

# **Butterflies and Economic Development**

**Discussion with PNEDC**

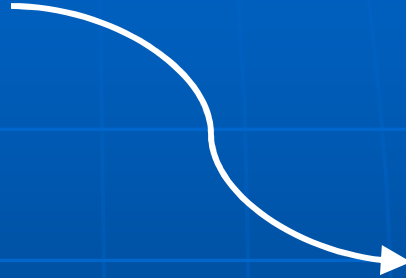
**July 13, 2009**

*Hart Hodges, Director  
Center for Economic and Business Research  
Western Washington University*

*Economic  
Development  
Strategy*



To increase economic well being (e.g., to improve employment opportunities and/or to increase community wealth)



*Unintended or  
unanticipated  
consequences*

Butterfly effects = the effects of small changes in complex systems

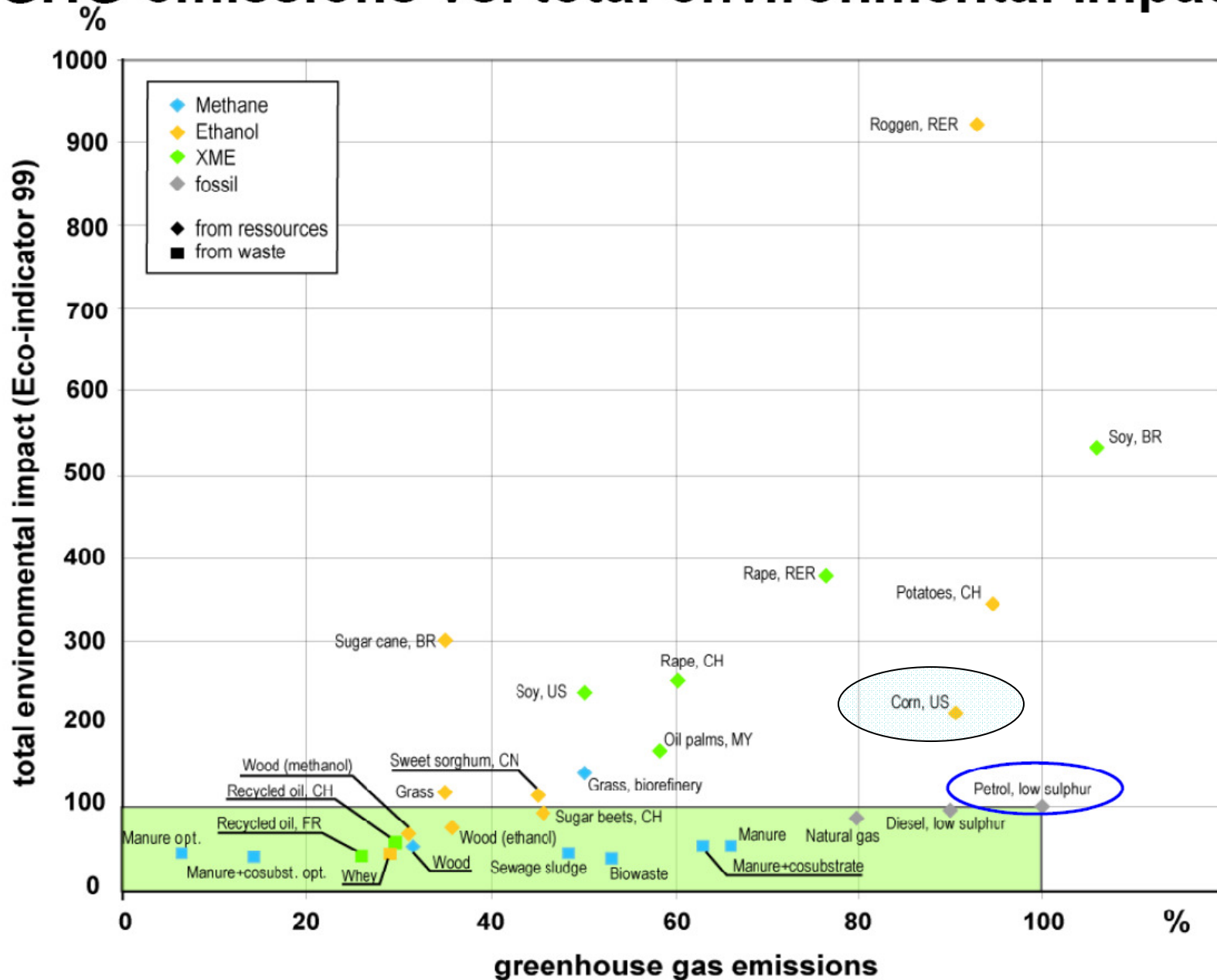
*If a butterfly flaps its wings in Brazil, does it cause a tornado in Texas?*

Black swans = things most people fail to predict, but which seem somewhat obvious with hindsight

# Captivating ideas...

- Ethanol as a way to reduce greenhouse gas emissions
  - Other green energy strategies
- Neomercantilism as a strategy for local economic development
- EMR as a means of reforming health care

# GHG emissions vs. total environmental impact



# Neomercantilism

- Going local - "It's the right thing to do"
- It builds a more resilient economy
- Etc.
  - "Locavore" is now accepted in Websters

Maybe... to a point

*Where's the line between reasonable and unreasonable?*

- <http://graphs.gapminder.org/world>

# Remember...

- Challenger shuttle
- Mortgage backed securities
- <http://www.youtube.com/watch?v=9k7CRSeE9gw>

# Outline for Remainder of Talk

- Modeling changes to complex systems – a short illustration
- Review of recession and pending recovery
- Reflections on local economic development
- Discussion



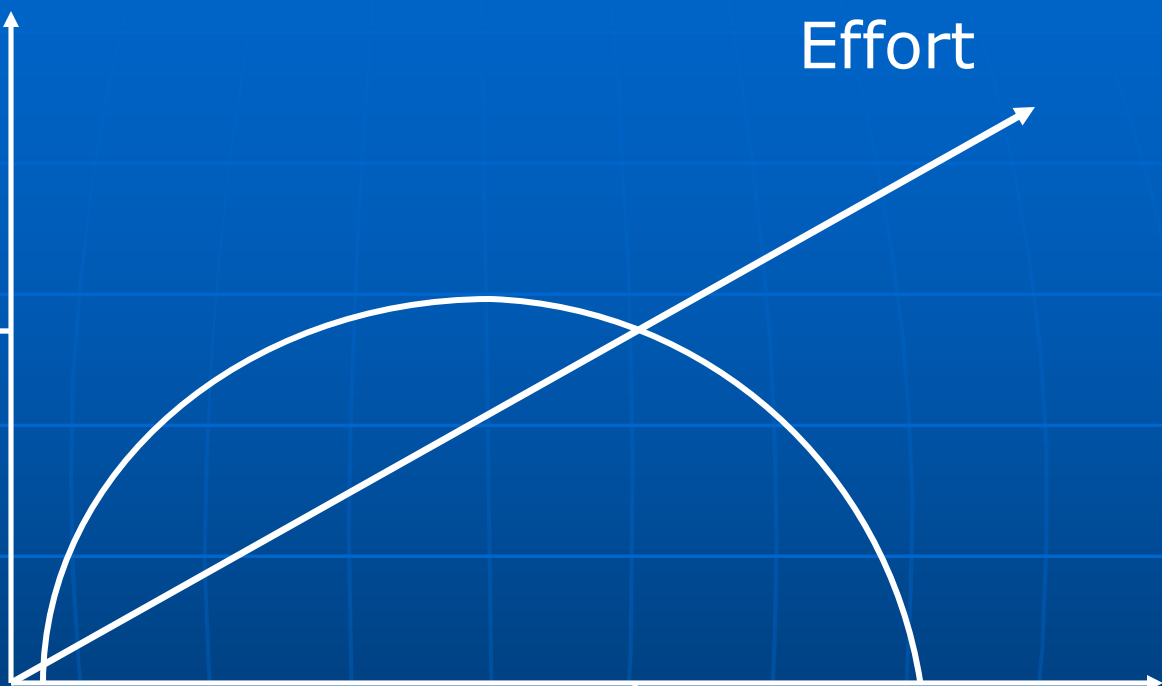
Stock  
Growth or  
Harvest

$H^*$

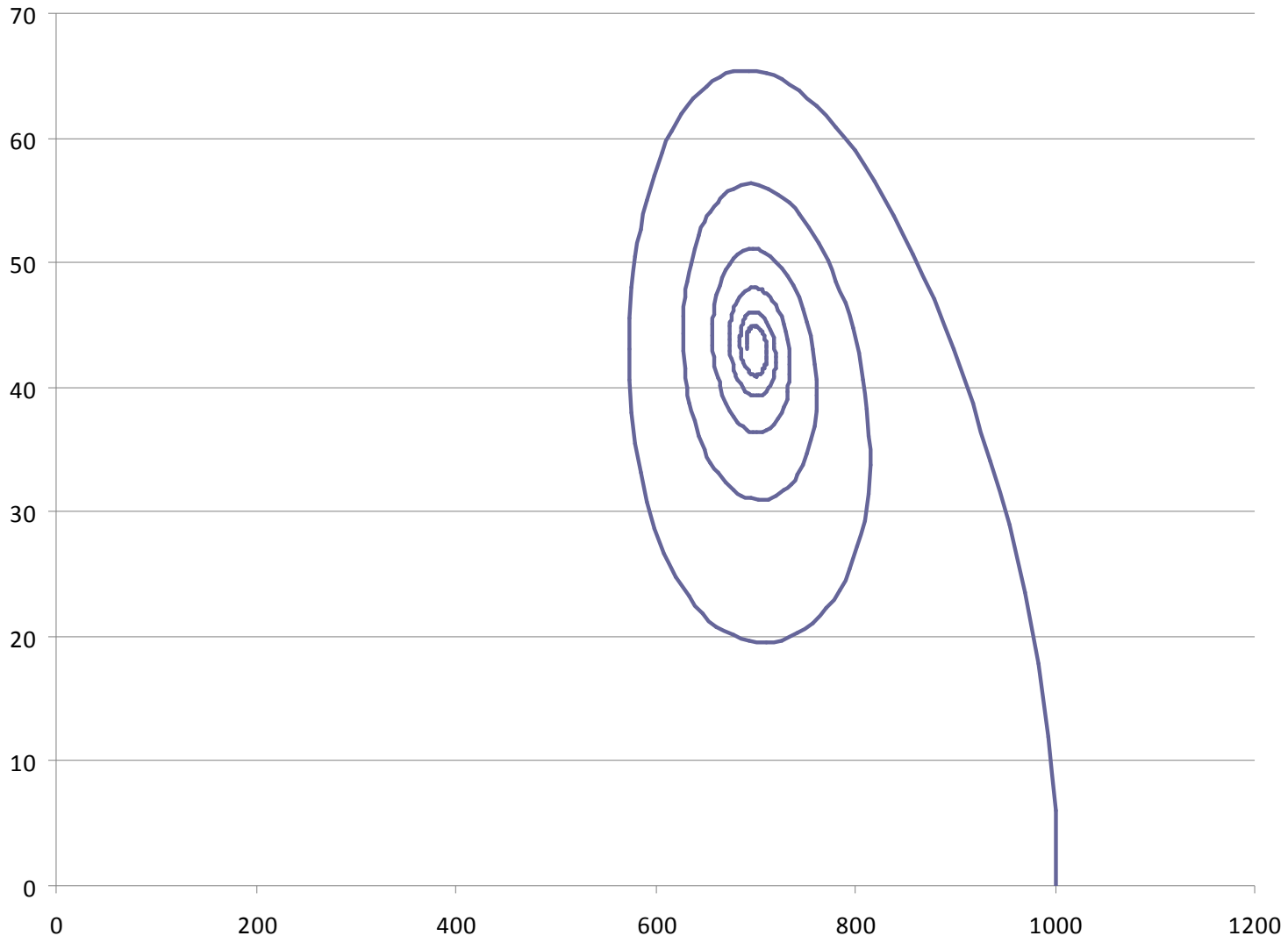
Effort

$s^*$

Stock Size

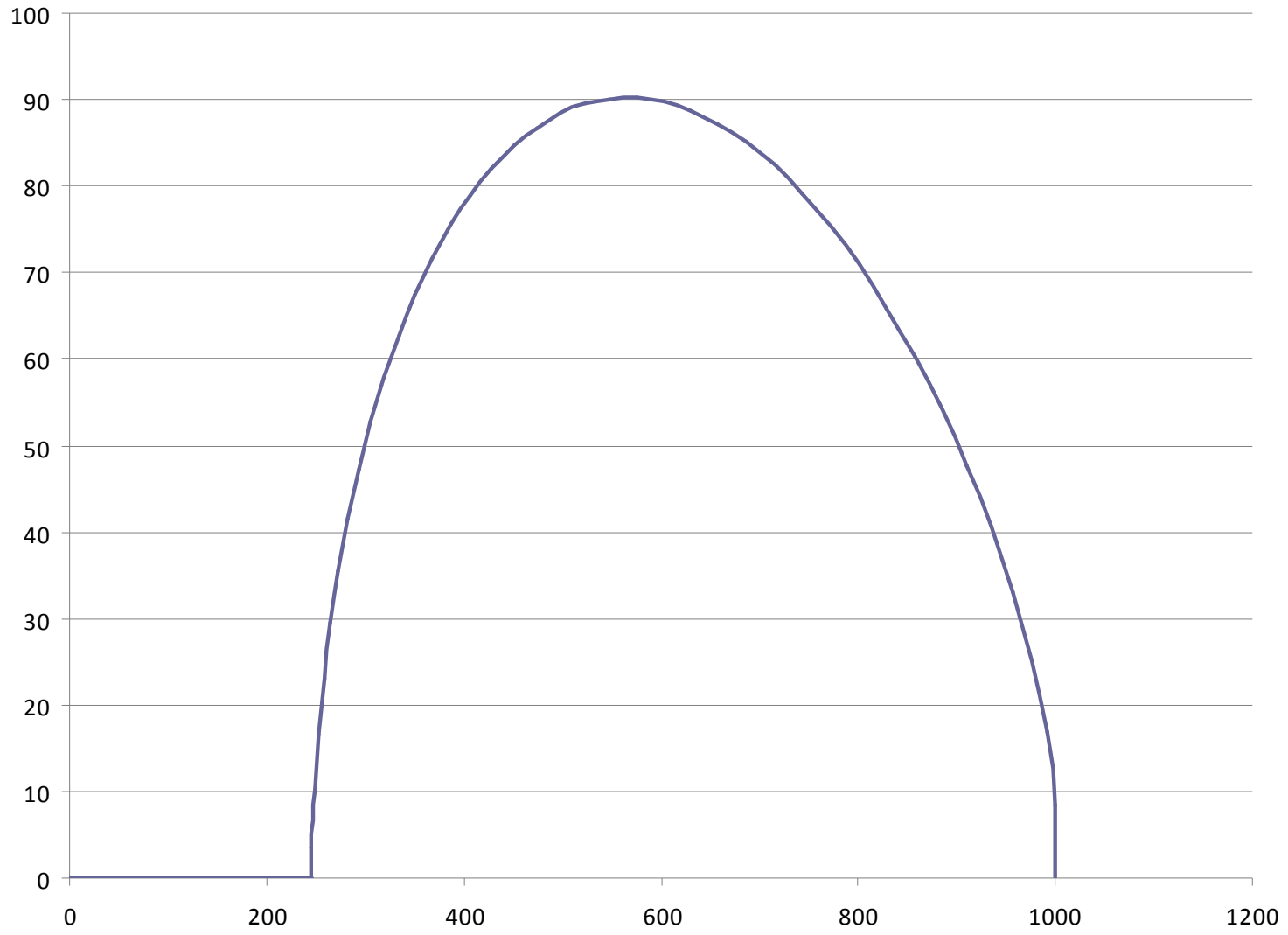


**E**



**X**

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**X**

*The Recession:*

*When we changed specific regulations to increase home ownership – we changed a parameter in a complex system*

*The implications of that change were not considered in context / alongside other things that were happening at the same time...*

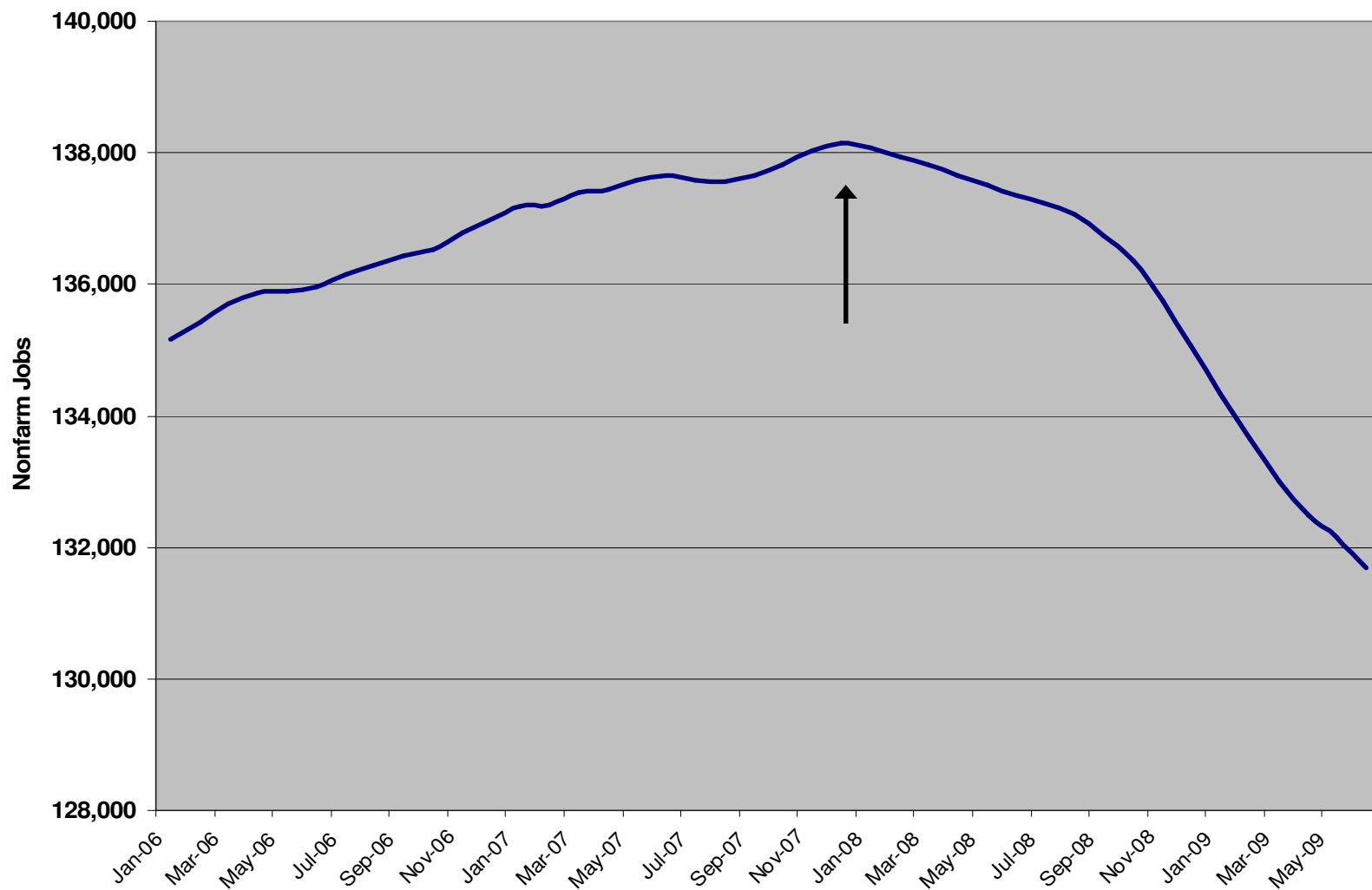
# Setting for the Recession

- Deregulation in financial sector
  - Coupled with guidelines to increase home ownership
- Significant household debt
  - Households spending >100% of income
    - We knew spending had to slow
- Tremendous build up of retail sq. ft.
  - We knew a correction was imminent
- Unprecedented capital flows
- Systematic misunderstanding and underpricing of risk
  - No real downturn for decades

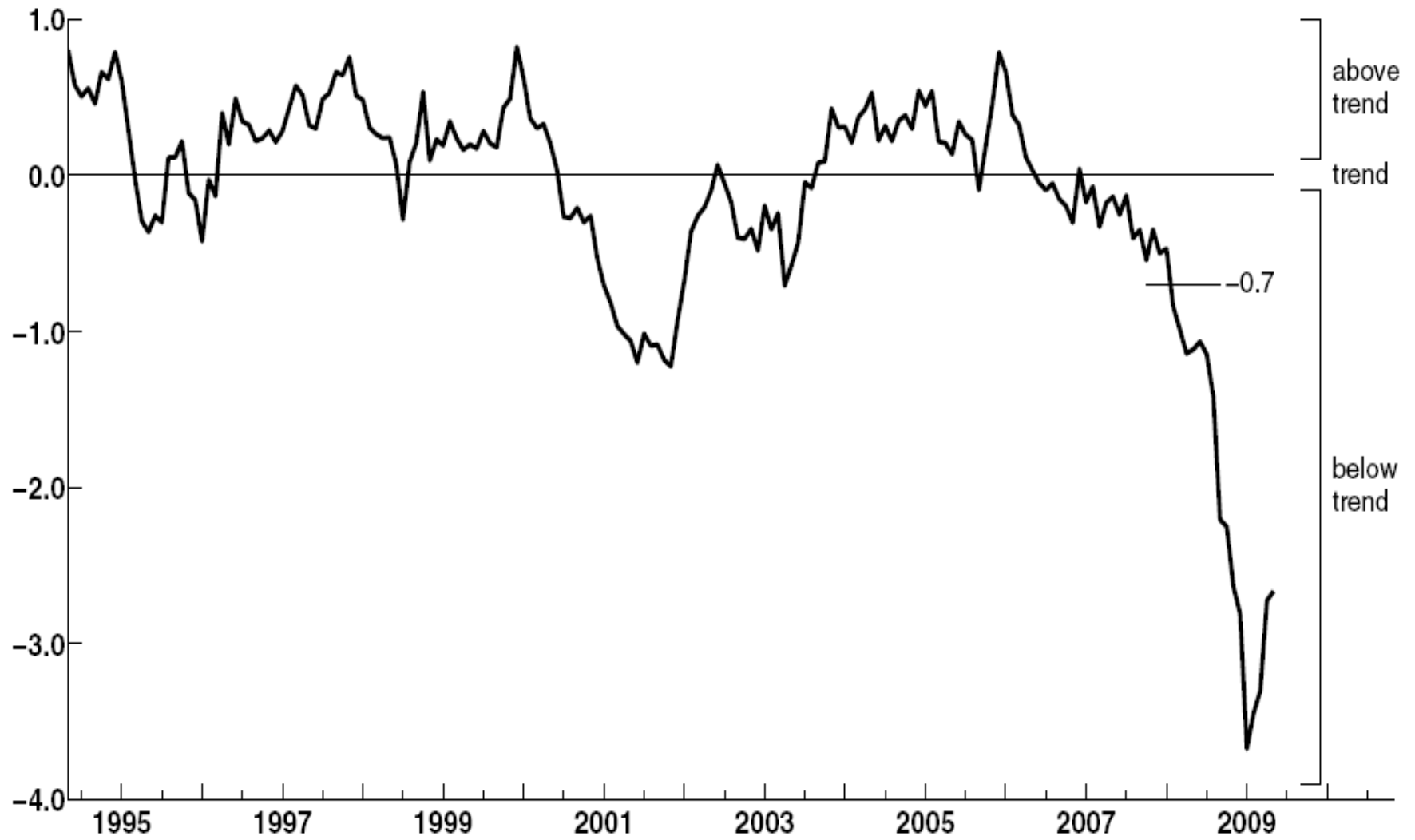
# A Few Reference Points

- The recession officially started in December 2007 – putting us at 19 months and counting
- Unemployment is currently at 9.5%
  - Estimates are for a peak of 10-11%
  - It reached 10.8% in 1982
- Many people are calling for the recession to end in the third quarter
  - ... in part because major recessions have lasted 16 to 18 months

# Nonfarm Jobs

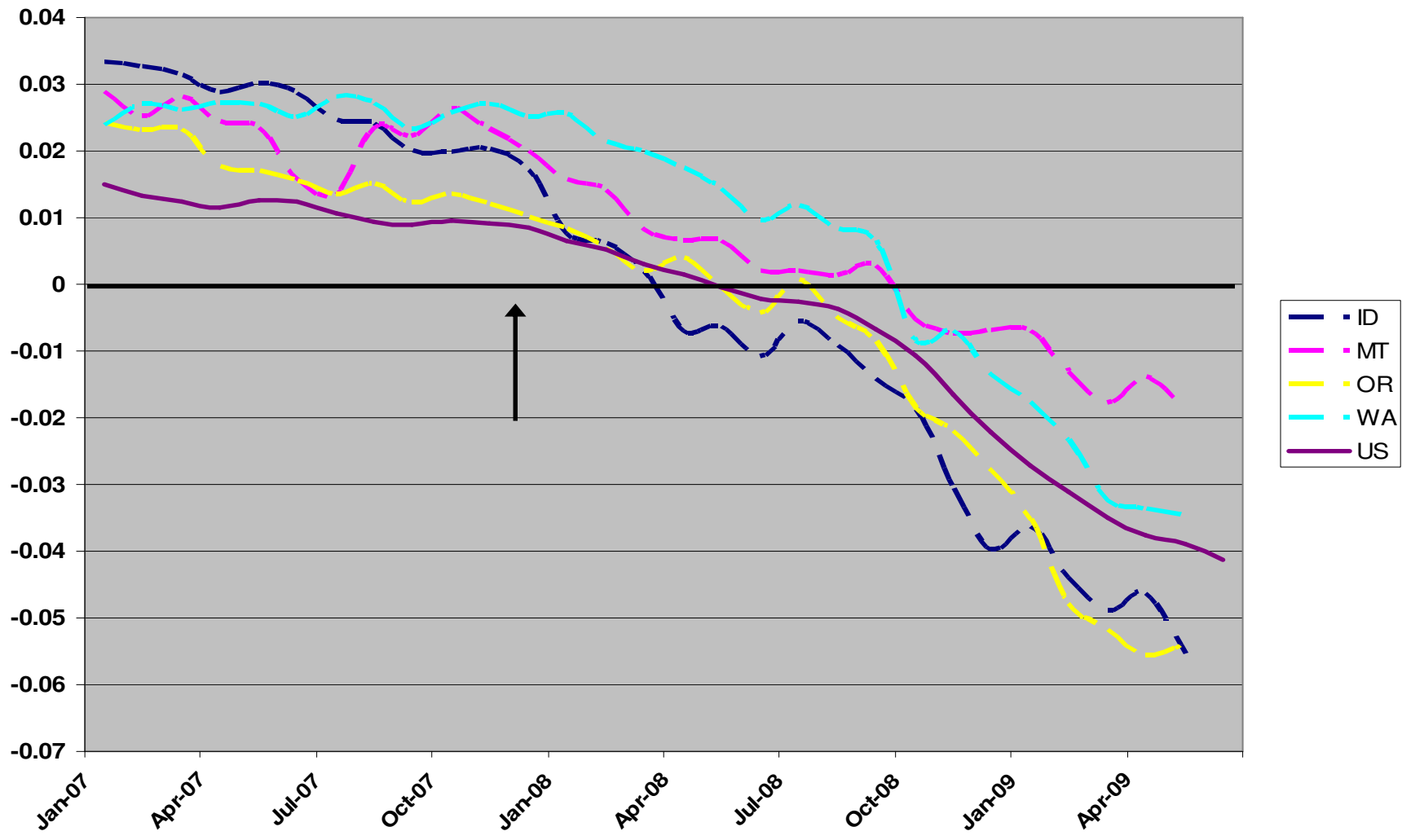


## Chicago Fed National Activity Index, Three-Month Moving Average (CFNAI-MA3)





# Job Growth (yr over yr)



# Where's the Bottom?

## A long, hard slog

Peak-to-trough changes in severe financial crises\*

	Cumulative change, %	Duration, years
House prices	-36	5.0
Equity prices	-56	3.4
Unemployment <sup>†</sup>	7.0	4.8
GDP per person	-9.3	1.9

Percentage of years spent in banking crises

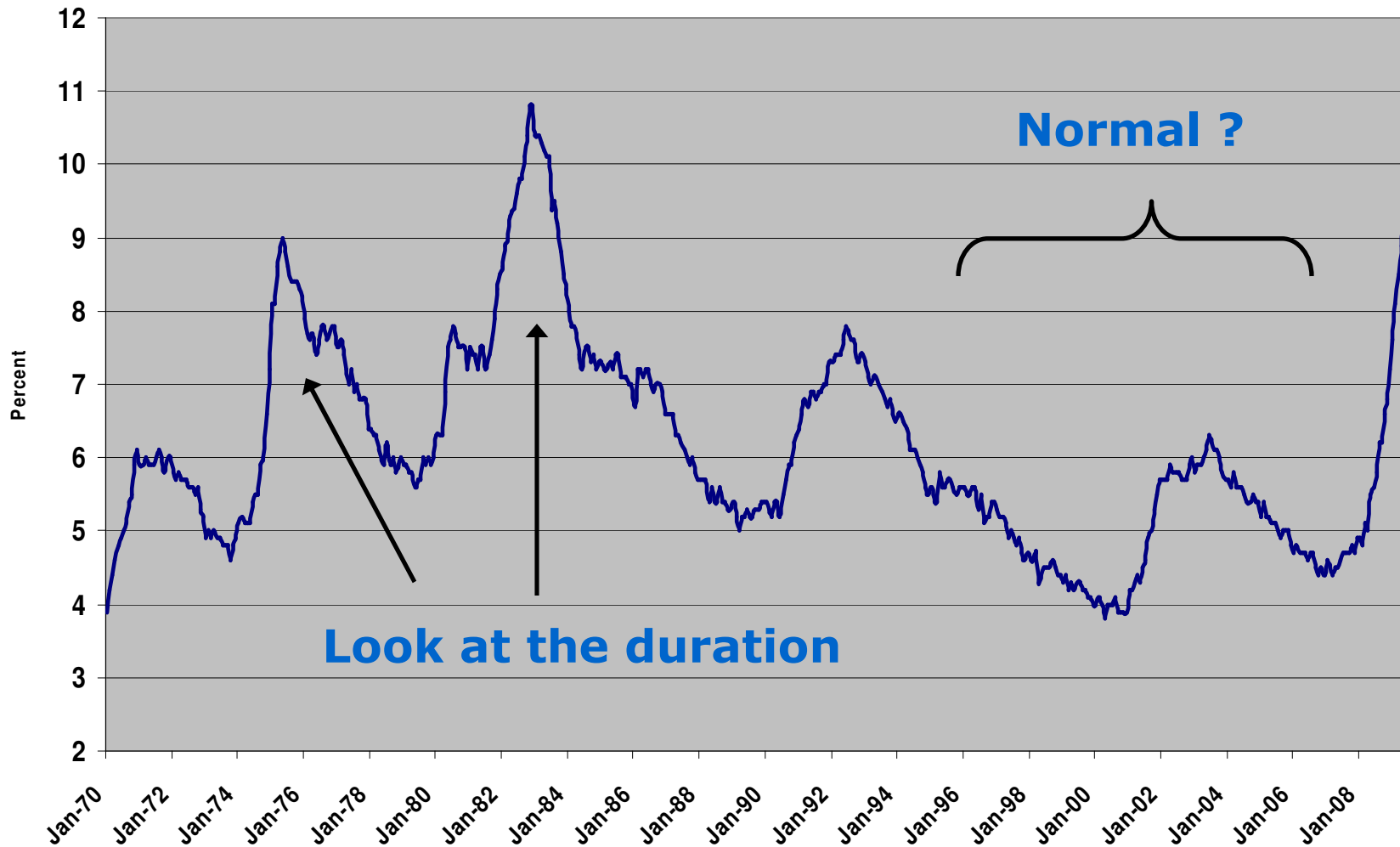
	Advanced economies	Emerging economies
Since 1800 or independence	7.2	8.3
Since 1945 or independence	7.0	10.8

\*Argentina (2001), Colombia (1998), Hong Kong (1997), Indonesia (1997), Korea (1997), Malaysia (1997), Philippines (1997), Thailand (1997), Japan (1992), Finland (1991), Sweden (1991), Norway (1987), Spain (1977), US (1929)

<sup>†</sup>Excludes Japan <sup>‡</sup>Percentage points, trough to peak

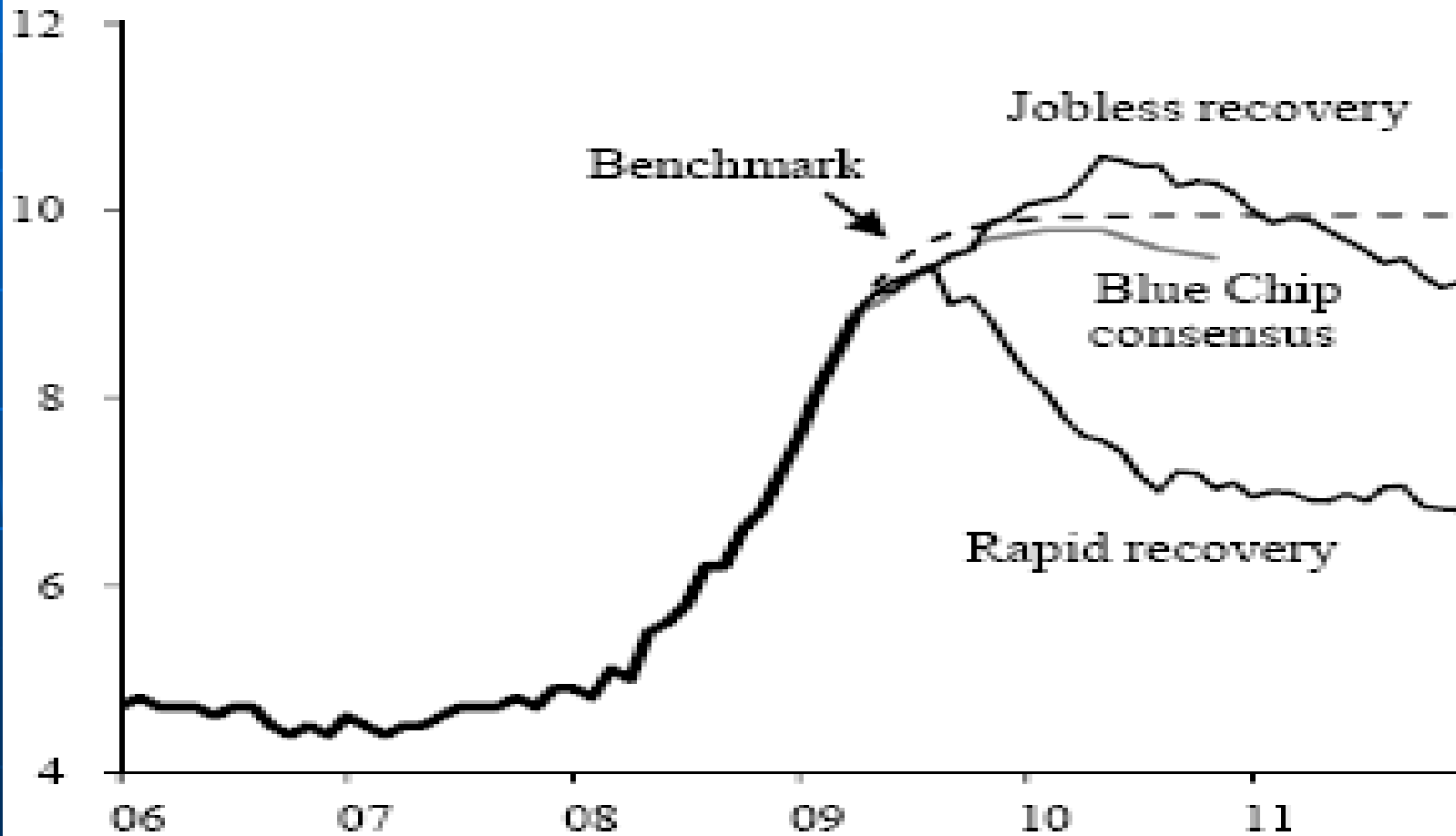
Source: Reinhart and Rogoff, *The Aftermath of Financial Crises*, 2009

# Unemployment (US)



**Figure 2**  
**Simulated paths of unemployment rate**  
**and Blue Chip consensus forecast**

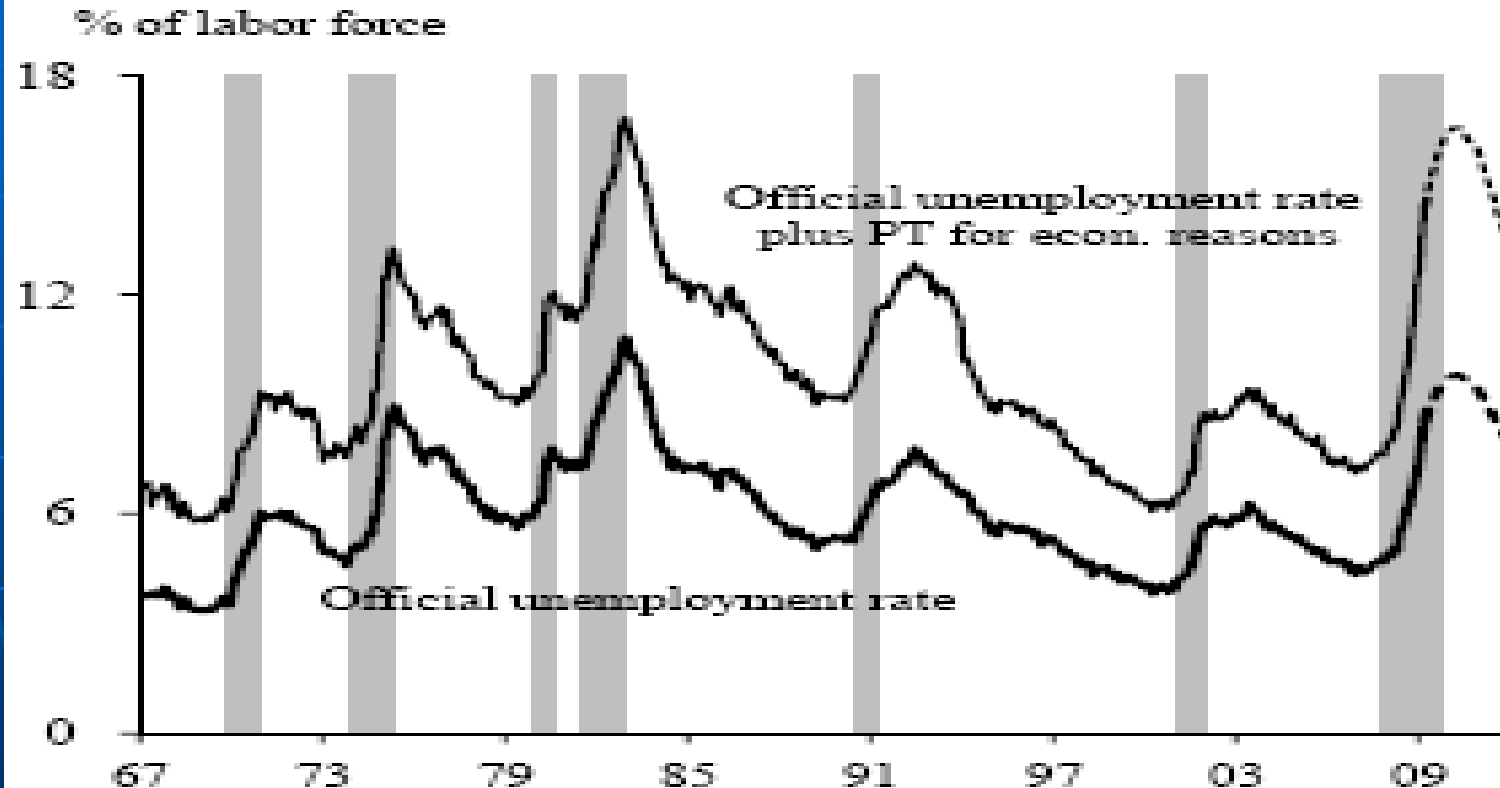
% of labor force



Source: FRBSF Economic Letter 6/5/09

# Underutilization in Job Market

**Figure 3**  
**Alternative measures of labor underutilization**



Note: Extrapolated values for 2009:Q2 through 2011:Q4 are based on the Blue Chip consensus unemployment forecast and the linear relationship between the part-time employment and the unemployment rate from December 2007 to April 2009.

# Housing

## A long, hard slog

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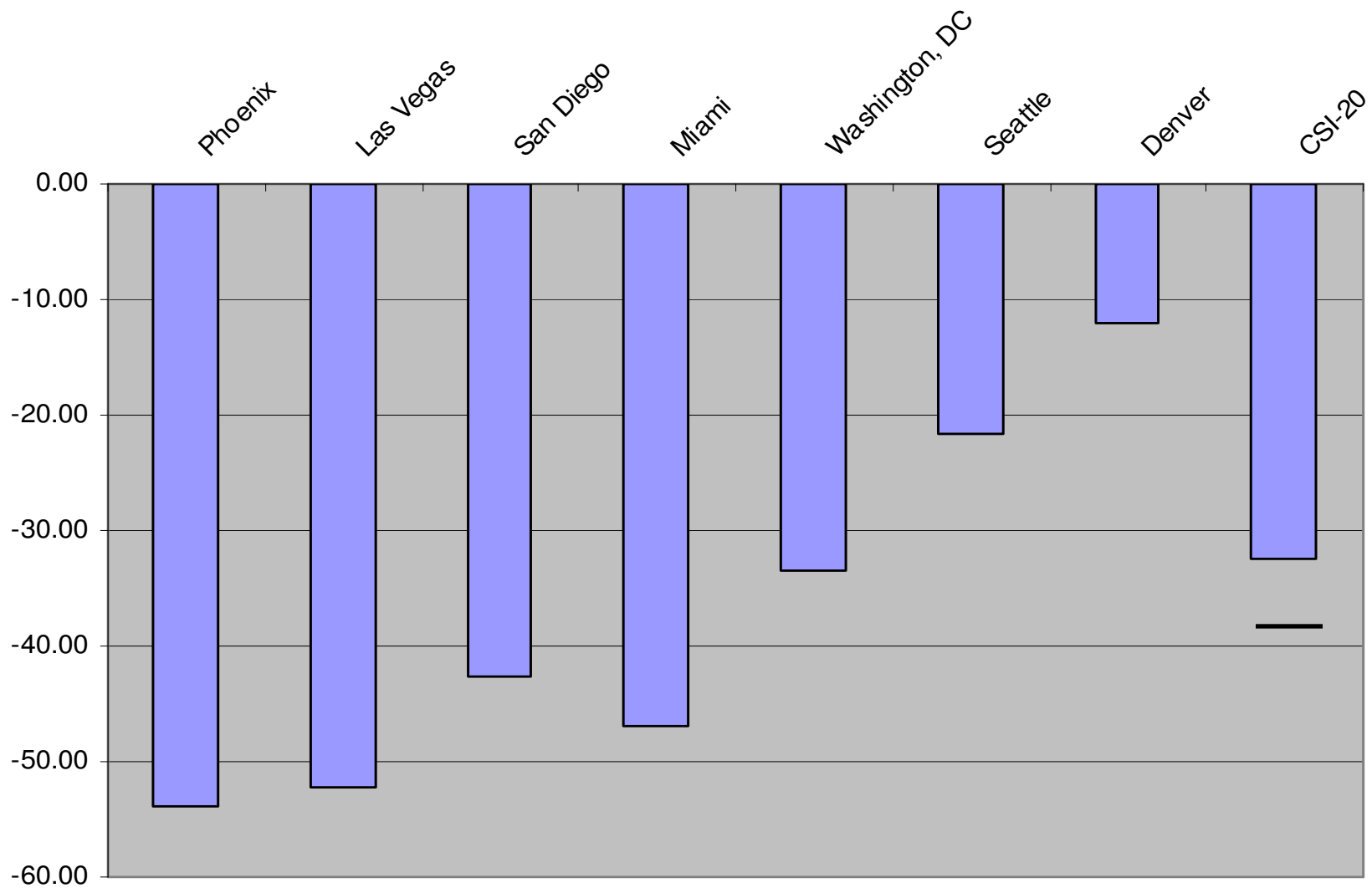
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Source: Reinhart and Rogoff, *The Aftermath of Financial Crises*, 2009

# Home Prices (04/09 from peak)



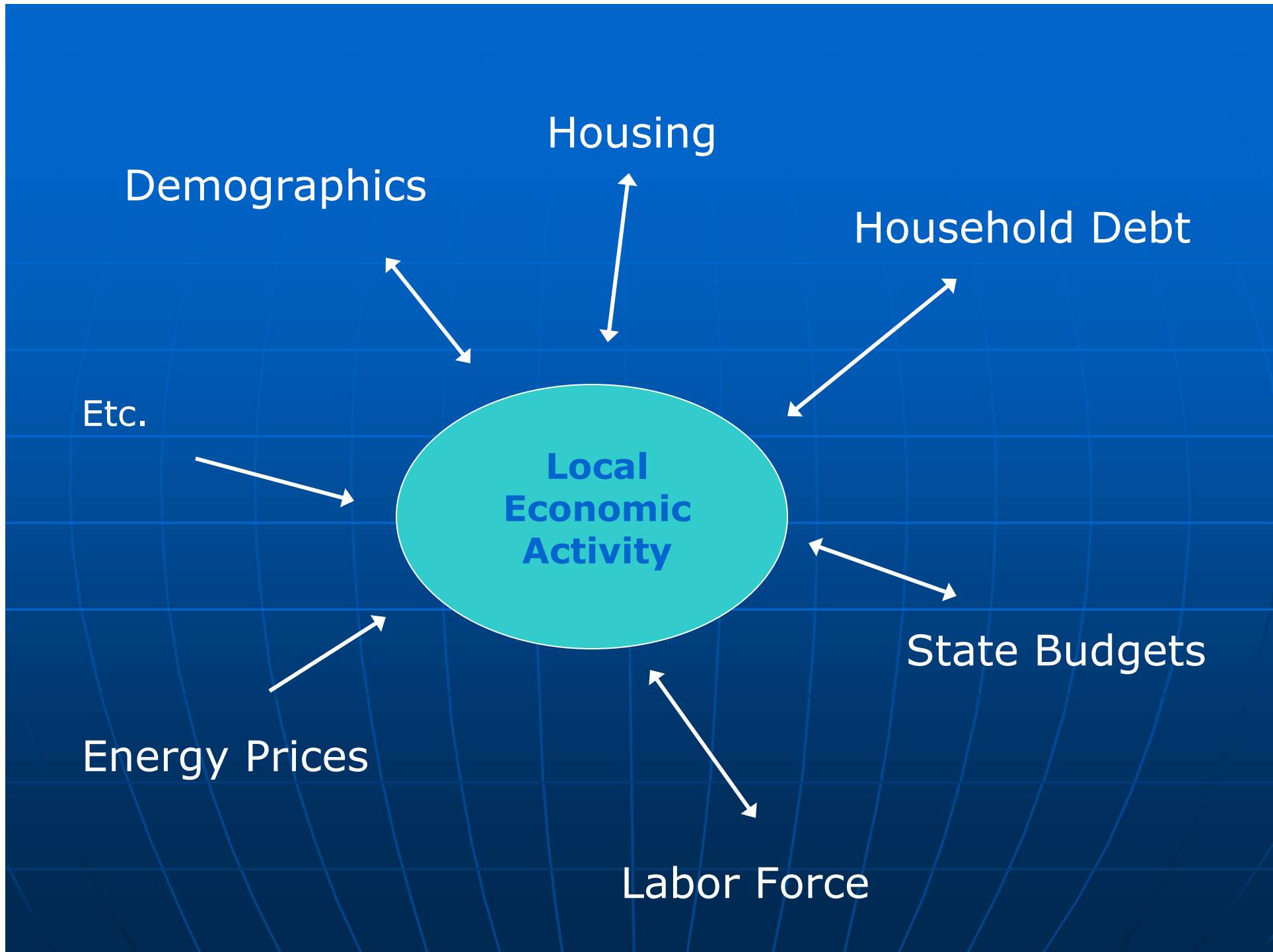
# Reassessing

- Some figures suggest we're nearing a bottom
  - Data has to be mixed for a while (e.g., bad retail figures right now should not be surprising)
  - ... but forecasts call for little job recovery in the near future
- Revisiting the start date
  - Does later start date imply later end date?
- My worry is that we're being too narrow in our discussions (recall the Challenger and mortgage backed securities... or the gorilla)



# Butterflies to Consider

- Household deleveraging
  - This one is getting a bit of attention...
- Demographic ripples
- Energy prices
- State budgets
- Entitlement programs (federal debt)



Housing

Demographics

Household Debt

Etc.

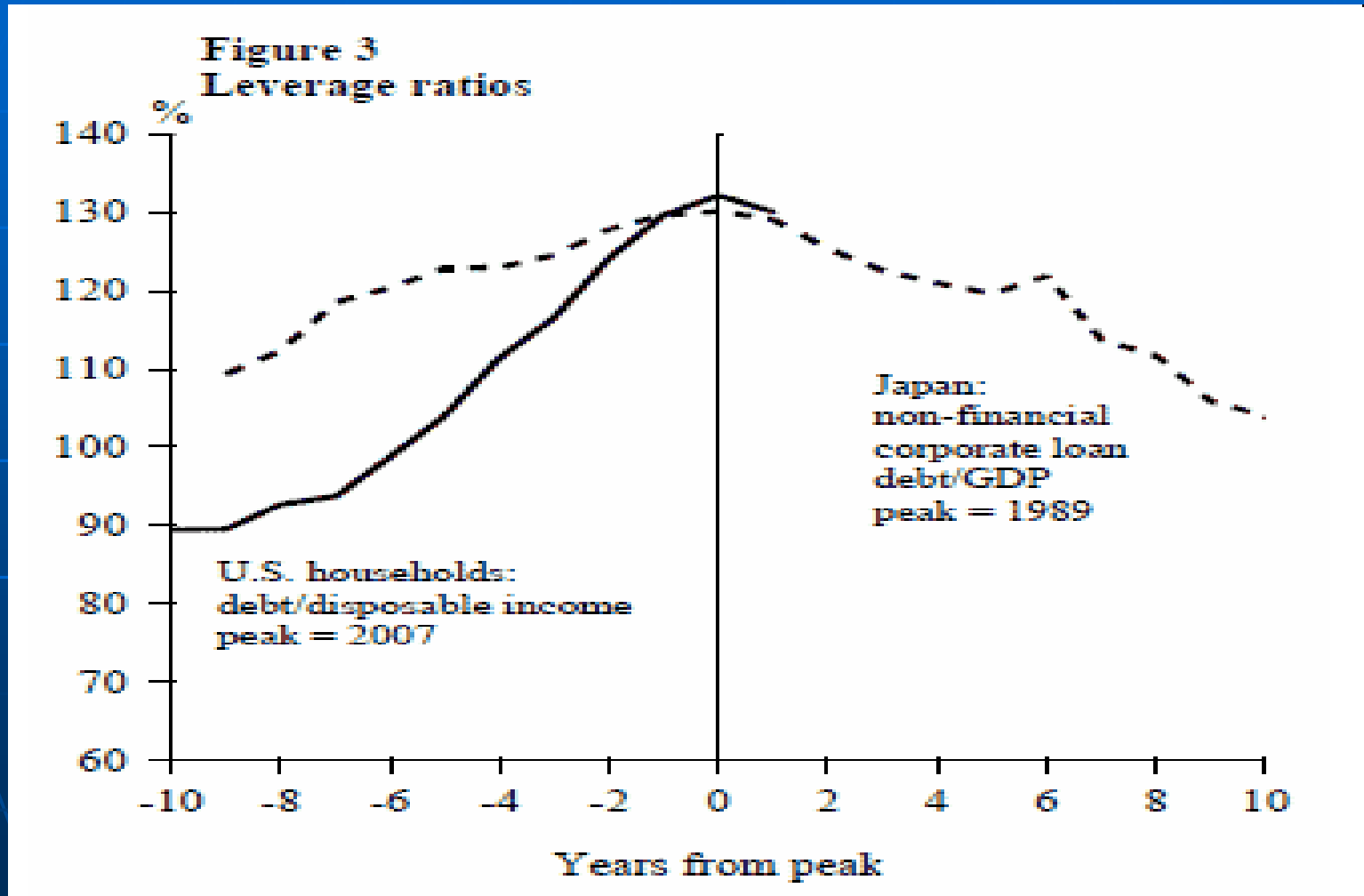
**Local  
Economic  
Activity**

State Budgets

Energy Prices

Labor Force

# Household Debt



Source: FRBSF Economic Letter 5/15/09

## Mini Herbert Hoovers

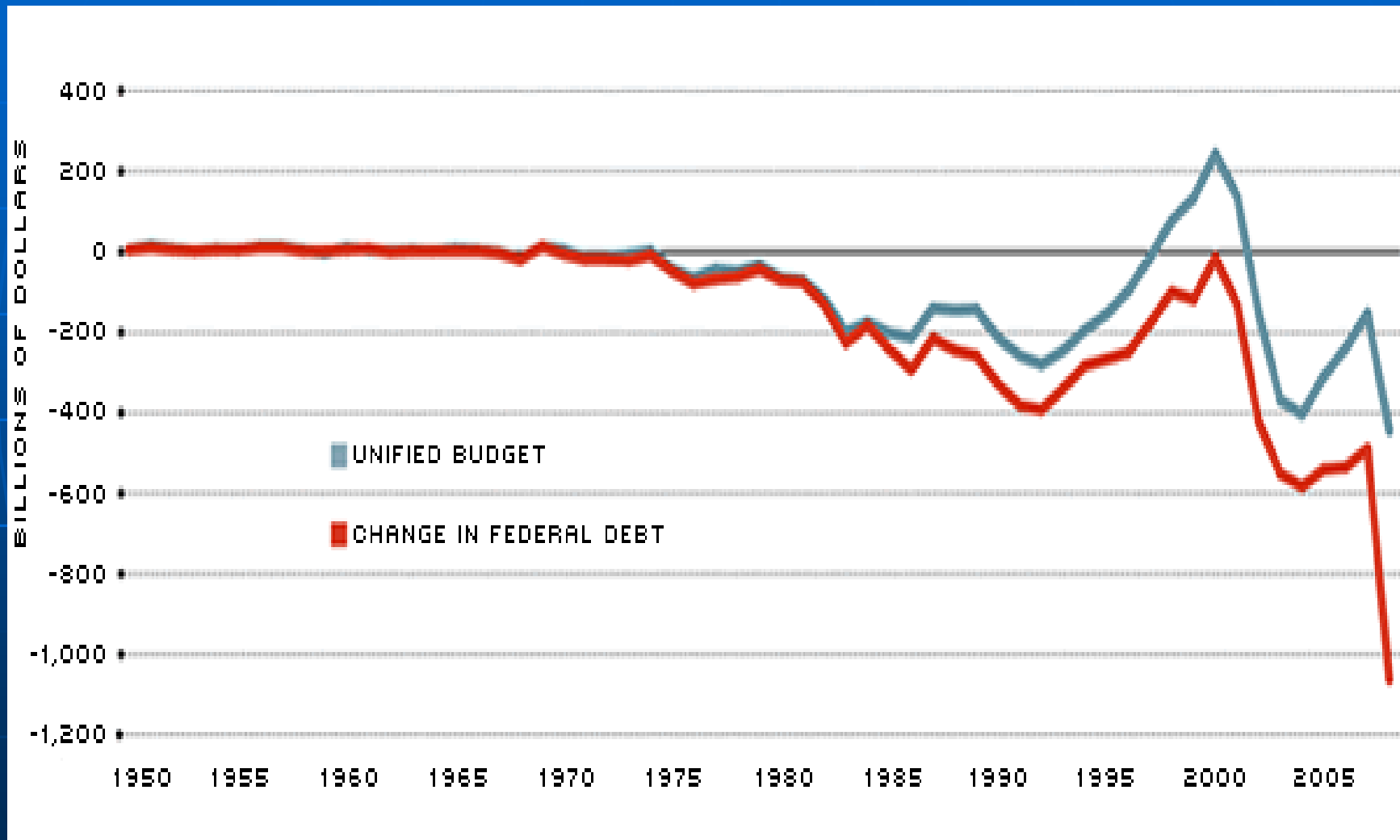
State budget spending, % change on previous year



Source: National Association  
of State Budget Officers

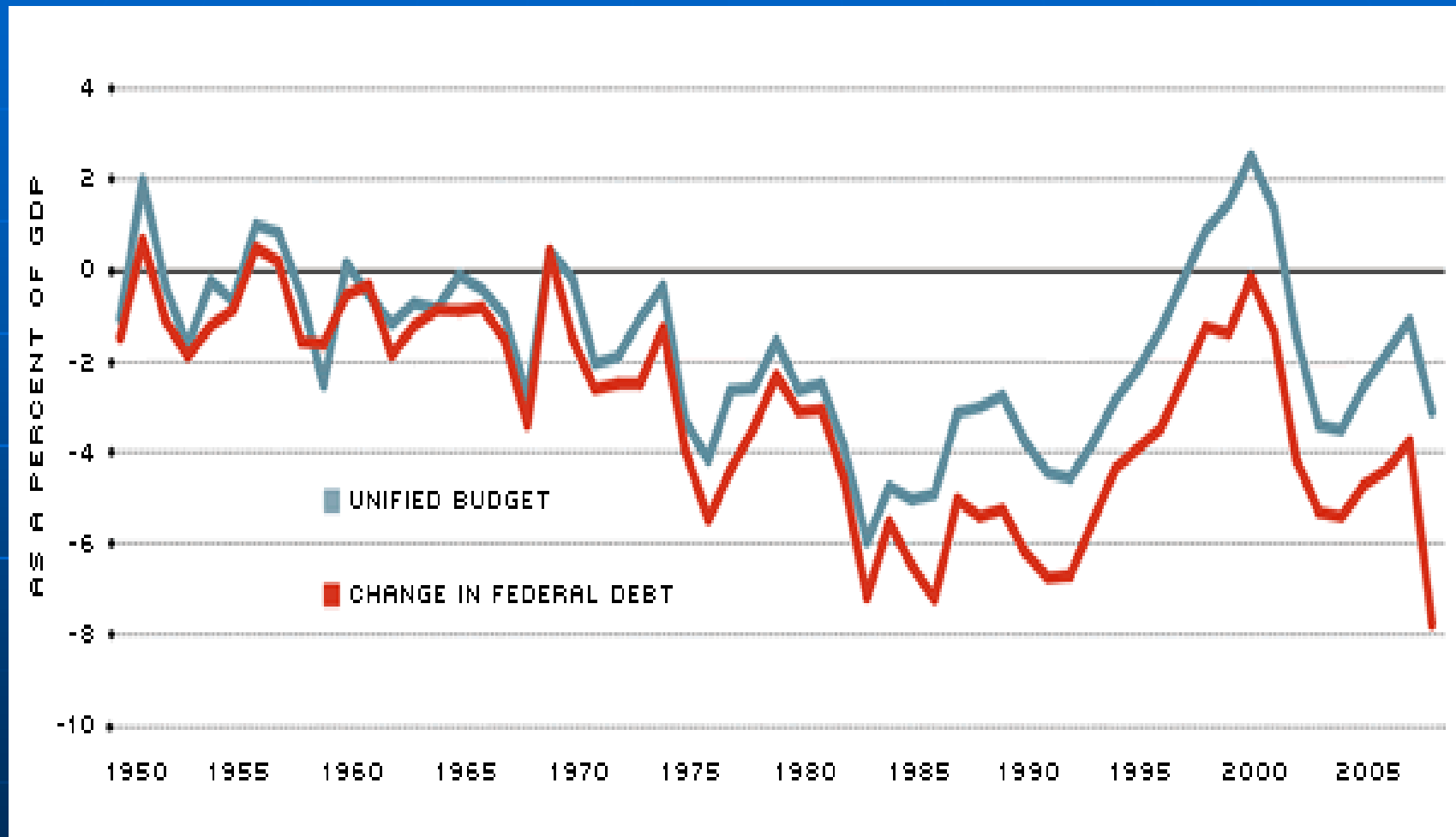
\* Forecast

# Federal Surplus/Deficit, 1950-2008



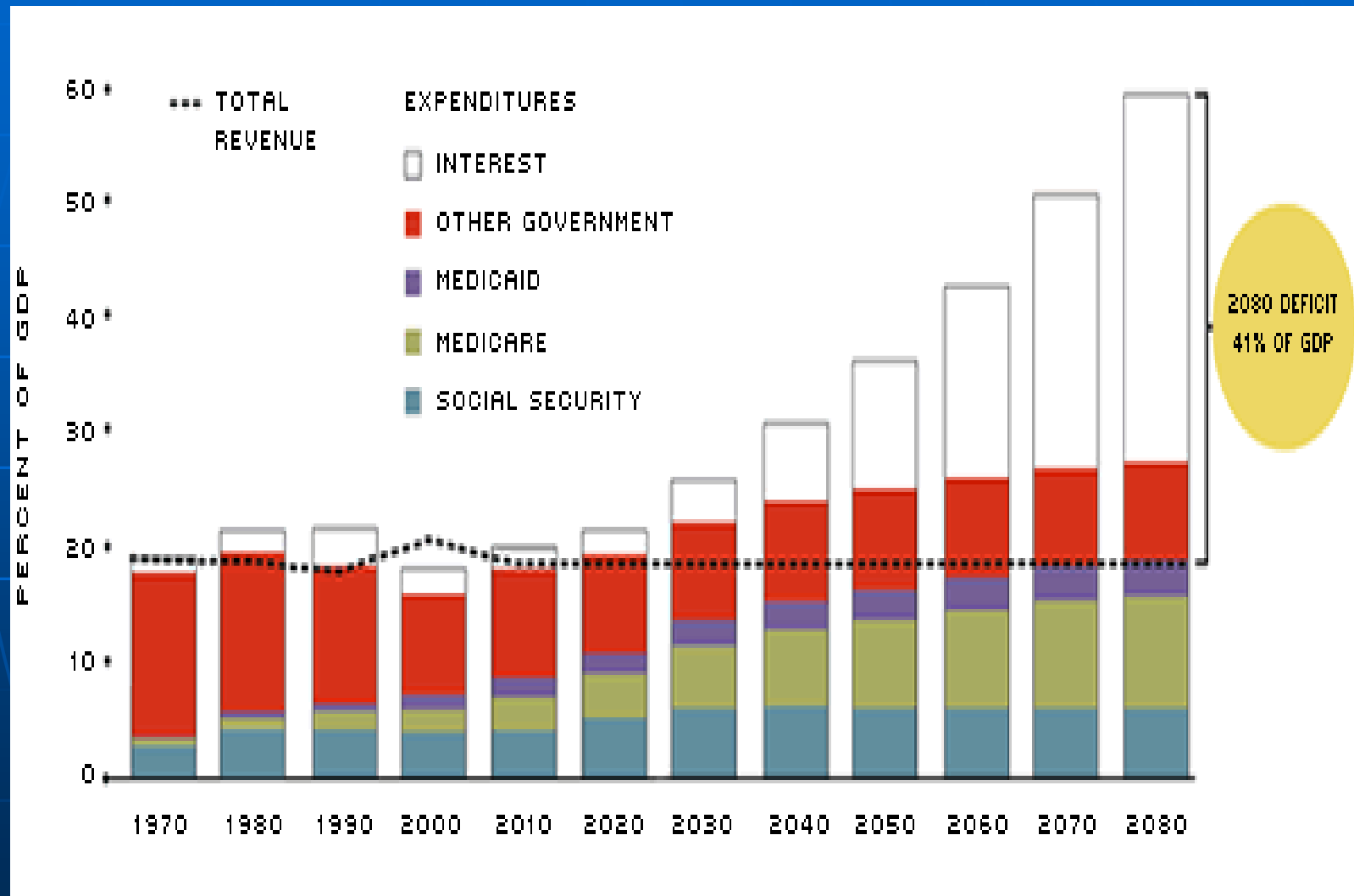
SOURCE: The Regional Economist – St. Louis Fed

# Federal Surplus/Deficit, 1950-2008



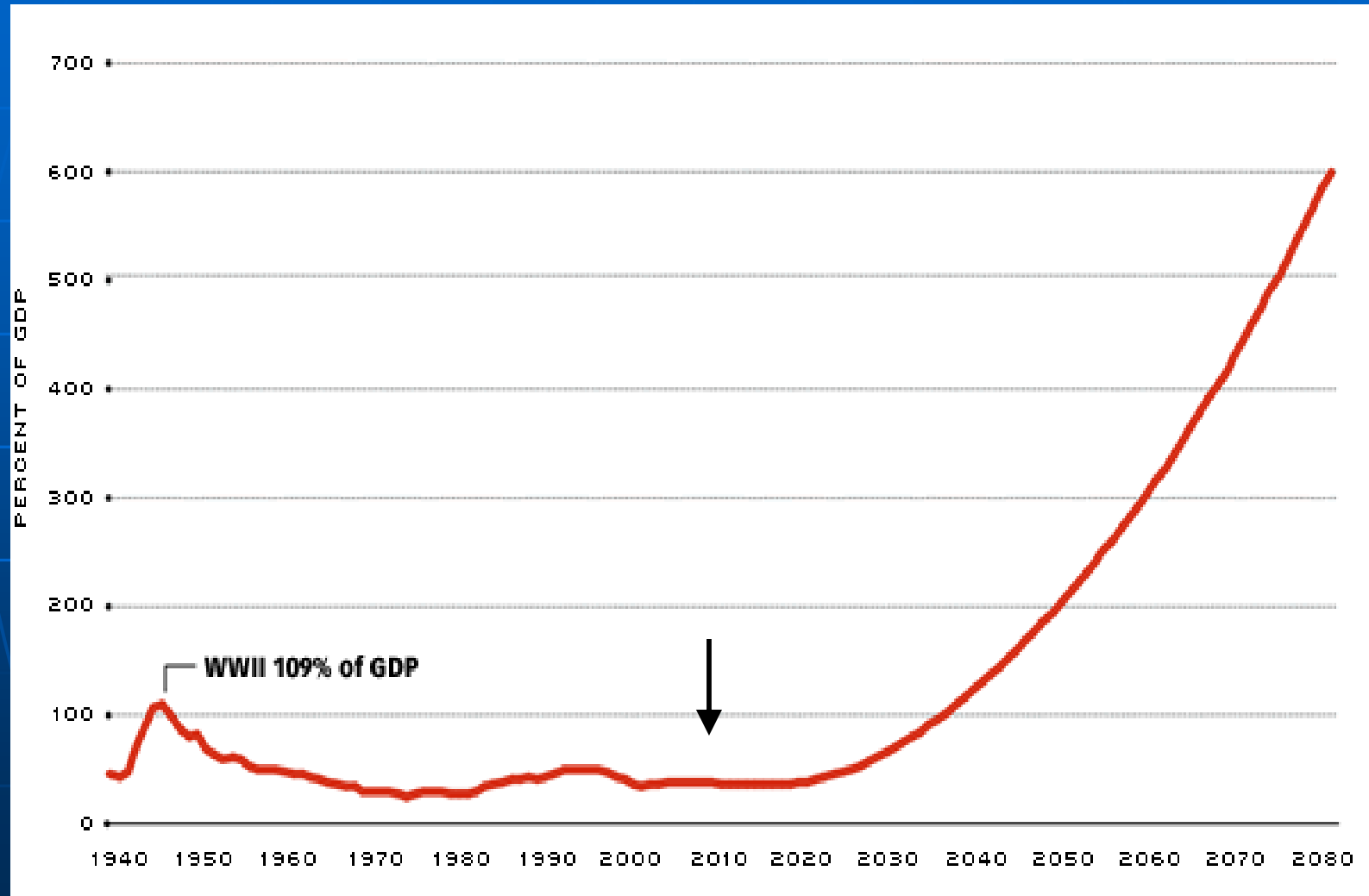
SOURCE: The Regional Economist – St. Louis Fed

# Budget Projections



SOURCE: The Regional Economist – St. Louis Fed

# Federal Debt



SOURCE: The Regional Economist – St. Louis Fed



# So.... We have to imagine:

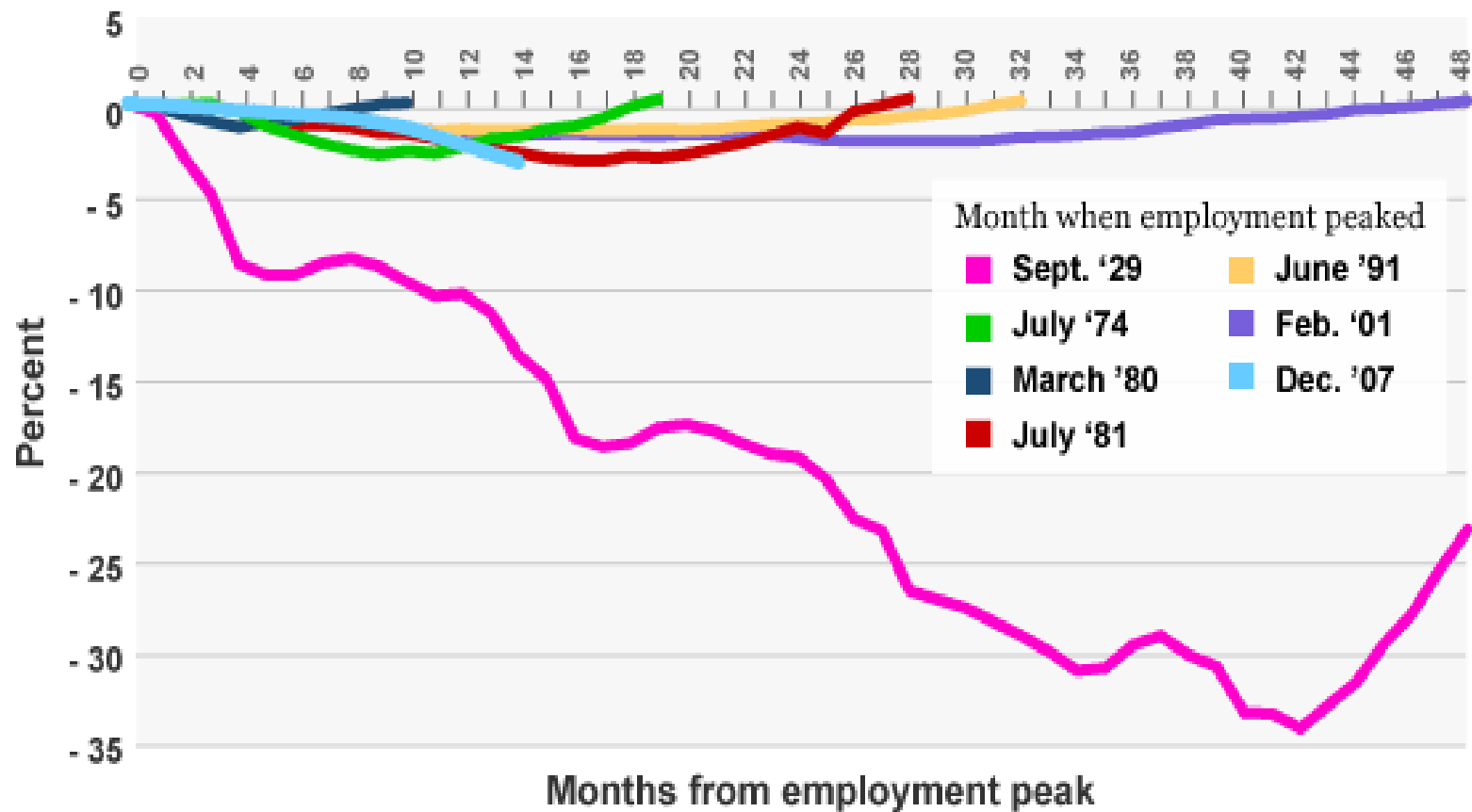
- Reduced consumer spending
- Cuts in state programs, with little recovery for several years
- Noticeable changes to address entitlement programs
  
- An older workforce with later retirement
- Higher energy prices, but increased energy efficiency
  
- Labor force
  - Not sure what to say about education...
  - Potential for very different household/firm dynamic !!

# And We'll have Black Swans

- Inflation, but with a twist
- Loss of economic mobility
- Health insurance reform
  - *Again, which could fuel a new firm-household dynamic*
- Longest recovery yet?

# Job losses in six recessions and a depression

## Percent change in nonfarm employment



SOURCE: BUREAU OF LABOR STATISTICS  
NATIONAL BUREAU OF ECONOMIC RESEARCH

**TIME**

# Economic Stray Thoughts

## Butterflies?

To an economist – it is relative price... or relative changes that matter (recall the fisheries example)

In economic development, you have to consider keeping different factors in balance – which is really a matter of monitoring and nudging a dynamic system.

And you have to ask if it is really possible or desirable to try to preserve the status quo

# More Stray Thoughts

- Economics embodies evolution or adaptation and change
  - Innovation
  - Creative destruction
- Place and agglomeration
  - Location matters
  - Innovation and knowledge spillovers are not evenly distributed

# Applying the Thoughts

- Clear Goal: Eliminate or reduce one major complaint per year raised by the business community
  - Avoid focusing on one tool or idea by having the business community articulate key issues and mitigation strategies
  - Positive ripple effects
    - Creates culture of identifying problems and trying to address them
    - Allows businesses to be the advocates for the region
  - Monitoring and feedback required

# Applying the Thoughts (cont)

- Clear Goal: articulate a regional, multi-county development strategy
  - Supported by interlocal agreements
  - Have to determine broader community goals so they can be supported by economic development strategies
  - Have to identify real needs and understand actual business conditions, getting past imagining the economy in some fanciful way...

# Closing Questions

- Can we afford to be careless?
  - Can we afford to embrace strategies like ethanol... or going local?
- What are our goals, really, in economic development?
- What do you see on the horizon that others might call black swans?
- Thinking of butterflies: when was the last time you challenged what you thought you knew and saw potential complications you had not seen before?



# Discussion...

