

From Scarcity to Abundance: How the Energy Boom is Transforming America's Economy

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Federal Reserve Bank of Dallas

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The opinions expressed are solely those of the presenter and do not reflect the opinions of the Federal Reserve Bank of Dallas or the Federal Reserve System.

June 18, 2014

NEW BOOM IN THE OIL PATCH

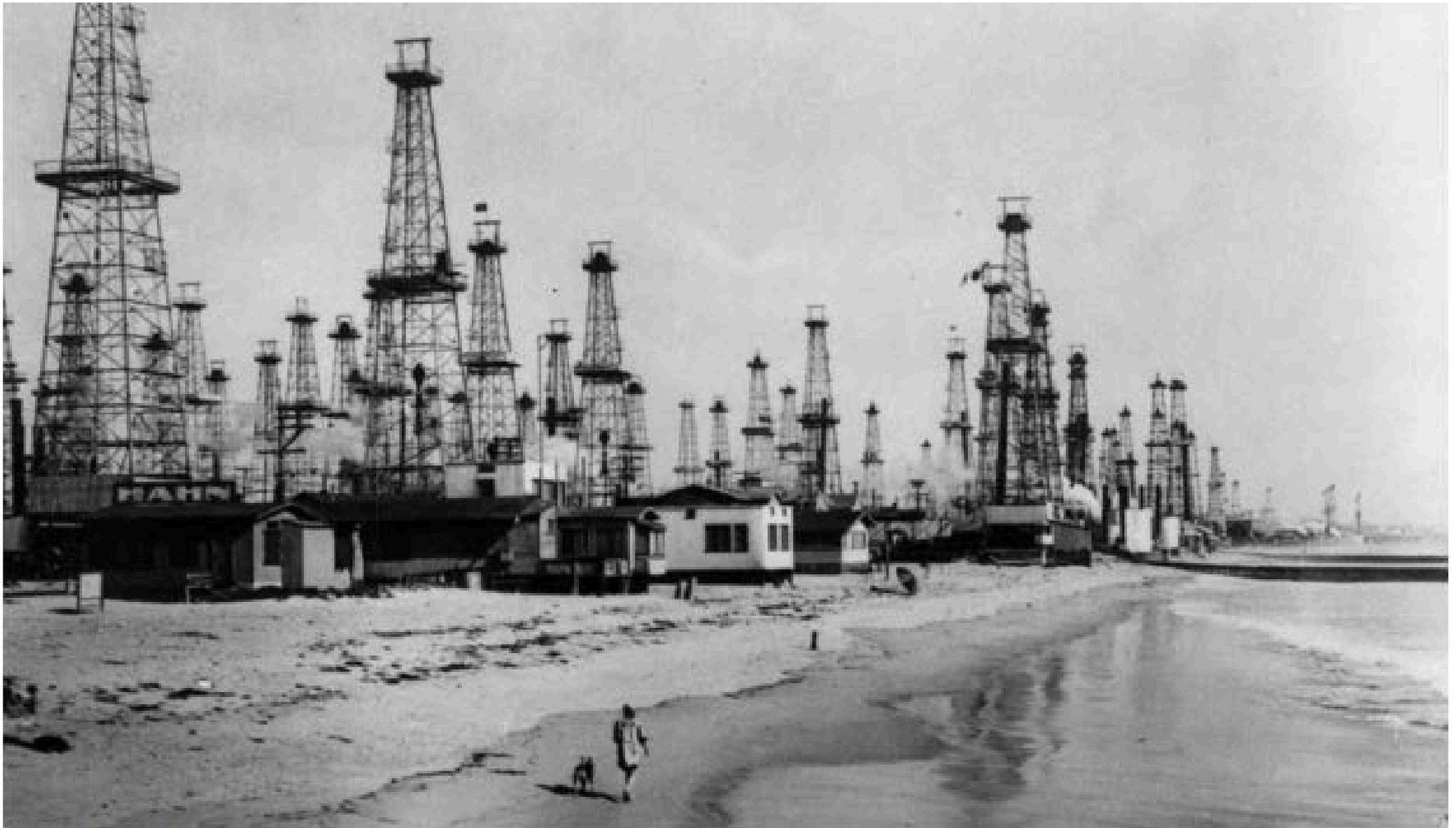


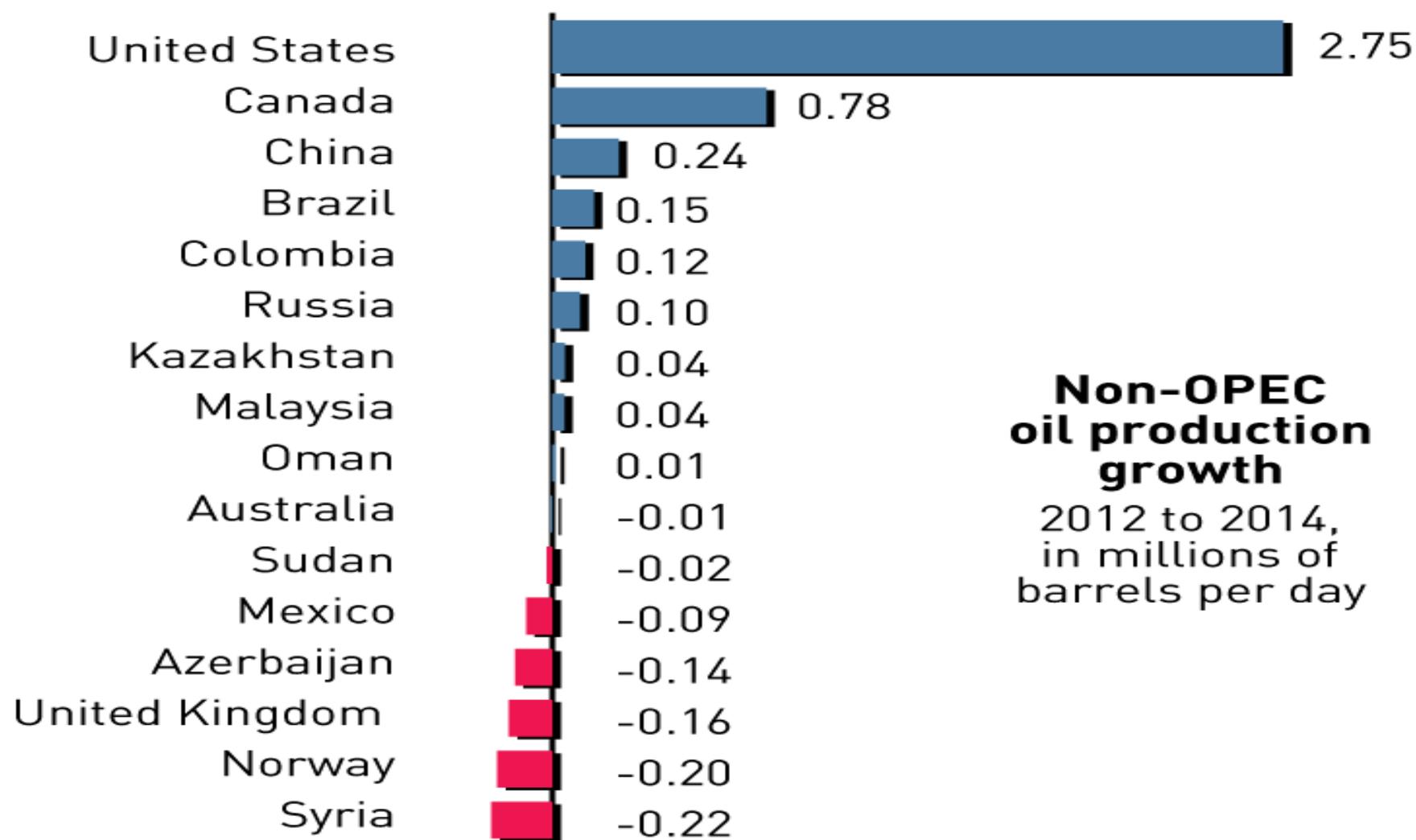
Photo by Getty Images; Circa 1920: The oilfield at Venice, California.

TYPICAL FRACKING PAD SITE IN PENNSYLVANIA



U.S. Leads The Oil Revolution

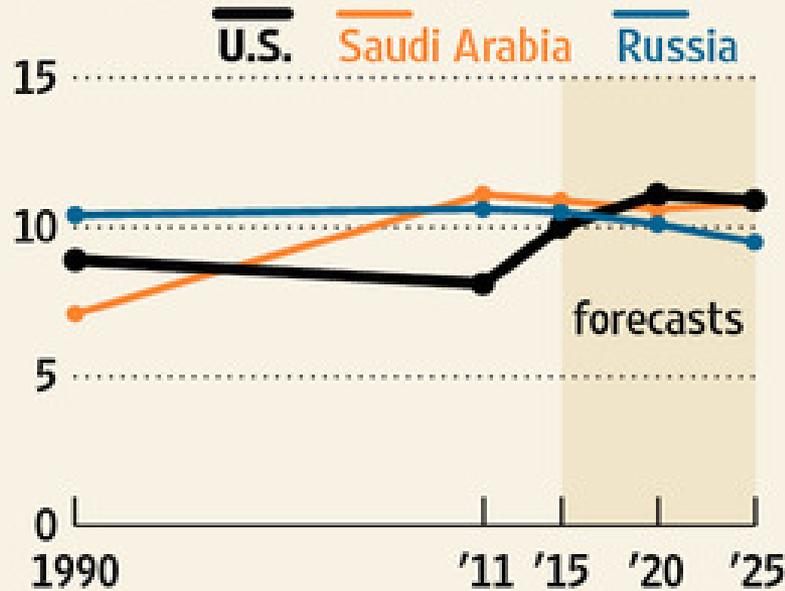
The U.S. Energy Information Agency predicts big growth in U.S. oil output. A new International Energy Agency forecast is even more optimistic.



U.S. to Leapfrog Saudis

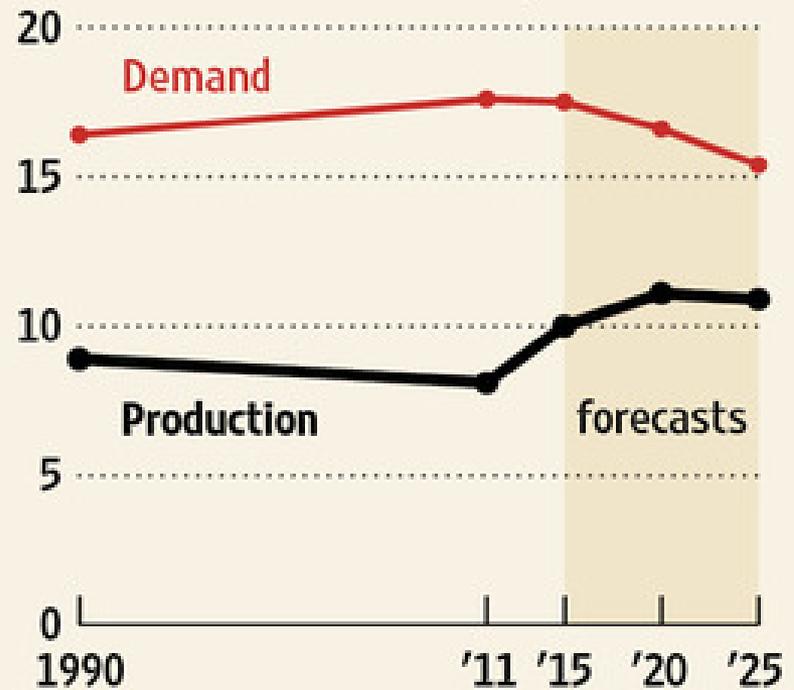
The U.S. is set to overtake Saudi oil output thanks to unconventional reservoirs...

Oil production,
in millions barrels a day



...while its oil demand is expected to fall

U.S. oil demand vs. production,
in millions of barrels a day



Note: Figures include crude and liquids
Source: International Energy Agency

The Wall Street Journal

Free Falling

U.S. net crude-oil imports,
trailing 12-month average

12 million barrels a day



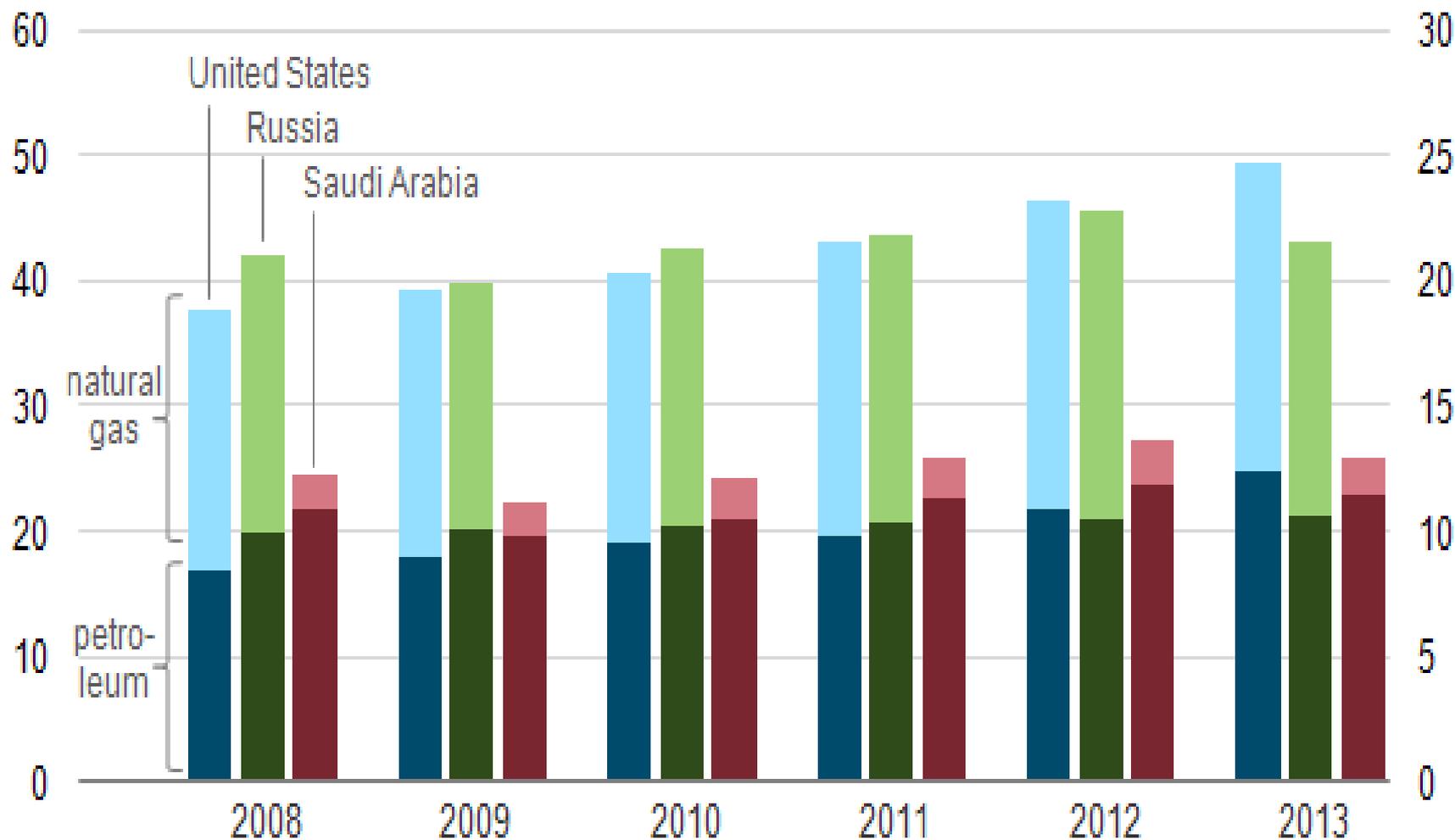
Source: U.S. Department of Energy

The Wall Street Journal



**Pump jacks and wells in an oil field
near McKittrick, Calif.**

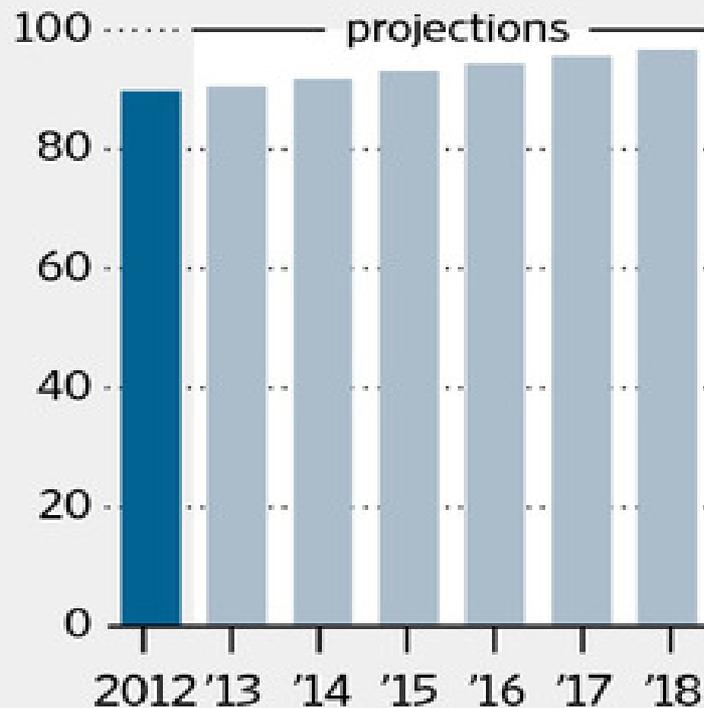
Estimated U.S., Russia, and Saudi Arabia petroleum and natural gas production



Powering Up

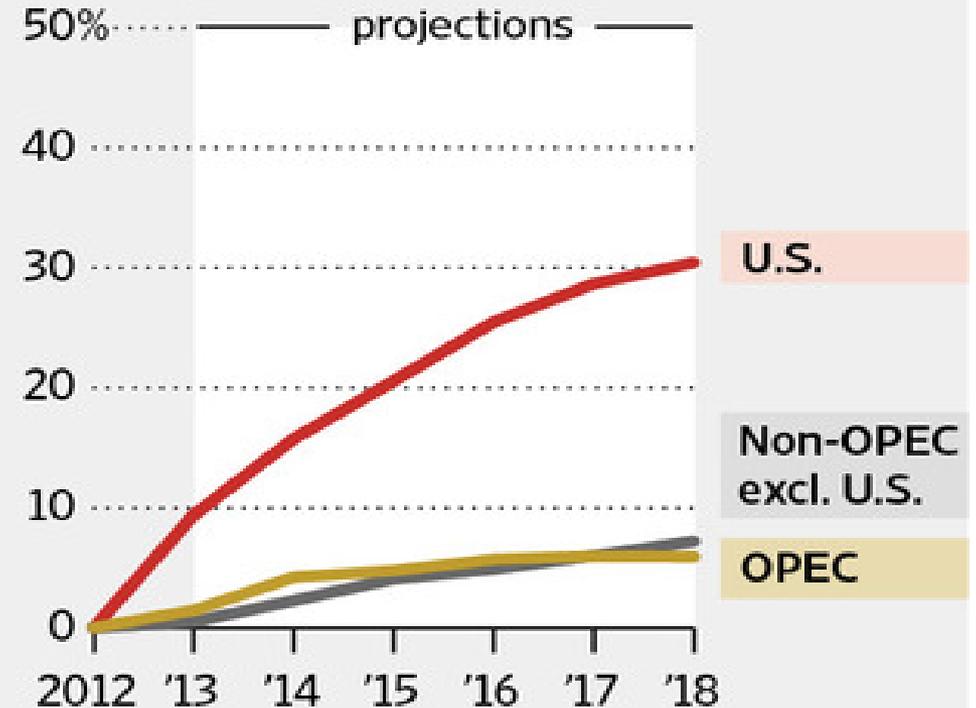
The IEA expects global oil demand to rise...

In millions of barrels a day



...with the U.S. adding enough capacity to meet much of the increase.

Cumulative change in production

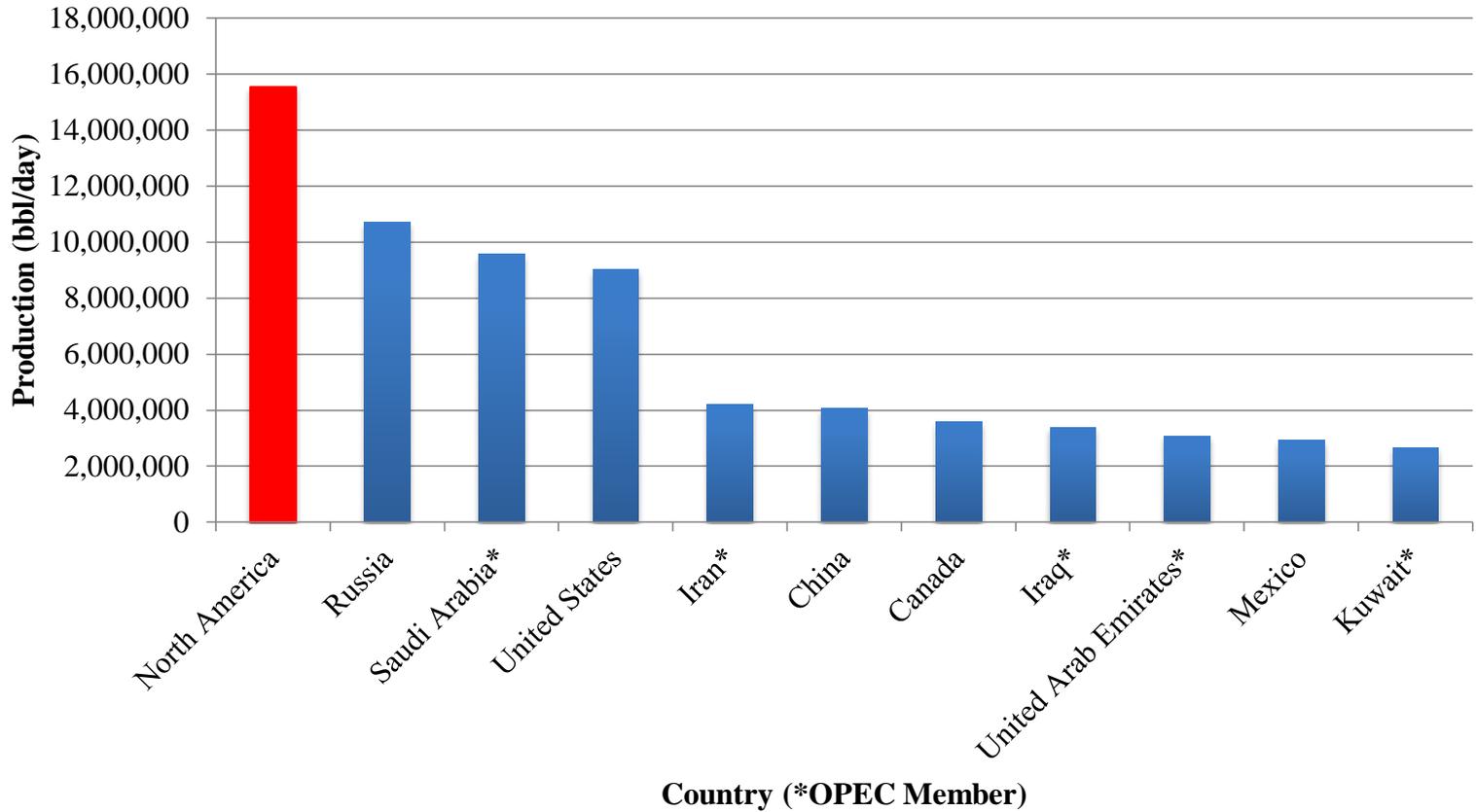


Note: Production data include condensates, natural-gas liquids and oil from nonconventional sources; OPEC crude figures reflect capacity.

Source: International Energy Agency

The Wall Street Journal

Top Oil Producers in 2013



Source: International Energy Agency

The shale gale

Barrels per day, m
United States

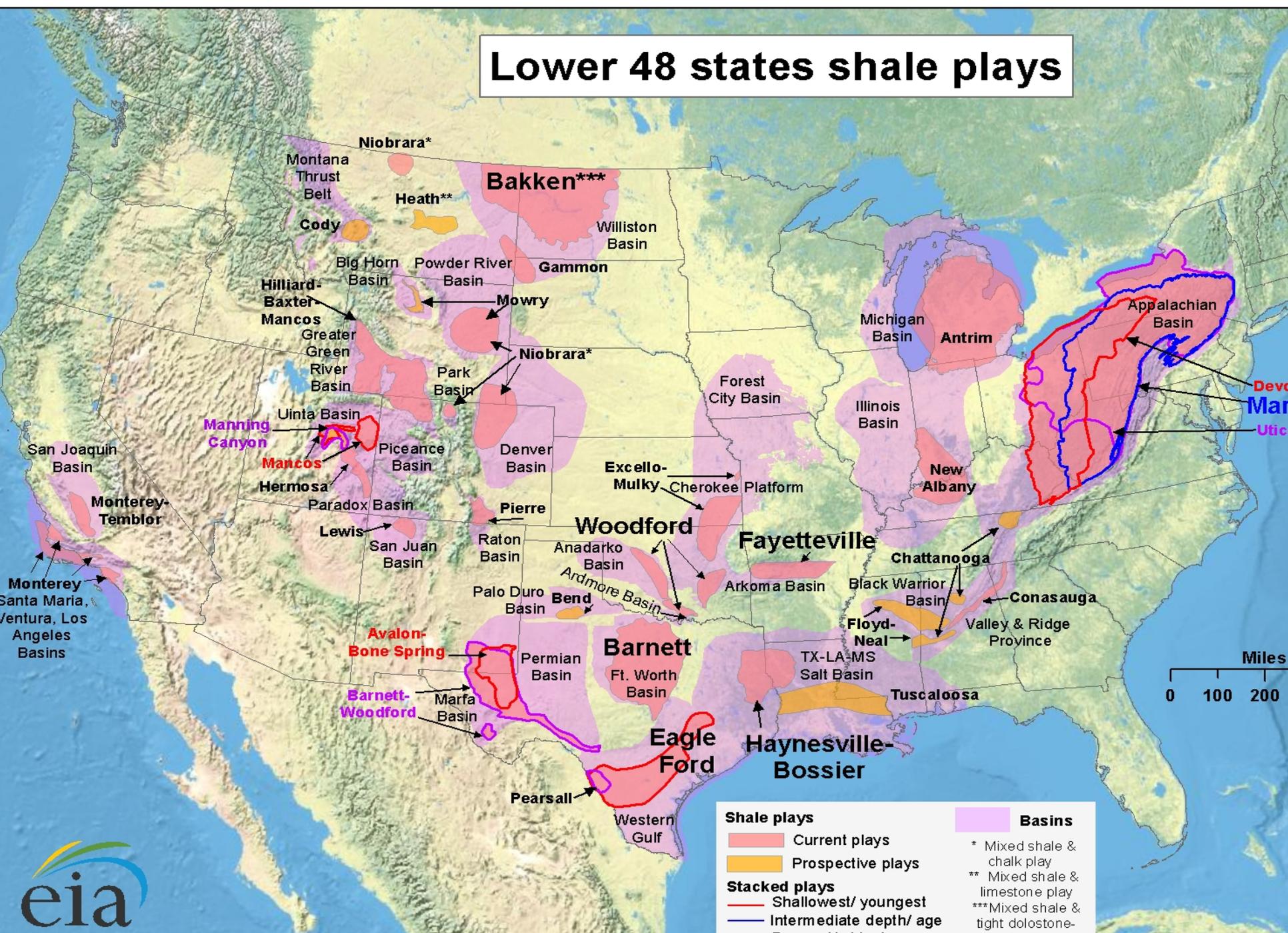
Crude oil production
of which: tight oil*

1



Source: Energy Information Administration *Including shale

Lower 48 states shale plays



Where frackers frack

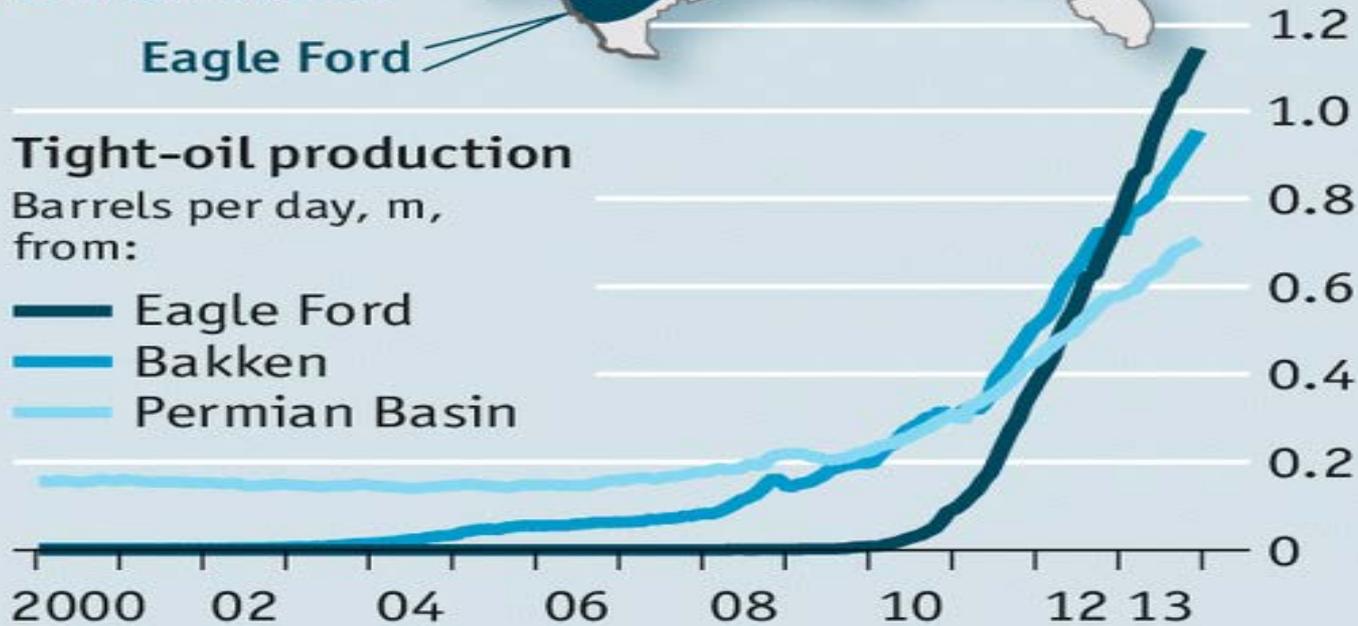
Biggest tight-oil production basins



Tight-oil production

Barrels per day, m,
from:

- Eagle Ford
- Bakken
- Permian Basin

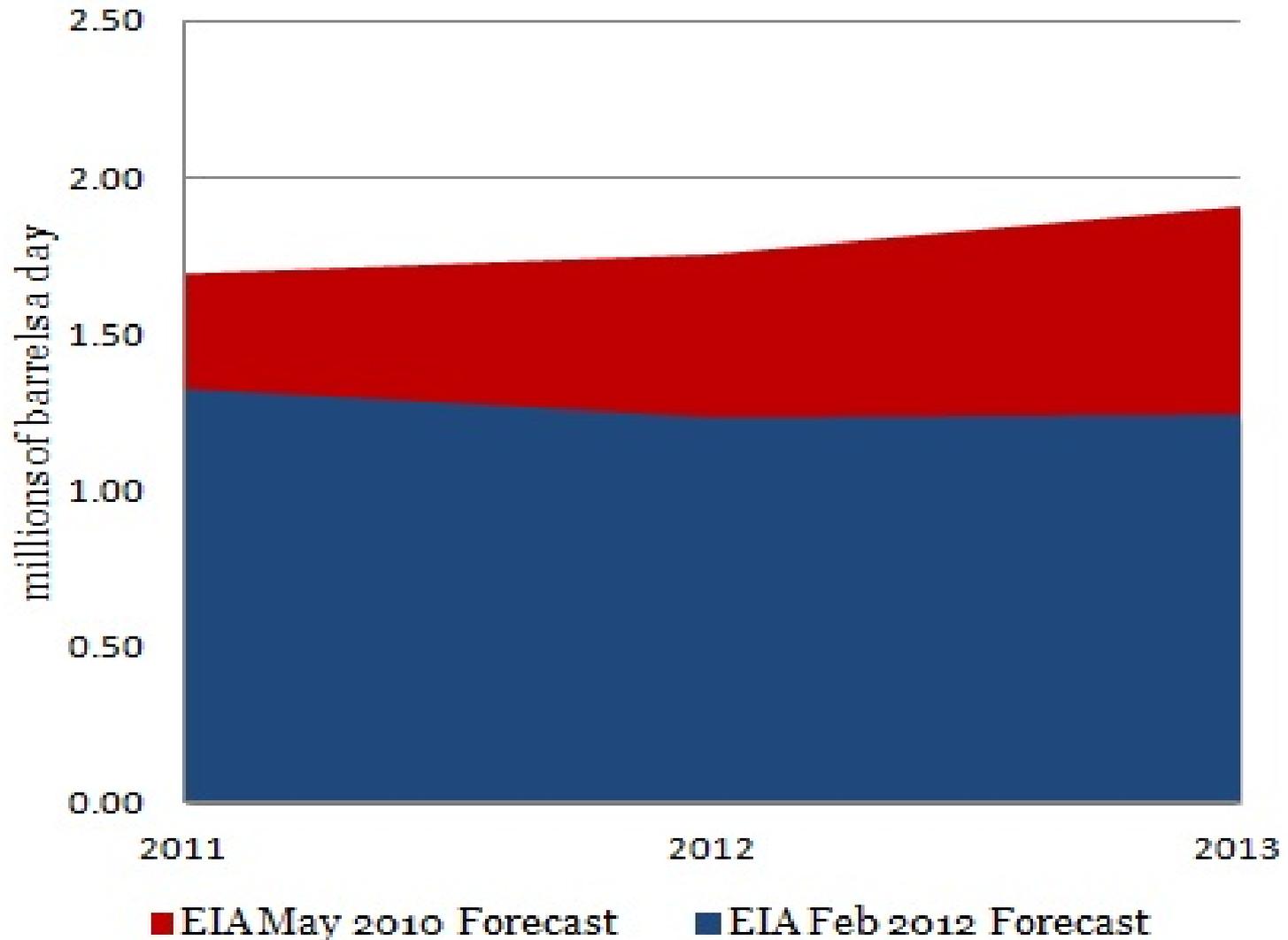


Sources: Energy Information Administration;
International Energy Agency

LUXURY HOUSING IN THE BAKKEN: \$2500 PER MONTH



Crude Oil Production Federal Gulf of Mexico



MACONDO EXPLOSION AND OIL SPILL

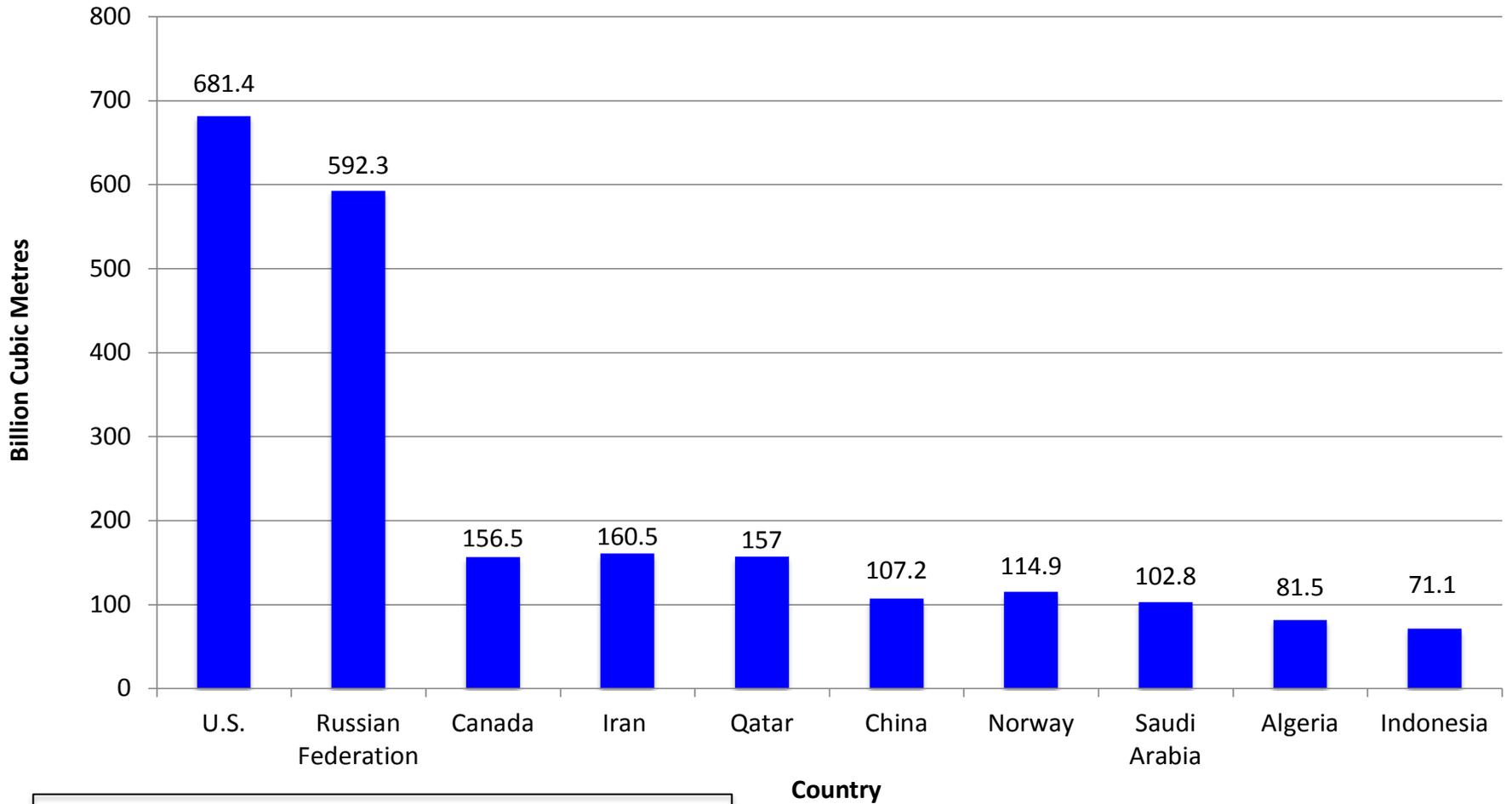


Offshore Potentially Recoverable Federal Oil and Natural Gas Resources



Source: MMS and Department of the Interior

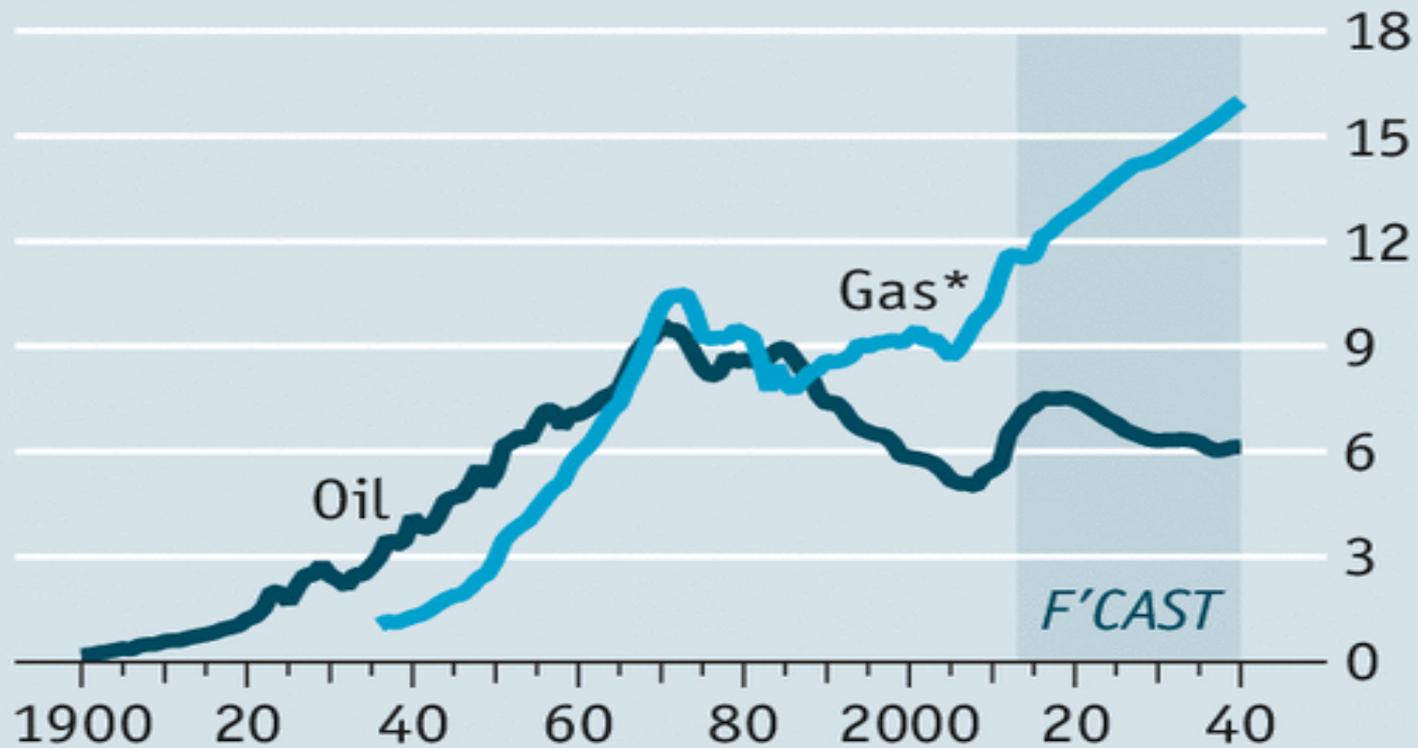
Top Natural Gas Producing Countries in 2012



Source: BP Statistical Review of World Energy June 2013

Ever-expanding gas

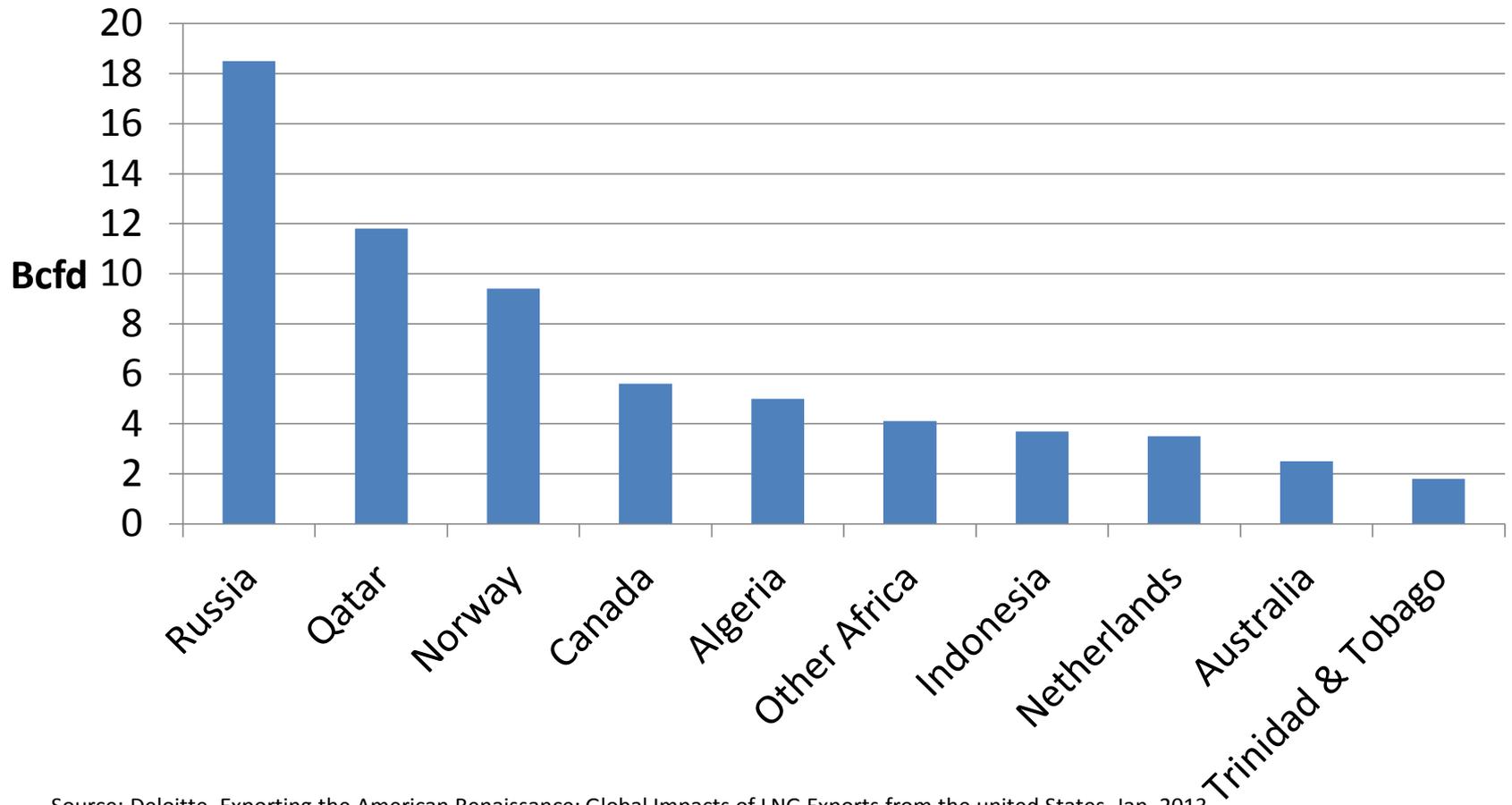
US production, million barrels a day



Sources: Energy Information Administration; *The Economist*

*Converted from cubic feet to barrels of oil equivalent

Top Gas Exporting Countries, 2011



Source: Deloitte, Exporting the American Renaissance; Global Impacts of LNG Exports from the United States, Jan. 2013



Cove Point, Maryland LNG Facility to Export Marcellus Gas



PROTESTING COVE POINT



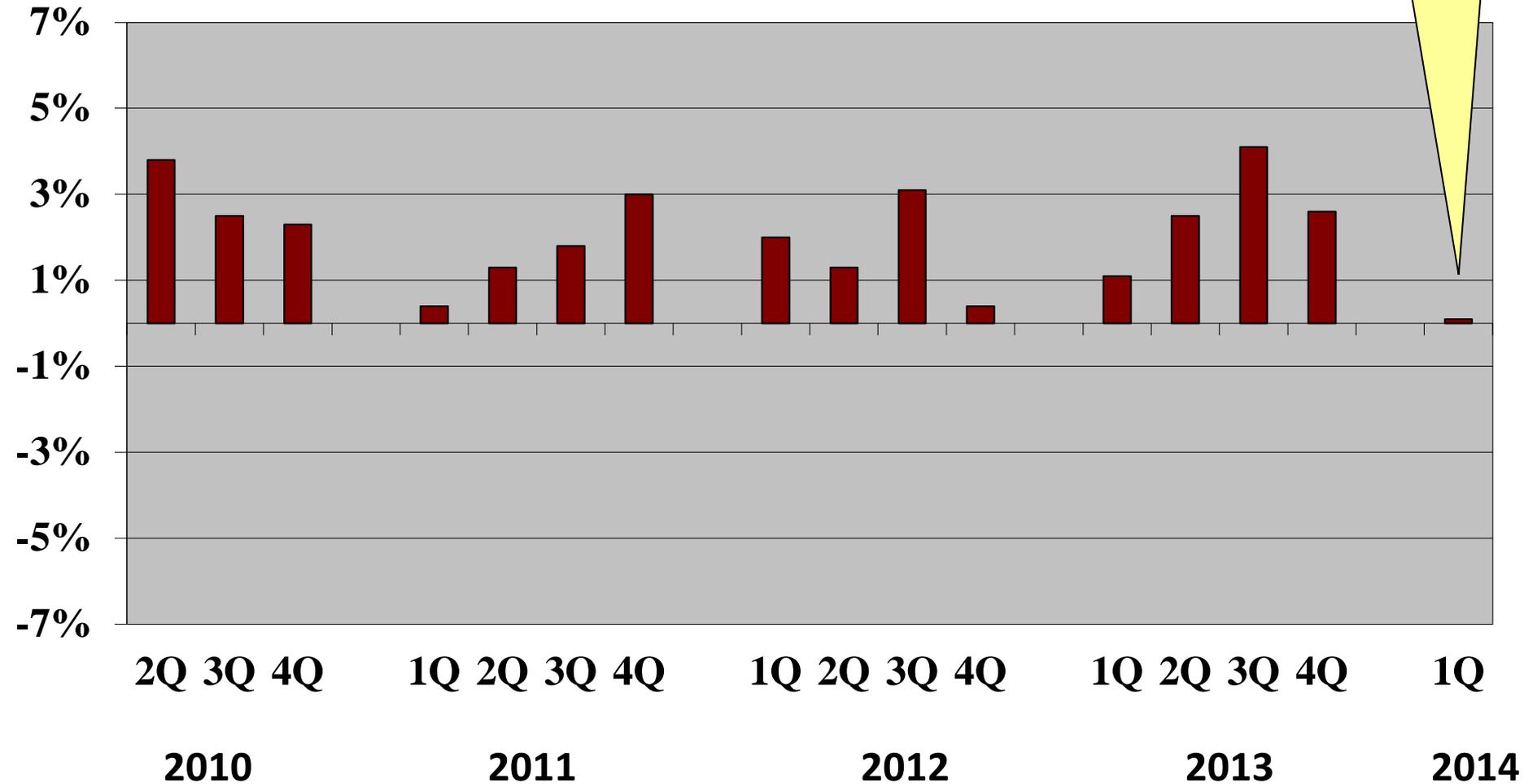
CURRENT LEGISLATIVE AND REGULATORY RESTRICTIONS ON ENERGY INVESTMENT

- Keystone XL pipeline
- Restrictions on oil and natural gas exports
- Limitations on drilling offshore and on federal lands
- Renewal fuels standard (ethanol mandate)
- Cross-state air pollution rule and utility MACT
- EPA greenhouse gas limits for power plants
- Proposed fracking regulations from EPA and DOI

Real Economic Growth

Gross domestic product

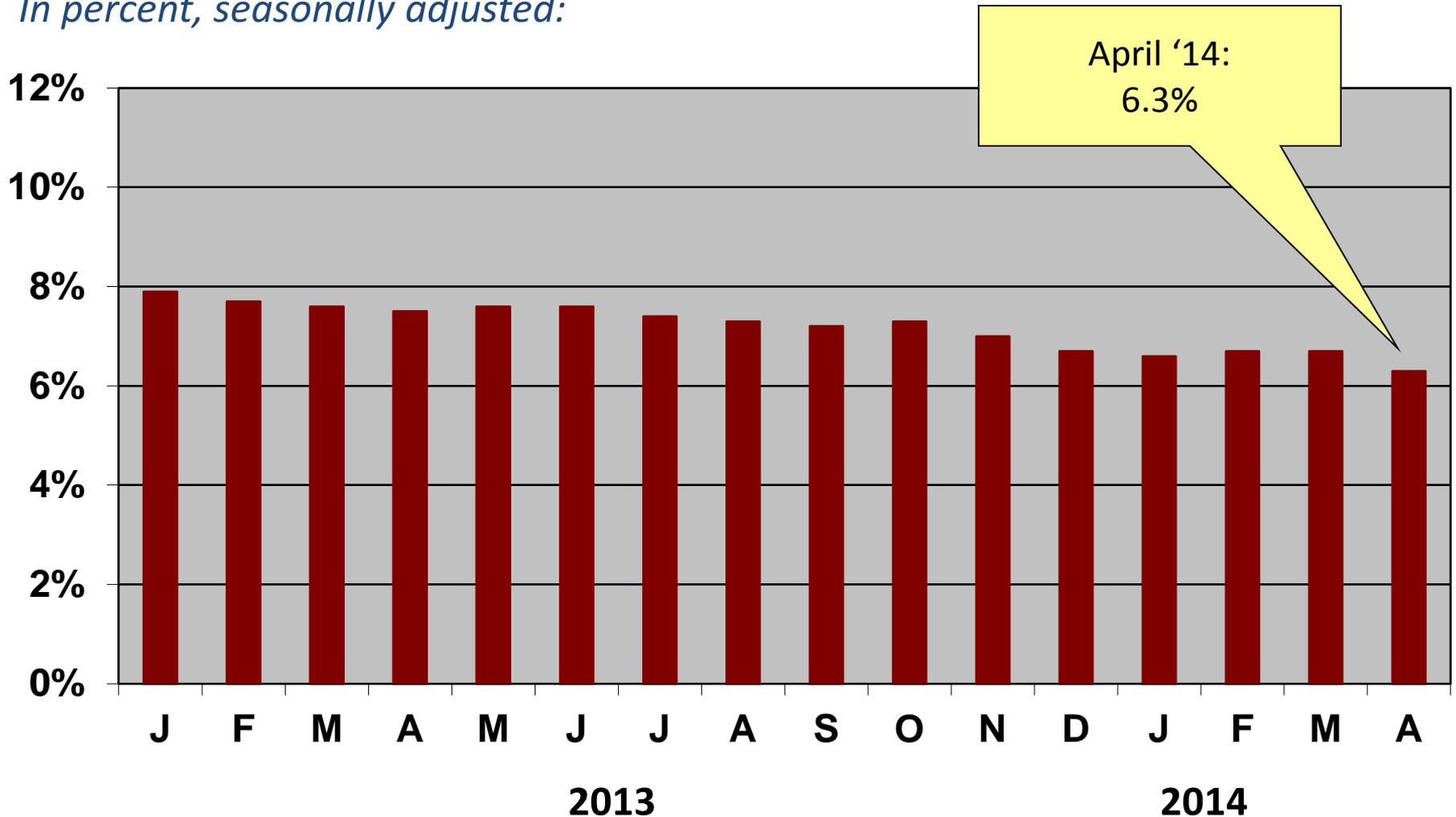
1Q 2014:
0.1%



Source: Commerce Department

U. S. Jobless Rate

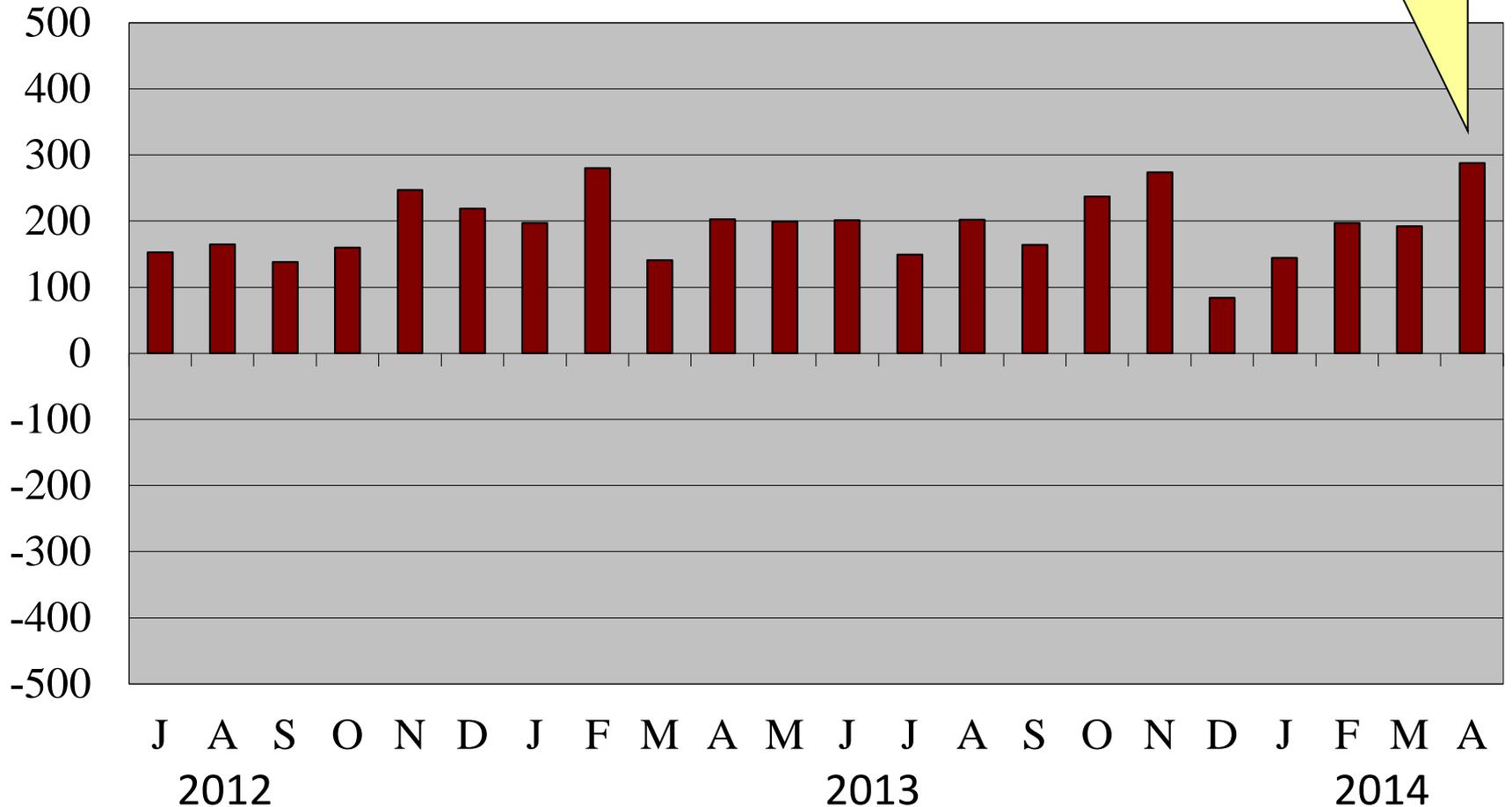
In percent, seasonally adjusted:



Source: U.S. Department of Labor

Nonfarm Payrolls

Monthly change, in thousands



Source: Labor Department

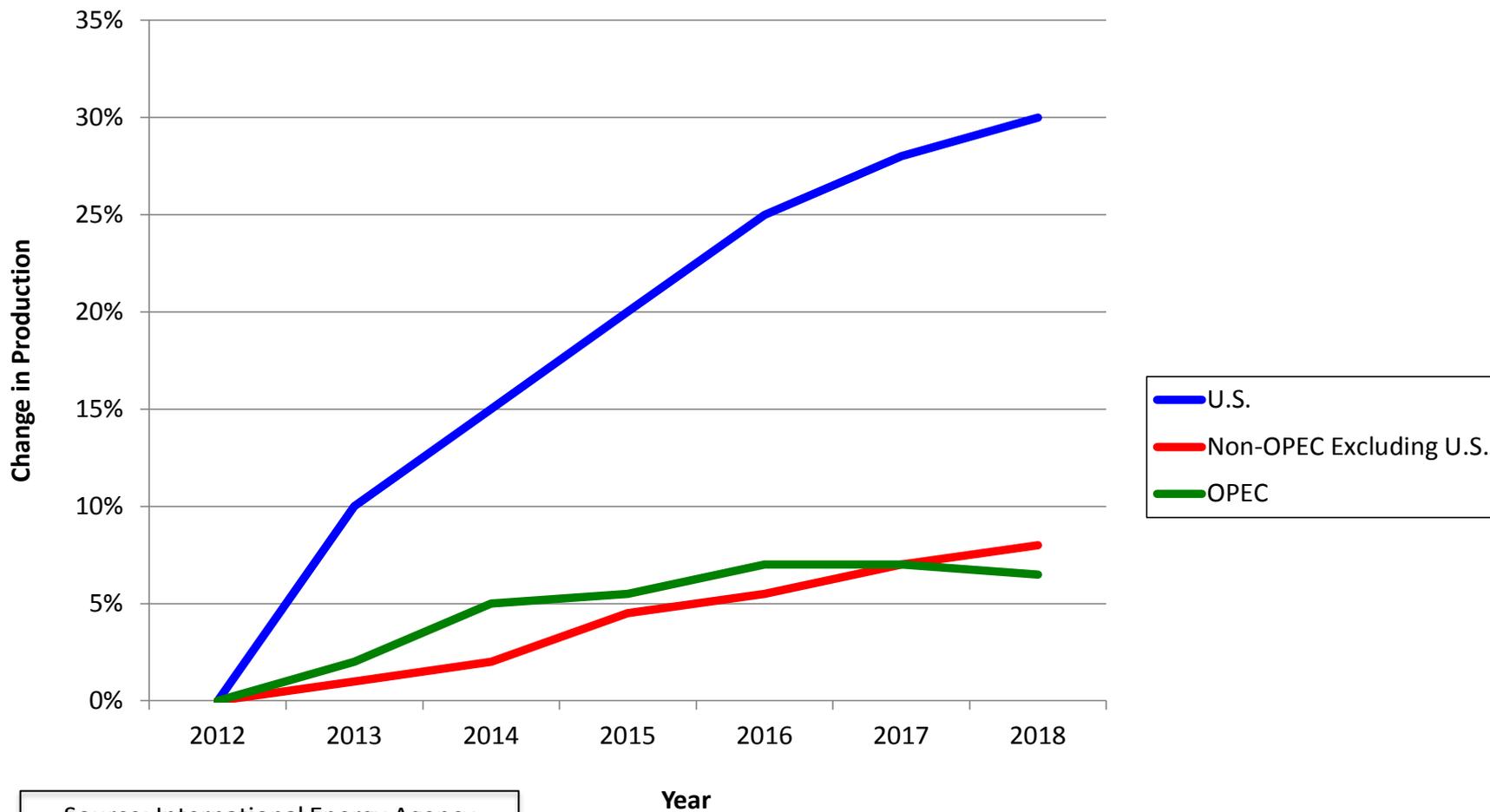
Stagnant Employment

Share of the U.S. working-age population employed, age 16 and over, Jan. 2000-April 2014

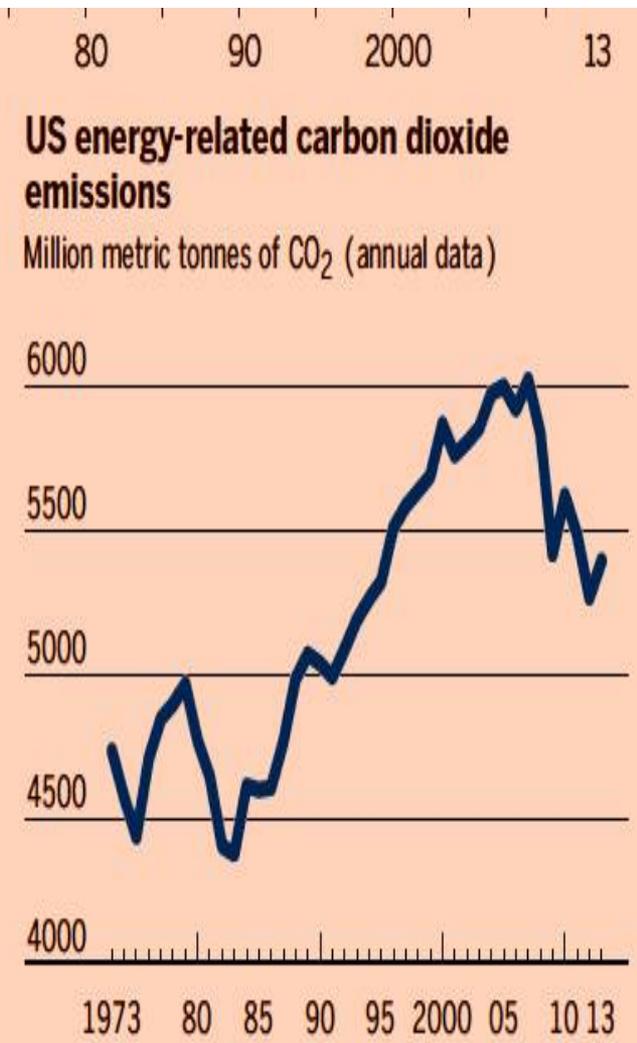
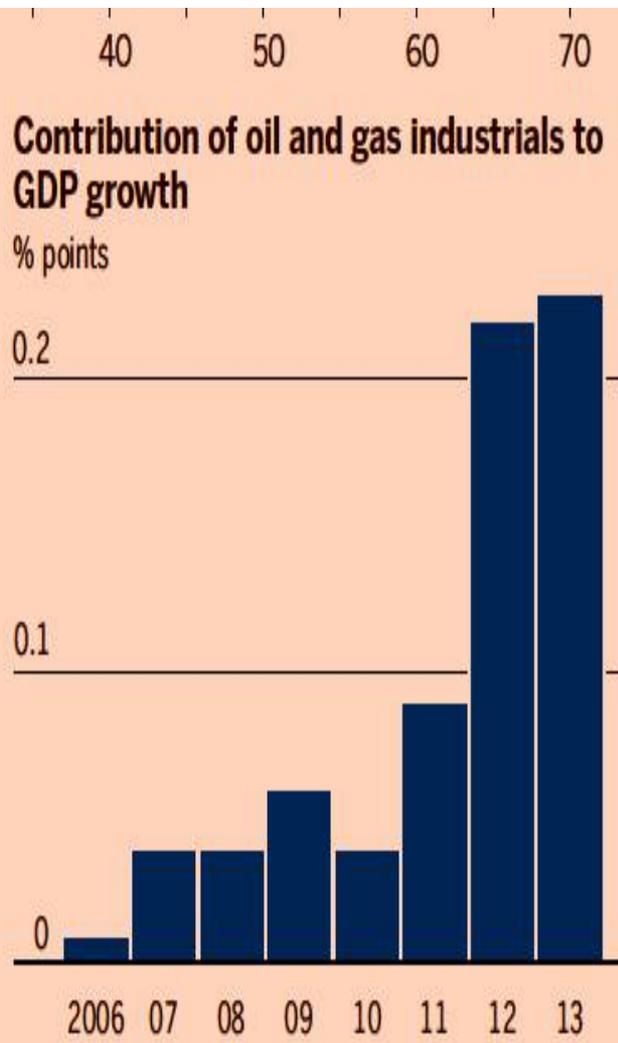
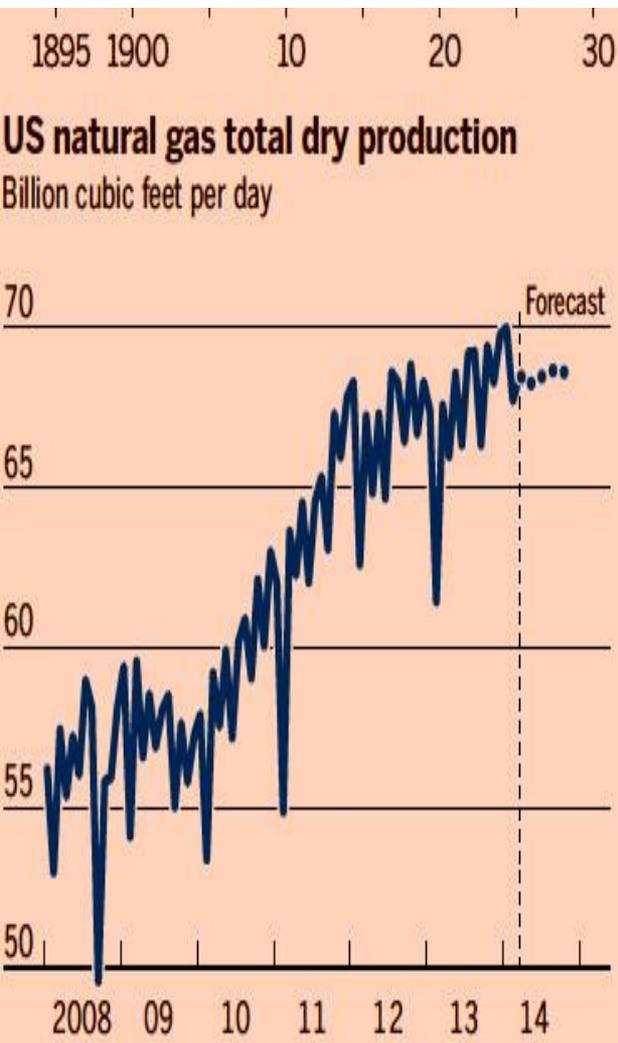


Source: Bureau of Labor Statistics

Cumulative Change in Oil Production 2012-2018



Source: International Energy Agency

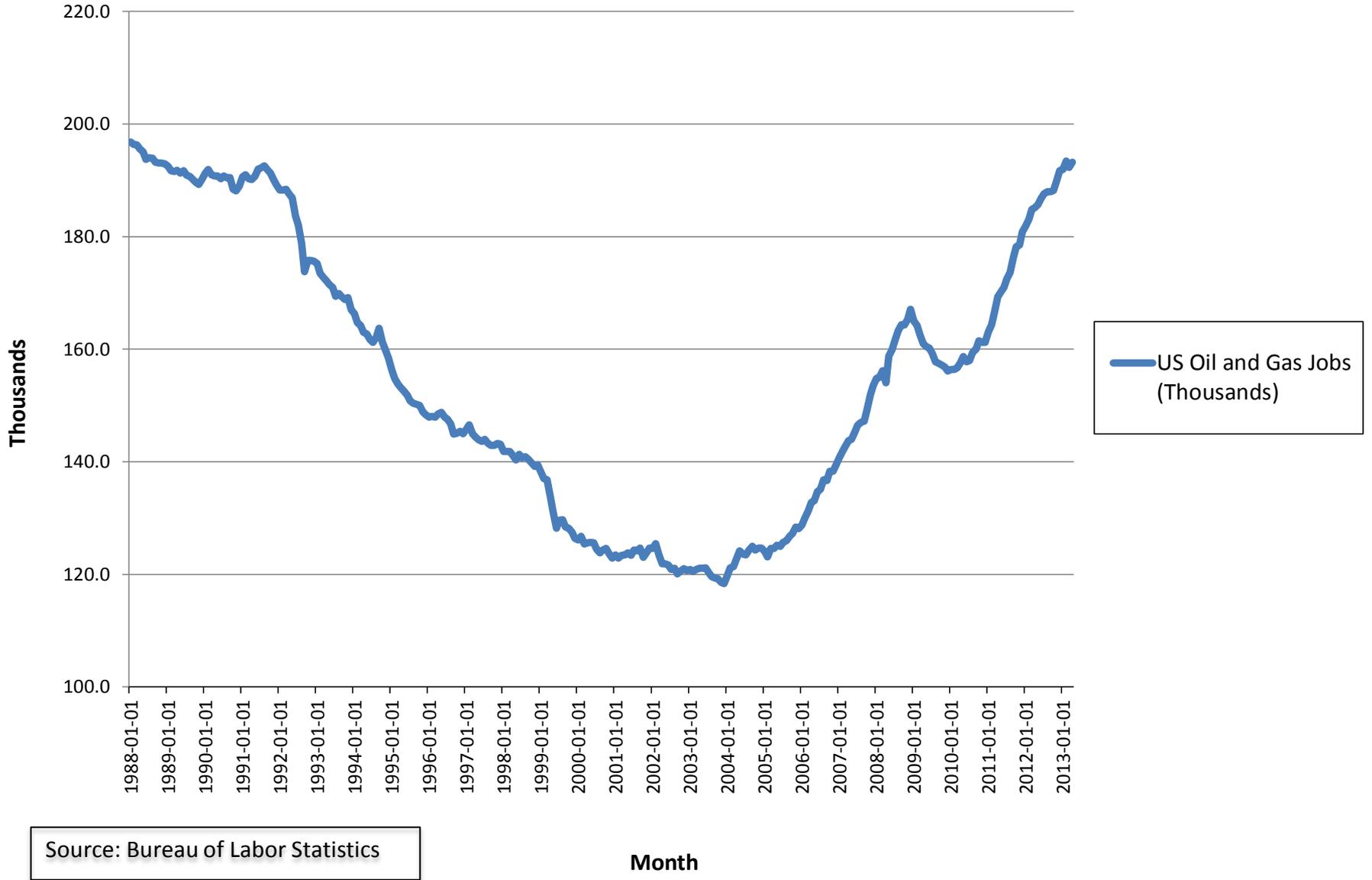


Sources: NOAA; Whitehouse Council of Economic Advisers

Photo: Getty Images

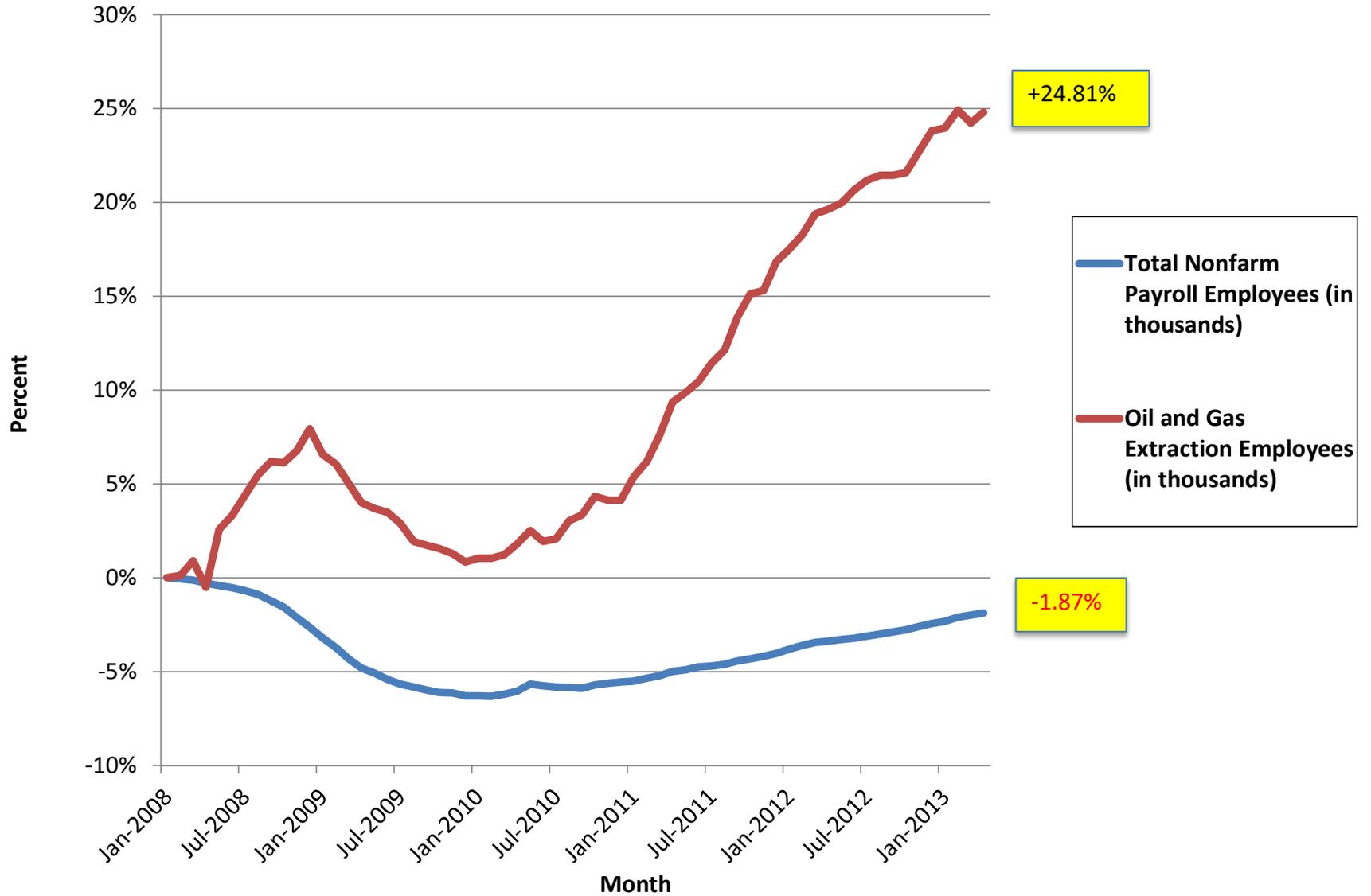
US Oil and Gas Jobs

January 1988 through April 2013

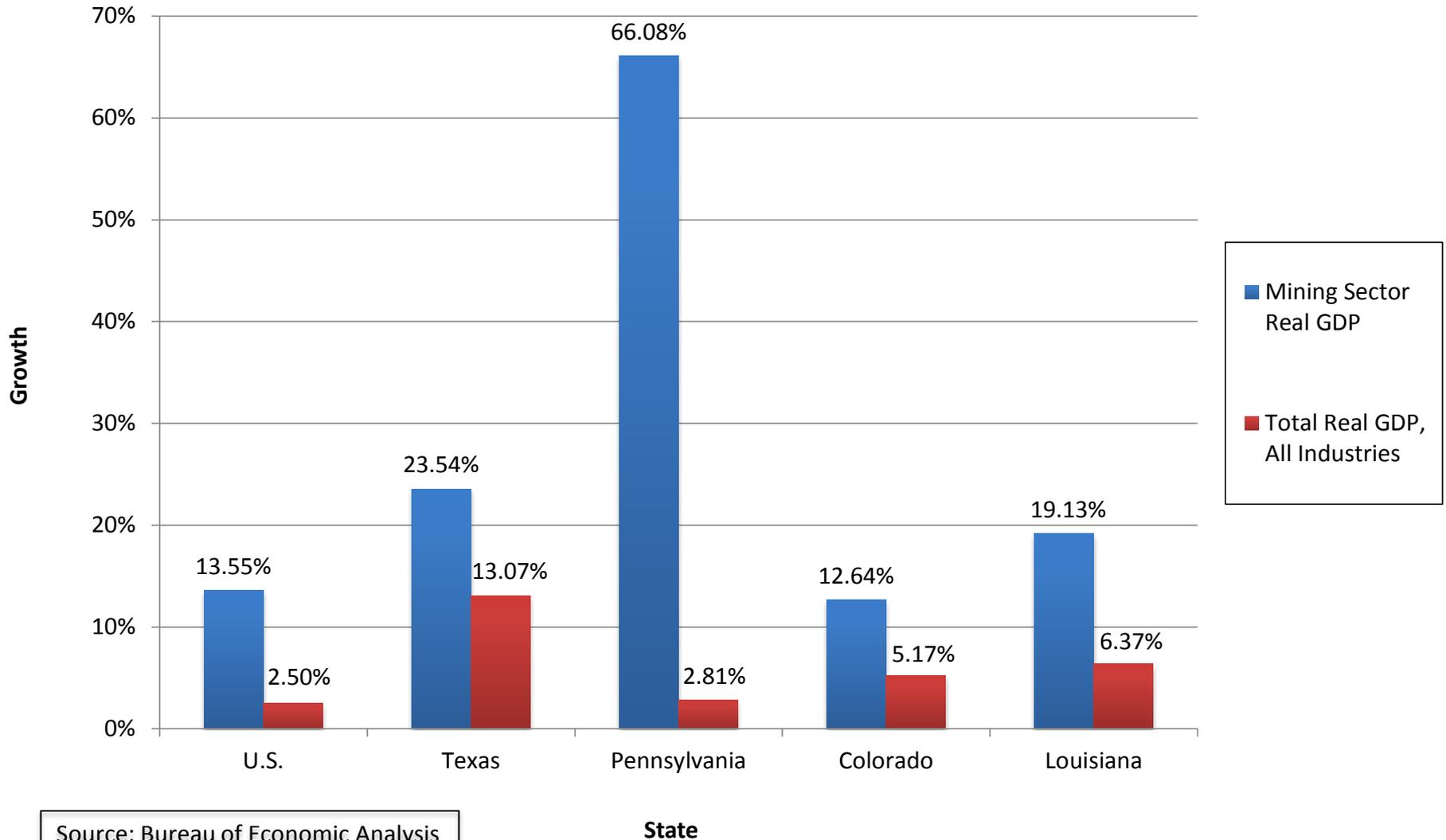


Source: Bureau of Labor Statistics

Percent Change in Employment January 2008–April 2013

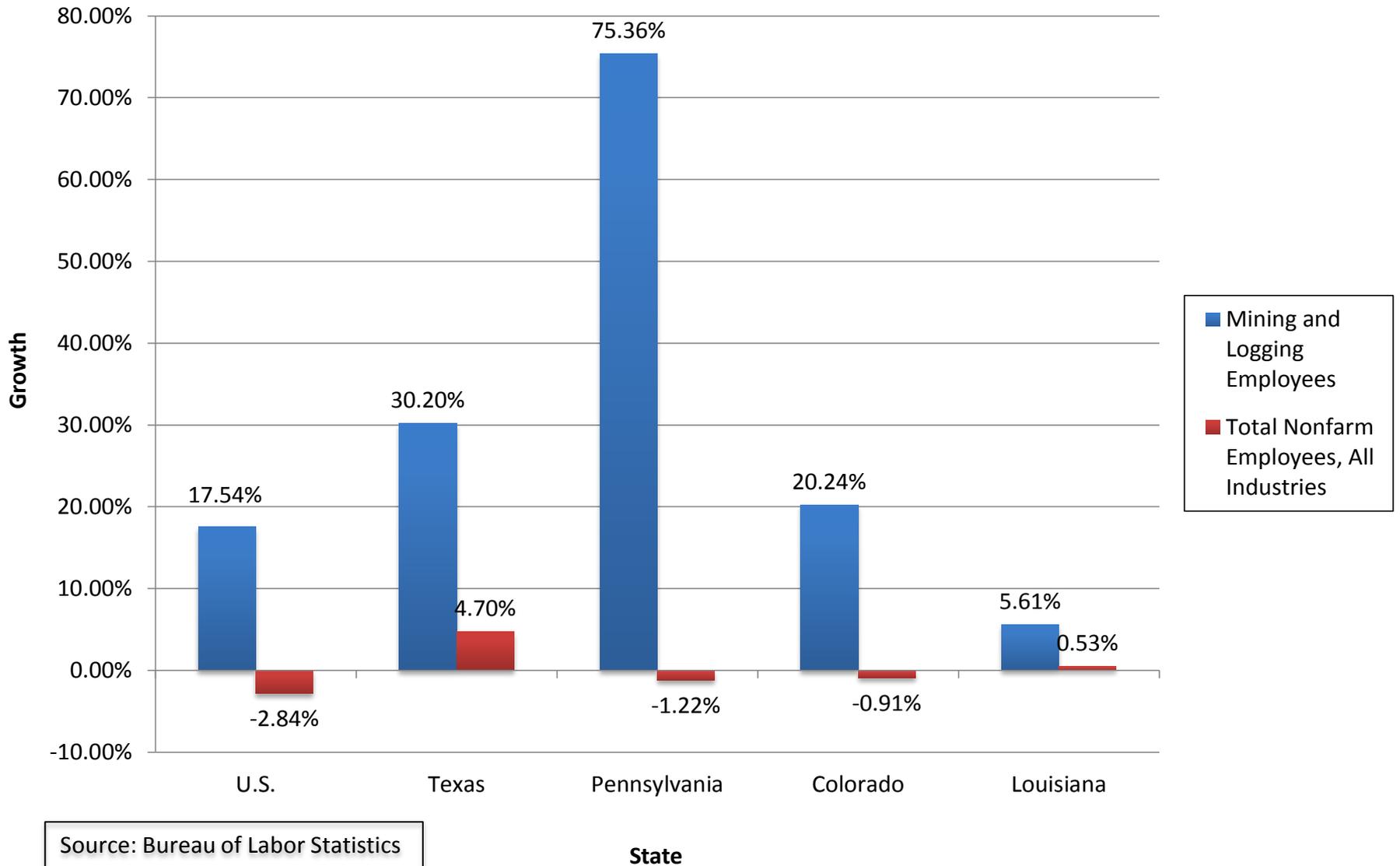


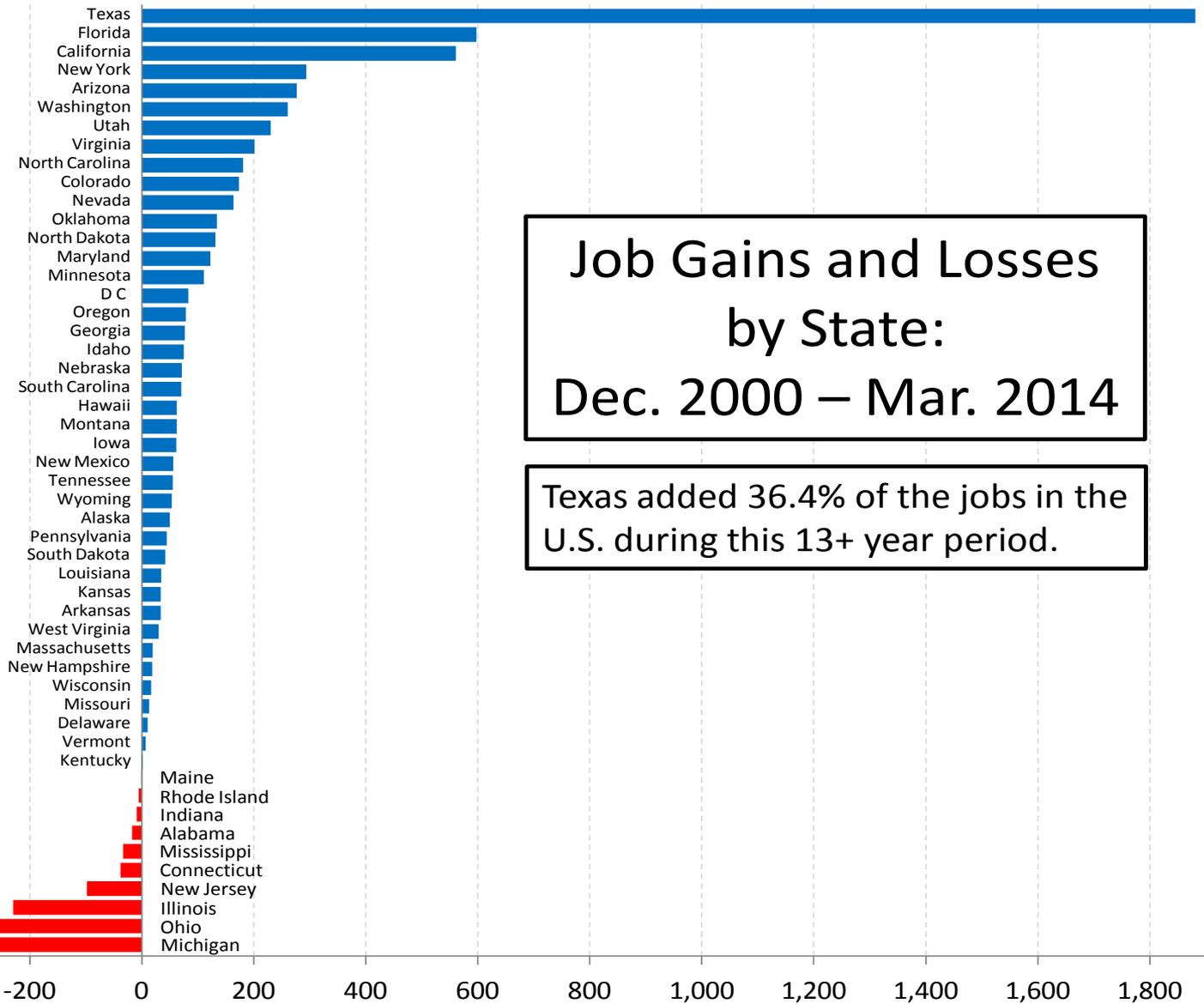
GDP Growth, U.S. vs. Selected Energy Producing States 2008-2012



Source: Bureau of Economic Analysis

Employment Growth, U.S. vs. Selected Energy Producing States 2008-2012



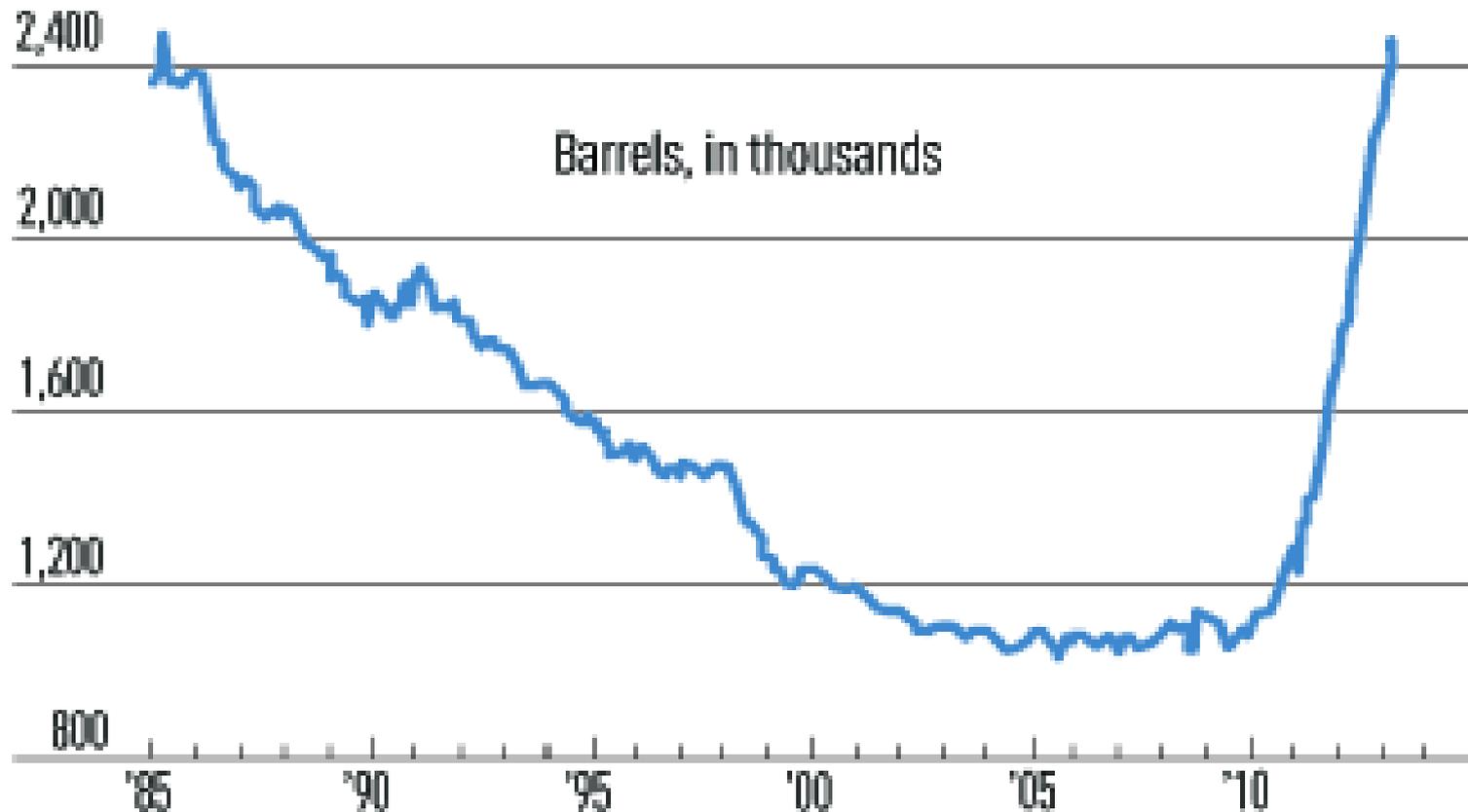


Job Gains and Losses
by State:
Dec. 2000 – Mar. 2014

Texas added 36.4% of the jobs in the
U.S. during this 13+ year period.

Daily Oil Production In Texas

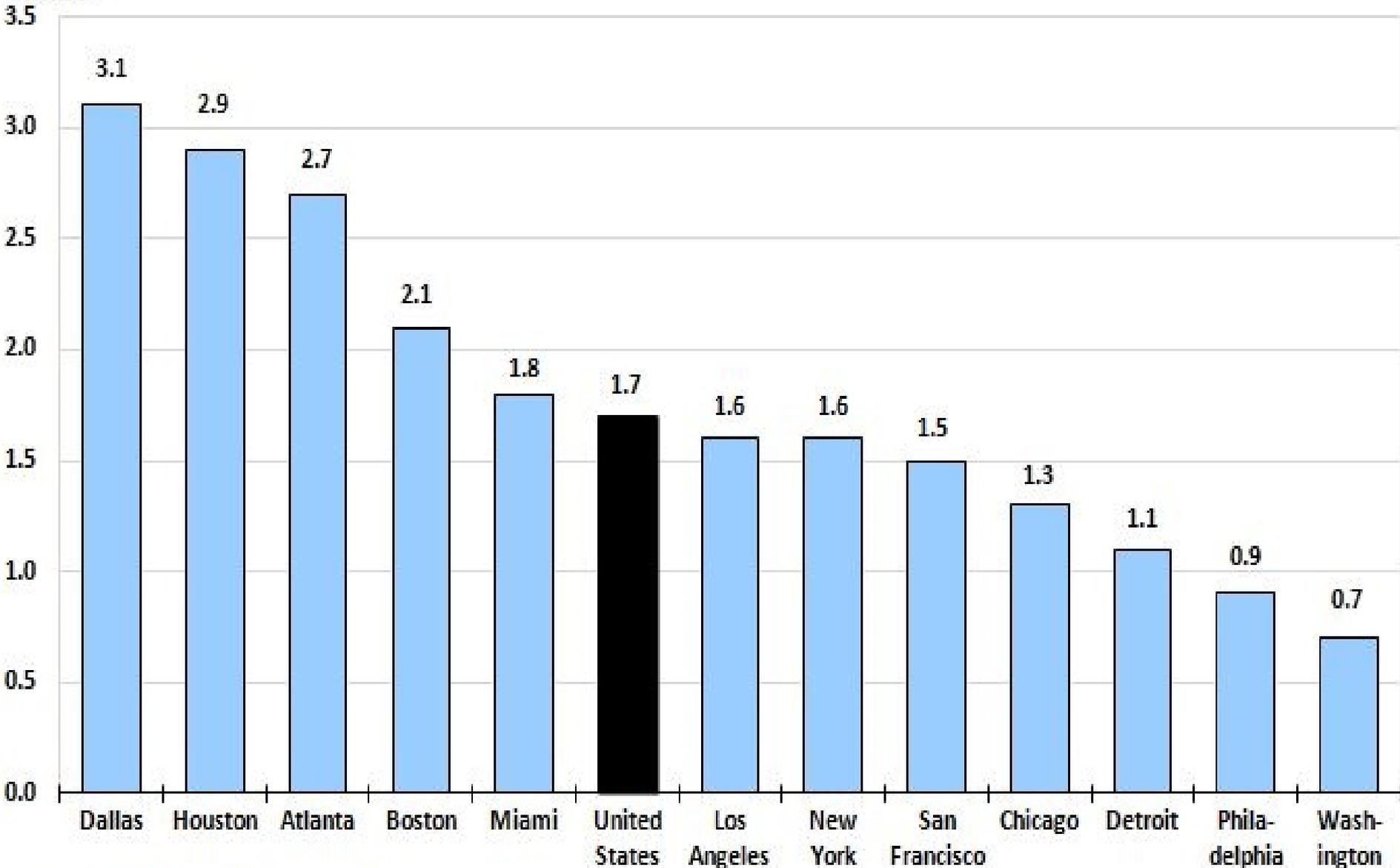
January 1985 to April 2013



Sources: EIA, Carpe Diem blog

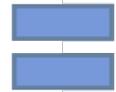
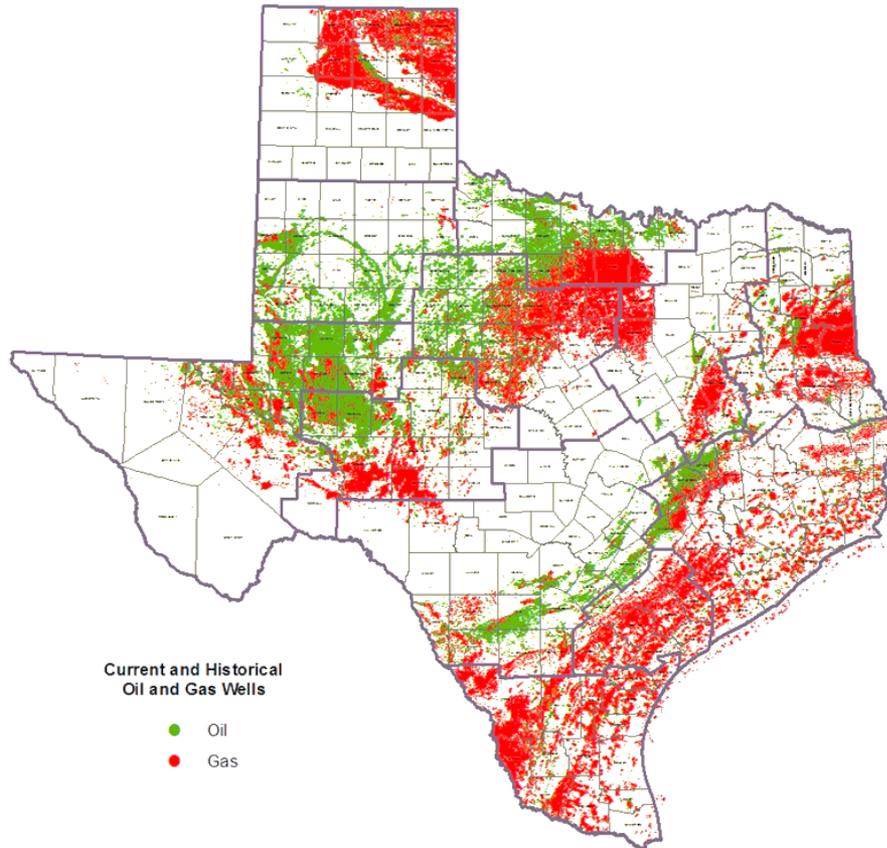
Over-the-year percent change in employment, United States and 12 largest metropolitan areas, October 2013

Percent



Source: U.S. Bureau of Labor Statistics.

110 Years of Oil and Gas Production in Texas

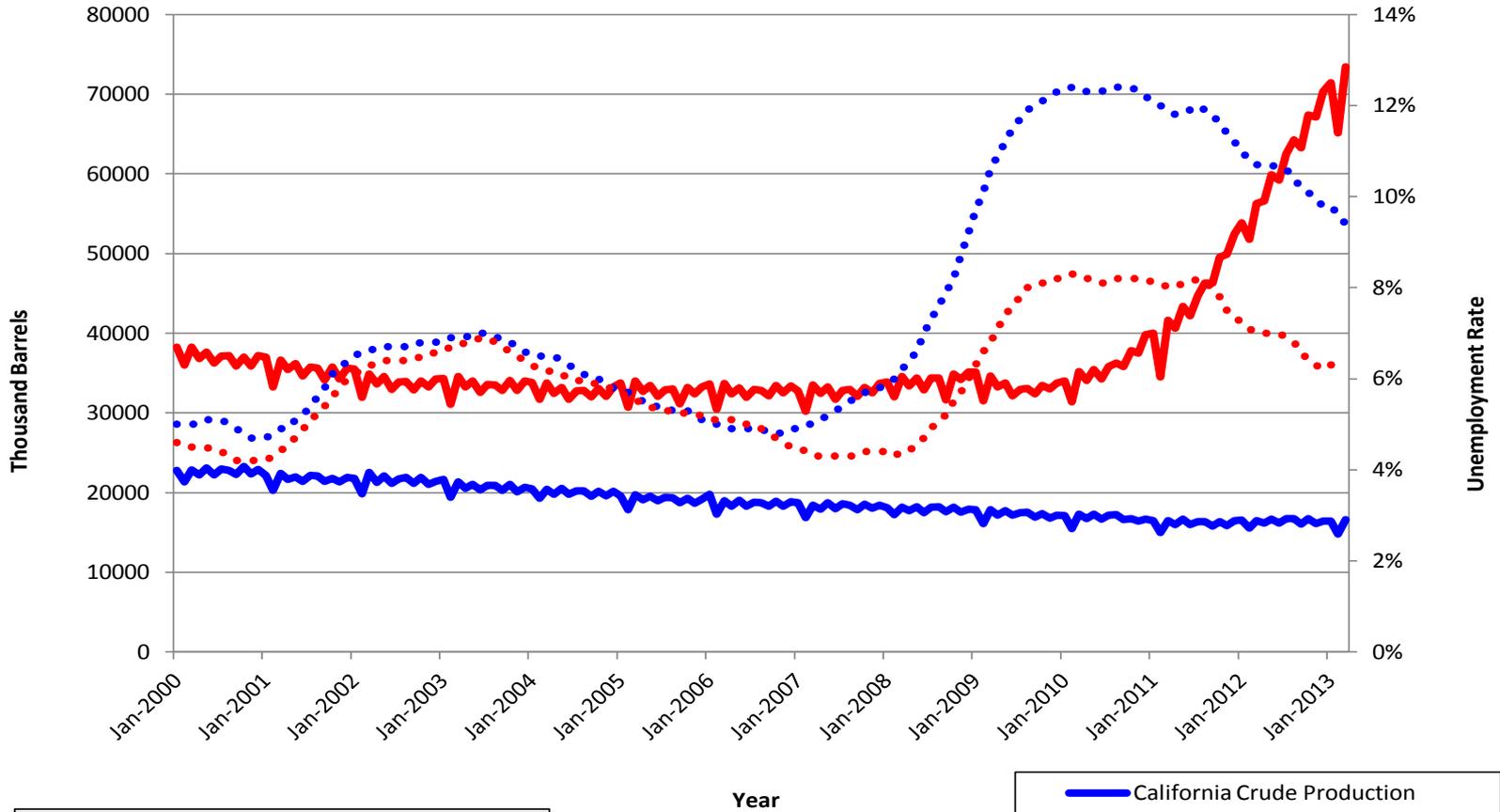


TEXAS	
1,982,140	Total statewide jobs provided or supported by the oil and gas industry
\$112,707	Average salary for non-gas station oil & natural gas employees ²
\$47,610	Annual average salary in Texas across all industries and sectors ²
\$134.9 billion	Contribution to Texas labor income ¹
\$297.5 billion	Contribution to Texas economy ¹

¹ Pricewaterhouse Coopers LLP, "The Economic Impacts of the Oil and Natural Gas Industry on the U.S. Economy: Employment, Labor Income and Value Added," May 2011 (based on 2009 IMPLAN database). Includes direct, indirect, and induced jobs.

² Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Accessed 12/8/2011.

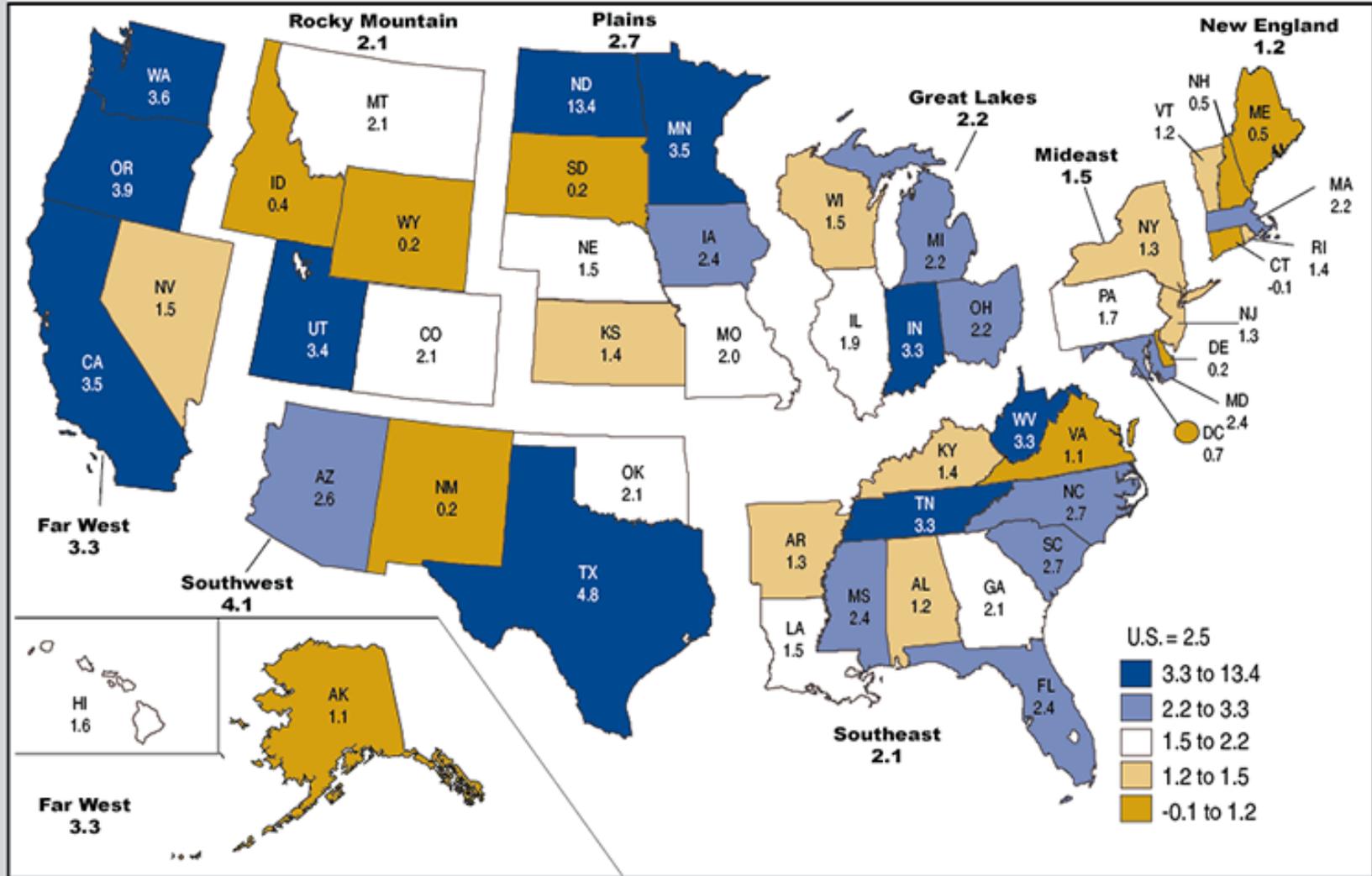
Monthly Crude Oil Production and Unemployment Rate in Texas and California 2000-2013



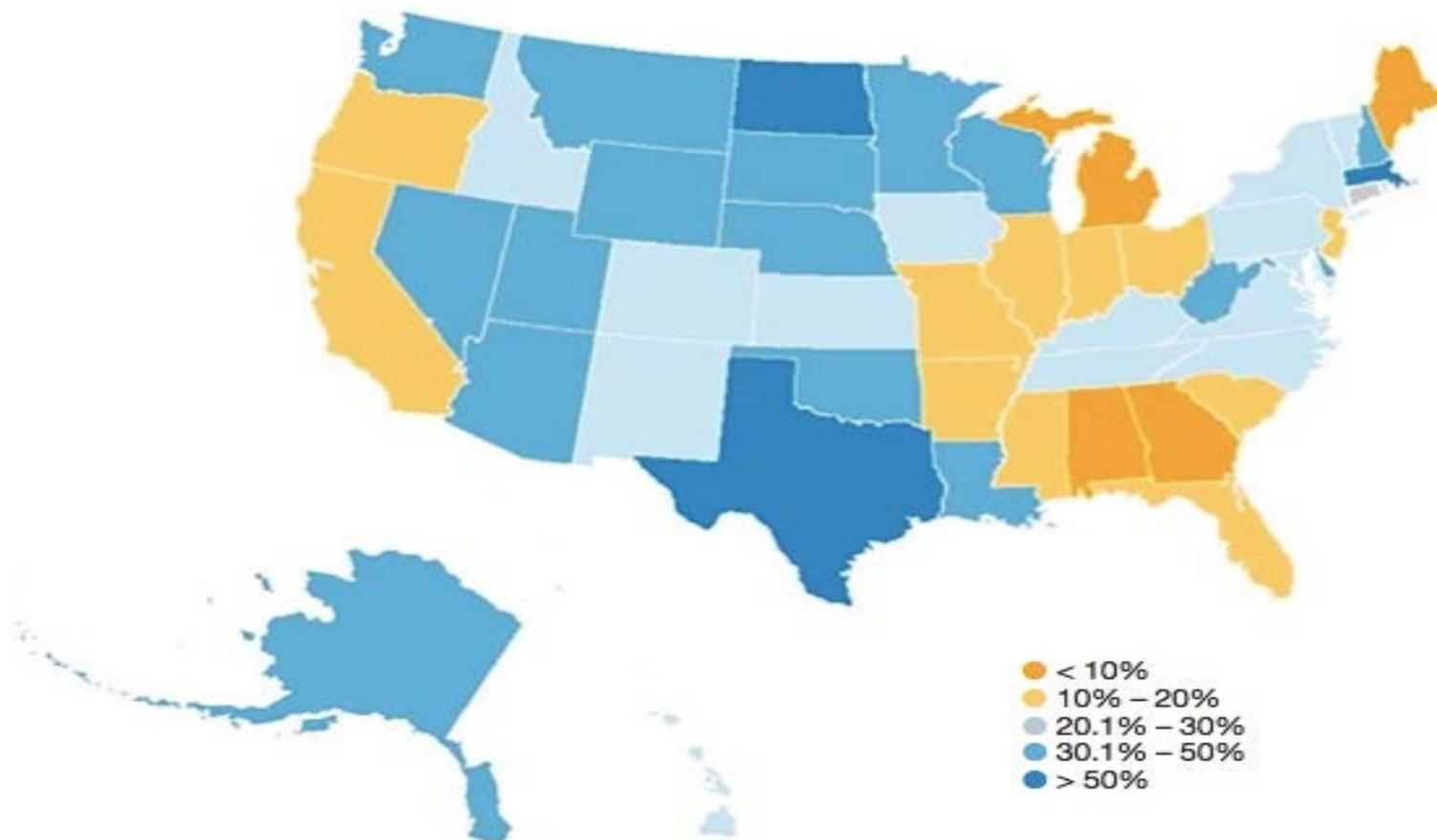
Sources: Energy Information Administration and Bureau of Labor Statistics

- California Crude Production
- Texas Crude Production
- California Unemployment Rate
- Texas Unemployment Rate

Percent Change in Real GDP by State, 2012



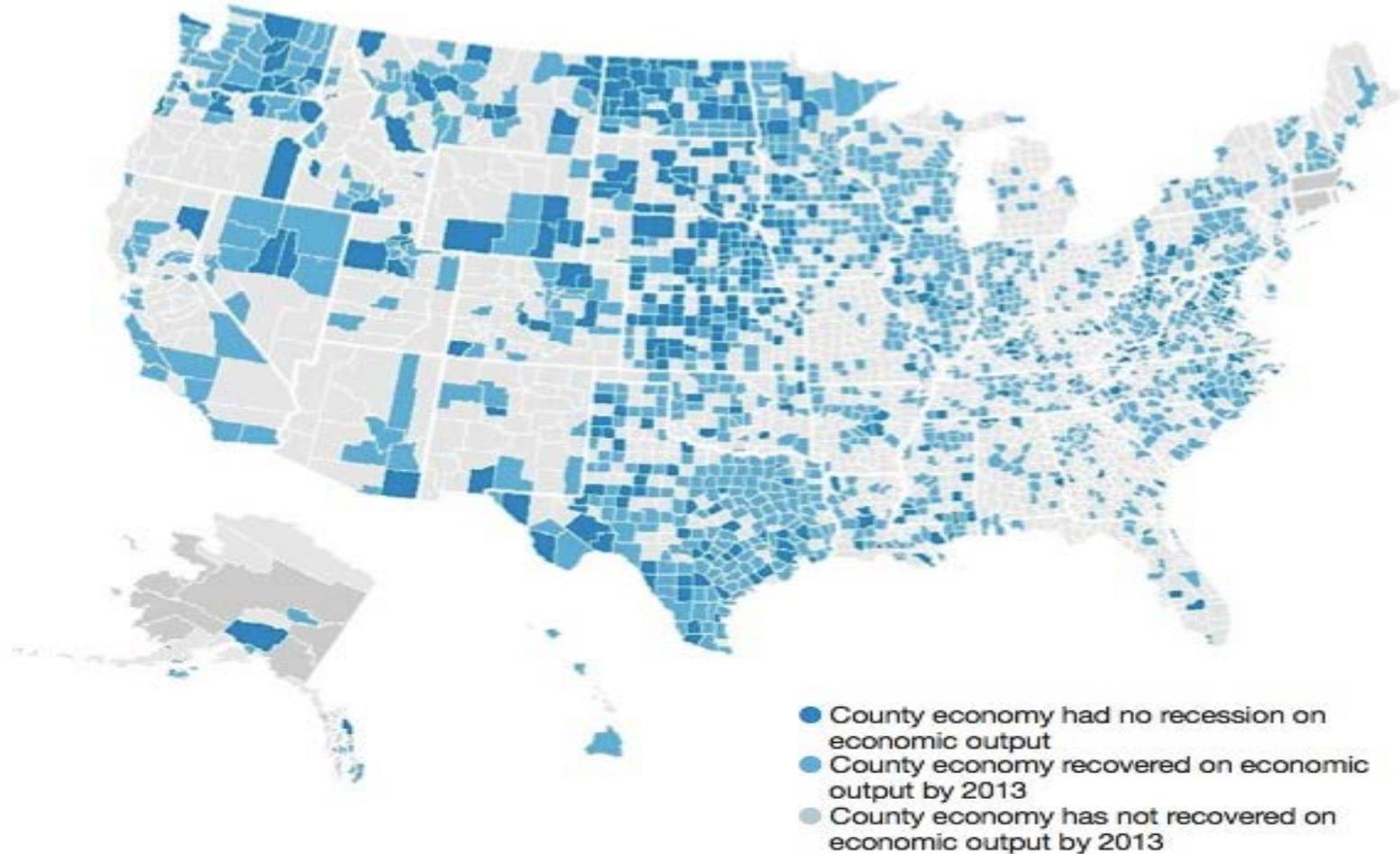
MAP 2. Job Recovery Rates in County Economies by State, 2013



Notes: The county job recovery rate by state is calculated as the share of the number of the state's county economies that recovered to their pre-recession employment peaks out of the number of all the state's county economies. This includes only the 3,069 county economies with county governments.

Source: NACo analysis of Moody's Analytics Data

MAP 1. Economic Output (GDP) Recovery Rates in County Economies, 2013



Note: The dark grey areas in Conn., R.I., parts of Alaska, Mass. and Va. are counties without county governments.

Source: NACo analysis of Moody's Analytics Data

THE “PETROSTATE” OF AMERICA



WE'RE NUMBER 1!

