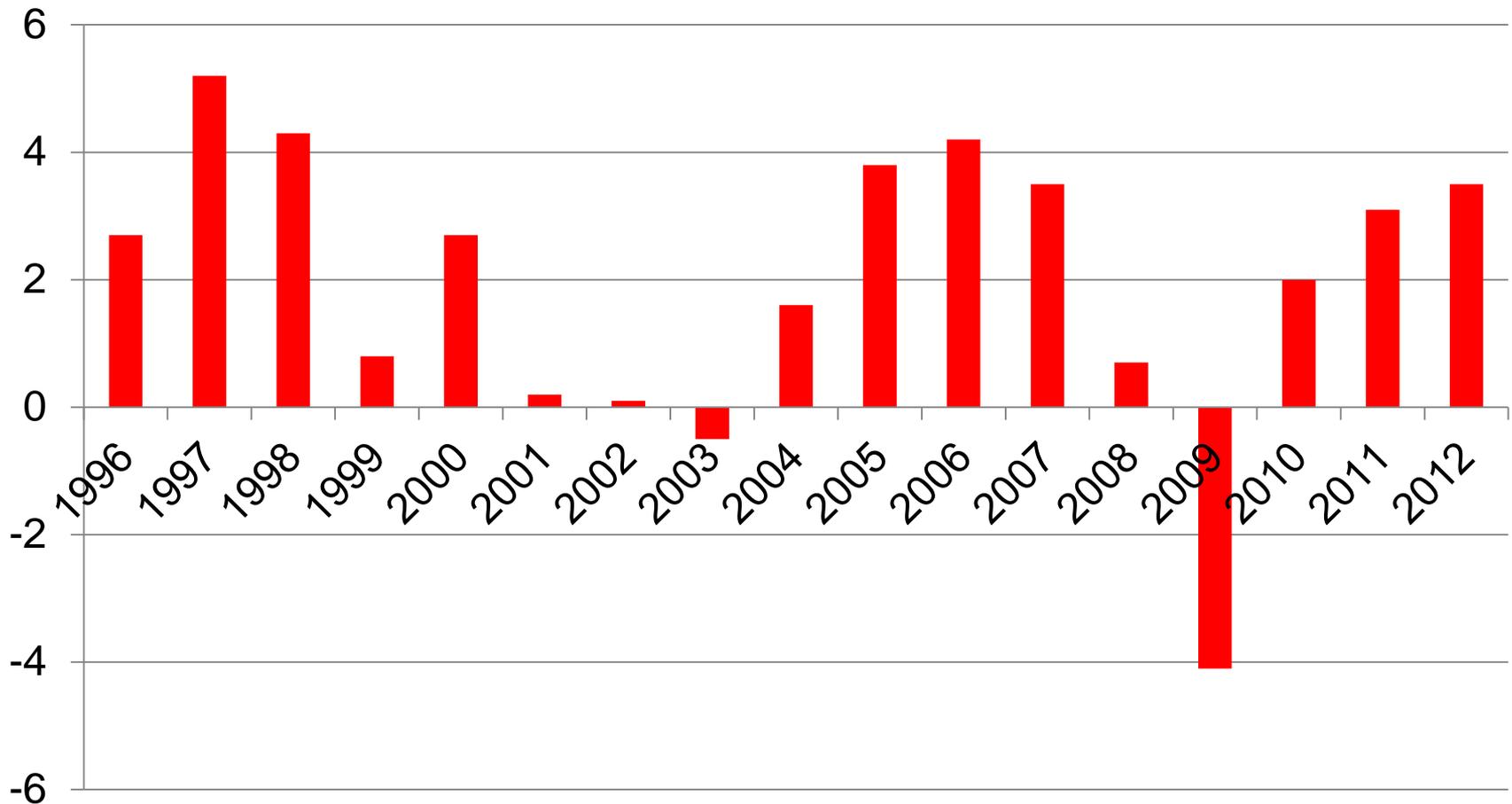


Houston Economy: 2013 Brings Slower Growth and Higher Risk

Dr. Robert W. Gilmer, Director
University of Houston
C. T. Bauer College of Business
Institute for Regional Forecasting

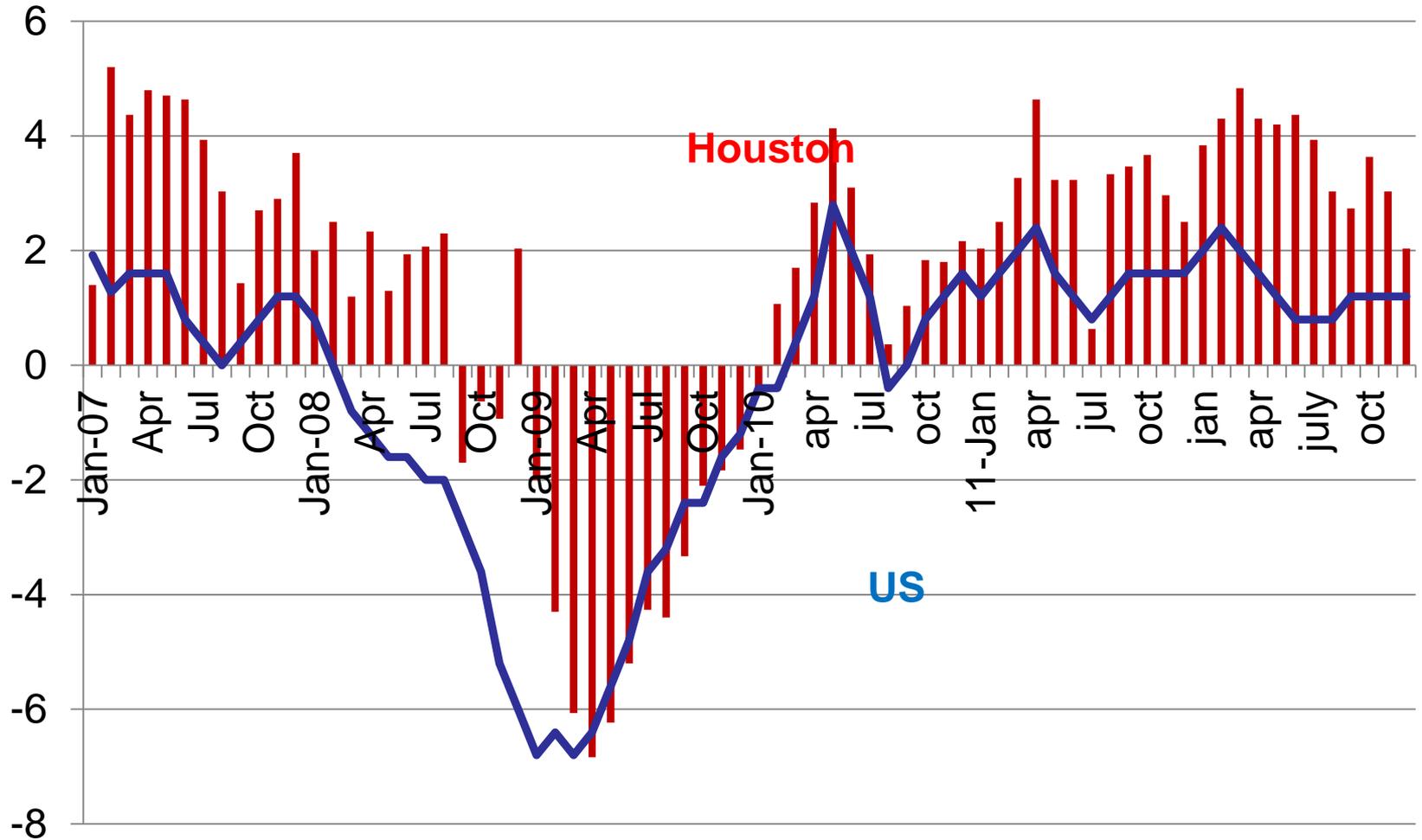
January 2013
713-254-3791
rwgilmer@uh.edu

Percent Change in Houston Employment, 1996-2011

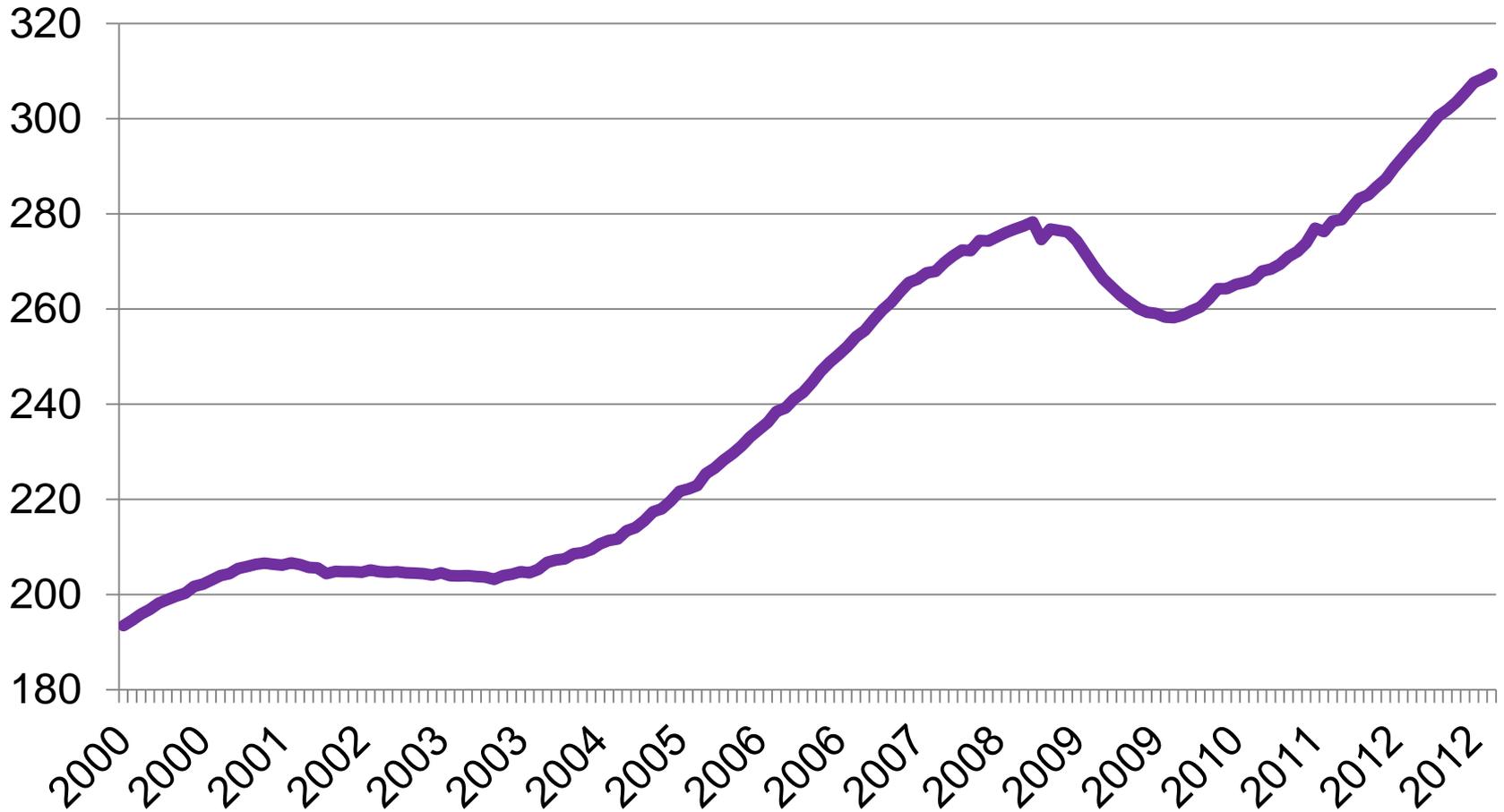


Note: December to December changes, except 2012 which is annualized year-to-date

Houston employment shows strength in recovery (3-month percent change at annual rates)



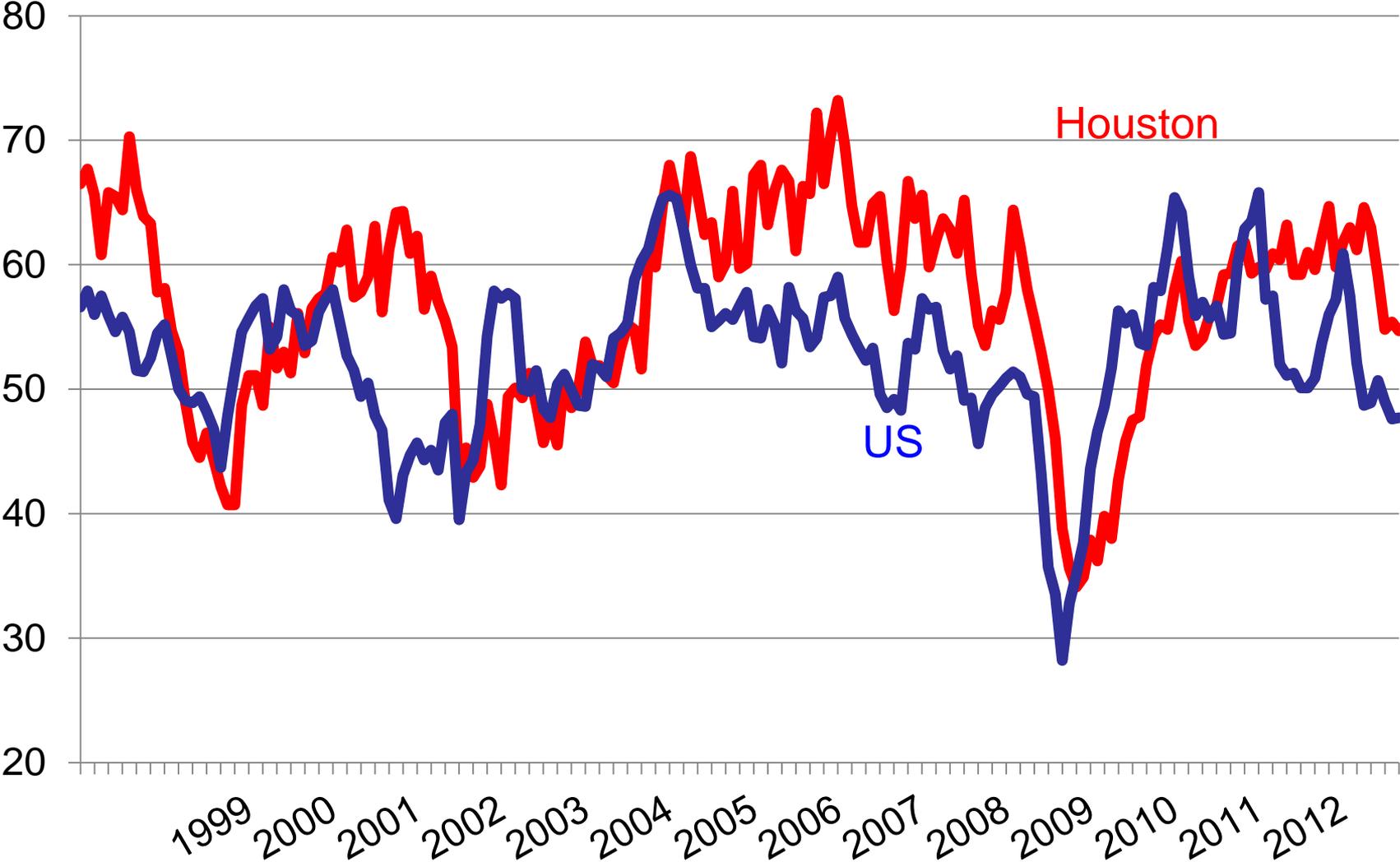
A New Expansion Began in Houston in Mid-2011



Houston Leads Texas Major Metros Into the New Expansion

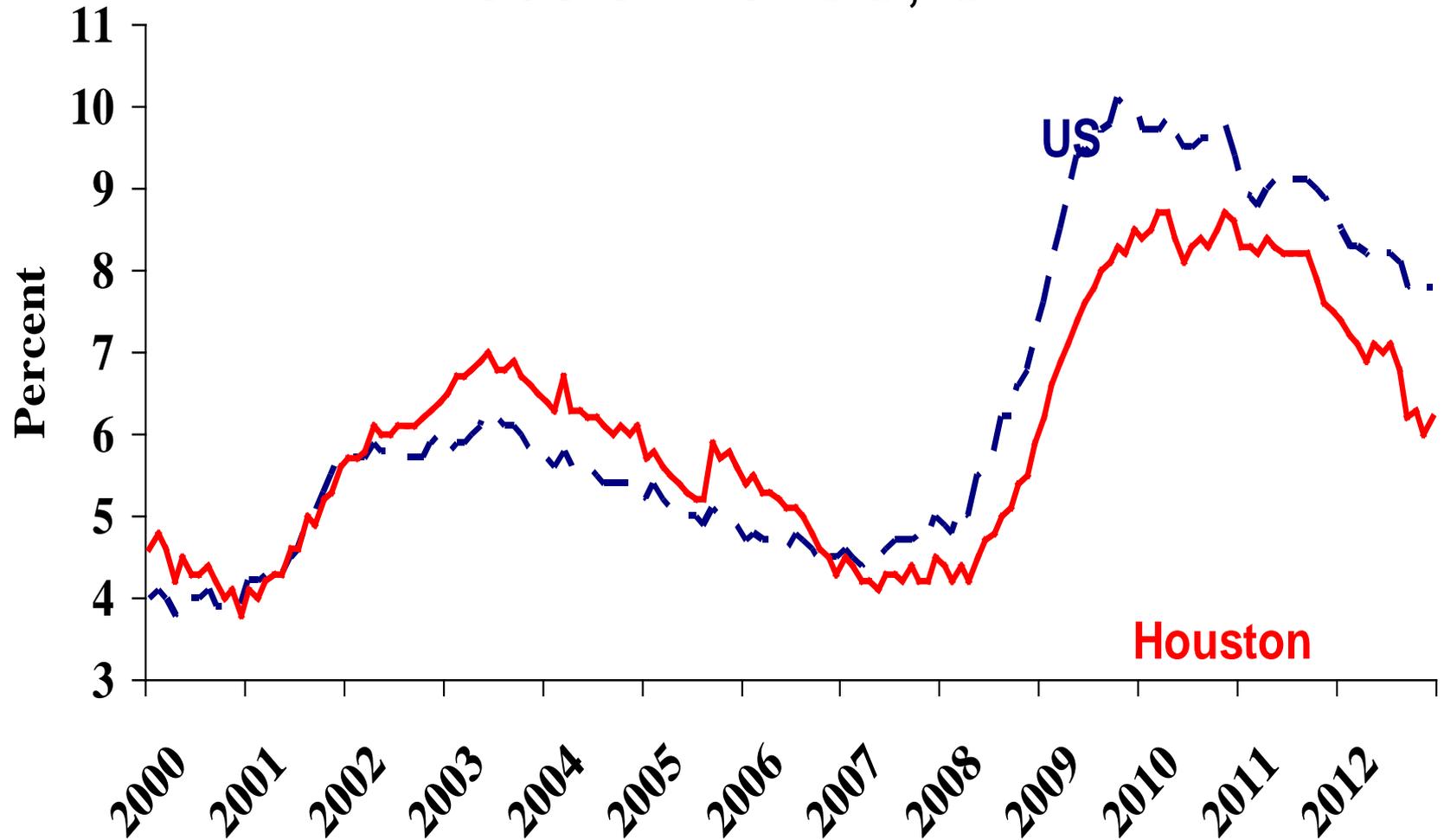
Metro Area	Peak	Trough	Percent Decline	Trough to Today
Texas	July 2008	November 2009	-5.3	10.1
Houston	August 2008	December 2009	-6.9	19.9
Ft Worth	May 2008	November 2009	-5.3	10.1
Dallas	March 2008	December 2009	-9.2	8.0
San Antonio	April 2008	April 2010	-5.9	7.2
Austin	February 2008	January 2010	-7.6	12.8

Purchasing Managers' Index US and Houston Compared



Unemployment Rate

Houston vs. US, SA

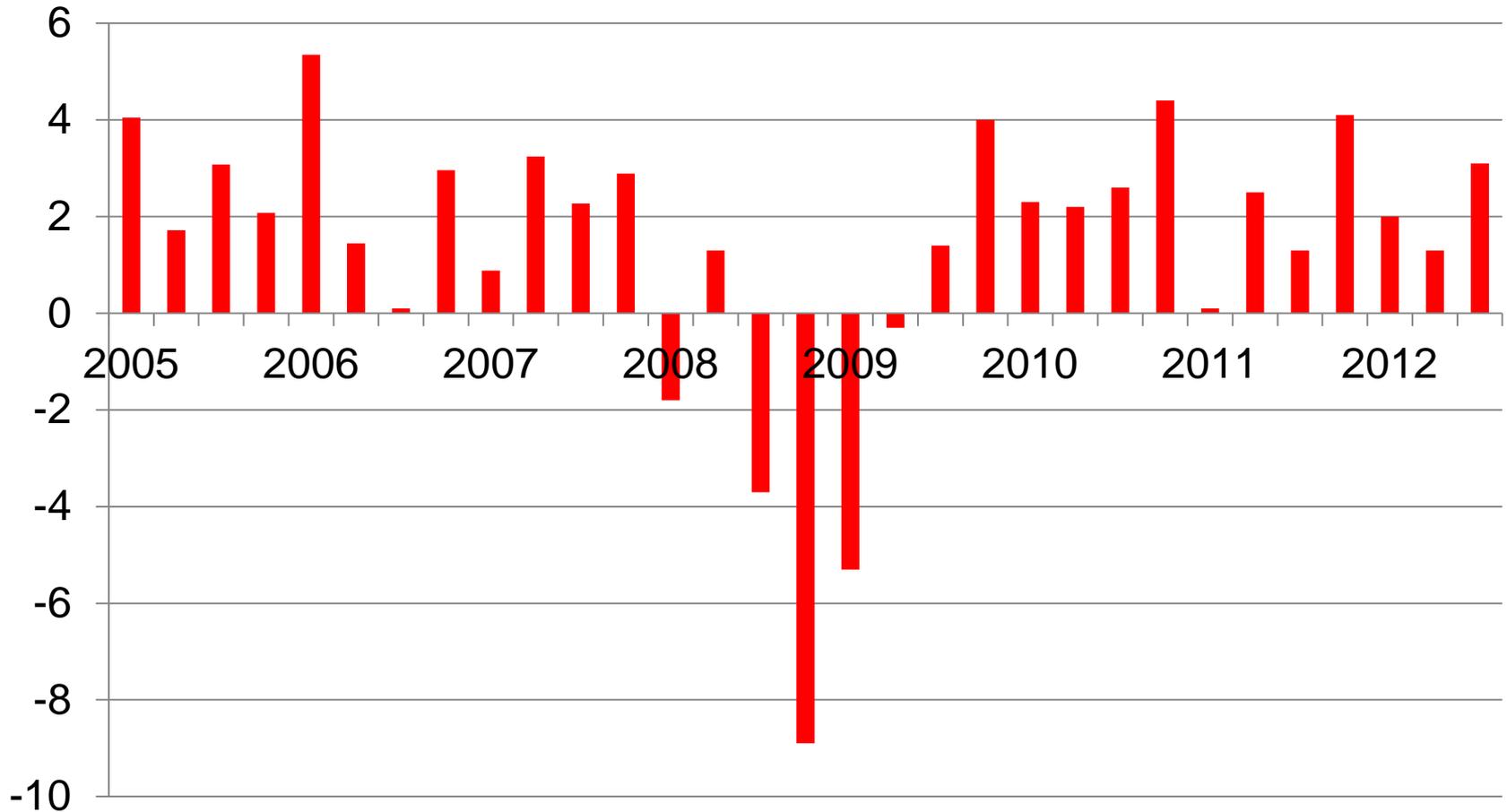


Houston gets less external stimulus entering 2013

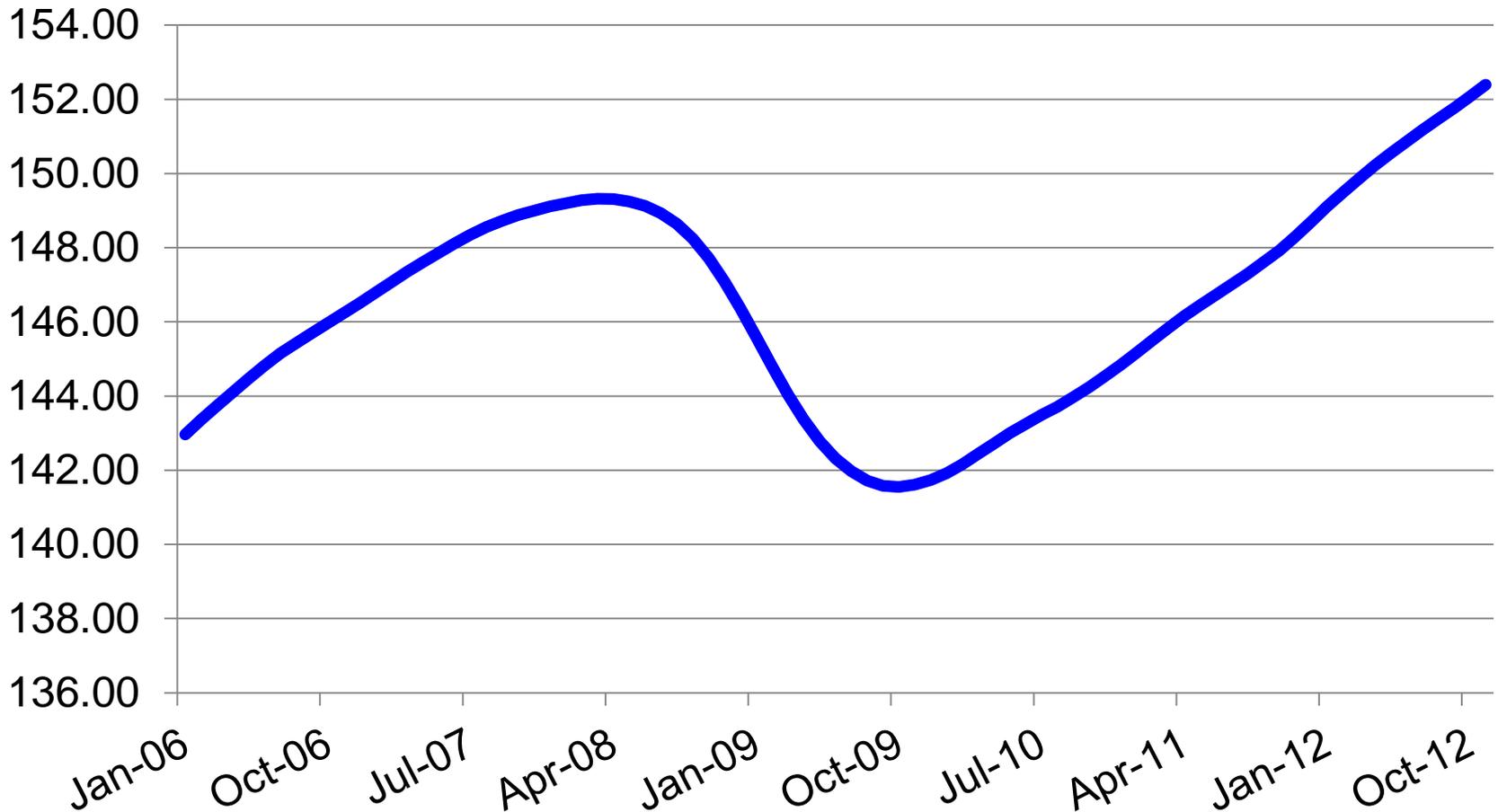
- The US economy continues to grow slowly, probably less than 2 percent in 2012 Q4. Higher taxes a big drag on first half of 2013
- Global growth, especially developing countries, has driven trade and higher energy prices. A significant slowdown occurred in 2012, coinciding with European recession.
- High oil prices still drive activity upstream. Low natural gas price hurt upstream, but stimulate construction downstream.

The U.S. recovery skirted recession last summer, and continues to struggle with growth

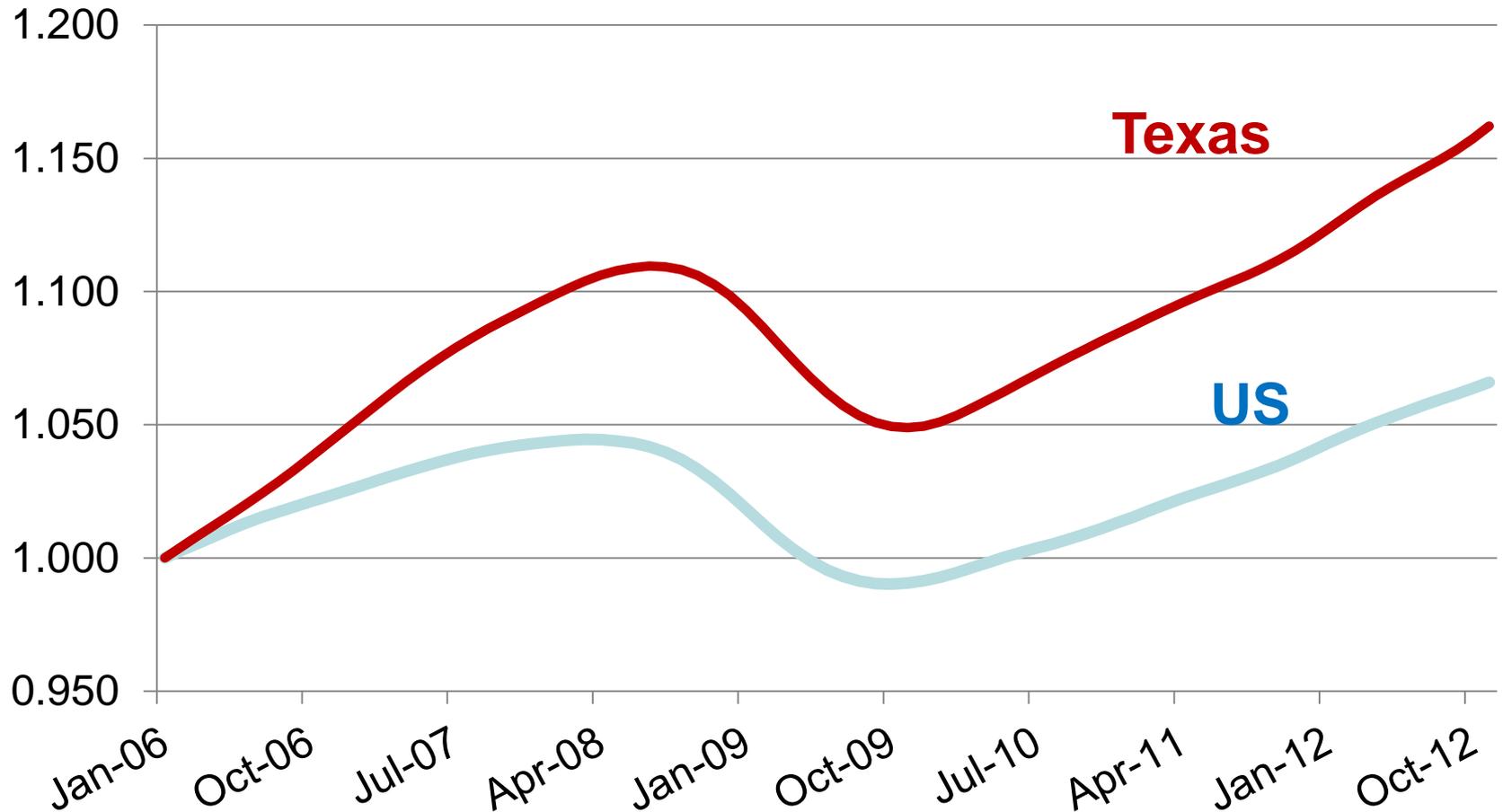
Gross domestic product (%-change, annual rates)



Coincident Index Says US Moved Into New Expansion in Early 2012

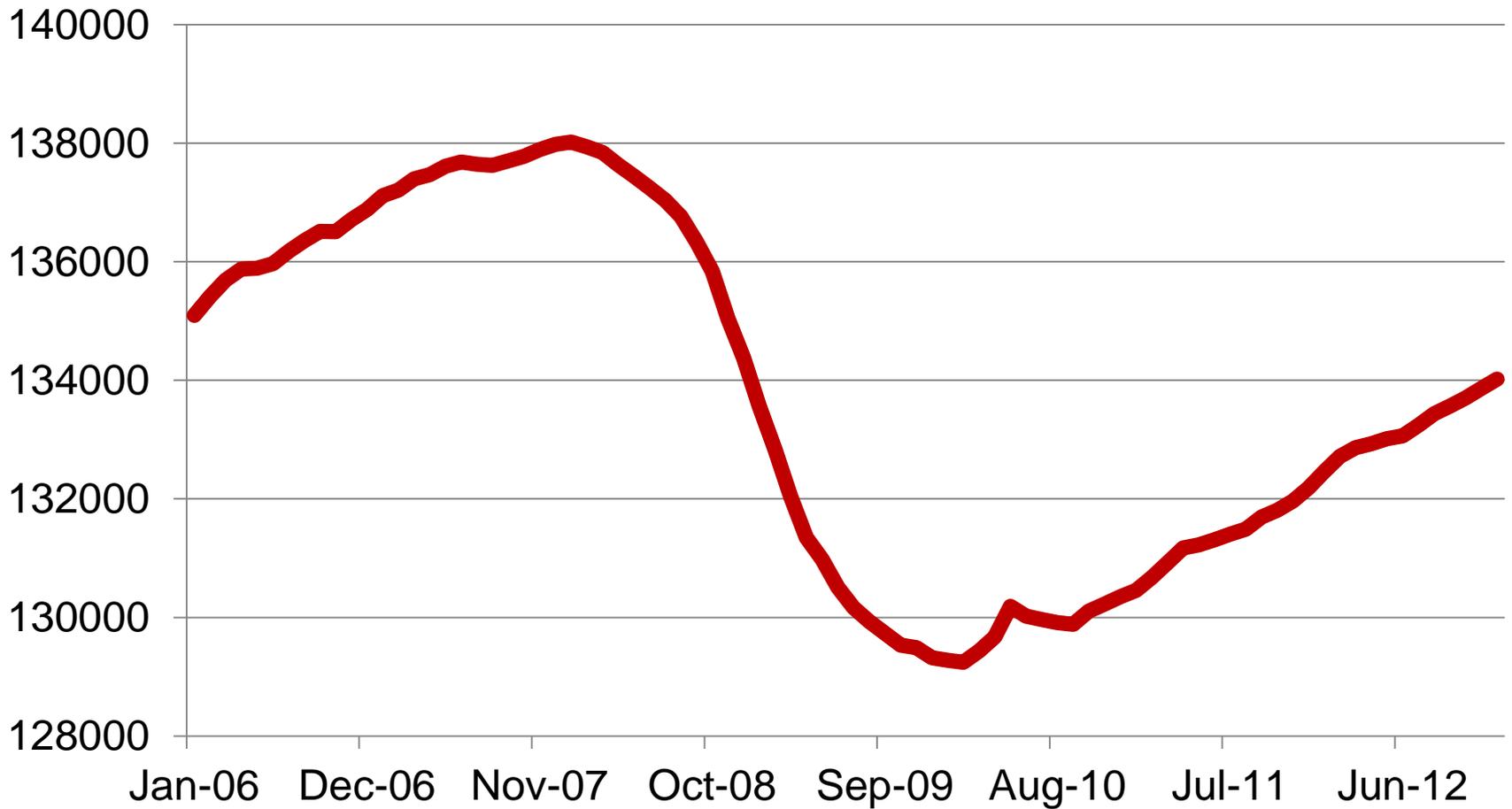


US Trailed the Texas Recovery By Six About Months



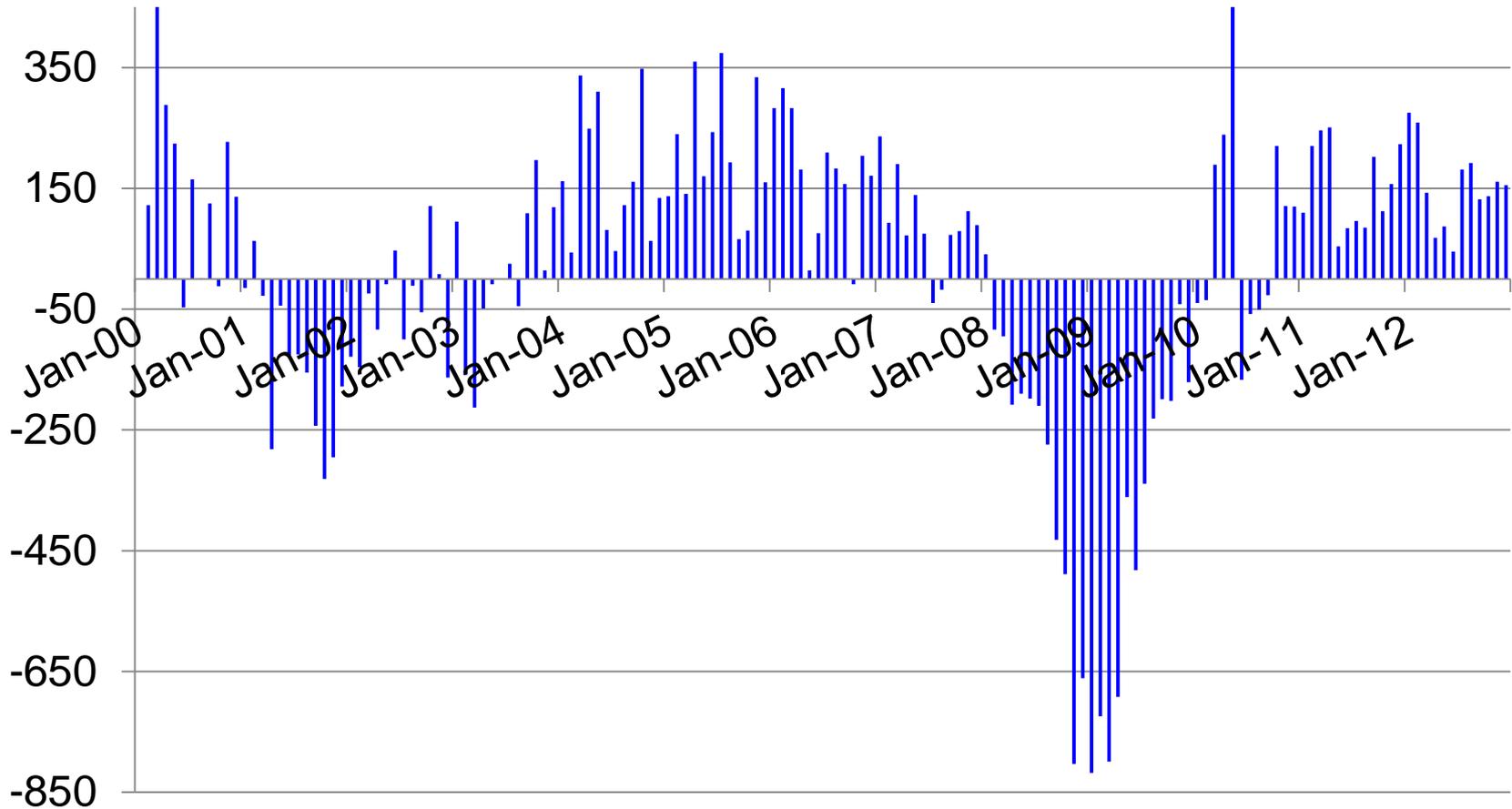
Job Market Improves Too
Slowly, Employment Growth
Lags Recovery

US Payroll jobs still 3.9 million short of prior peak in 2007



U.S. Employment Growth

In Thousands of New Jobs per Month, 1990 to 2011



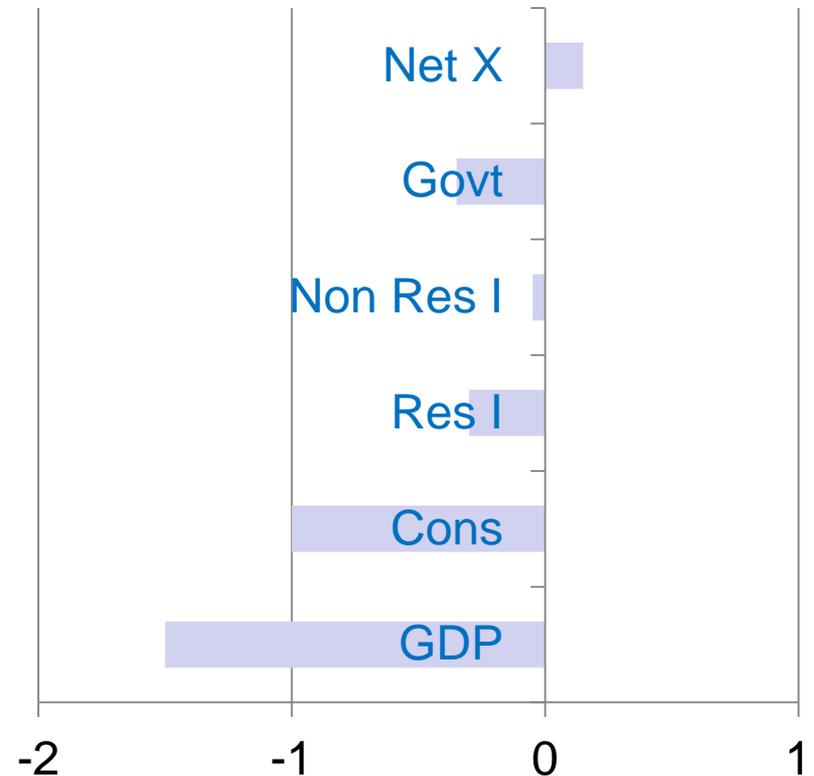
Housing and personal consumption are laggards in the recovery.

What is missing from growth at 13 quarters after the trough?

Consumption, housing, and gov't all a drag (%)

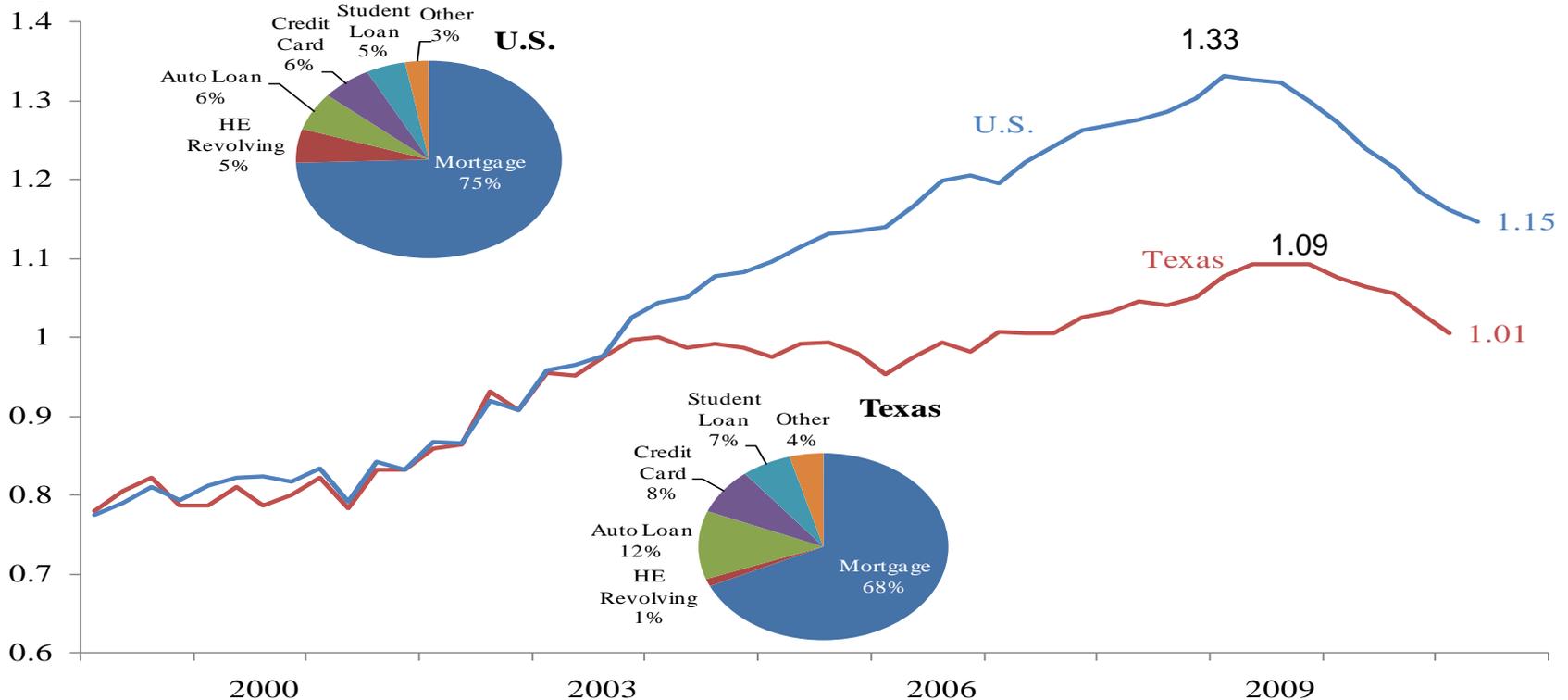
Contribution to GDP (%)

	3 Recent Recoveries	This Recovery
GDP	3.7	2.2
Cons	2.6	1.6
Res Inv	0.30	0.05
Fixed Inv	0.35	0.30
Exports	-0.40	-0.20
Gov't	0.50	-0.10

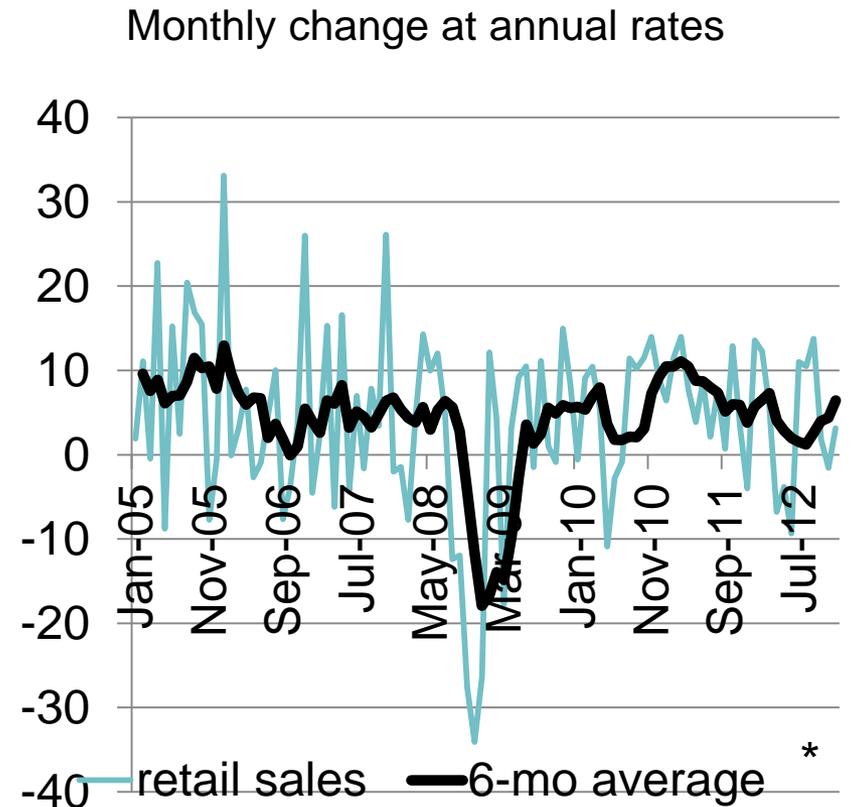
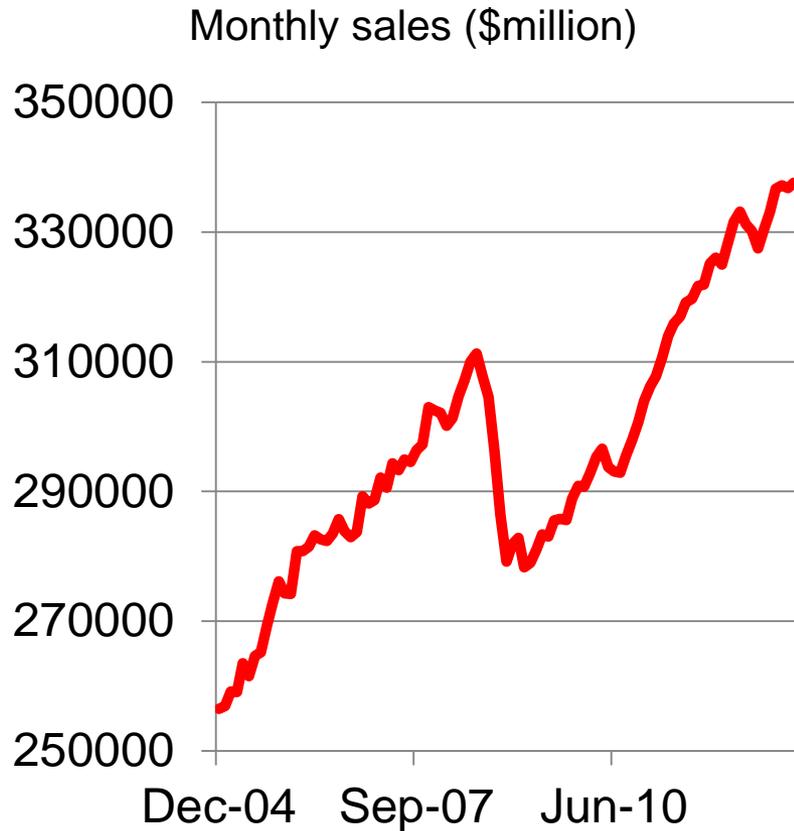


Household's Deleveraging – Good for Long-Term but Weakens Spending in Short-Term

Ratio, personal debt per capita/personal income per capita



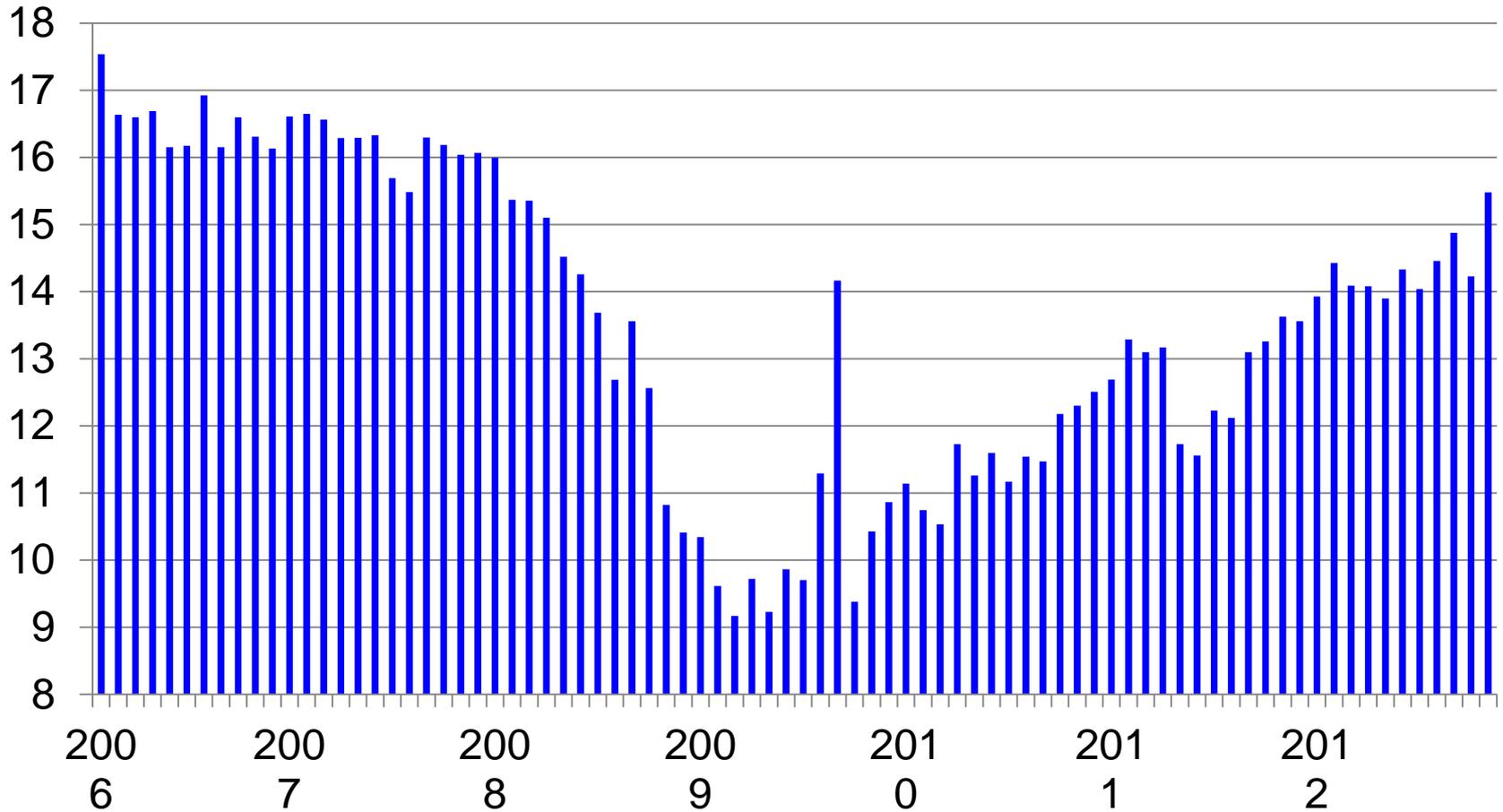
Retail sales, 2005-2012



Seasonally adjusted data

Auto Sales Still In Recovery

Million units, annual rate



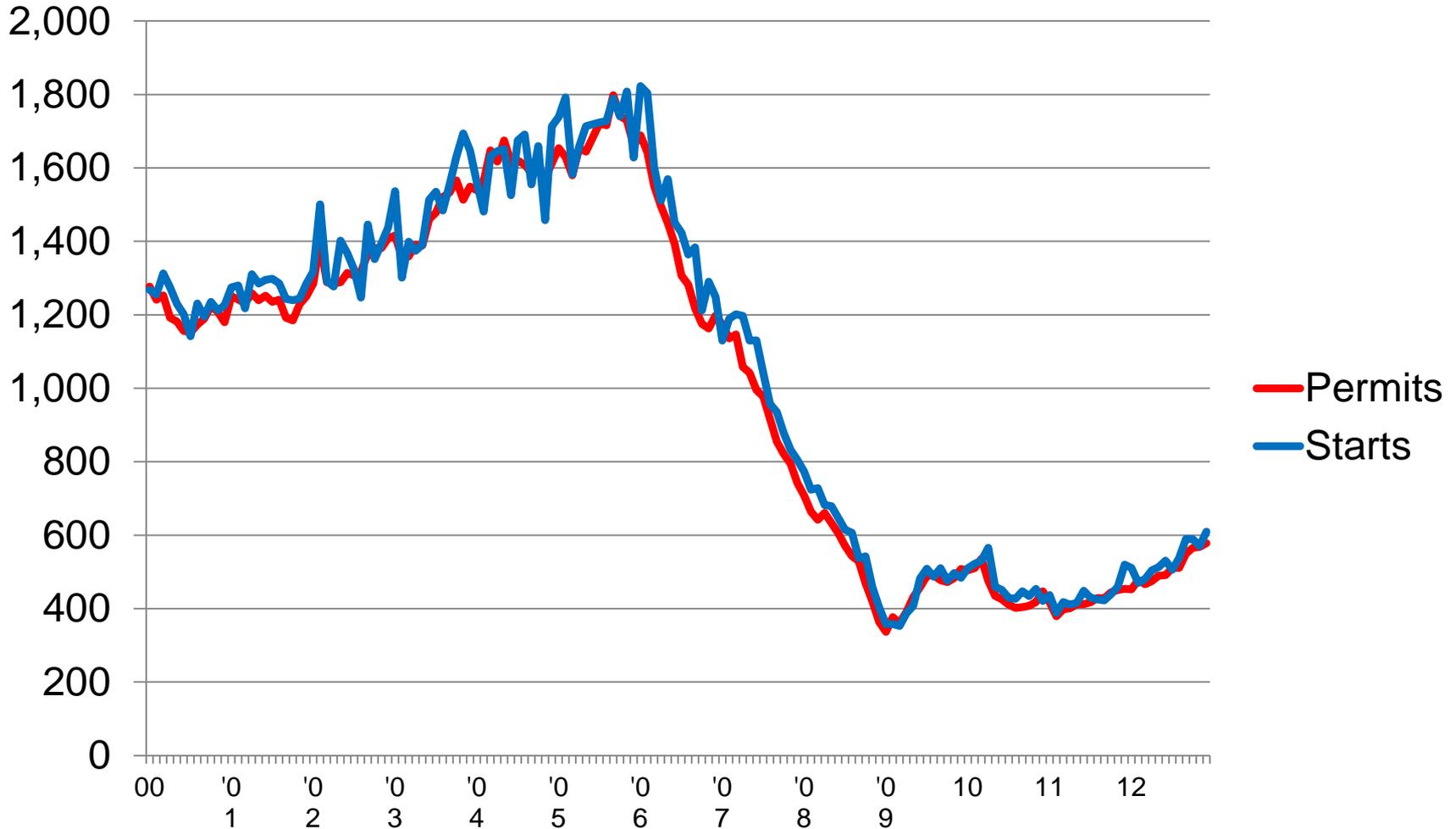
University of Michigan Consumer Sentiment Data



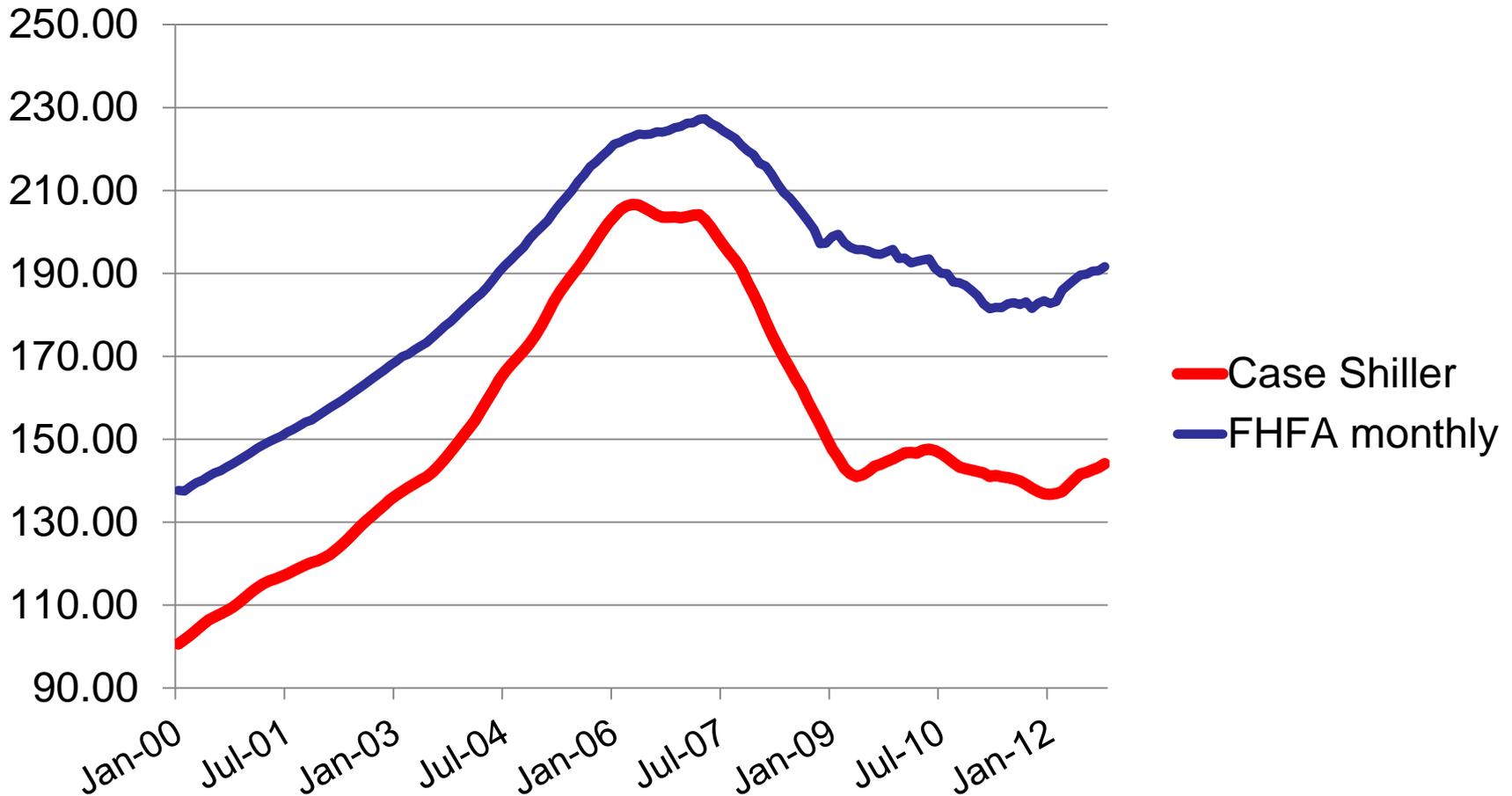
New taxes will hit consumer hard in early 2013

- Payroll taxes rise \$126 billion, Bush-era tax cut loss to high-income earners will be \$50 billion, and Affordable Care Act adds \$24 billion.
- Total tax increase is \$200 billion or 1.6 percent of disposable personal income.
- Expect real consumer spending to drop by one percent or more in the early months of 2013

Is the housing upturn finally here?

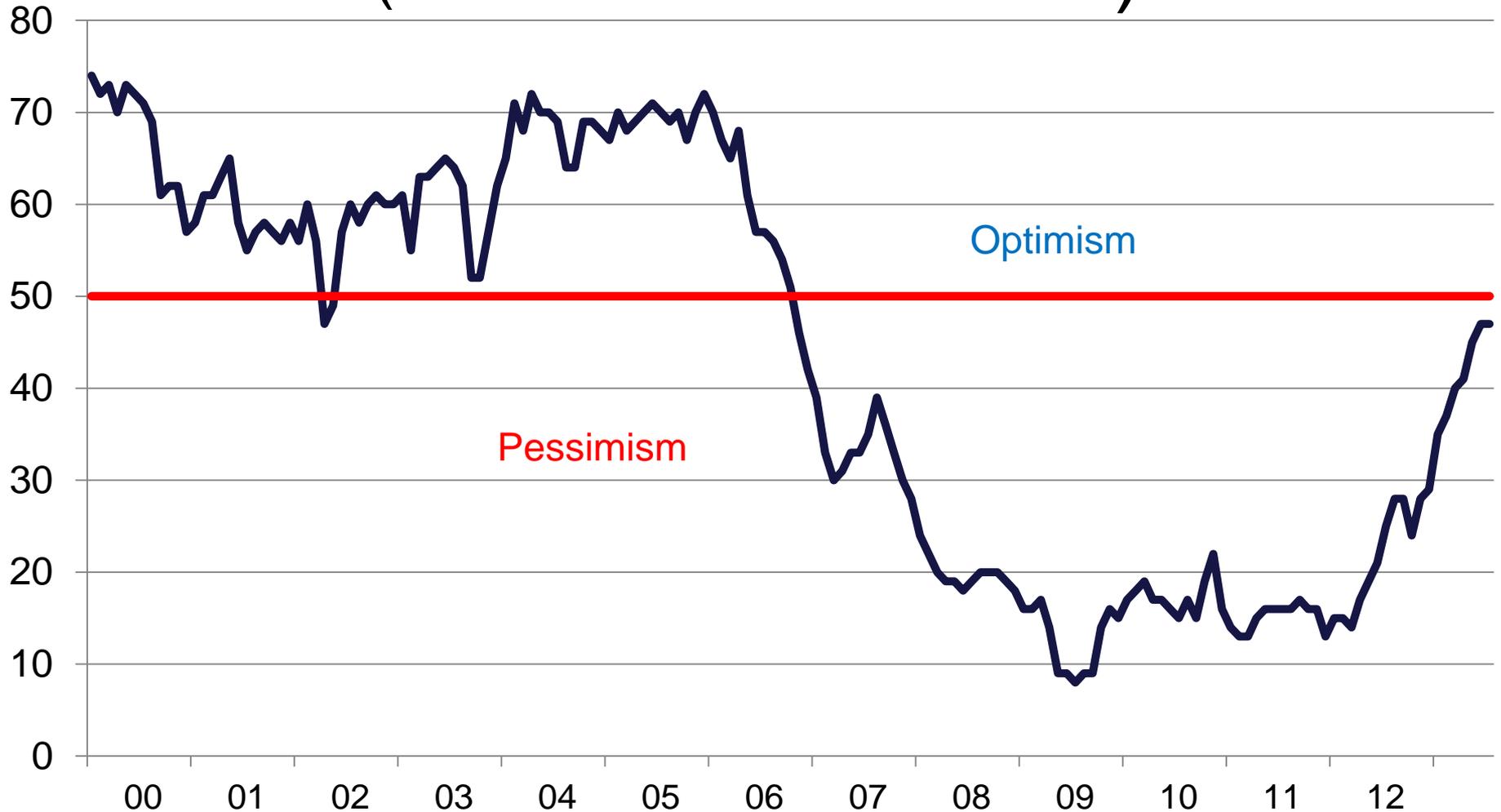


Housing prices stabilized and turned up over the summer



Pessimism quickly recedes in new home market

(Homebuilder sentiment)

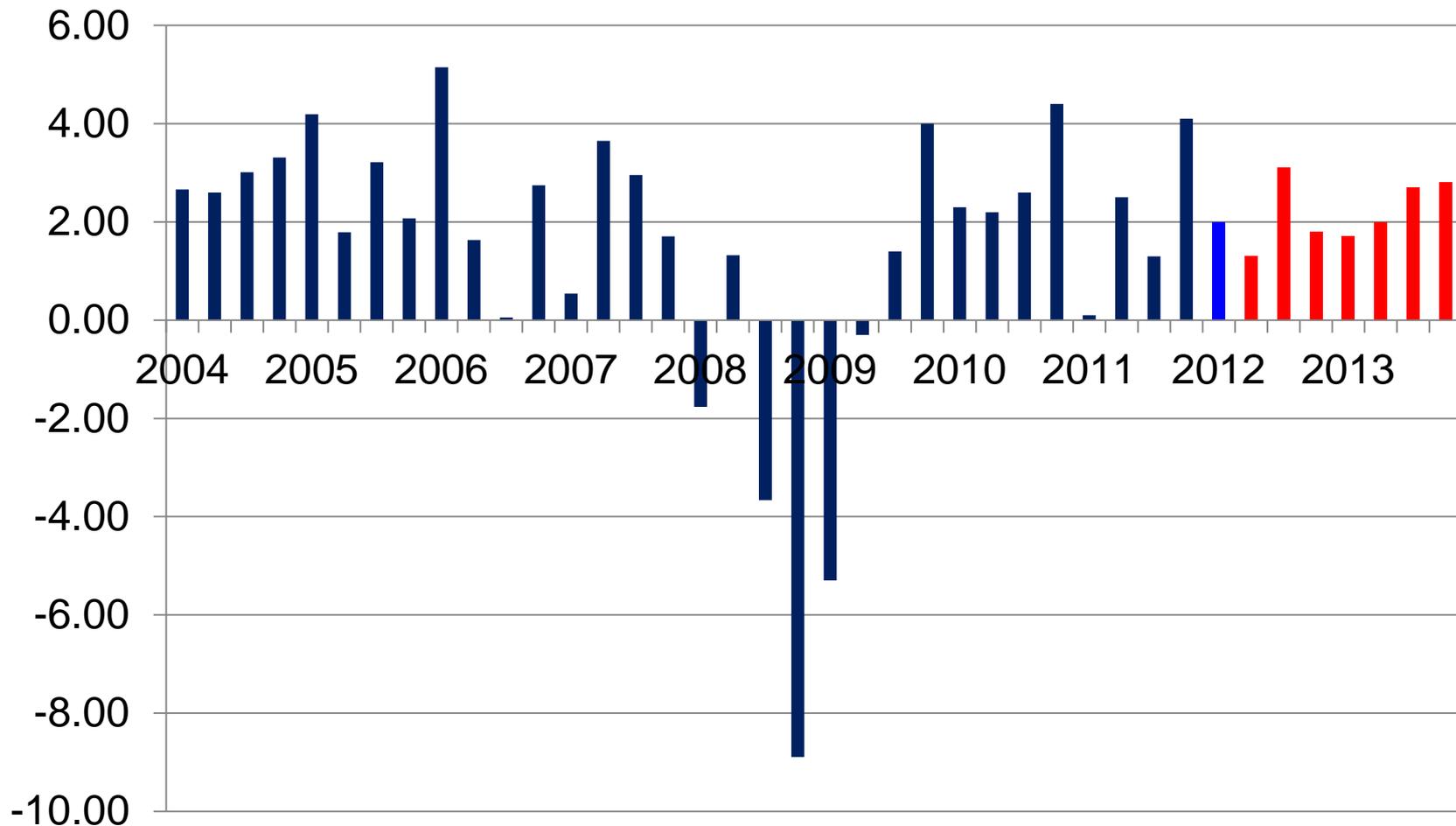


Outlook for US in 2013?

- Good news comes in housing and strong corporate profits
- Bad news is \$200 billion in new personal taxes. Base case is that private sector strength overcomes fiscal drag by mid-year
- Risks? (1) We under-estimated fiscal drag; (2) we see greater fiscal drag from large spending cuts; and (3) fiscal uncertainty drags on through the year

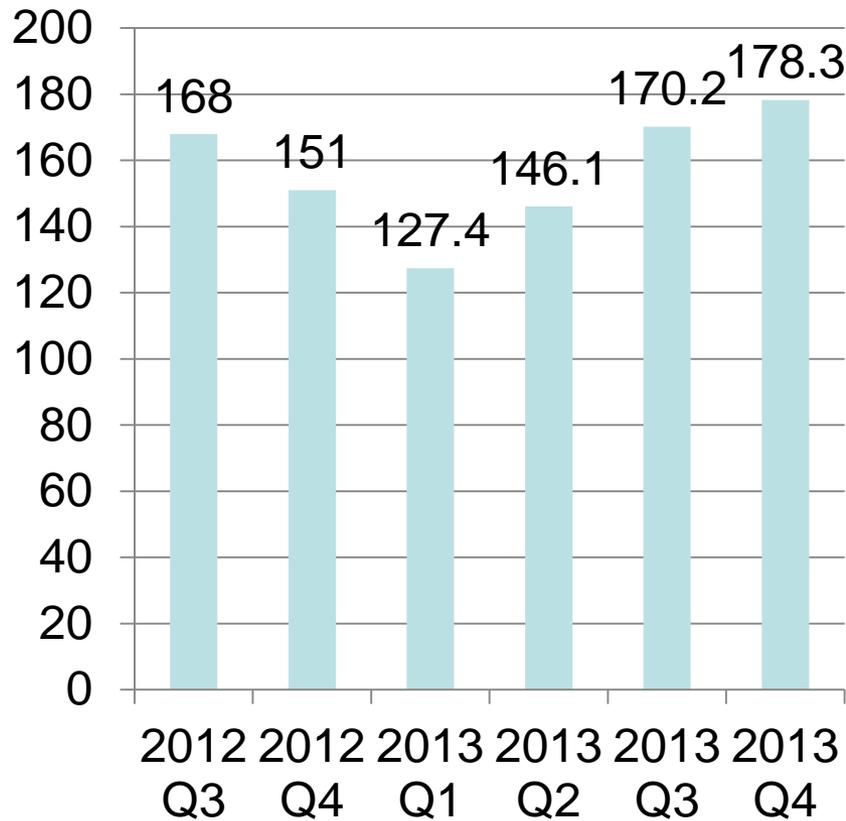
Professional Forecasters Revise GDP Forecast Down for Early 2013

(Percent growth at annual rates)

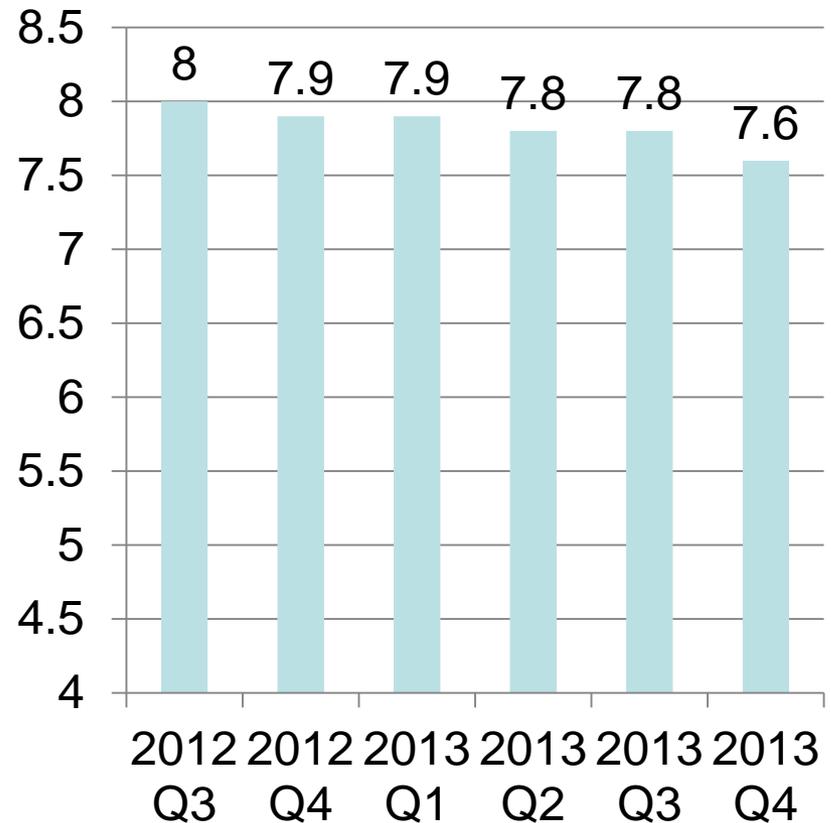


Professional Forecasters survey see more slow gains in job market

New Payroll jobs/mo (000)

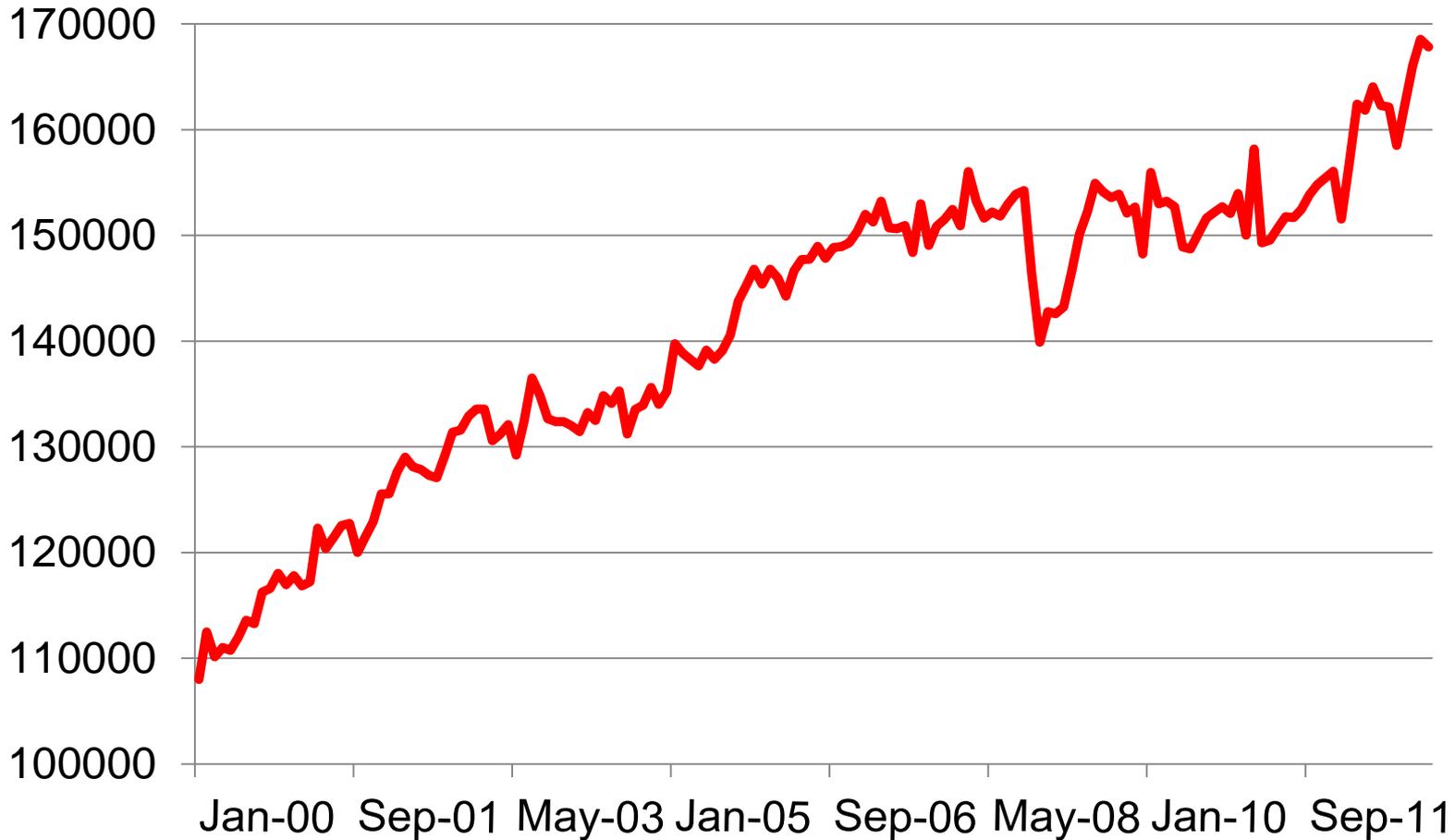


Unemployment rate (%)



Houston housing makes a
definitive turn in 2012

The median price of existing homes did not fall in Houston



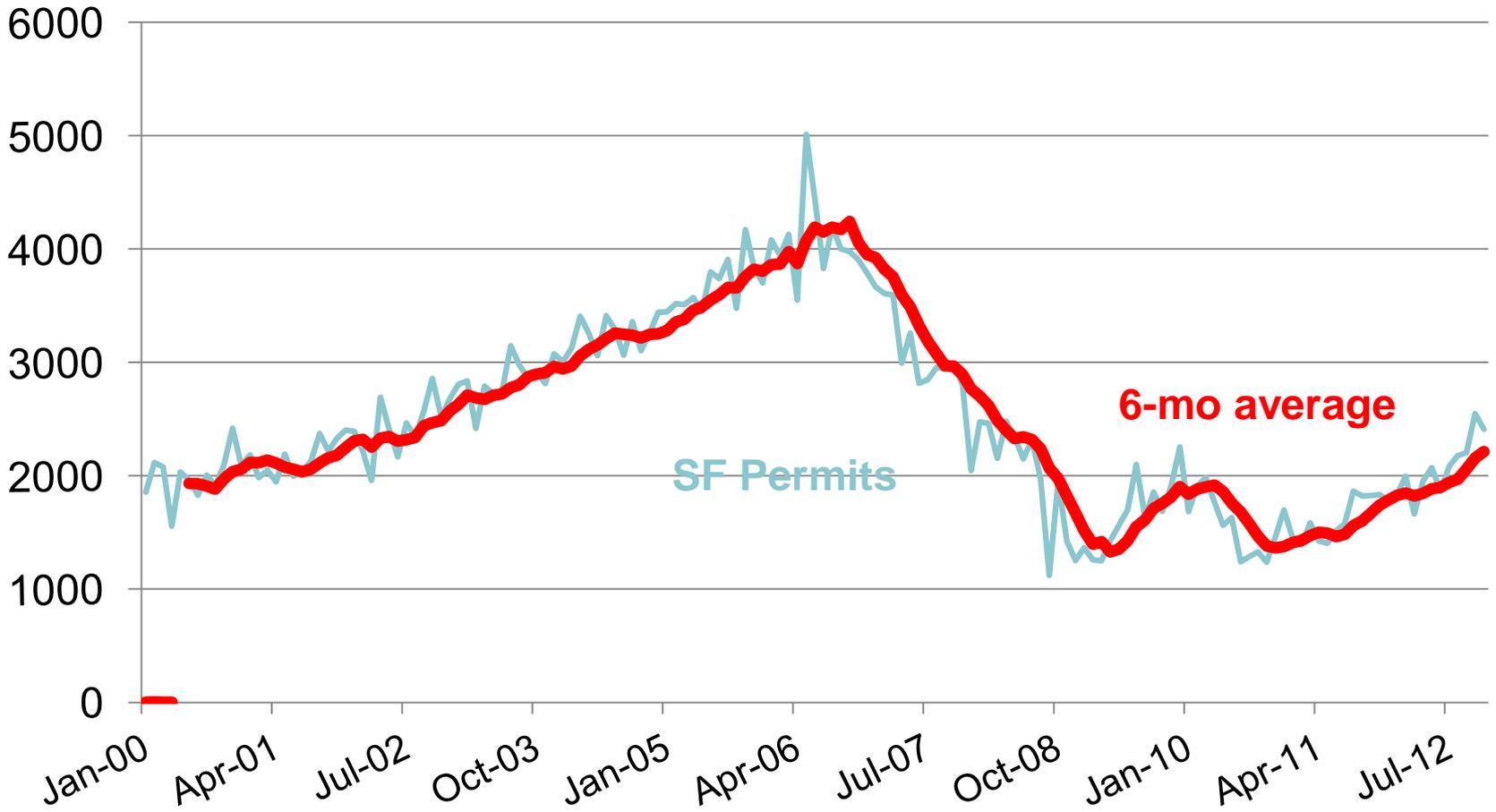
Existing homes sales in Houston are back on a strong track (monthly MLS, s.a.)



Houston single-family inventory falling sharply

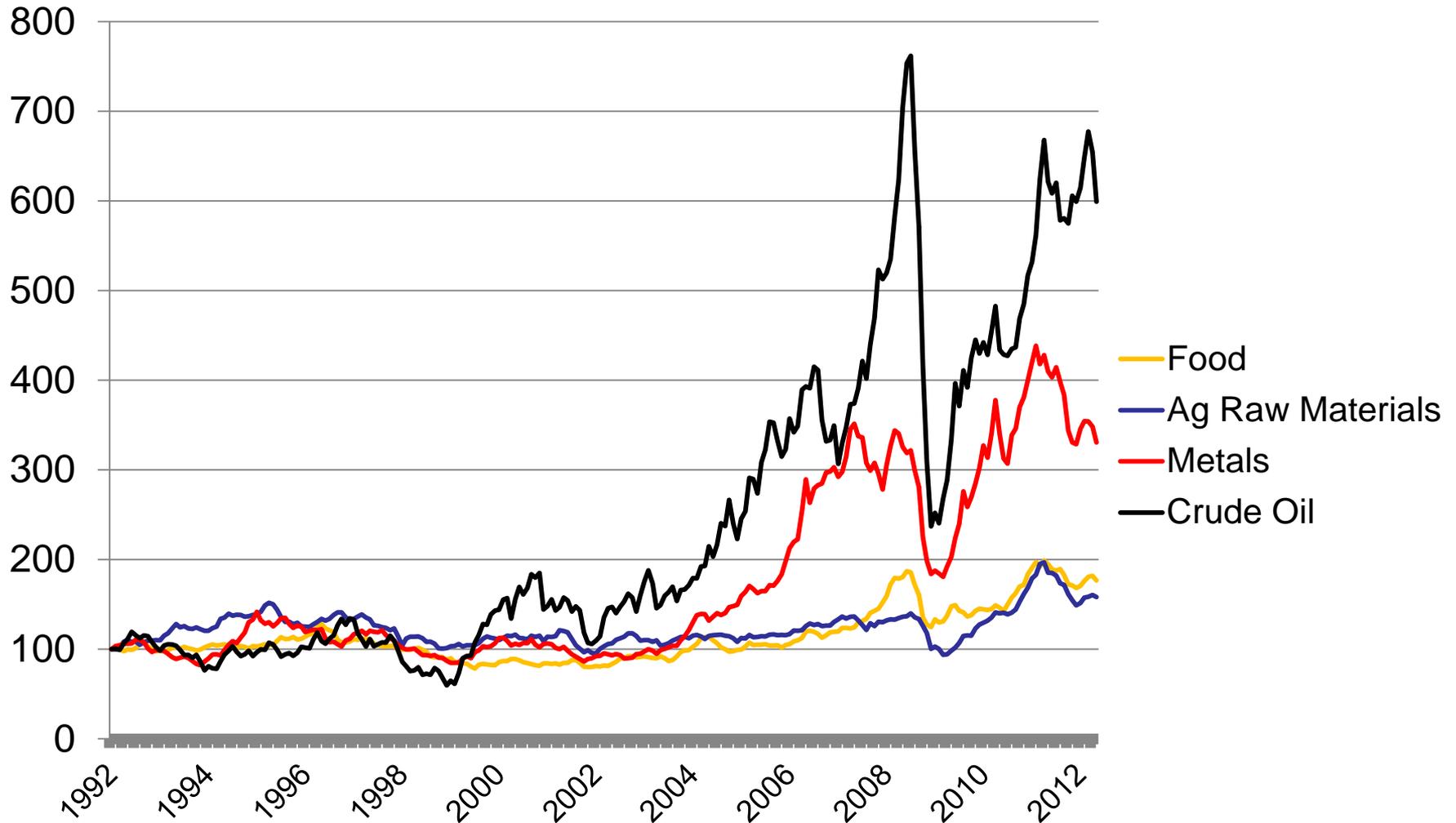


Houston single-family permits begin to pick up in 2012



The global economy and rising commodity prices have driven the Houston economy since 2003

Oil Part of a Wider Commodity Boom



Source: International Monetary Fund

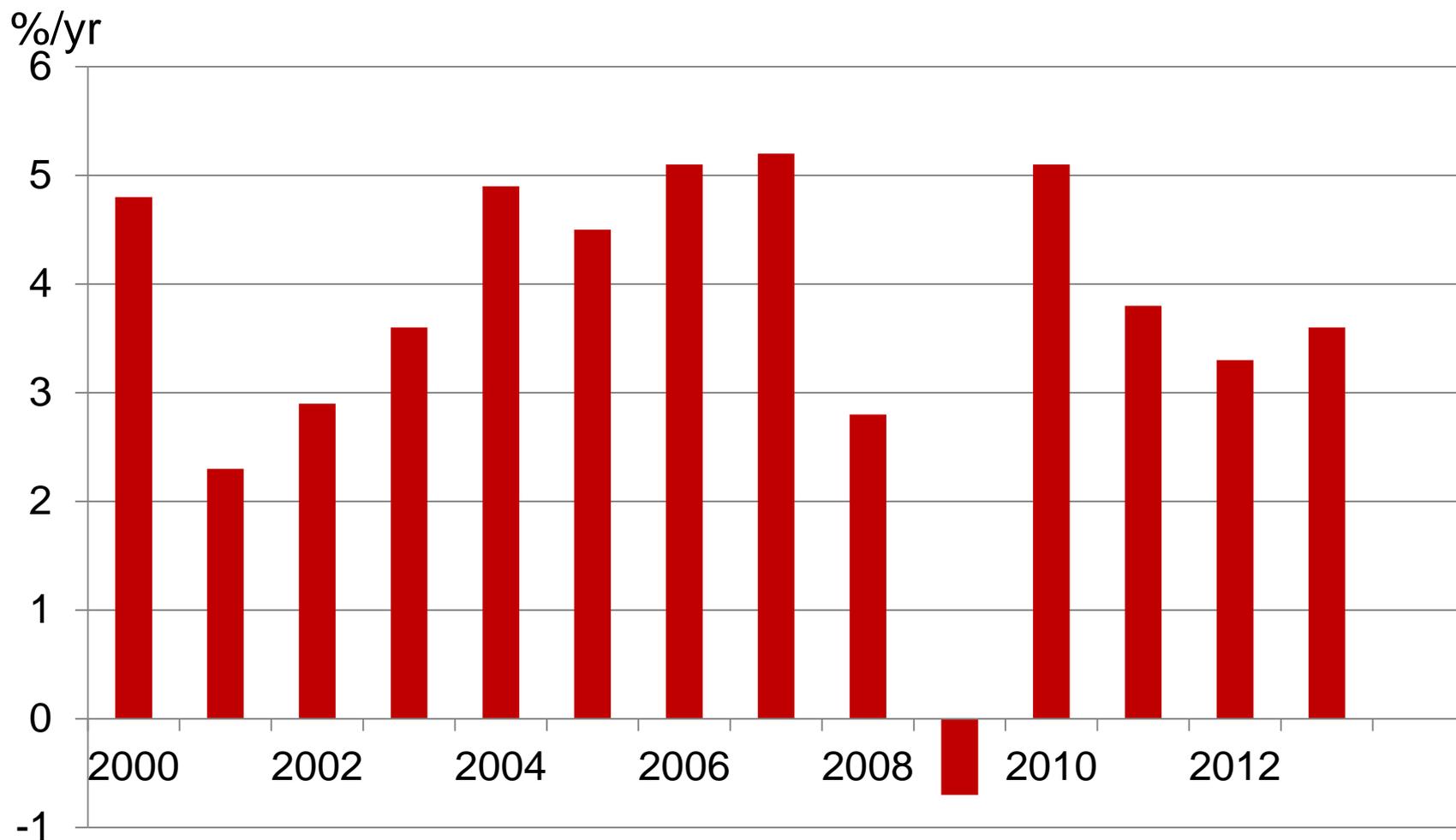
What Was Behind the Commodity Boom?

- Primarily, it is the growth of the developing world. They account for 80-90 percent of global demand growth for commodities
- Dollar depreciation raises the purchasing power of other currencies, and stimulates the demand for commodities priced in dollars.
- Low U.S. interest rates can raise the price of commodities by lowering the cost of borrowing, reducing the price of storage, and encouraging speculation.

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

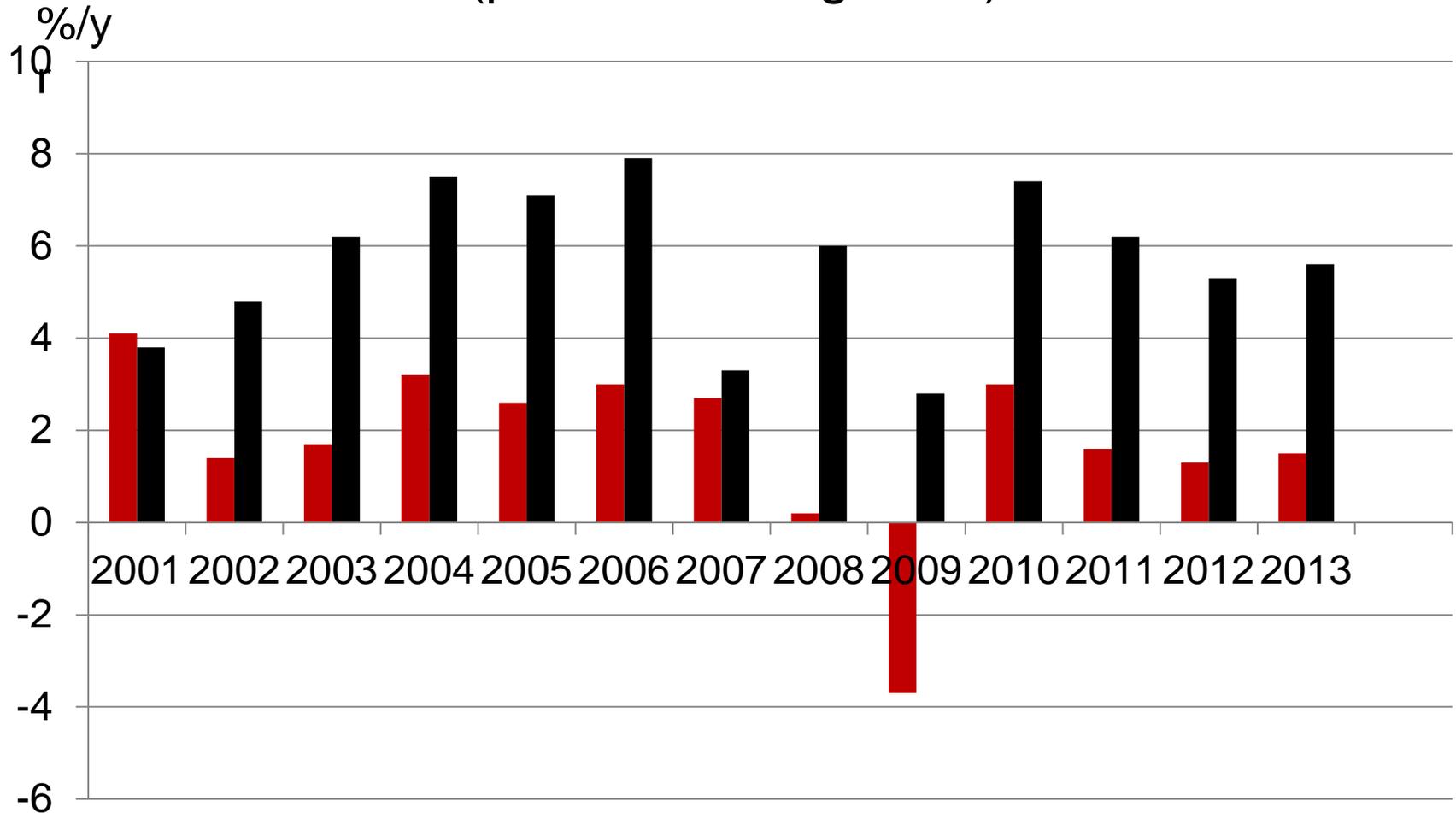
- Strong internal growth dynamics
- A rising share of the global economy
- More resilient policy framework
- But spillovers from the developed world still a factor – accounting for maybe 35 percent of growth for emerging economies, 45 percent for more commodity dependent

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



IMF World Economic Outlook update, October 2012

The developing world continues to outperform by a wide margin (percent GDP growth)



IMF World Economic Outlook update, October 2012

Global Growth Slows in 2012

(% GDP Growth)

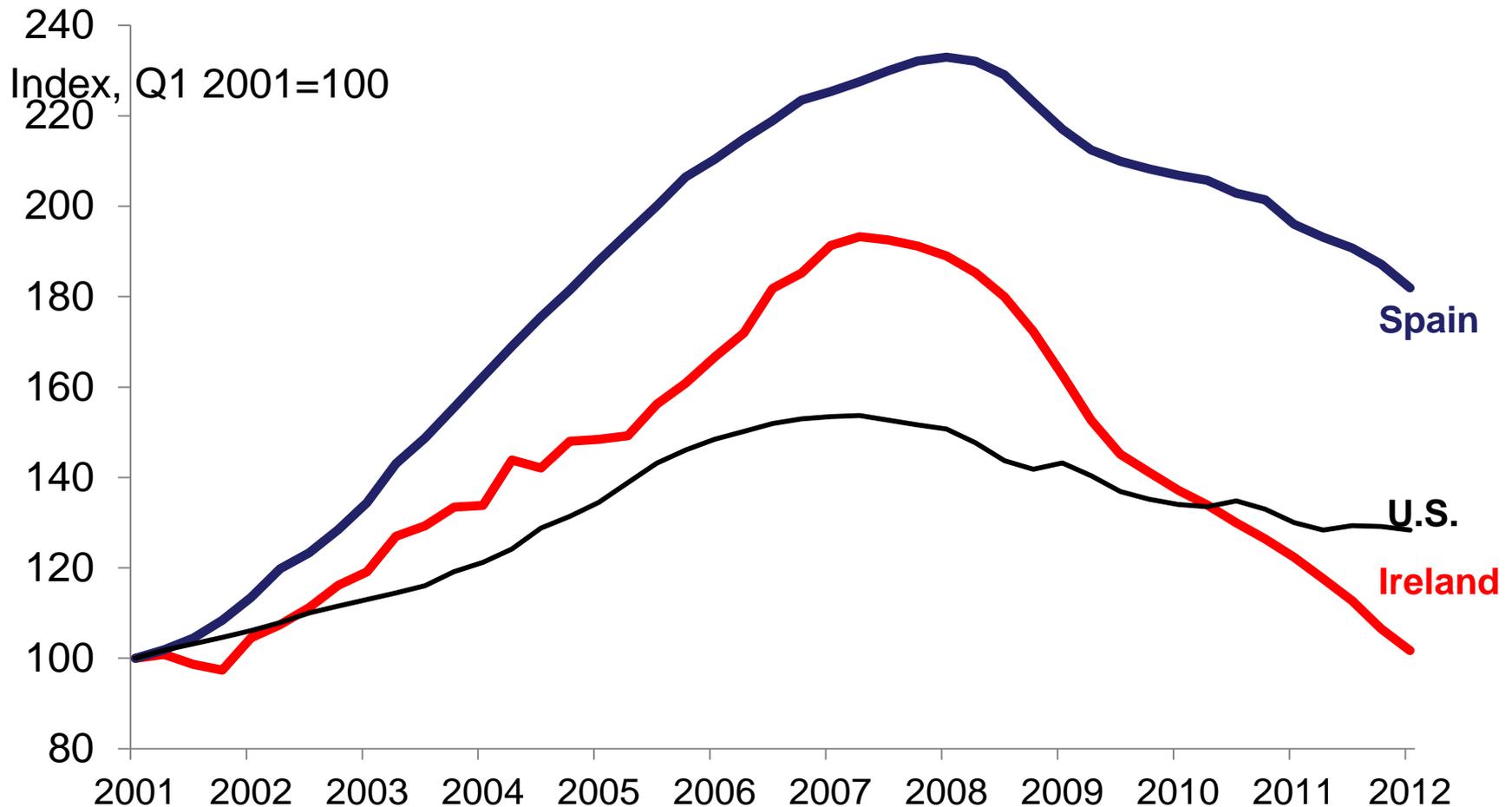
	2010	2011	2012	2013
World	5.1	3.8	3.3	3.6
US	2.4	1.8	2.2	2.1
Europe	2.0	1.4	-0.4	0.2
Japan	4.5	-0.8	2.2	1.2
	---	---	---	---
China	10.4	9.2	7.8	8.2
India	10.1	6.8	4.9	6.0
Brazil	7.5	2.7	1.5	4.6

Source: IMF World Economic Outlook, October 2012 update

The problem with Europe

- Got the cart before horse – economic union without political or fiscal union
- Is there a way out?
 - Fiscal union
 - Exit of the problem countries
 - Kick the can down the road while the time bomb in the banking system continues to tick

Housing prices collapse – especially in Ireland and Spain – leaving banks with more bad debt

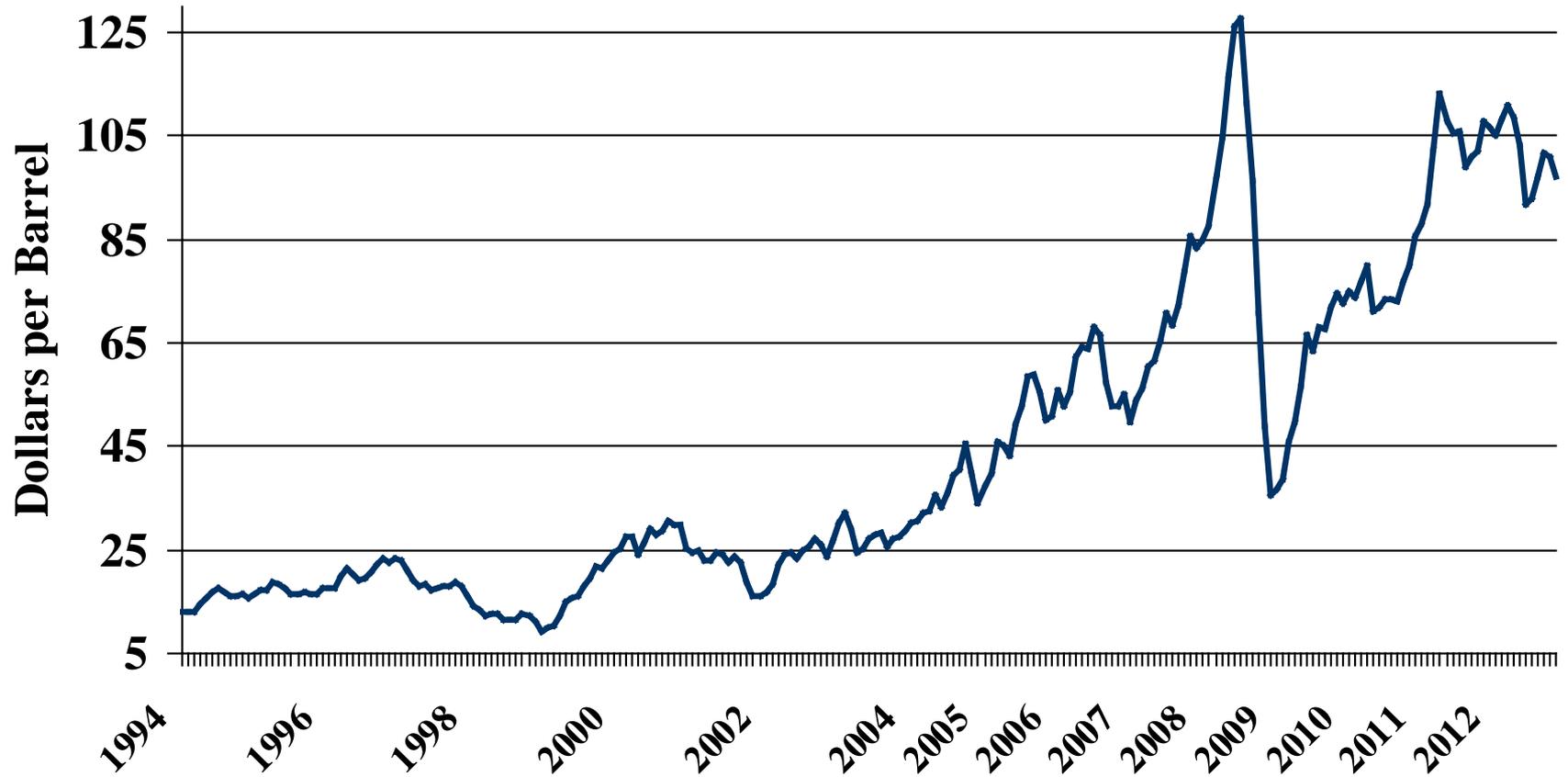


Another H1, H2 Scenario?

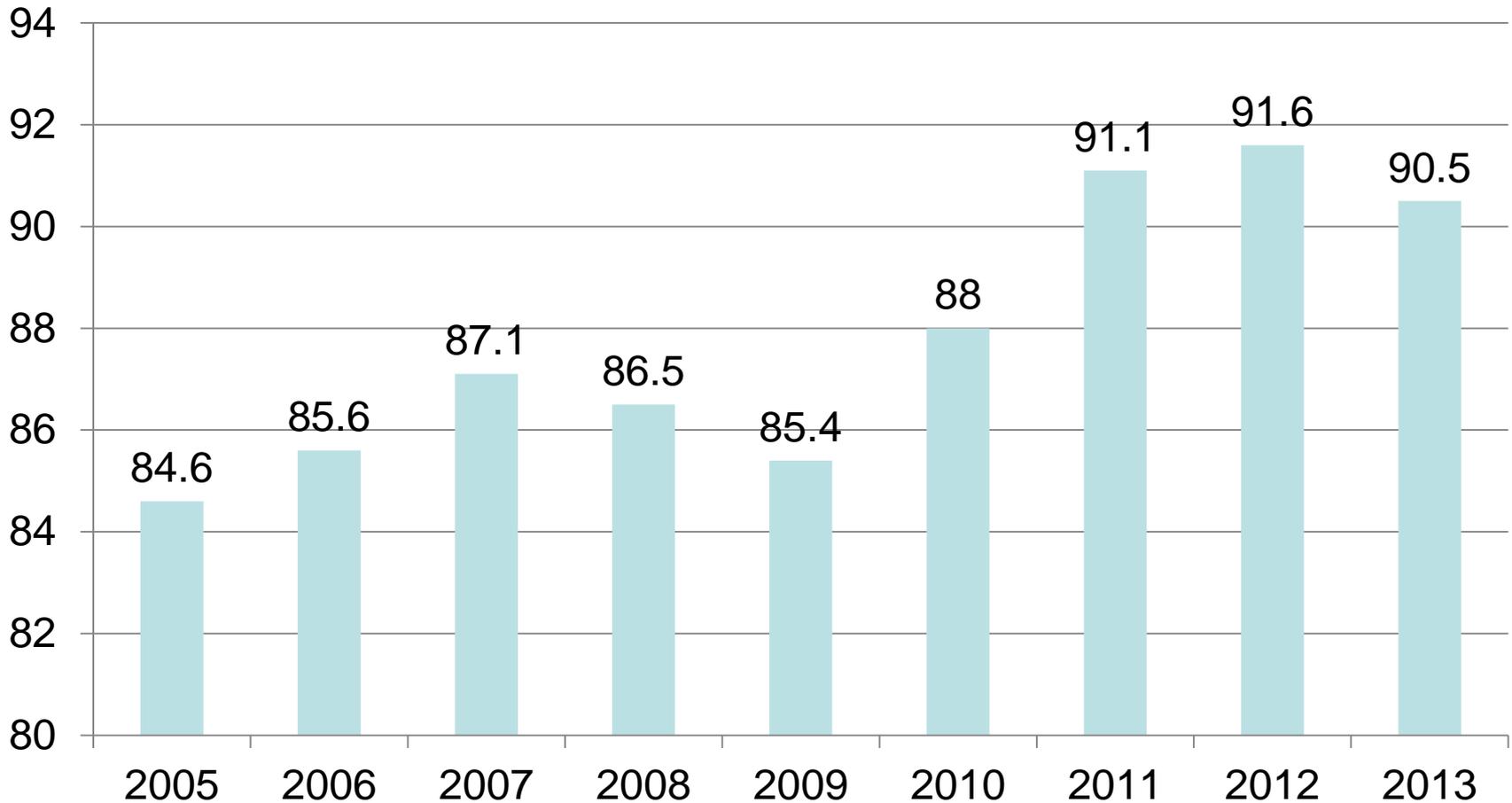
- Already seeing positive signs of growth in China, other emerging countries
- The base scenario: European recovery begins in the second half of 2013
- The global economy then gains momentum into 2014, providing support for oil and other commodity prices
- With a weak US economy, this turn is important to Houston and Texas

Oil markets healthy if emerging
markets remain strong

Refiners' Acquisition Cost of Crude Oil Gulf Coast 1994 to Present

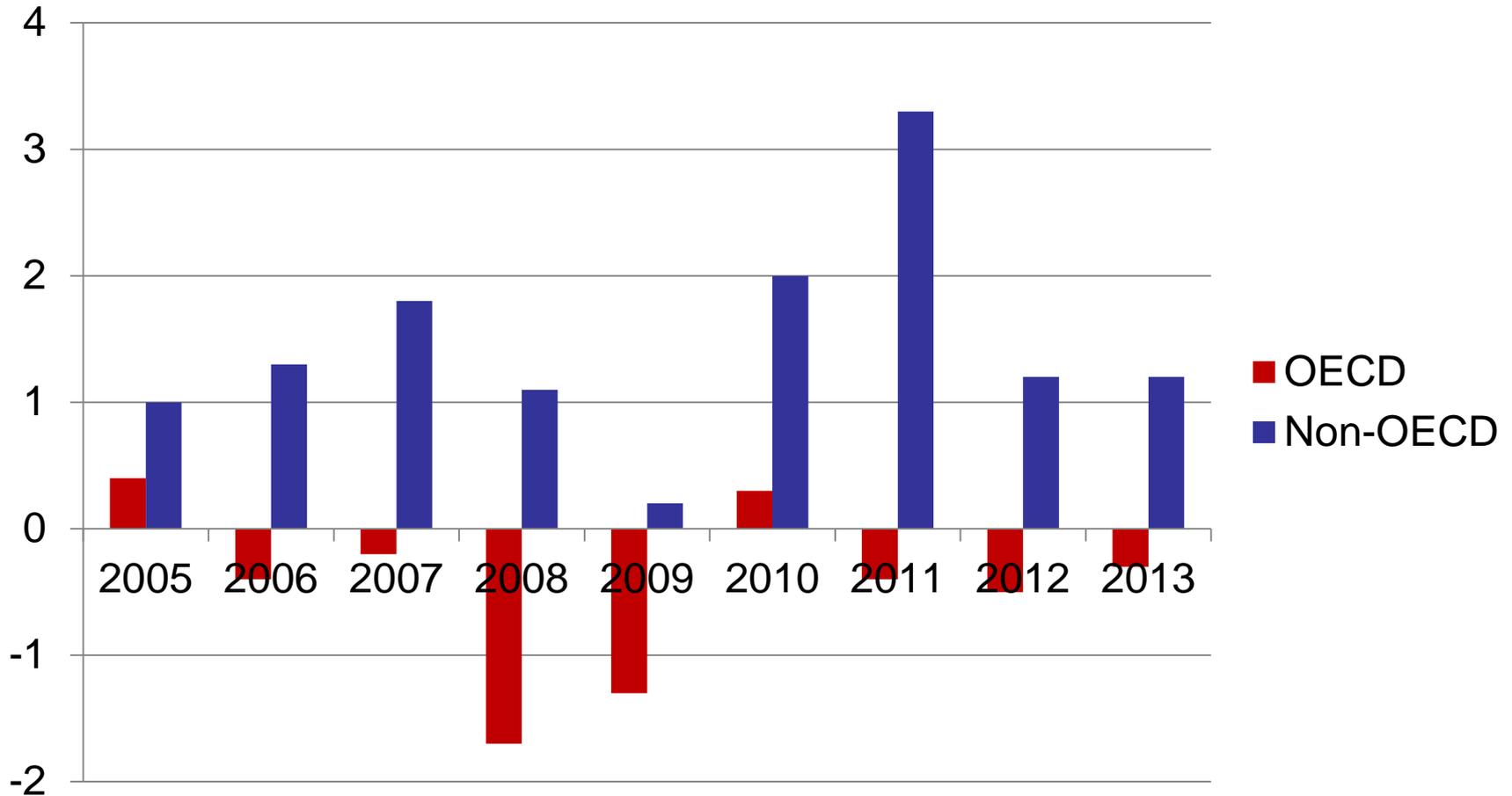


World oil demand staggered under global recession, recovers in 2010-2011 (million barrels per day)

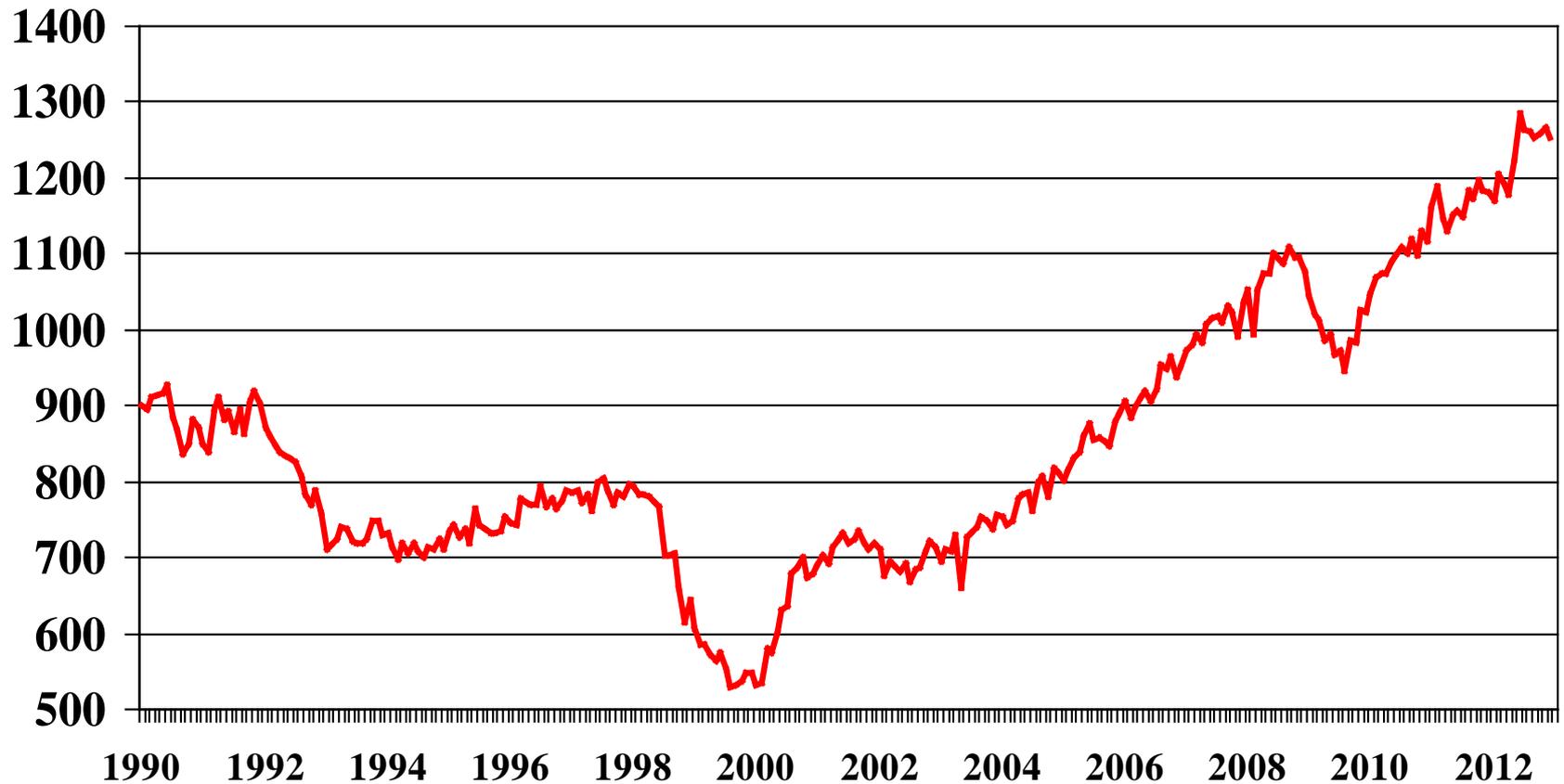


Recovery in Oil Demand Led By Asia and the Developing World in 2010

(Million bbls/d)



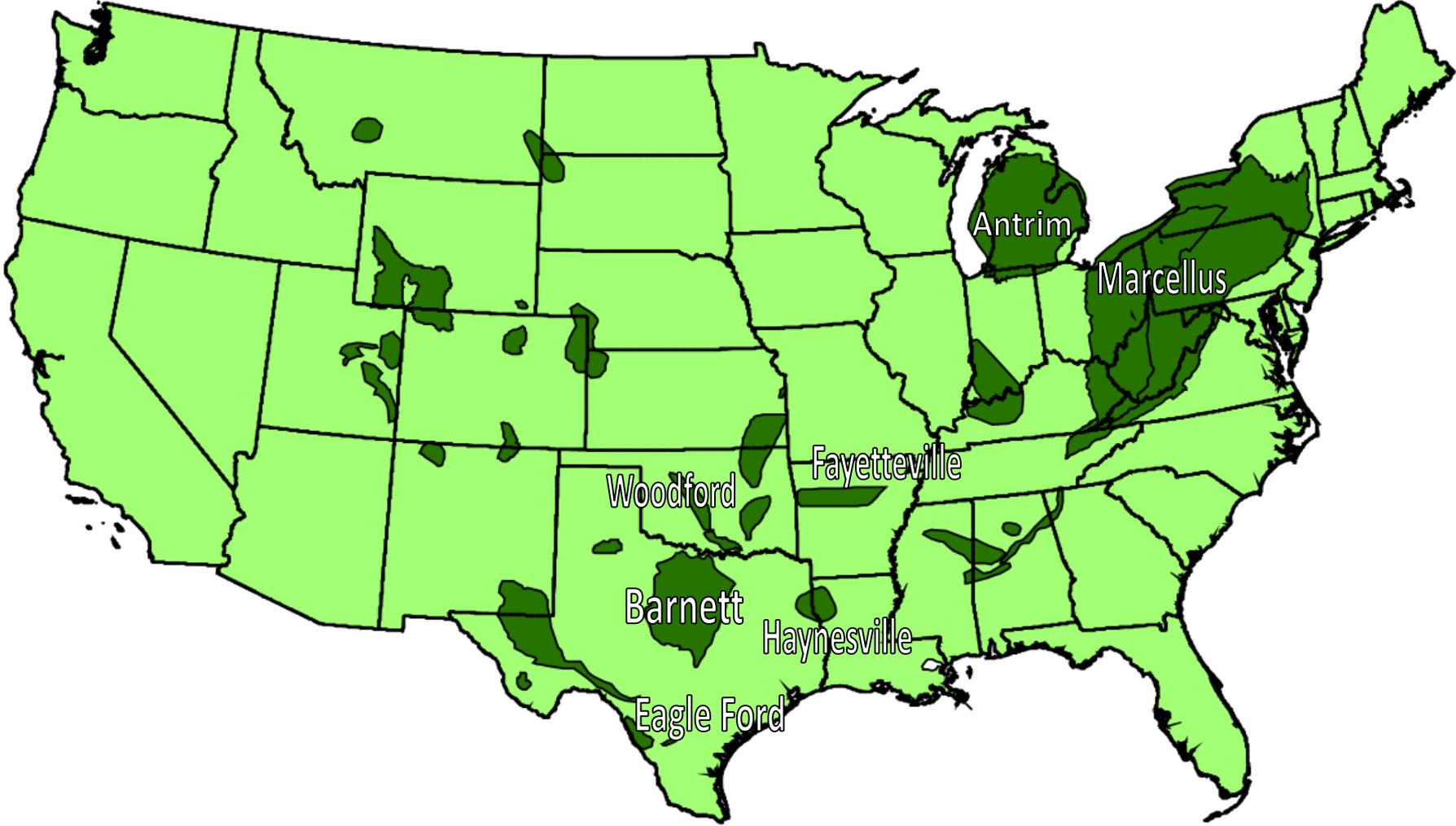
International Rig Count Finds New Peak Levels



Excludes Iran and the Sudan

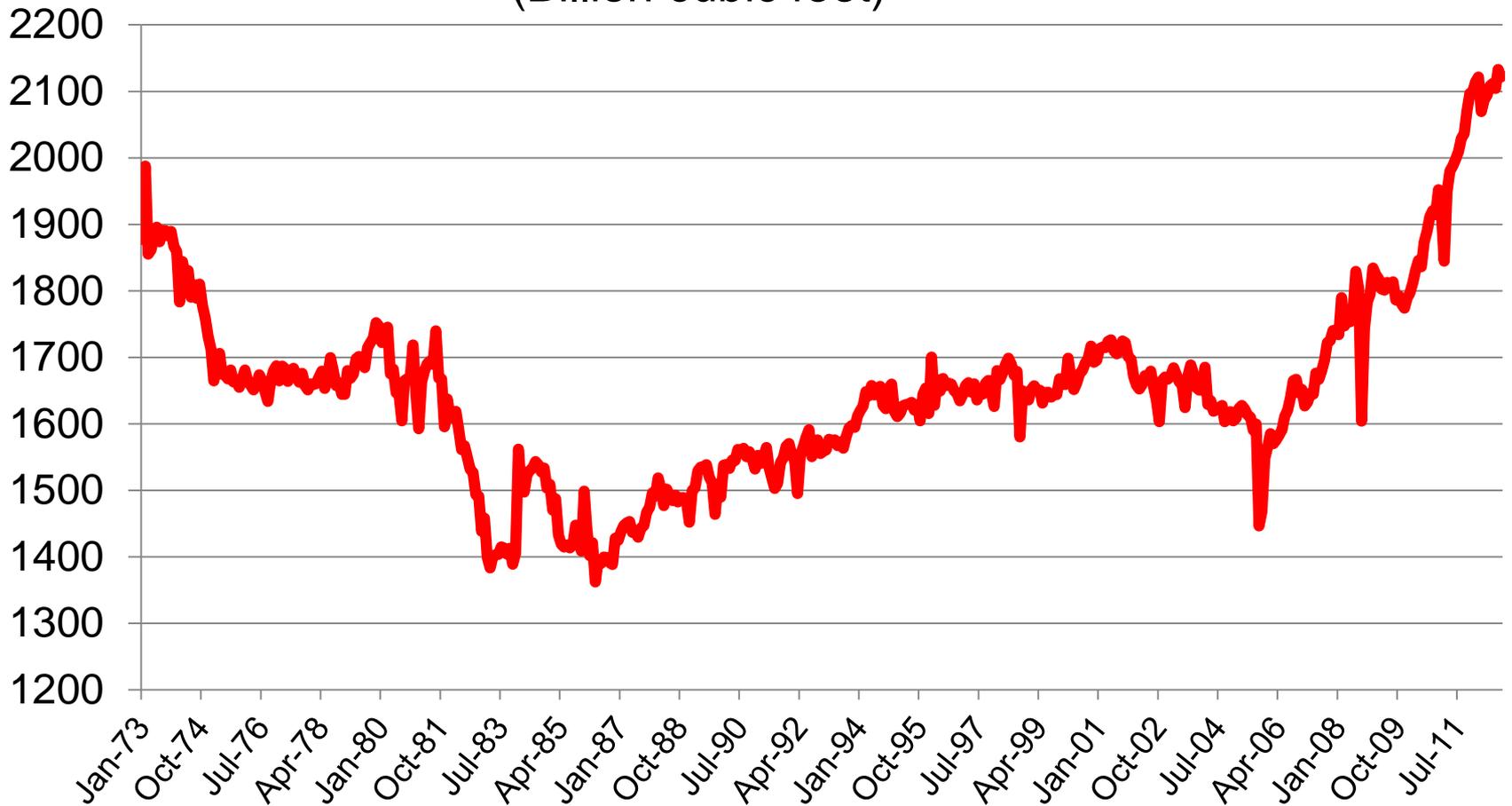
Domestic drilling hurt by
over-supply of natural gas

Natural Gas from Shale: New Supplies of Clean Fuel



Since 2005 U.S. Marketed Natural Gas Production Has Grown Rapidly

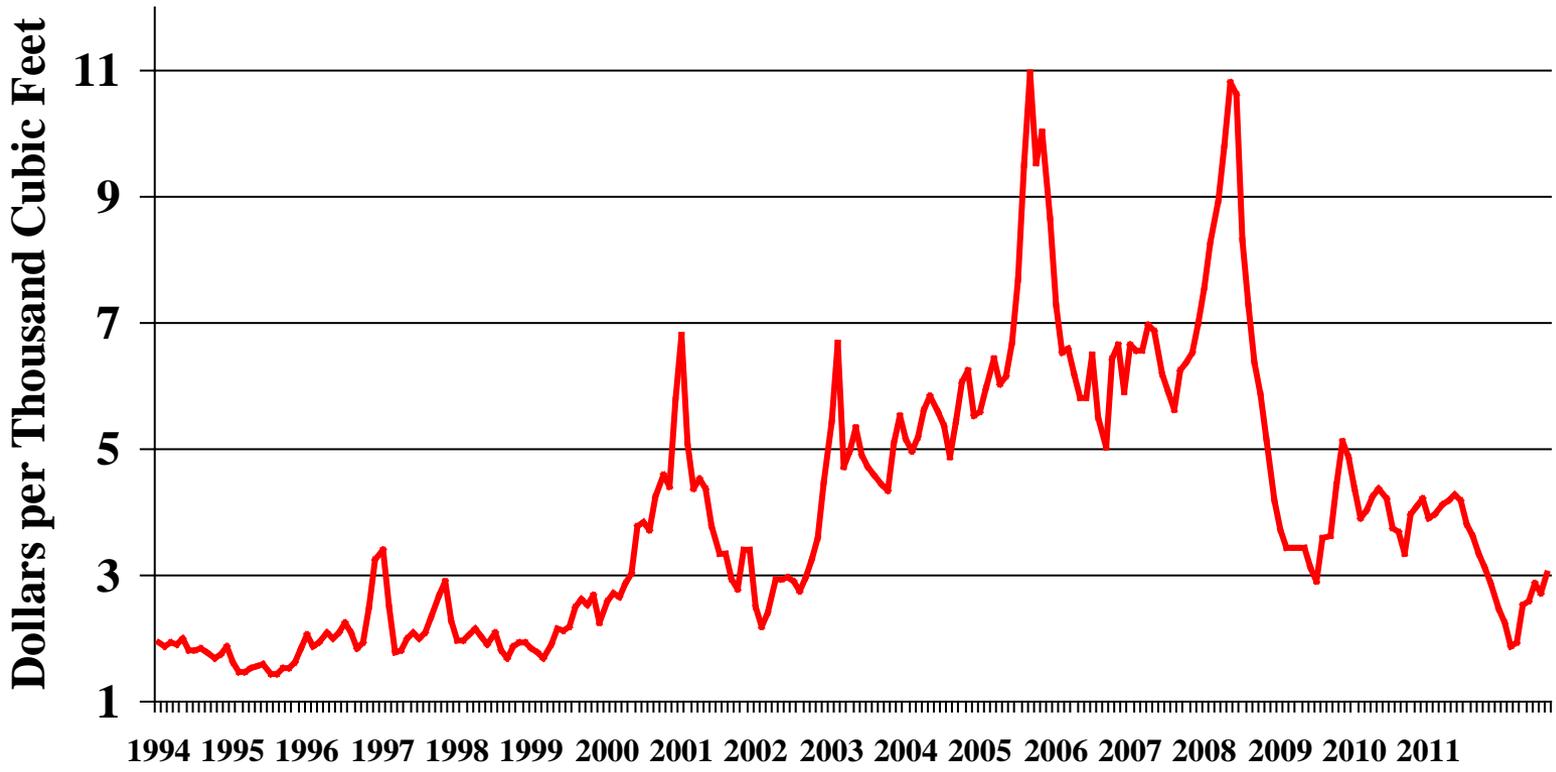
(Billion cubic feet)



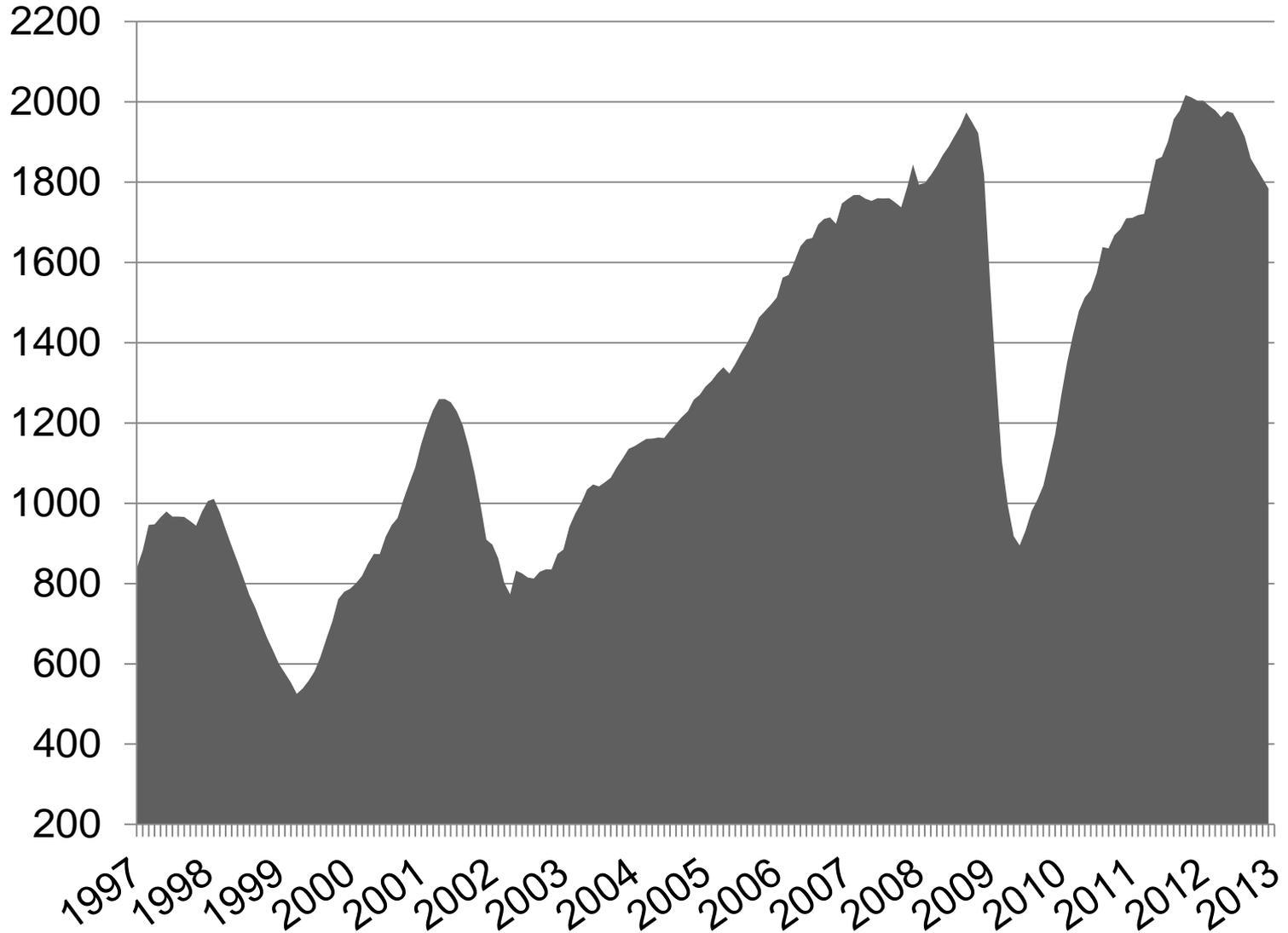
DOE/EIA, seasonally adjusted

Wellhead Price of Natural Gas

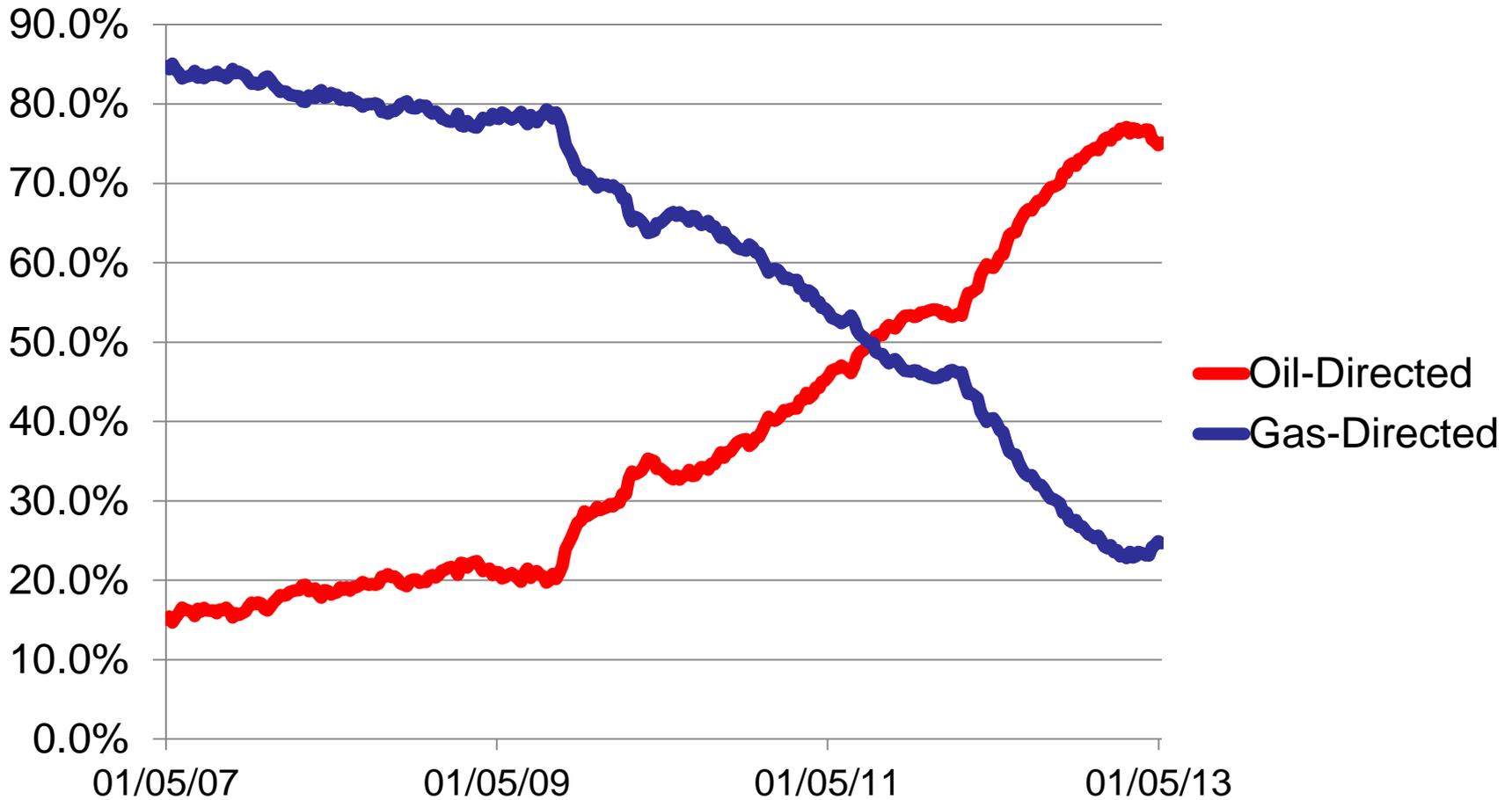
1994 to Present



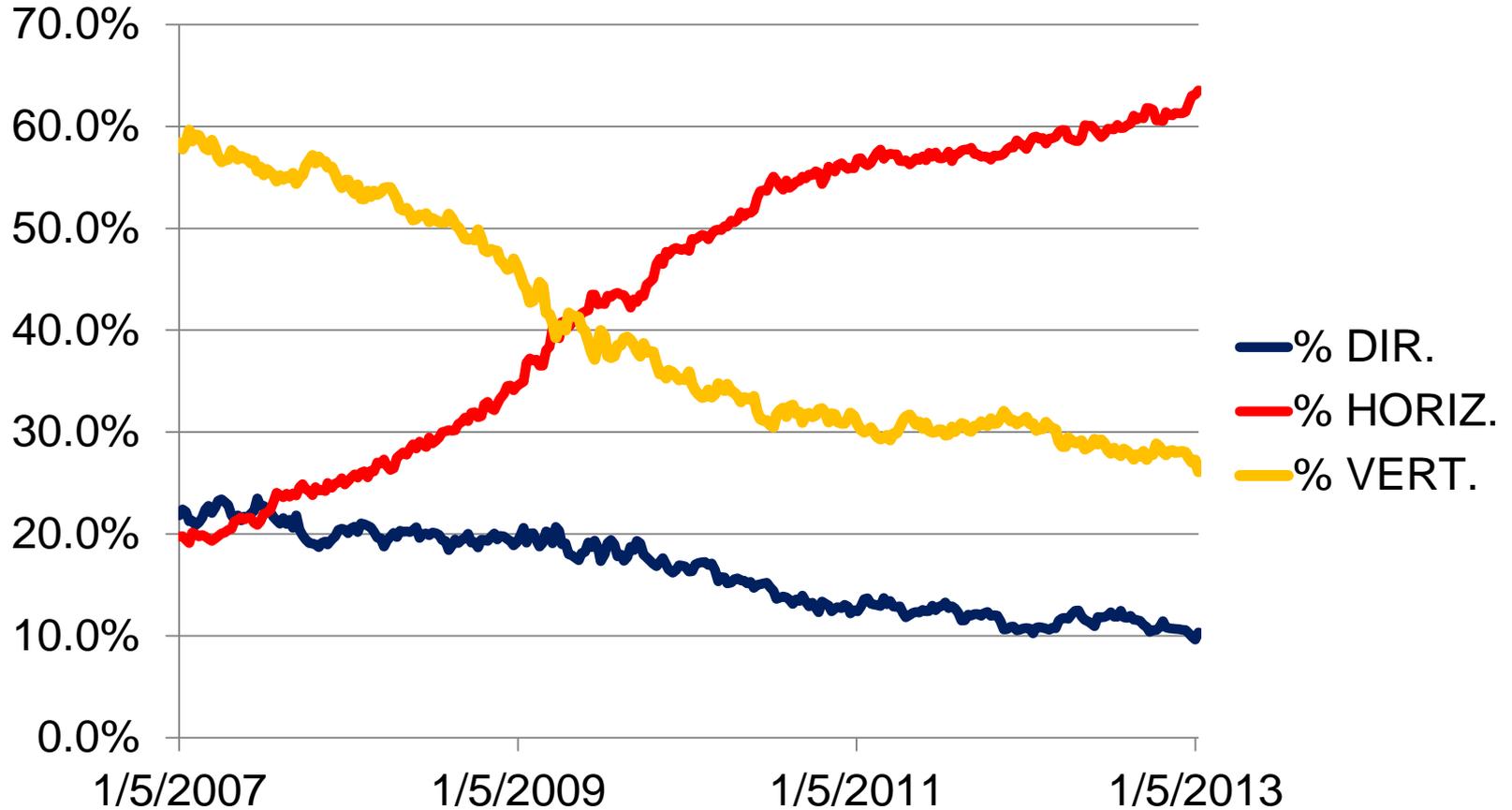
US Rig Count Weakens on Low Natural Gas Prices



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



Horizontal Drilling Grows with Shale Gas, Complex Oil Projects

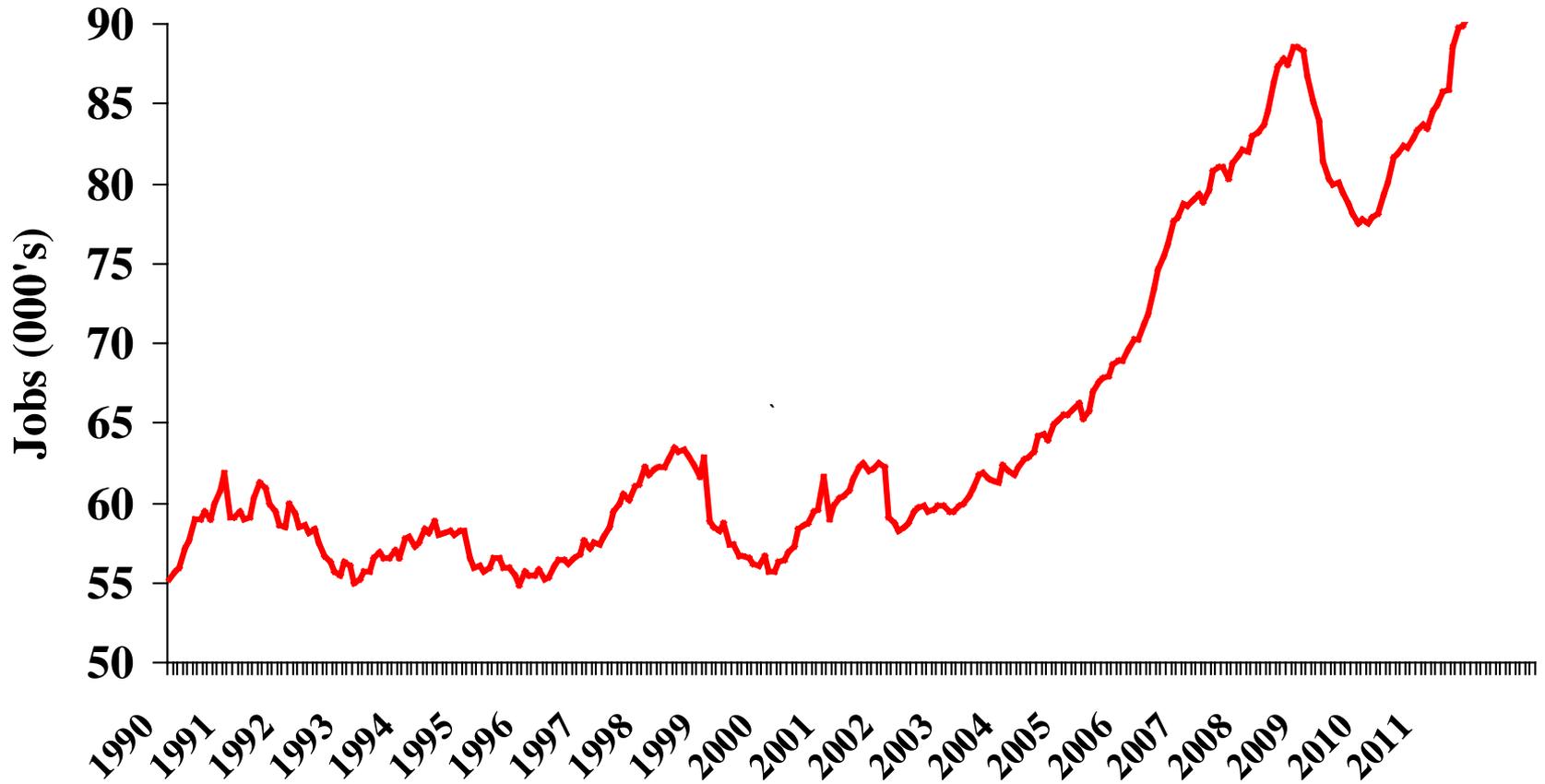


Drilling Outlook for 2013

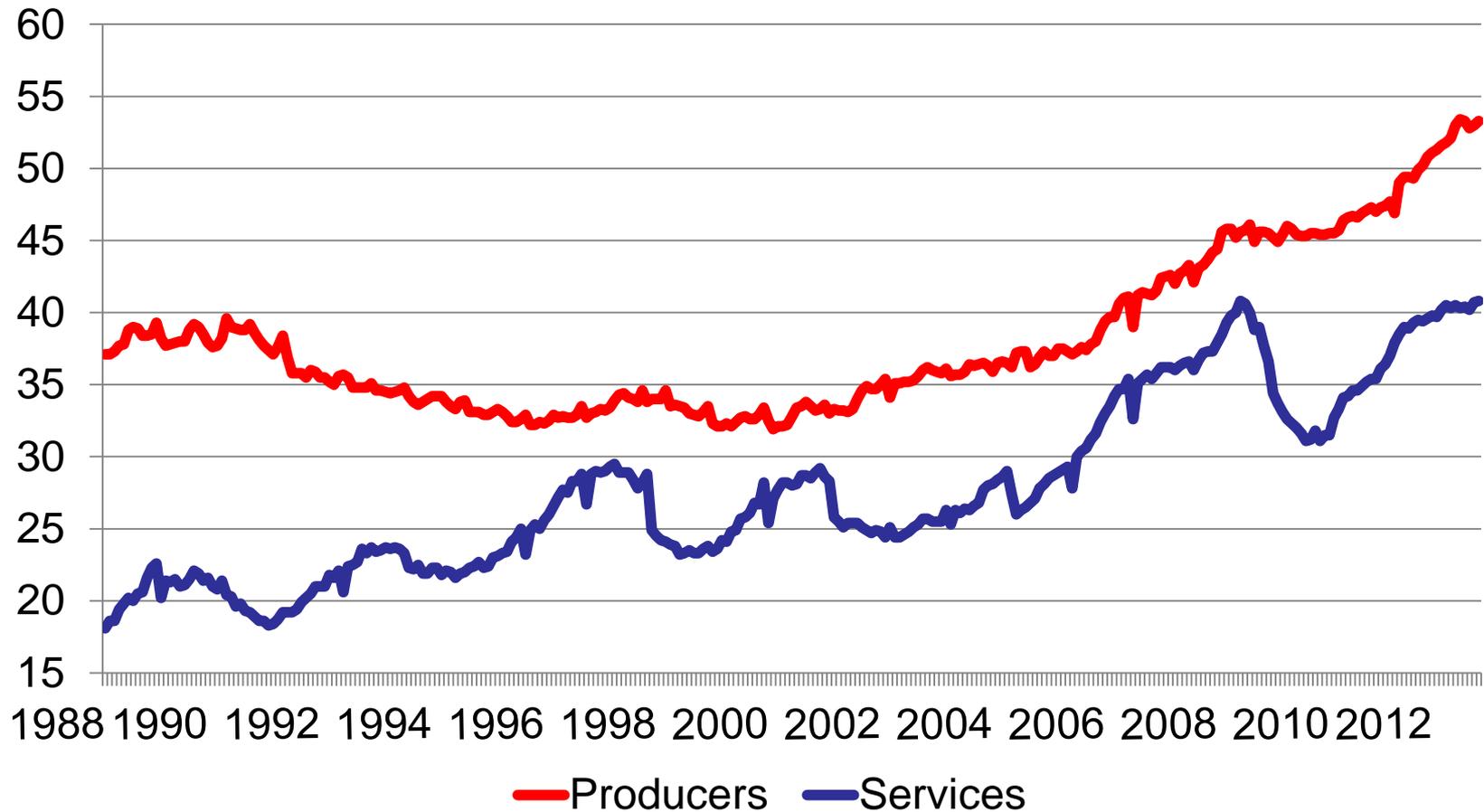
- Oil markets depend on growth in emerging markets, but price over \$70/bbl will support global drilling
- Natural gas production yet to peak, demand from US economy not strong, improvement in price will be slow
- Deep-water drilling in the Gulf is returning rapidly
- Base case: Overall high levels of activity continue, weaker profit outlook

Upstream Energy Brings Jobs to Houston

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

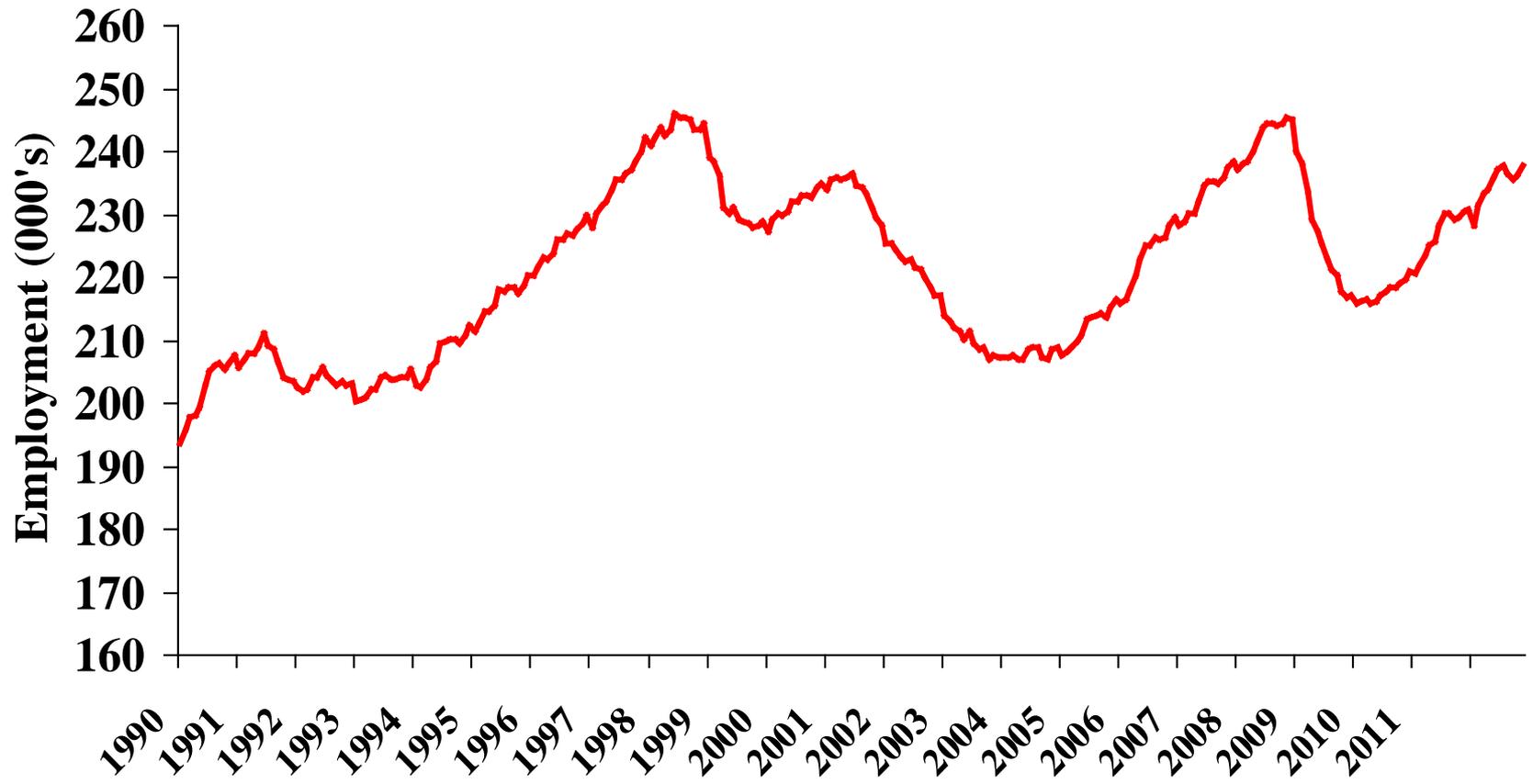


Producer and oil service jobs show recent weakness in Houston



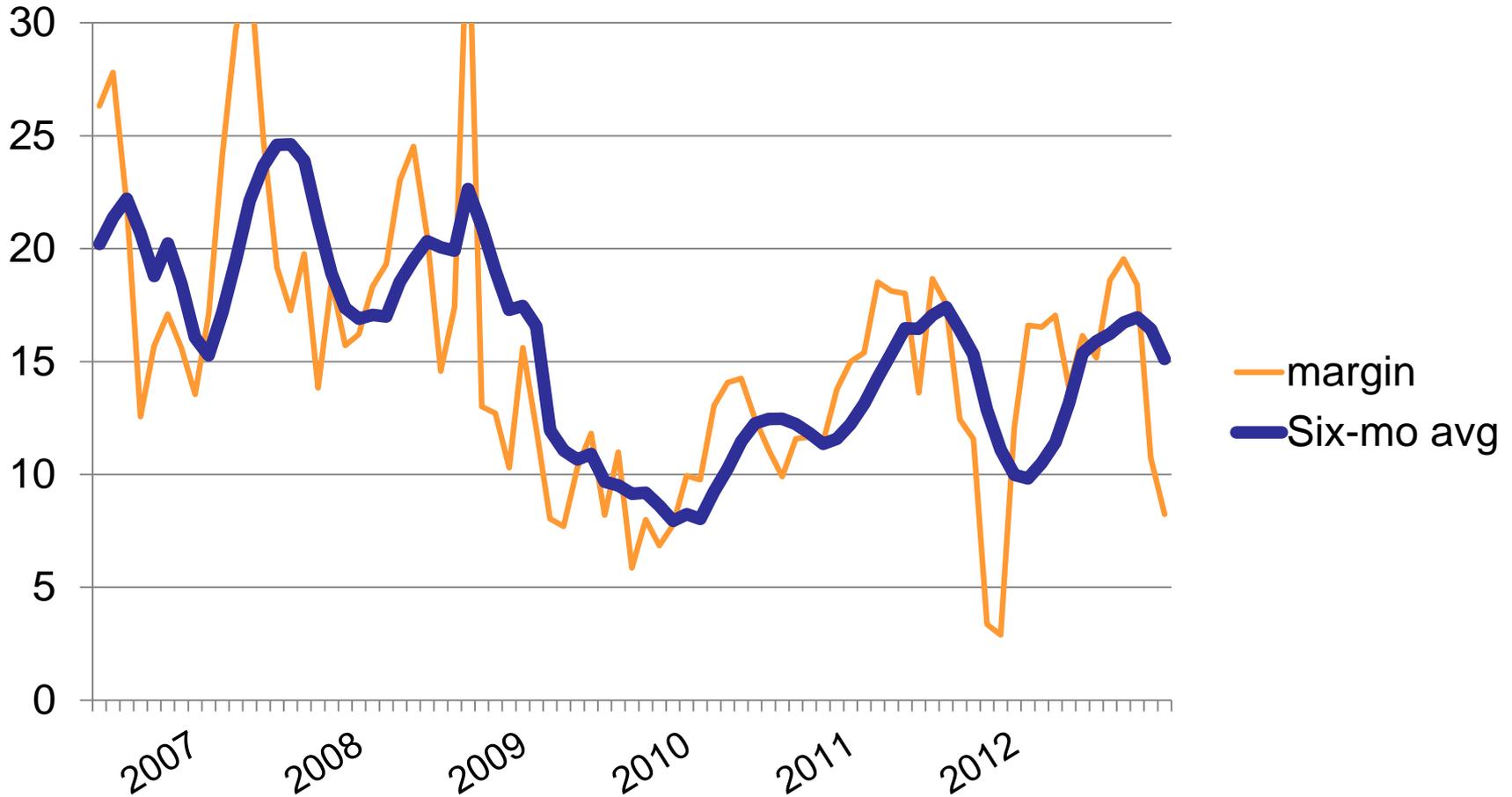
Manufacturing Jobs in Houston

1990 to Present



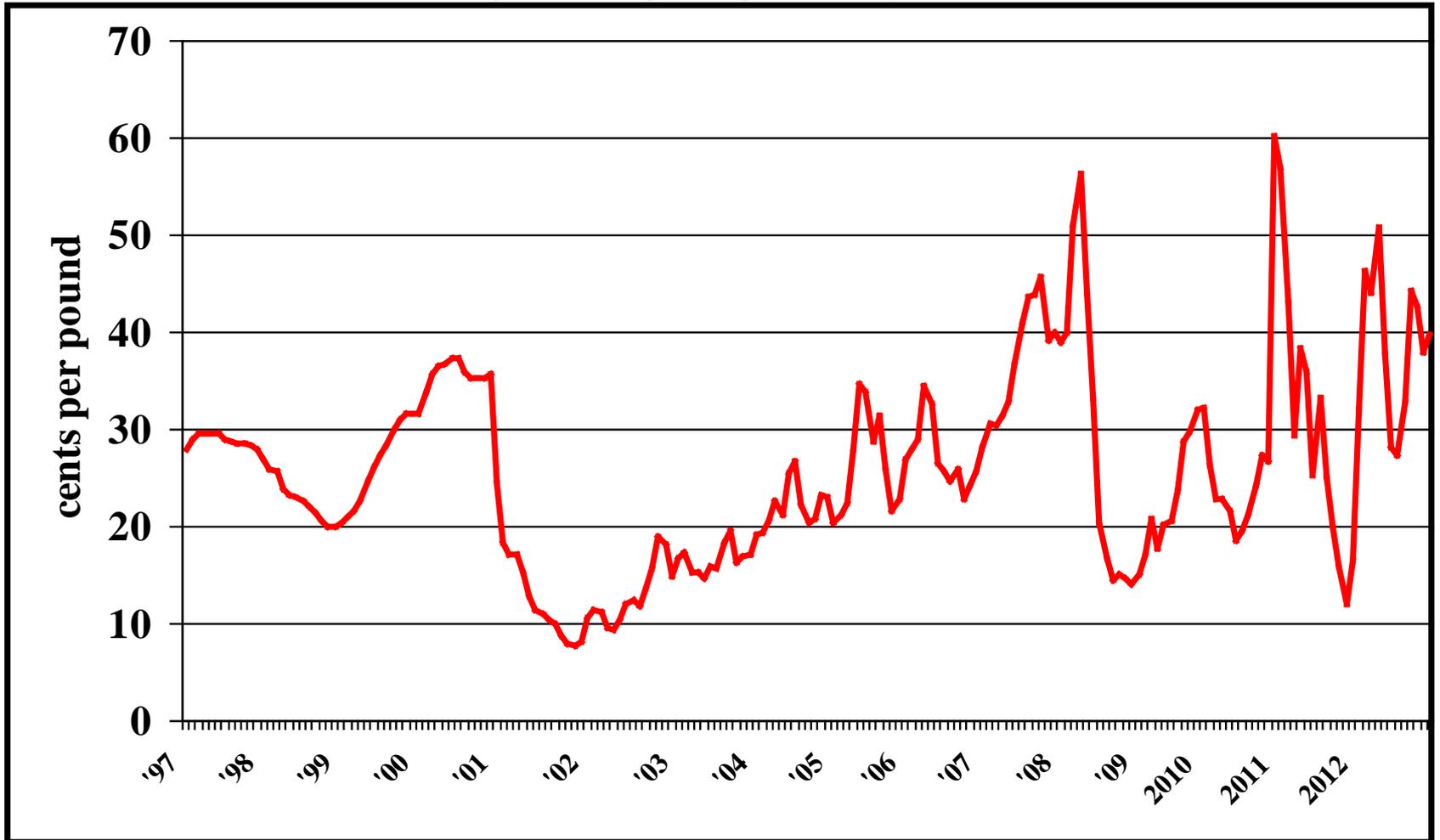
Downstream margins healthy,
cheap natural gas drives
petrochemical construction

Gulf Coast Refining Margin (\$/bbl)



Ethylene Margins

(cents per pound)



New Ethylene Capacity Concentrated on the US Gulf Coast

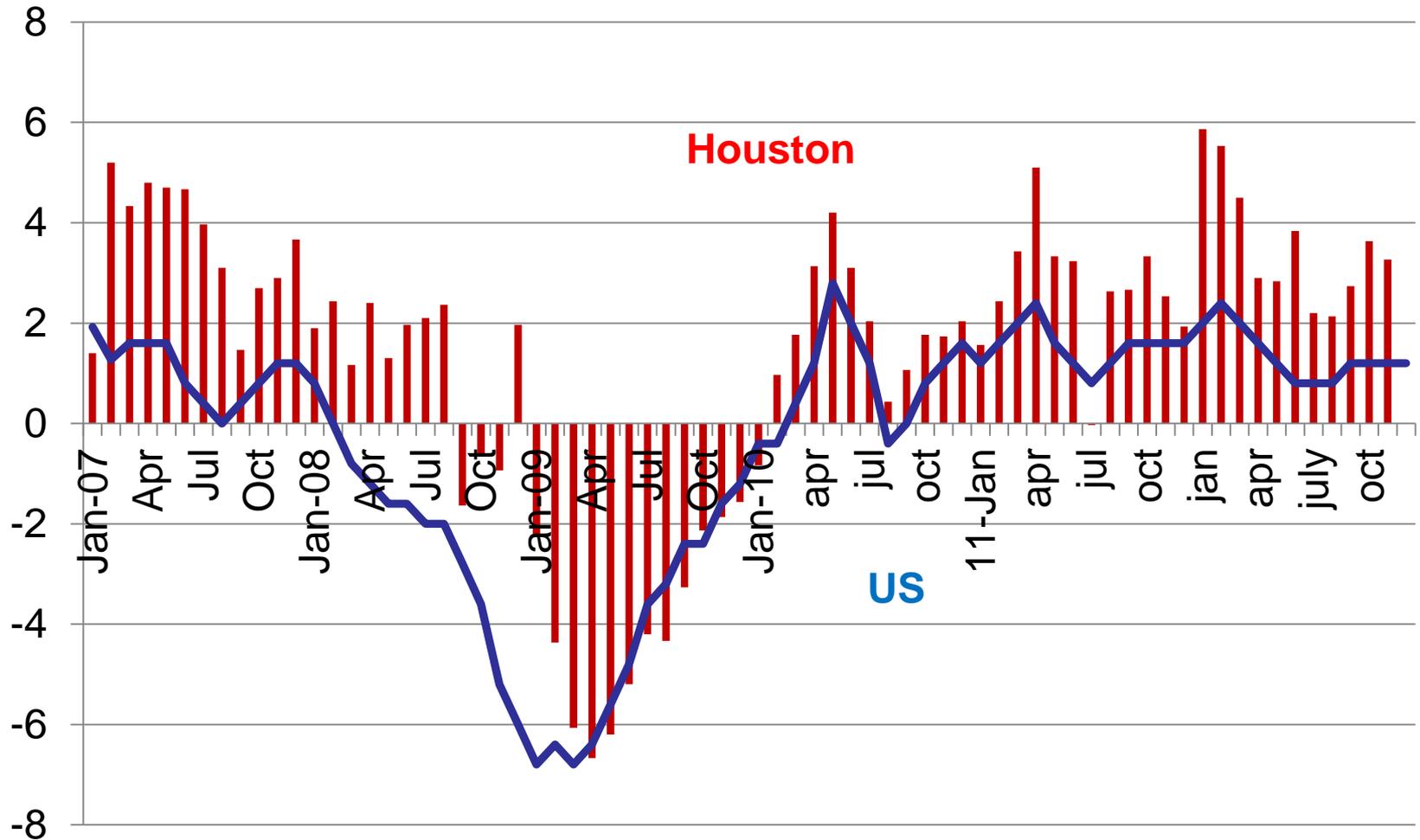
Company	Location	Capacity (mm lb/yr)	Start-Up
Exxon	Baytown	3,300	2016
Chevron Phillips	Baytown	3000	2017
Dow Chemical	US Gulf Coast	4,200	2017
Ineos	Lake Charles, LA	3,000	2018
CP Chem	Baytown, TX	2,500	2016/2017
Braskem/Idesa	Mexico	2,200	2015
Shell Chemical	Pennsylvania	2,000	2016+
Formosa	Point Comfort, TX	1,760	2015
LyondellBasell	LaPorte, Texas	1,450	2012-2014
Dow Chemical	Hahnville, LA	800	2012Q4
Williams	Lake Charles, LA	600	2013Q3
Westlake Chemical	Lake Charles, LA	230	2012
Ineos	Chocolate Bayou, TX	230	2013

What does it mean for
Houston?

Economic conditions in Houston a little softer in 2013

- Houston's recovery was powered by trade and energy, as we reached past a slow-growing US economy to tap into rapidly expanding global markets
- 2012 global expansion fell to 3.5 percent or less, with Brazil, China, and India slowing. A 2013 recovery in Europe and acceleration in emerging economies is the likely scenario, and important to oil prices
- Weak natural gas prices have slowed domestic land drilling, but oil prices remain strong. International and Gulf of Mexico drilling offset revenues lost to natural gas
- Downstream engineering and construction also will help offset weakness upstream

Houston employment shows strength in recovery (3-month percent change at annual rates)



Houston Economy: 2013 Brings Slower Growth and Higher Risk

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January 2013
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Industrial Production Index Shows Recent Weakness

