

DIALOGUE WITH THE FED

Beyond Today's Financial Headlines

Plunging Crude Prices: Impact on U.S. and State Economies

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Federal Reserve Bank of Dallas

February 12, 2015

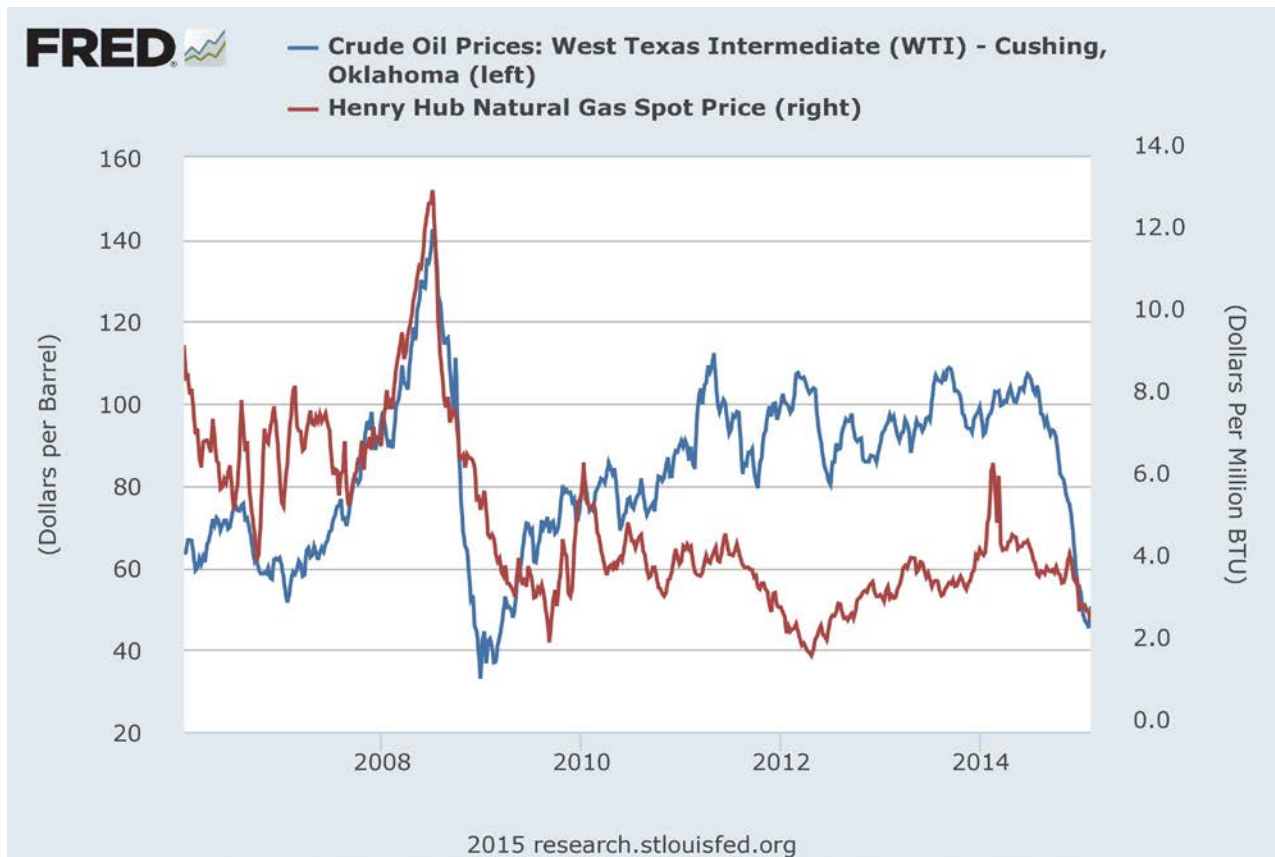


CENTRAL TO AMERICA'S ECONOMY™

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Oil and Gas Prices Plunge



US. Energy Information Administration, Crude Oil Prices: West Texas Intermediate (WTI) - Cushing, Oklahoma [WCOILWTICO], retrieved from FRED, Federal Reserve Bank of St. Louis <https://research.stlouisfed.org/fred2/series/WCOILWTICO/>, February 12, 2015.

US. Energy Information Administration, Henry Hub Natural Gas Spot Price [WHHNGSP], retrieved from FRED, Federal Reserve Bank of St. Louis <https://research.stlouisfed.org/fred2/series/WHHNGSP/>, February 12, 2015.

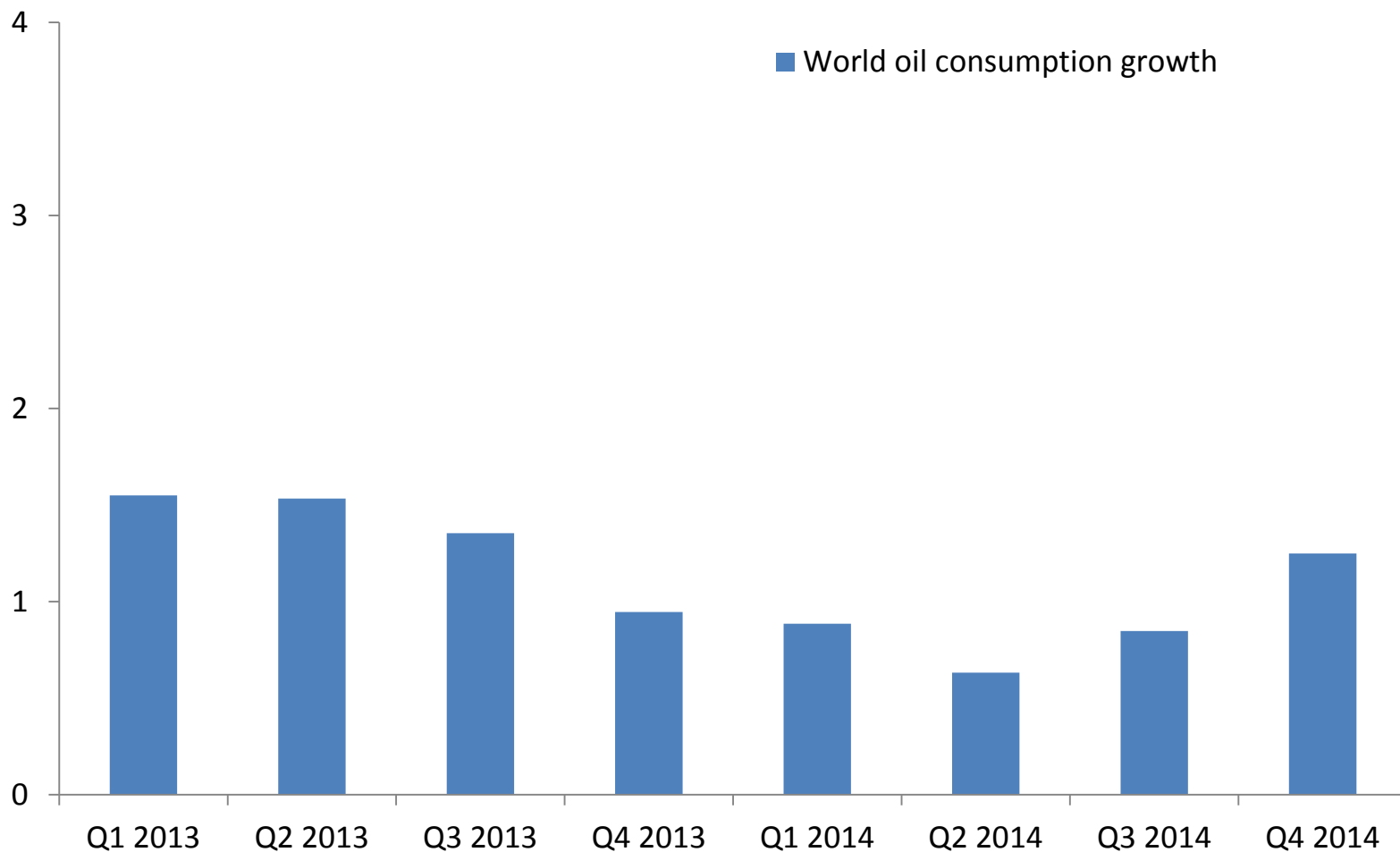
Outline

- How did we get here?
 - World oil supply/demand balance
- Impact on U.S. economy
- Impact on state economies
- Where do we go from here?

World Oil Consumption Growth

(Year-over-year)

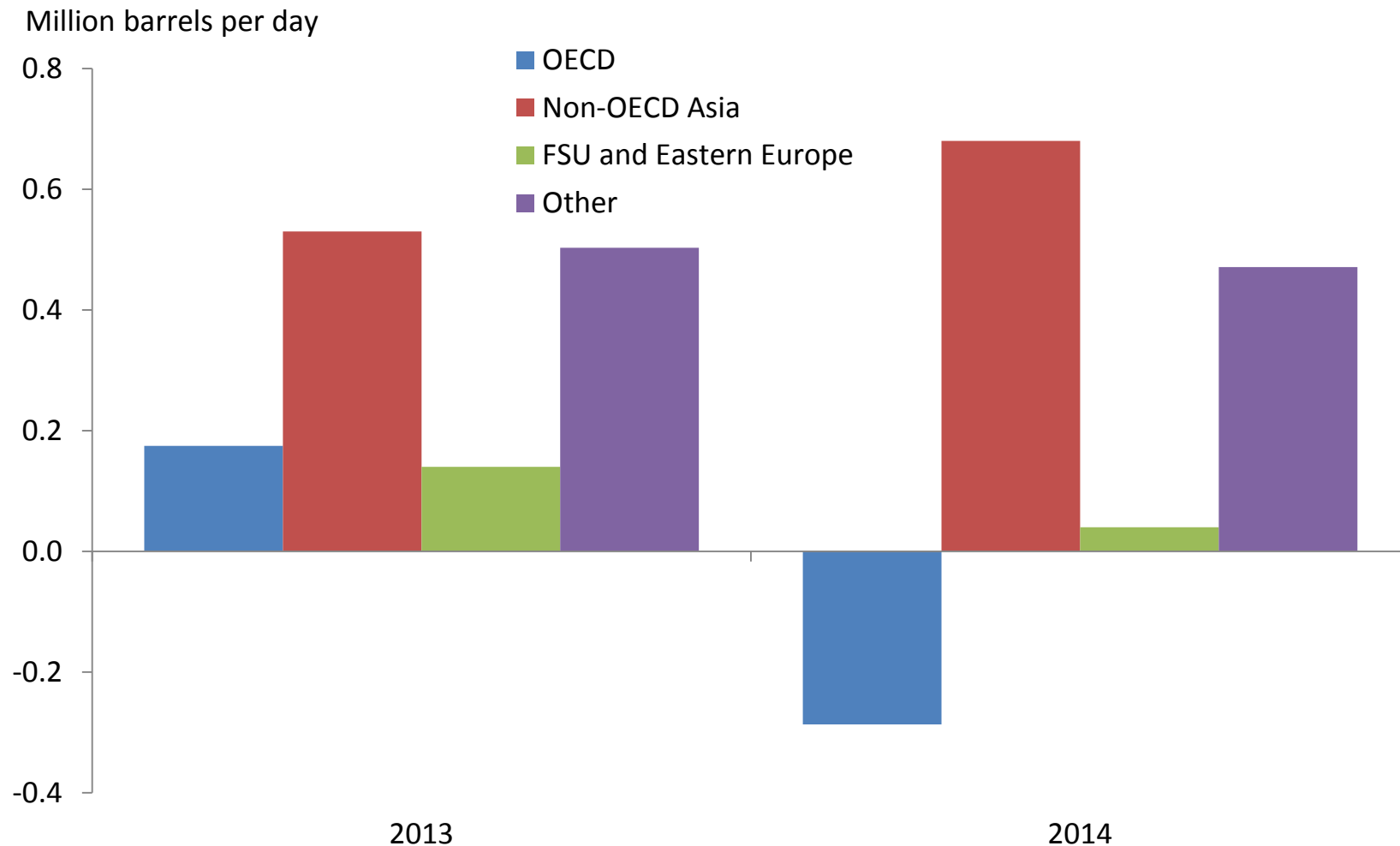
Million barrels per day



Source: Energy Information Administration.

World Oil Consumption Growth

(Year-over-year)

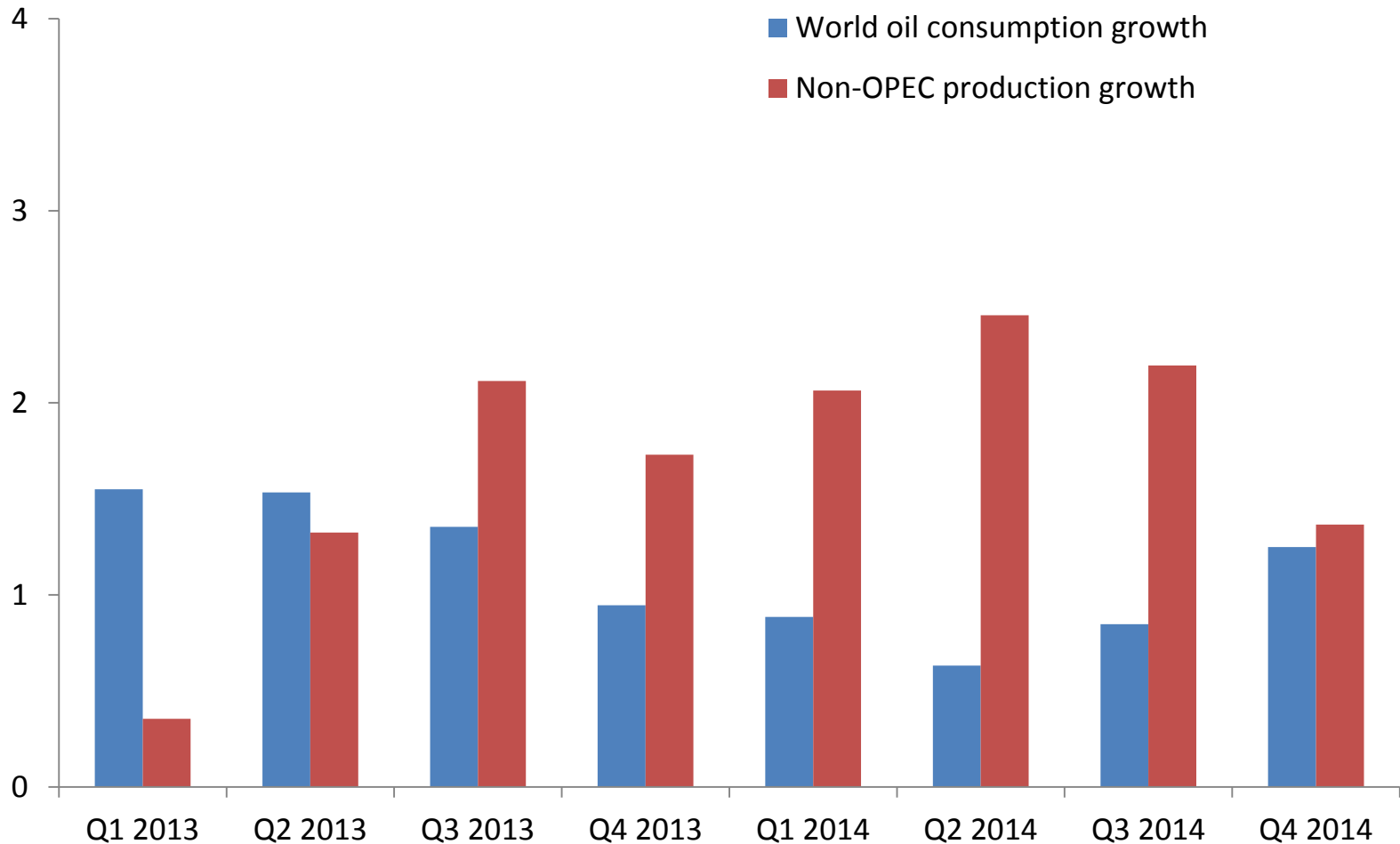


Source: Energy Information Administration.

World Consumption and Non-OPEC Production Growth

(Year-over-year)

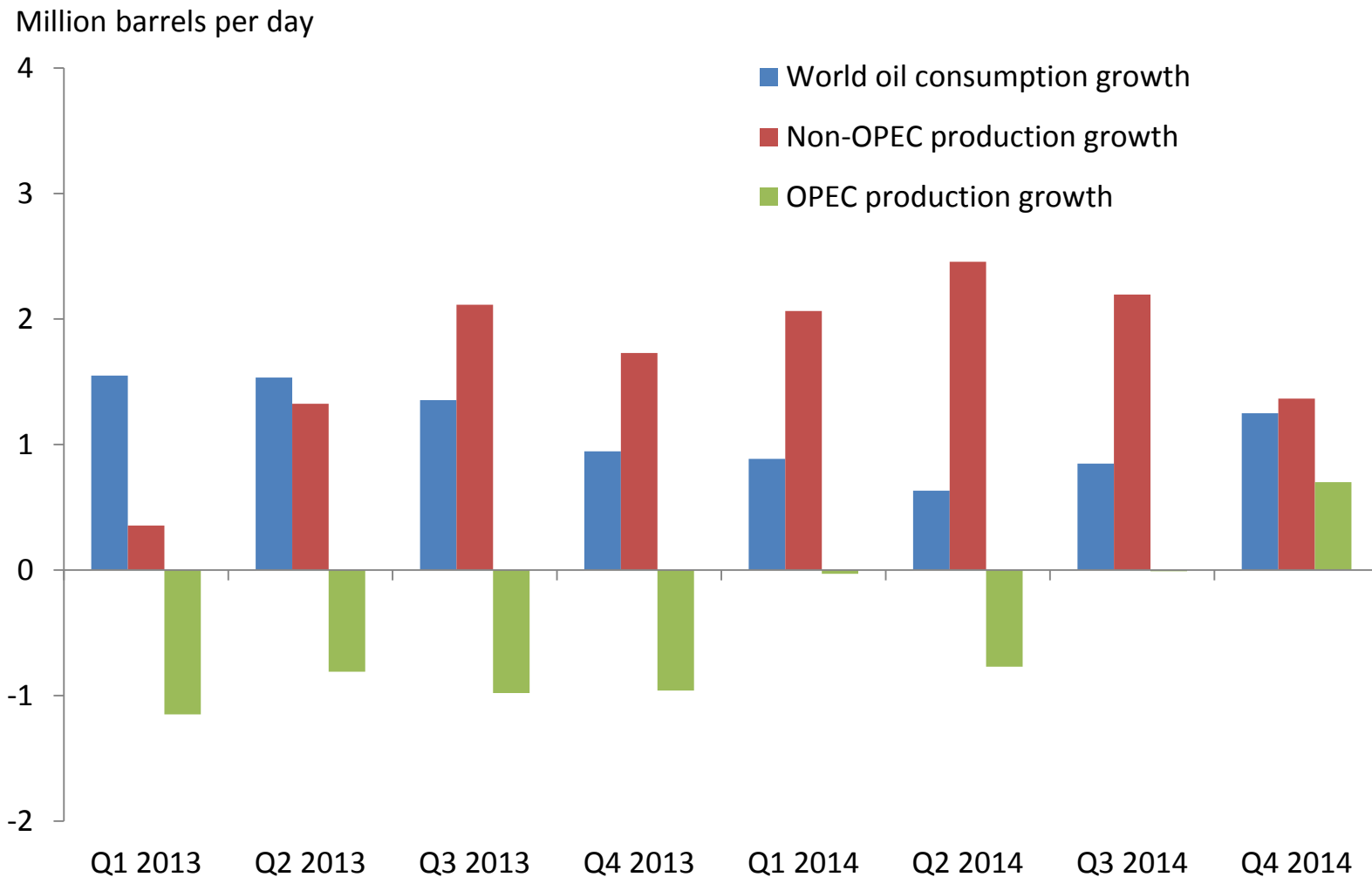
Million barrels per day



Source: Energy Information Administration.

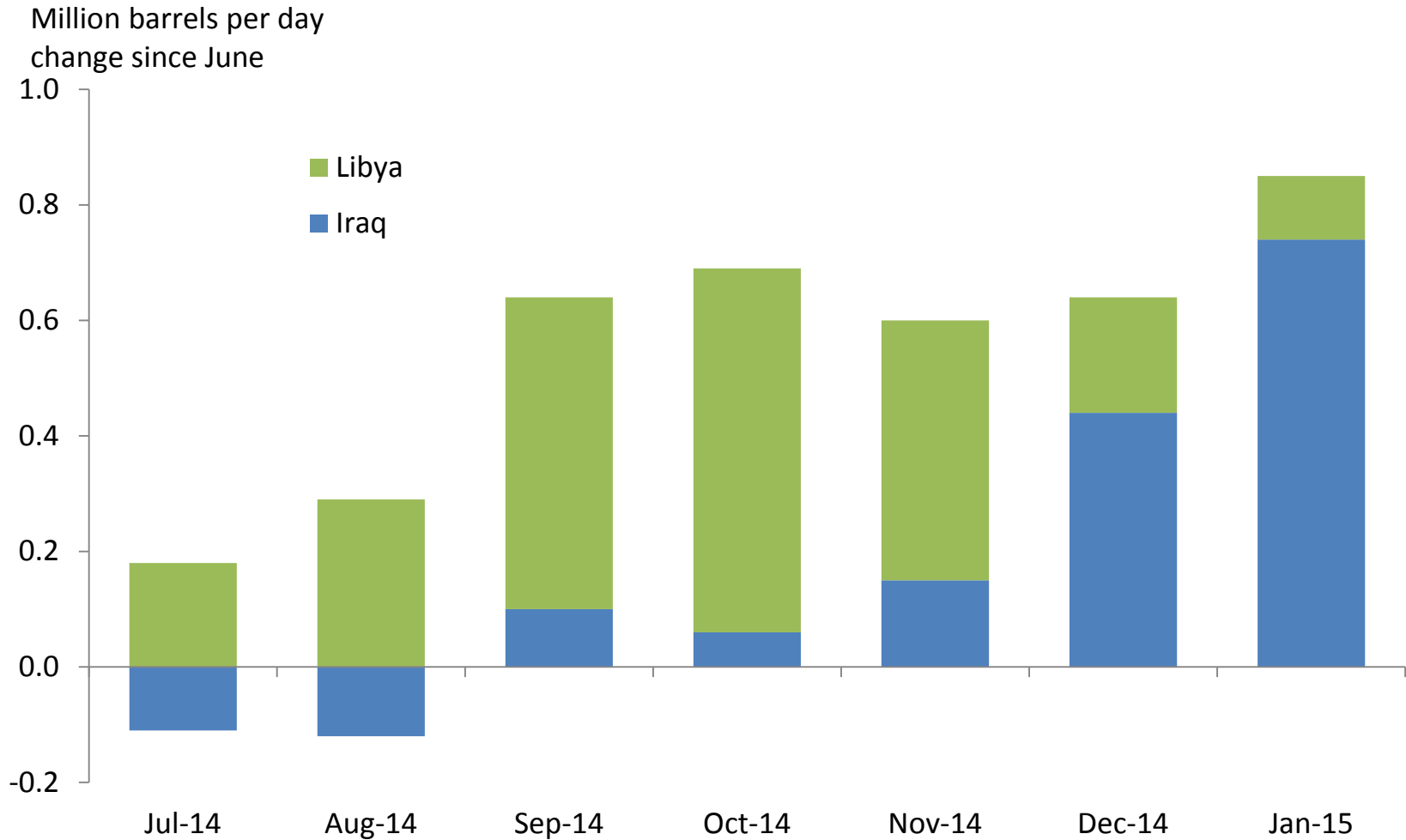
World Oil Consumption and Production Growth

(Year-over-year)



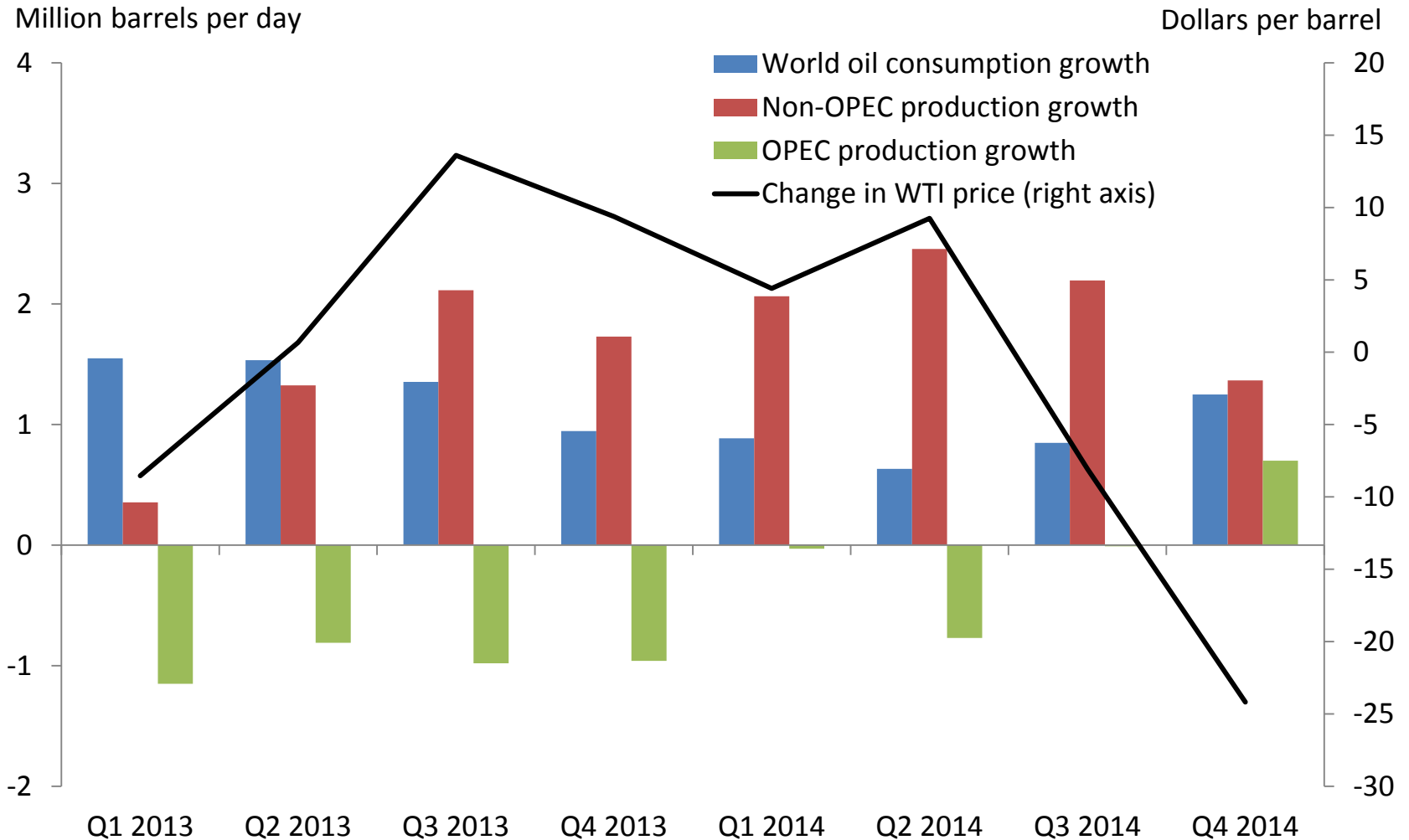
Source: Energy Information Administration.

Iraq and Libya Production Up Since June



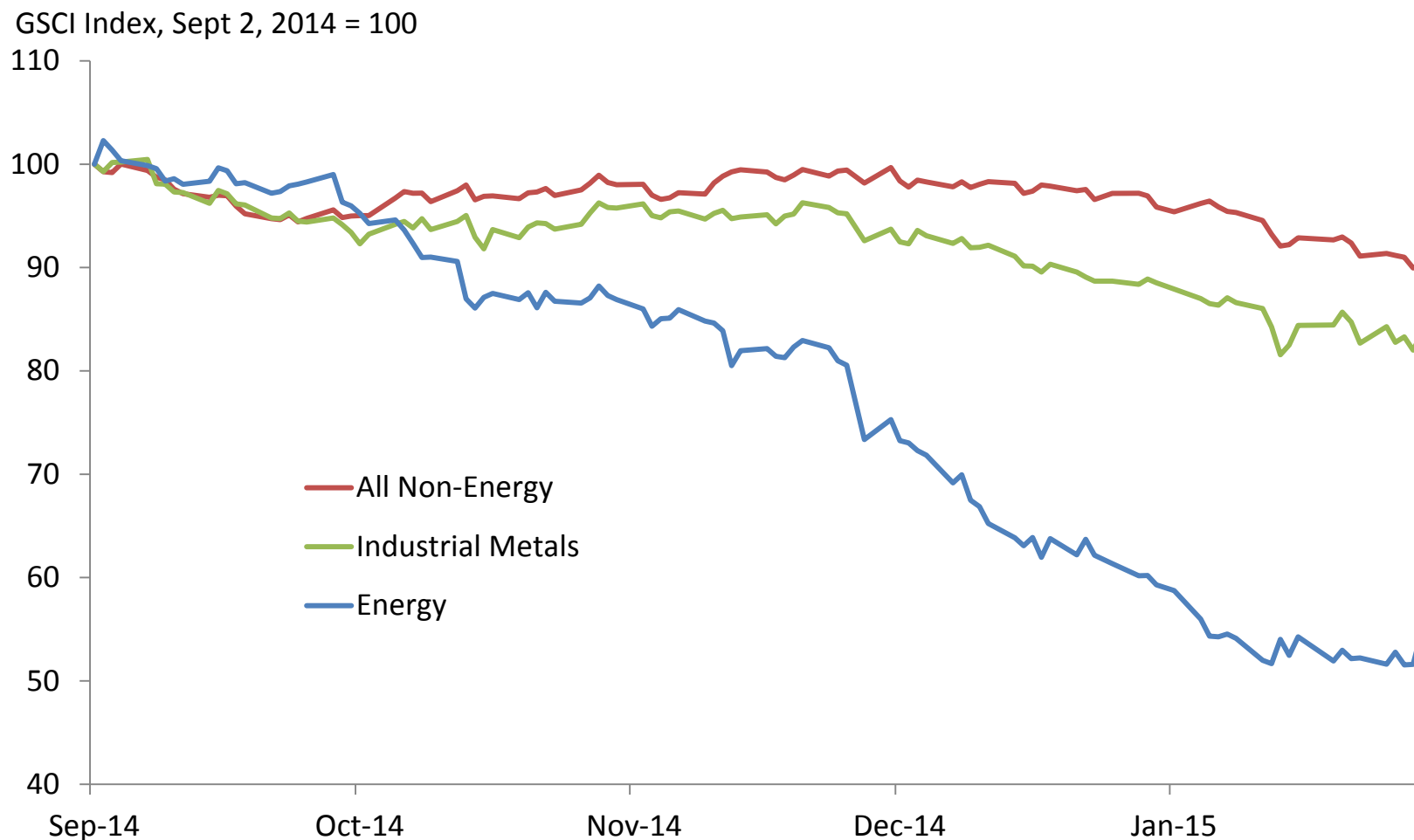
Source: Bloomberg.

Demand/Supply Balance and Oil Prices



Source: Energy Information Administration.

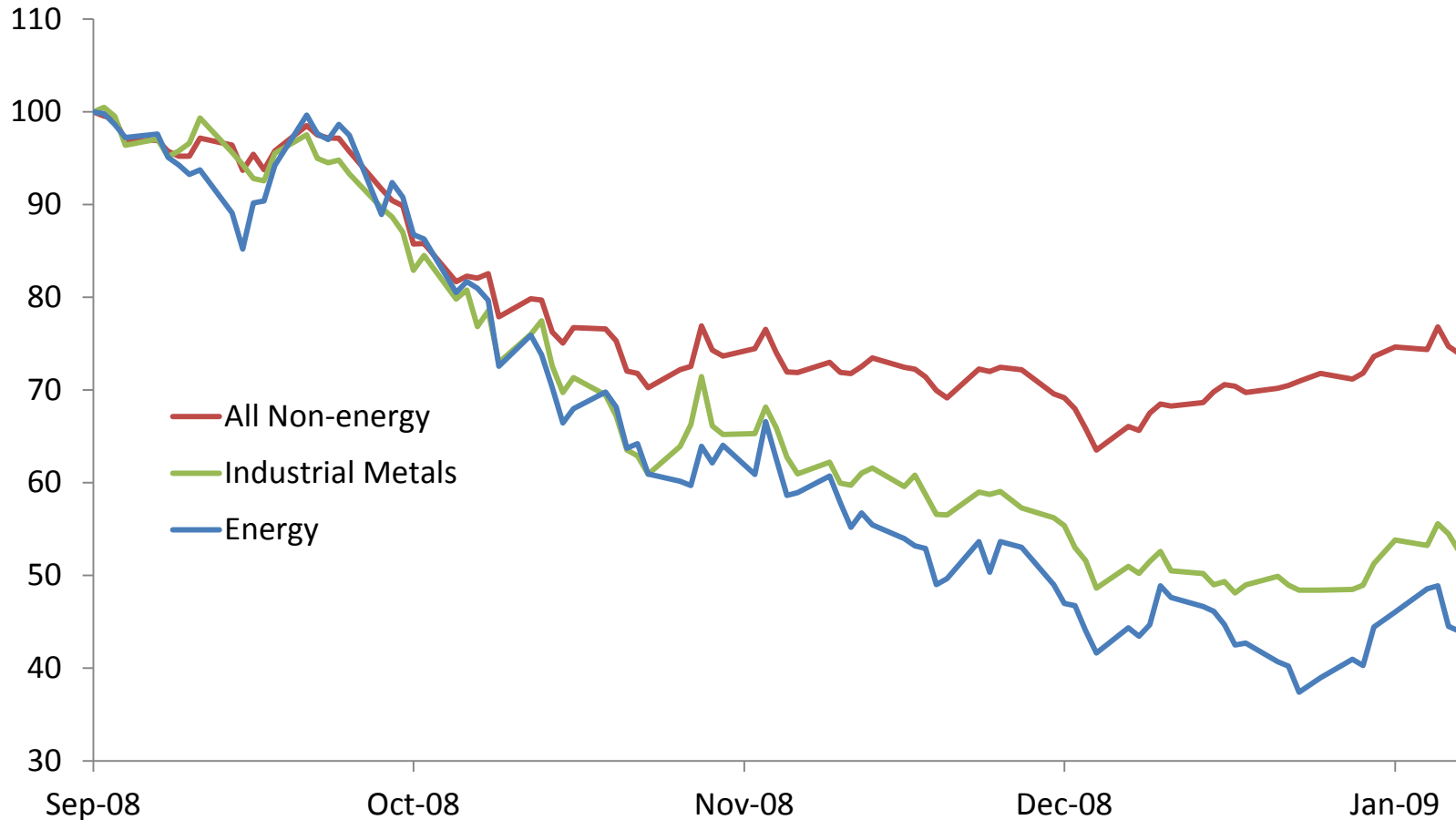
Energy Prices Fall More Than Other Commodities



Sources: S&P; Bloomberg.

In Contrast to Falling Prices in 2008

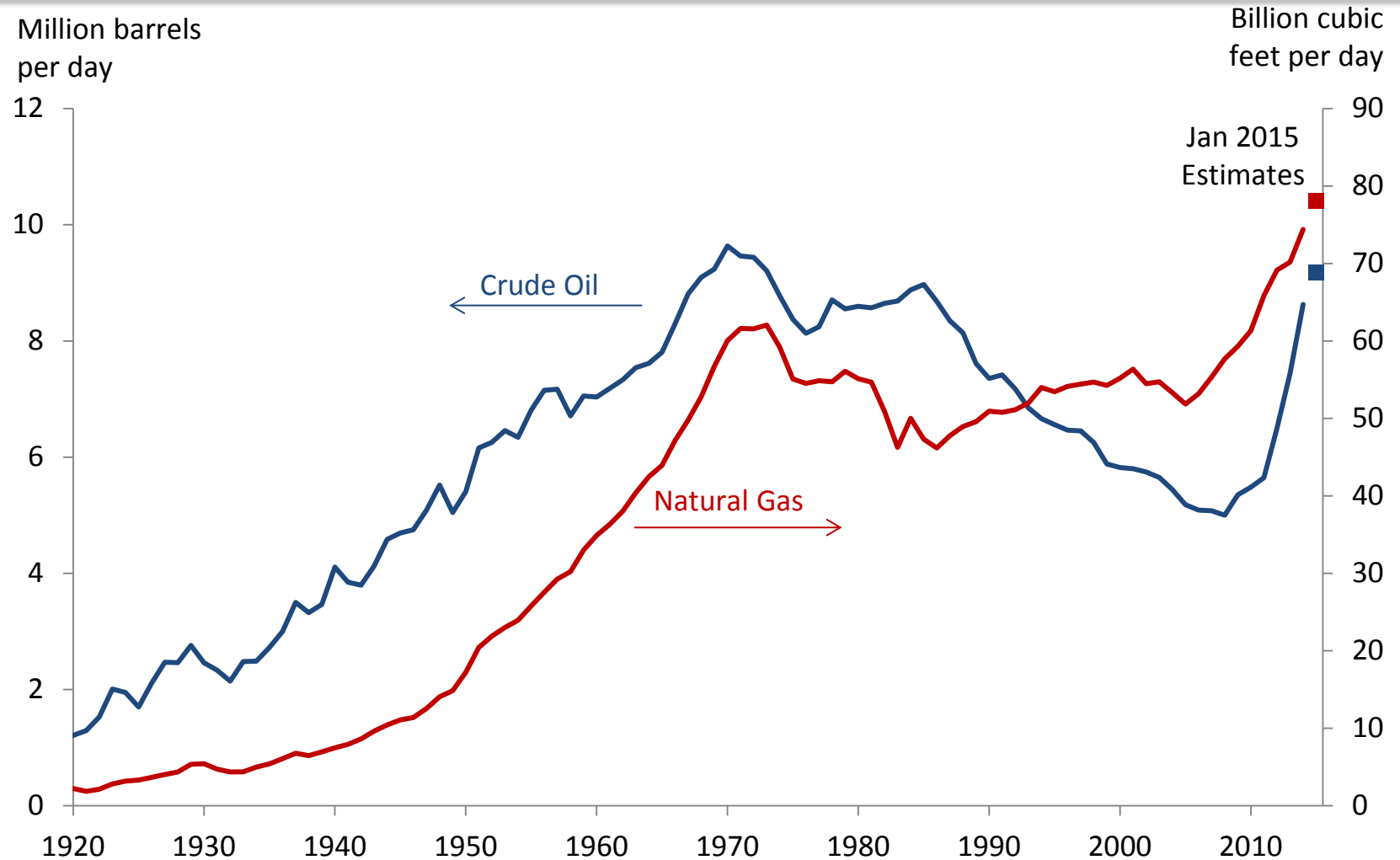
GSCI Index, Sept. 2, 2008 = 100



SOURCES: S&P; Bloomberg.

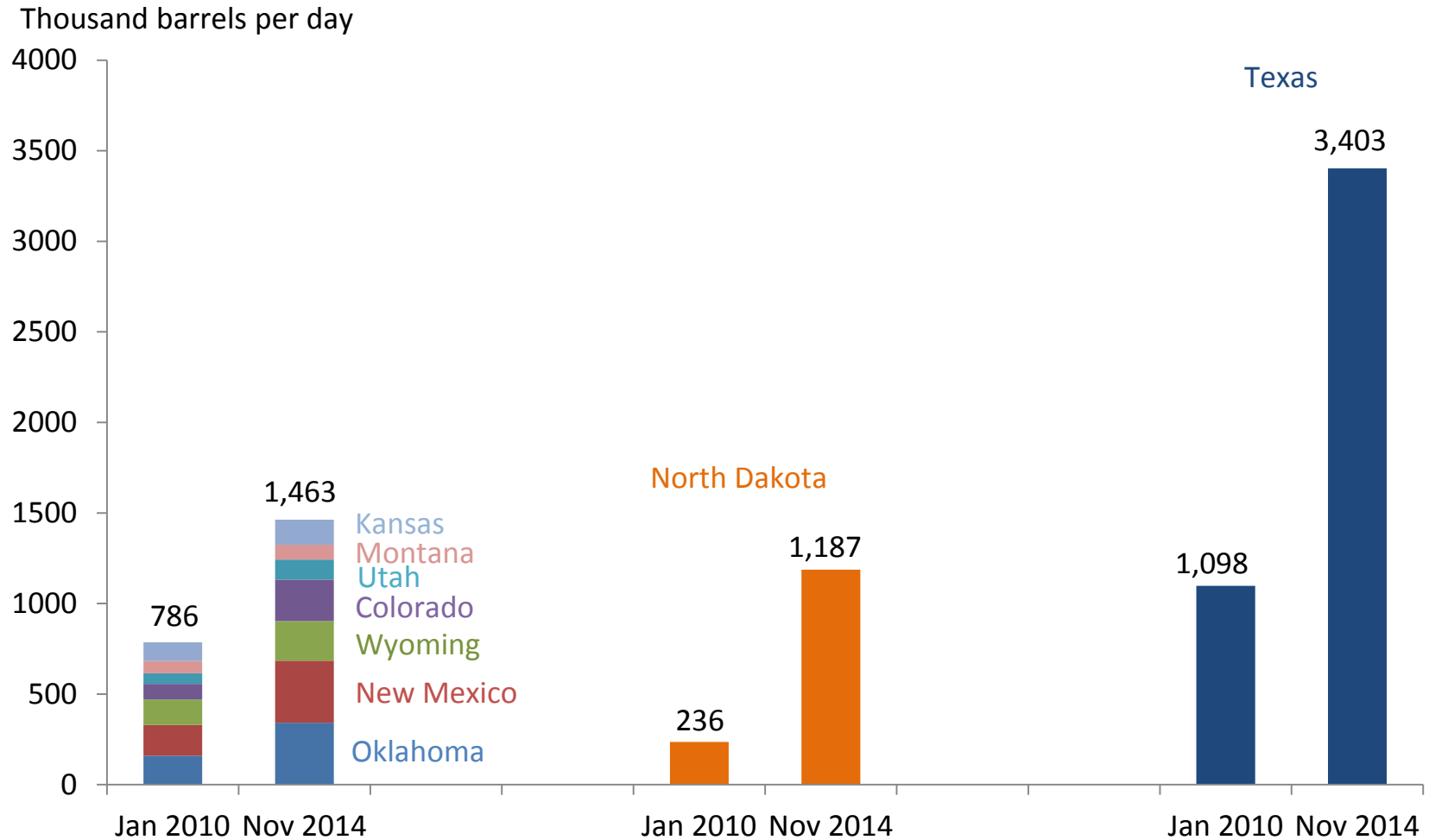
Impact on U.S. Economy

U.S. Oil and Gas Production



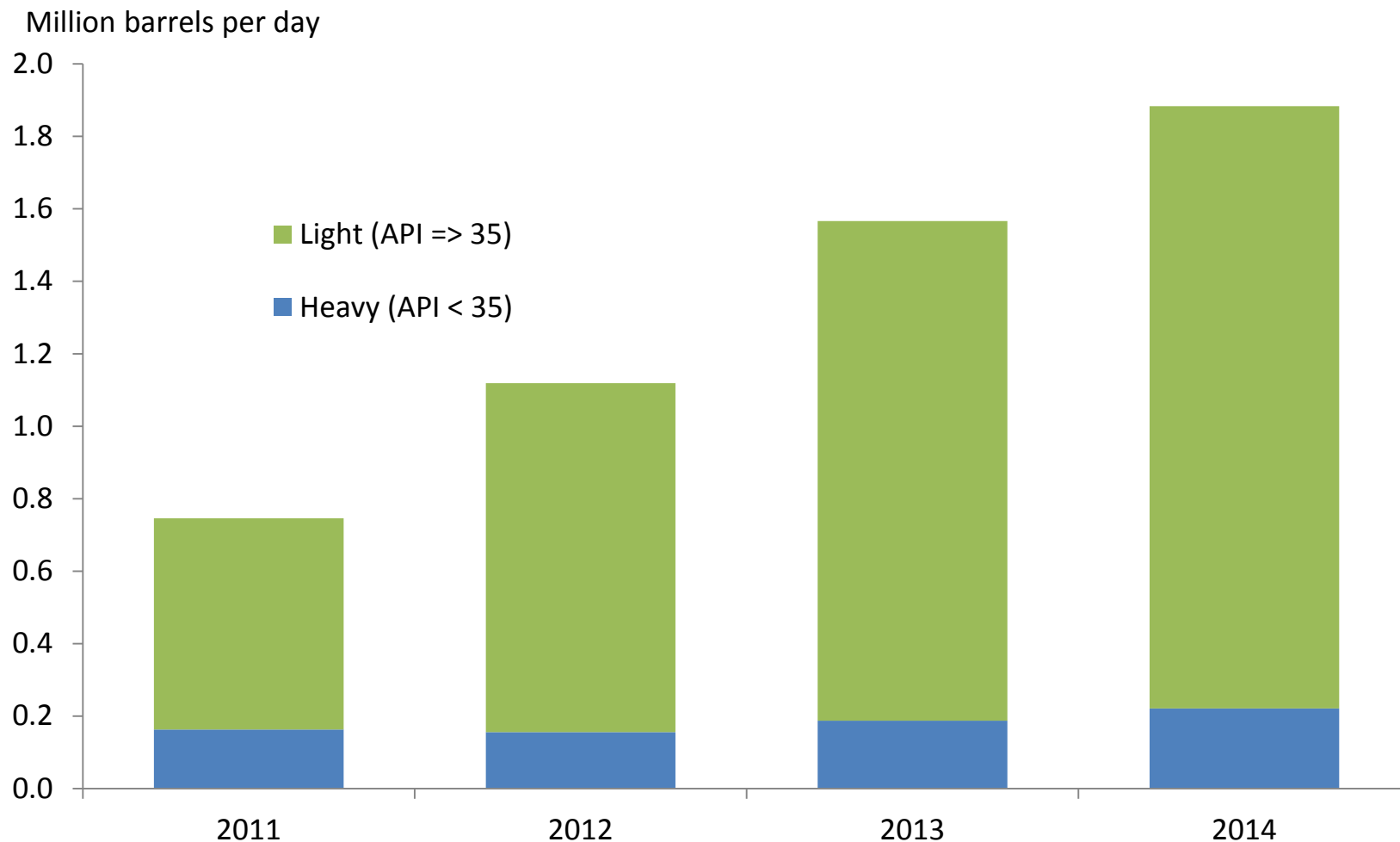
Source: Energy Information Administration.

U.S. Crude Oil Production from Shale



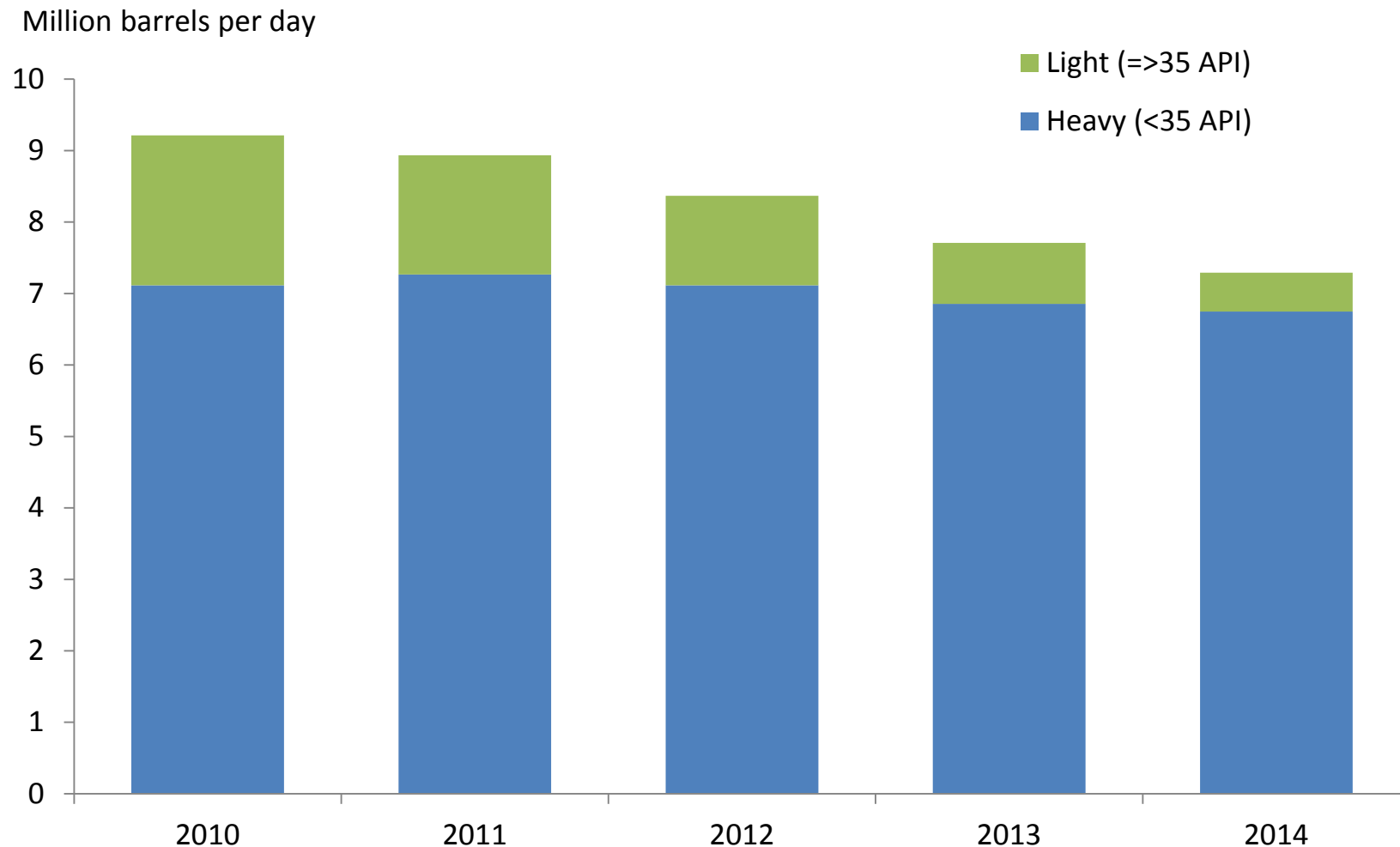
Source: Energy Information Administration.

Gulf Coast Crude Oil by API Gravity



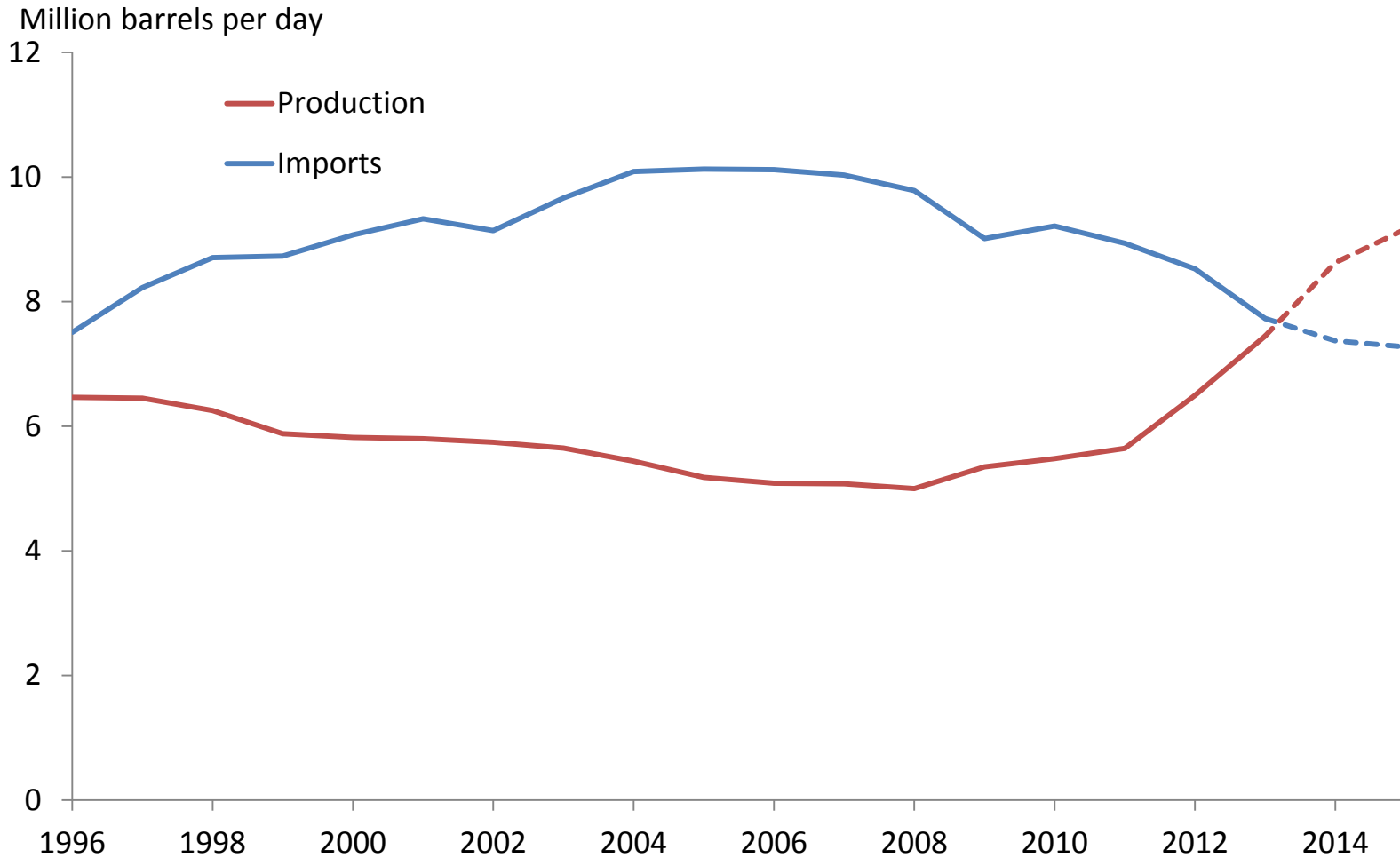
Source: Energy Information Administration.

U.S. Imports of Crude Oil by API



Source: Energy Information Administration.

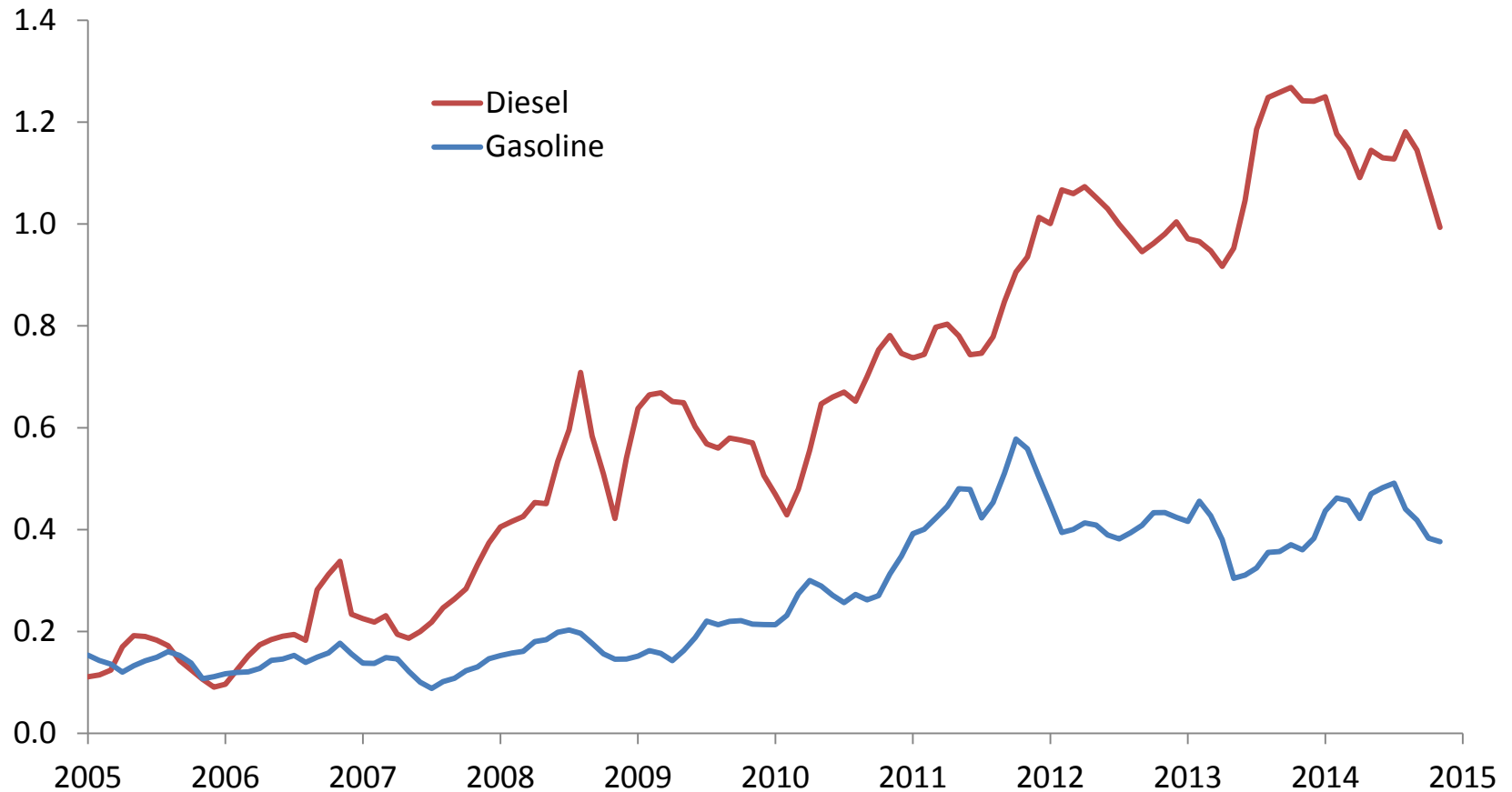
U.S. Imports of Crude Oil Have Fallen below Production



Source: Energy Information Administration.

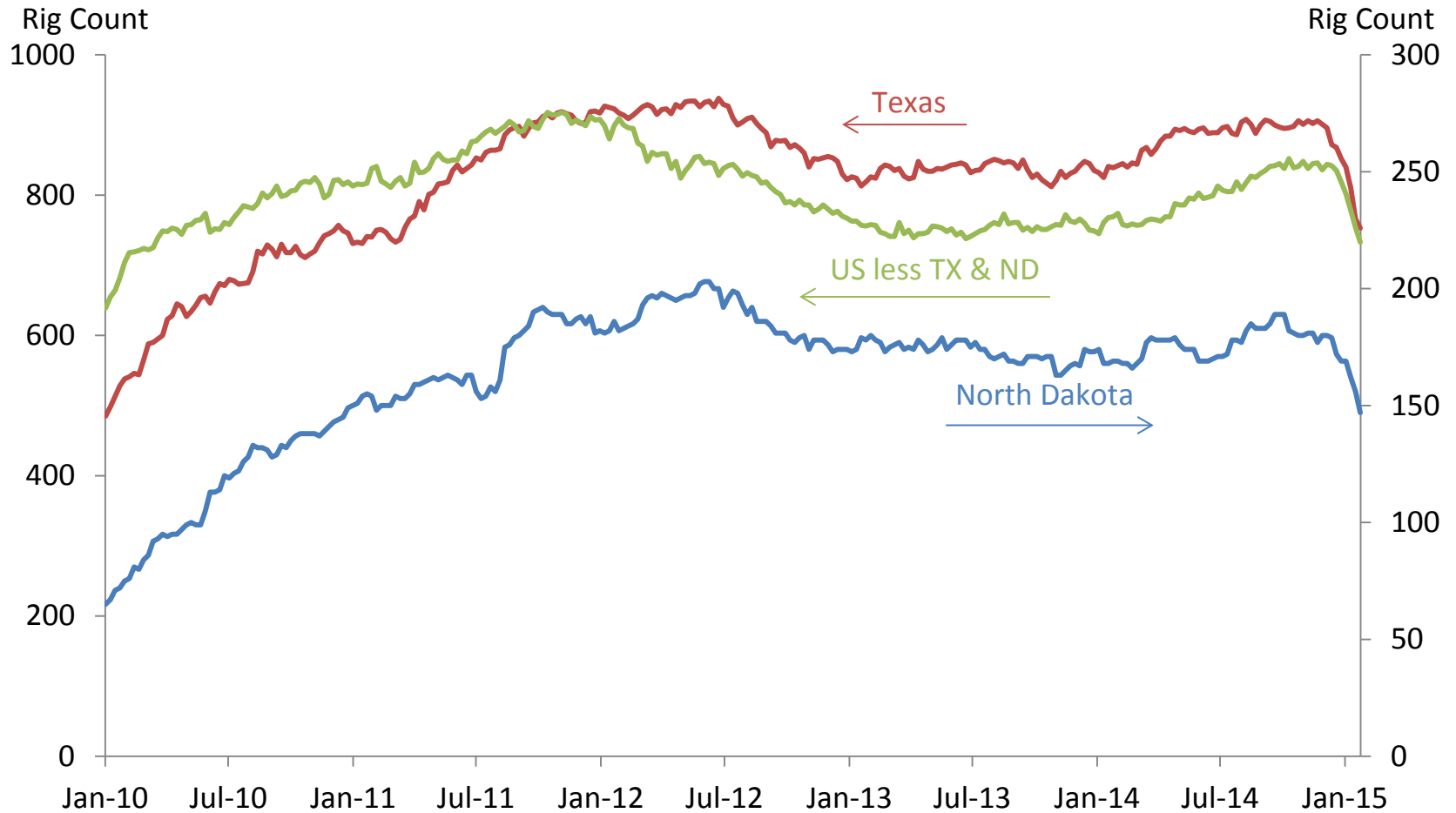
Exports of Gasoline and Diesel

Million barrels per day,
SA, 3 MMA



Source: Energy Information Administration.

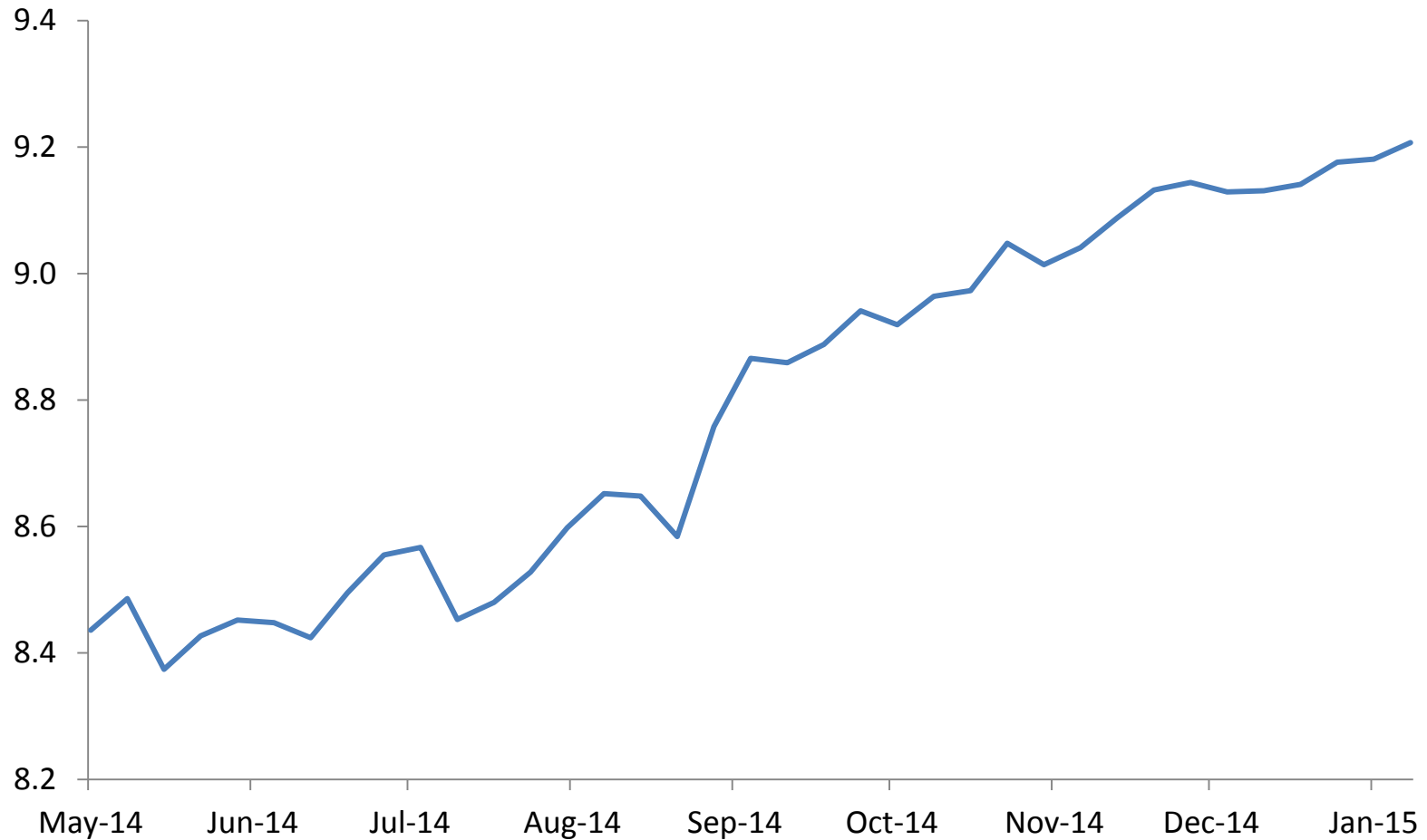
Rig Counts



Source: Baker Hughes.

Despite Rig Count Declines, Oil Production Holding Up

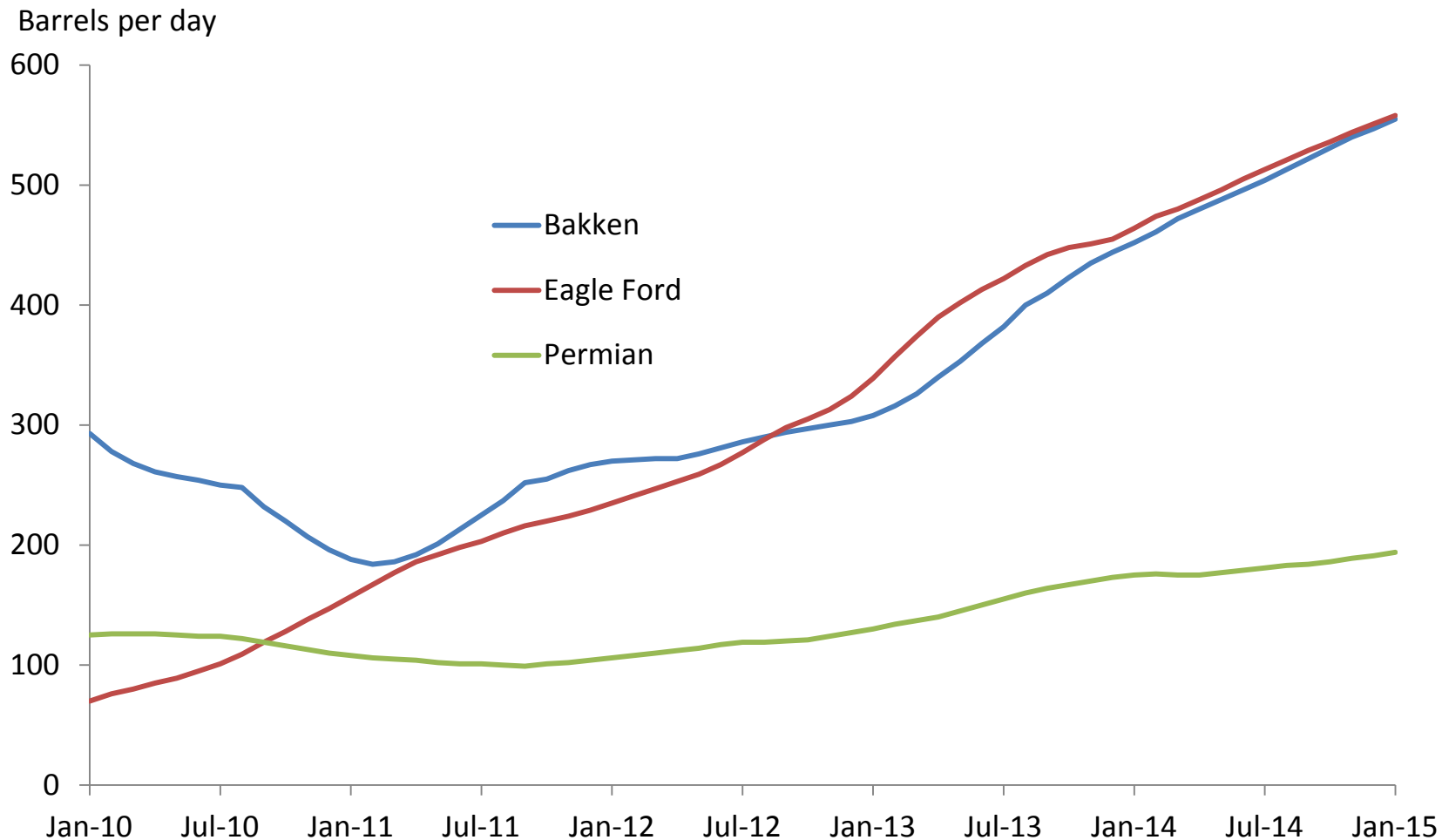
Million barrels per day



Source: Oil and Gas Journal.

New Rigs and Wells Very Productive

(New well oil production per rig)

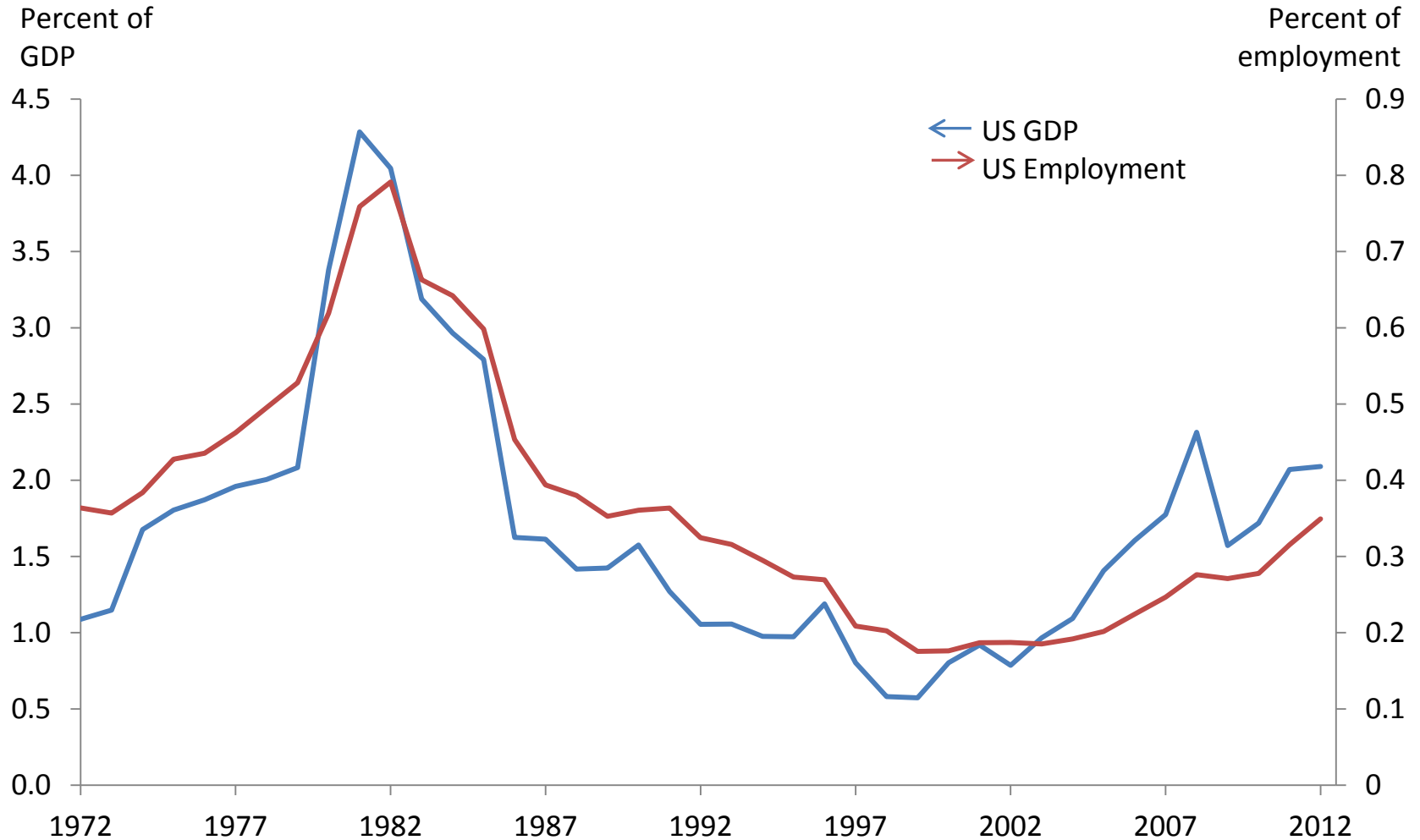


Source: Energy Information Administration.

How Low Can Prices Go ?

- Breakeven costs for different areas:
 - Bakken
 - \$28 - \$85 per barrel
 - Eagle Ford
 - \$46 - \$80 per barrel
 - Permian Basin
 - \$52 - \$75 per barrel

Importance of Oil and Gas to U.S. Economy



Sources: Bureau of Economic Analysis; Bureau of Labor Statistics.

Impact on U.S. Economy

- The U.S. benefits from lower oil prices
- Boosts consumer disposable income
 - The decline in gasoline prices adds \$550 to household budgets in 2015
- Reduces the cost of energy to firms
- Reduces profitability of producing oil
 - Layoffs and capex declines in energy firms
- A 50% fall in oil prices may lead to a 0.3% to 1.0% increase in GDP (depending on the model)
- Headline inflation falls

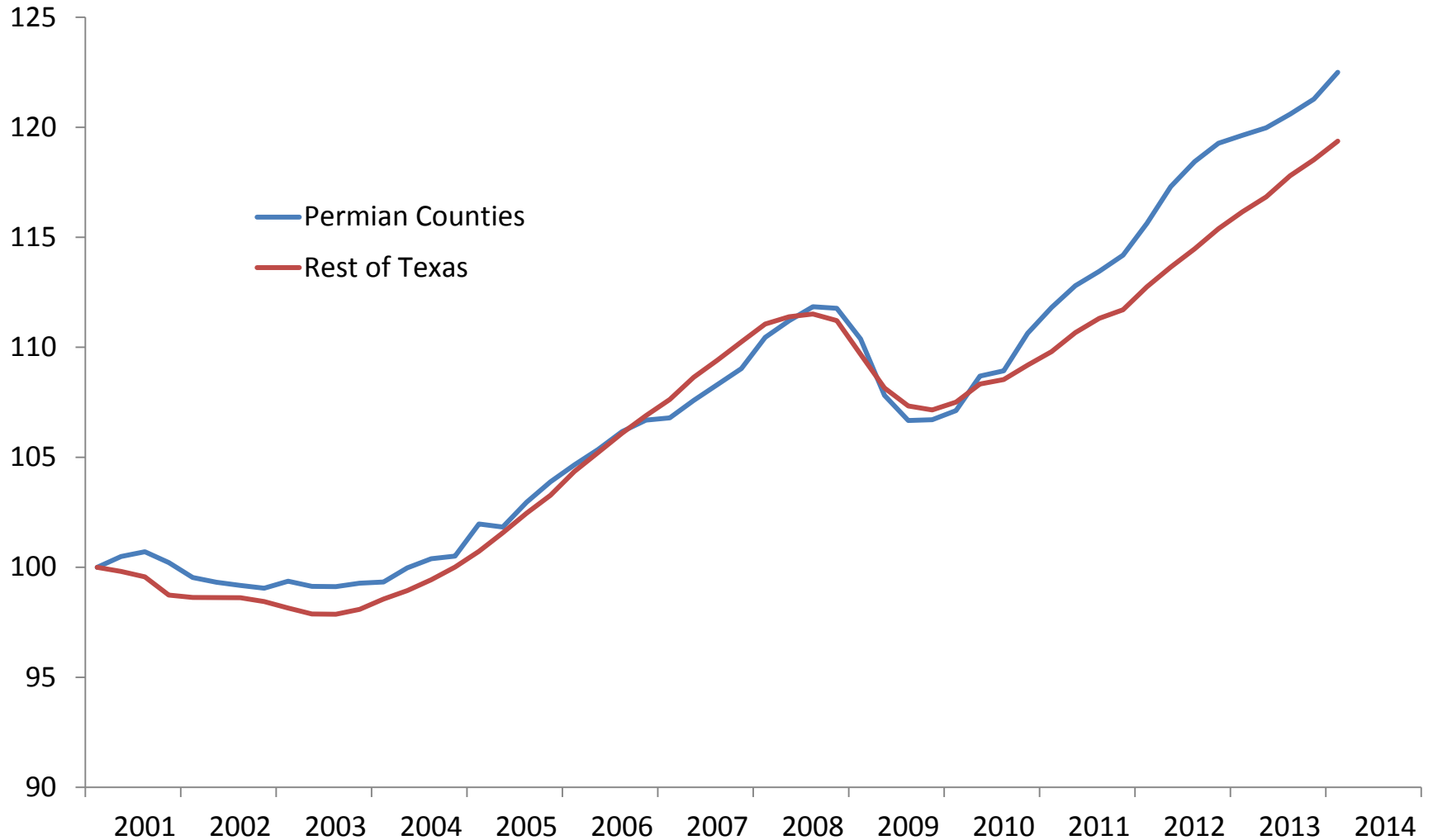
Impact on State Economies

Regional Effects

- Increased energy activity brings oil and gas extraction and oil-field support jobs
- Local areas:
 - lease and royalty payments,
 - infrastructure construction and
 - increased spending on retail, leisure and hospitality, and health services.
- Local governments: greater sales taxes
- State governments: increased severance tax revenues

Permian Basin Employment

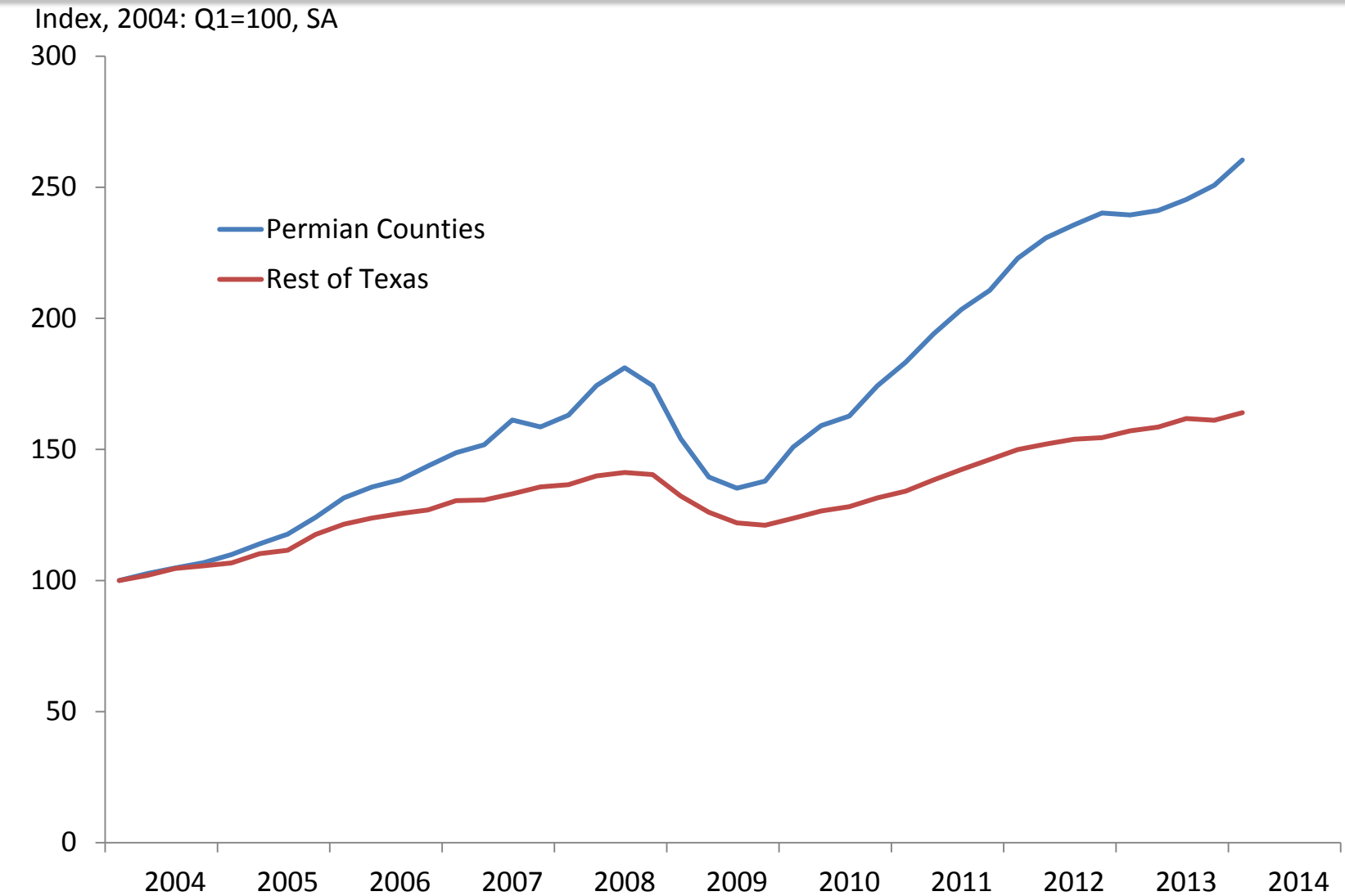
Index, 2001: Q1=100, SA



Source: Bureau of Labor Statistics; seasonal and other adjustments by Federal Reserve Bank of Dallas.

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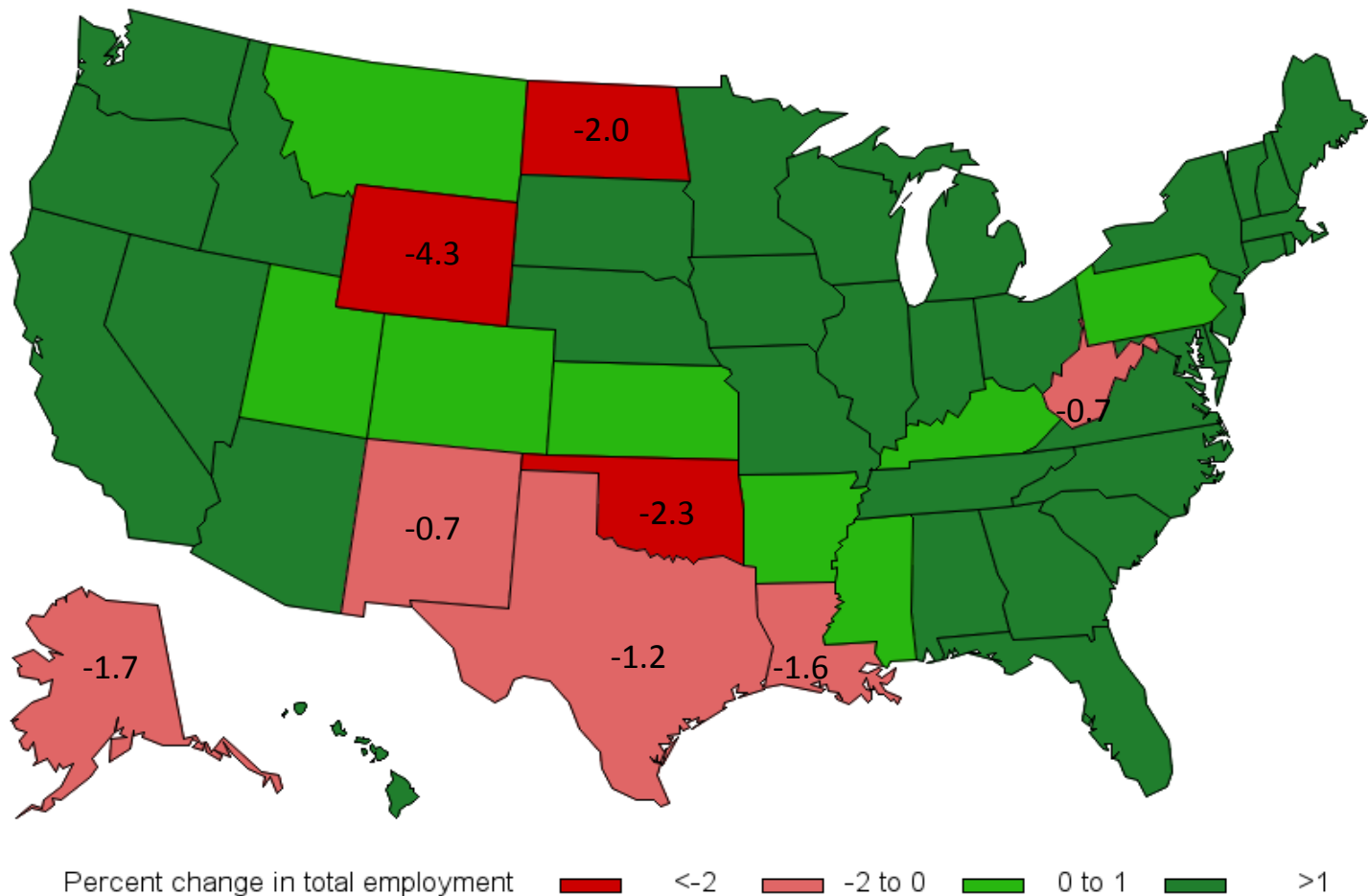
Permian Basin Retail Sales Growth



Source: Texas Comptroller; Federal Reserve Bank of Dallas.

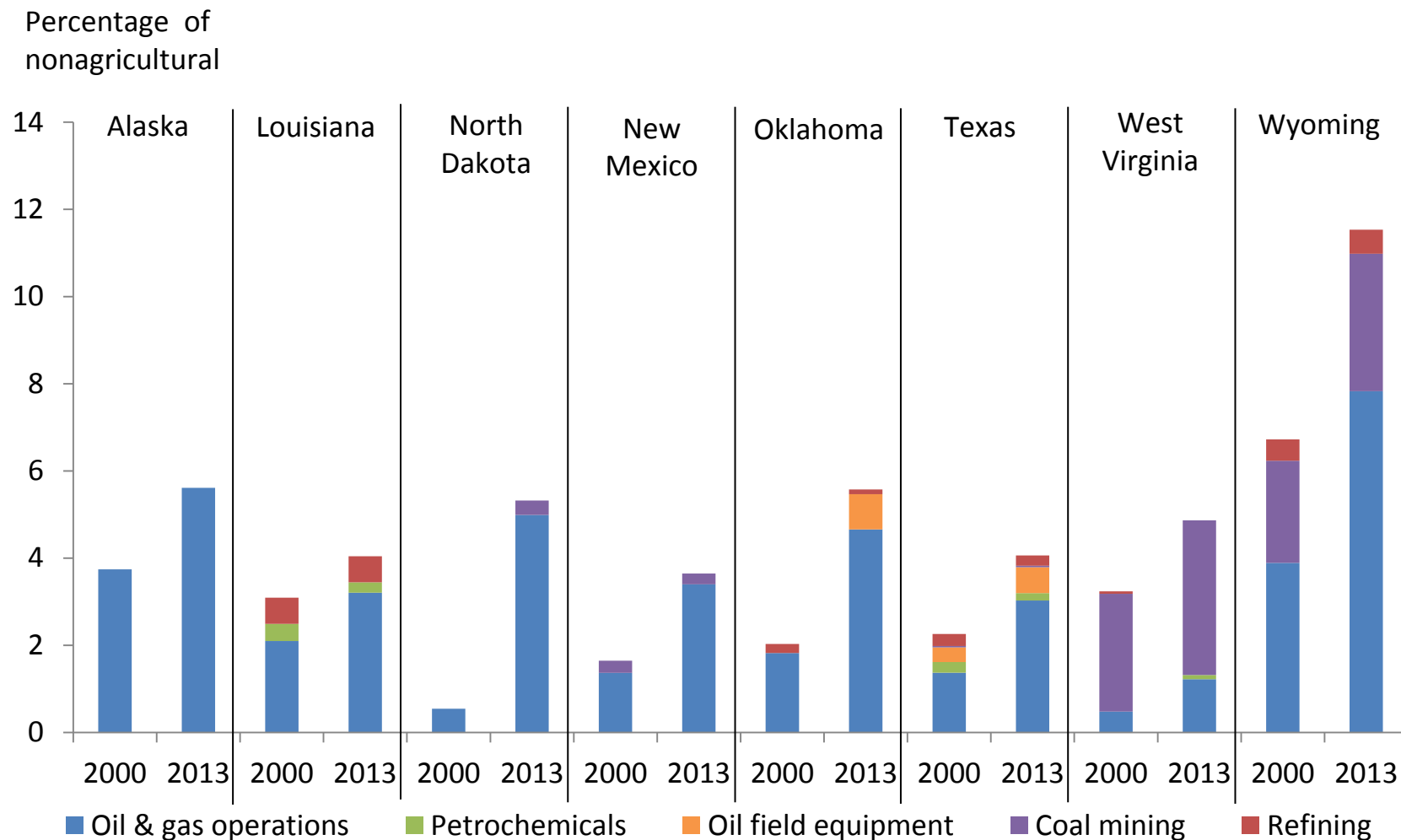
Low Oil Prices Benefit Most States

(Effect of a 50% decline in oil prices on employment)



Source: Council on Foreign Relations, "The Shale Gas and Tight Oil Boom: US States' Economic Gains and Vulnerabilities," Brown, Yucel 2013.

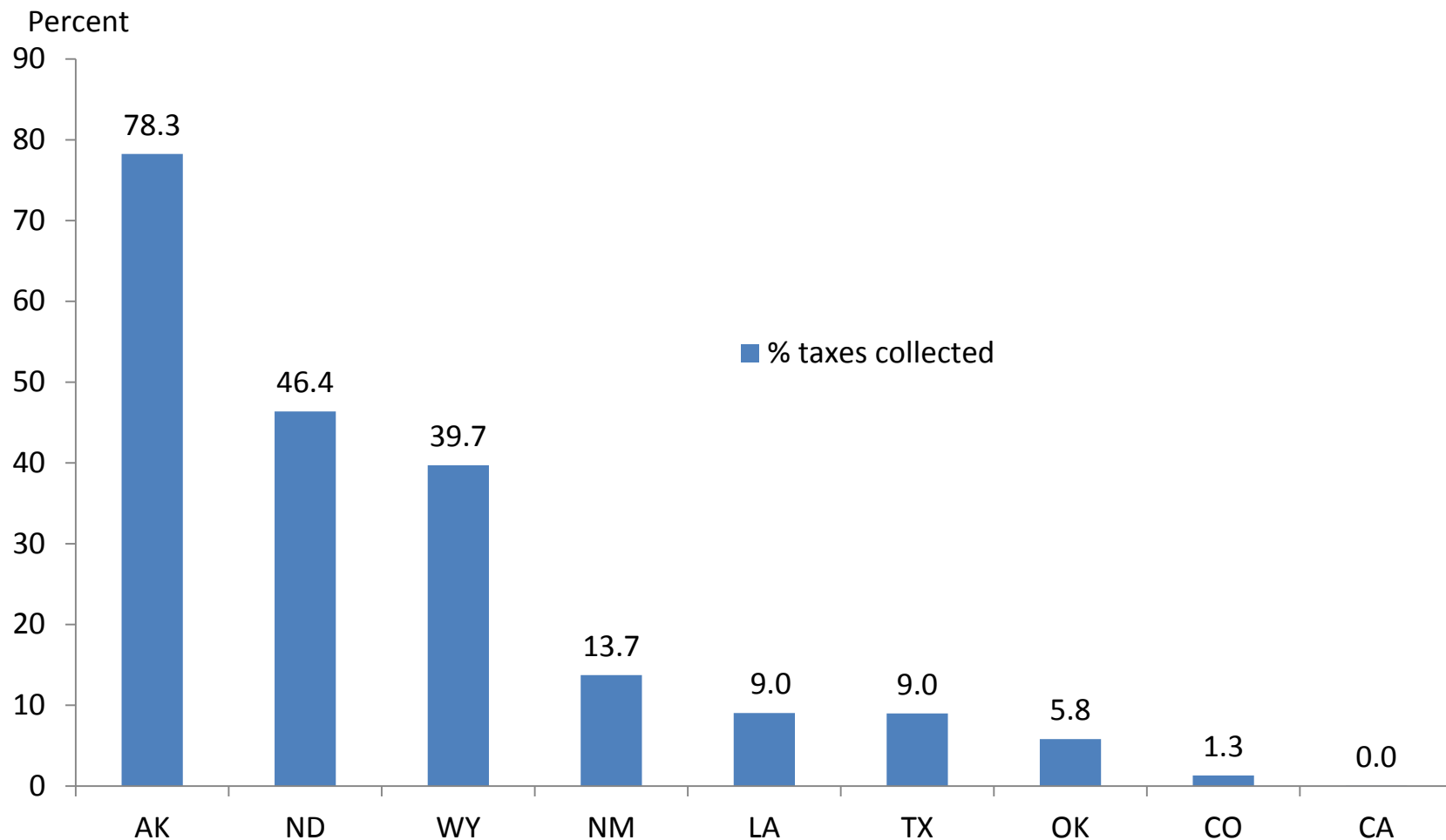
Energy-Related Employment



Source: Bureau of Labor Statistics.

Some States Rely Heavily on Oil and Gas Severance Taxes

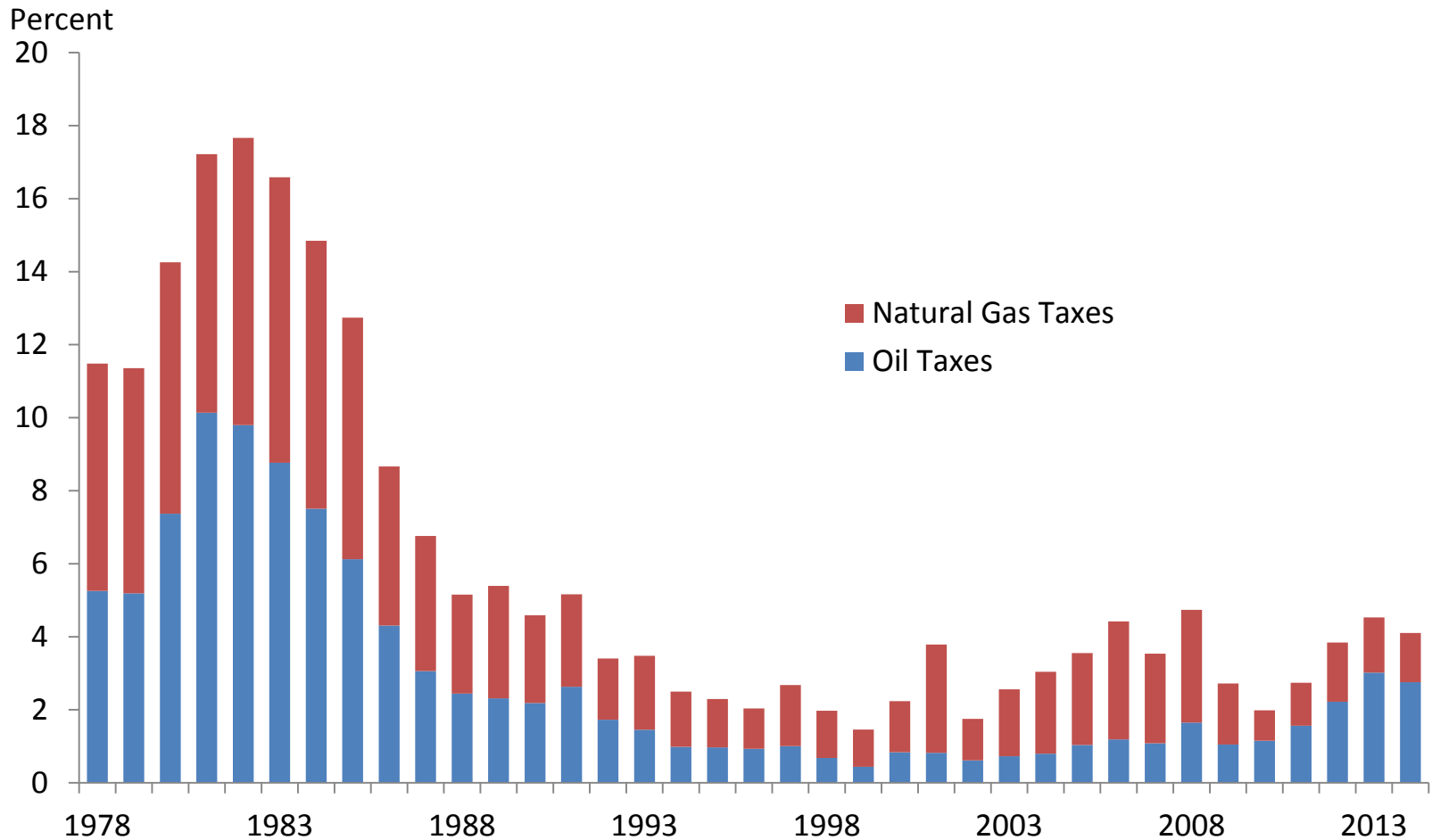
(Share of state tax revenues)



Sources: U.S. Census Bureau, 2013 annual survey of state government tax collections; EIA.

Oil and Gas Share of Total Revenue

(Texas)

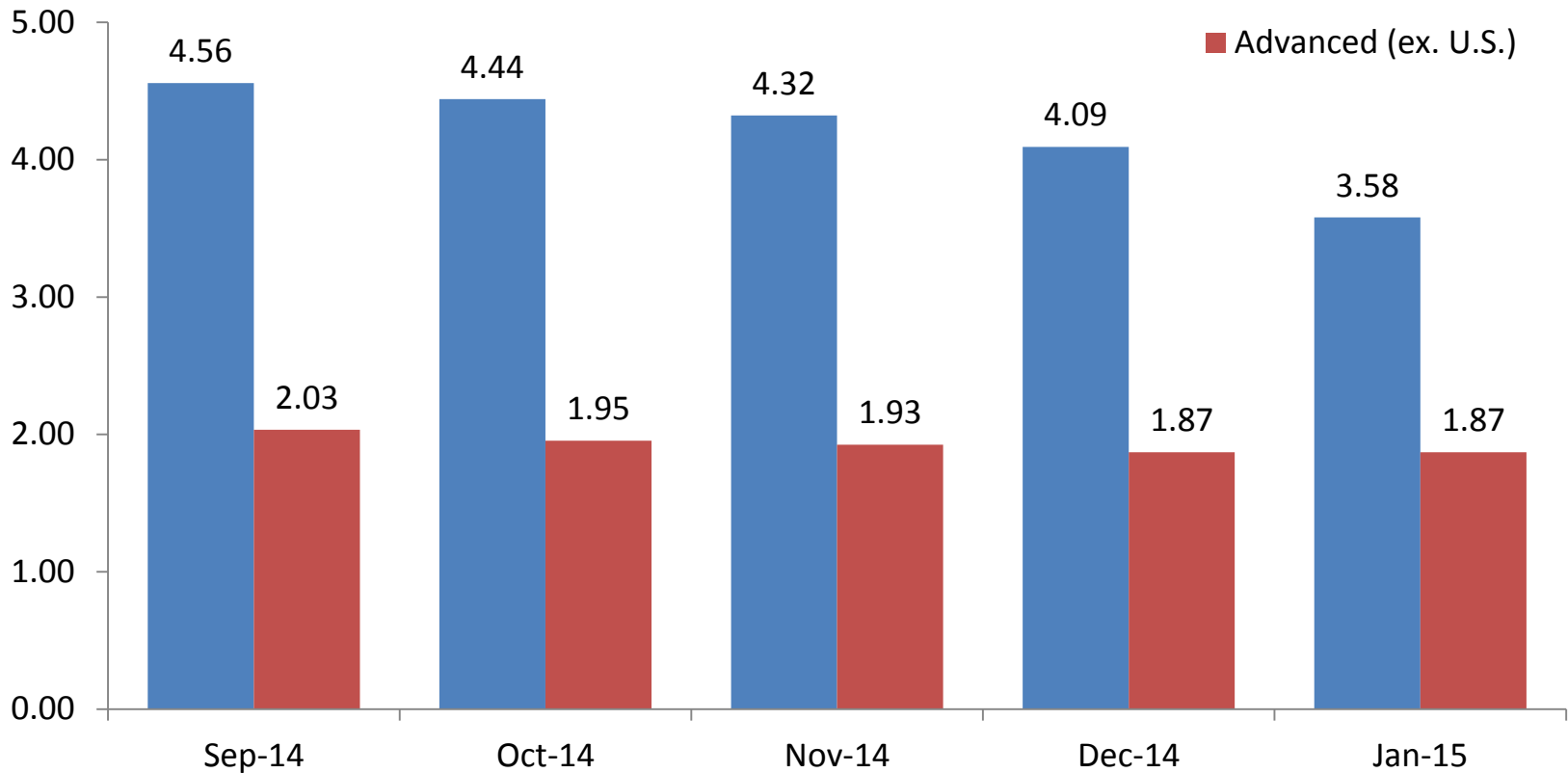


Source: Texas Comptroller.

Where Do We Go from Here?

GDP Growth Forecast

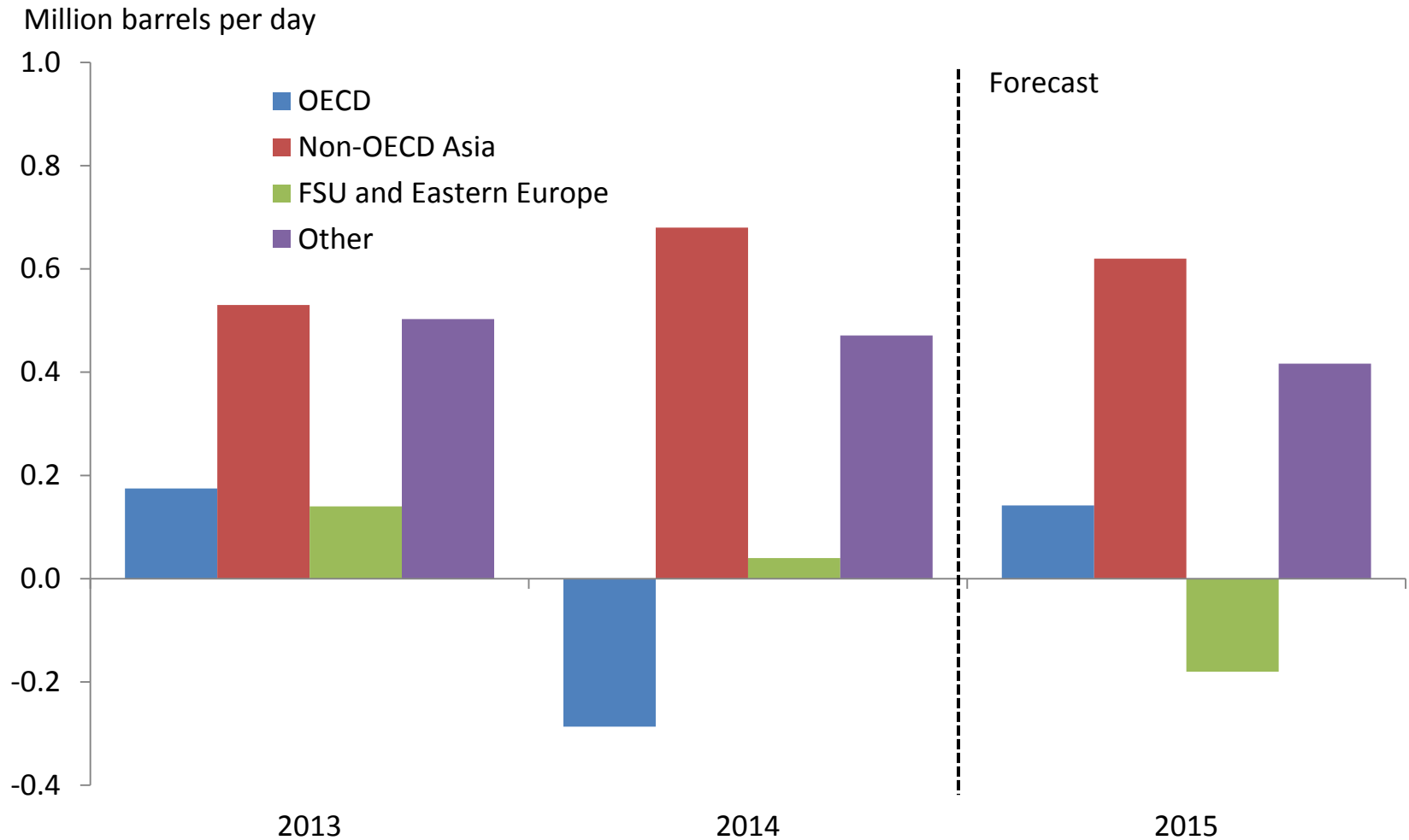
Expected 2015 annual GDP growth rate (%)



NOTES: Countries are weighted using oil-consumption shares calculated using 2013 consumption data from the Energy Information Administration.

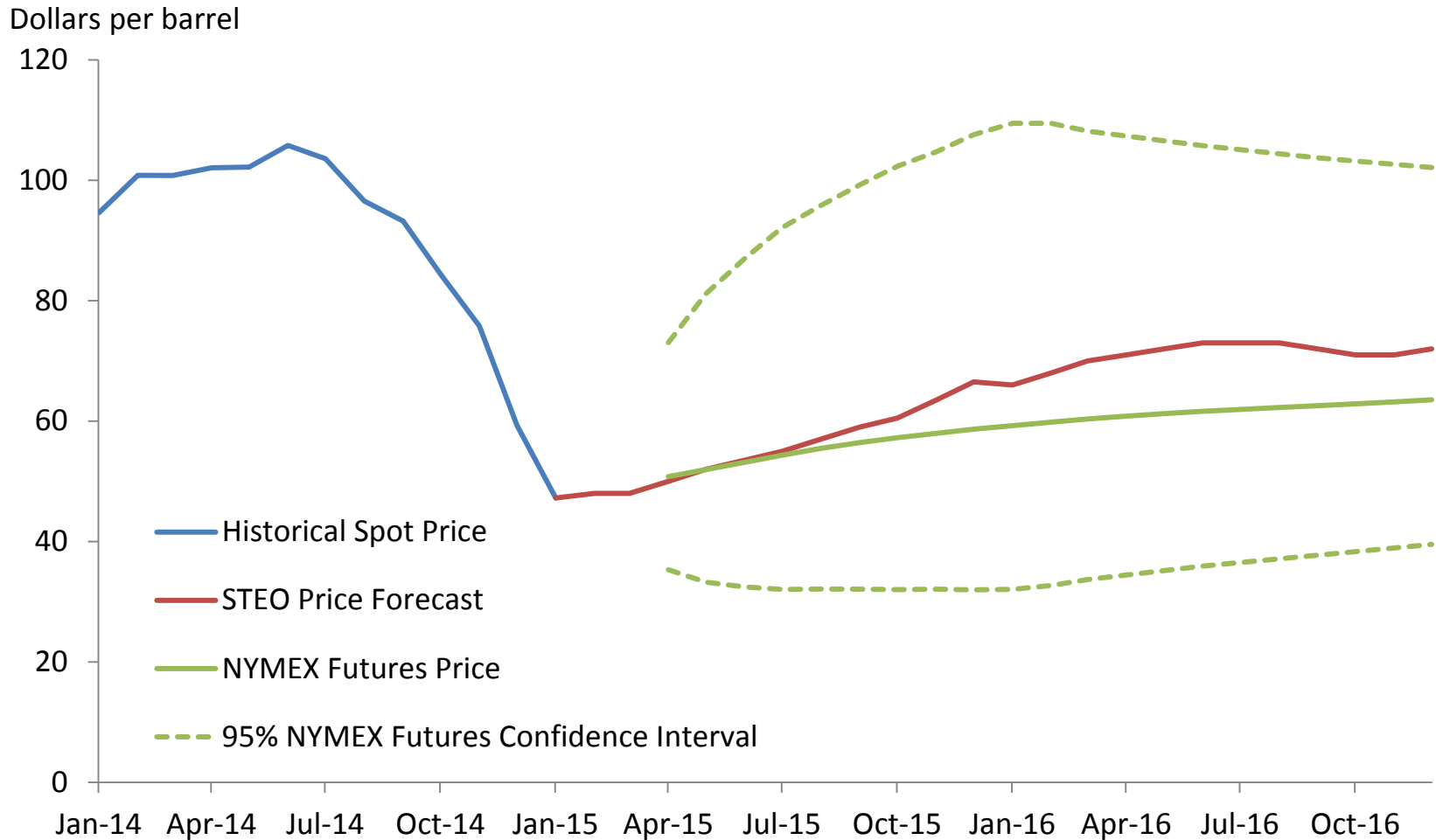
SOURCES: DGEI; Consensus Forecasts; EIA; authors' calculations.

World Consumption Growth Forecast



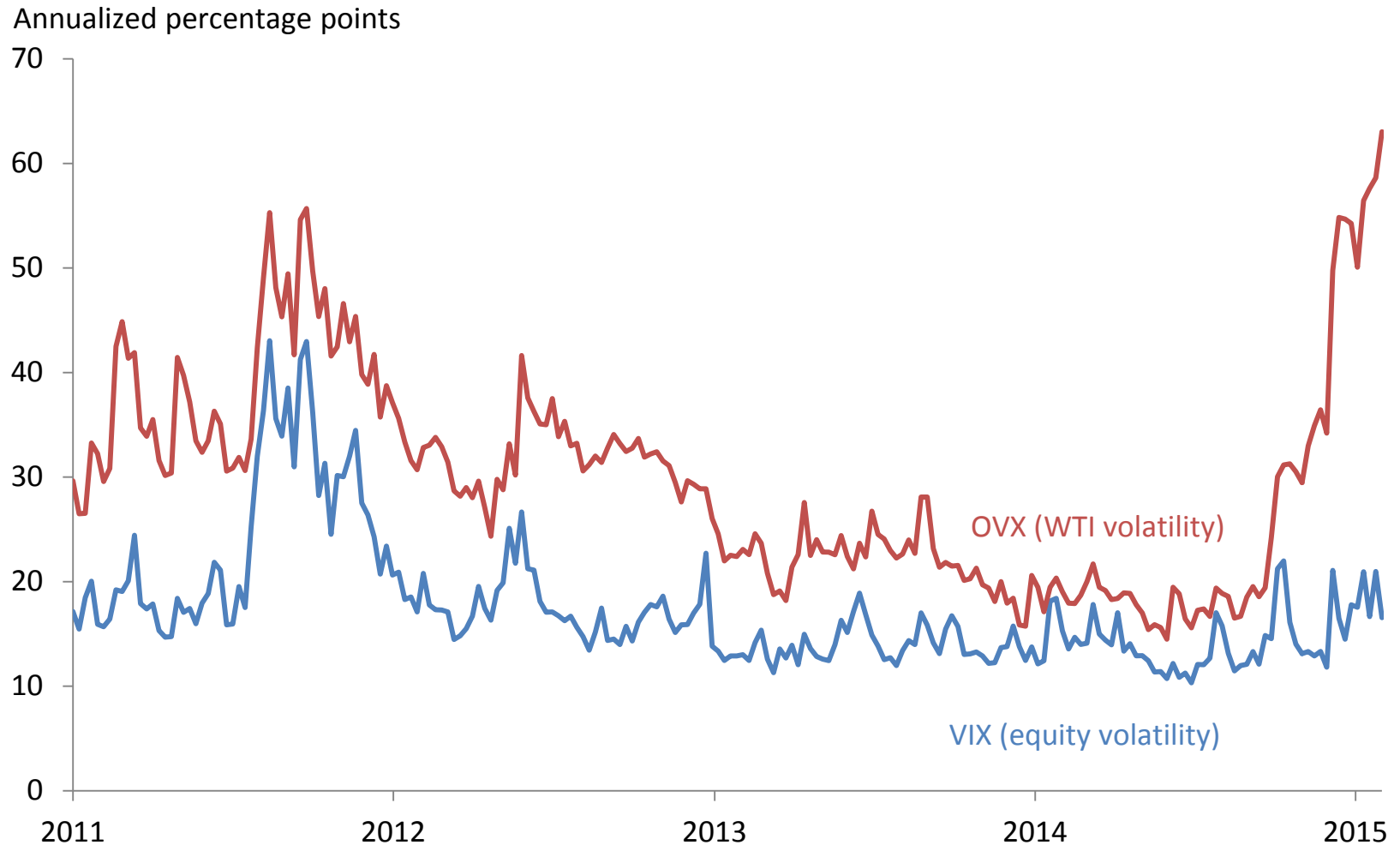
Source: Energy Information Administration.

Crude Price Forecast



Source: Energy Information Administration.

Oil Price Outlook Very Uncertain



Source: Bloomberg.

Outlook

- Market will adjust
 - Lower prices will lead to a contraction of supply and increase in demand
- Global GDP growth is expected to rise over time
- Oil prices expected to rise
- U.S. supply response will be swifter than in the past
- Uncertainties abound



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Michael Plante and Mine Yücel
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