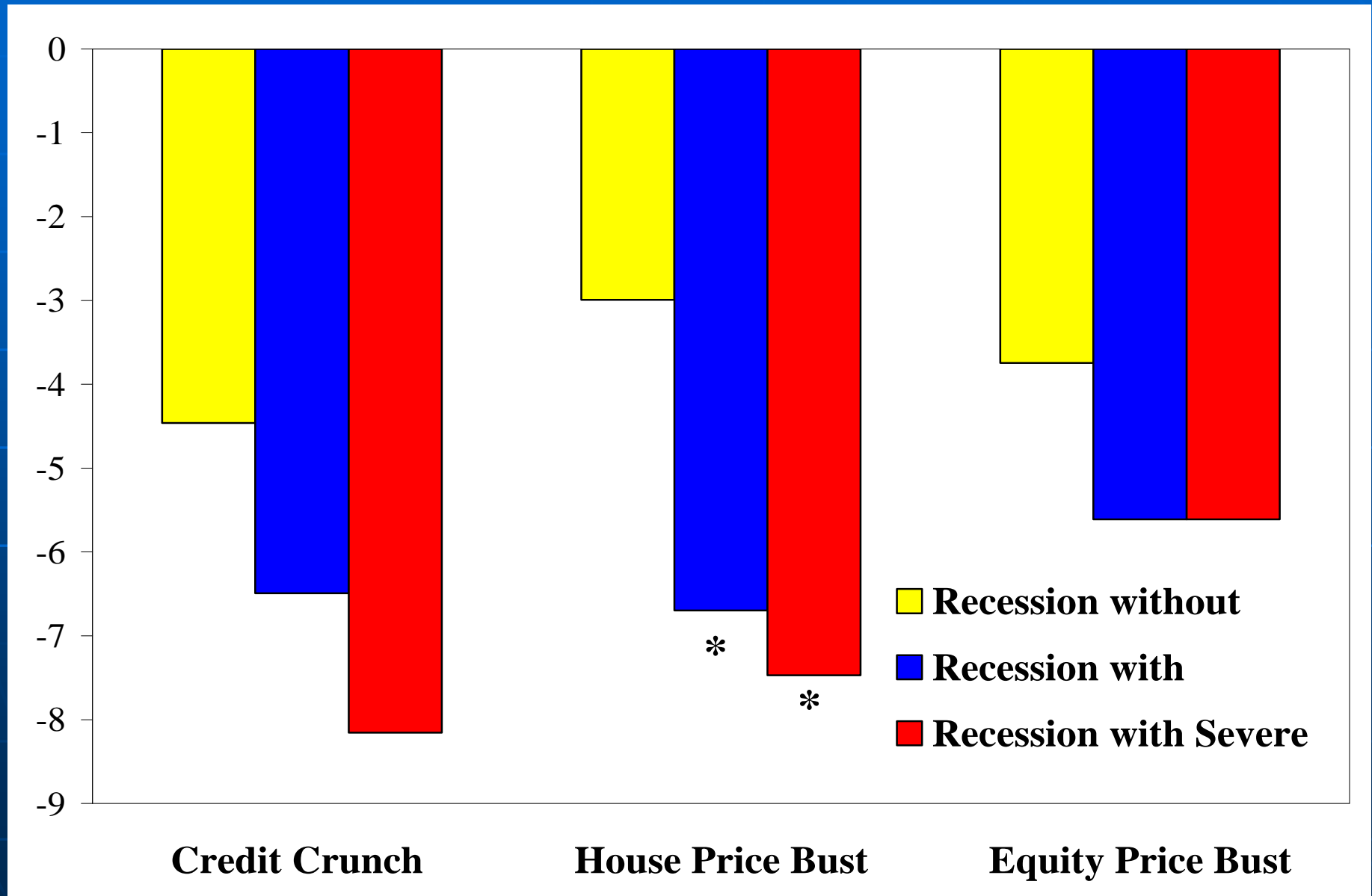
Recessions w/ Crunches/Busts: Greater Declines

(GDP percent change from Peak to Trough)



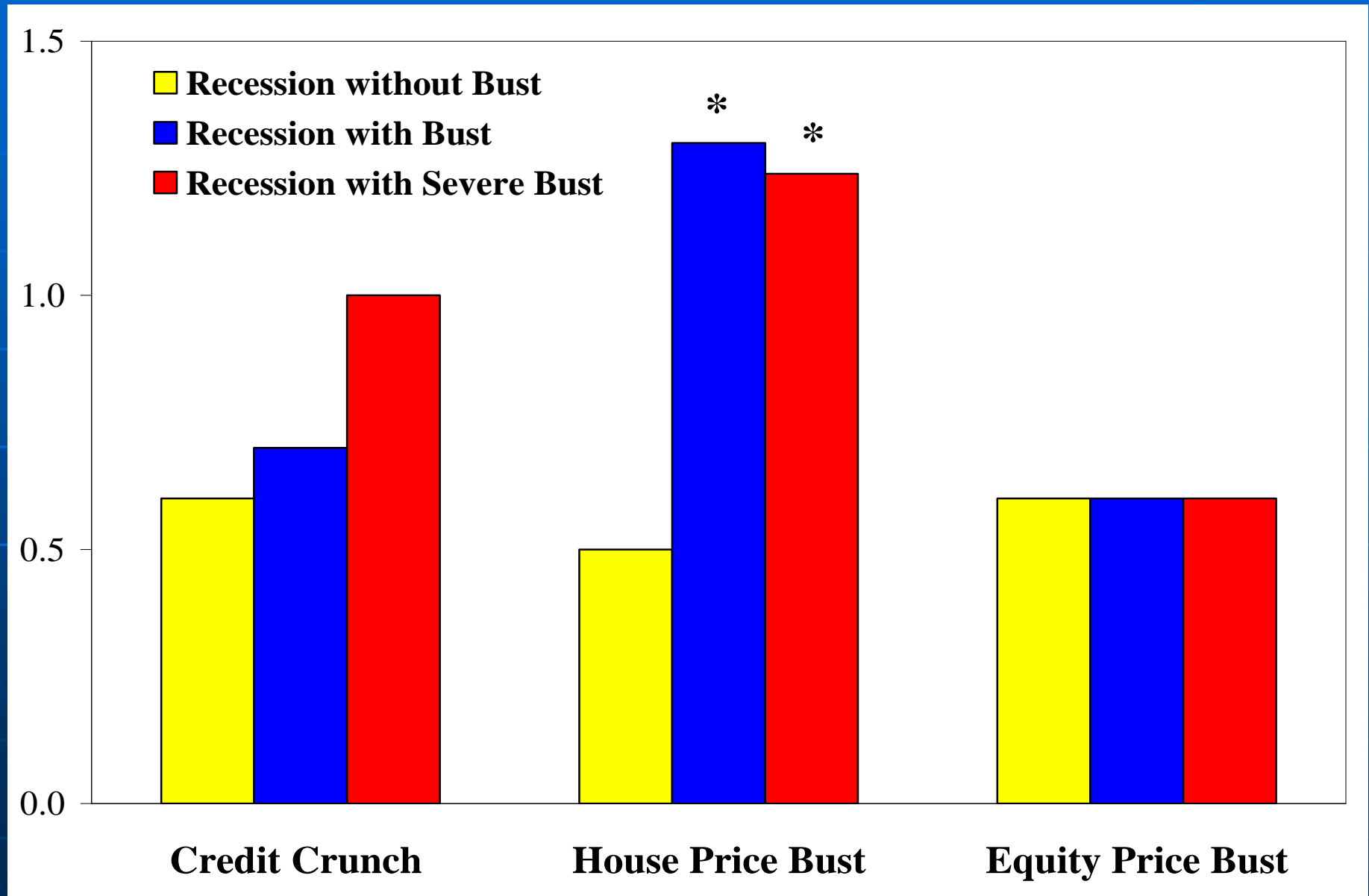
Recs w/ Crunches/Busts: Res'l Inv Falls More

(percent change from Peak to Trough)



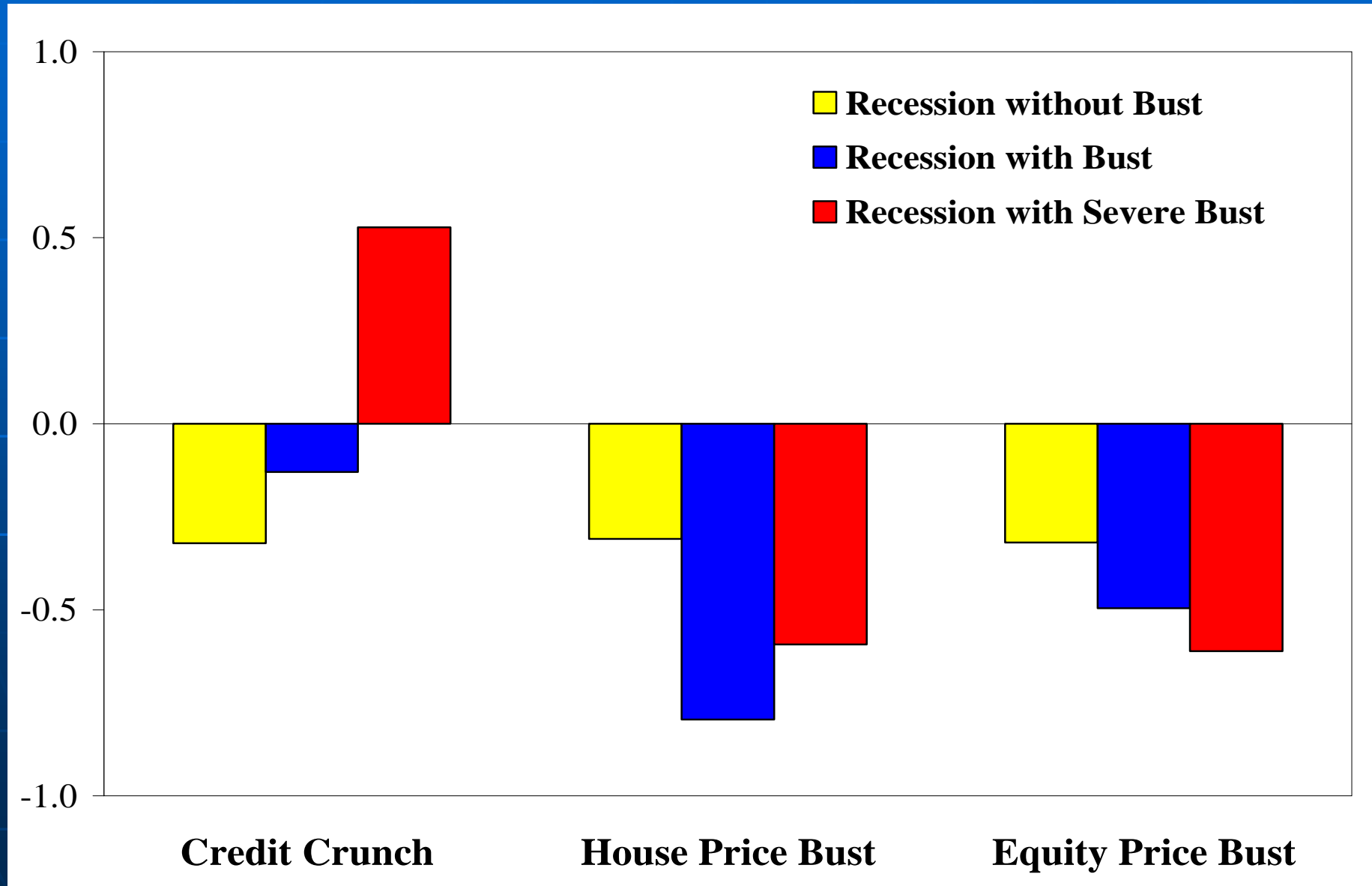
Recs w/ Crunches/Busts: Unemployment Rises More

(percentage point change from Peak to Trough)



Recessions w/ Crunches/Busts: Inflation Differs

(percentage point change from Peak to Trough)

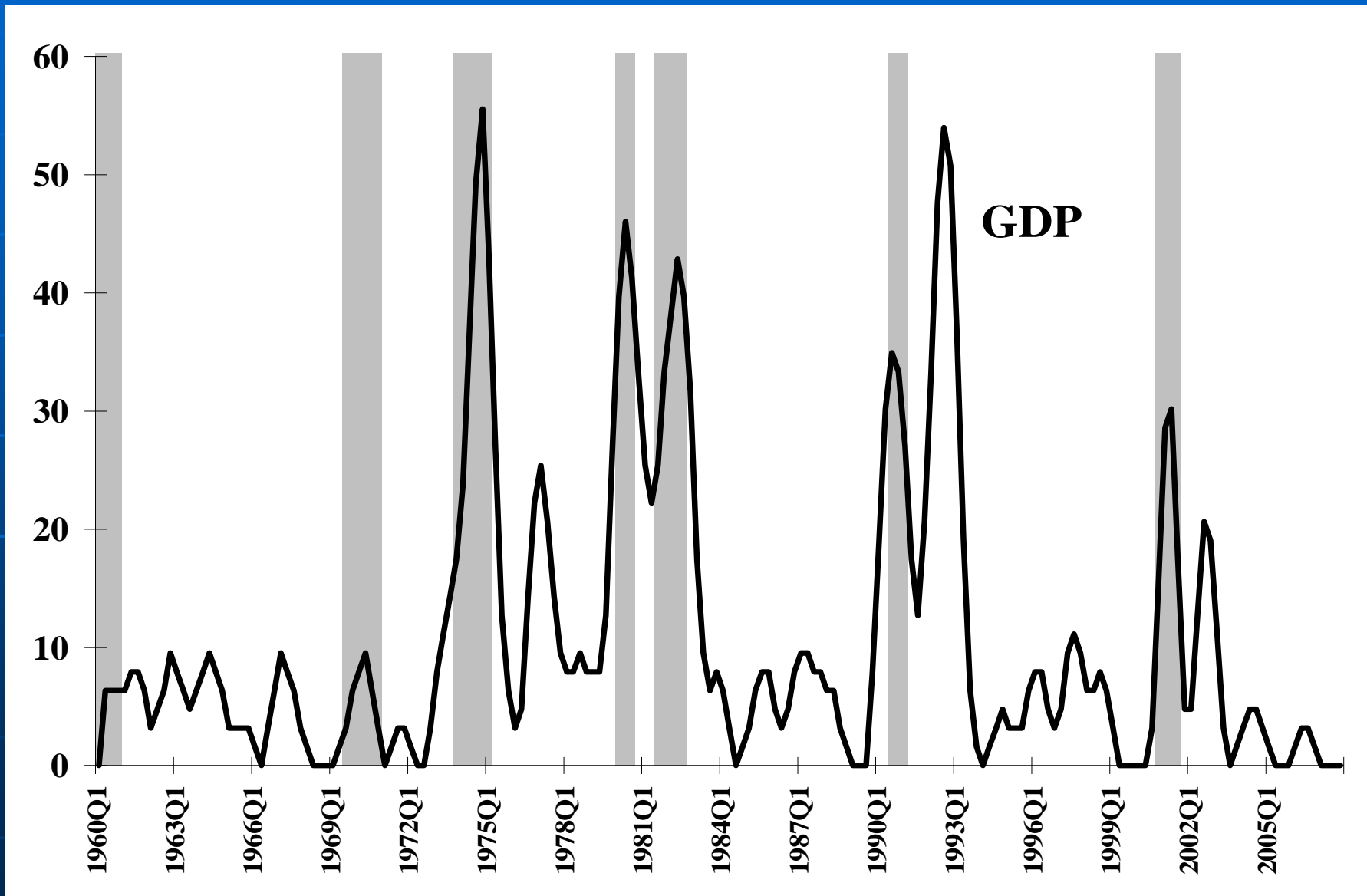


Global Business and Financial Cycles

- Recessions have moderated over time
 - Fewer recessions
- Yet, recessions still often coincide/bunch
- And episodes of financial markets' difficulties often overlap with recessions
 - Credit contractions: most often overlap
 - House declines: quite often overlap
 - Equity price declines: more independent

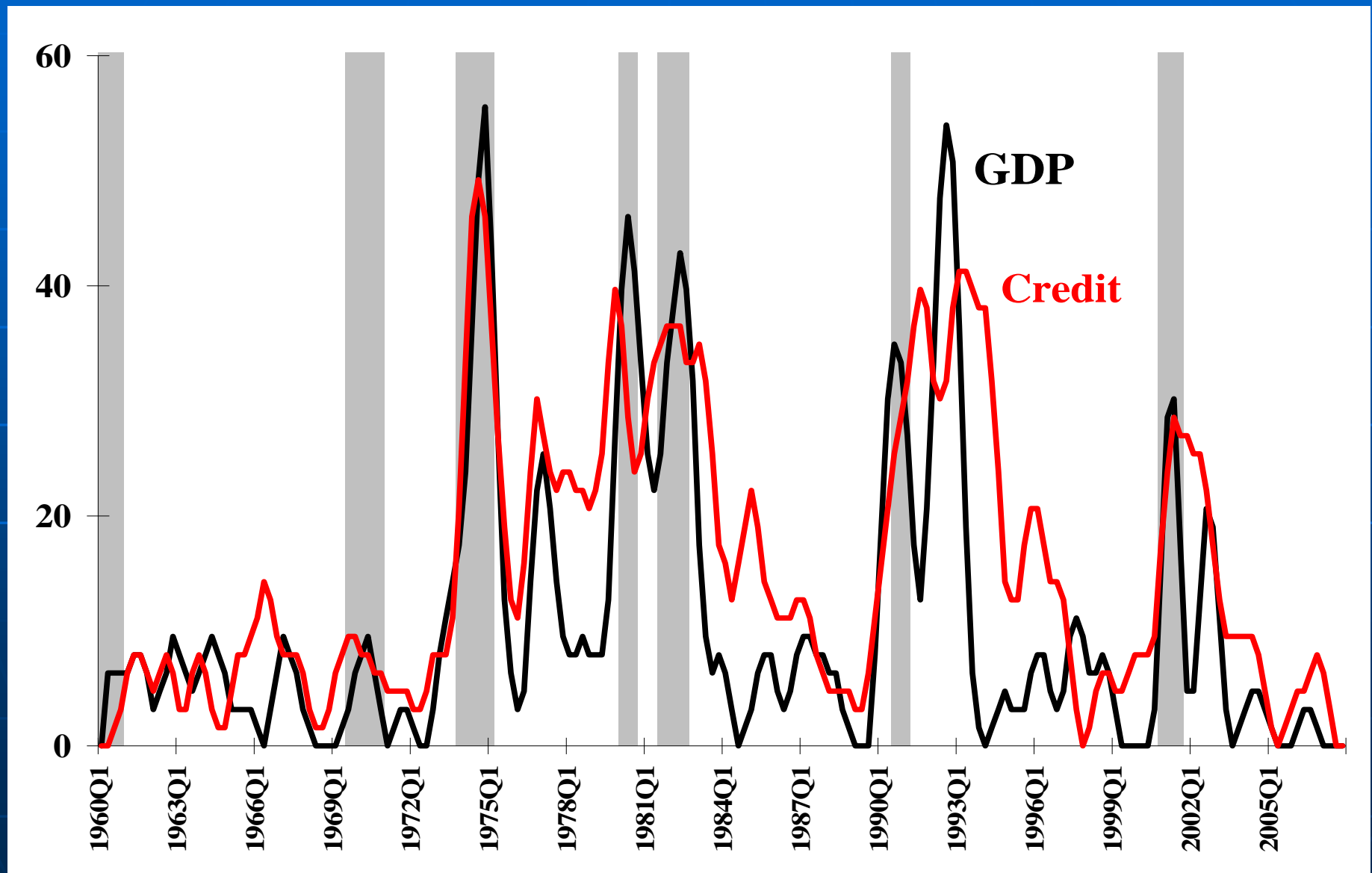
Recessions Come in Bunches

(fraction of countries in recession; shaded bars are US recessions)



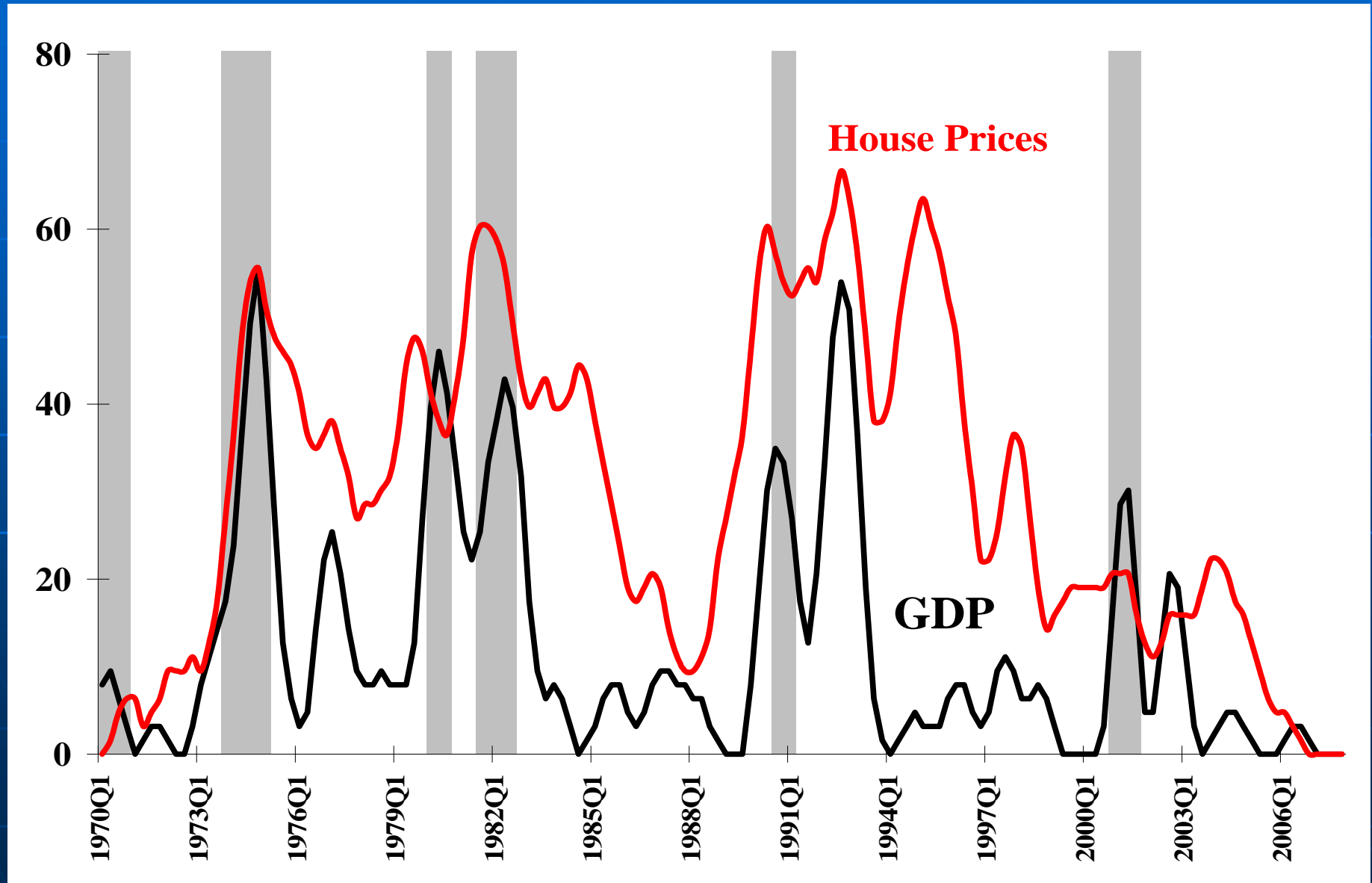
Recessions and Credit Contractions Overlap

(fraction of countries, shaded bars are US recessions)



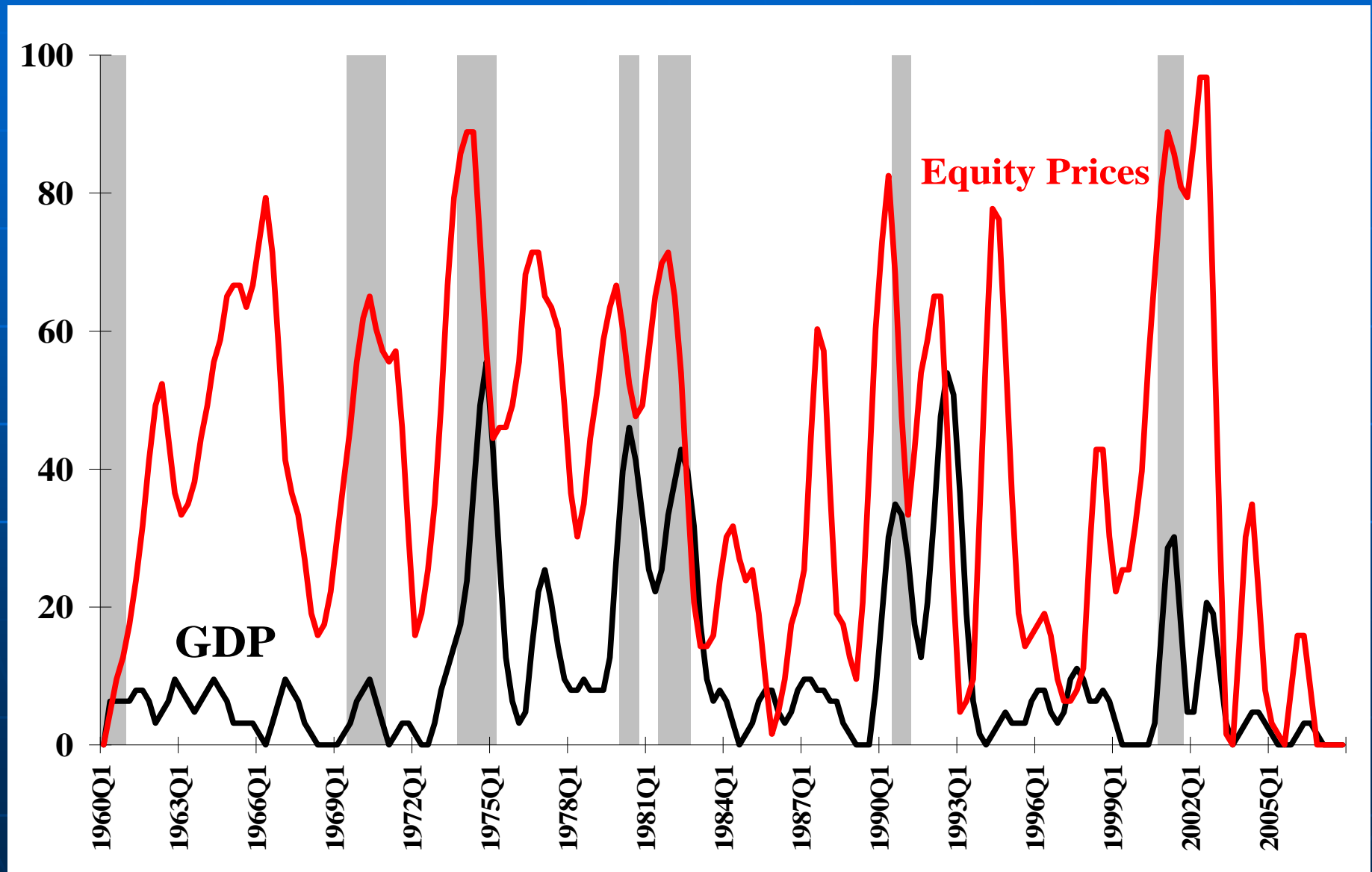
Recessions and House Contractions Less So

(fraction of countries; shaded bars are US recessions)



Recessions and Equity Coincide Even Less

(fraction of countries, shaded bars are US recessions)



Policy Responses Vary by Episodes

- “Policy”-related variables differ by severity and type of event
 - In severe recessions, observe lower real interest rate and higher government consumption
 - In recessions with credit crunches, government consumption increases more than in other recessions

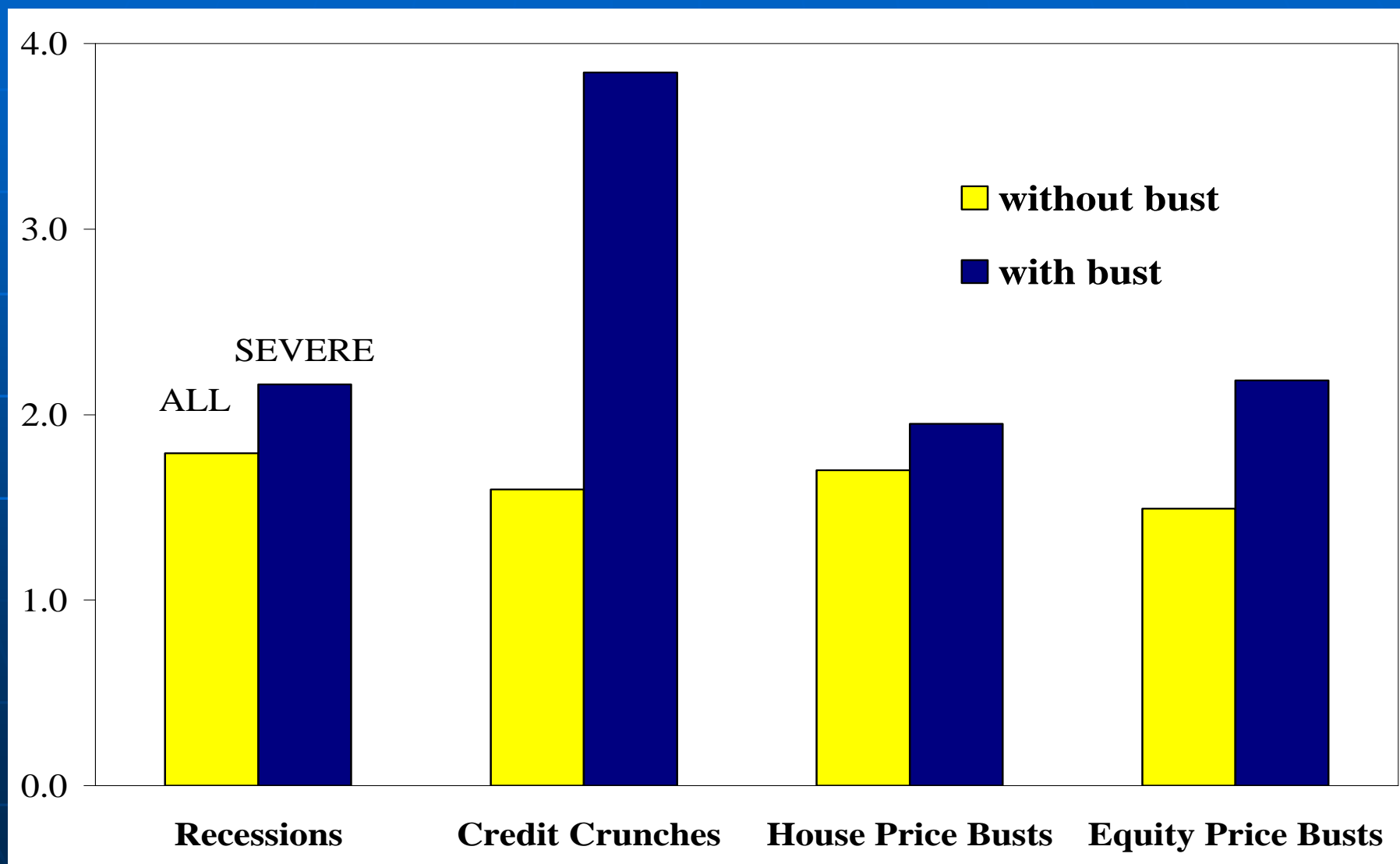
Monetary Policy More Aggressive in Recessions w/ Crunches and Busts

(short-term real rates; percentage point change from Peak to Trough)



Fiscal Policy More Expansionary in Recessions w/ Crunches and Busts

(government consumption; percent change from Peak to Trough)



Summary

- How long do recessions, credit crunches and asset price busts last and how severe/deep are they?

Episodes of financial markets' difficulties last a long time, much longer than recessions, and can be deep

- Are recessions associated with credit crunches and asset price busts different than other recessions?

Yes. Recessions associated with crunches and busts tend to be longer and deeper

- How do macro and financial variables behave around recessions, crunches and busts?

Mostly procyclical. Residential investment and credit key variables to understanding the direction of the economy

Recent Views: Informed? Uninformed?

“If we do end up dating the recession as beginning at the end of last year, it could be a very long recession.”

Martin Feldstein, Member of the NBER Business Cycle Dating Committee, August 2008

“This is by far the worst financial crisis since the Great Depression... This will be the most severe U.S. recession in decades...”

Nouriel Roubini, Economist and Professor at New York University, July 2008

Nevertheless, Some Caveats

- No causal inferences made or intended as to how financial variables affect macroeconomic outcomes or vice-versa
- Initial conditions and policy responses affect the paths economy and financial markets follow
- External conditions, demand and supply shocks matter as well
- Business cycles have moderated over time

Future Research

Future research to focus on

- Alternative metrics of economic activity (output gap)
- Different patterns in financial stress/crisis episodes
- Interactions with global business cycles and emerging market cycles
- Micro/corporate behavior around recessions/busts