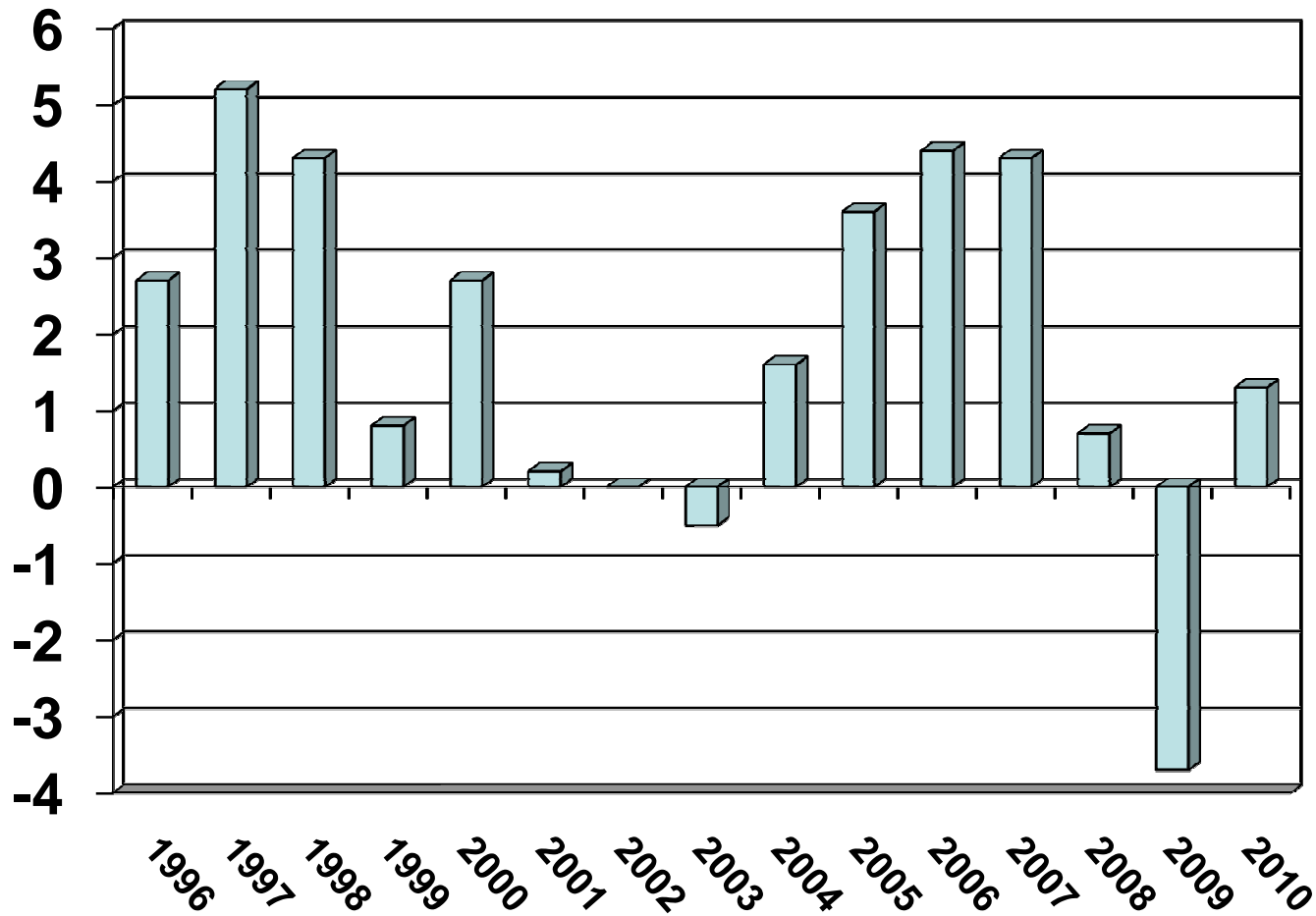


Houston and the US Recovery: Last In, First Out?

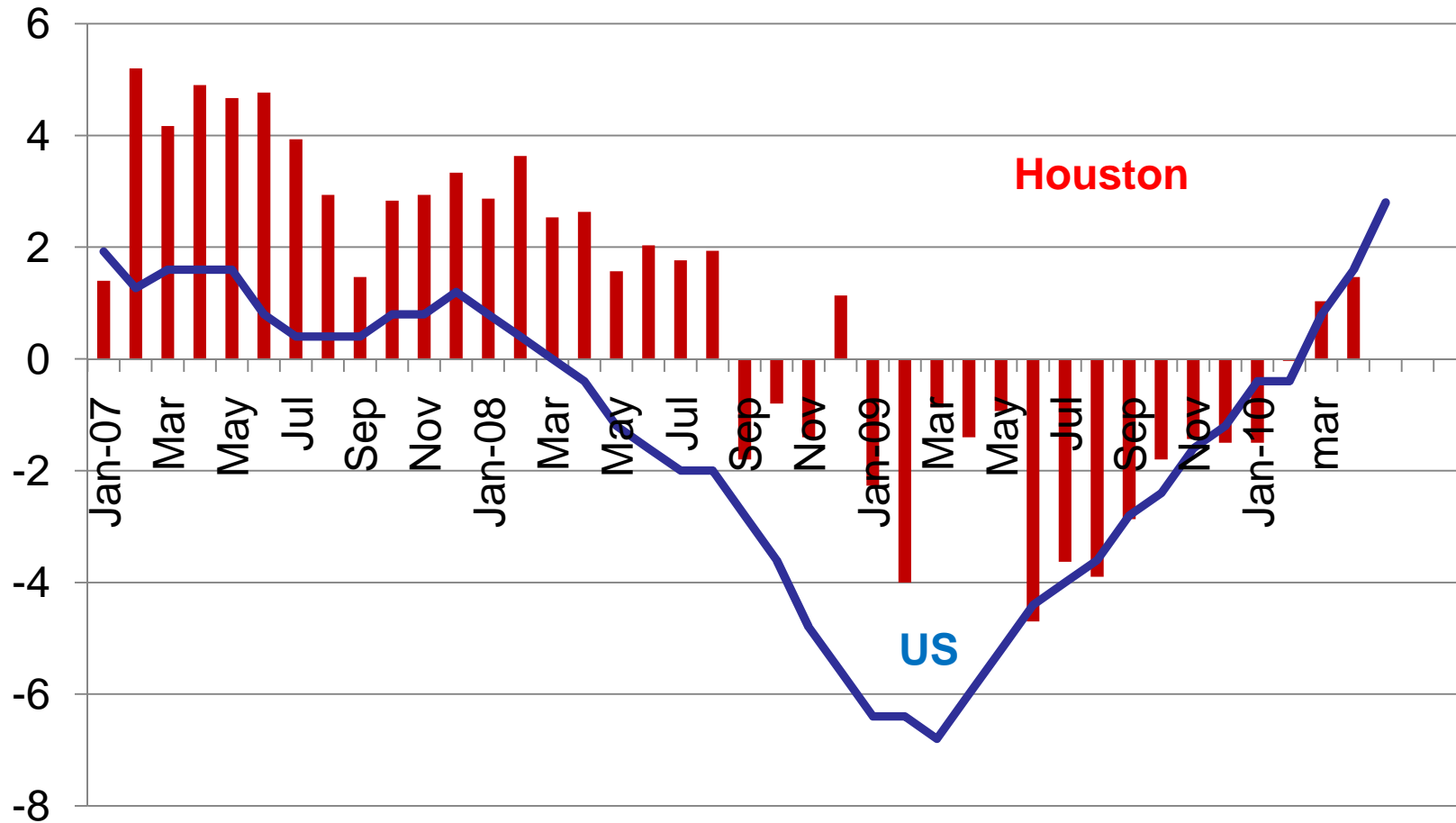
Robert W. Gilmer
Vice President and Senior Economist
Federal Reserve Bank of Dallas
June 2010

Percent Change in Houston Employment, 1996-2010

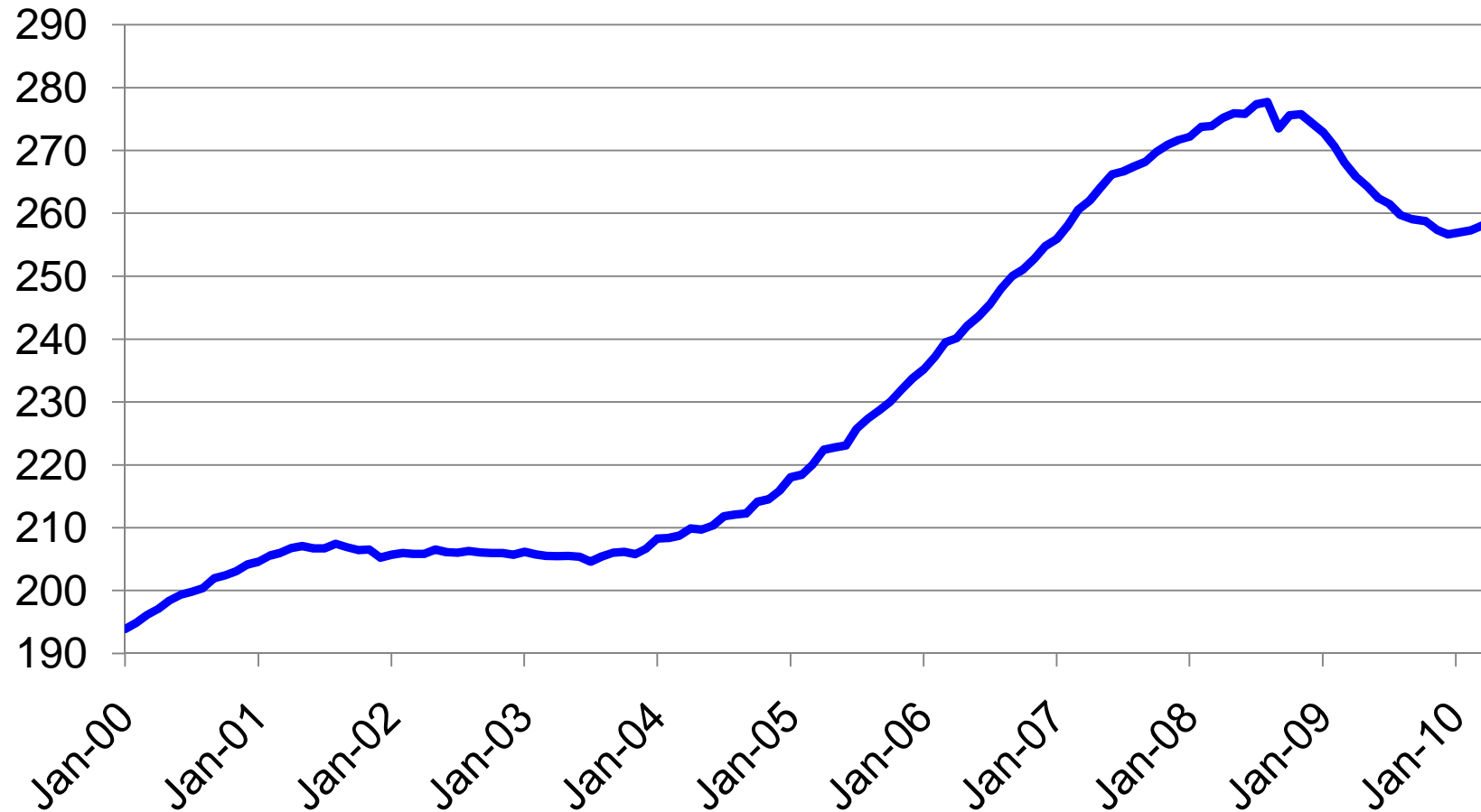


Note: December to December changes, except 2010 which is year-to-date

Houston Employment Moving Toward Recovery, On Same Track as US Economy (3-month percent change at annual rates)



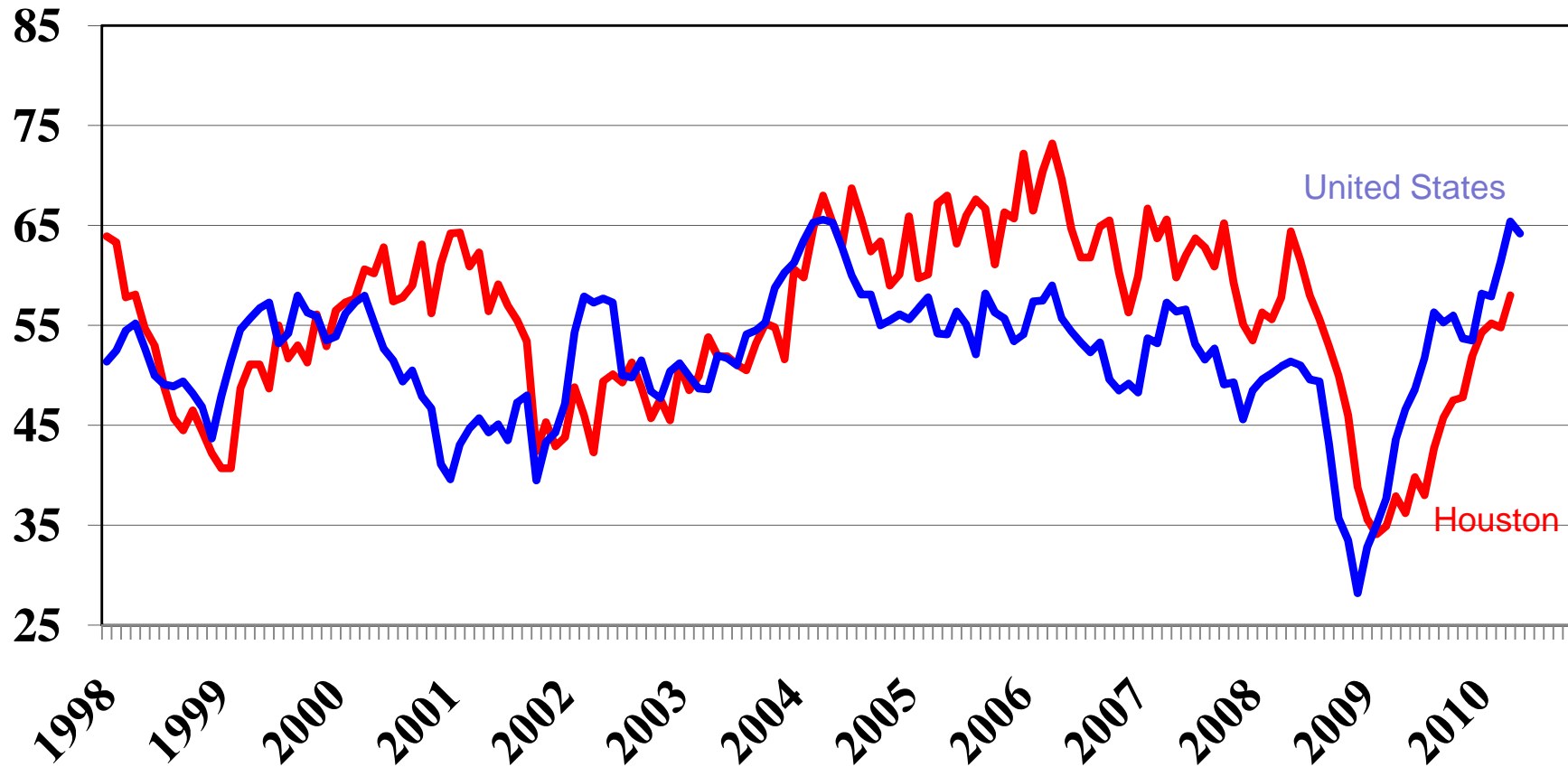
Houston Business Cycle Index Peaked in August 2008, Fell 7.6 Percent



***Texas Decline Is Shared throughout the Texas Triangle
(Business Cycle Indexes)***

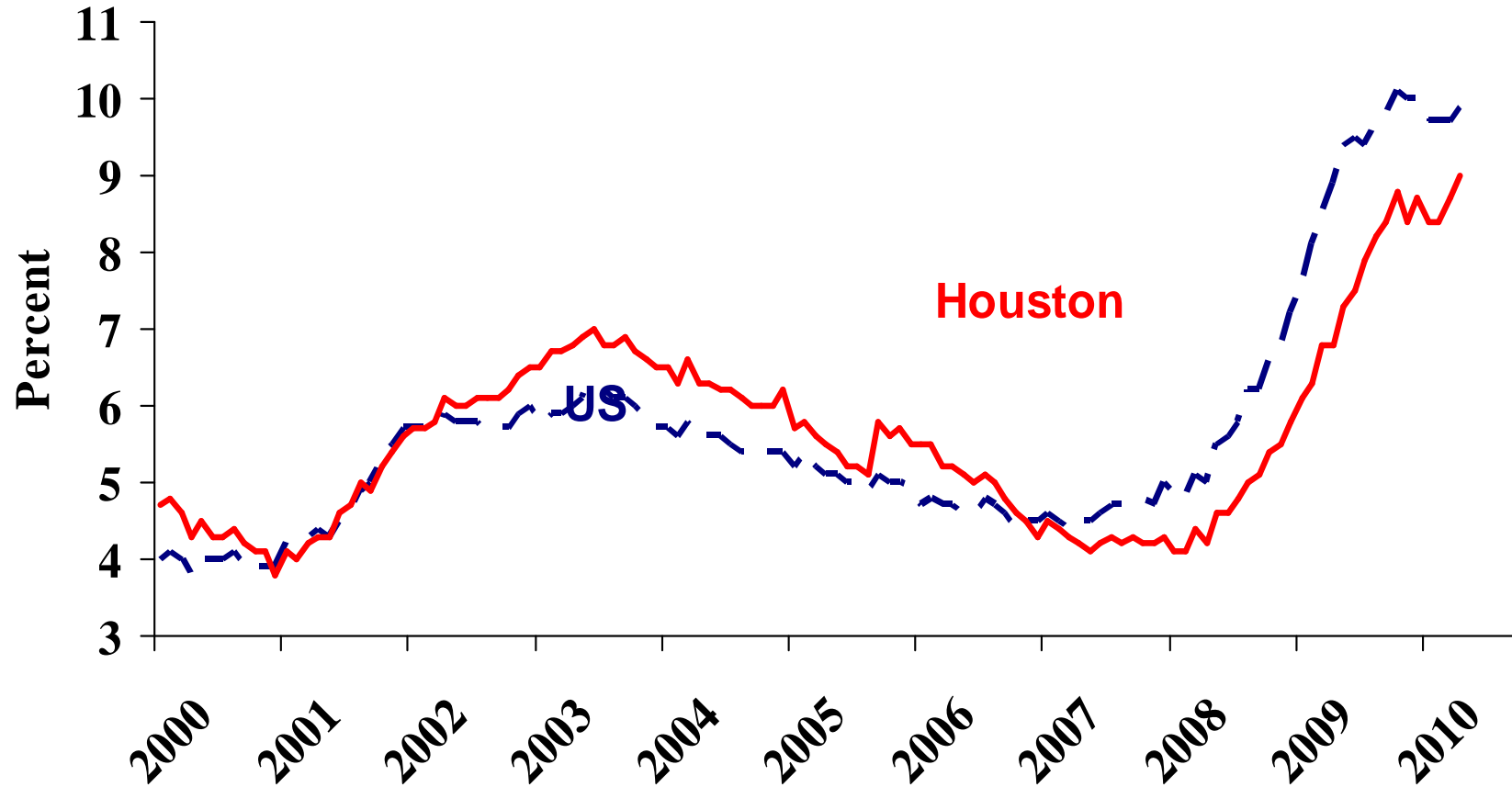
Region	Peak	% Decline
<i>Statewide</i>	June/ 2008	-5.7
<i>Texas Triangle</i>		
<i>Houston</i>	<i>August 2008</i>	<i>-7.6</i>
Fort Worth	May 2008	-4.7
Dallas	Feb 2008	-6.5
San Antonio	April 2008	-8.9
Austin	Feb 2008	-9.2

Purchasing Managers' Index US and Houston Compared



Unemployment Rate

Houston vs. US, SA

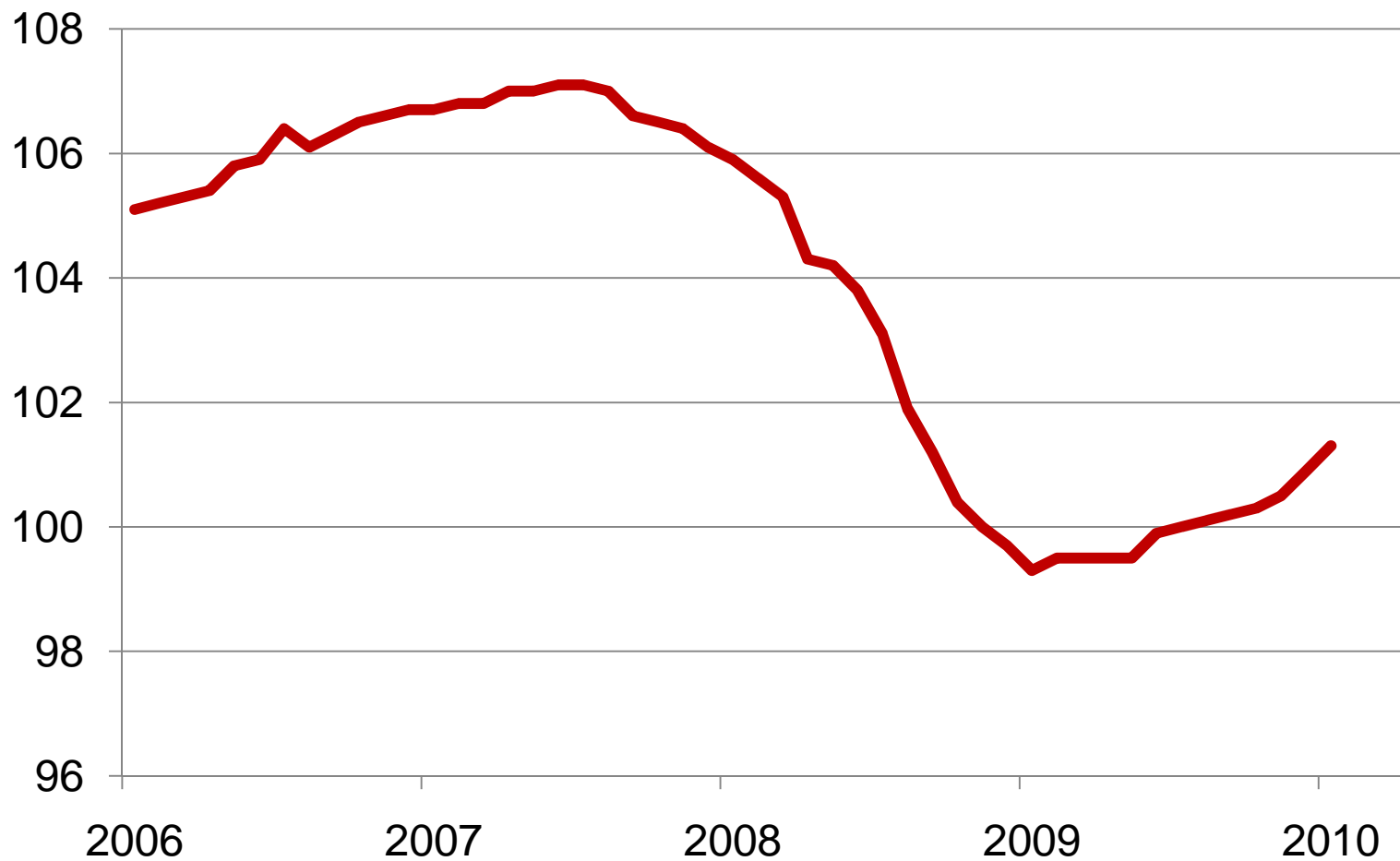


External Forces that Drive the Houston Economy

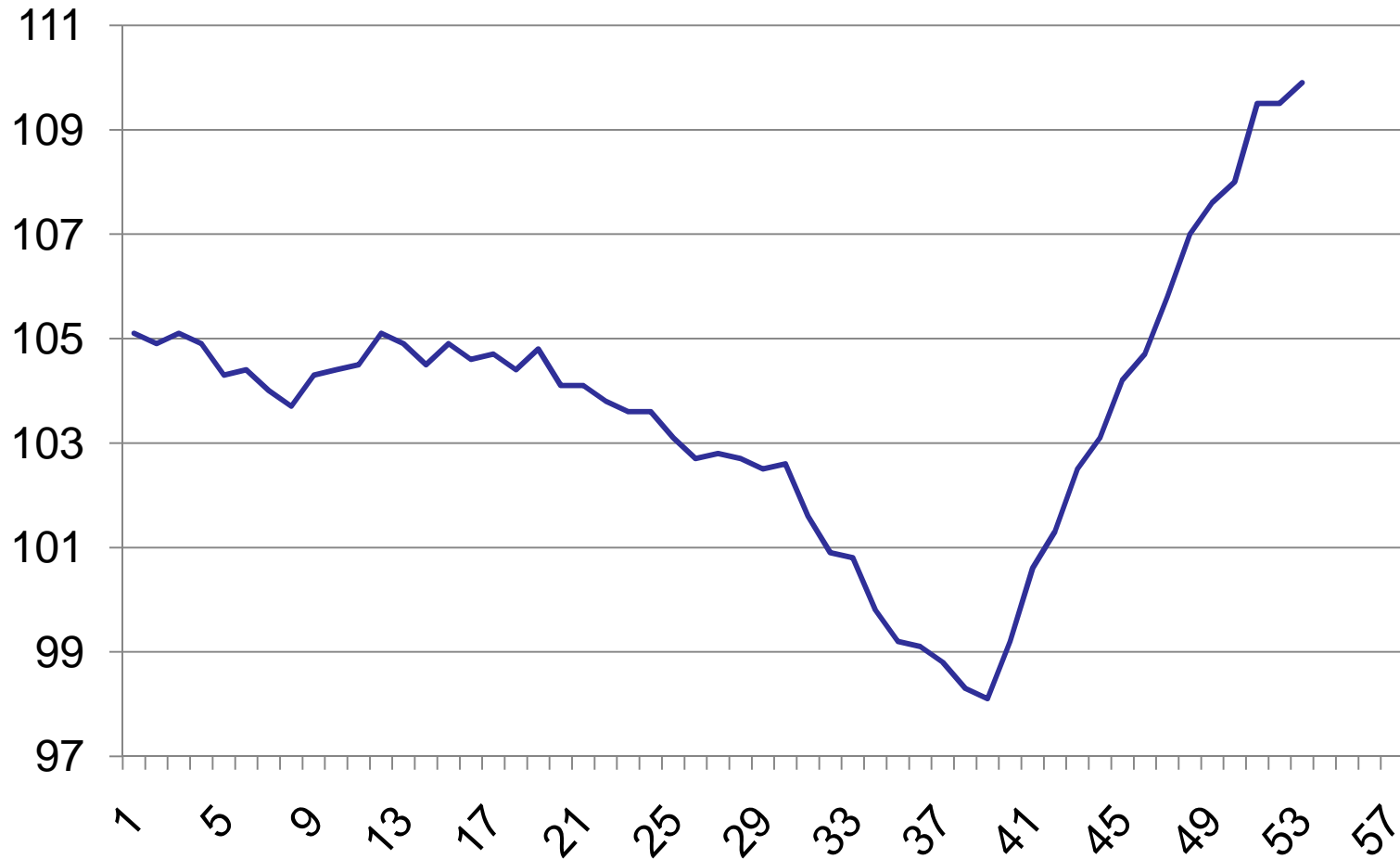
- US Economy
- Global Economic Conditions
- Oil and Natural Gas Markets

US Recovery Is Sluggish

Overall Coincident Index Shows Clear Signs of A Cyclical Bottom

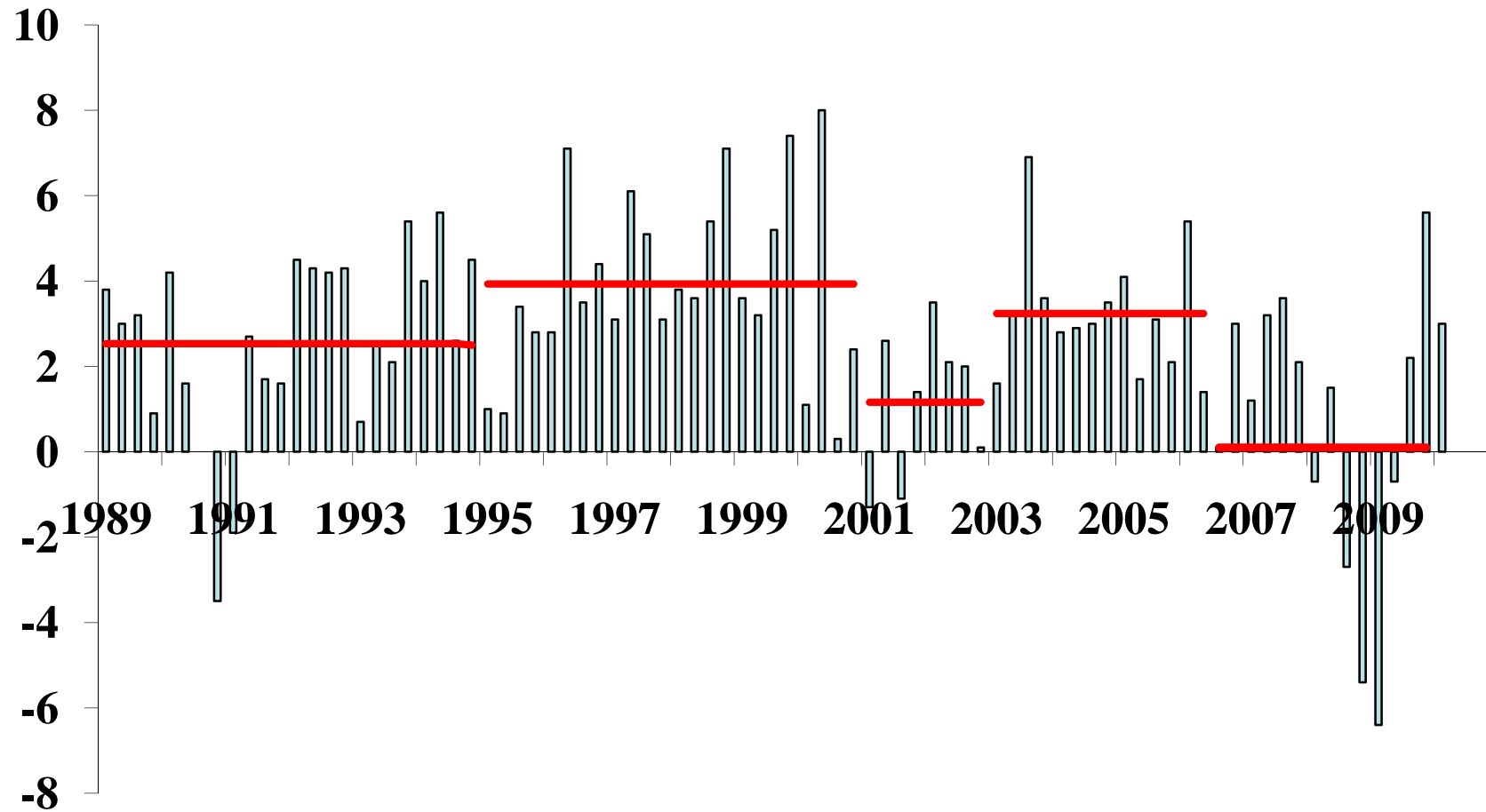


Leading Index Pointed to Cyclical Bottom By Autumn

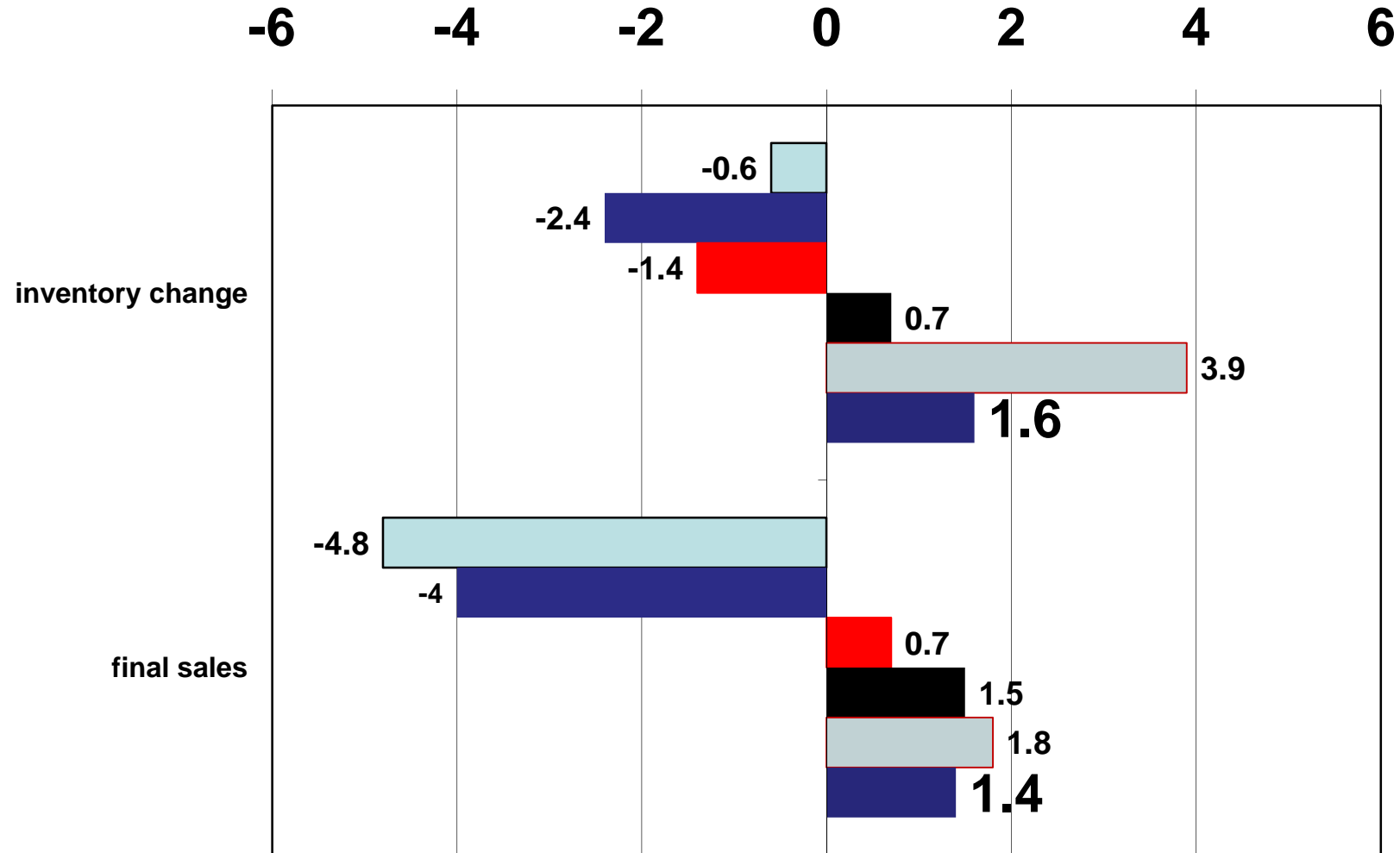


Gross Domestic Product

Quarterly Percent Growth, Chained 2000 Dollars



Percent Contribution to GDP By Sector

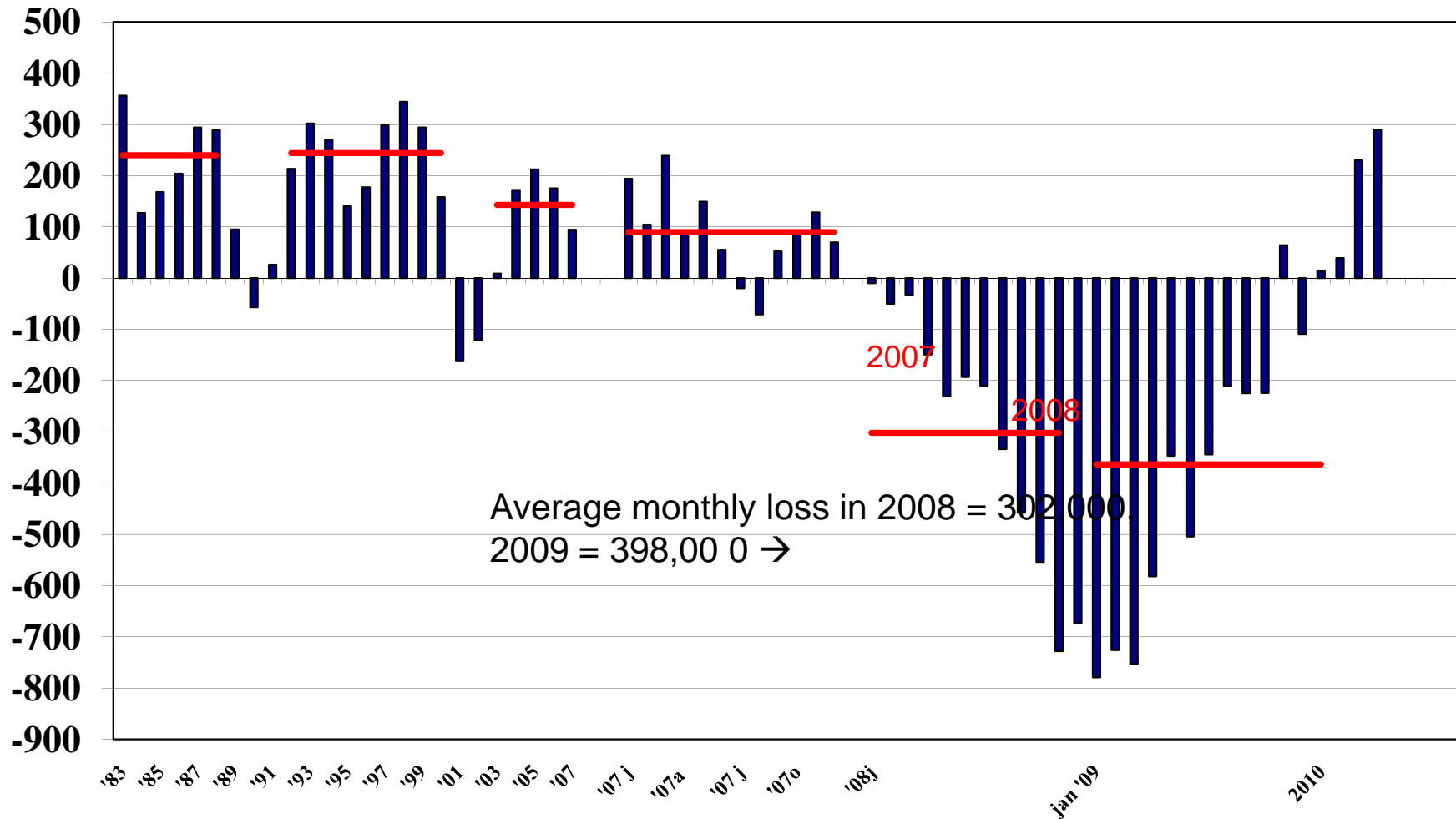


2008Q4 2009Q1 2009Q2 2009Q3 2009Q4 2010Q1

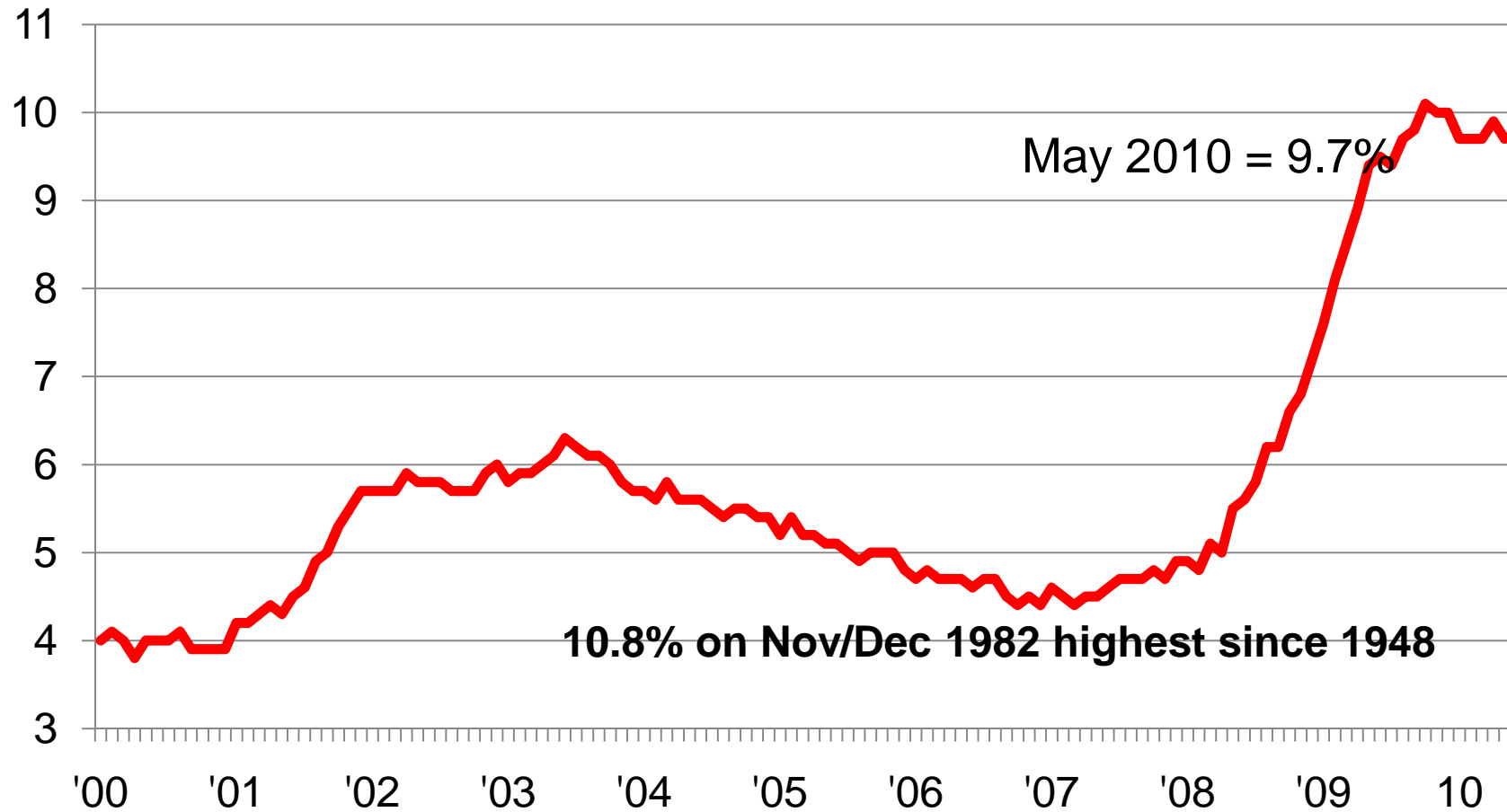
Job Market Improves Slowly,
Unemployment Rate Will Lag
Recovery

U.S. Employment Growth

In Thousands of New Jobs per Month, 1983 to 2008

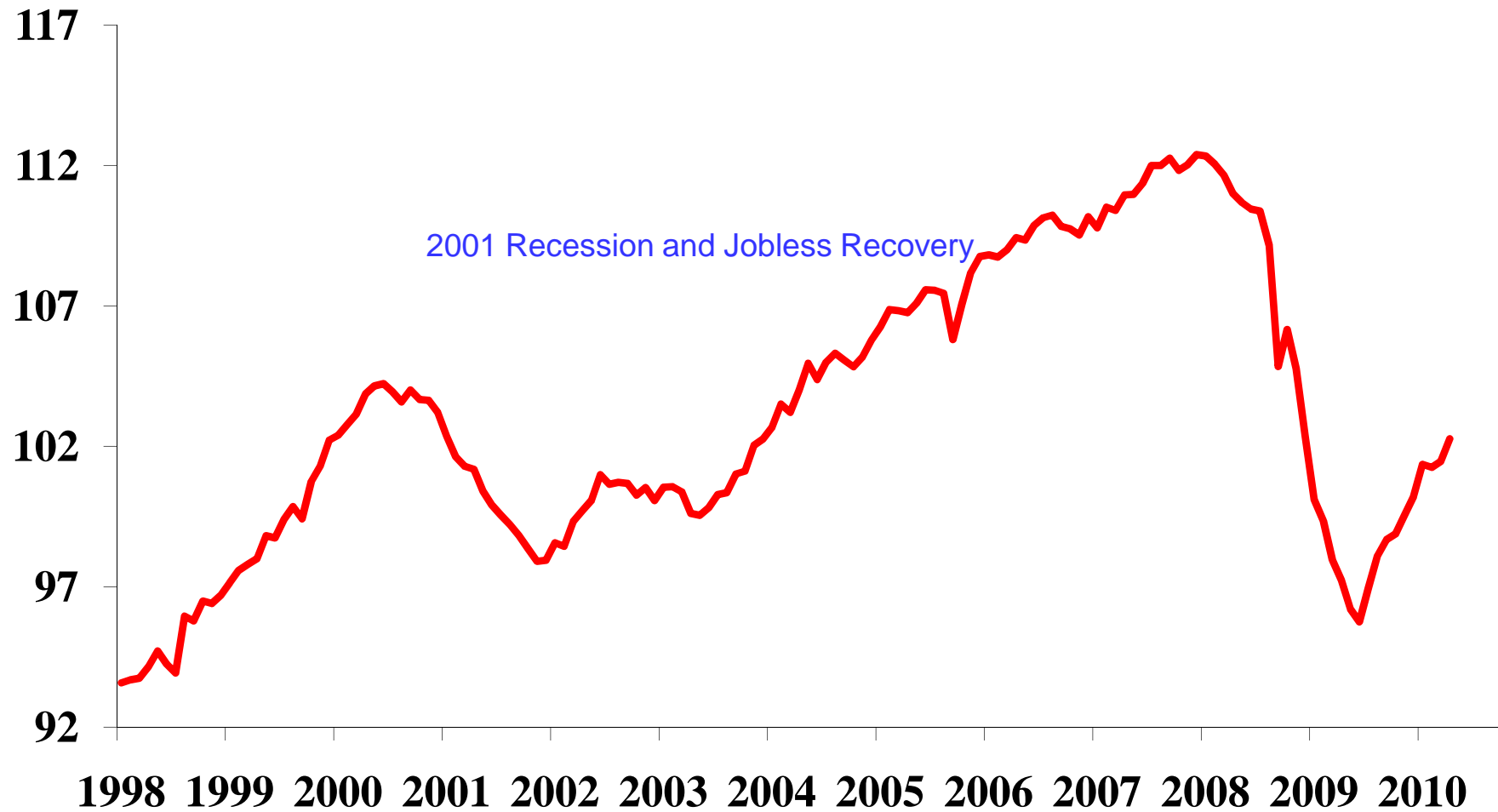


US Unemployment Rate Reached Highest Level Since 1981-82 Recession



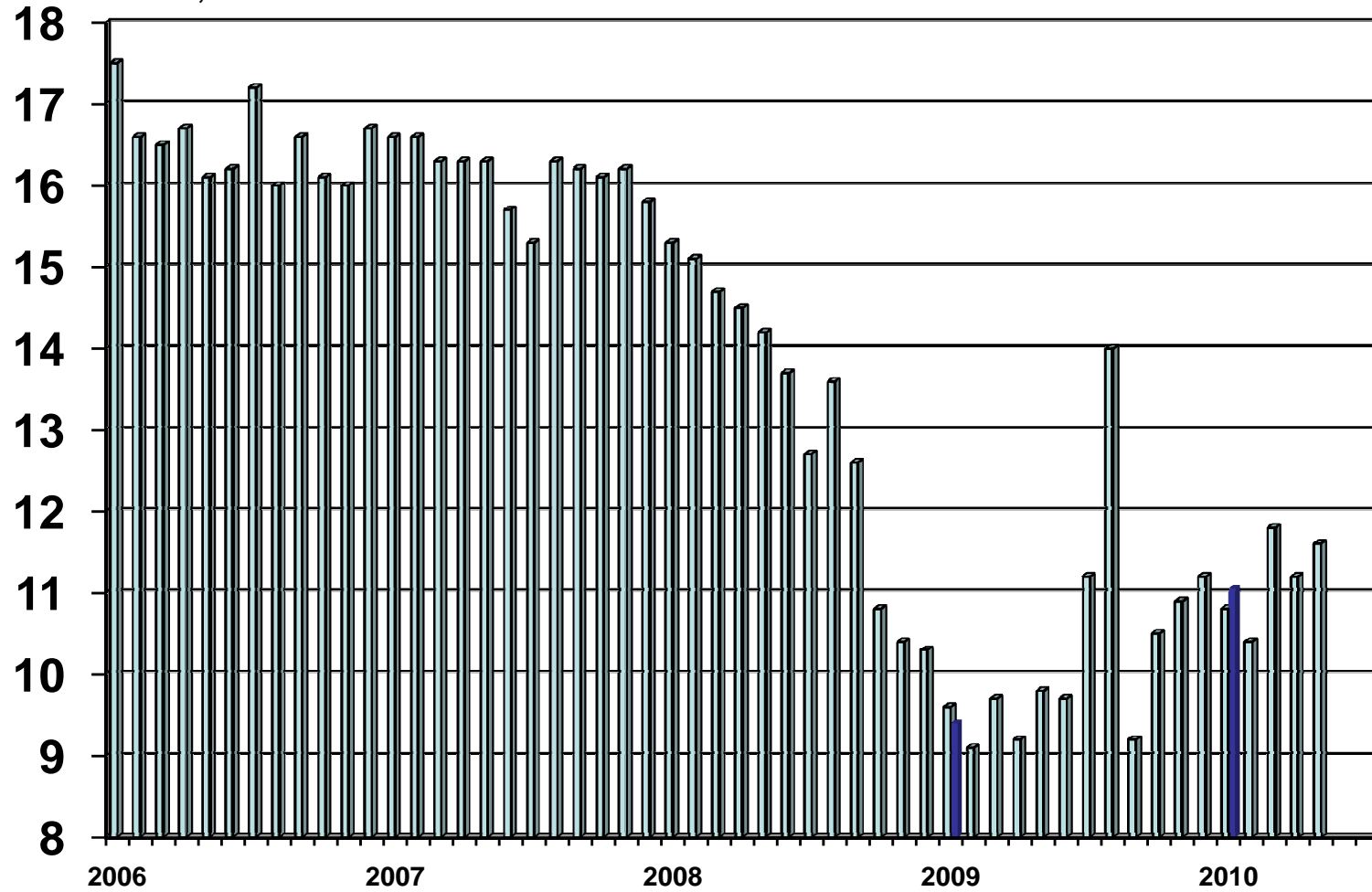
What Happened? Autos and Housing Drive the Decline

Industrial Production: Manufacturing Has Turned with the Economy

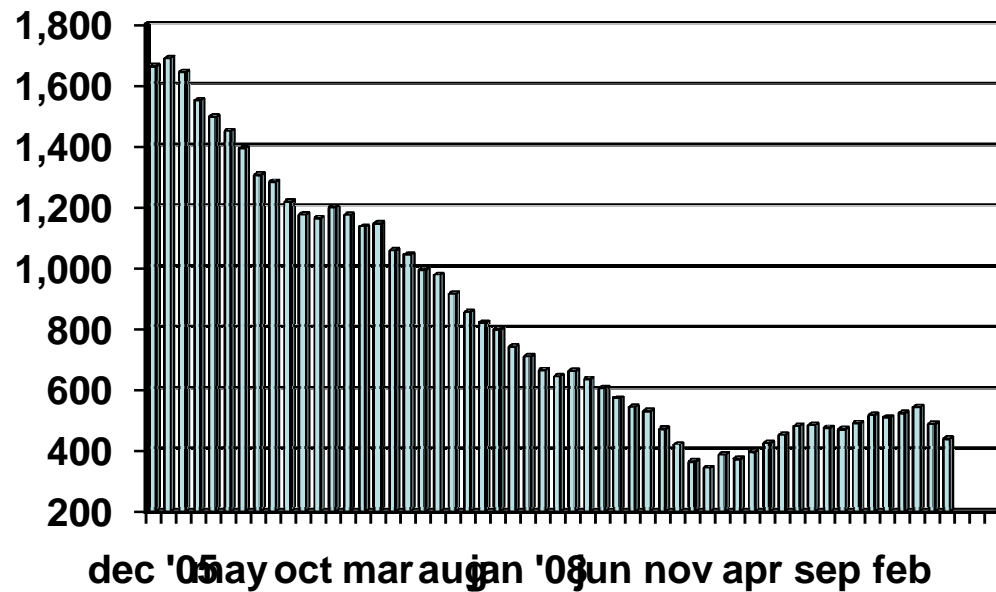


Auto Sales Weakened Throughout 2006-07, Very Bad in 2008-09

Million units, annual rate



Single-Family Building Permits Privately owned, 000, saar



Year over year changes*:

New starts 15.3

New home sales 47.8%

Existing home sales 23.0%

Existing home price 4.0%

*12-month change May to May

Percent of Local Home Sales that the Median-Income Family Can Afford

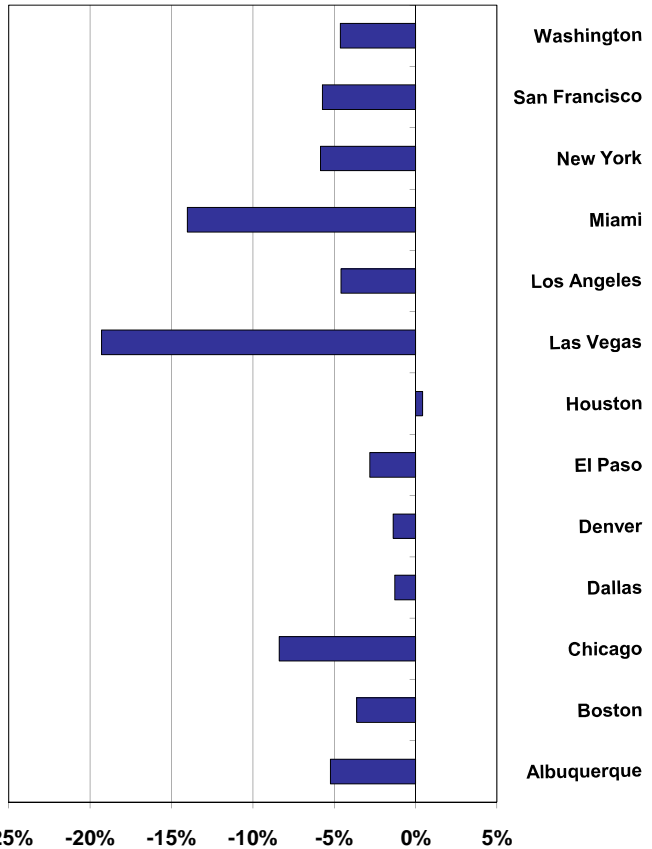
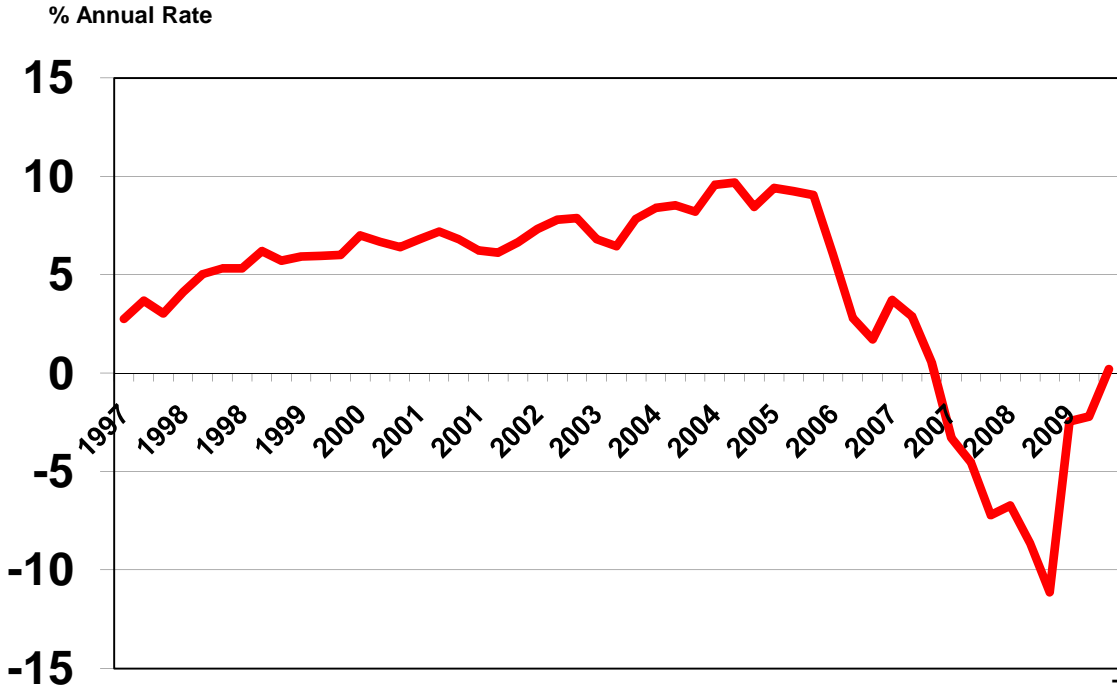
	1999:Q4	2010:Q1	<i>Low Point</i>
<i>United States</i>	64	72	40
Los Angeles	43	36	2
New York	55	21	5
Las Vegas	69	84	27
Washington	70	75	21
Miami	59	59	10
Chicago	61	71	40
Dallas	64	80	54
Houston	66	81	47
Atlanta	73	80	64

Source: Wells Fargo Housing Opportunity Index, by metro area or major division

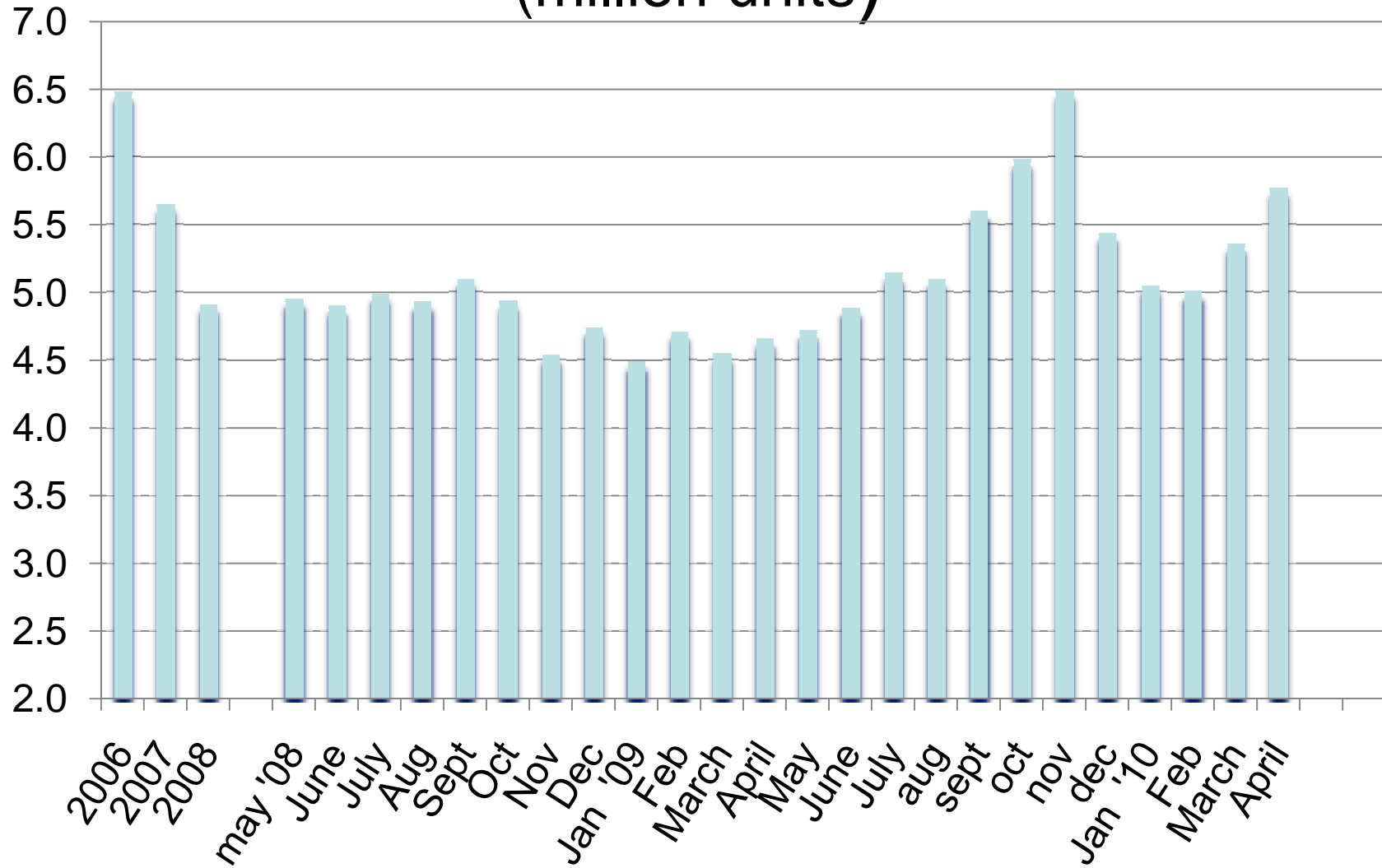
Metro Price Changes: 12-Month Change in Median SF Home Price

Home Price Appreciation in the US: Percent Change for Repeat Sales

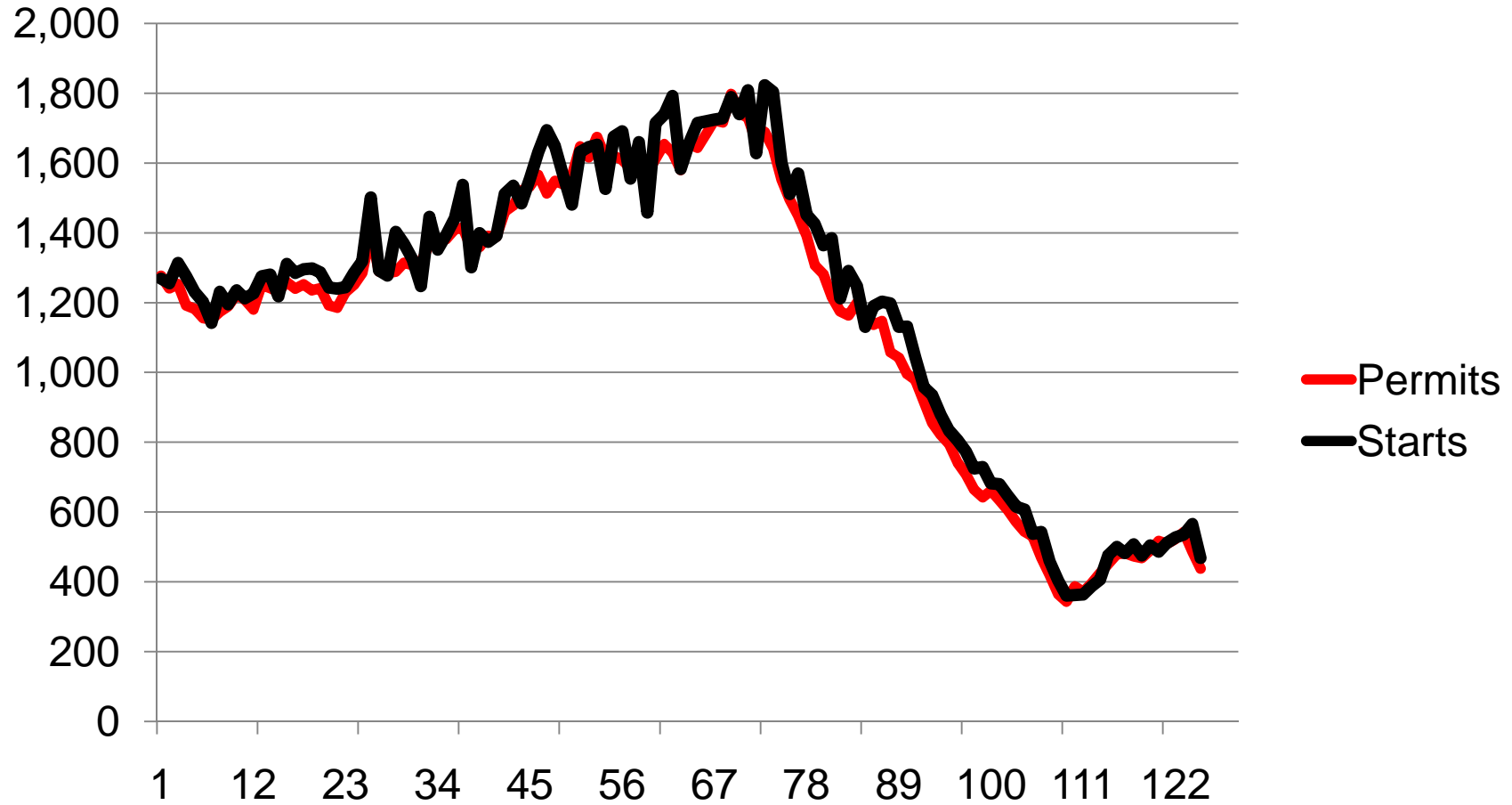
(Quarterly change, annualized)



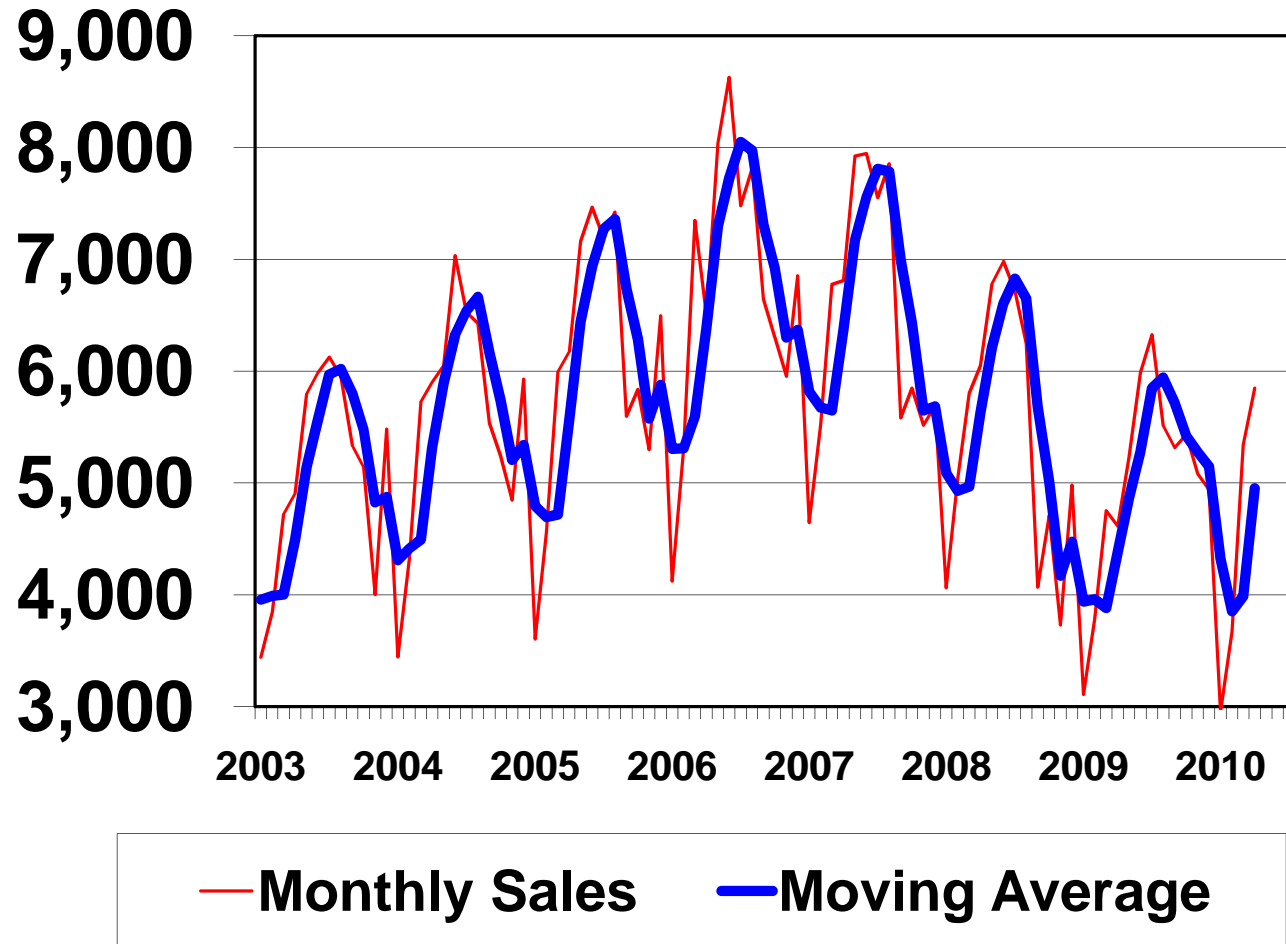
Existing US Home Sales Stabilized in 2008, Improved in 2009 (million units)



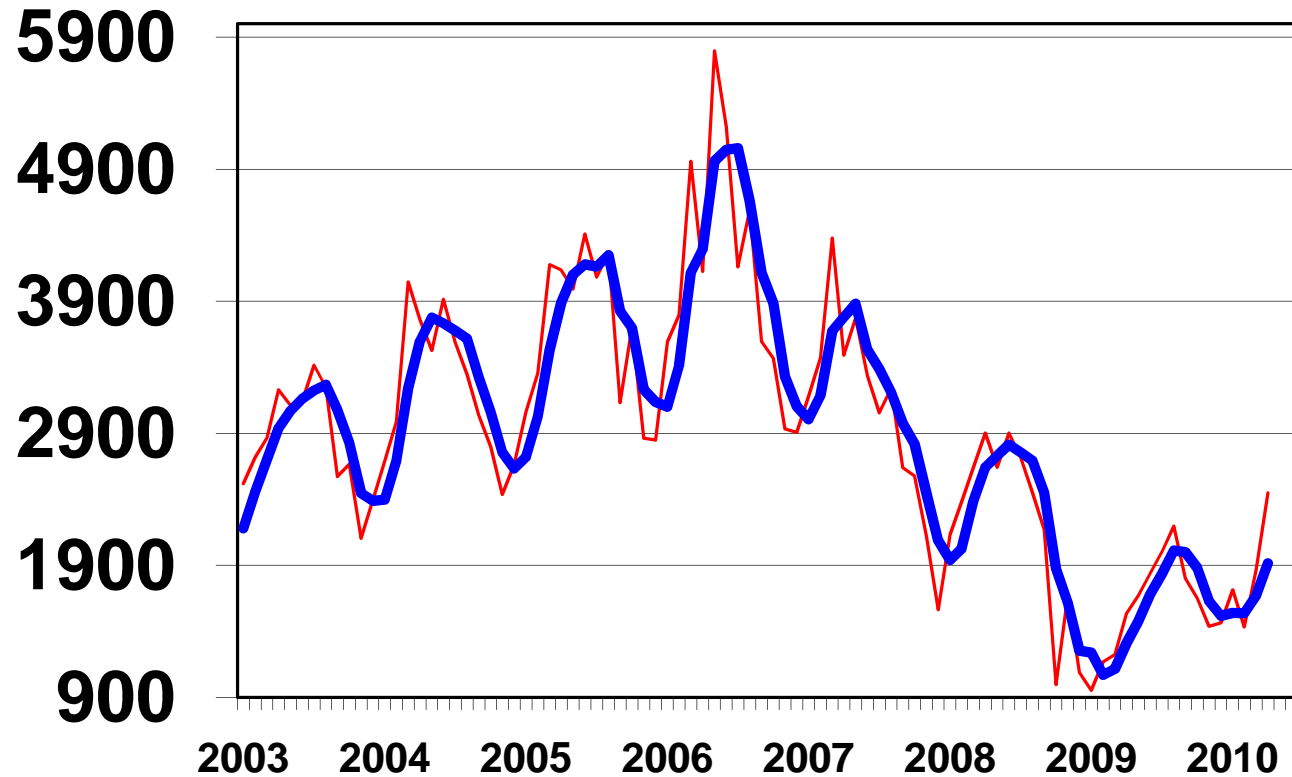
After Long Decline, New Single-Family Construction Begins Slow Turn



Existing Home Sales in Houston: 2003-2010



Single-Family Permits Issued: Houston 2003-2009

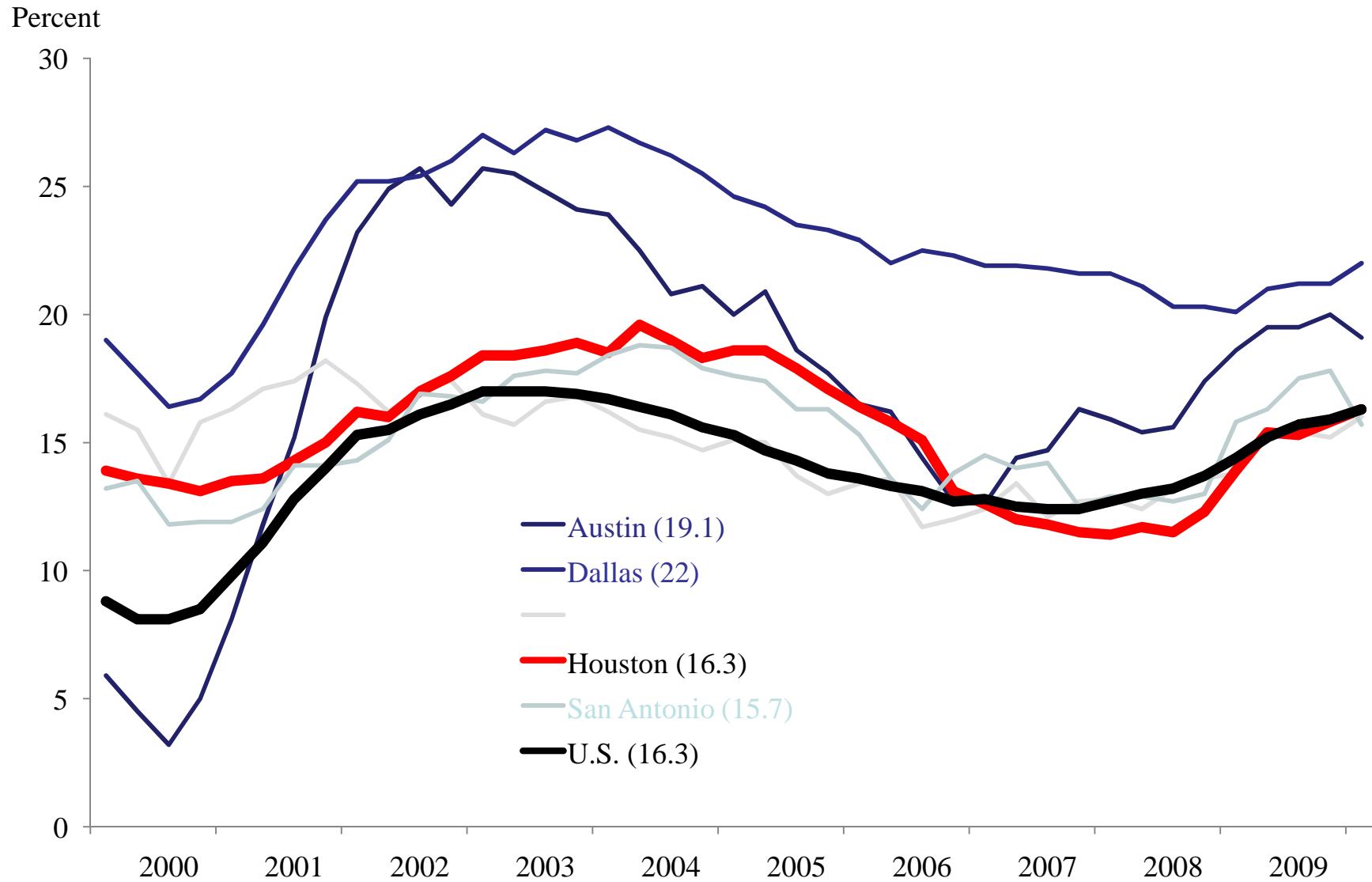


— Monthly Permits — Moving Average

Source: Census and TAMU Real Estate Center

***Commercial Real Estate Hitting Bottom?
Upturn Unlikely in 2010***

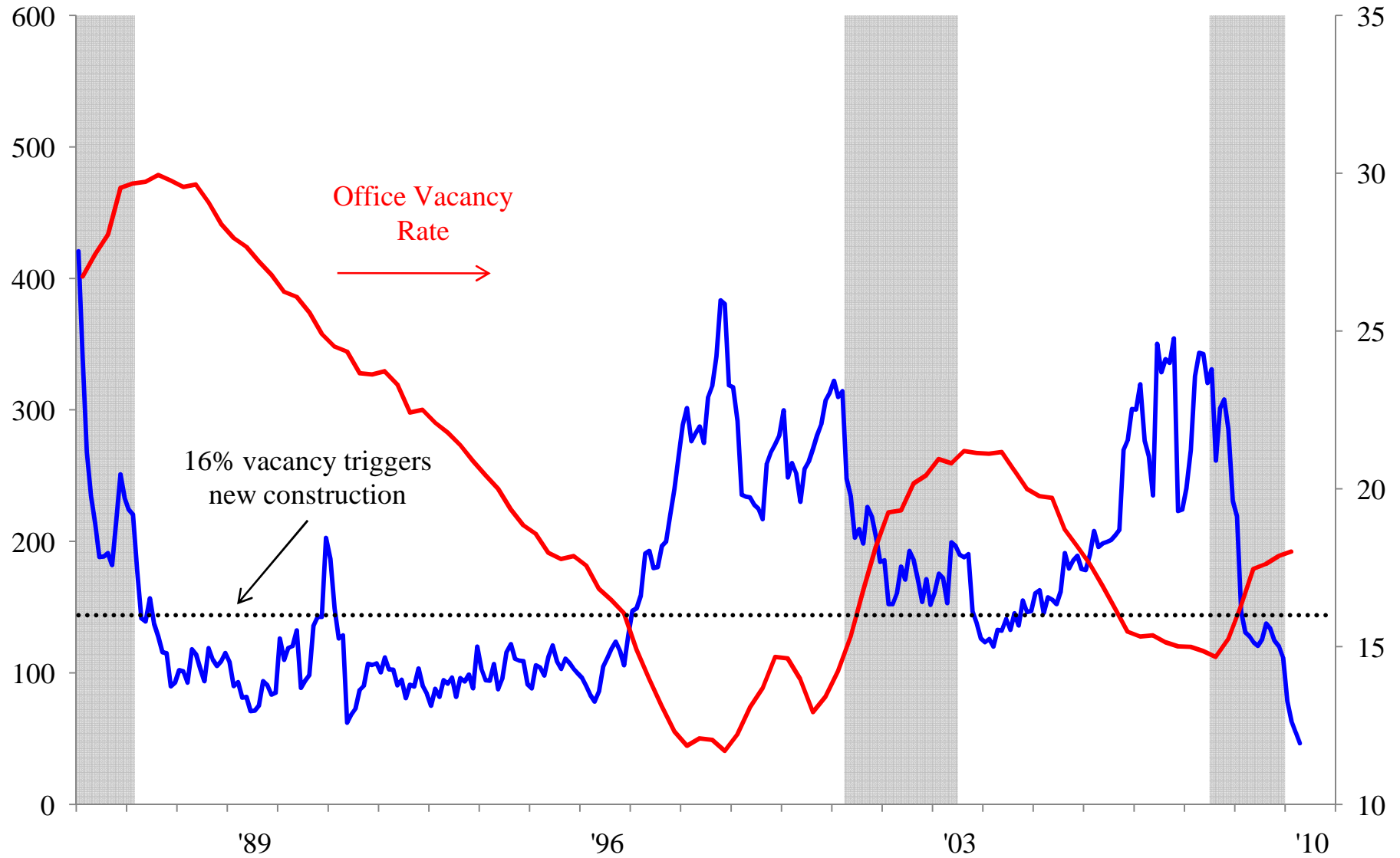
Office Vacancy Rates Flattening Out



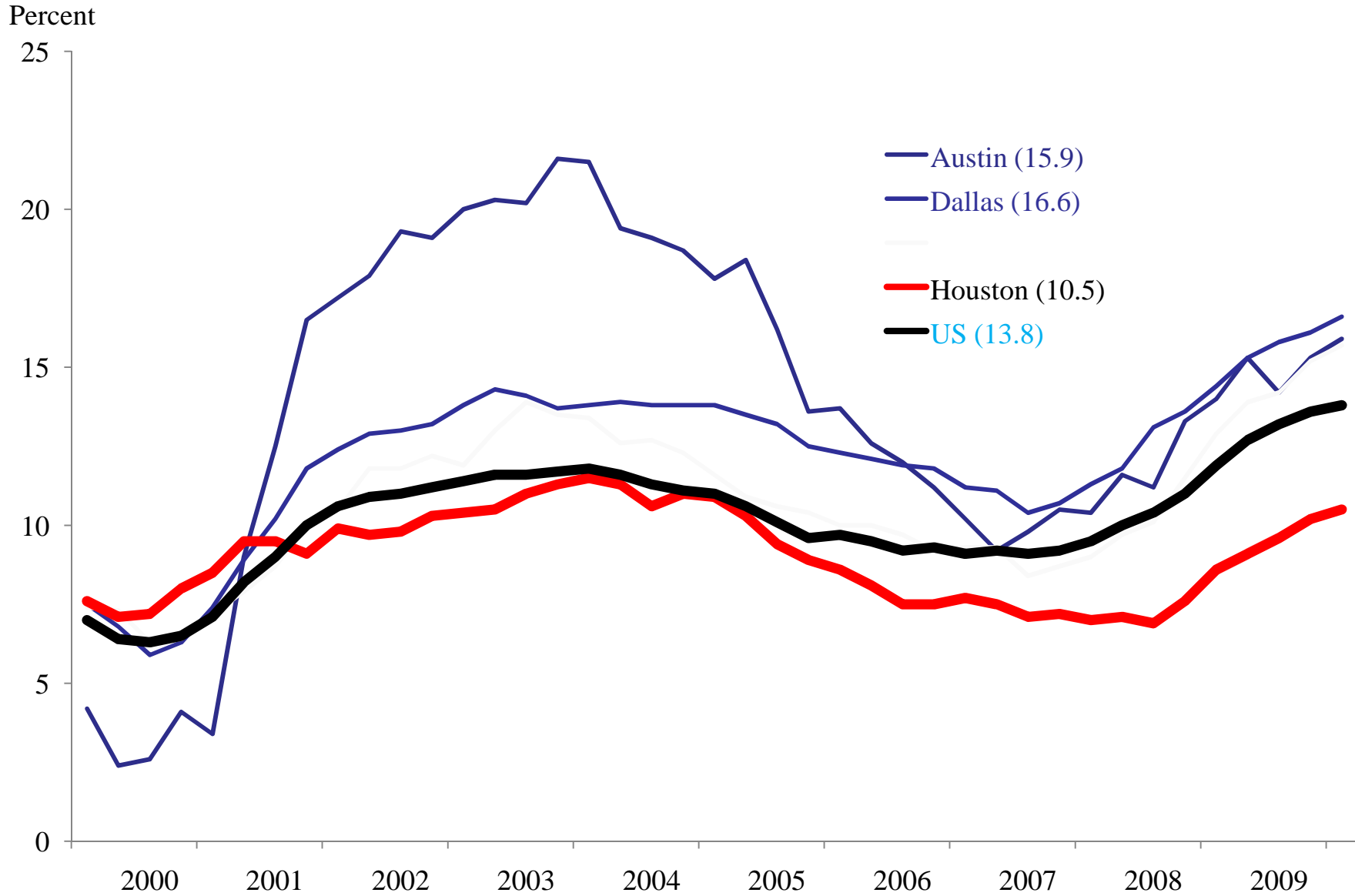
Office Construction Responds to Vacancy Rate

Real, Millions \$,
5MMA

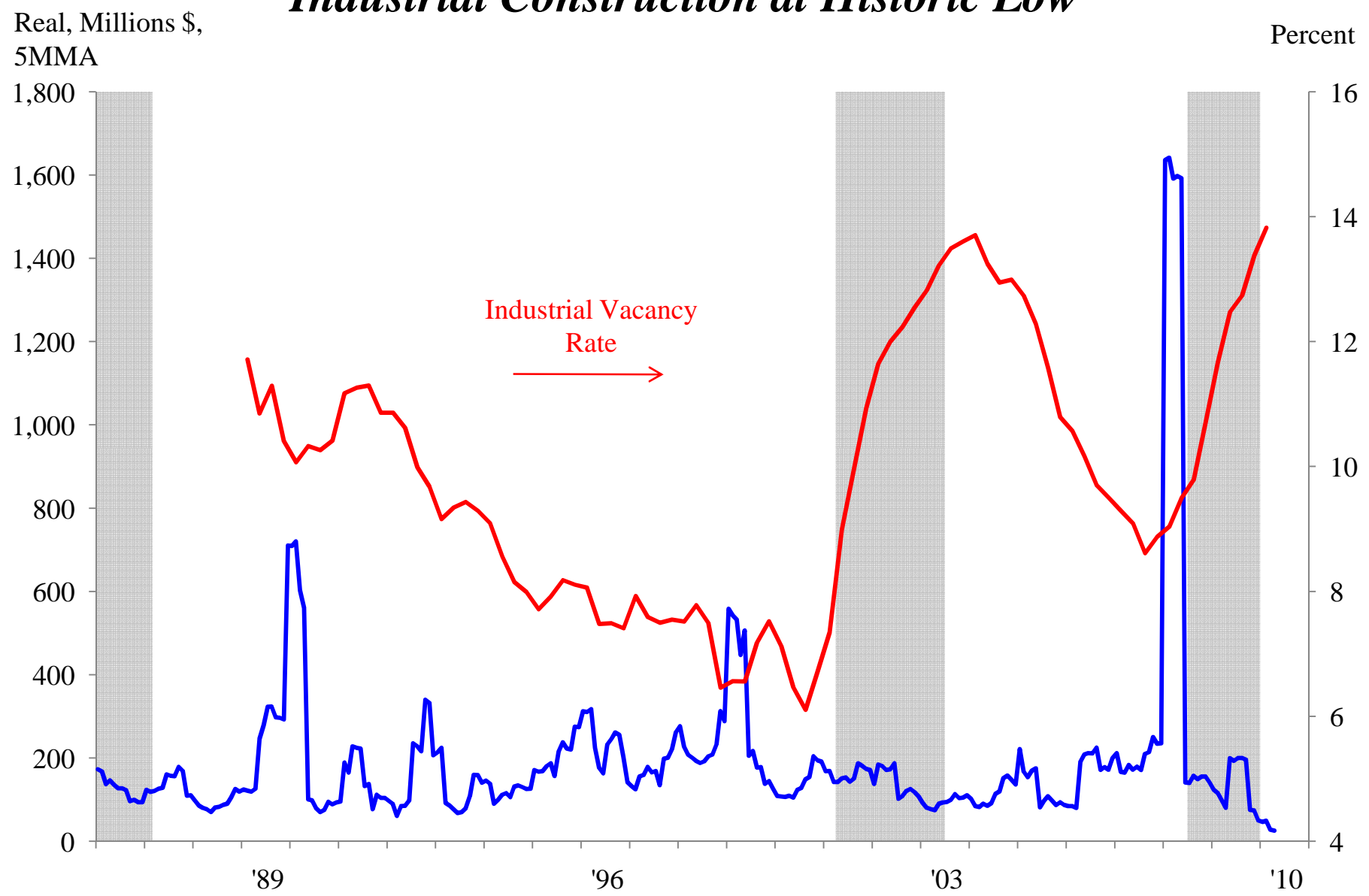
Percent



Industrial Vacancy Rates High and Rising

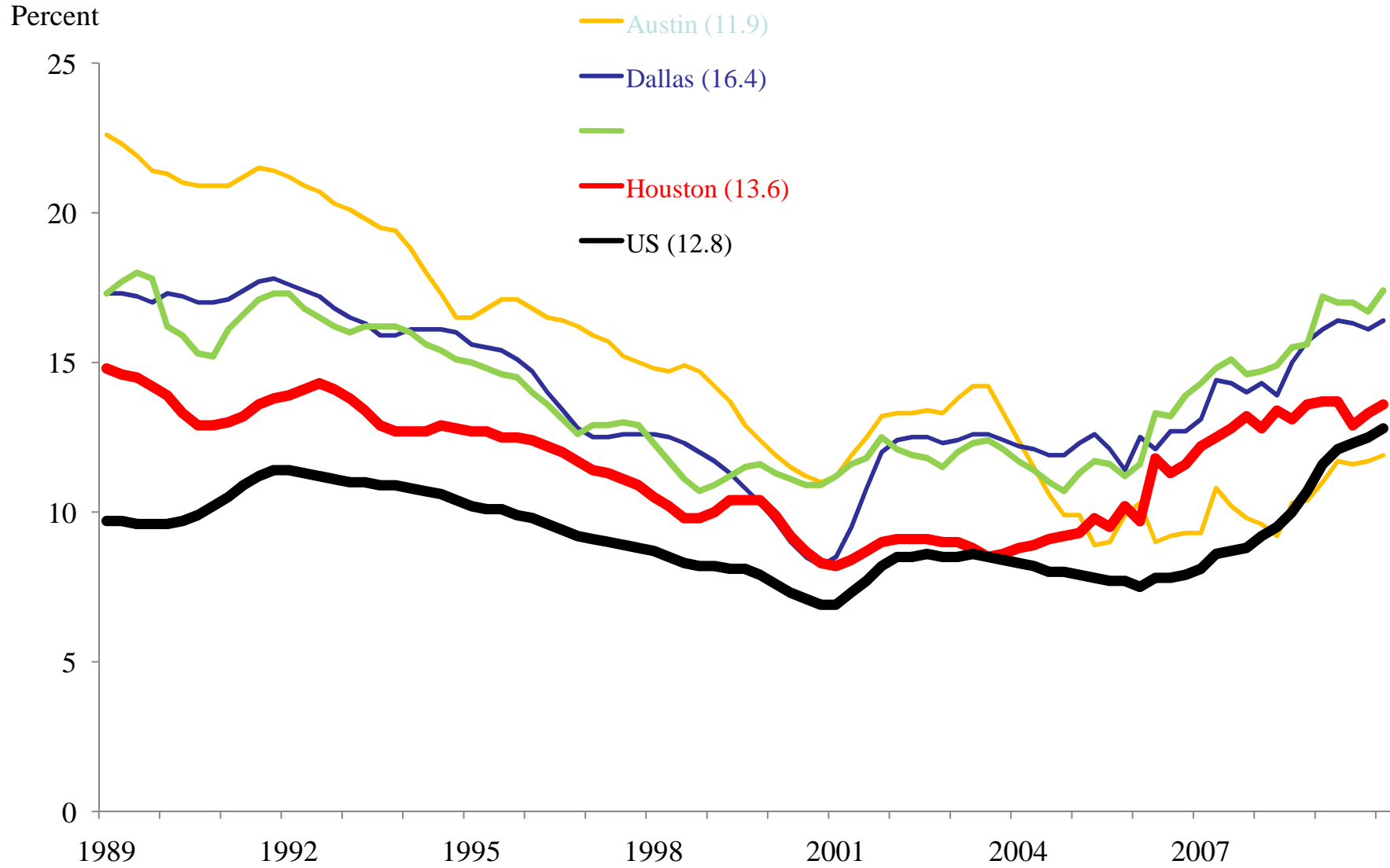


Industrial Construction at Historic Low



Note: \$7 billion refinery project included from contract values in January 2008.

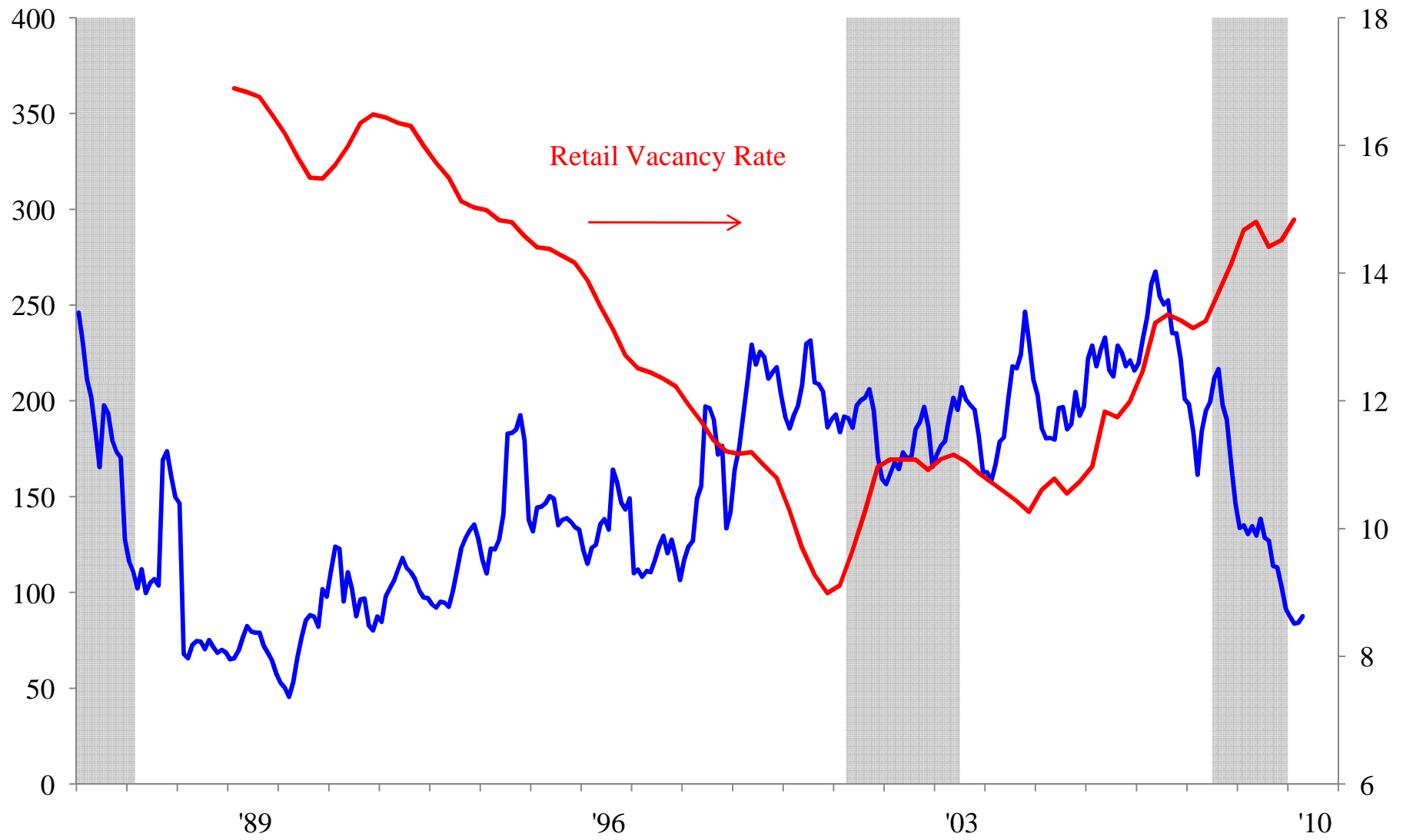
Retail Vacancy Rates Flattening Out at High Levels



Retail Construction Activity Continues to Fall Sharply

Real, Millions \$,
5MMA

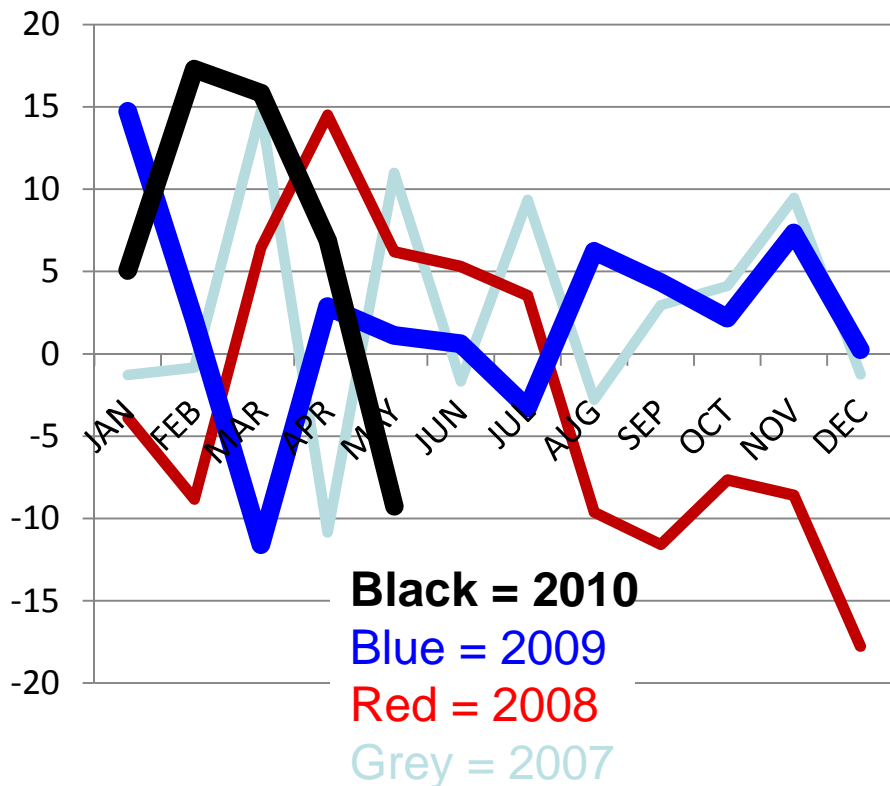
Percent



Consumer Key to Recovery

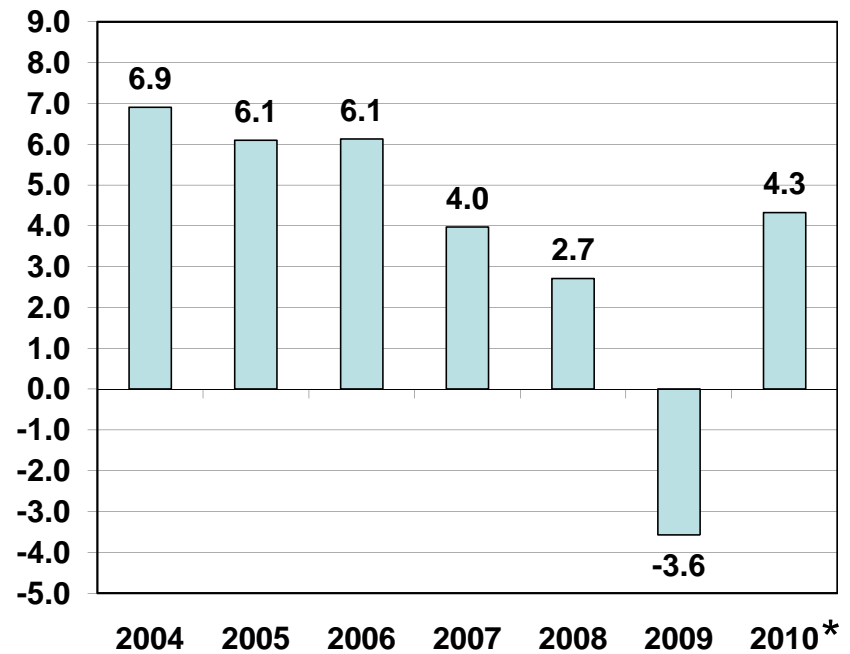
Retail sales, ex autos and gasoline 2004-2010

Monthly change at annual rates



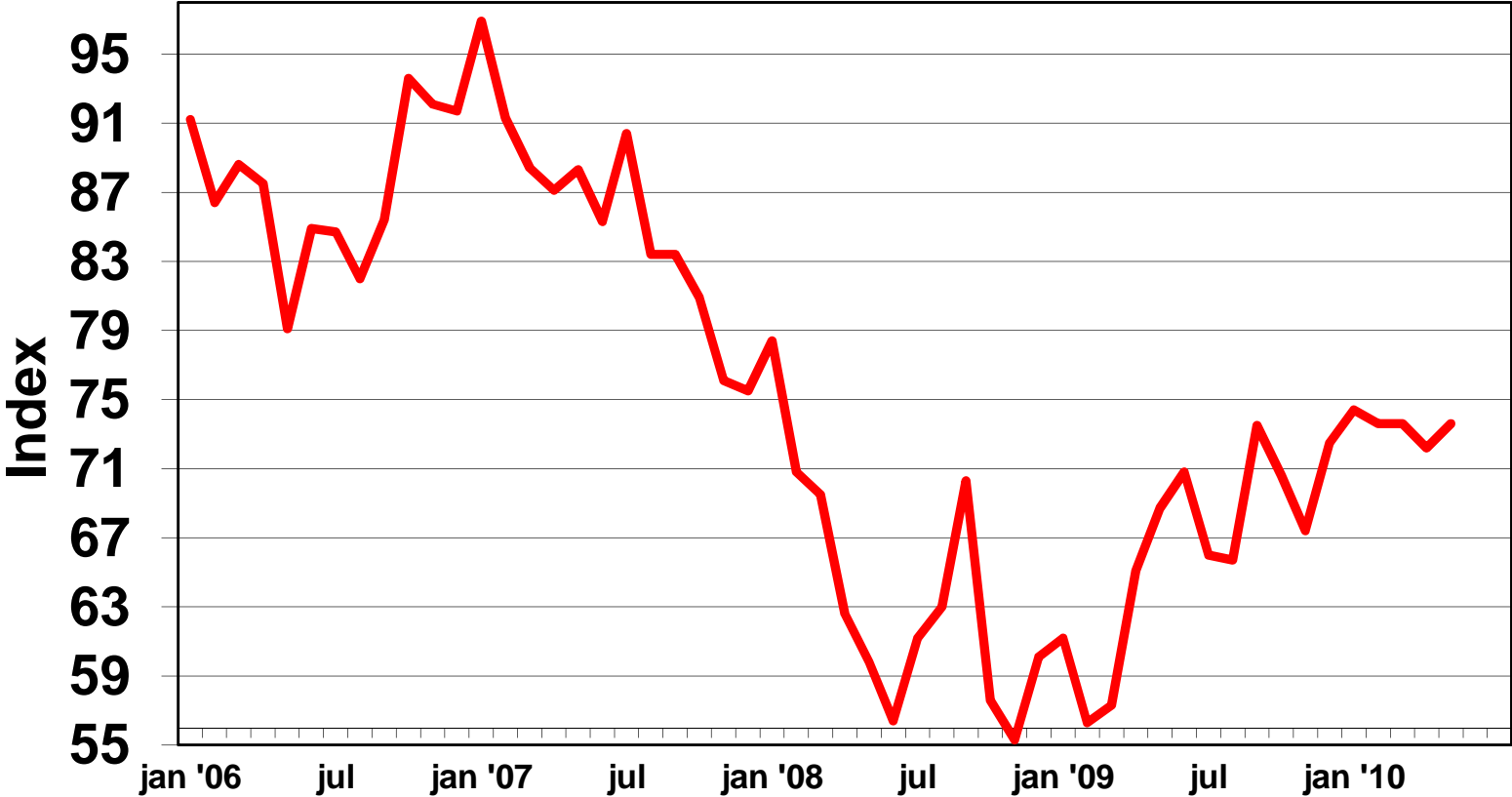
Seasonally adjusted data

12-month changes*

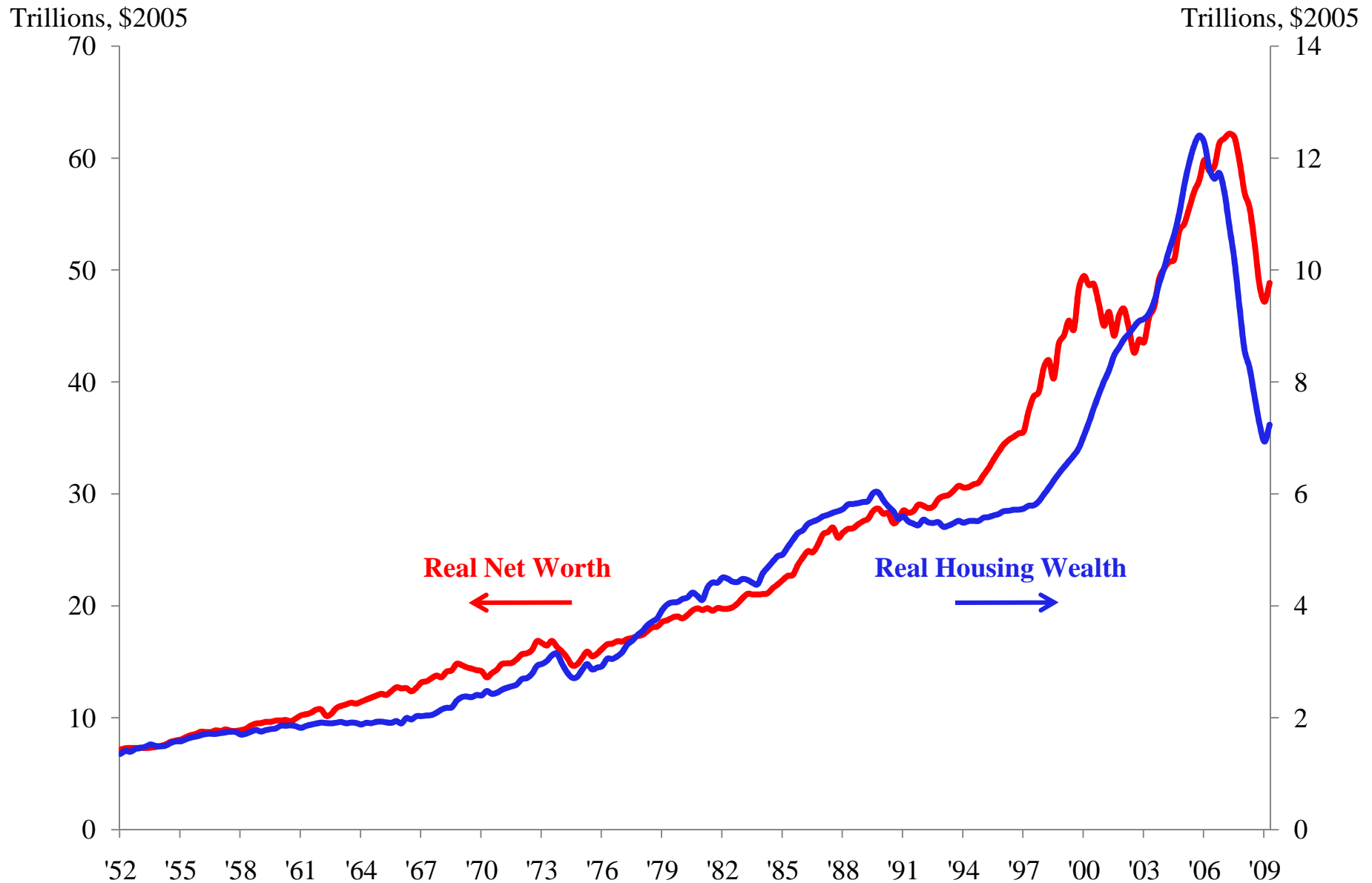


* May to May

University of Michigan Consumer Sentiment Survey



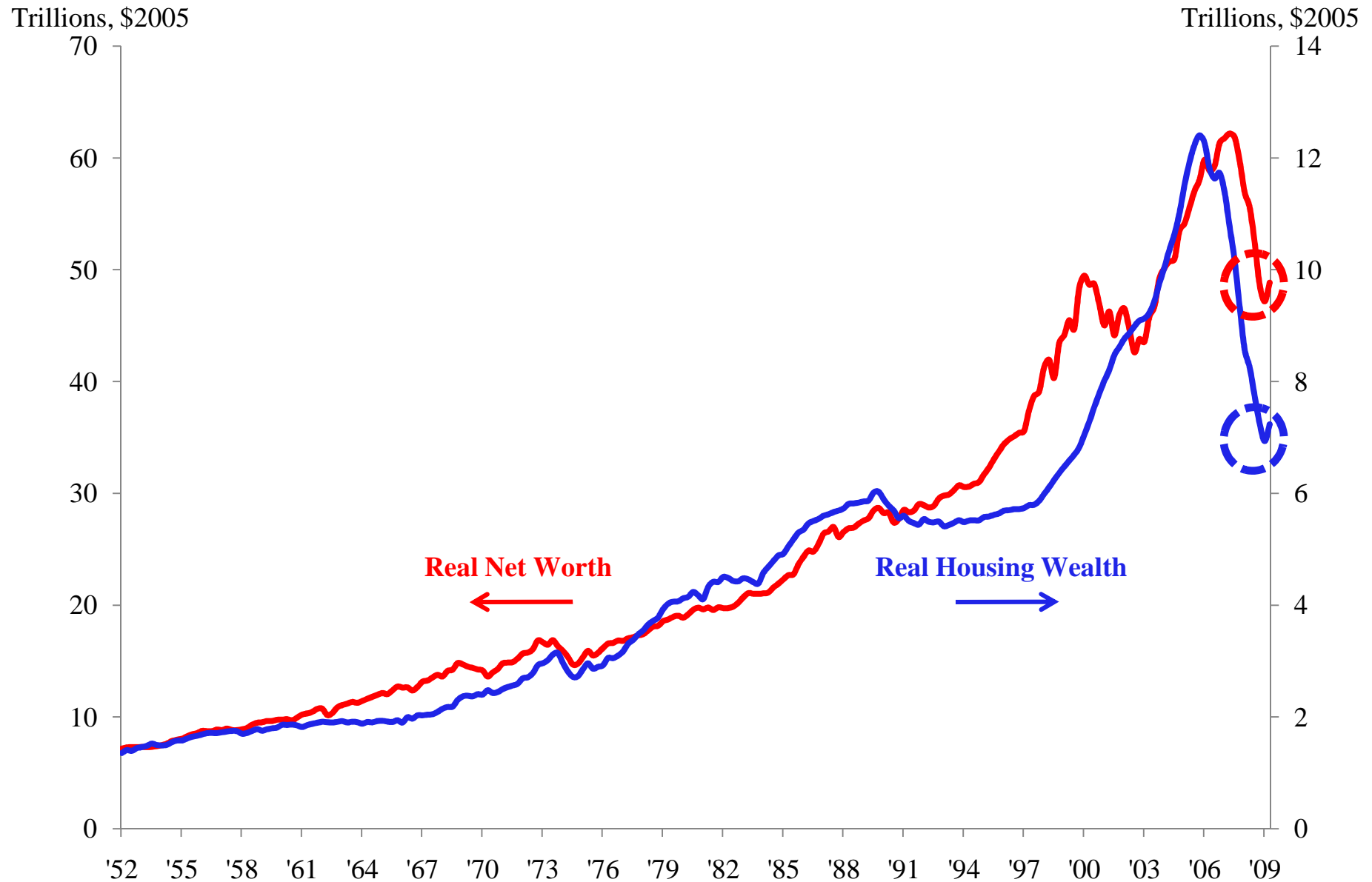
Overall, stock, and housing wealth drop



Episodes of declining real net worth

		<u>% decline net worth</u>	<u>home equity</u>	<u>stocks and mutual funds</u>
	1968:4-70:2	-8.1	+7.7	-41.0
Episodes of declining stock <u>and</u> housing wealth	1973:1-74:3	-11.9	-8.3	-54.9
	1989:4-90:3	-4.5	-5.6	-19.4
	2000:1-02:3	-13.9	+27.6	-51.1
	2007:2-09:1	-24.1	-36.6	-45.8

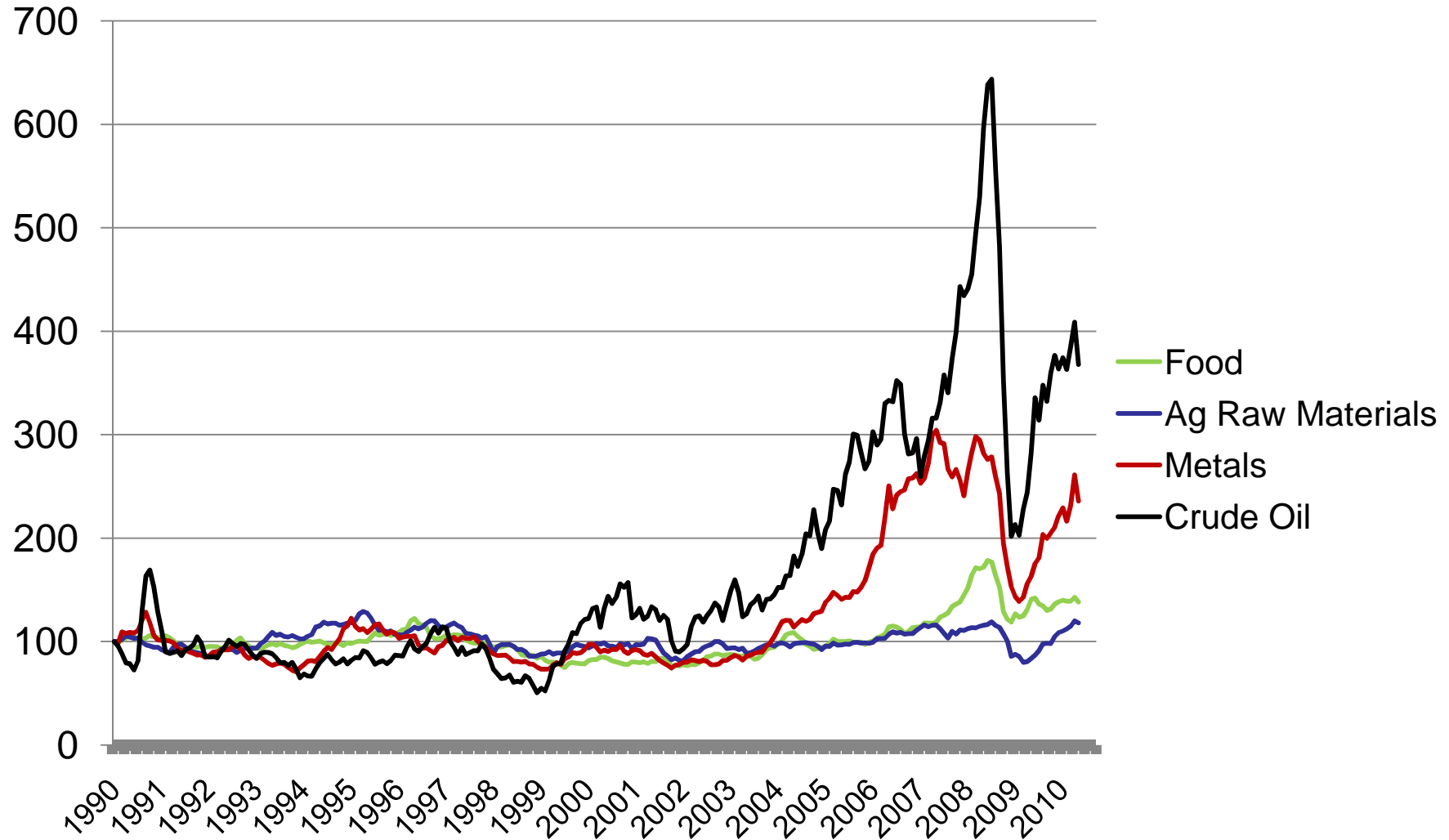
Good news: stock and housing wealth stabilize



	Gross Product (Annual %)		Unemployment Rate (%)		Industrial Production (% Annual Rate)	
	Blue Chip	Philly Fed	Blue Chip	Philly Fed	Blue Chip	Philly Fed
2010	3.2	3.3	9.6	9.6	5.1	5.2
2011	3.1	3.1	8.9	8.9	4.6	4.5
2010 Q2	3.2	3.3	9.6	9.8	5.0	5.1
2010 Q3	2.9	3.3	9.4	9.6	4.7	5.2
2010 Q4	3.1	2.8	9.4	9.5	4.8	4.4
2011 Q1	3.0	2.7	9.2	9.3	4.5	4.4
2011 Q2	3.1	3.2	9.0	9.1	4.4	4.1

The global economy drove the
commodity boom ... the bust ...
and now the recovery?

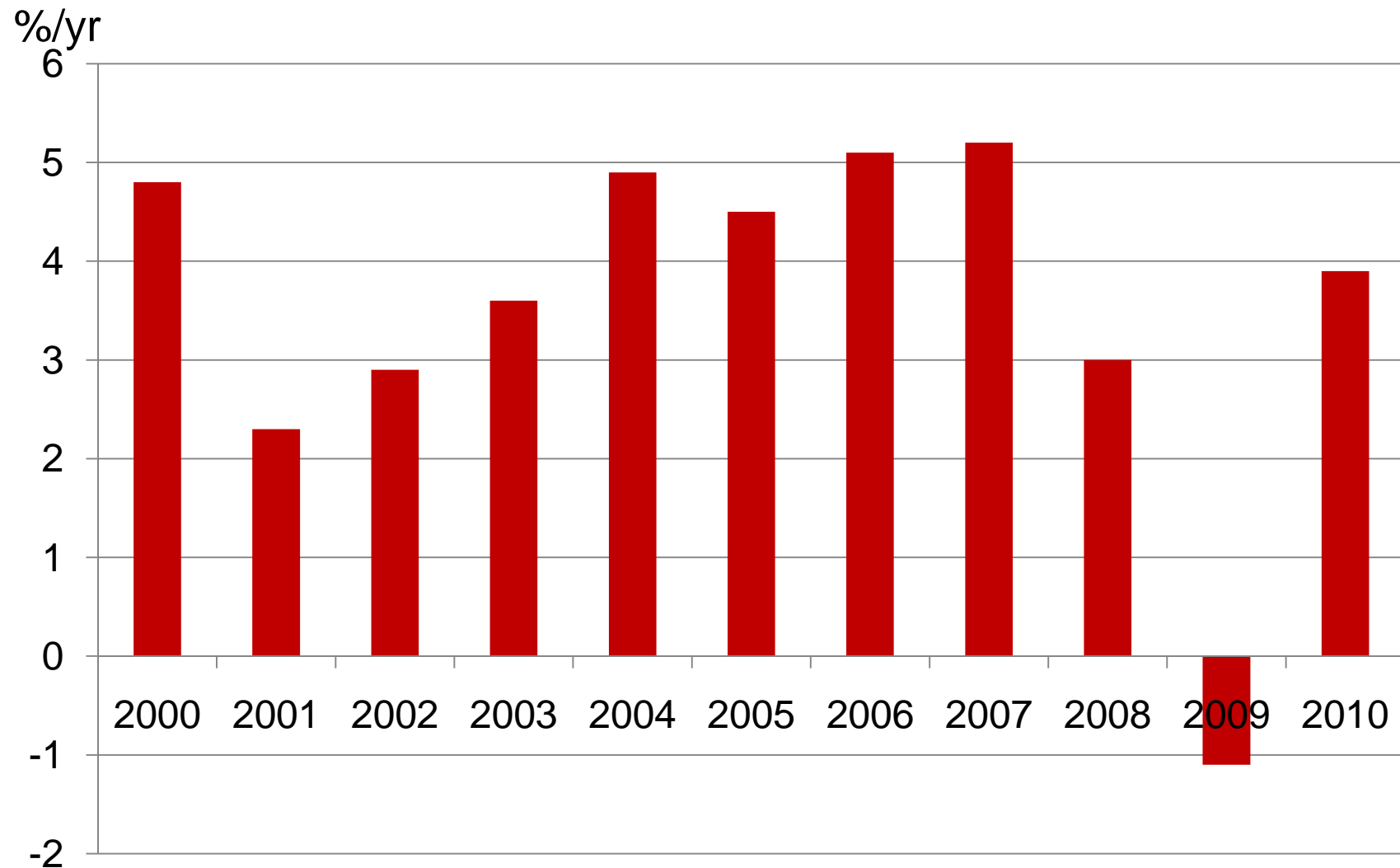
Oil Part of a Wider Commodity Boom



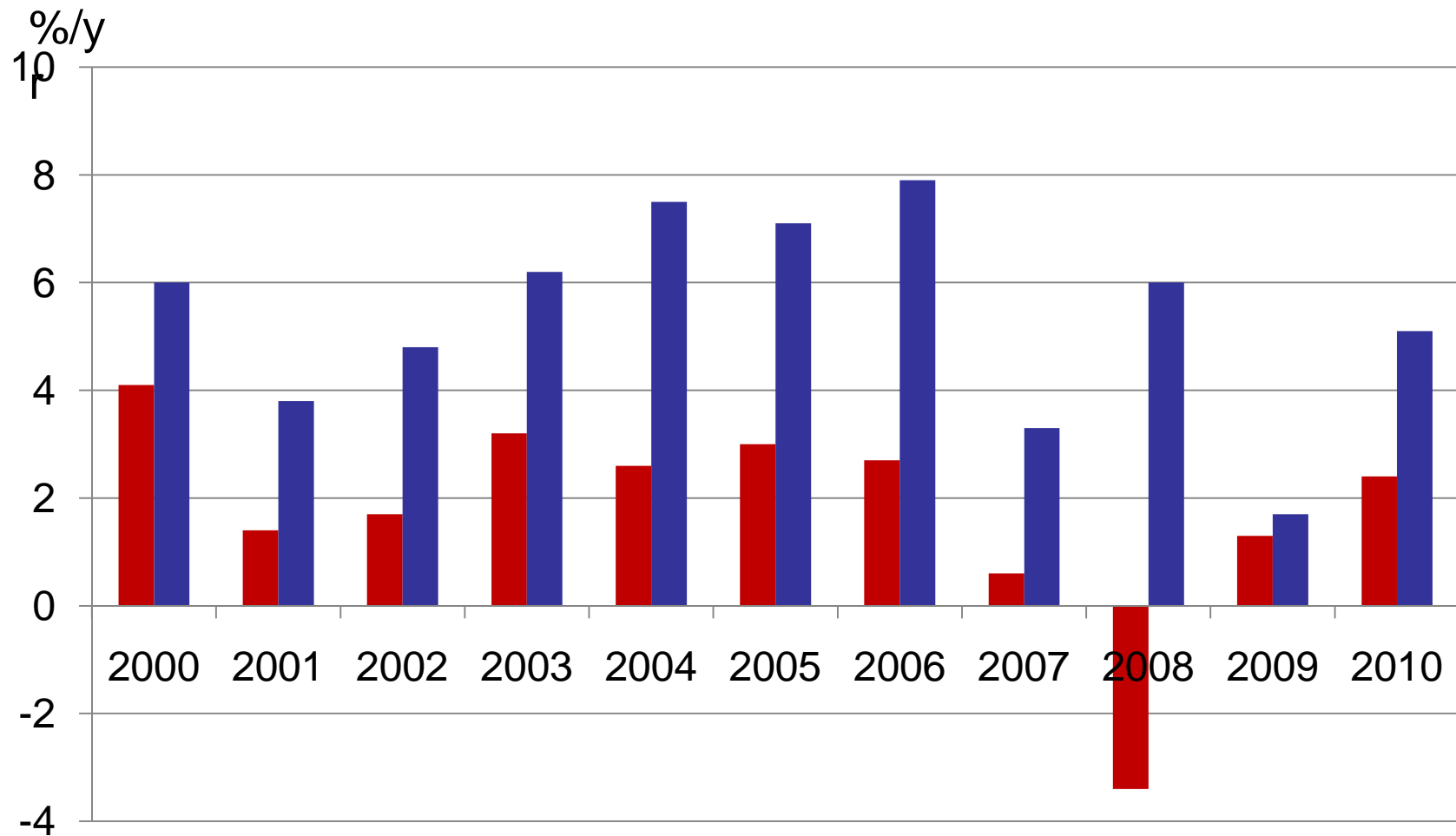
What Was Behind the Commodity Boom?

- *Primarily, it is the growth of the developing world.* From 2002-2007, the IMF estimates they account for 90% of the growth in consumption of oil, 90% of metals' growth, and 80% of food.
- *Dollar depreciation* raises the purchasing power of other currencies, and stimulates the demand for commodities priced in dollars. Raises the price to US consumers.
- *Low U.S. interest rates* (other things equal) can raise the price of commodities by lowering the price of storage, encouraging speculation.

Global Growth Slows in 2008, Falls Into Recession in 2009, Back on Track by 2010



Throughout the last decade, the developing world outperformed by wide margin



Multi-Speed Recovery Is Led By the Developing World

	2008	2009	2010	2011
Advanced Economies	0.5	-3.1	2.6	2.6
BRICs	7.9	5.1	8.7	8.1
World	2.8	-0.7	4.5	4.4

Consensus Economics, May 2010

Could Emerging Country Growth Really Decouple from the US, Europe and Japan?

- Strong internal growth dynamics
- A rising share of the global economy
- More resilient policy framework
- But spillovers from the developed world still a factor – accounting for maybe 35 percent of growth for emerging economies, 45 percent for more commodity dependent

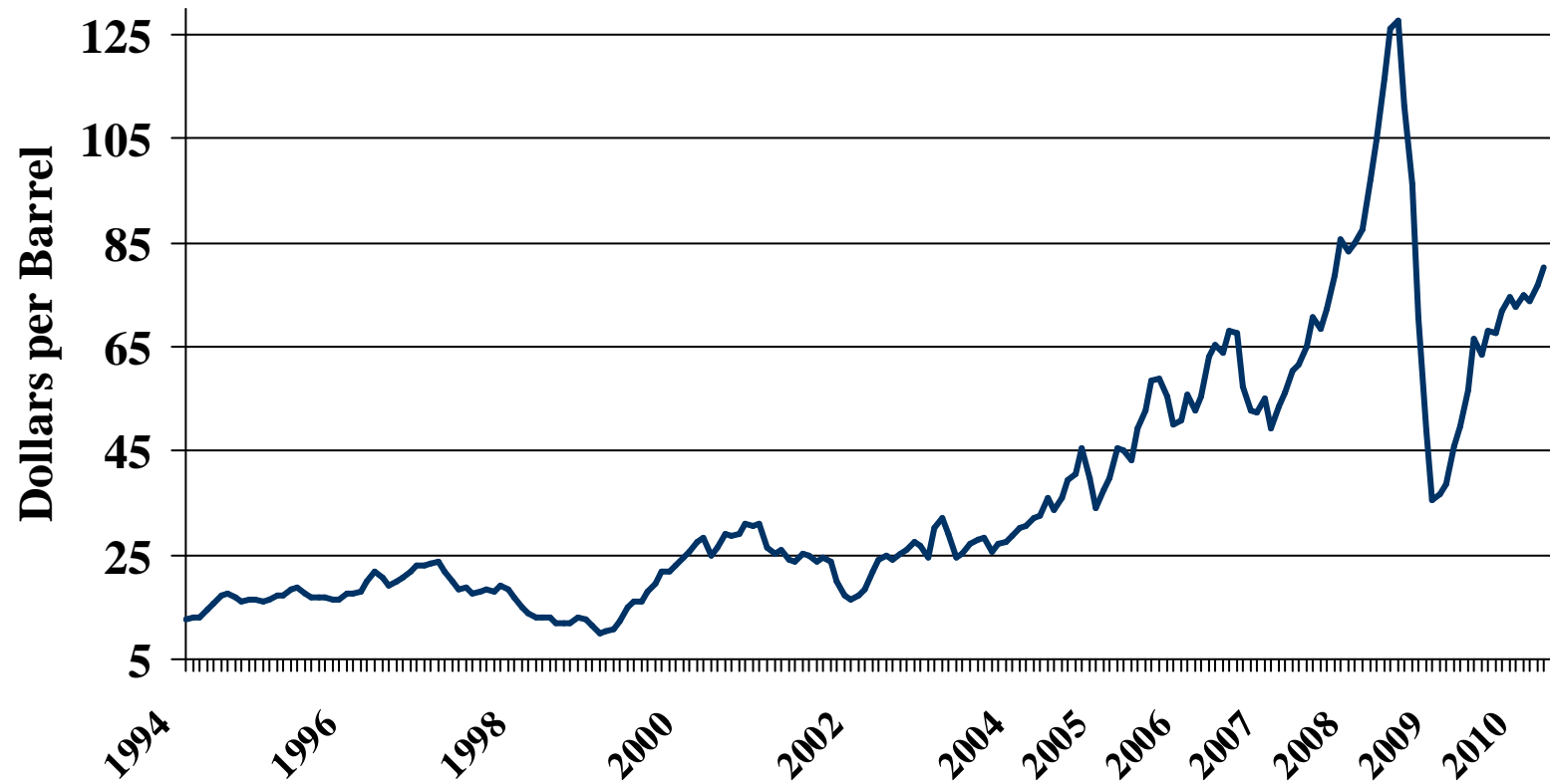
The World Is Doing Better than You Think: Forecast Growth Rates

	2008	2009	2010	2011
USA	.4	-2.4	3.3	3.1
Japan	-1.2	-5.2	2.4	1.7
Euroland	0.5	-4.0	1.1	1.5
UK	0.5	-4.9	1.3	2.3
China	9.6	8.7	10.3	9.2
India	6.7	6.6	8.2	8.3
Brazil	5.1	-.2	5.8	4.5
Russia	5.6	-7.9	4.7	4.6

Concensus Economics, May 2010

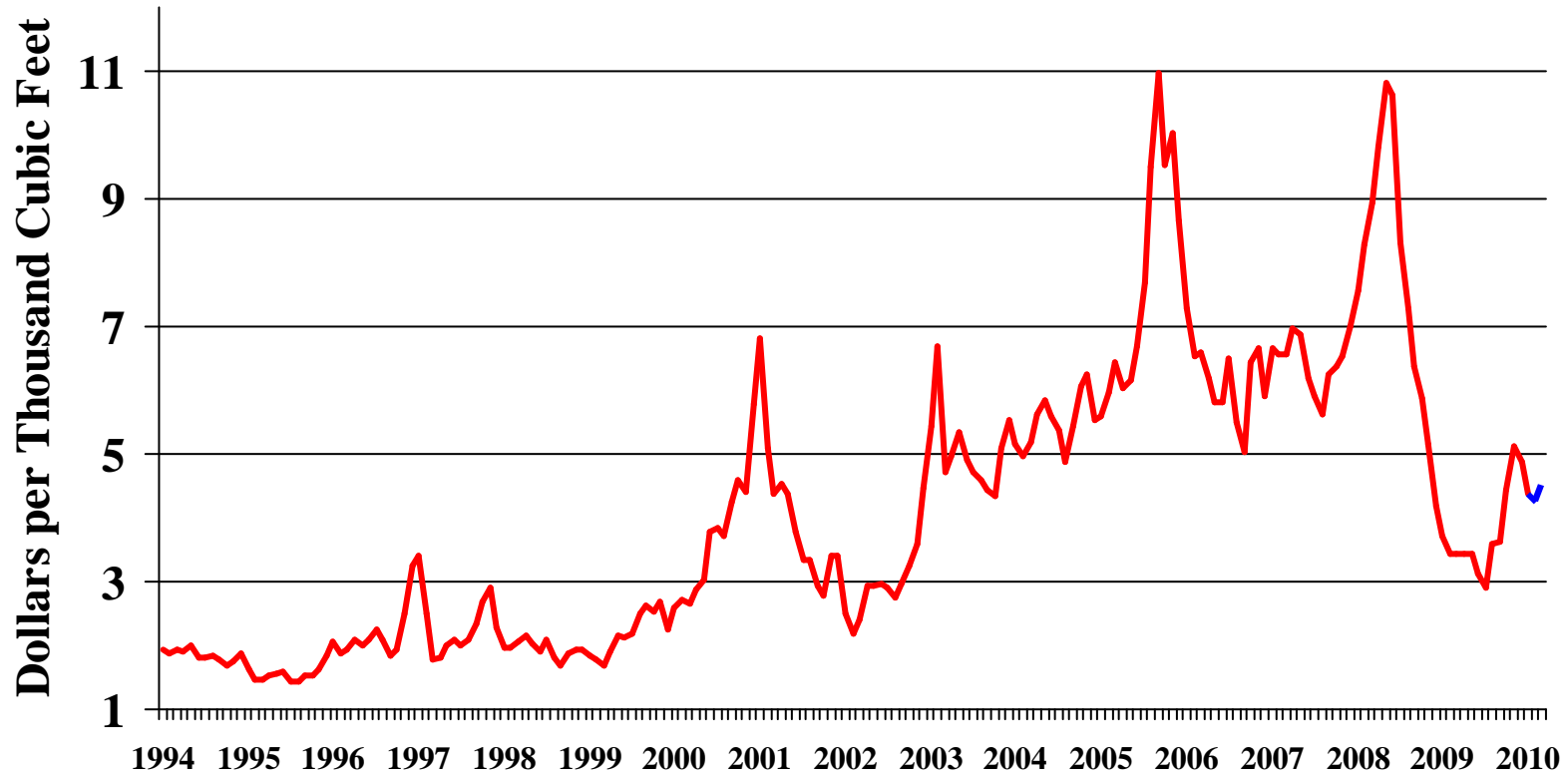
Oil and natural gas have separated
Houston from the rest of the country
for the last four years ...

Refiners' Acquisition Cost of Crude Oil 1994 to Present



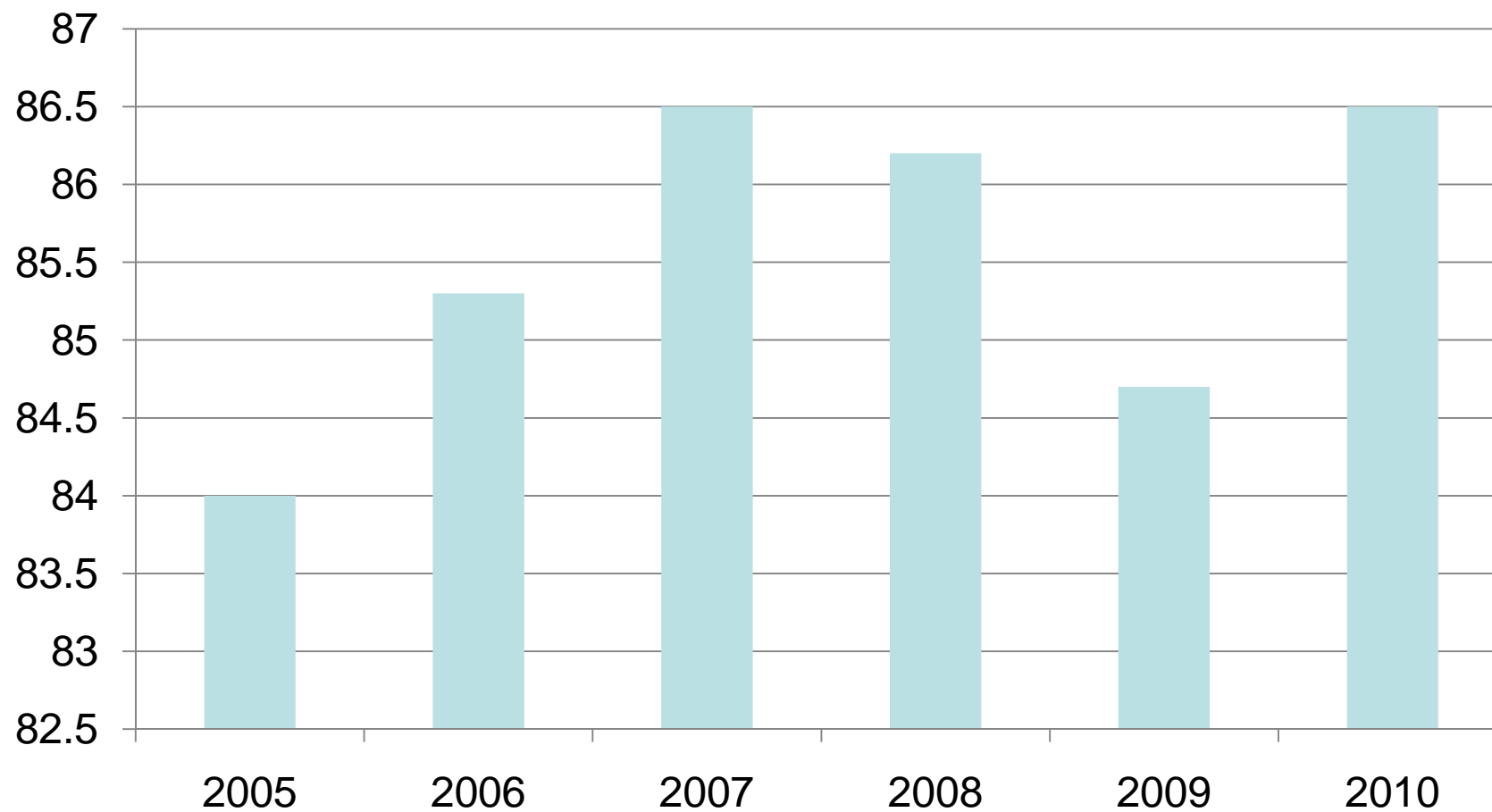
Wellhead Price of Natural Gas

1994 to Present



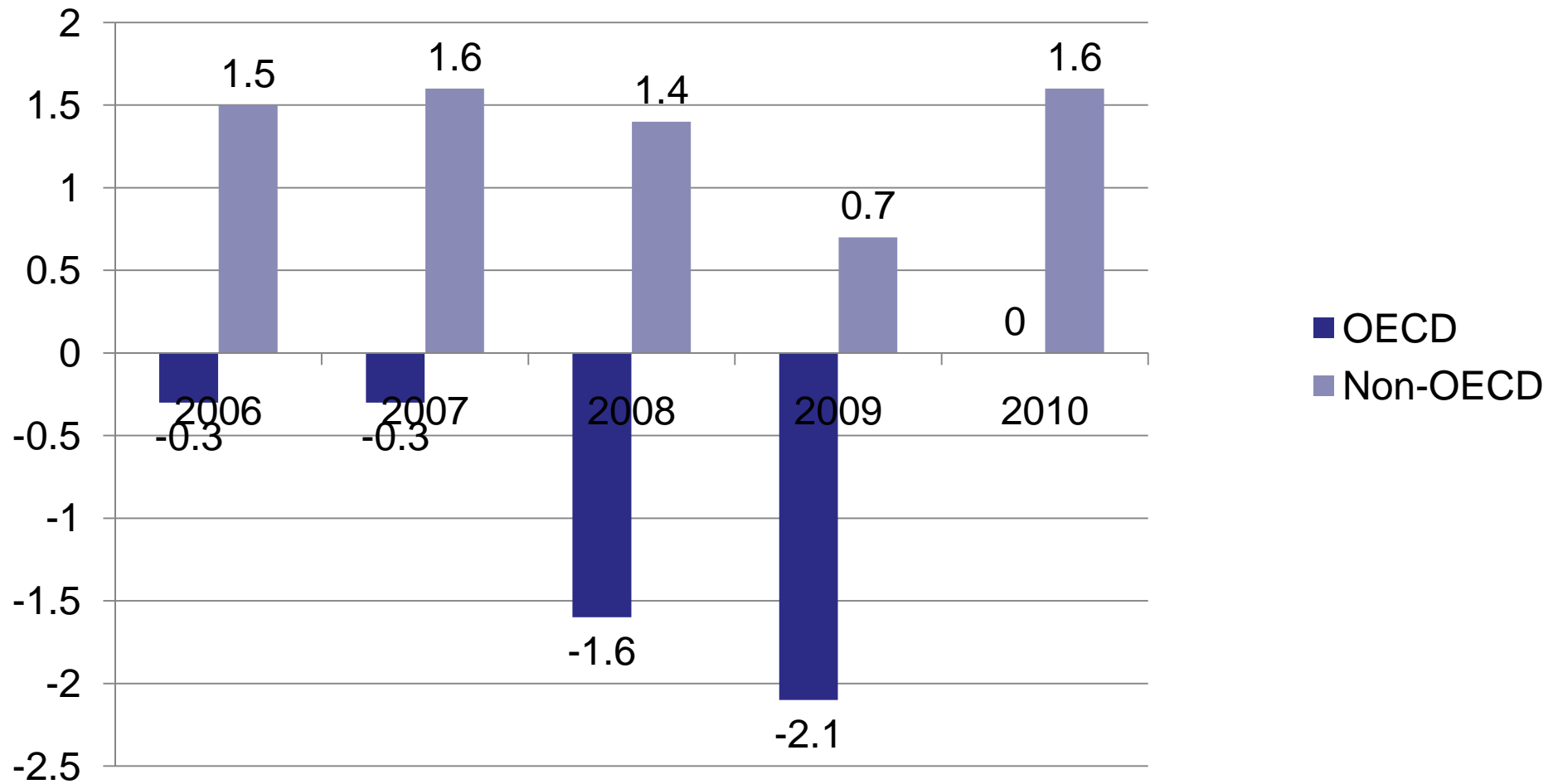
World Oil Demand Staggered Under Global Recession, Recovers in 2010

(million barrels per day)



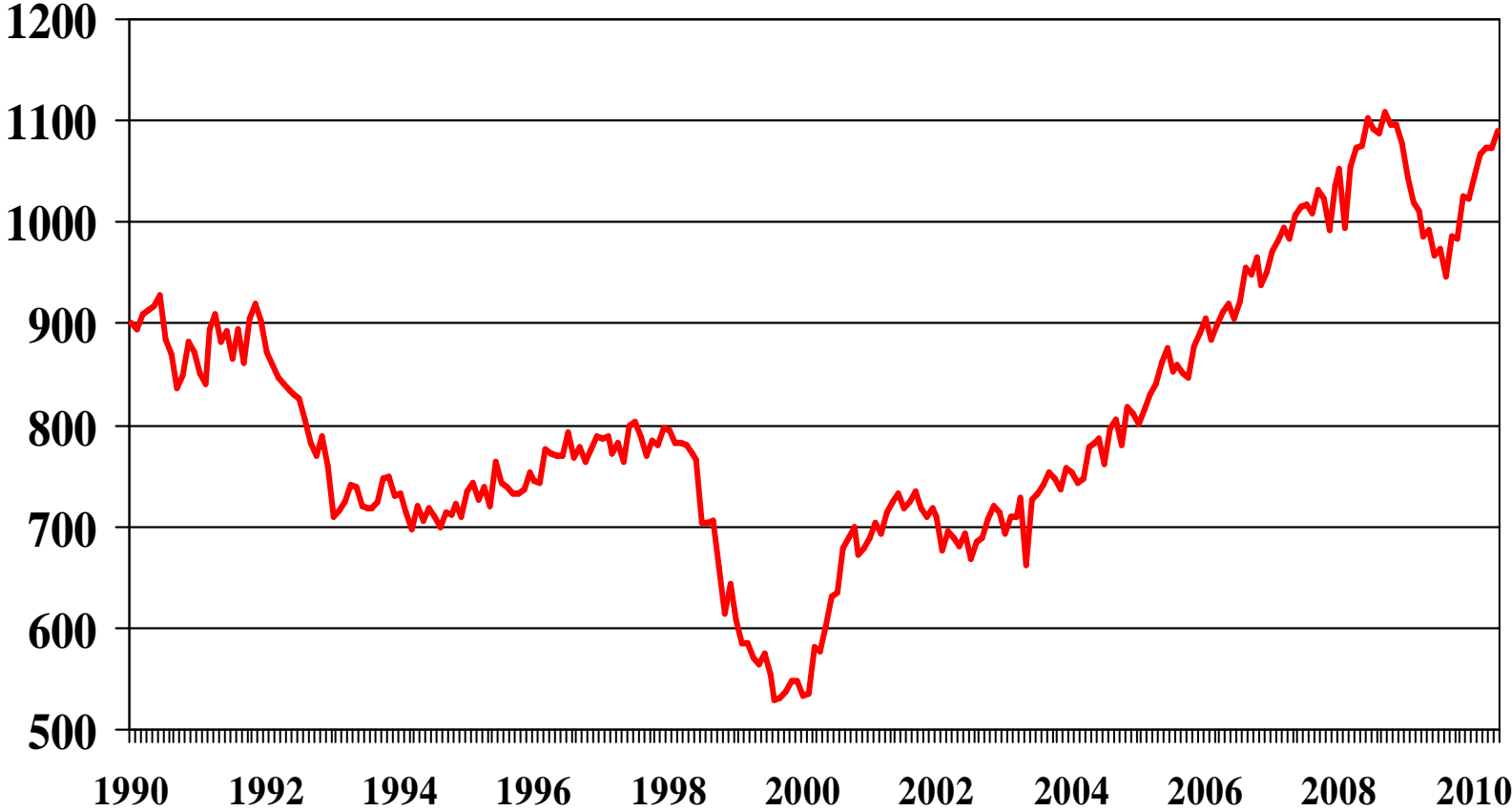
Recovery in Oil Demand Led By Asia and the Developing World in 2010

(change in million barrels per day)



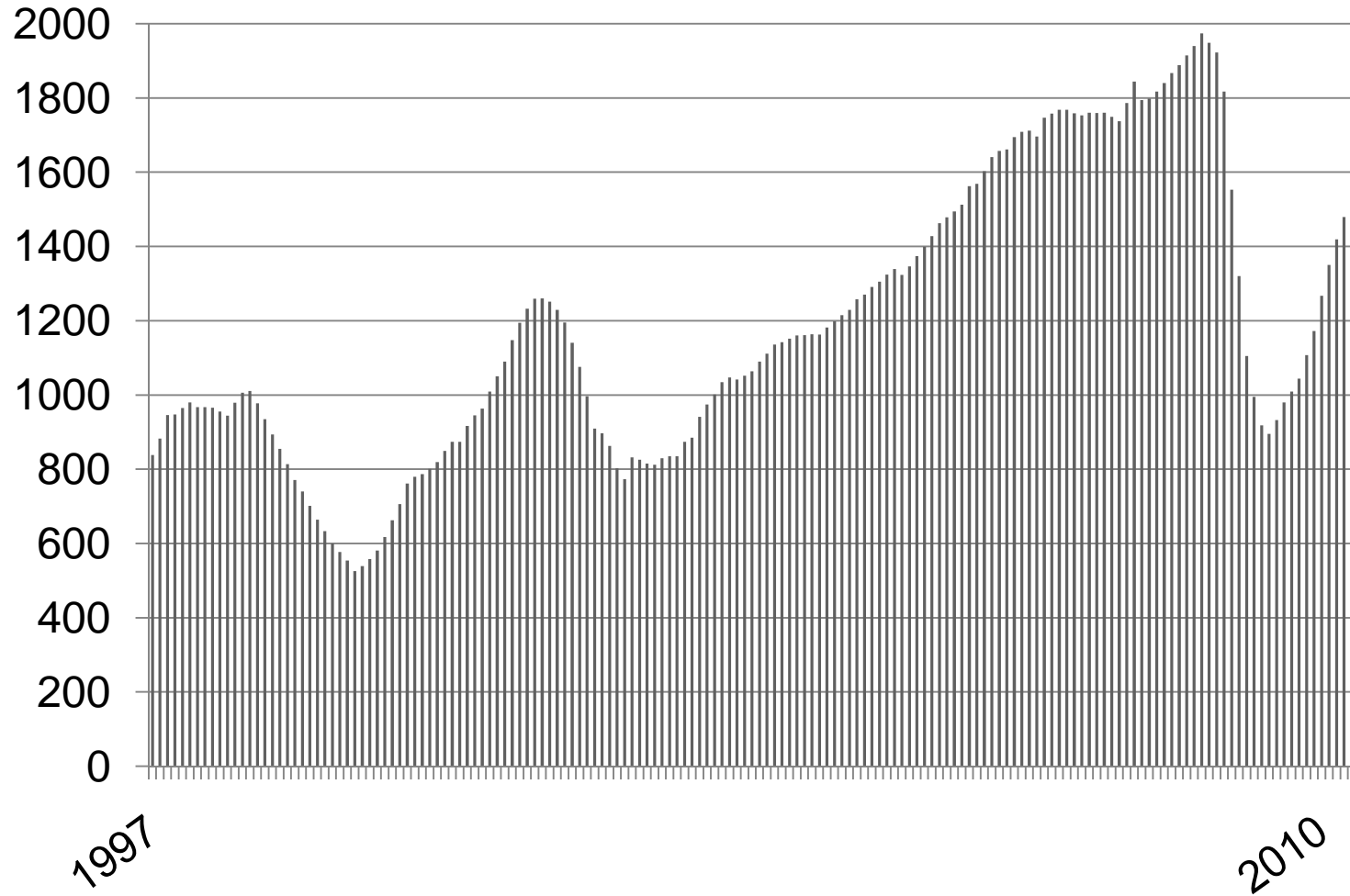
Source: International Energy Agency

International Rig Count Continues to Hold Up

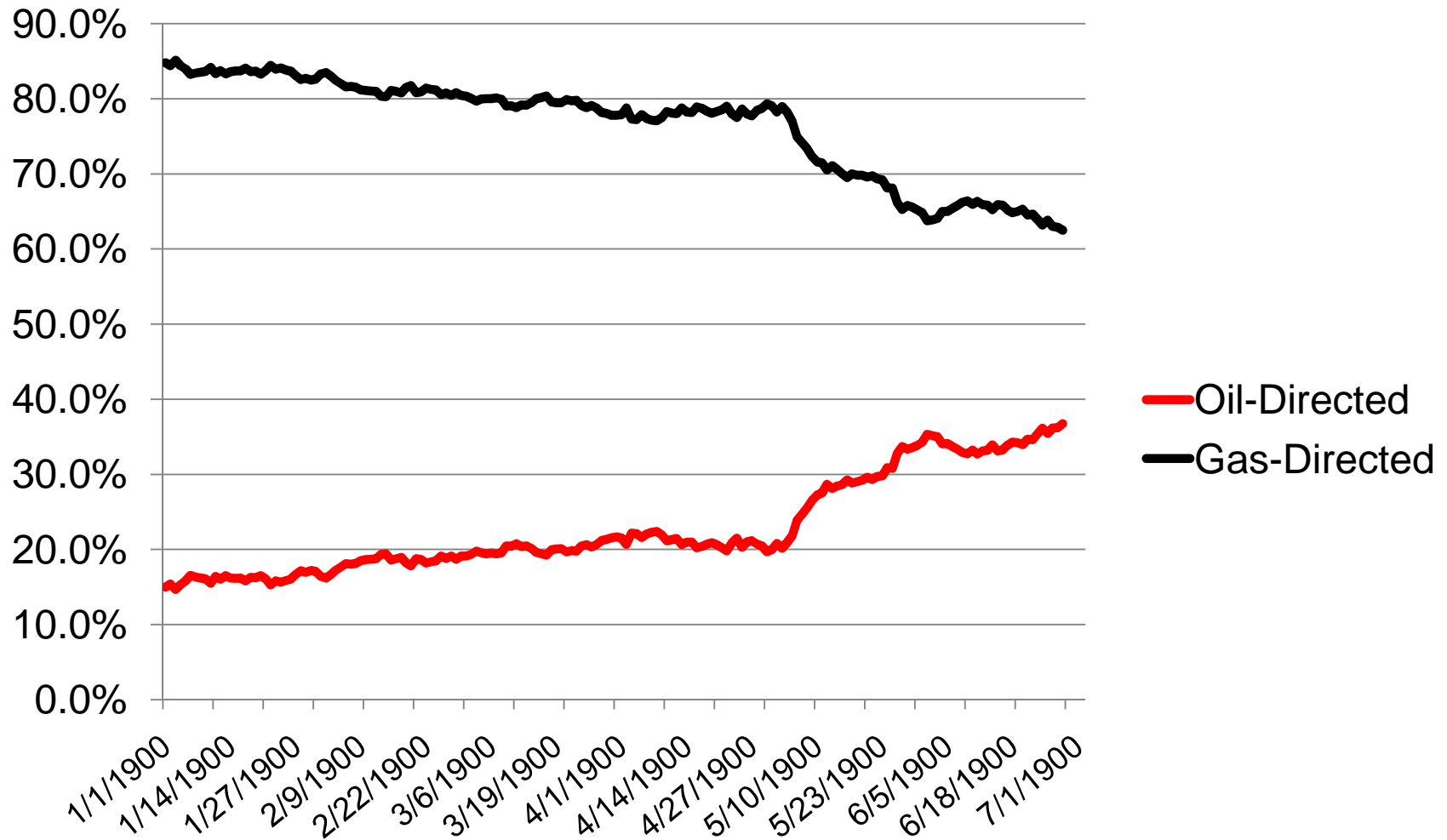


Excludes Iran and the Sudan

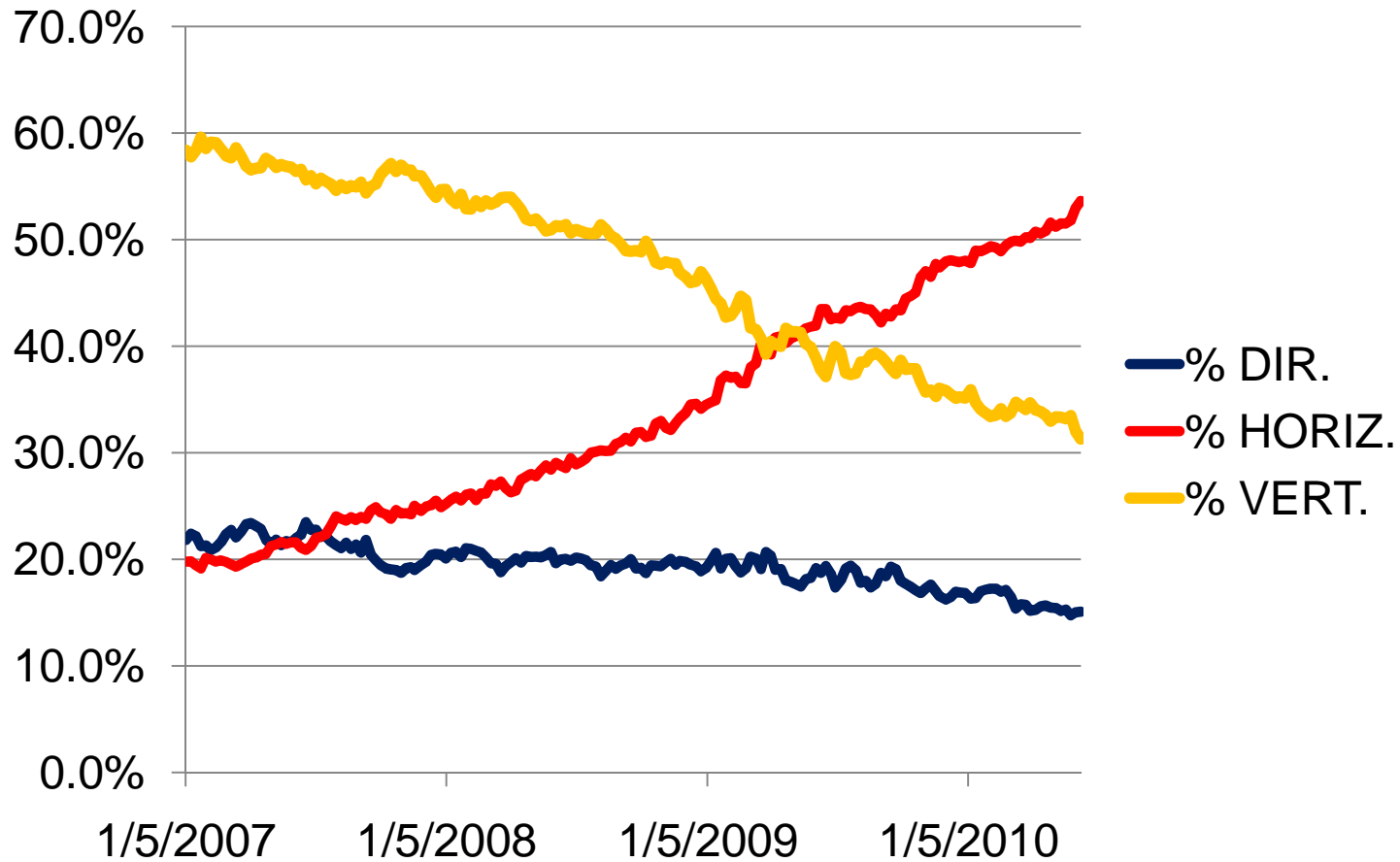
US Rig Count Plunges, Makes Weak Recovery Led by Oil



High Oil/Low Gas Price Push Drilling Toward Oil-Directed Activity

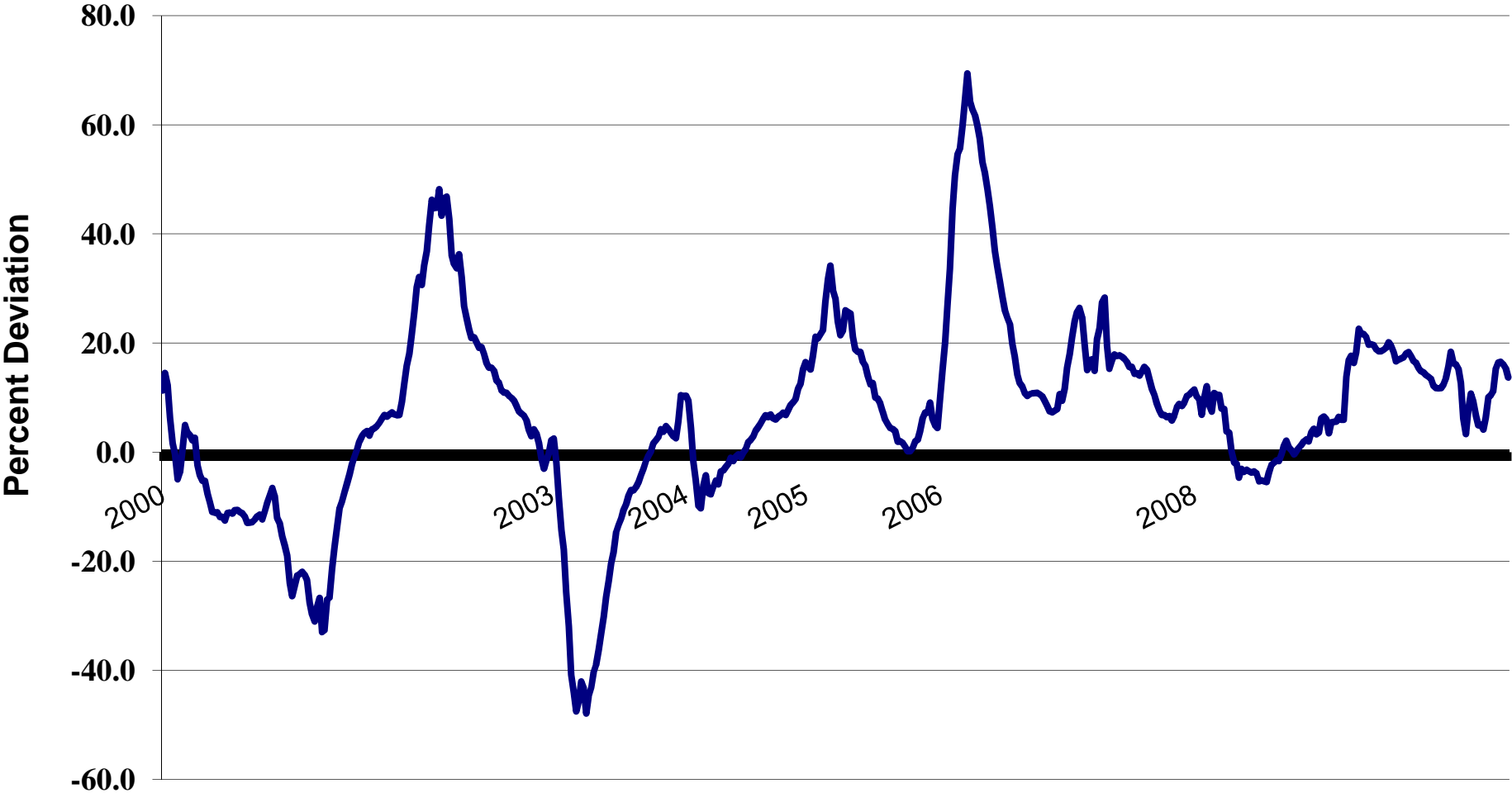


Horizontal Drilling Grows with Shale Gas, Complex Oil Projects



Natural Gas Inventories Rise After Cold Winter

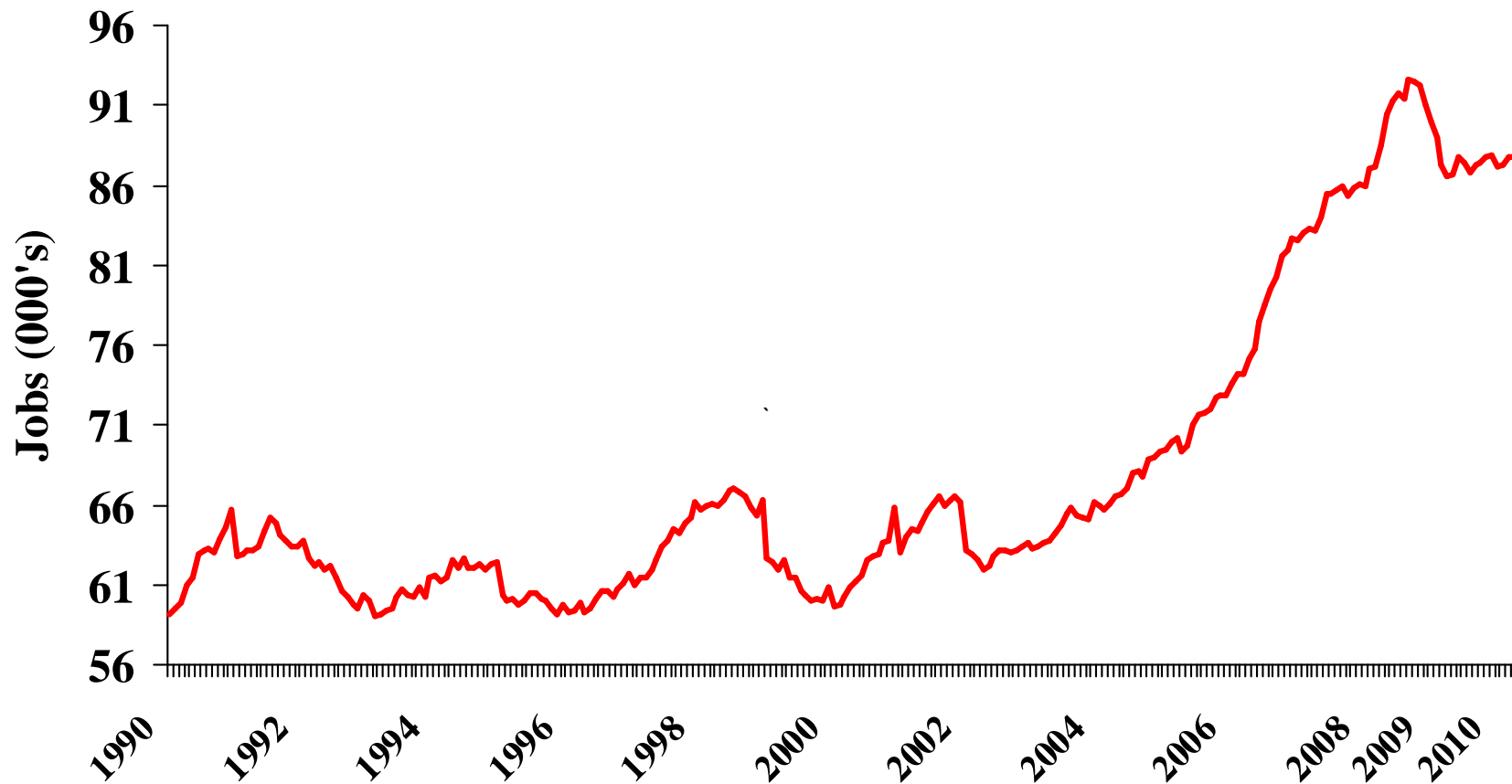
(Percent Difference from Five-Year Average)



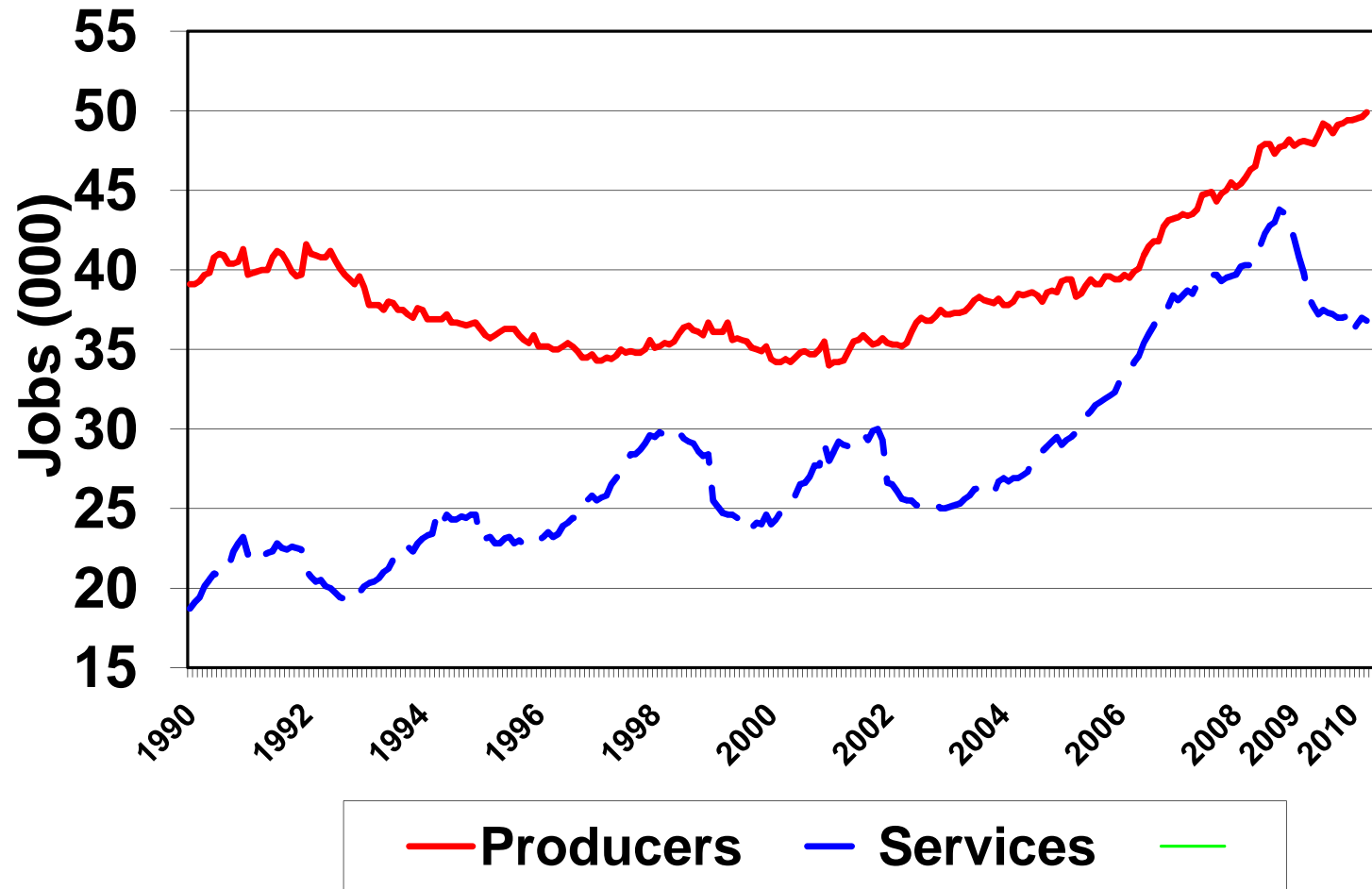
Natural Gas-Directed Drilling

- Natural gas marketed production still up 6.1 percent over the last 24 months
- Industrial loads hurt by recession, still down by one-third over last 24 months
- Inventories 10-15 percent above normal going into storage season.
- Shale more prolific than expected, technology continues to improve.
- Longer-run, will we need 1600 gas-directed rigs to maintain current level of production? Probably not

Oil and Natural Gas Mining Jobs in Houston: 1990 to Present

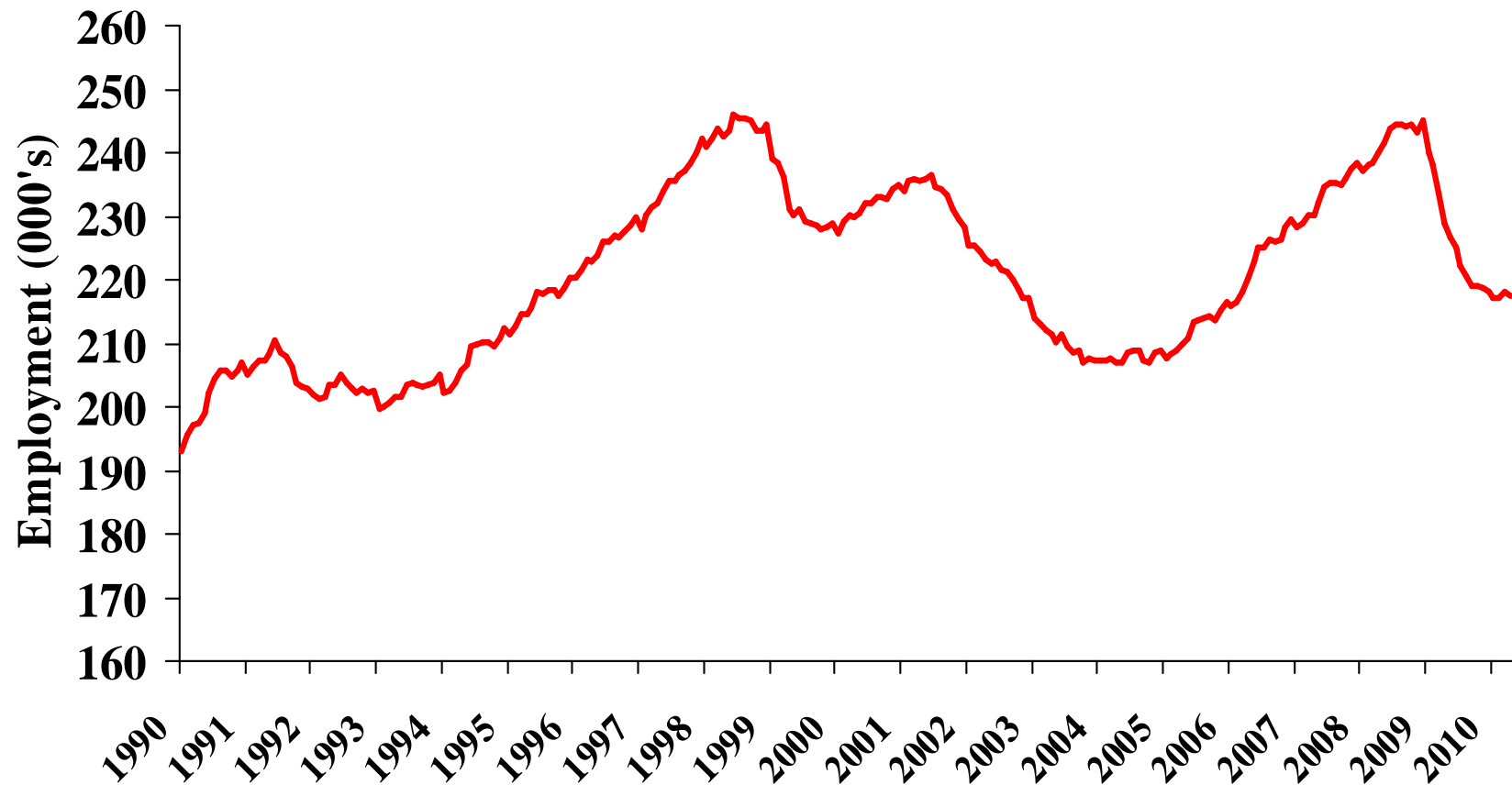


Houston Now Shows Growth in Both Producer and Oil Service Jobs



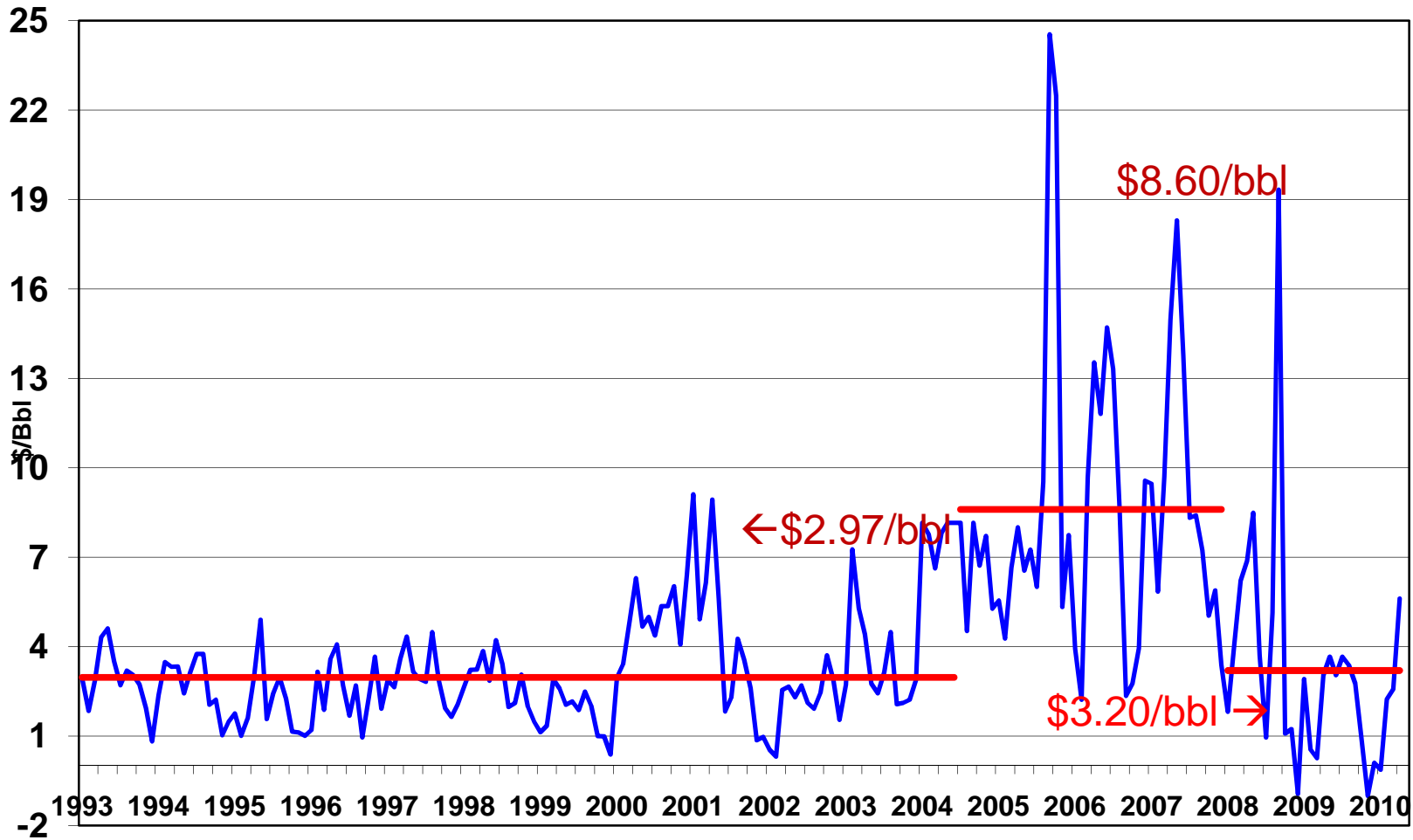
Manufacturing Jobs in Houston

1990 to Present

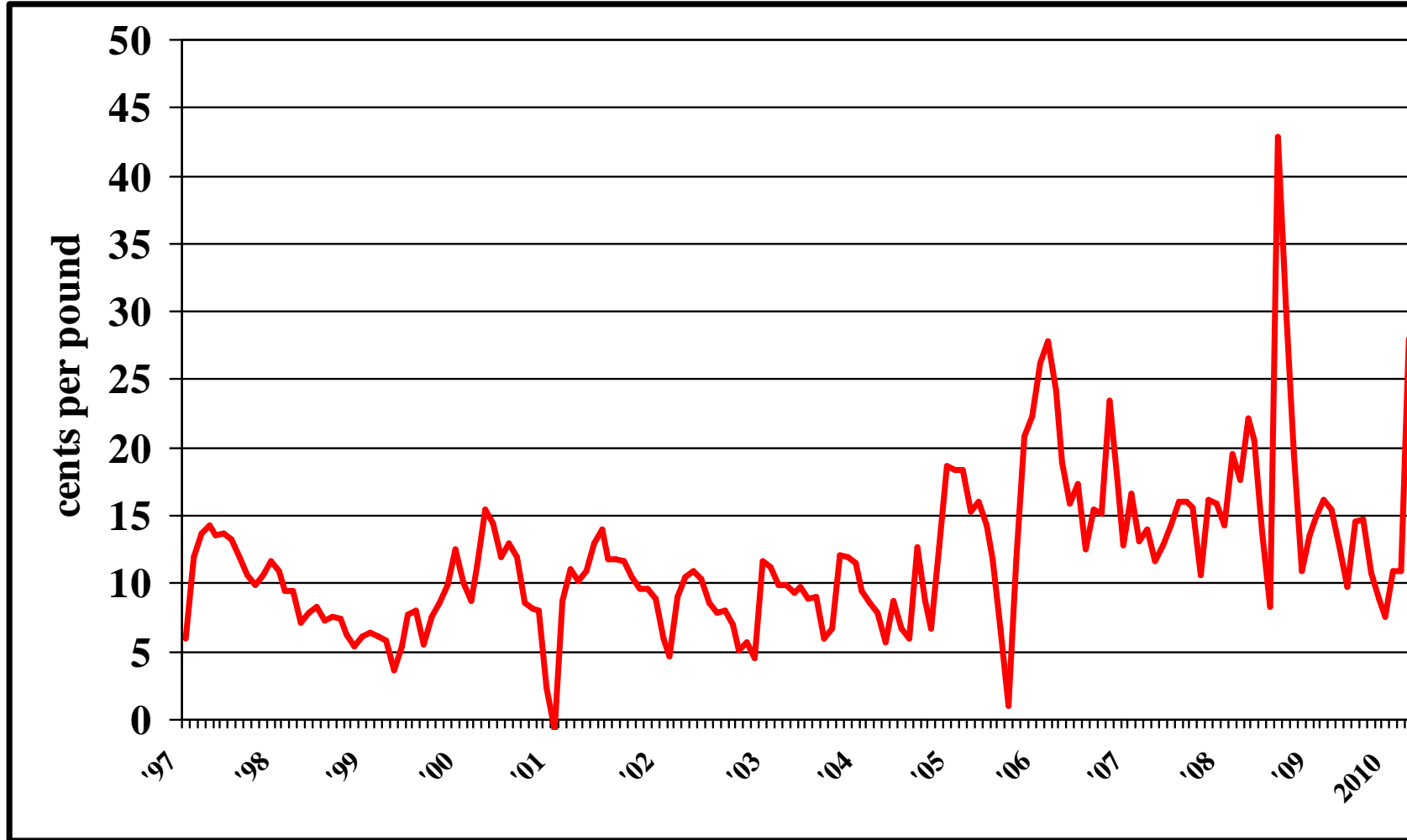


Downstream boomed, too. Now
feeling pain of slow growth ...

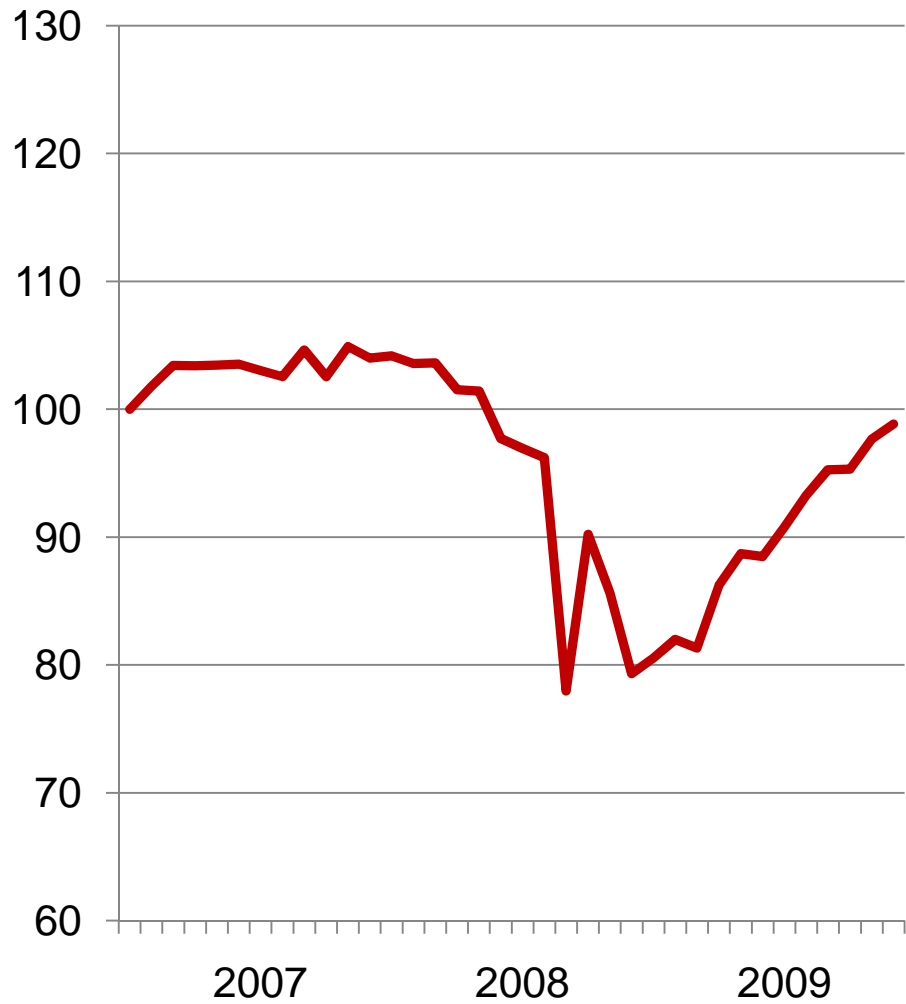
Refining Margins for Light Crude on U.S. Gulf Coast, 1993-2009



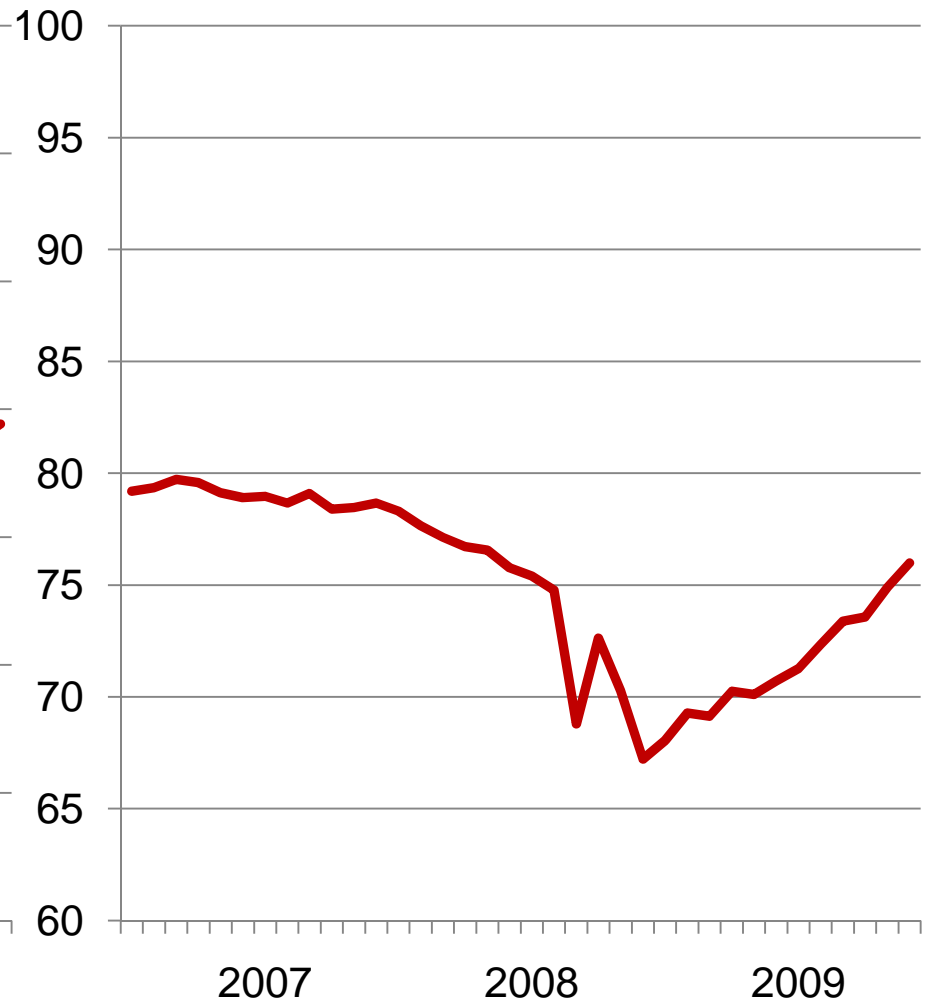
Ethylene Margins Cash Margins, Ethane



**Industrial Production
(Indexed at January 2007=100)
Basic Chemical Manufacturing**



**Percent Capacity
Utilization
Chemicals**

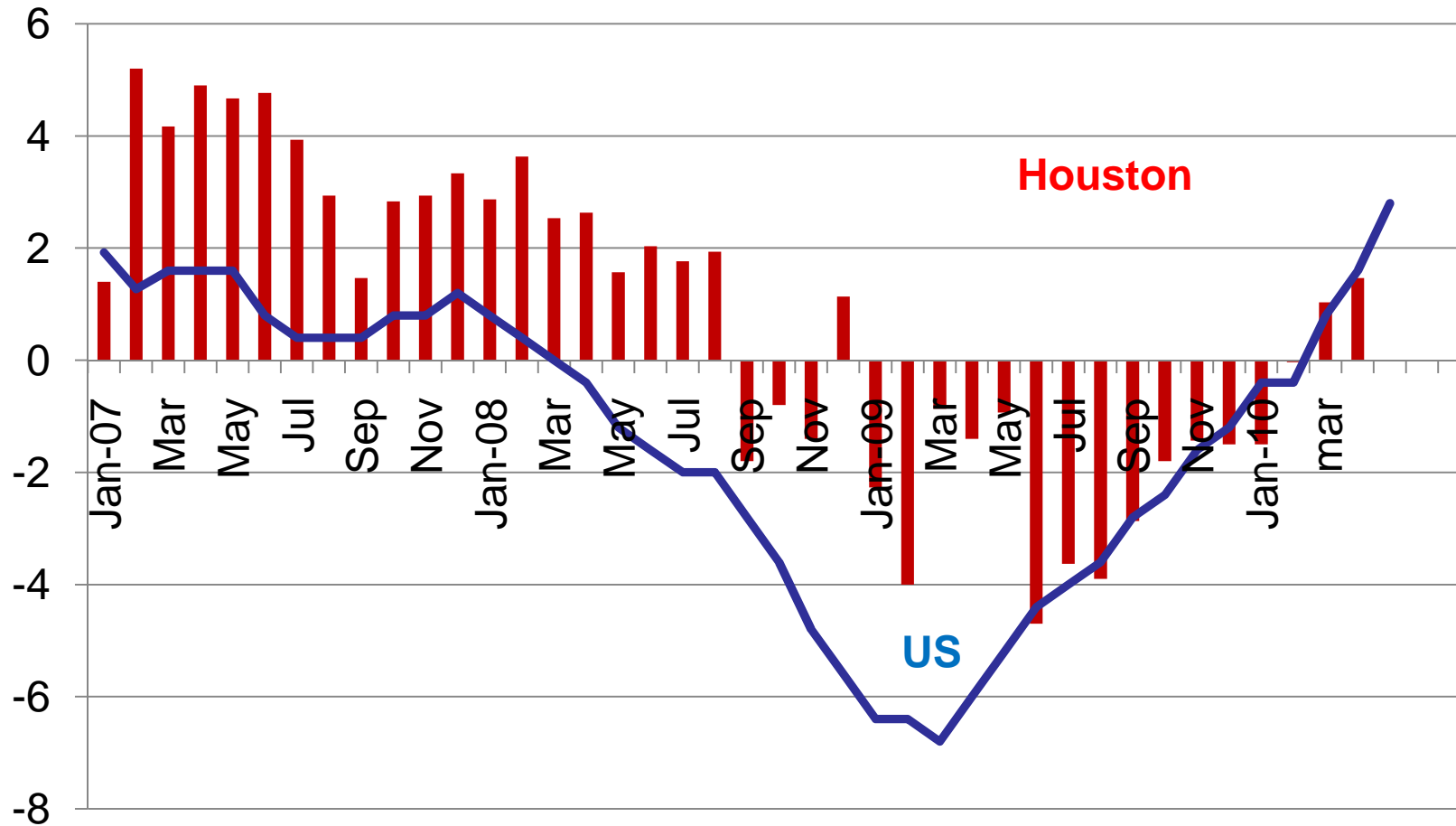


What does it mean for
Houston?

The Gulf Coast Reached the End of a Long Chain of Events

- Slow growth turns to recession in the US economy, and then recession worsens
- Slowdown in the developing world turns to global recession
- A sharp reverse in the commodity boom, and especially in oil markets
- Finally, a setback in Houston and the Gulf Coast in 2009.
- We **now** need help from commodity markets to move growth back in front of the US growth rate

Houston Employment Moving Toward Recovery, On Same Track as US Economy (3-month percent change at annual rates)



Return of the Boom?

- The end of the commodity boom of 2004-2008 reached Houston as a major US recession and global downturn drove commodity prices down.
- Oil and other commodity prices have improved on Chinese stimulus and a better economic outlook, but natural gas prices seem likely headed into a period of prolonged weakness.
- How long? These are cyclical industries, going through another cyclical event. Will Asia get back on the same strong growth path? And can it actually lead global growth? Whether Houston leads or lags probably depends on how quickly we re-inflate commodity prices

Houston and the US Recovery: Last In, First Out?

Robert W. Gilmer
Vice President and Senior Economist
Federal Reserve Bank of Dallas
June 2010