Commodity Markets Outlook: Has the super cycle ended?

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WORLD BANK

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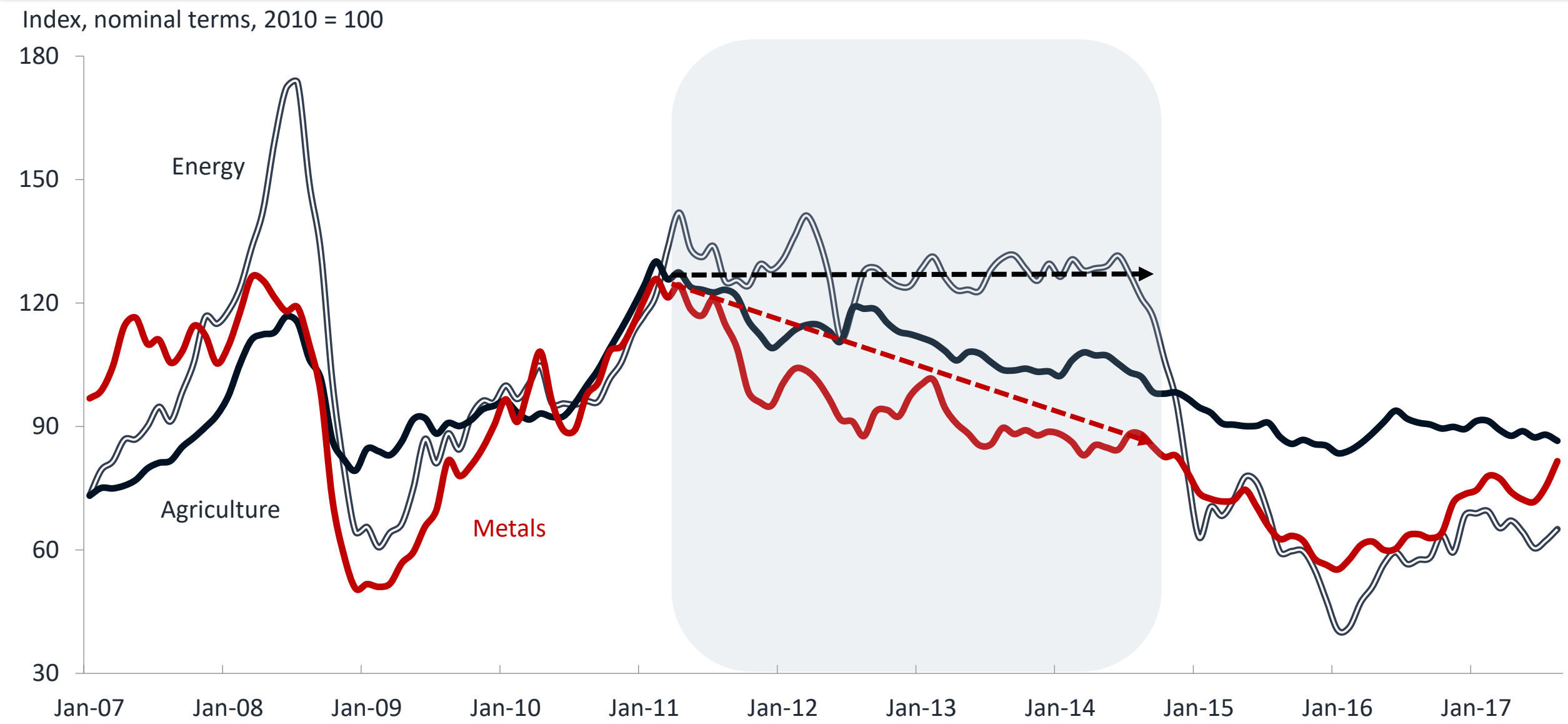
Outline

- The context
- Energy markets
- Agricultural markets
- Metal markets
- Long term outlook and risks

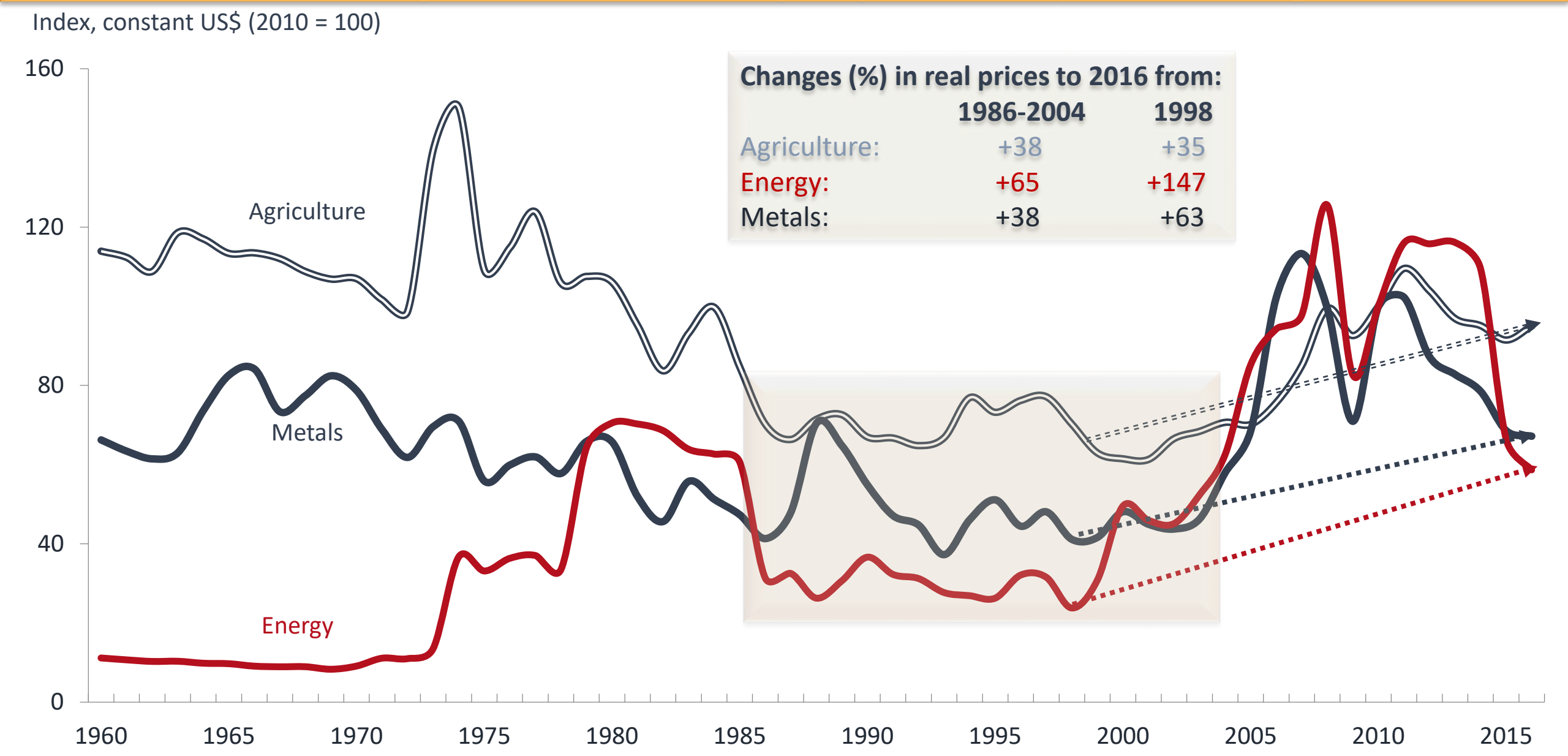
Broad commodity price trends



Source: World Bank

Note: Last observation is August 2017.

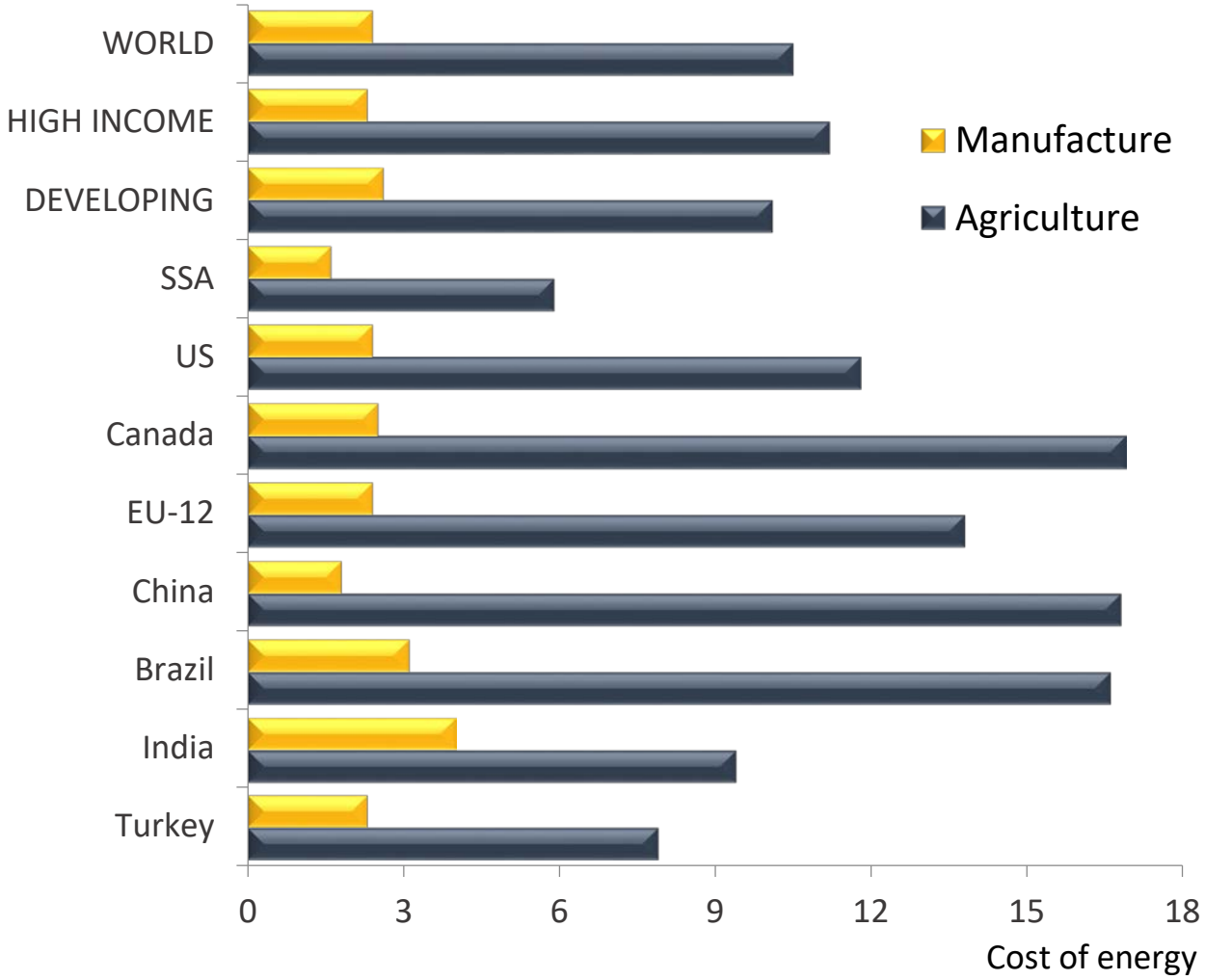
Prices are still higher than the 1985-2004 average



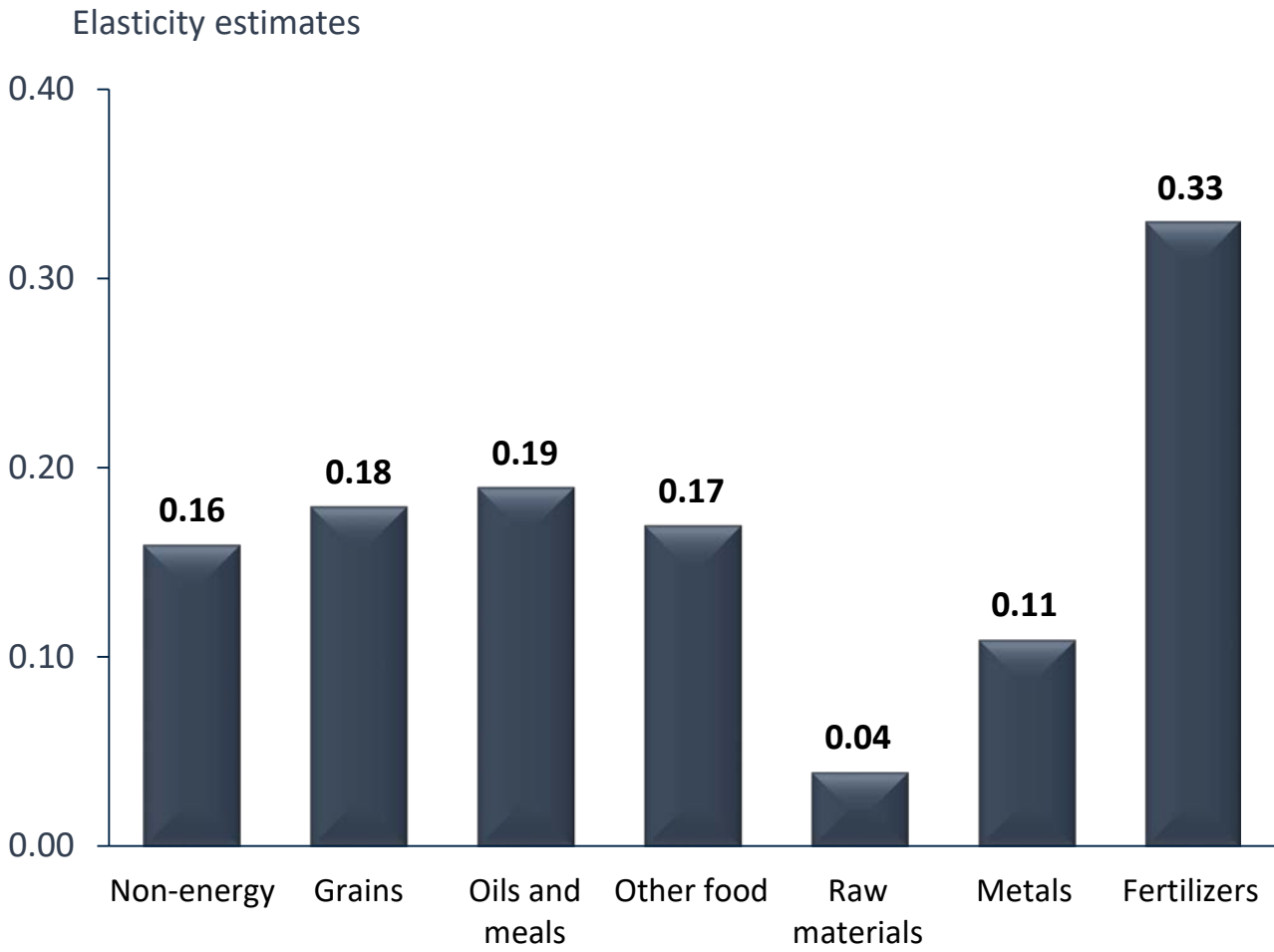
Source: World Bank.

Agriculture is an energy intensive industry

Energy intensity



Transmission elasticities

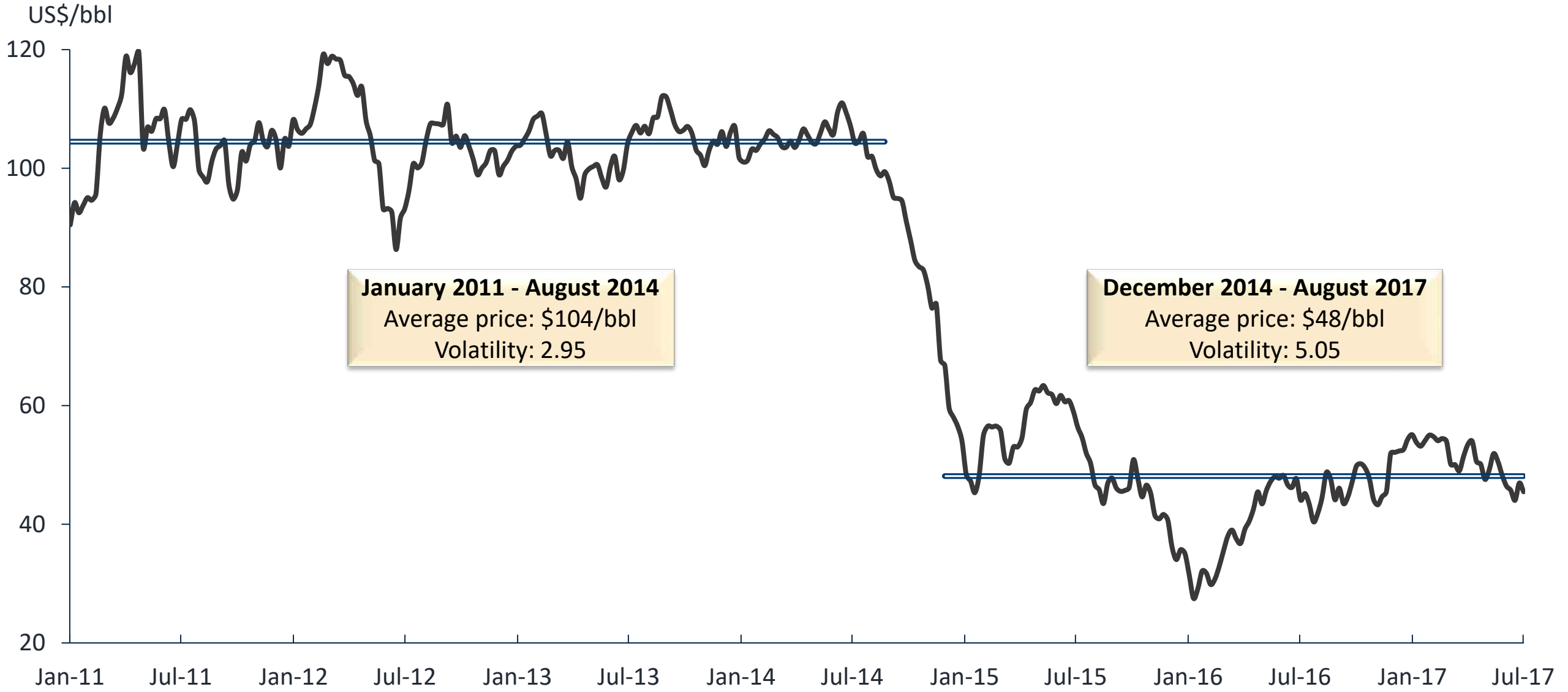


Source: Author's calculations based on the GTAP database (2007 release) and Baffes (2007), *Resources Policy*, vol.32, pp. 126-134.
Notes: Elasticity estimates are based on OLS regression of nominal prices on oil price, deflator, time trend, annual data, 1960-2005.

Outline

- *The context*
- ***Energy markets—the oil price plunge***
- *Agricultural markets*
- *Metal markets*
- *Long term outlook and risks?*

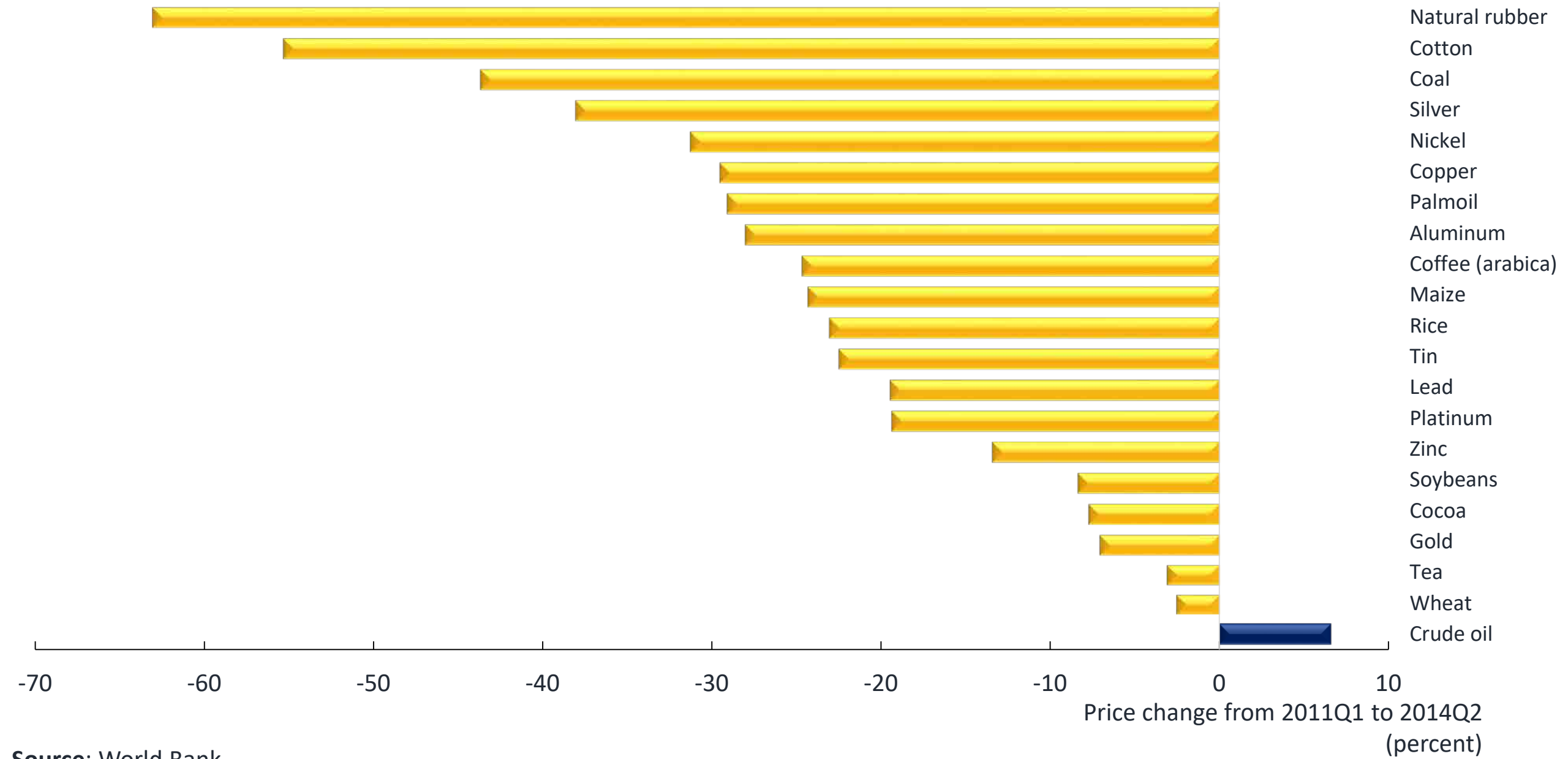
“Old” versus “new” oil price equilibrium



Source: World Bank.

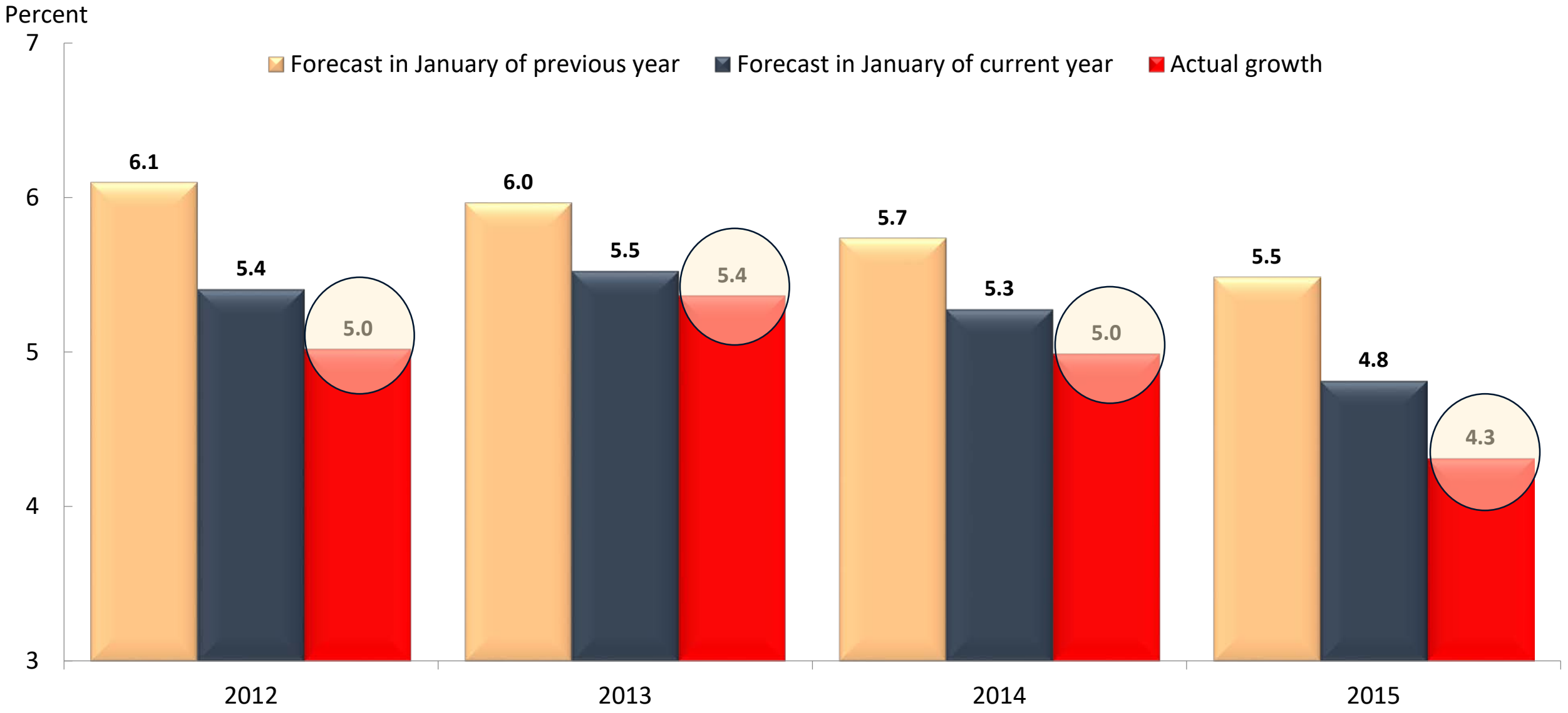
Note: Weekly data. Volatility is defined as standard deviation of logarithmic changes times 100. Last observation is July 7, 2017.

All commodity prices declined during 2011Q1-2014Q2, but oil



Source: World Bank

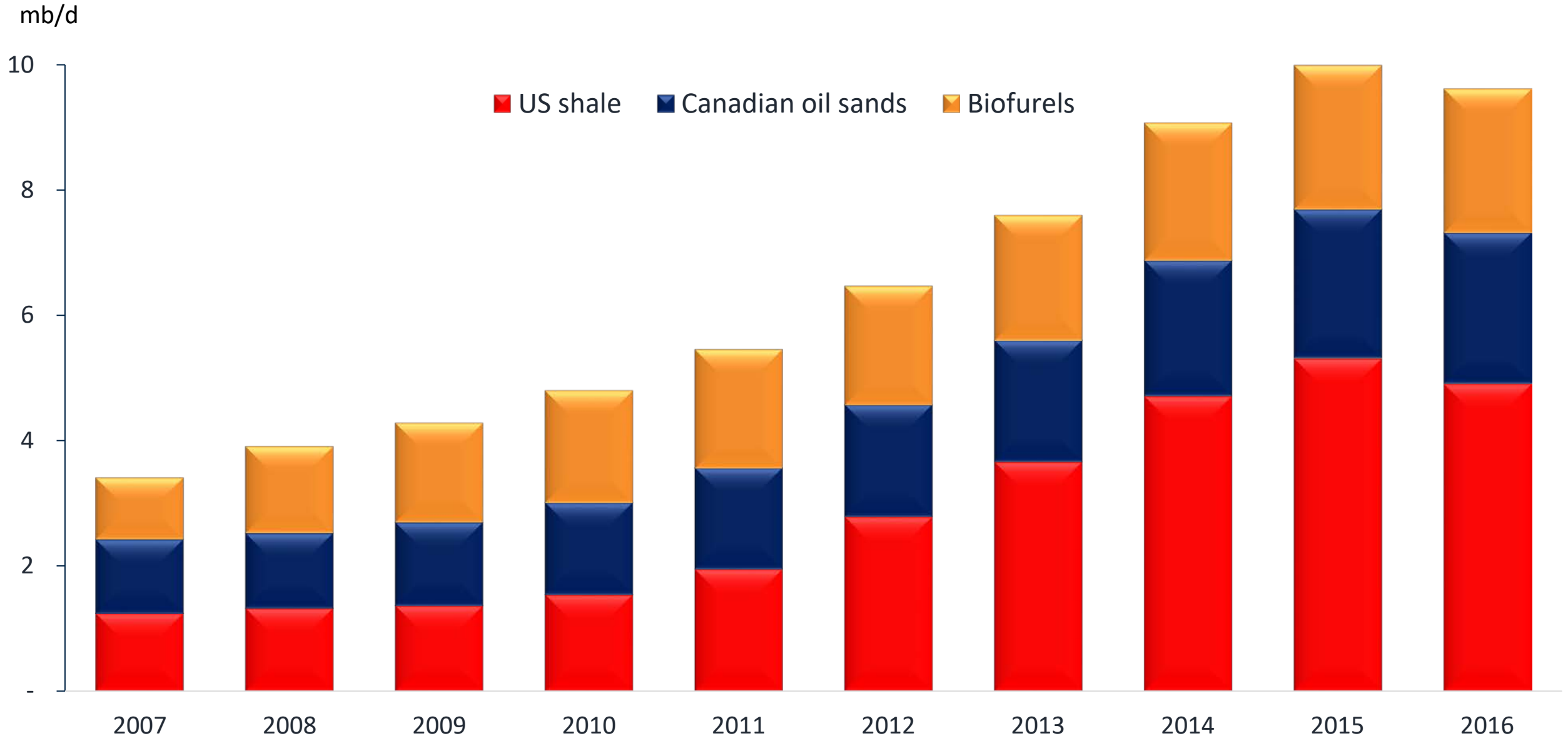
Downward revisions to EMDE growth



Source: World Bank, *Global Economic Prospects*

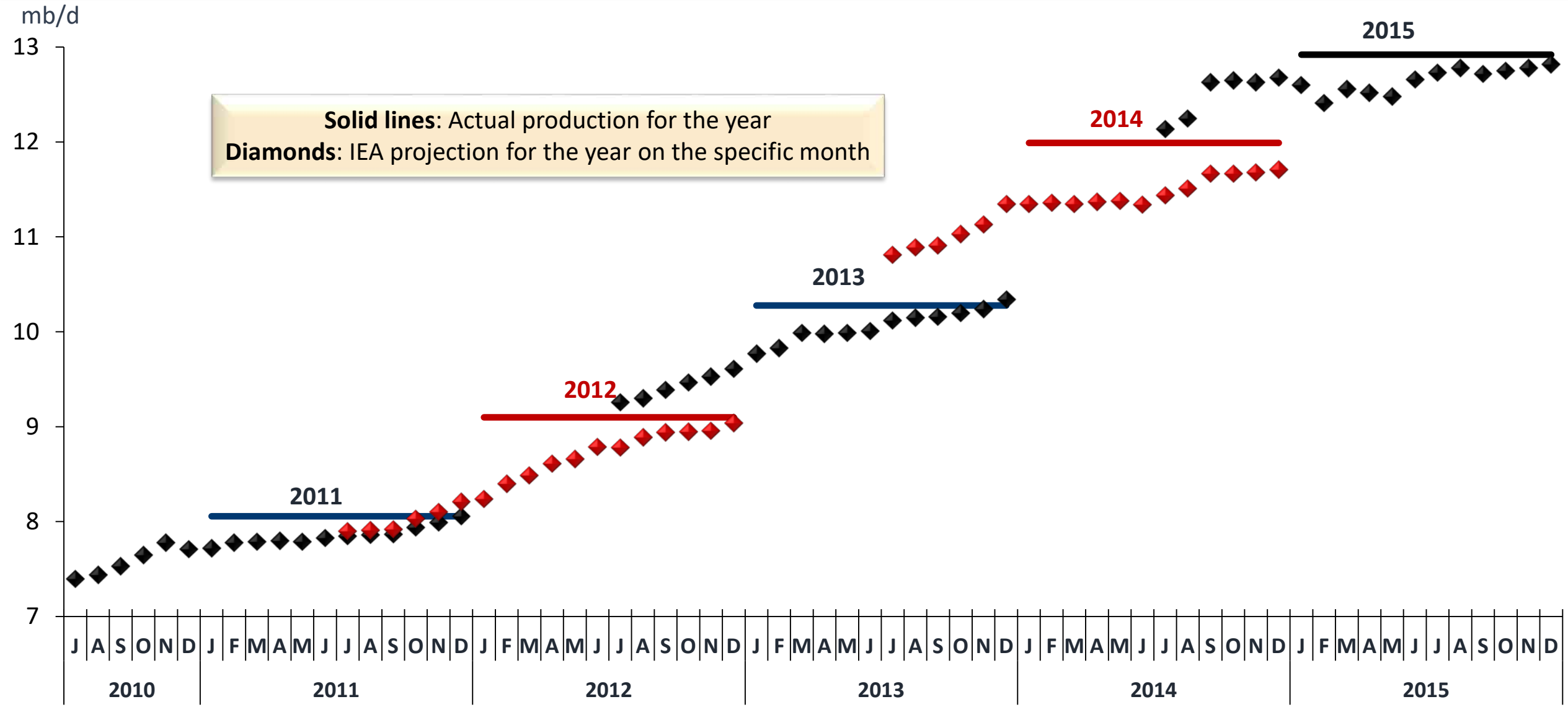
Notes: EMDE denotes Emerging Markets and Developing Economies.

Unconventional oil production



Source: International Energy Agency and World Bank

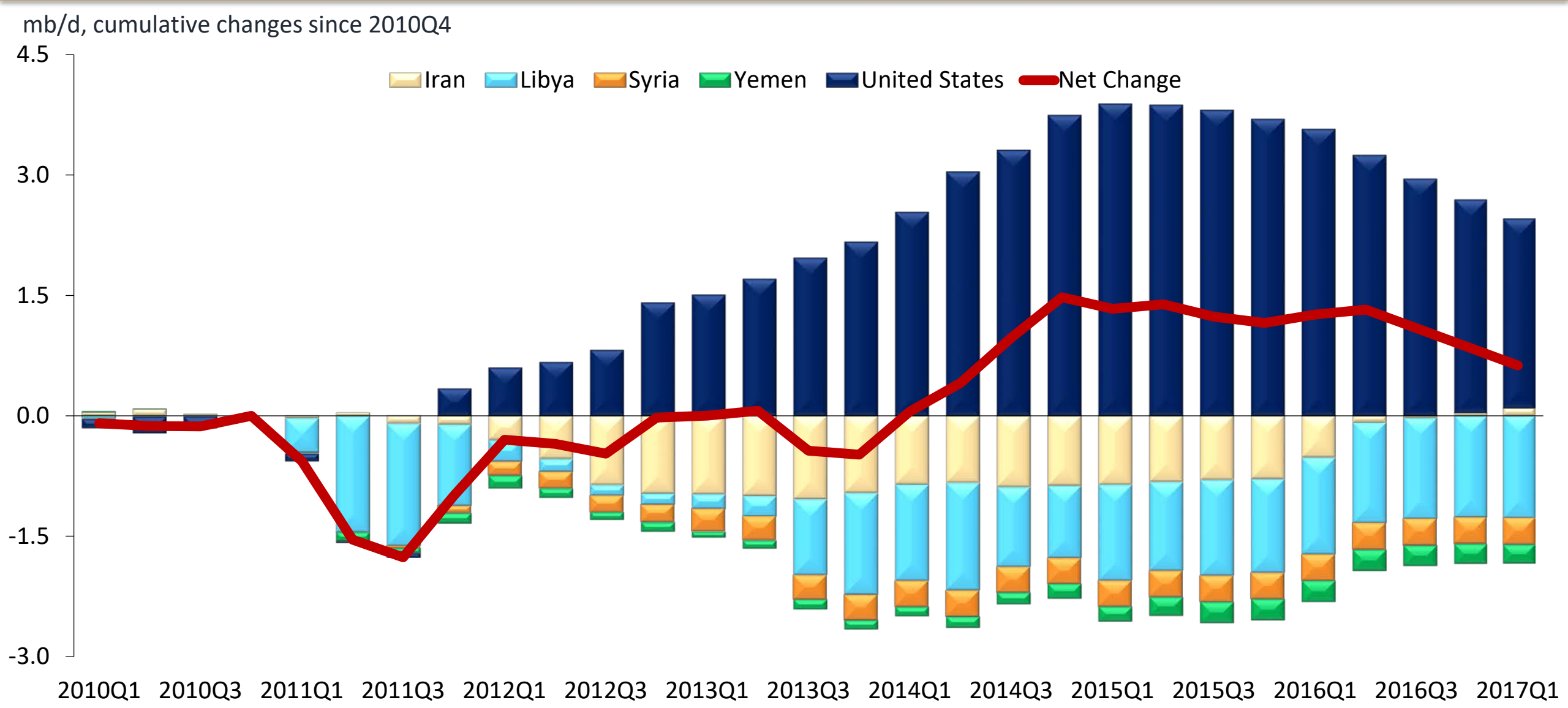
The U.S. shale oil expansion sursprized markets



Source: International Energy Agency and World Bank

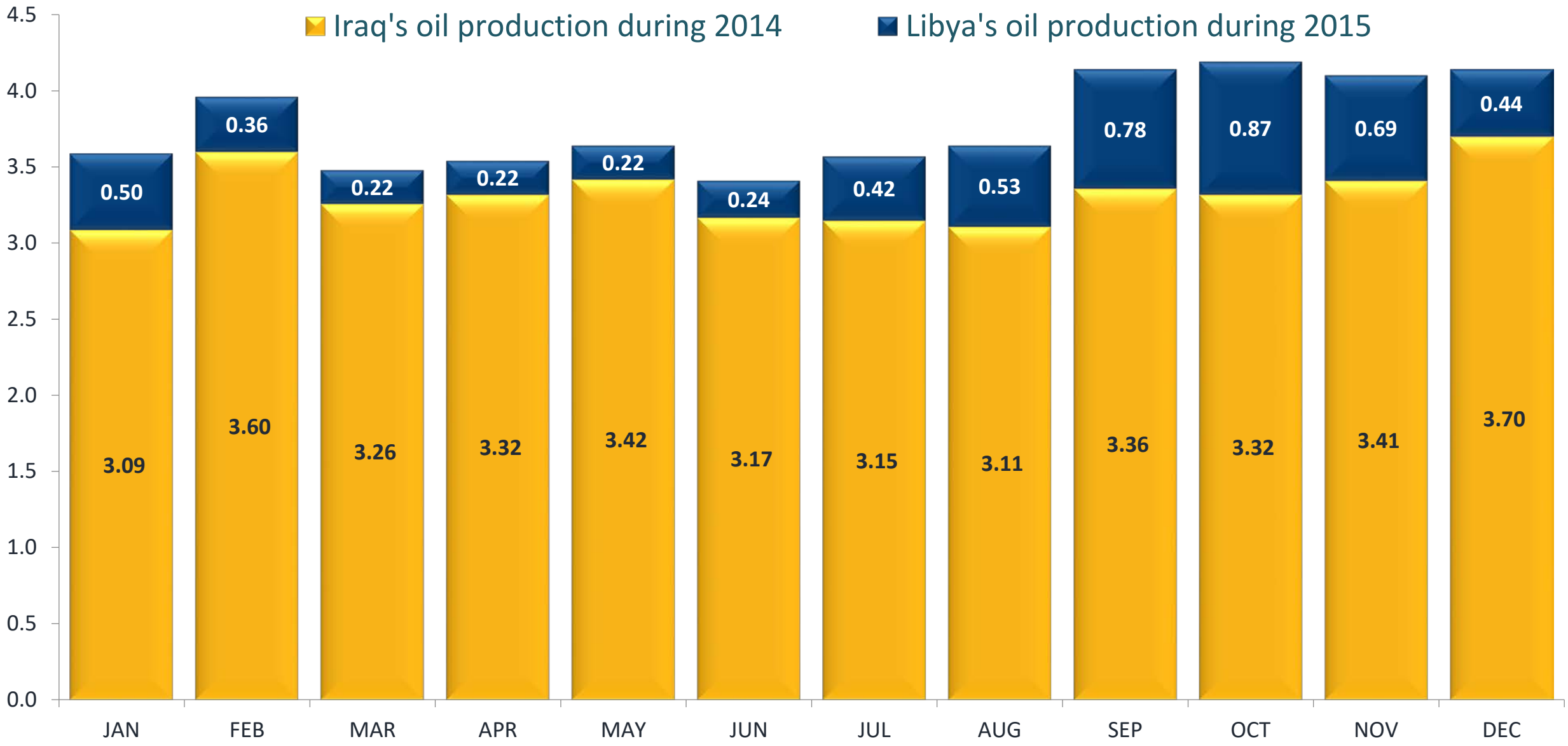
Note: U.S. oil output includes biofuels. Solid lines denote annual oil production and diamonds denote IEA projections on the specific month.

Surplus conditions became apparent in 2014Q2



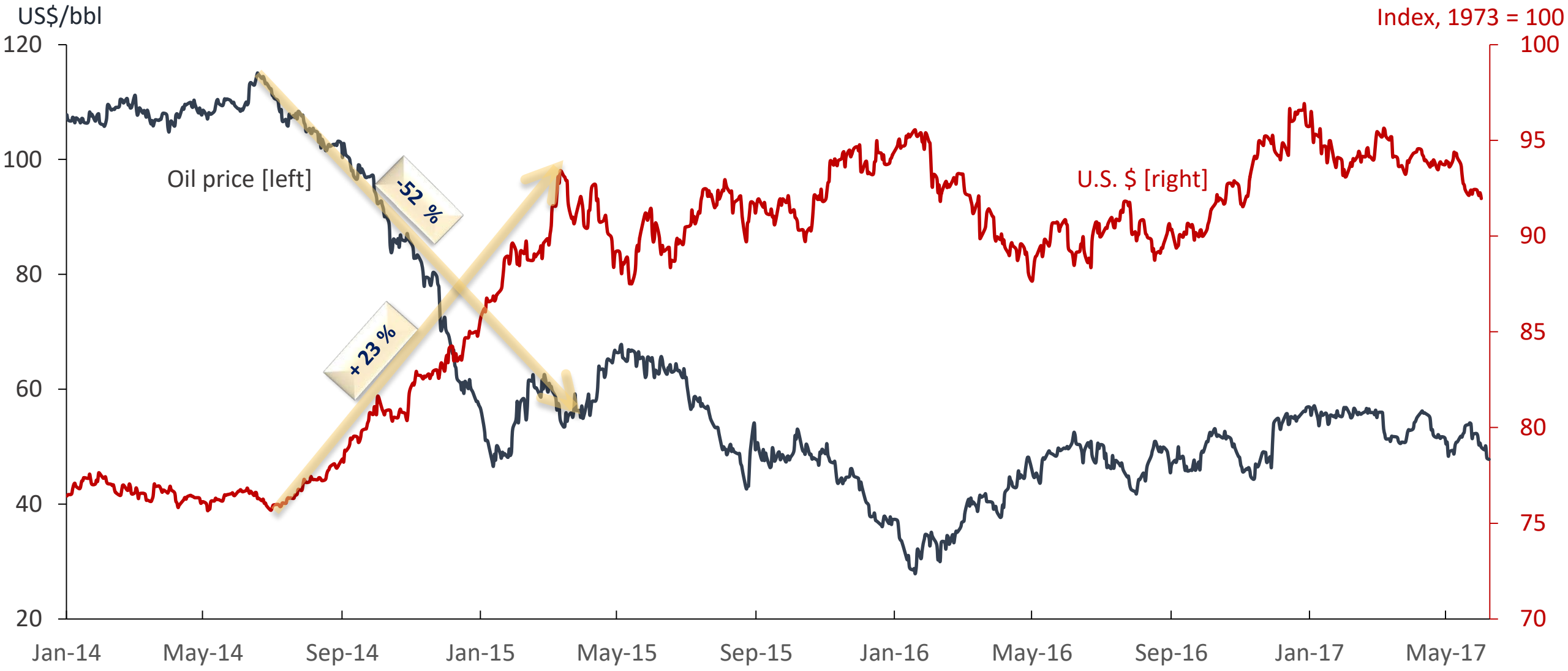
Source: International Energy Agency and World Bank
Note: Last observation 2017Q1.

Trigger I: Geopolitical concerns dissipate



Source: IEA

Trigger II: The U.S. dollar begins appreciating



Source: World Bank and FRED.

Note: Oil refers to WTI and US$ is the trade weighted U.S. dollar index against major currencies, not seasonally adjusted (DTWEXM), both daily frequency.

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- ***Energy markets—recent developments***
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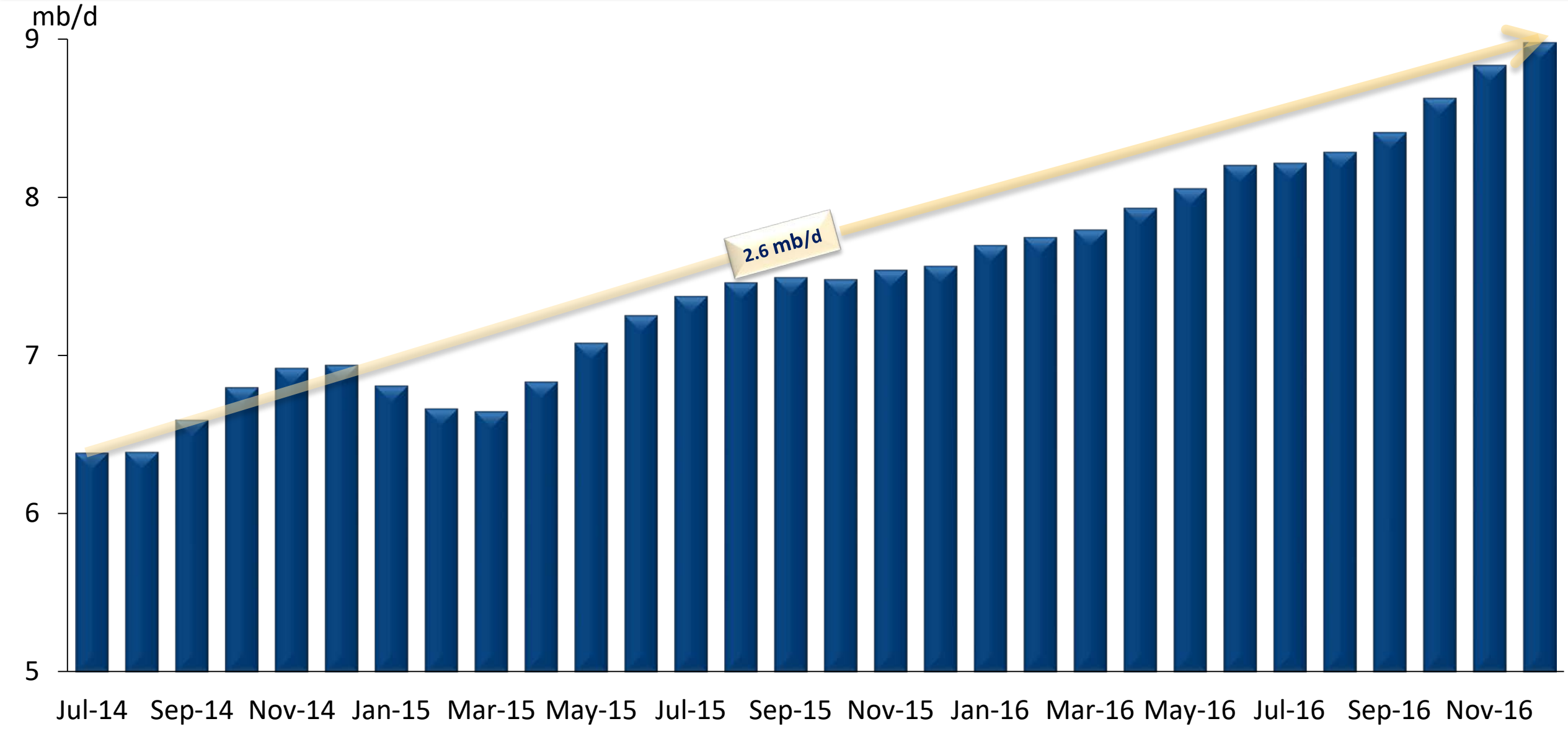
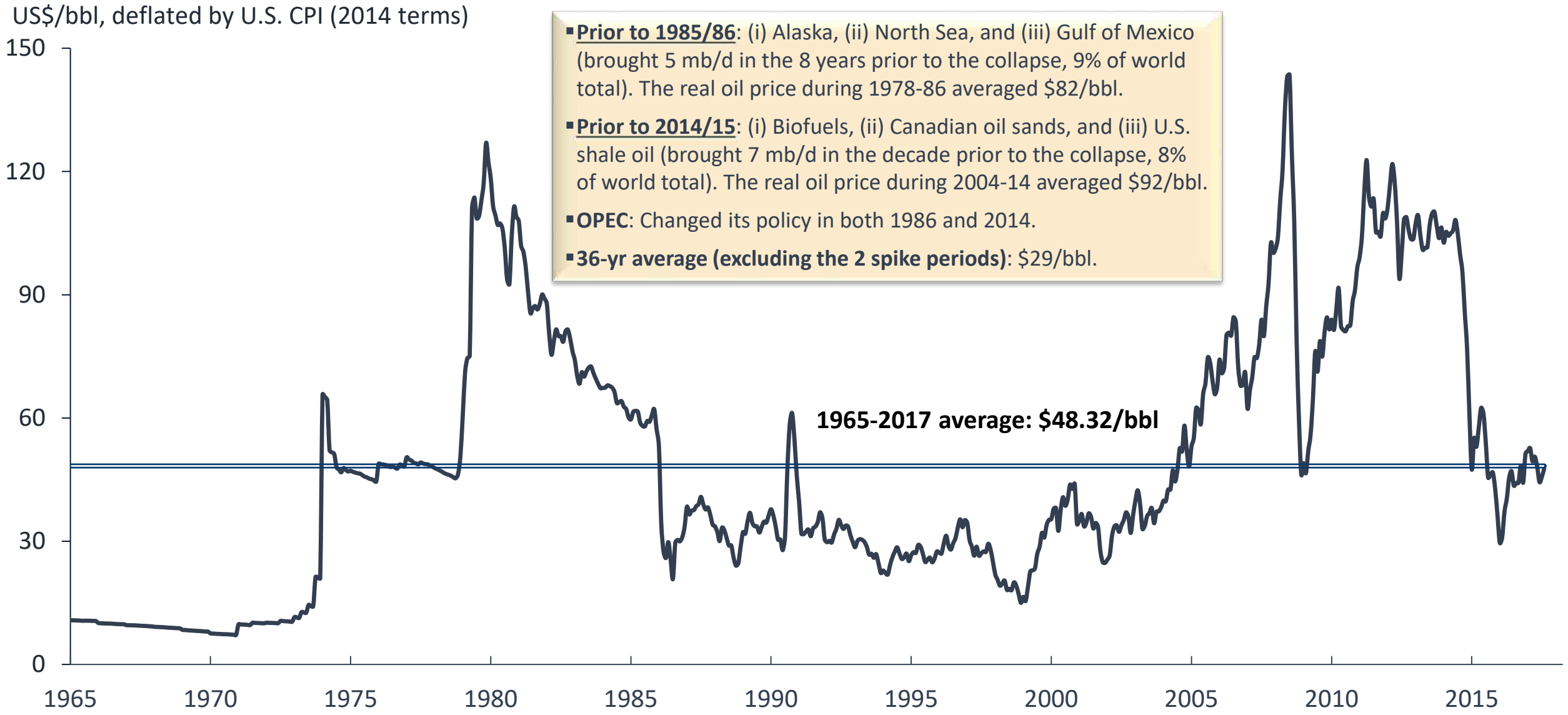
Iran, Iraq, and Libya added 2.6 mb/d during Jul ’14-Dec ’16



Source: International Energy Agency

Oil prices in a longer term perspective

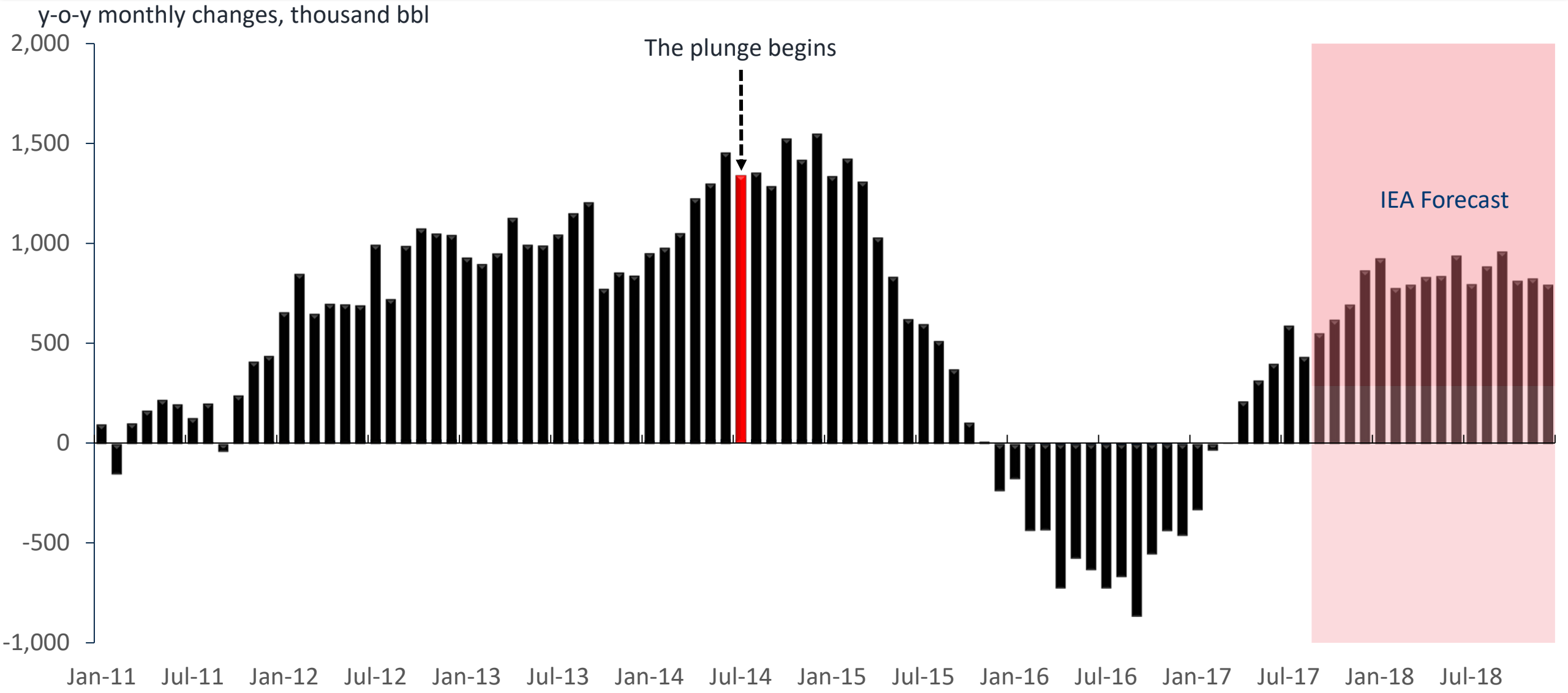


- **Prior to 1985/86**: (i) Alaska, (ii) North Sea, and (iii) Gulf of Mexico (brought 5 mb/d in the 8 years prior to the collapse, 9% of world total). The real oil price during 1978-86 averaged $82/bbl.
- **Prior to 2014/15**: (i) Biofuels, (ii) Canadian oil sands, and (iii) U.S. shale oil (brought 7 mb/d in the decade prior to the collapse, 8% of world total). The real oil price during 2004-14 averaged $92/bbl.
- **OPEC**: Changed its policy in both 1986 and 2014.
- **36-yr average (excluding the 2 spike periods)**: $29/bbl.

Source: World Bank

Note: World Bank crude oil average. Last observation is August 2017.

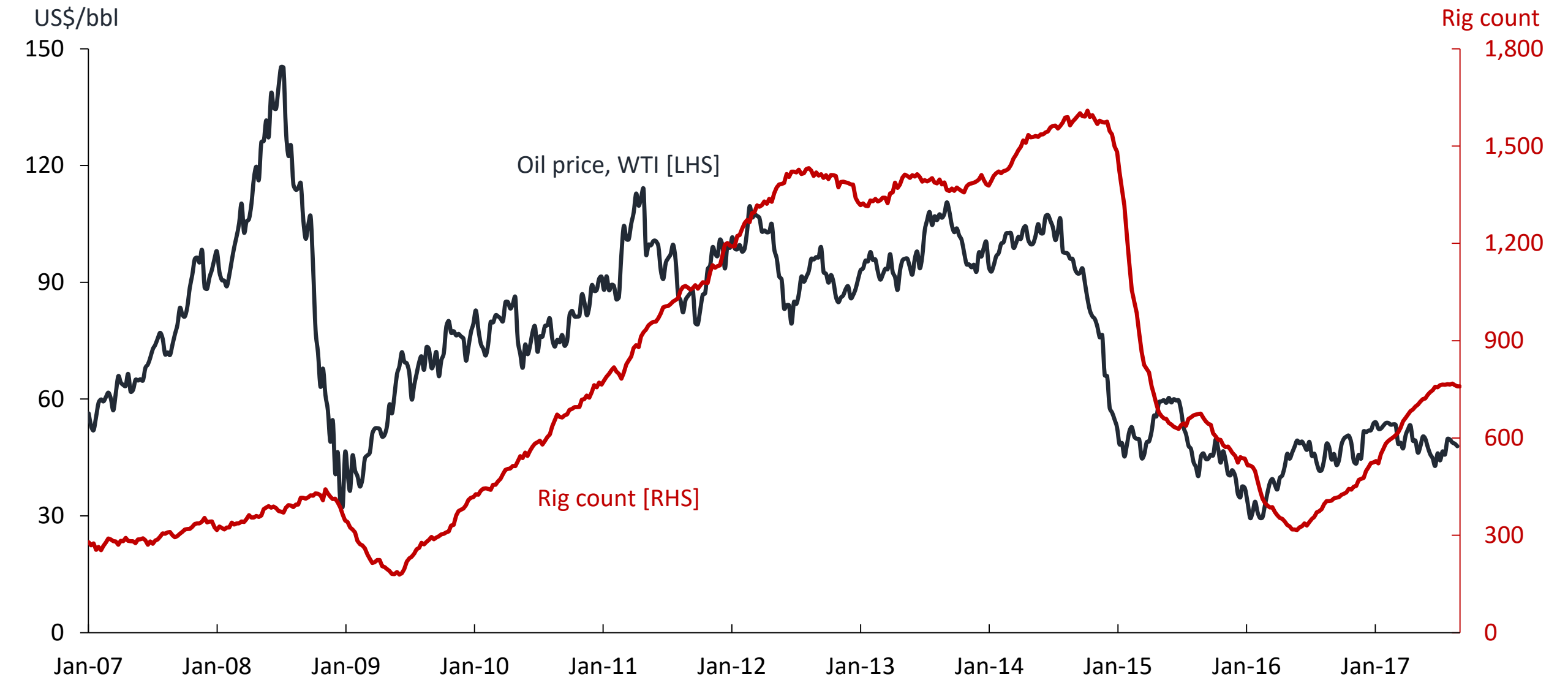
U.S. shale oil: Slow to get out but quick to come back



Source: International Energy Agency.

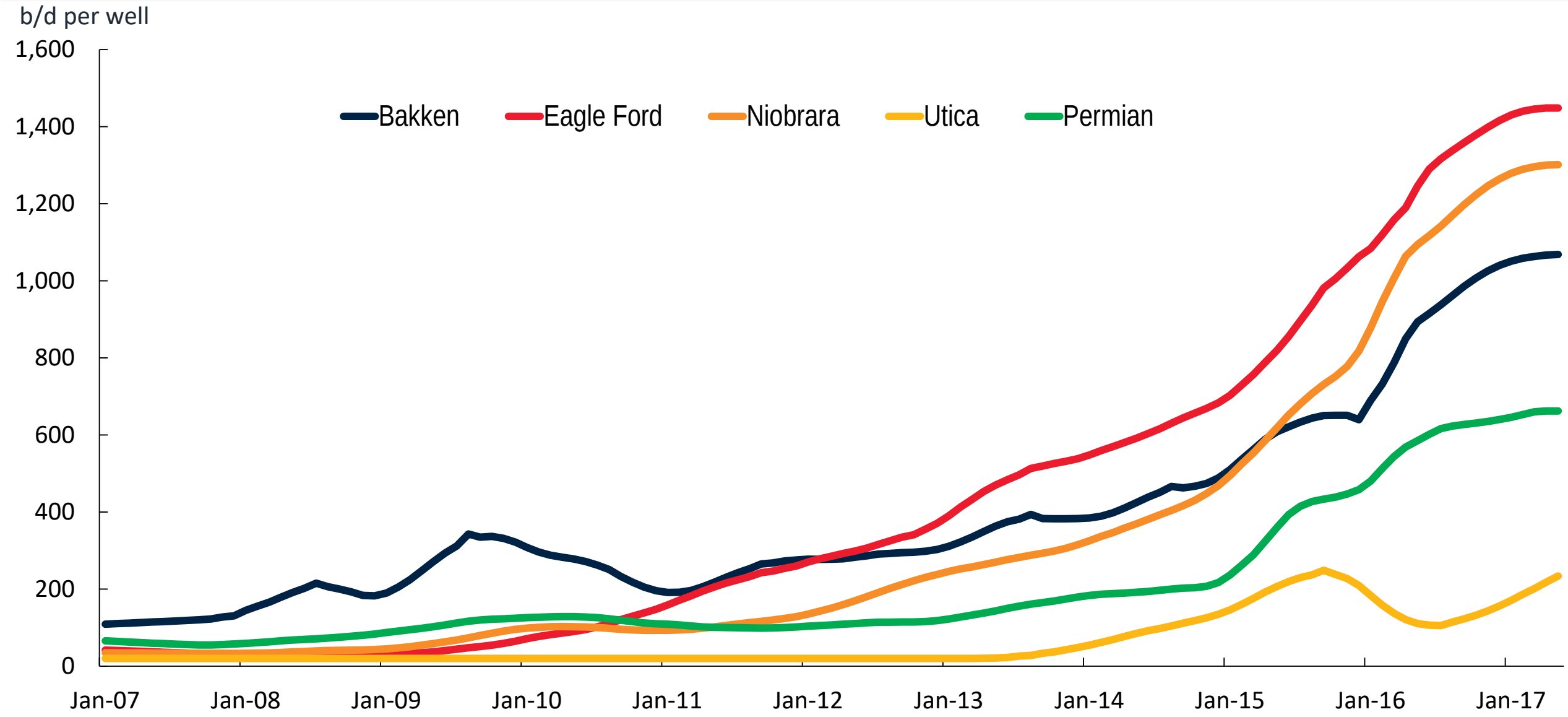
Notes: U.S. crude oil production. Last actual observation is August 2017. September 2017 to December 2018 is forecast.

It only takes 3 months for active drilling to respond



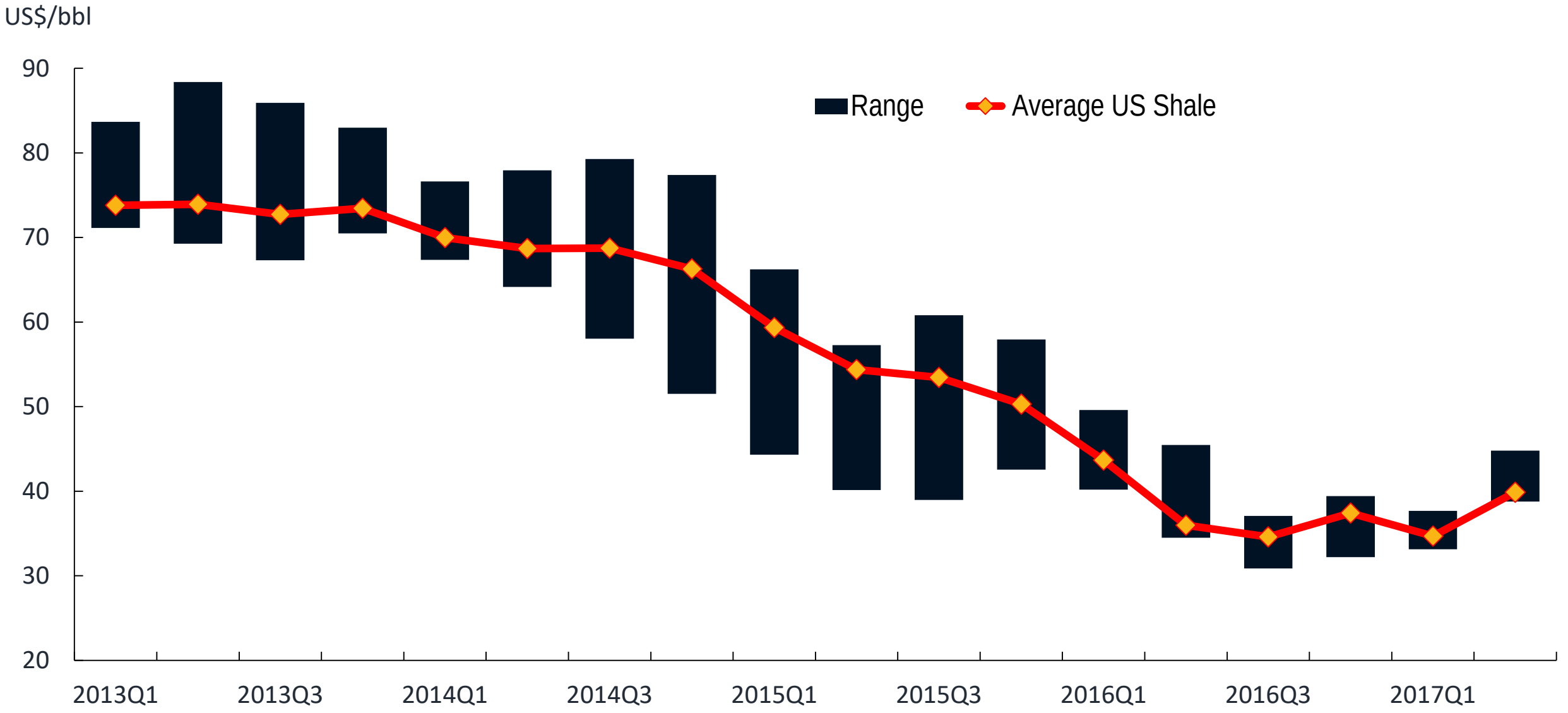
Source: Baker Hughes, Bloomberg, and World Bank.
Note: Weekly data, last observation is September 1, 2017.

There have been large productivity increases in shale oil



Source: Rystad Energy NASWellCube Premium.

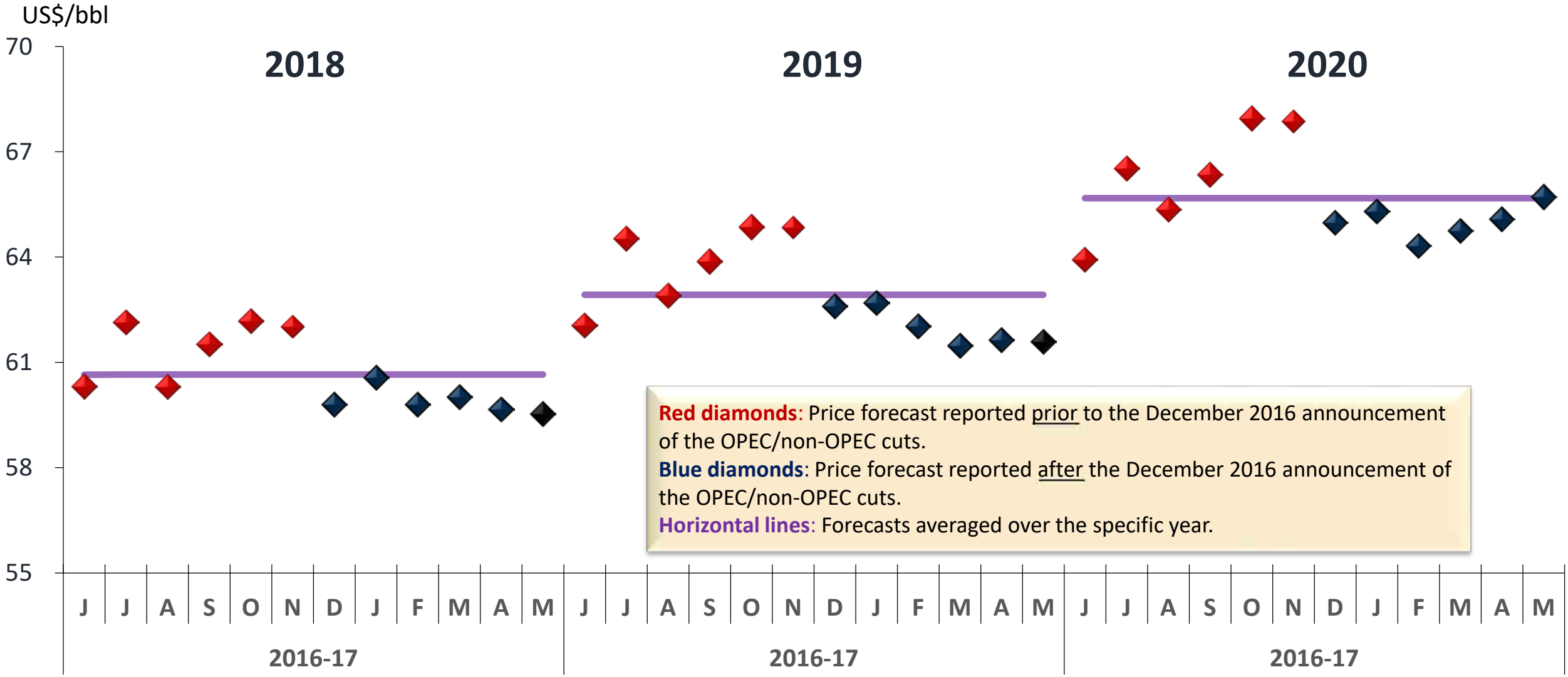
The costs of shale oil production ha gone down



Source: Rystad Energy NASWellCube Premium.

Note: Does not include test activity, where well was shut-down after completion. Last observation is 2017Q2.

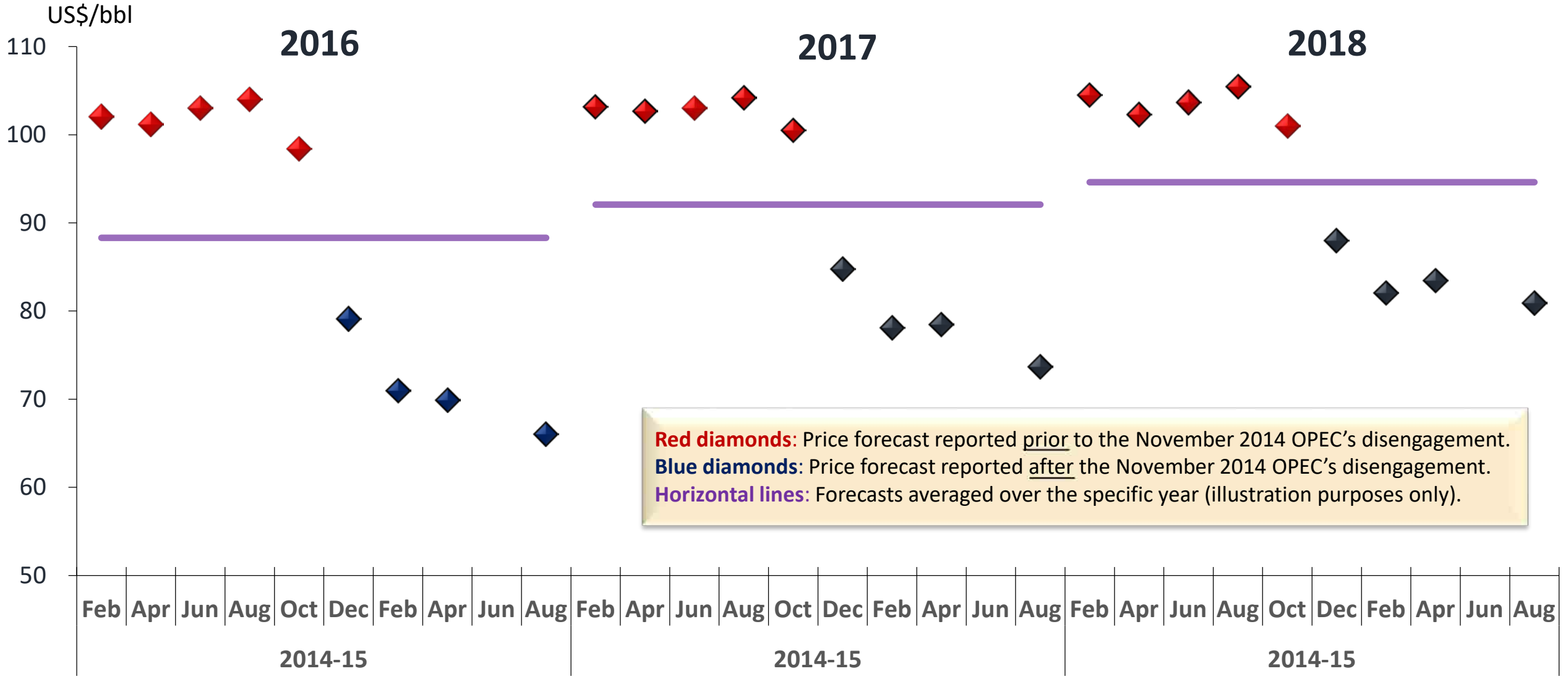
Evolution of Consensus on Brent before/after December 2016



Source: Consensus Economics and World Bank.

Note: Median Brent oil price forecasts reported from June 2016 through May 2017 for 2018, 2019, and 2020.

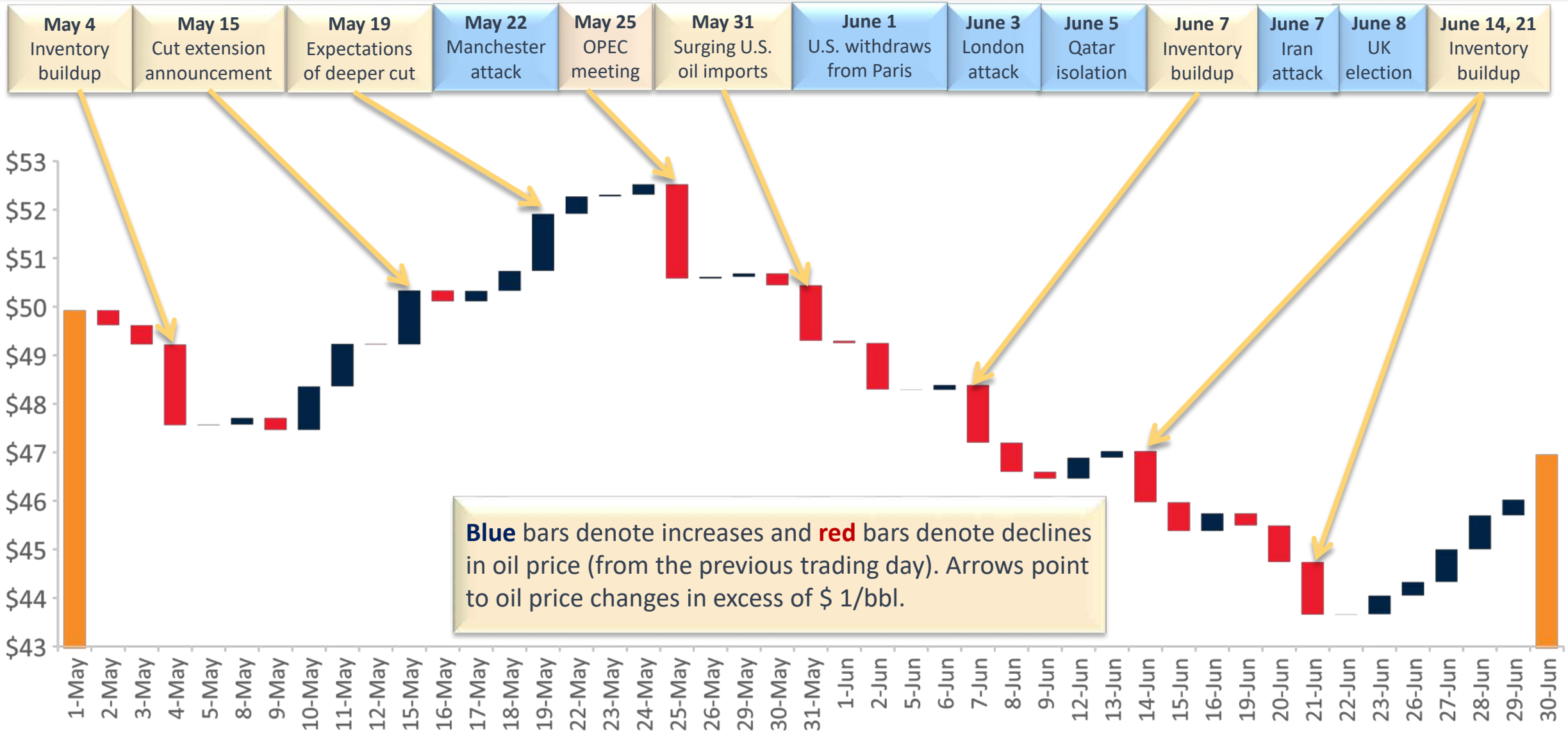
Evolution of Consensus on Brent before/after November 2014



Source: Consensus Economics and World Bank.

Note: Median Brent oil price forecasts reported from February 2014 through August 2015 for 2016, 2017, and 2018.

U.S. oil announcements drive prices more than other events



Source: Bloomberg, US Energy Information Administration, World Bank, and various media sources.
Notes: Price refers to the World Bank average

Outline

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- *Metal markets*
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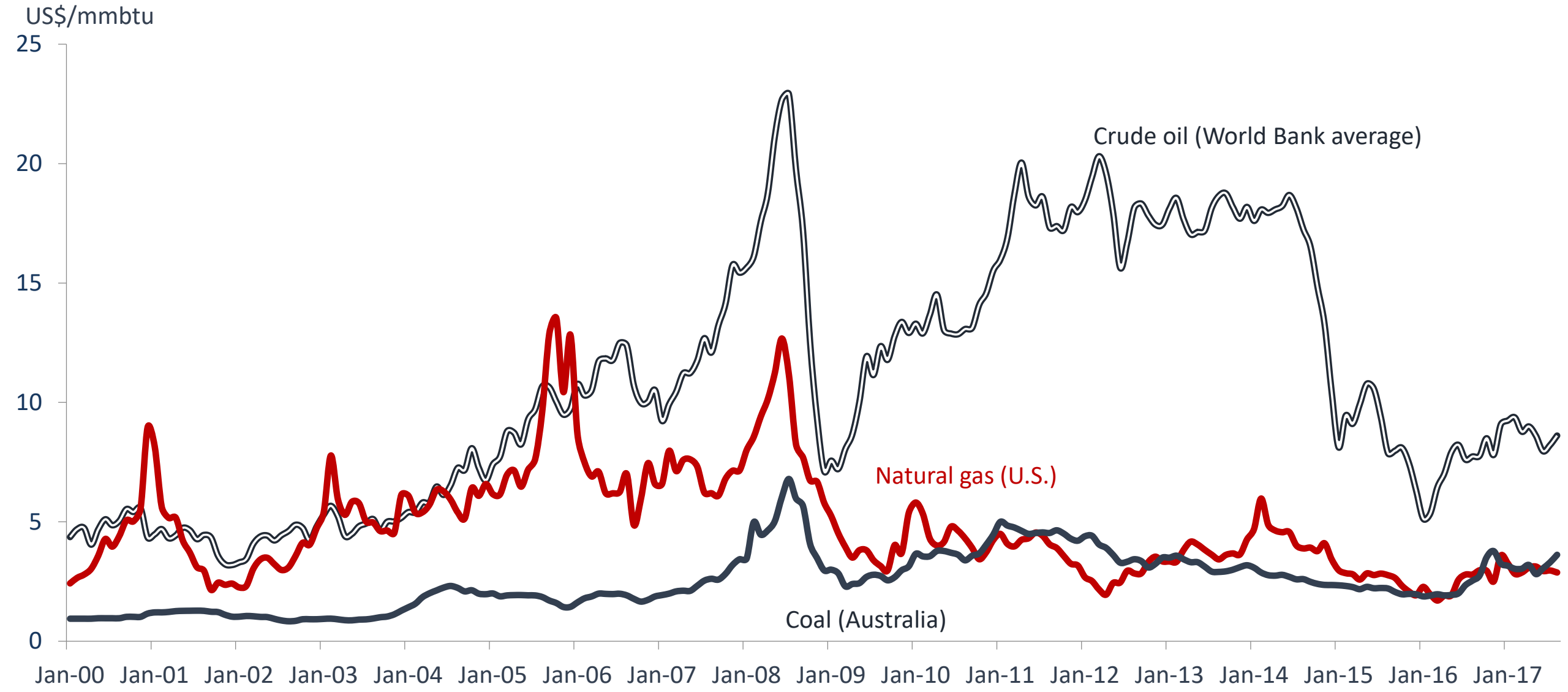
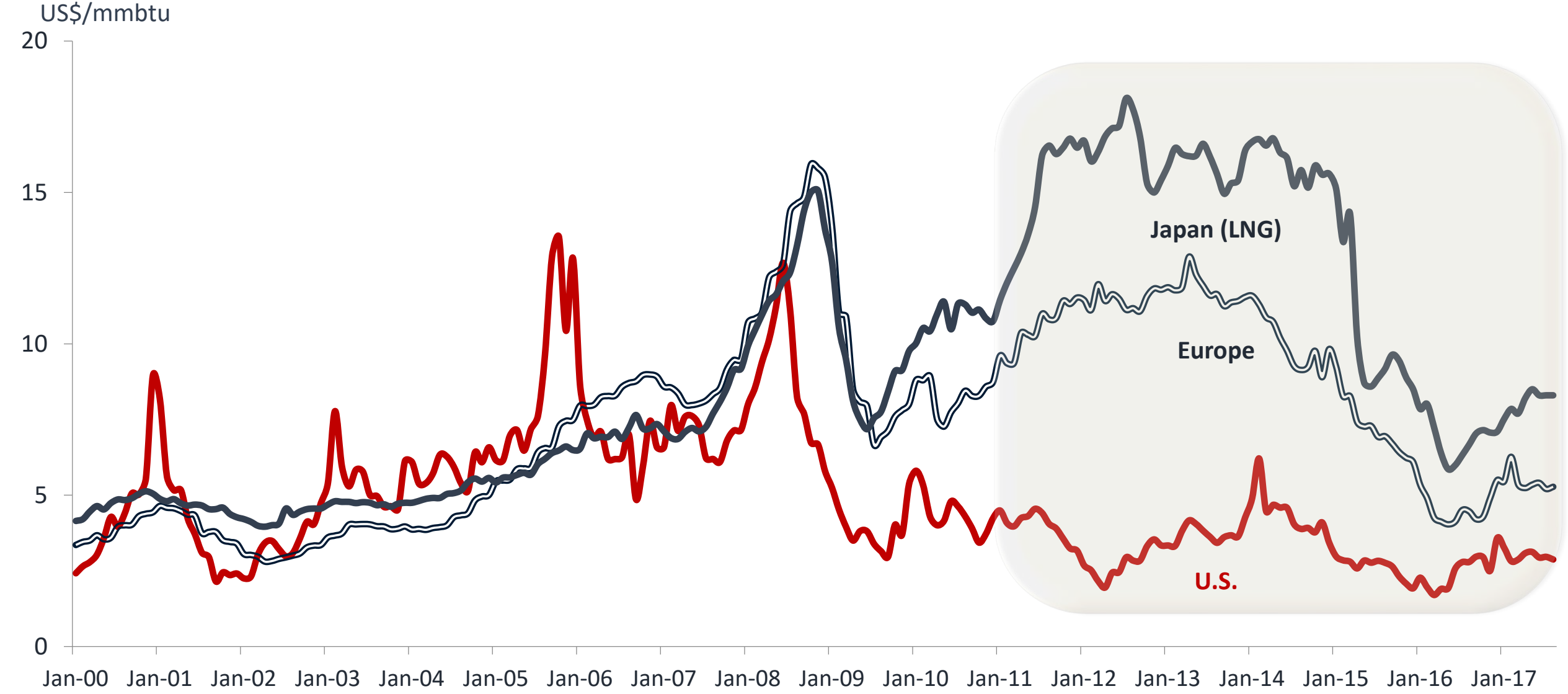
The oil price plunge brought energy prices closer together



Source: World Bank.

Note: Last observation is August 2017.

Natural gas prices follow suit



Source: World Bank.

Note: Last observation is August 2017.

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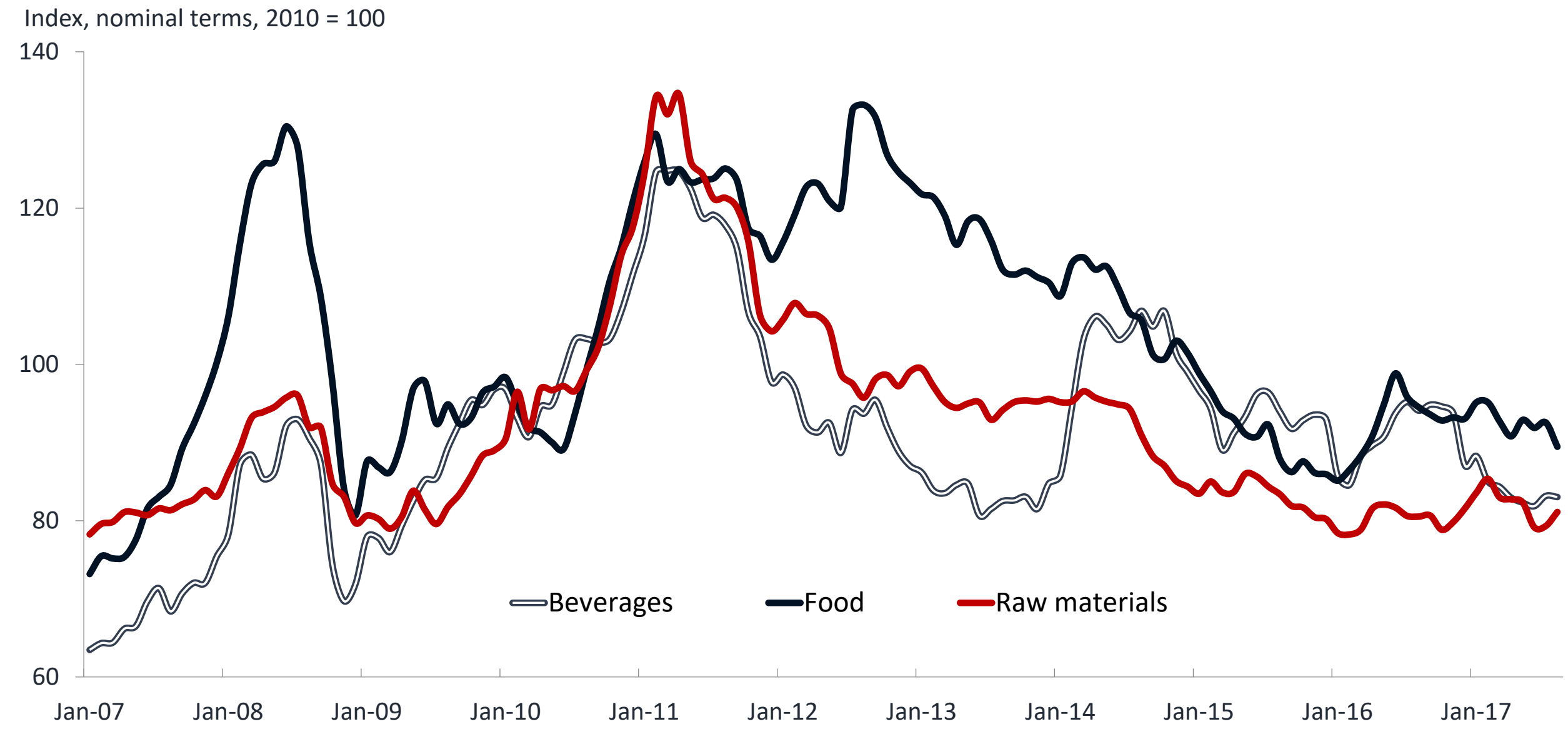
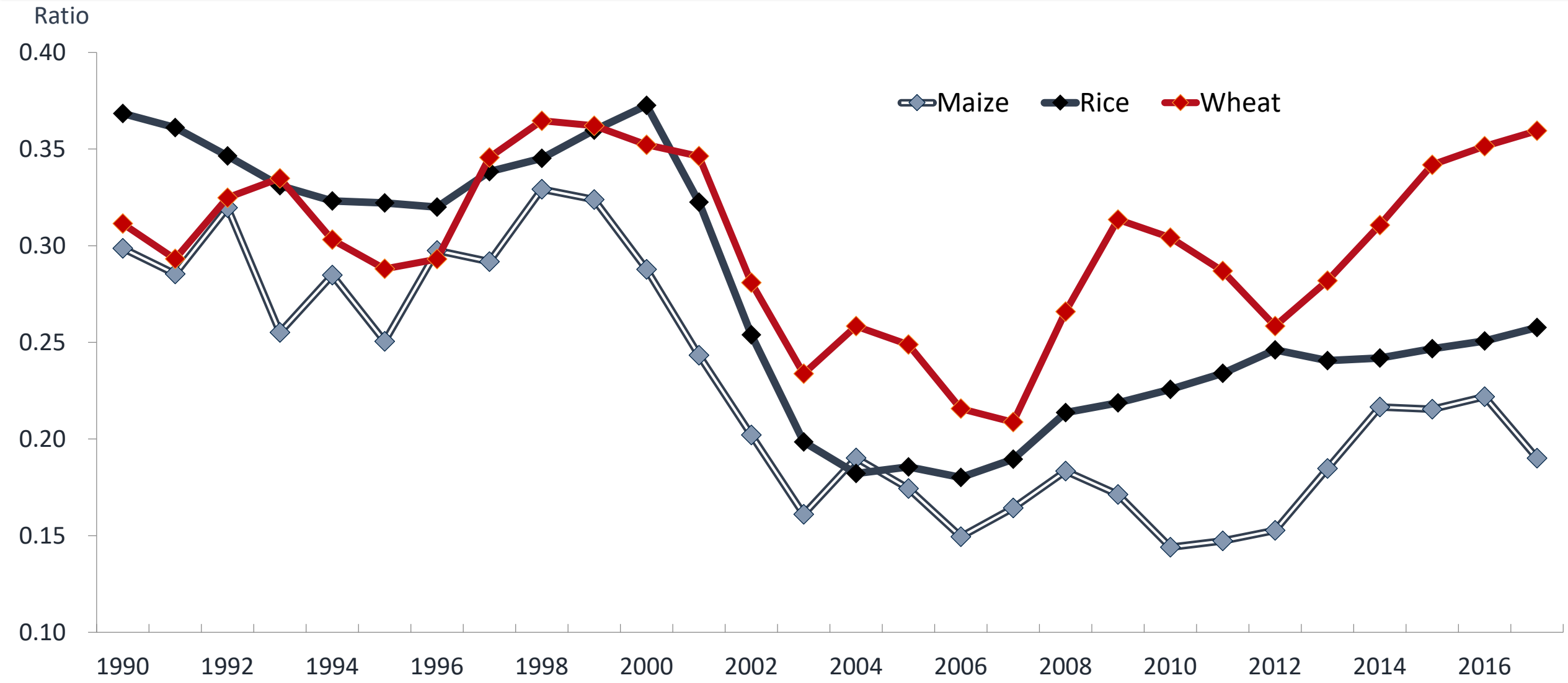
Agricultural prices have weakened as well



Source: World Bank.

Note: Last observation is August 2017.

The S/U ratios have recovered relative to their 2006-07 lows



Source: U.S. Department of Agriculture.

Notes: Update based on the U.S. Department of Agriculture August, 2017 data release.

Outline

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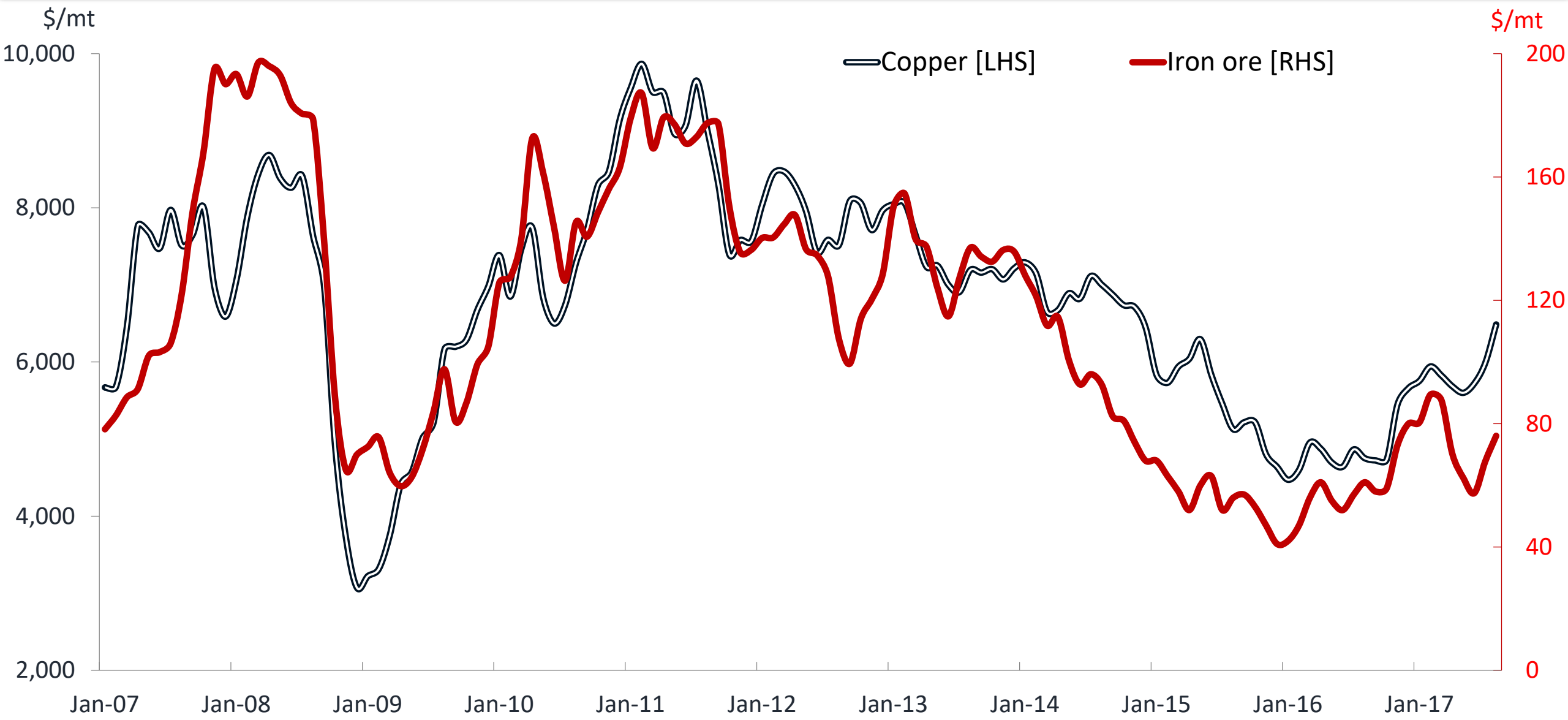
- Energy markets
- Agricultural markets
- **Metal markets**
- Where are commodity prices heading?

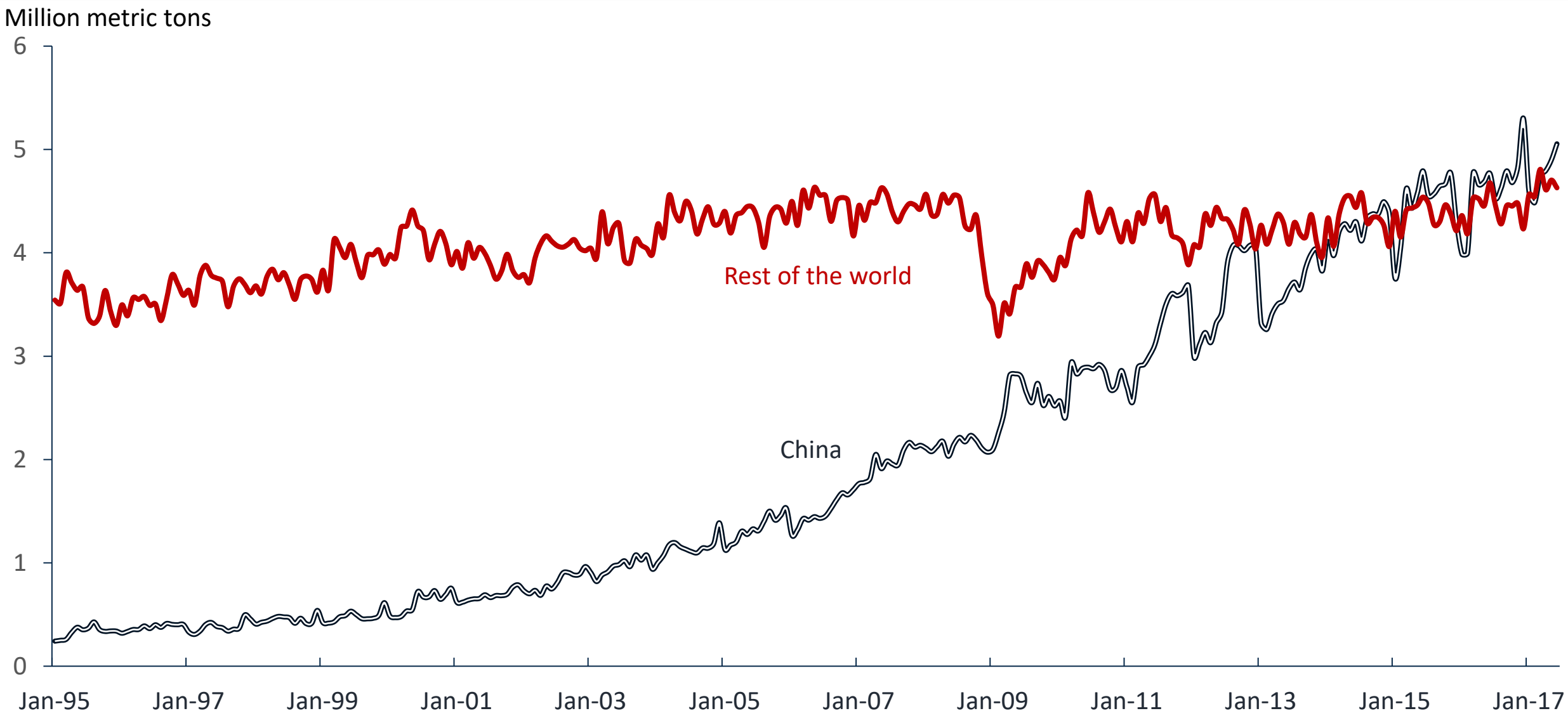
Metals prices have picked up



Source: World Bank

Note: Last observation is August 2017.

China is still the key driver of metal consumption



Source: World Bank and World Bureau of Metal Statistics
Notes: Last observation is June 2017.

Outline

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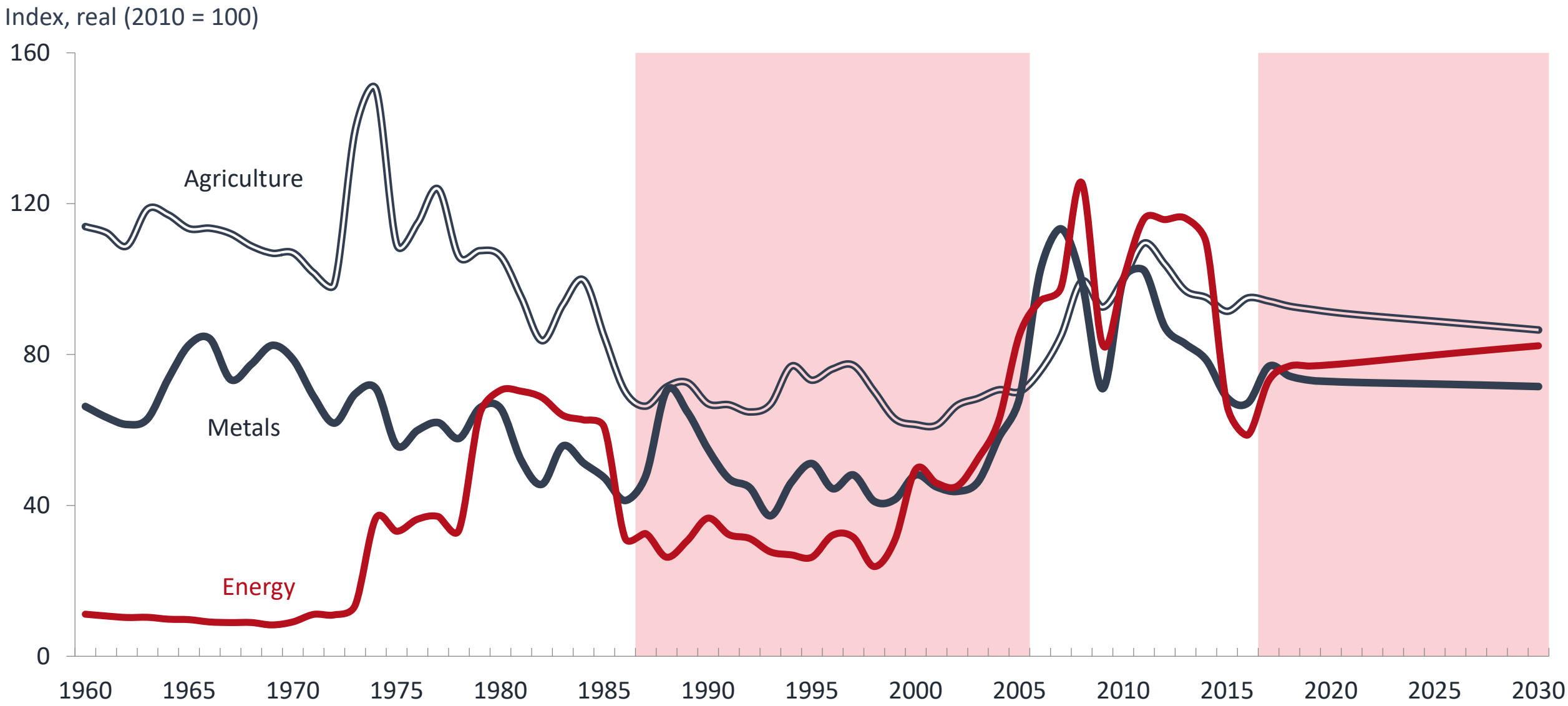
- ***Long term outlook and risks***

Where are commodity prices heading?



Source: World Bank.

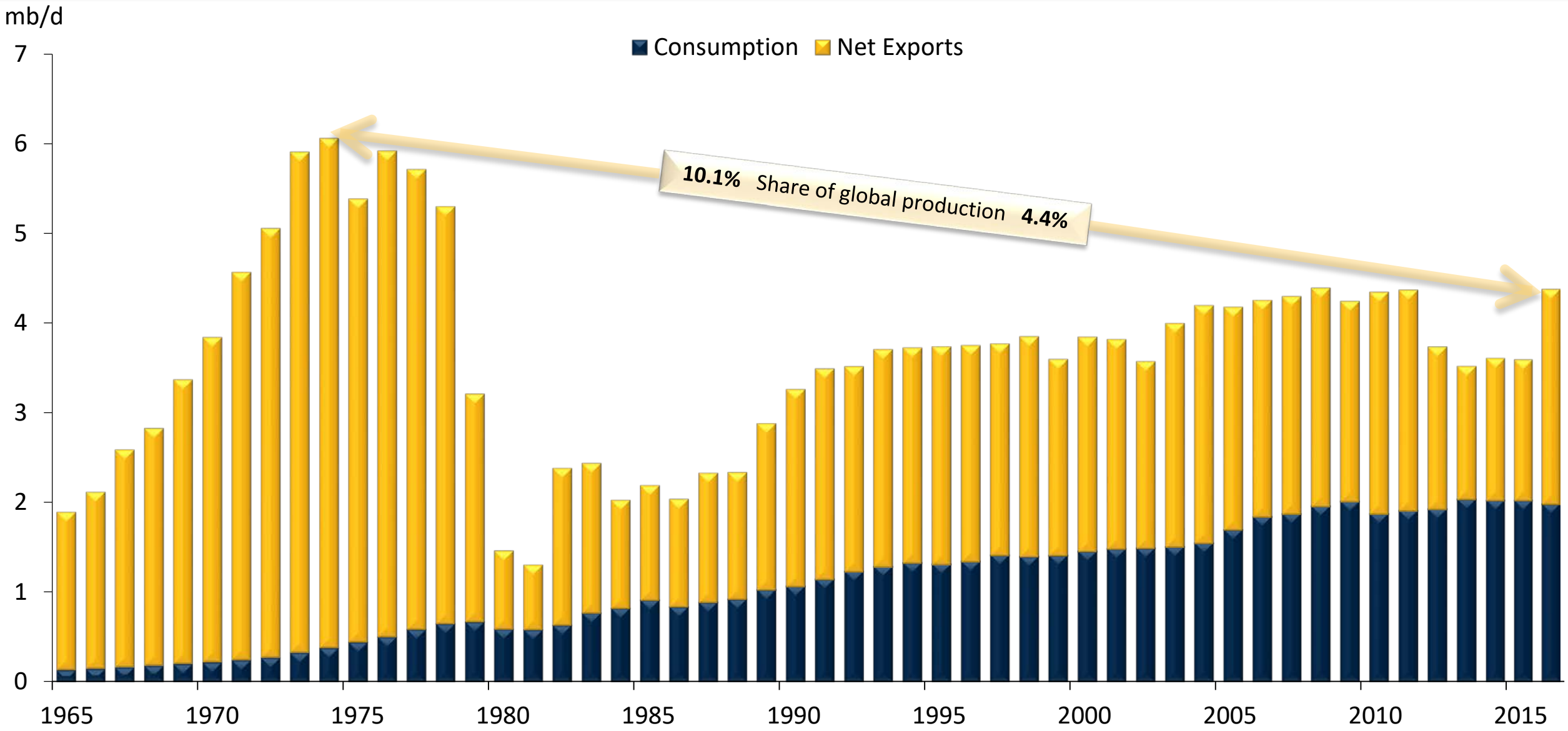
Note: The period 2017-30 refers to forecasts, as of September 2017.

Commodity and global economy forecasts (nominal)

	2015	2016	2017F	2018F	2019F
Crude oil price ($/bbl)	51	43	52	54	57
Gold price ($/toz)	1,161	1,249	1,250	1,229	1,208
Agriculture index (2010 = 100)	89	89	88	89	91
Metals index (2010 = 100)	67	63	77	76	76
Global growth (%)	2.7	2.4	2.7	2.9	2.9
Emerging economy growth (%)	3.6	3.5	4.1	4.5	4.7

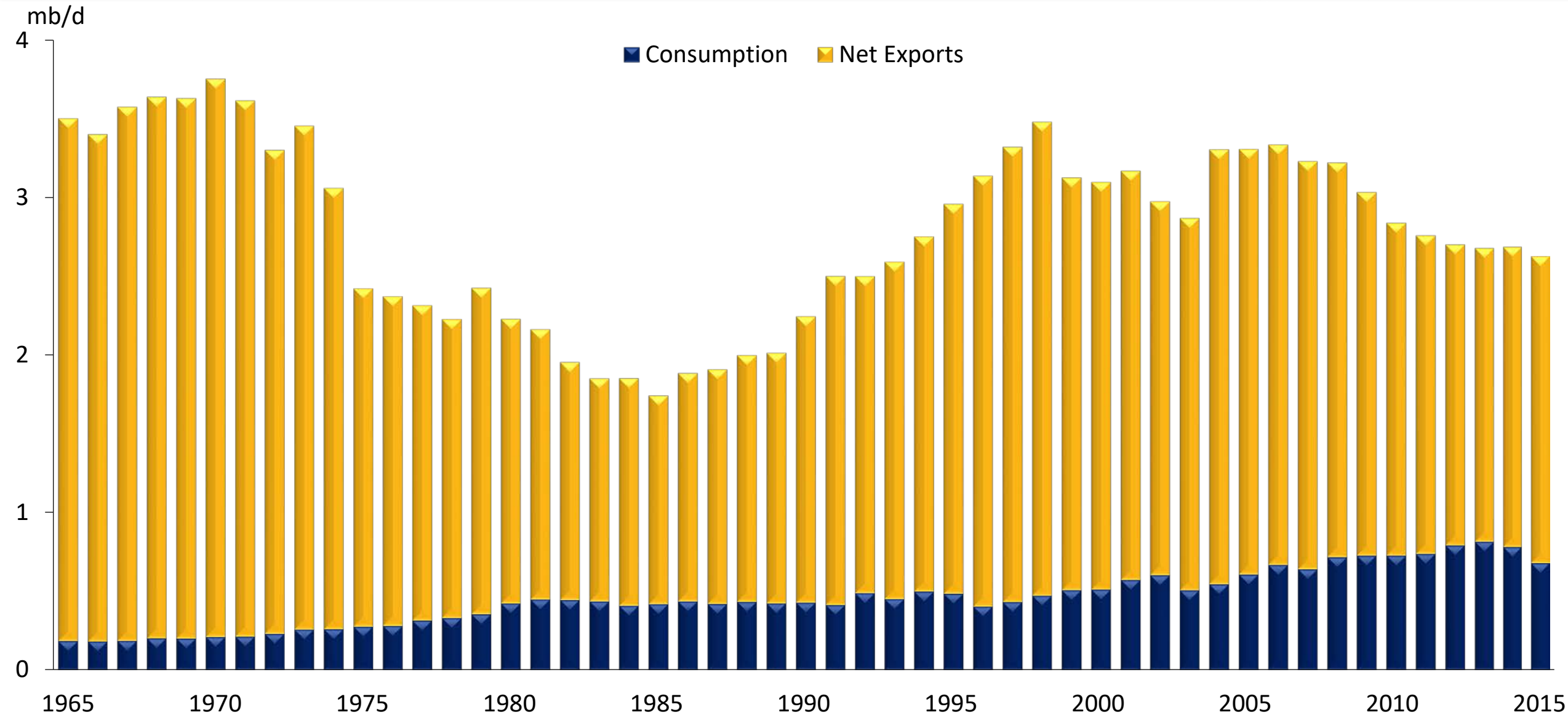
Source: World Bank
Note: 2017 onwards denote forecasts.

Iran's emergence after sanctions: Perhaps a downside risk?



Source: BP Statistical Review, International Energy Agency.
Note: Production includes crude oil and liquids.

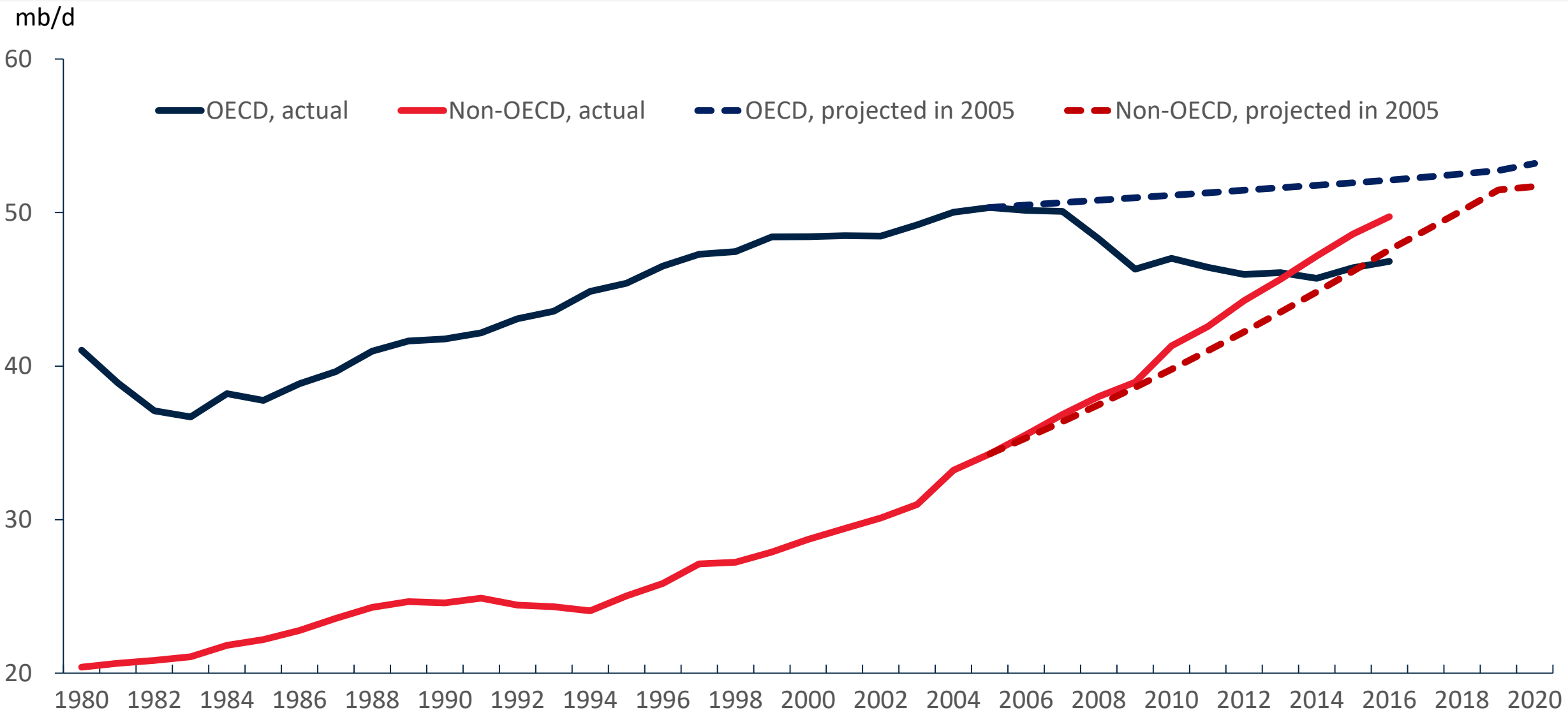
Venezuela: The (only?) emerging upside price risk



Source: BP Statistical Review.

Note: Production includes crude oil and liquids.

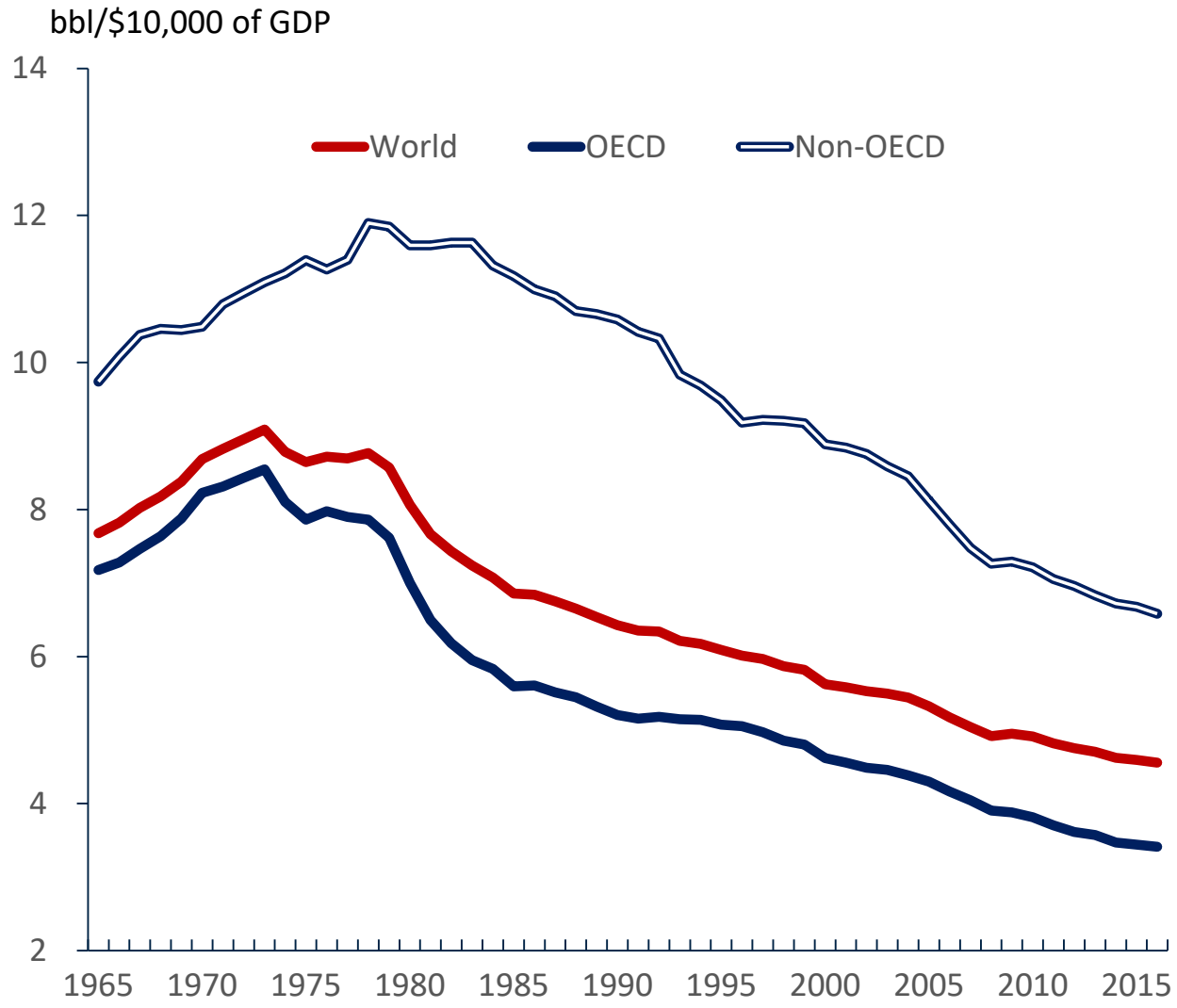
Oil consumption: History and (2005) prospects



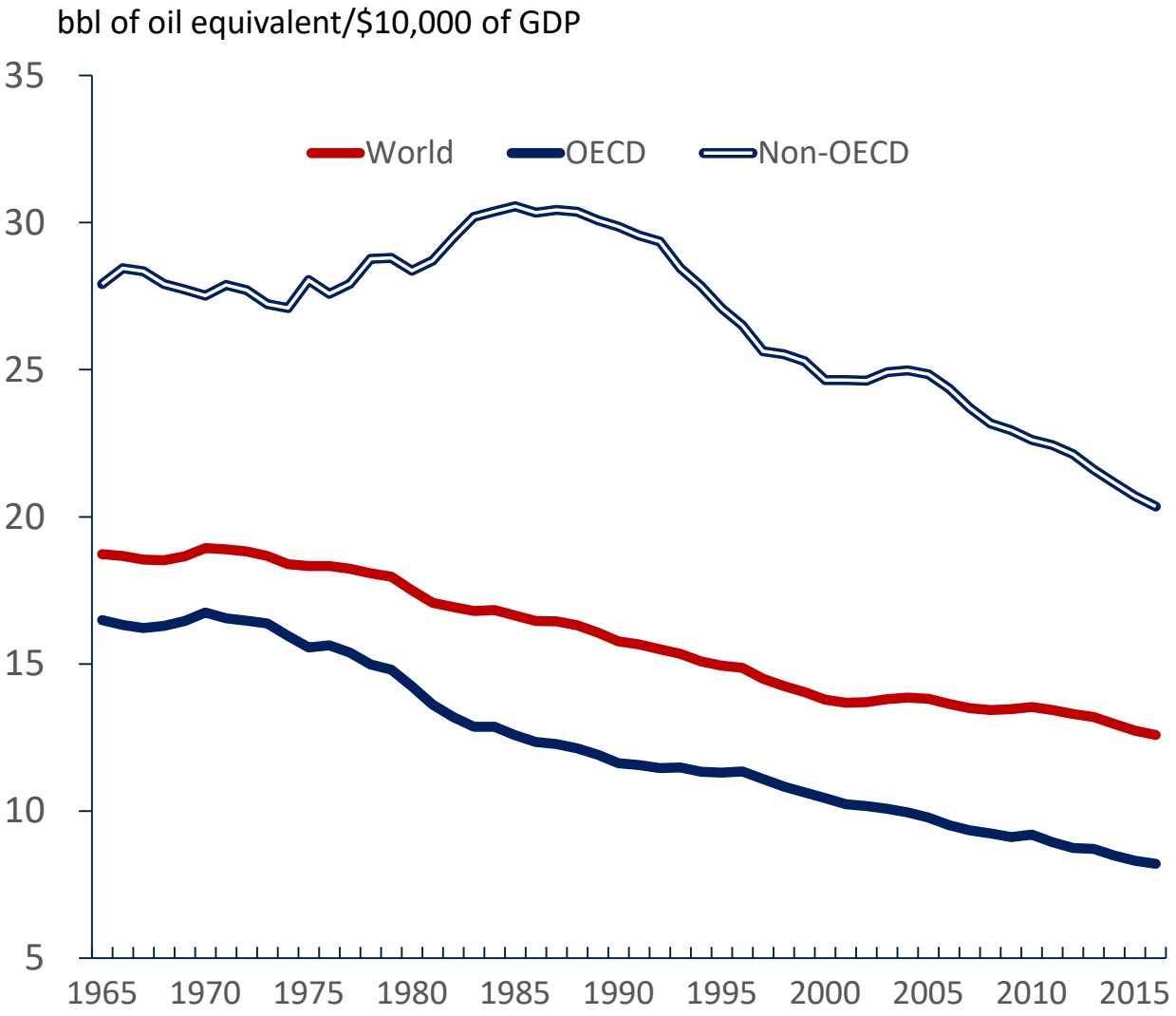
Source: International Energy Agency and World Bank.
Note: The projection was taken from the 2005 Outlook.

Energy intensity has been declining

Oil intensity

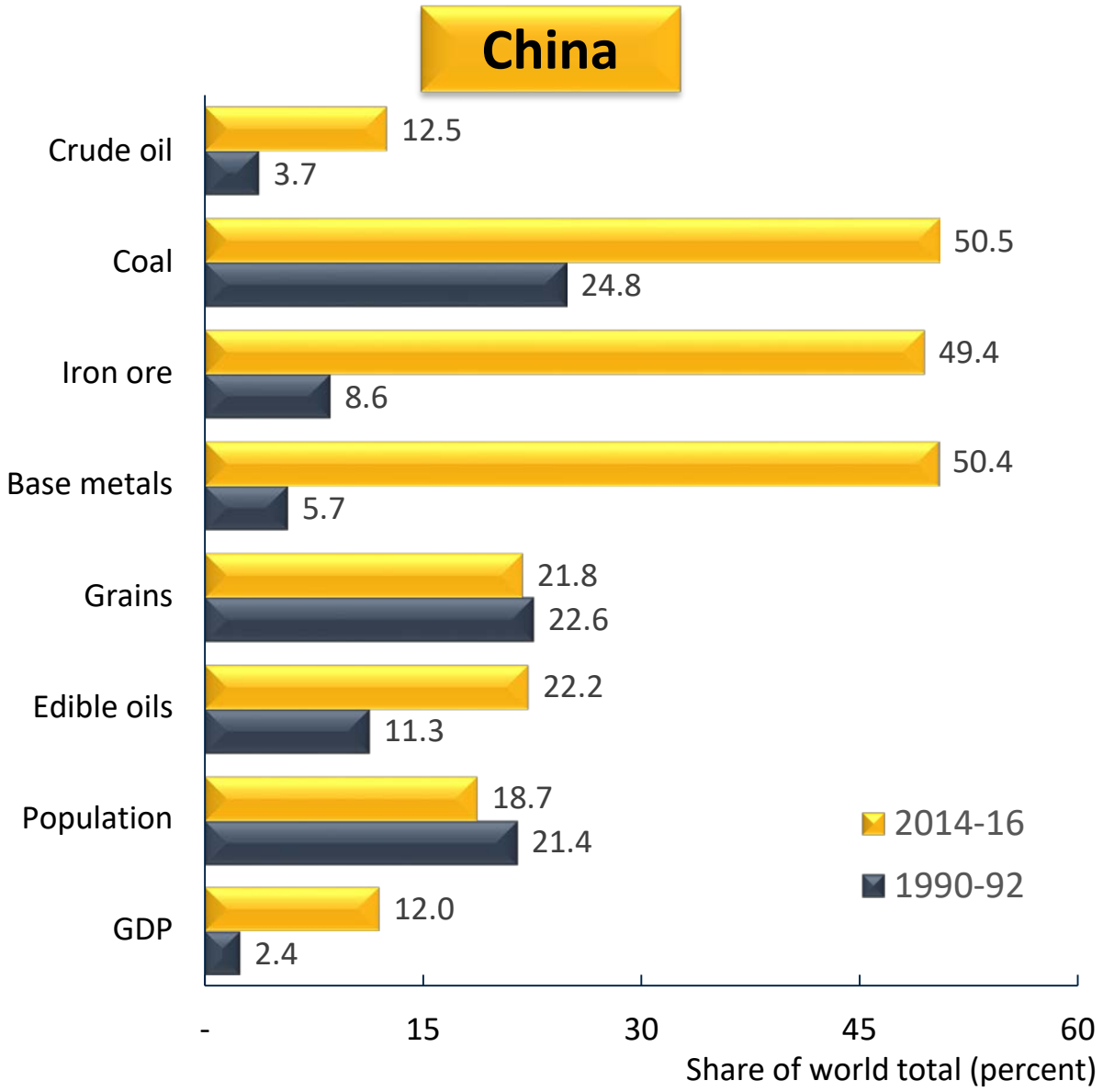


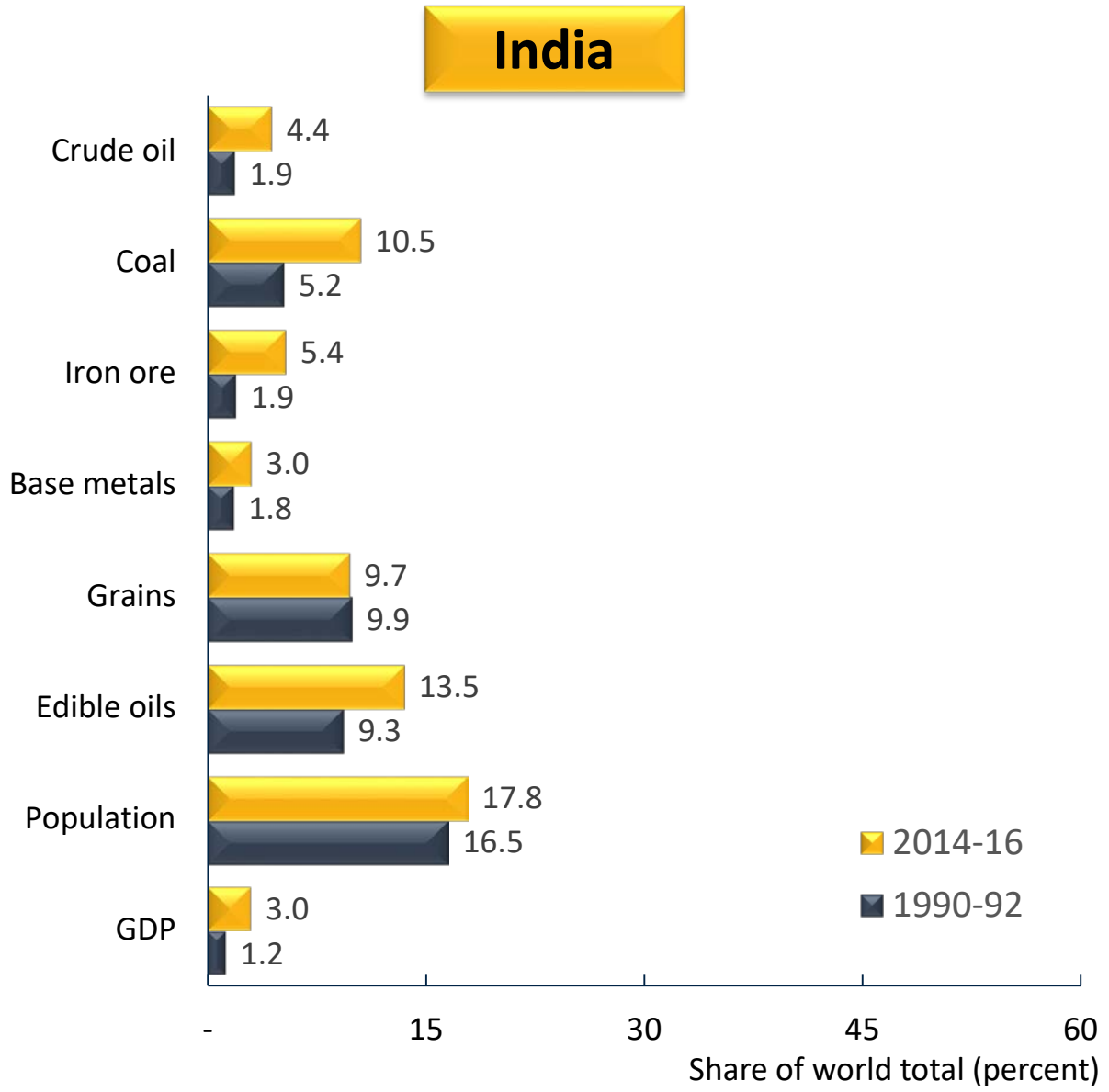
Energy intensity



Source: BP Statistical Review and World Bank.

China's and India's share of global commodity consumption





Source: World Bank, BP Statistical Review of World Energy, World Bureau of Metals Statistics, U.S. Department of Agriculture

Thank you!