

Developments and Prospects in Global Commodity Markets

JOHN BAFFES

WORLD BANK

Seminar cosponsored by

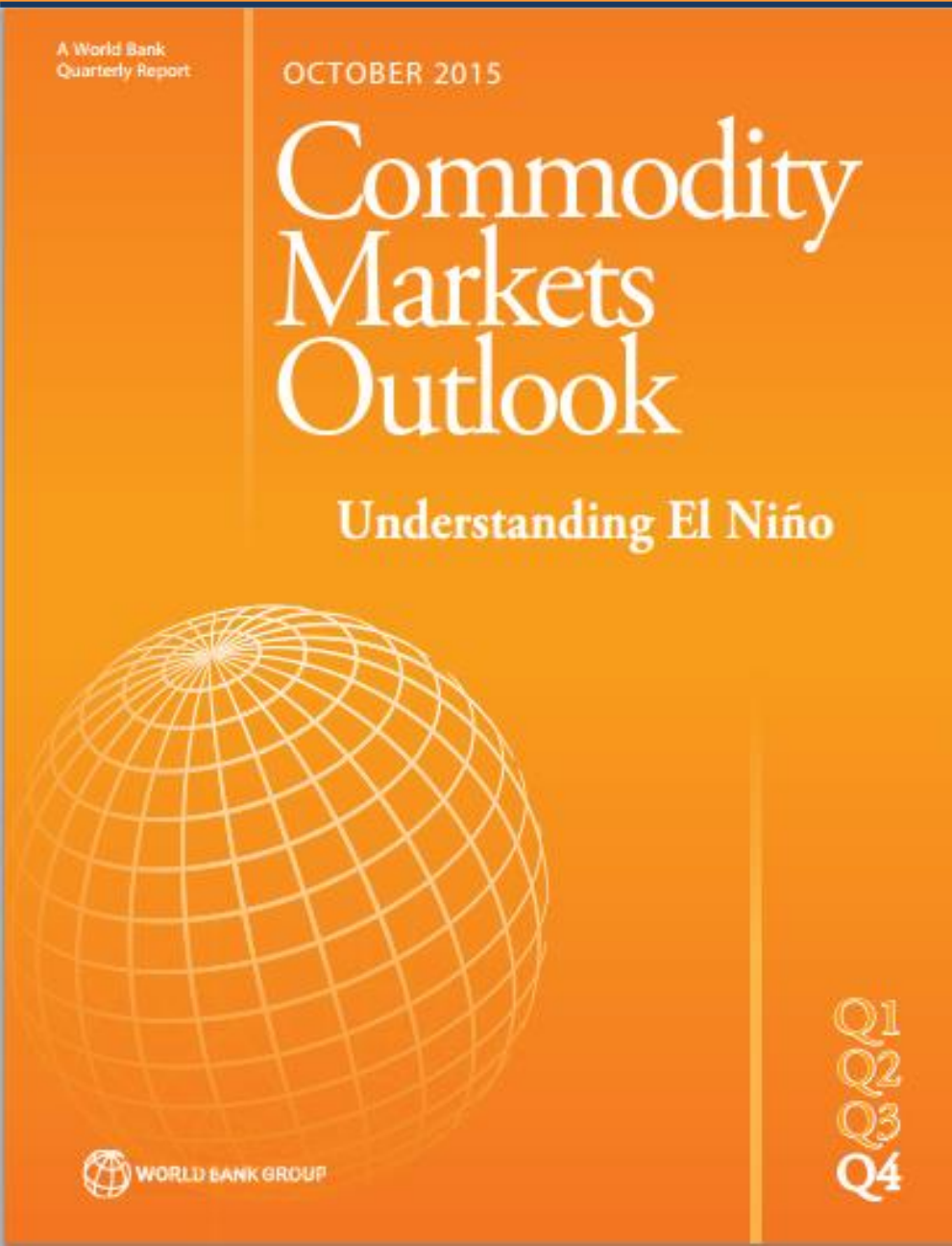
**The Policy Research Institute, Ministry of Agriculture, Forestry and Fisheries, Japan
and**

The World Bank

Tokyo

December 11, 2015

Outline



- ***Recent developments and price forecasts***
- ***Energy markets***
- ***Agricultural markets***
- ***Metal markets***
- ***Prospects of the global economy***
- ***Where are commodity prices heading?***

➤ ***Recent developments & price forecasts***

➤ *Energy markets*

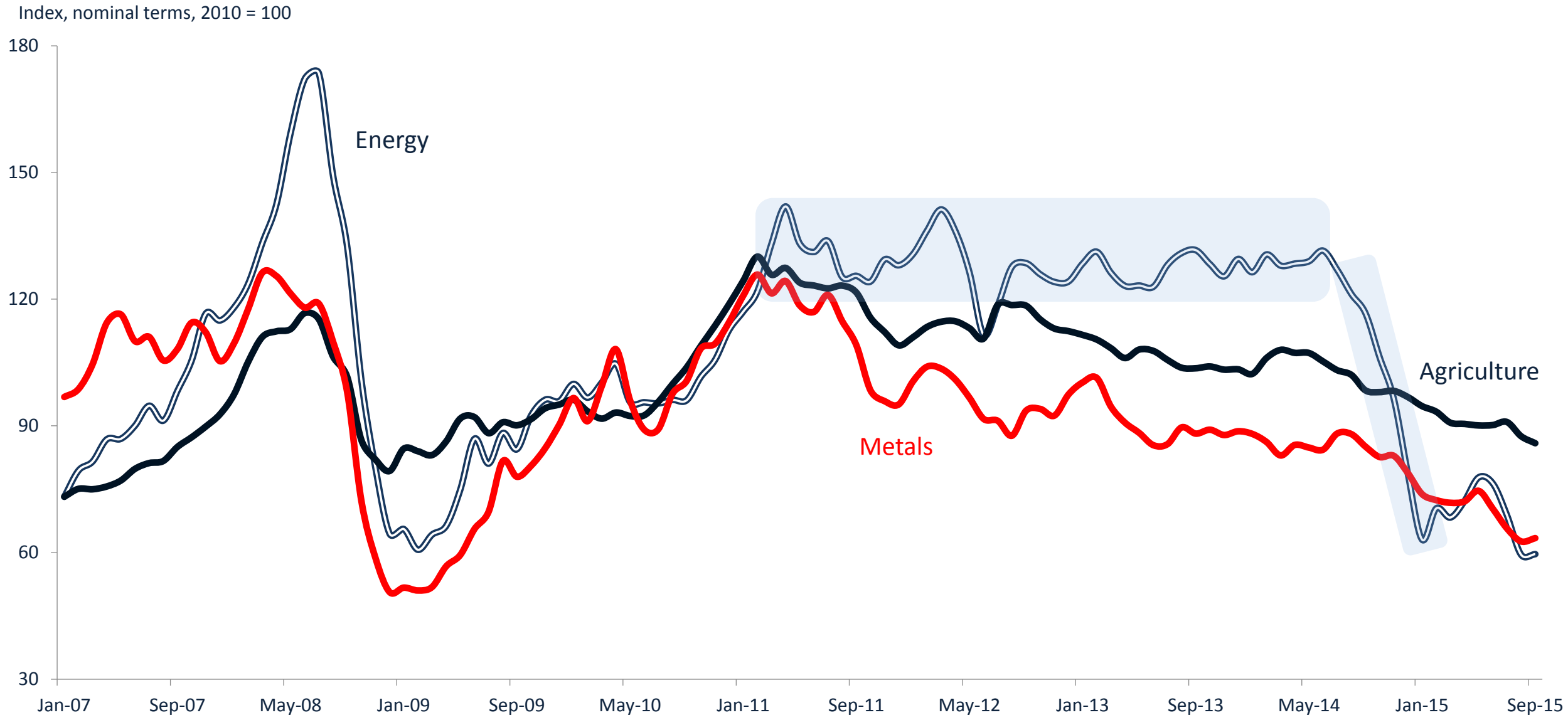
➤ *Agricultural markets*

➤ *Metal markets*

➤ *Prospects of the global economy*

➤ *Where are commodity prices heading?*

The oil price plunge brought energy in line with other prices



Source: World Bank

Note: Last observation is November 2015

Developments in commodity markets and price outlook

Summary

➤ Across the board weakening in commodity prices and across the board downward adjustments to price forecasts:

- Crude oil prices have been fluctuating around \$45/bbl since August 2015 from \$110/bbl in June 2014.
- Agricultural prices have weakened as well, down more than 10% since a year ago.
- Metal prices are down 25% since a year ago.
- All three industrial commodity price indices (energy, metals, and agricultural raw materials) have declined by similar magnitudes (about 40 percent each) since their early 2011 peaks.

Commodity prices and forecasts (2010 = 100)

	Prices (F=forecast)				Change (%)		
	2014	2015	2016F	2017F	14-15	15-16	16-17
Energy	118	66	64	68	-44	-4	6
Non-Energy	97	83	84	85	-15	1	2
Metals	85	68	69	71	-20	2	3
Agriculture	103	90	91	92	-13	1	1
<i>Food</i>	107	91	93	94	-15	1	2
<i>Beverages</i>	102	94	93	92	-8	-1	-1
<i>Raw Materials</i>	92	84	85	87	-9	2	2
Fertilizers	101	96	95	95	-5	-1	-1
Memorandum items							
Crude oil (US\$/bbl)	96	52	49	53	-46	-5	7
Gold (US\$/toz)	1,266	1,174	1,155	1,137	-7	-2	-2

Source: World Bank, *Commodity Markets Outlook*

Note: Forecasts as of October 20, 2014. Prices for 2015 are as of November

Developments in commodity markets and price outlook

Summary

➤ Across the board weakening in commodity prices and across the board downward adjustments to price forecasts:

- Crude oil prices have been fluctuating around \$45/bbl since August 2015 from \$110/bbl in June 2014.
- Agricultural prices have weakened as well, down more than 10% since a year ago.
- Metal prices are down 25% since a year ago.
- All three industrial commodity price indices (energy, metals, and agricultural raw materials) have declined by similar magnitudes (about 40 percent each) since their early 2011 peaks.

➤ Causes of the price weakness include:

- **Well-supplied markets** for industrial commodities (in turn a reflection of past investments due to high prices). Increased oil production by OPEC, notably Iraq and Saudi Arabia.
- **Good crop harvests** during the past 3 years in the case of agriculture.
- **Strong US dollar** and likely tightening of financial conditions.
- **Weak economic growth**, especially in emerging economies where most commodity demand growth takes place.

Commodity prices and forecasts (2010 = 100)

	Prices (F=forecast)				Change (%)		
	2014	2015	2016F	2017F	14-15	15-16	16-17
Energy	118	66	64	68	-44	-4	6
Non-Energy	97	83	84	85	-15	1	2
Metals	85	68	69	71	-20	2	3
Agriculture	103	90	91	92	-13	1	1
Food	107	91	93	94	-15	1	2
Beverages	102	94	93	92	-8	-1	-1
Raw Materials	92	84	85	87	-9	2	2
Fertilizers	101	96	95	95	-5	-1	-1
Memorandum items							
Crude oil (US\$/bbl)	96	52	49	53	-46	-5	7
Gold (US\$/toz)	1,266	1,174	1,155	1,137	-7	-2	-2

Source: World Bank, *Commodity Markets Outlook*

Note: Forecasts as of October 20, 2014. Prices for 2015 are as of November

Developments in commodity markets and price outlook

Summary

➤ Across the board weakening in commodity prices and across the board downward adjustments to price forecasts:

- Crude oil prices have been fluctuating around \$45/bbl since August 2015 from \$110/bbl in June 2014.
- Agricultural prices have weakened as well, down more than 10% since a year ago.
- Metal prices are down 25% since a year ago.
- All three industrial commodity price indices (energy, metals, and agricultural raw materials) have declined by similar magnitudes (about 40 percent each) since their early 2011 peaks.

➤ Causes of the price weakness include:

- **Well-supplied markets** for industrial commodities (in turn a reflection of past investments due to high prices). Increased oil production by OPEC, notably Iraq and Saudi Arabia.
- **Good crop harvests** during the past 3 years in the case of agriculture.
- **Strong US dollar** and likely tightening of financial conditions.
- **Weak economic growth**, especially in emerging economies where most commodity demand growth takes place.

➤ Commodity prices are expected to increase (albeit marginally) in 2016 and 2017.

Commodity prices and forecasts (2010 = 100)

	Prices (F=forecast)				Change (%)		
	2014	2015	2016F	2017F	14-15	15-16	16-17
Energy	118	66	64	68	-44	-4	6
Non-Energy	97	83	84	85	-15	1	2
Metals	85	68	69	71	-20	2	3
Agriculture	103	90	91	92	-13	1	1
Food	107	91	93	94	-15	1	2
Beverages	102	94	93	92	-8	-1	-1
Raw Materials	92	84	85	87	-9	2	2
Fertilizers	101	96	95	95	-5	-1	-1
Memorandum items							
Crude oil (US\$/bbl)	96	52	49	53	-46	-5	7
Gold (US\$/toz)	1,266	1,174	1,155	1,137	-7	-2	-2

Source: World Bank, *Commodity Markets Outlook*

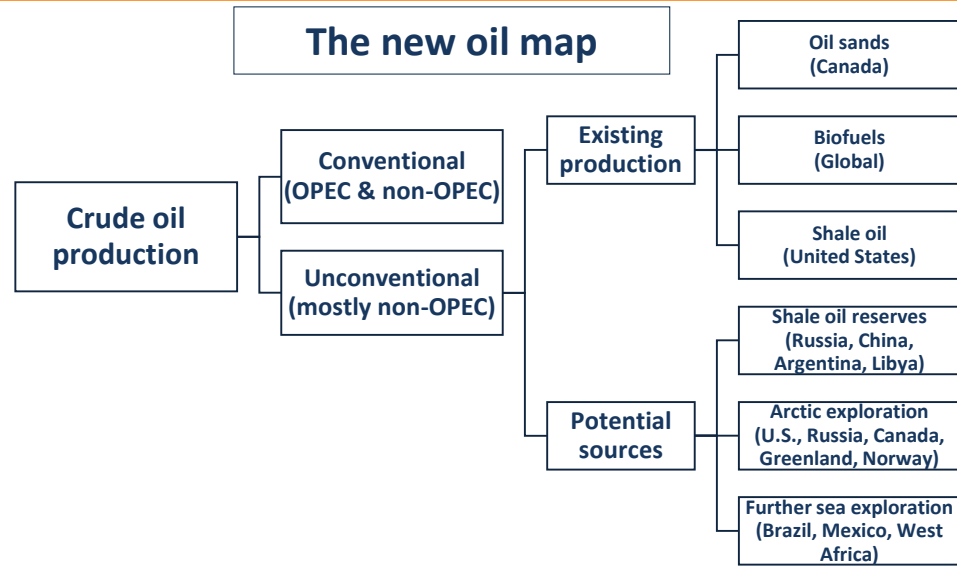
Note: Forecasts as of October 20, 2014. Prices for 2015 are as of November

- *Recent developments & price forecasts*
- ***Energy markets***
- *Agricultural markets*
- *Metal markets*
- *Prospects of the global economy*
- *Where are commodity prices heading?*

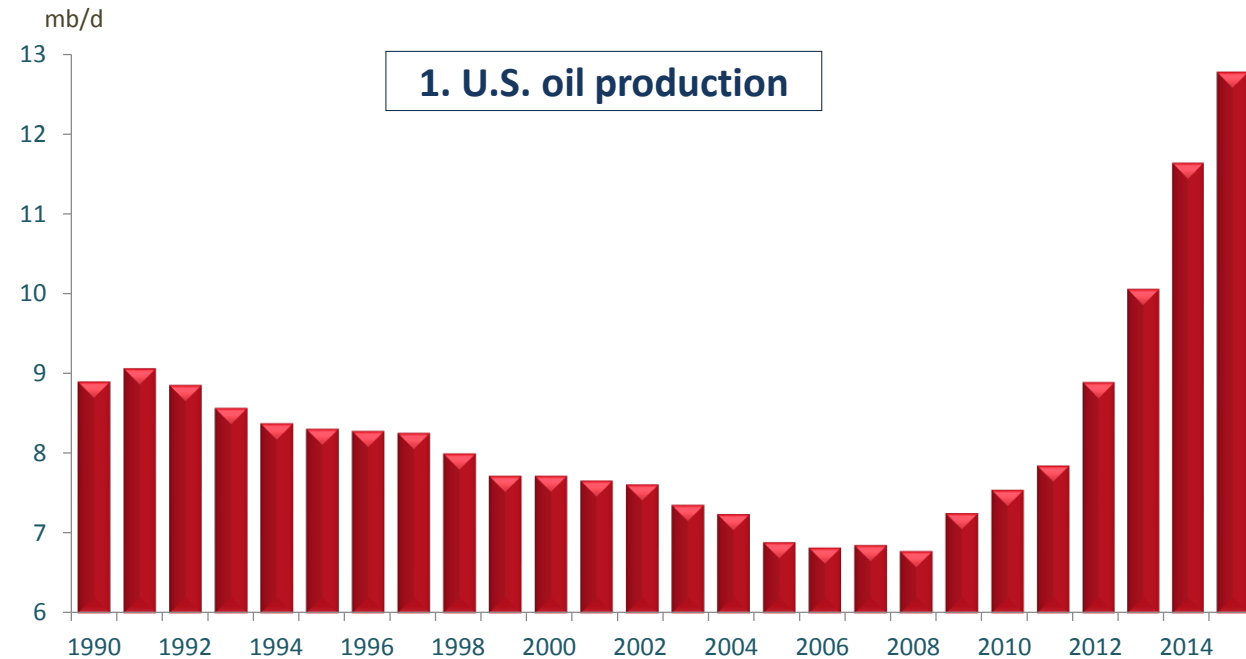
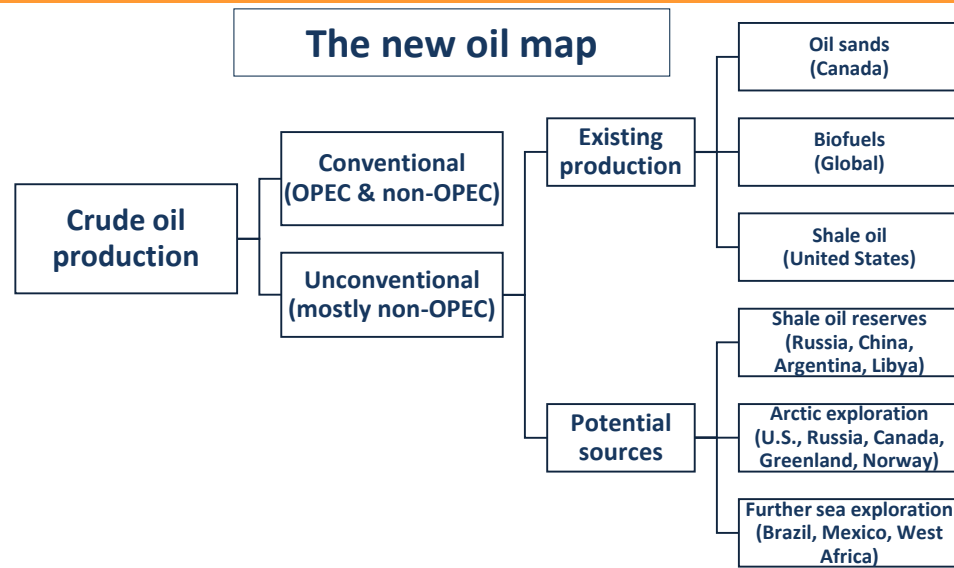
Oil price movements: Sources, channels, and impacts

Source	Channel	Oil vs all commodities	Impact on prices
Growth prospects	Demand	Industrial (not food) commodities	Strong growth lead to high industrial commodity prices (not food prices due to Engels' Law)
Substitution technologies	Demand	Some commodities	Less consumption (through substitution away from oil to other energy sources) lowers prices
Production technologies	Supply	Crude oil and natural gas	Better production technologies lead to lower prices (<u>shale technology in the U.S.</u>)
Geopolitical concerns	Supply	Crude oil and natural gas	Restriction of supplies due to <u>security concerns</u> in Middle East and Central Asia induce high prices
Policies	Supply & demand	Crude oil (OPEC), food commodities (biofuels)	Restriction of supplies due to <u>OPEC policies</u> induce high oil prices; biofuels, which displace oil, cause lower oil prices but higher food prices
Macroeconomic fundamentals	Supply & demand	All commodities	<u>Appreciation of the US dollar</u> lowers prices, interest rate movements have mixed impact

Oil prices are driven (mostly) by 3 unconventional sources

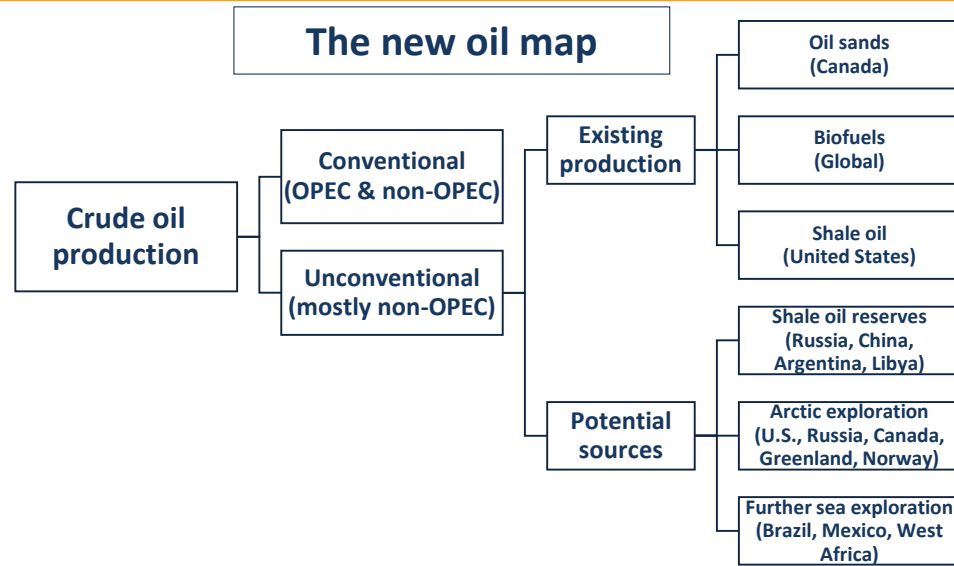


(1) US shale

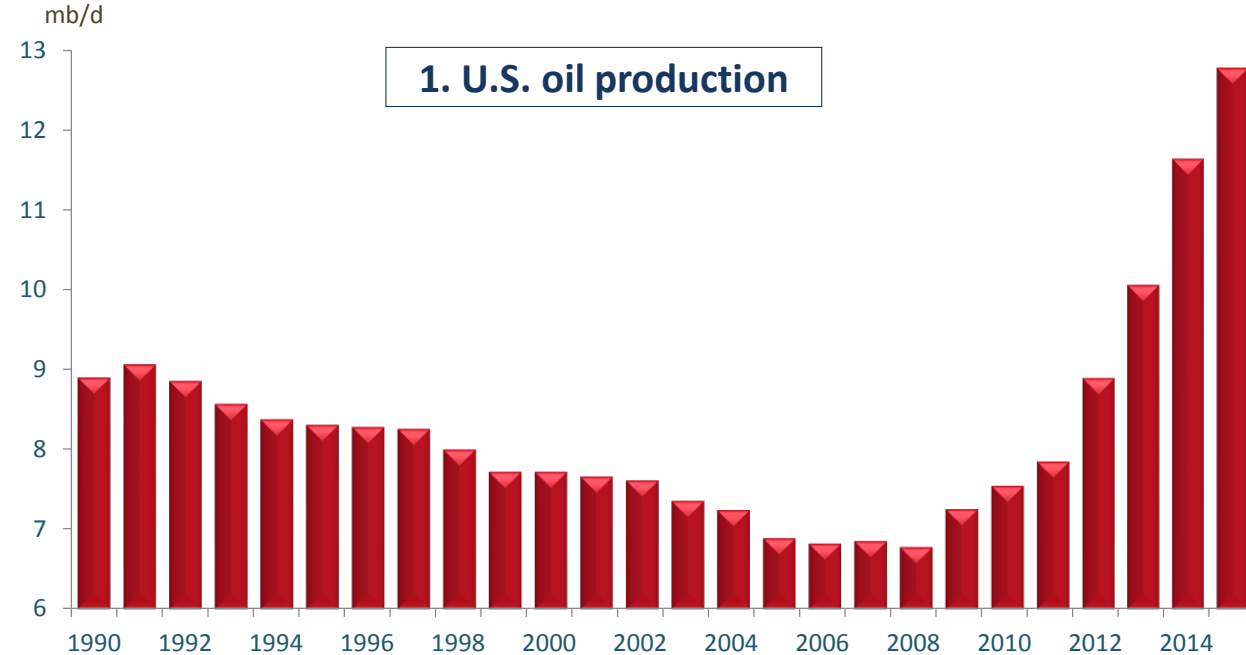


Source: IEA, BP Statistical Review, and World Bank estimates.

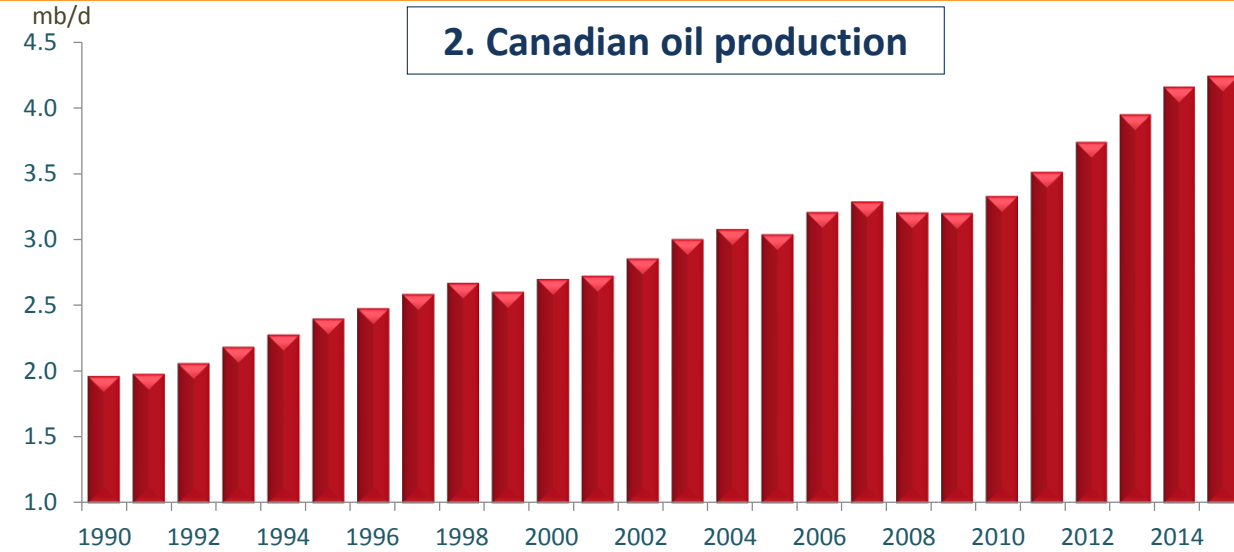
(2) Canadian oil sands



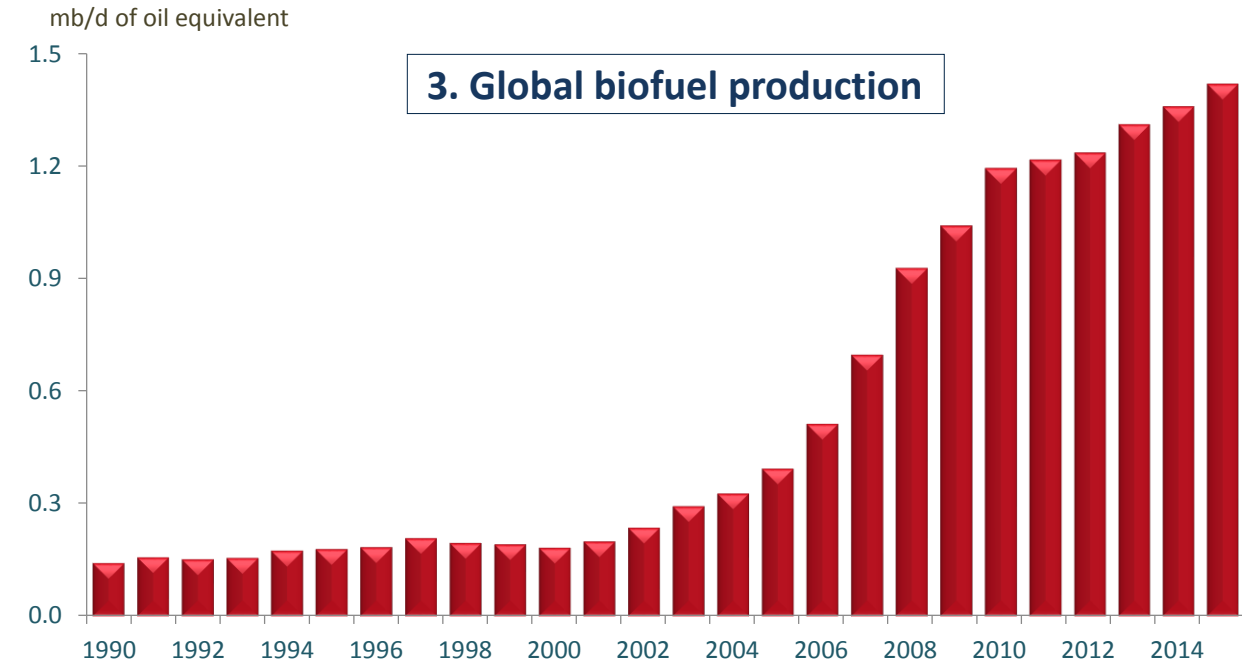
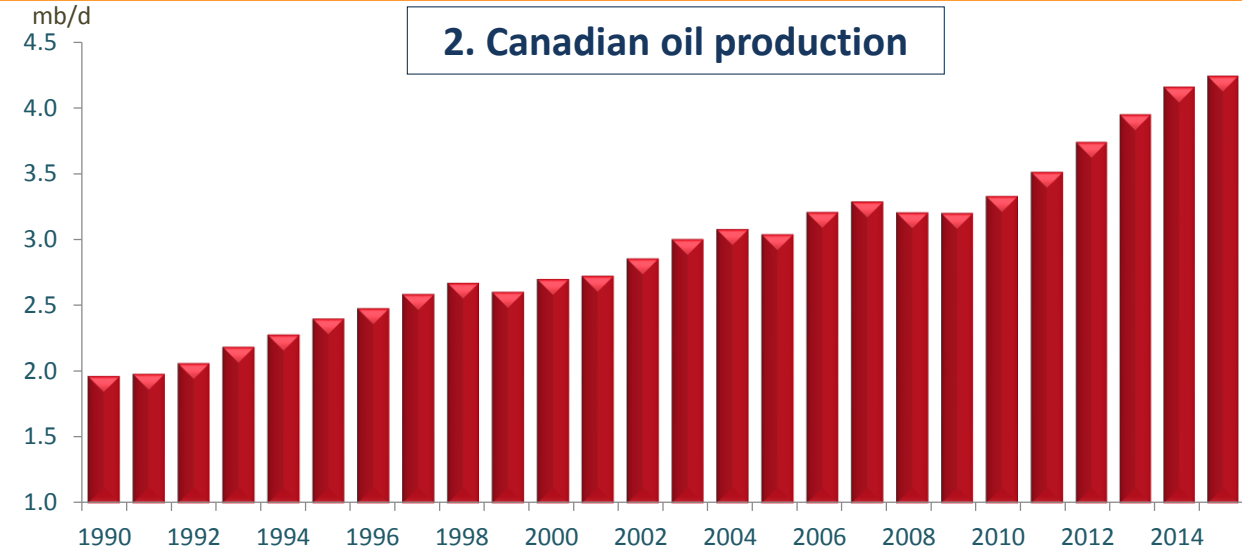
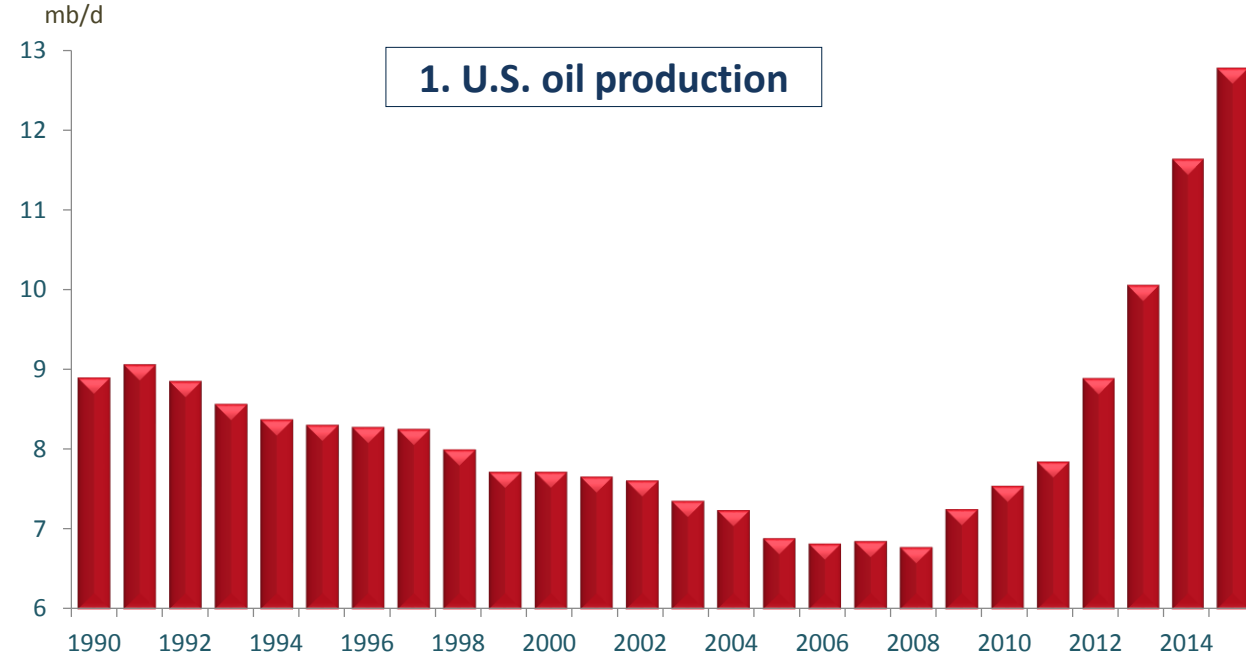
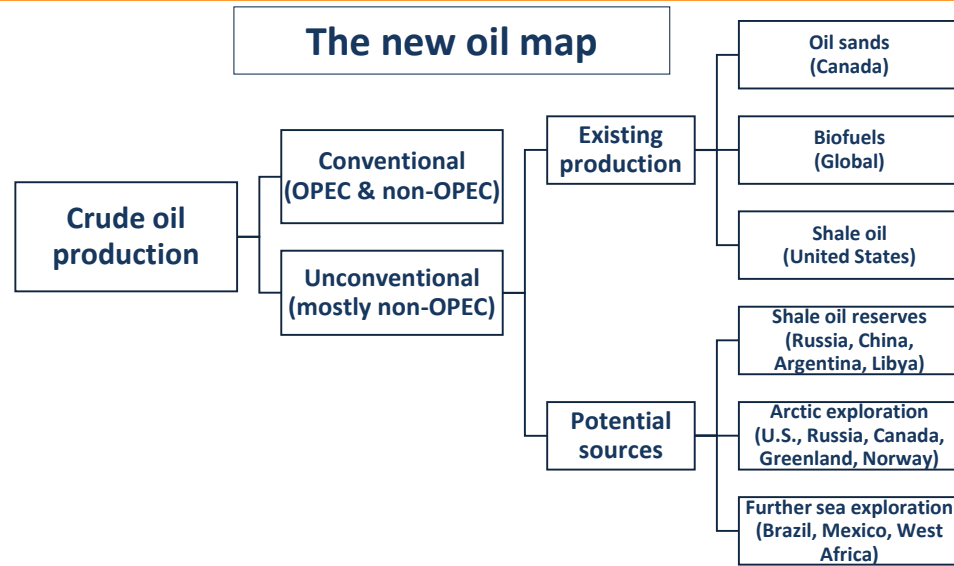
1. U.S. oil production



2. Canadian oil production



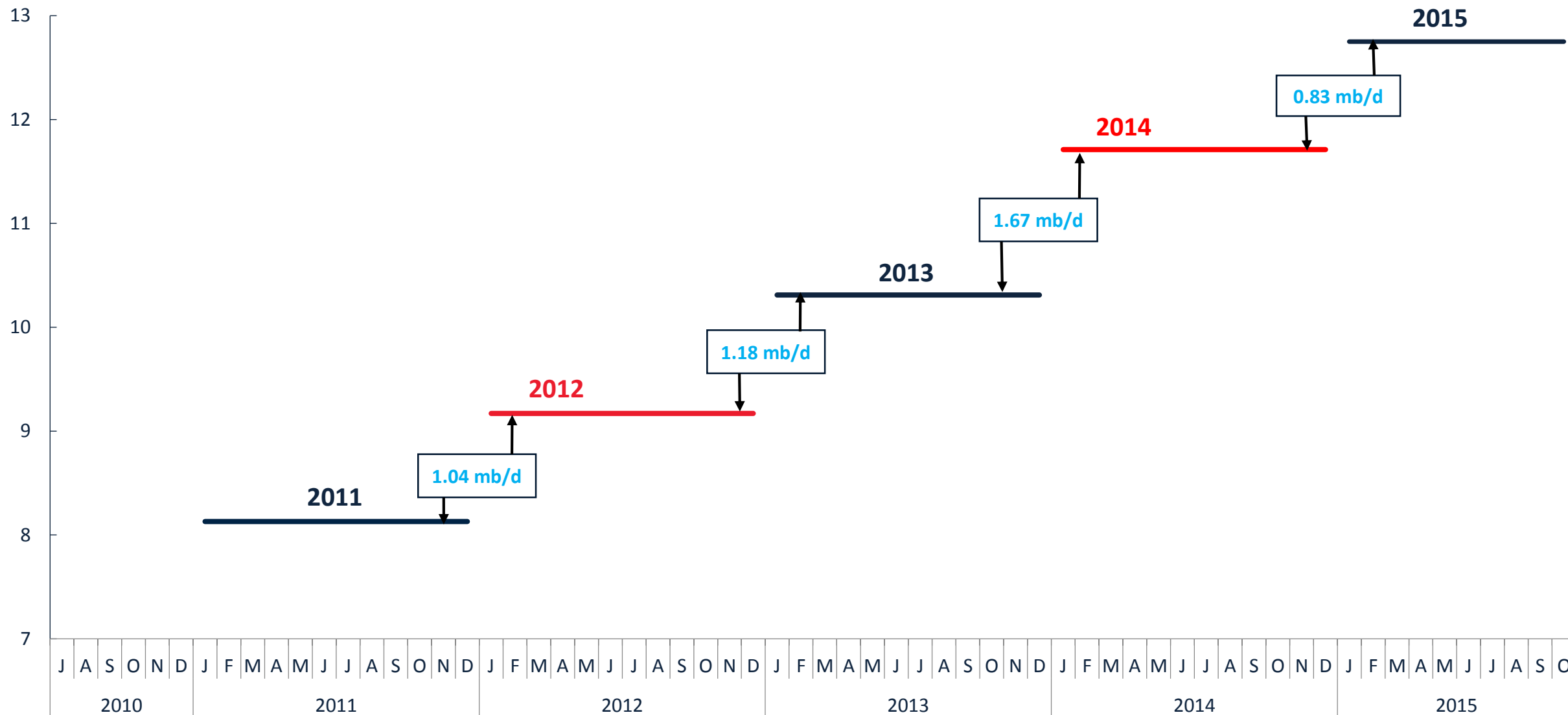
(3) Biofuels



Source: IEA, BP Statistical Review, and World Bank estimates.

The U.S. added some 1 mb/d of oil ...

Million barrels per day

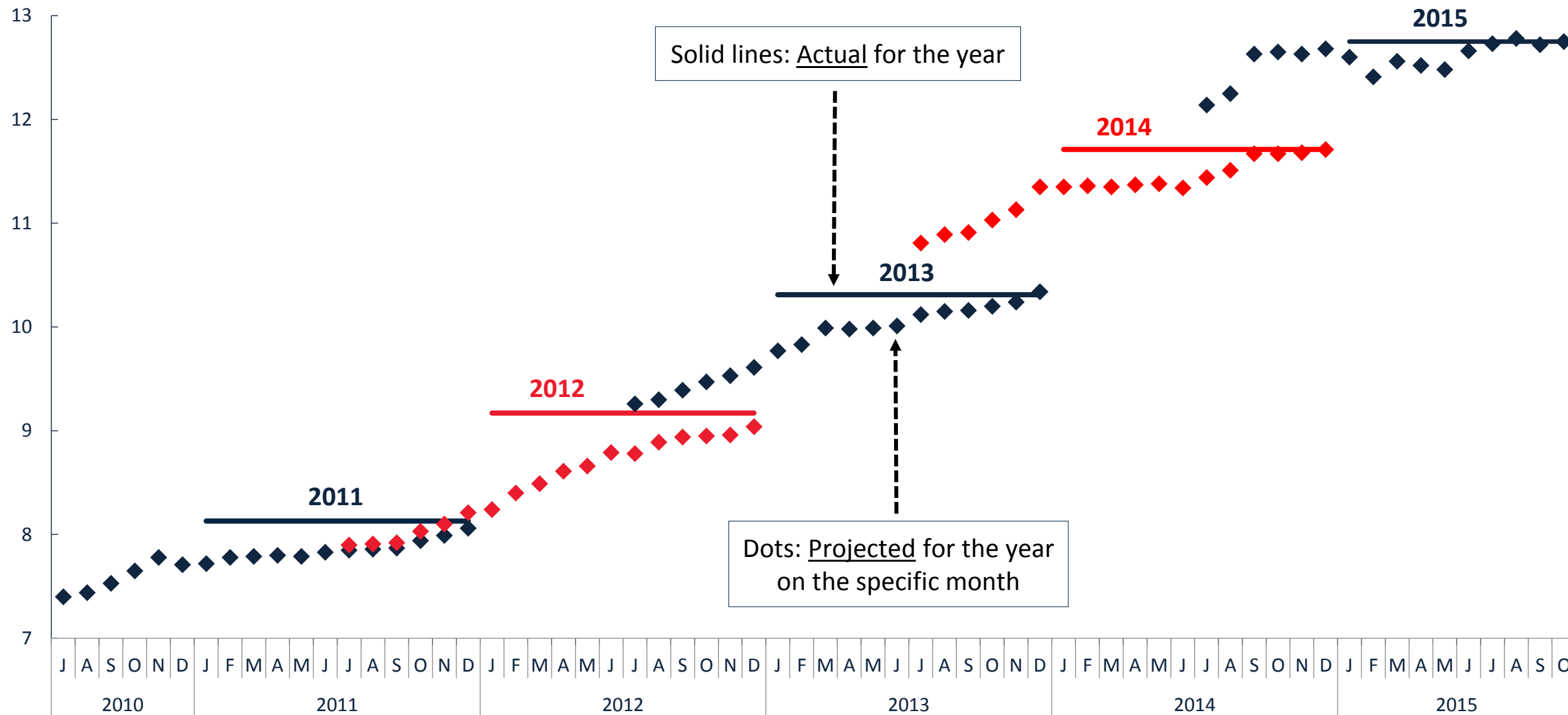


Source: International Energy Agency and World Bank

Note: U.S. oil output includes biofuels. Last observation is October 2015. The solid line for 2015 is the October projection.

... contrary to expectations ...

Million barrels per day



Solid lines: Actual for the year

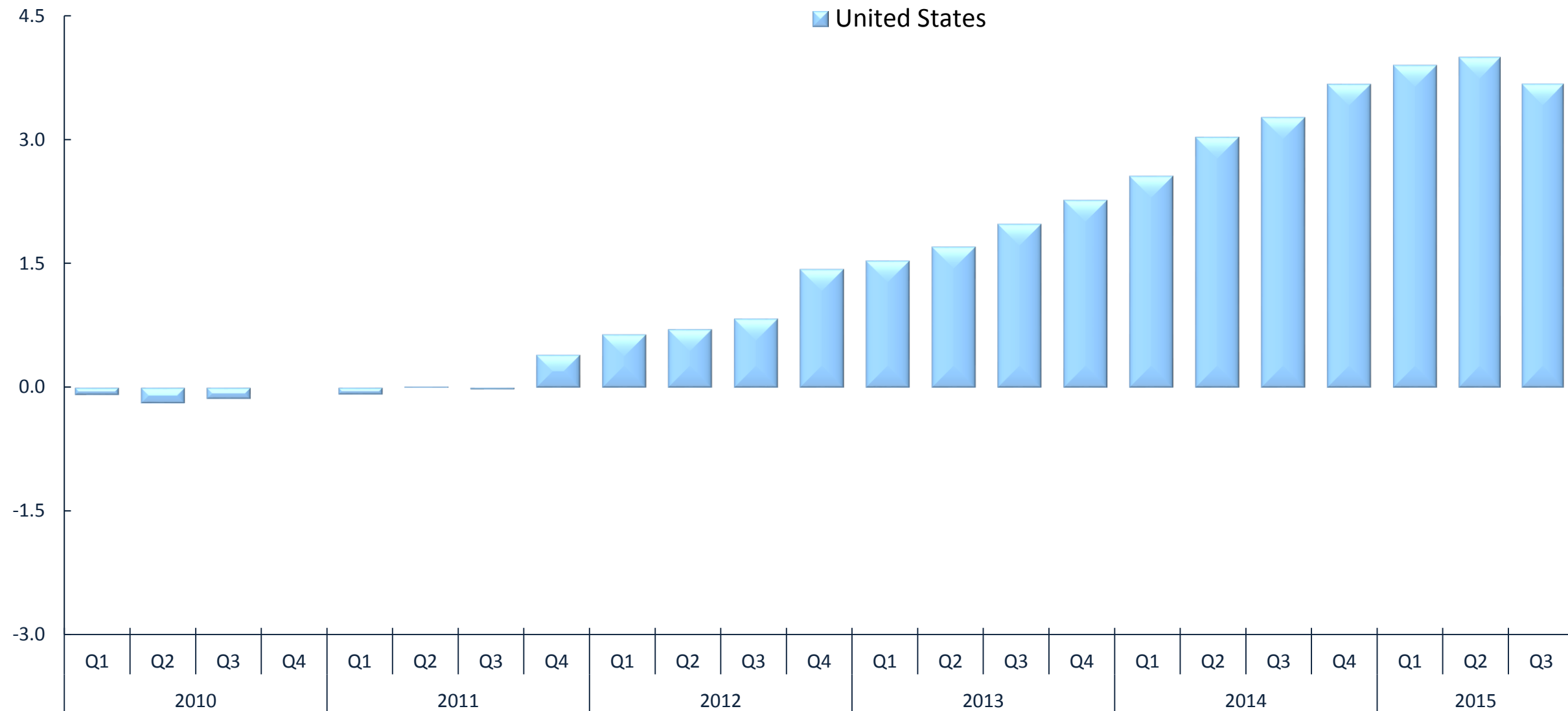
Dots: Projected for the year
on the specific month

Source: International Energy Agency and World Bank

Note: U.S. oil output includes biofuels. Last observation is October 2015. The solid line for 2015 is the October projection.

... this additional oil ...

Mb/d, changes since 2010Q4

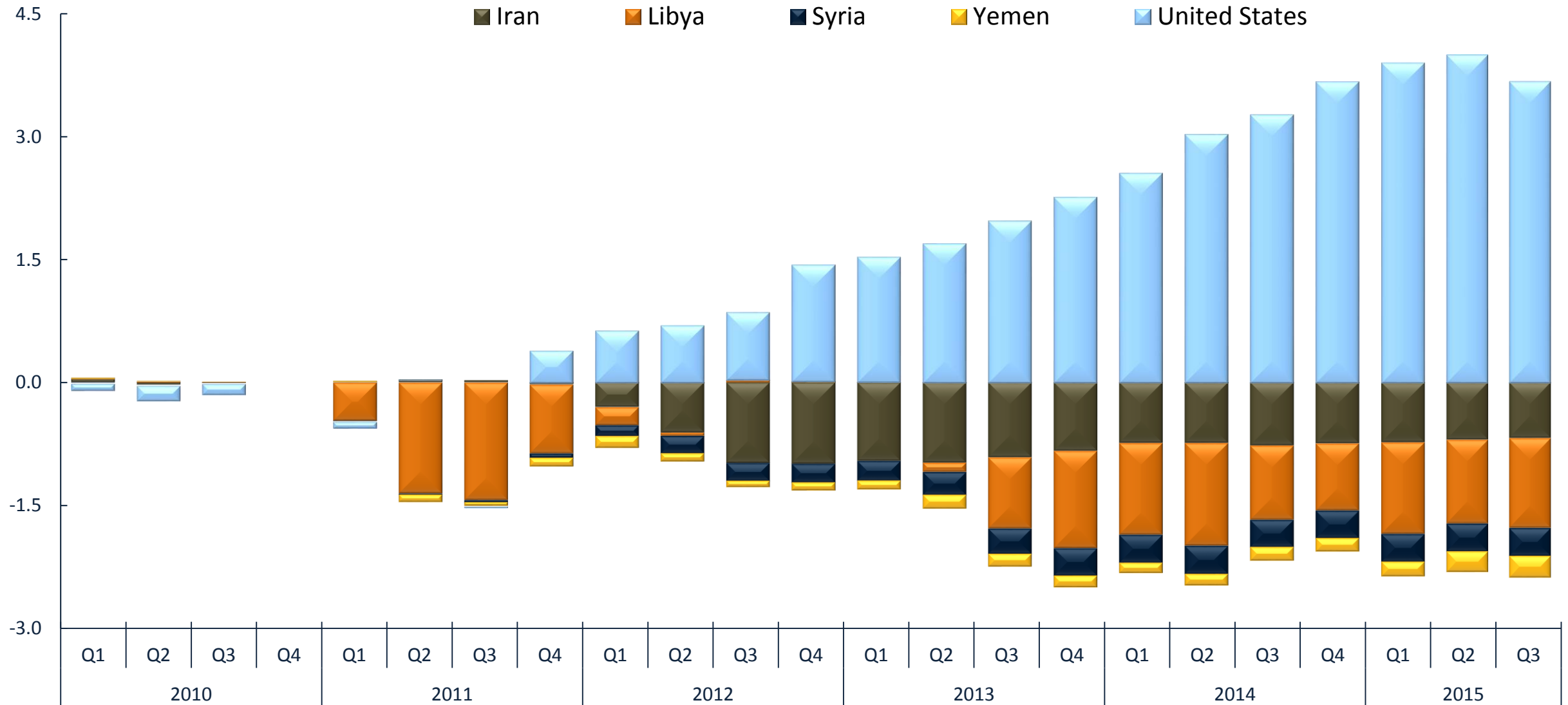


Source: International Energy Agency and World Bank

Note: Last observation 2015Q3

... initially accounted for “losses” elsewhere...

Mb/d, changes since 2010Q4

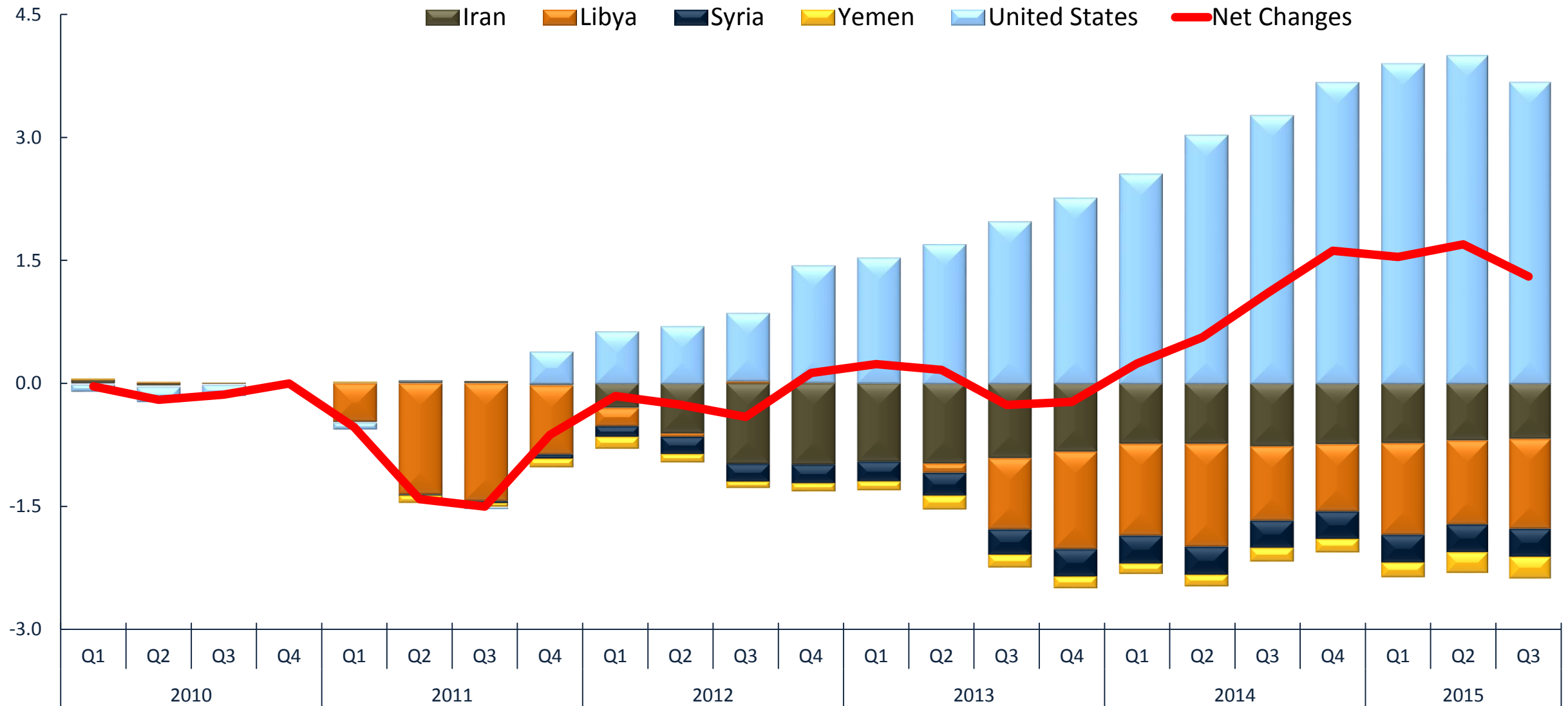


Source: International Energy Agency and World Bank

Note: Last observation 2015Q3

... but eventually created surplus conditions in 2014Q2 ...

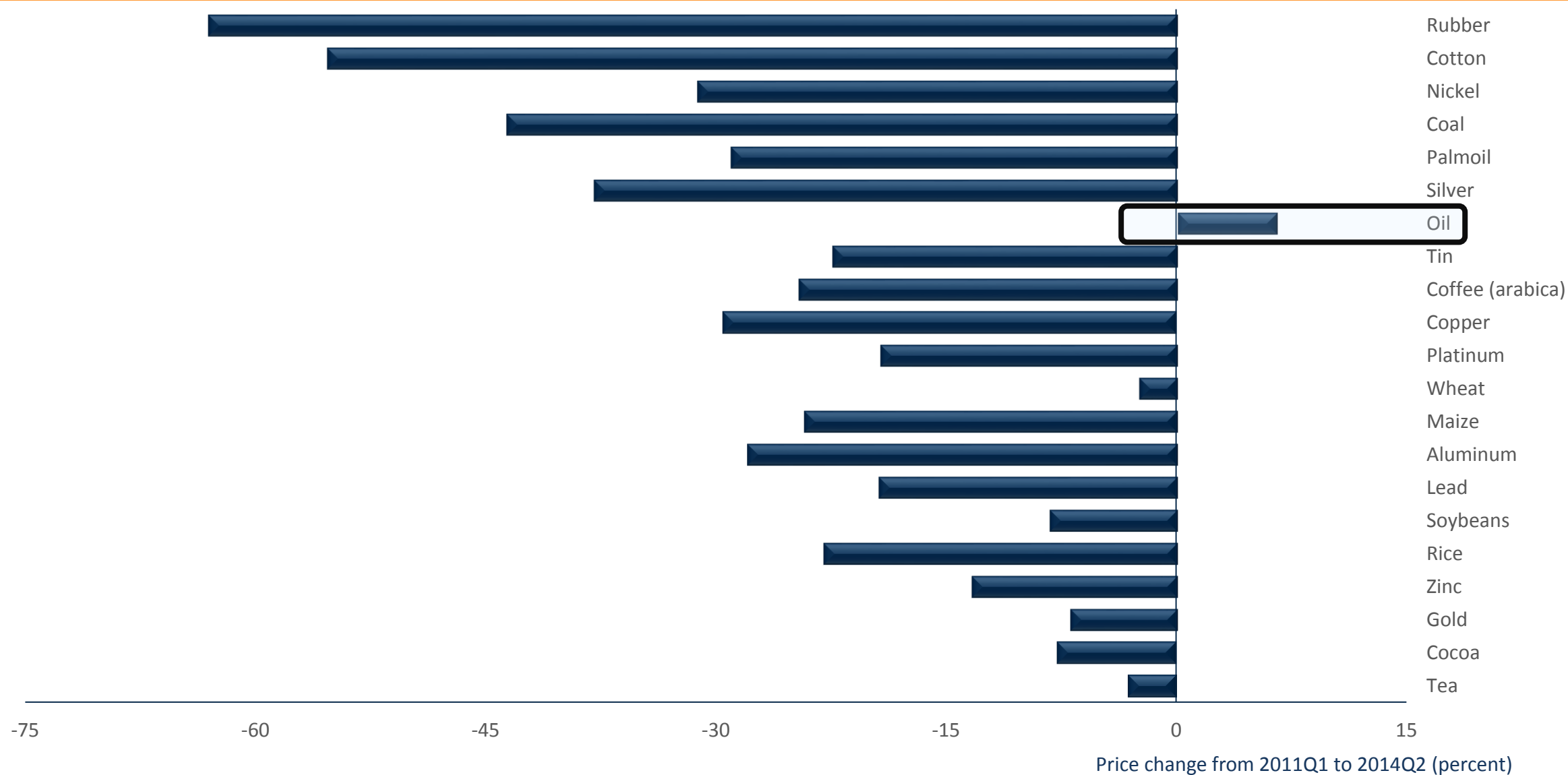
Mb/d, changes since 2010Q4



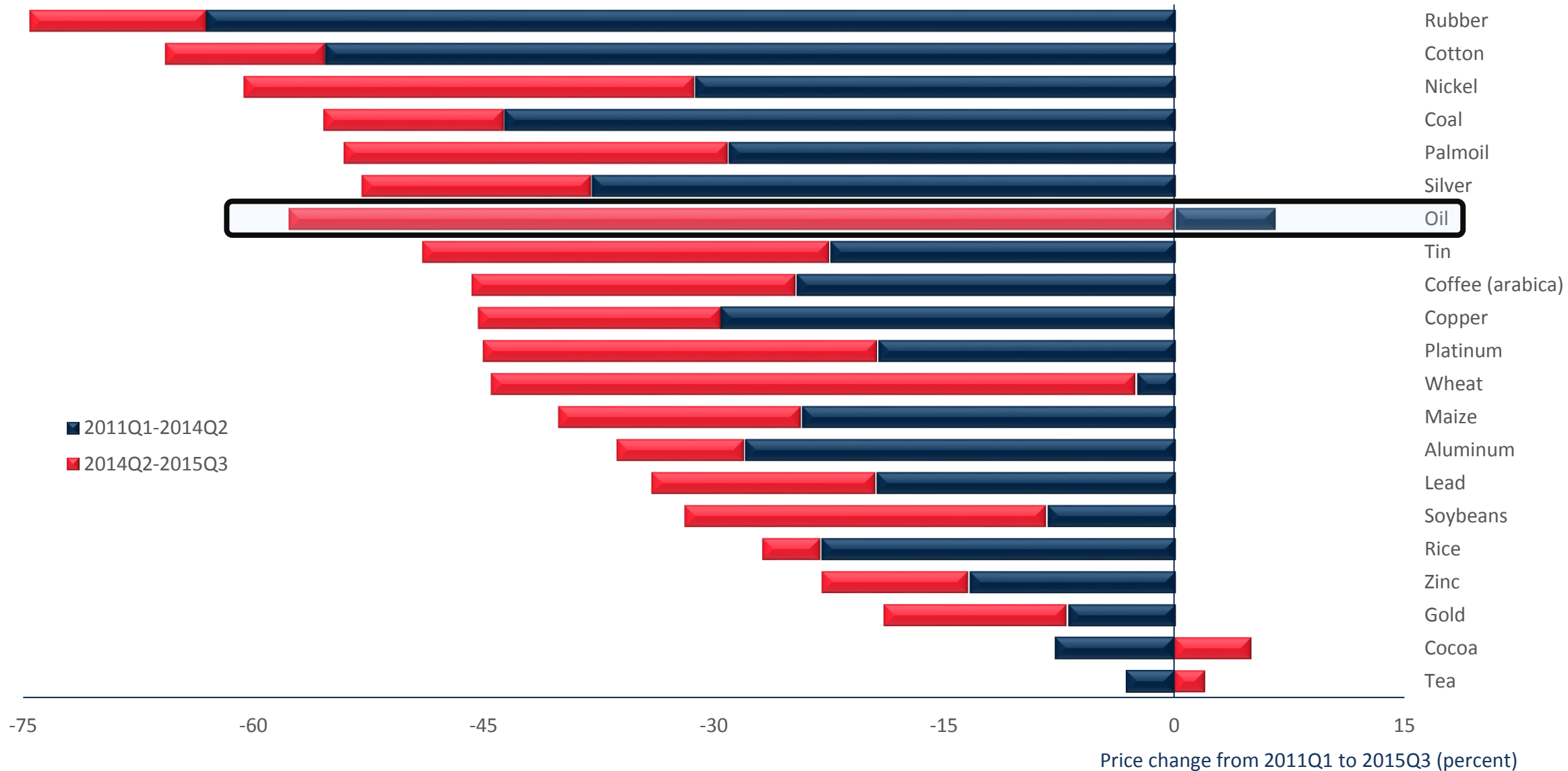
Source: International Energy Agency and World Bank

Note: Last observation 2015Q3

... in turn, changing oil from “outlier” ...

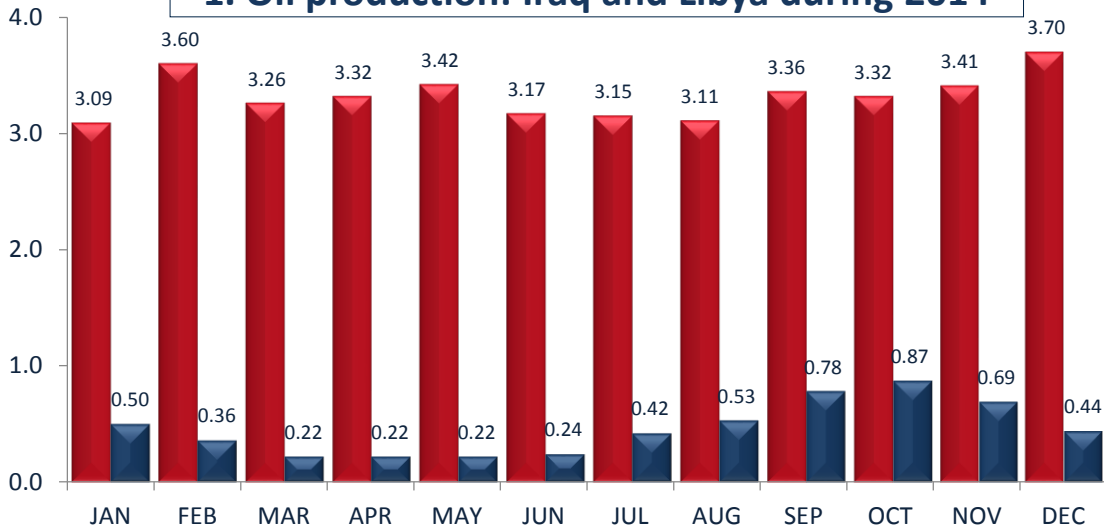


... to “mainstream”



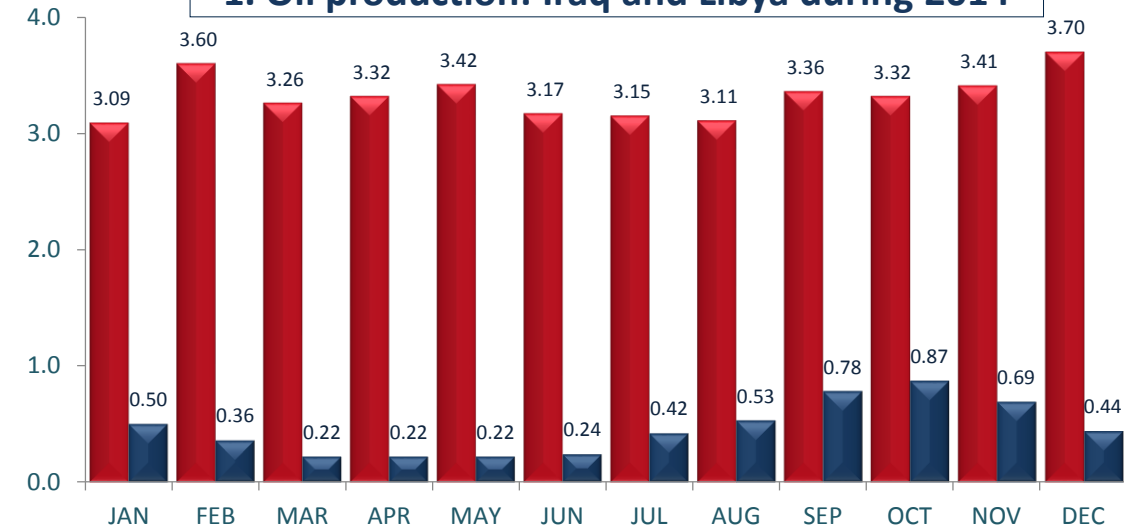
The surplus of 2014Q2 was followed by: (1) Iraq and Libya surprize

1. Oil production: Iraq and Libya during 2014

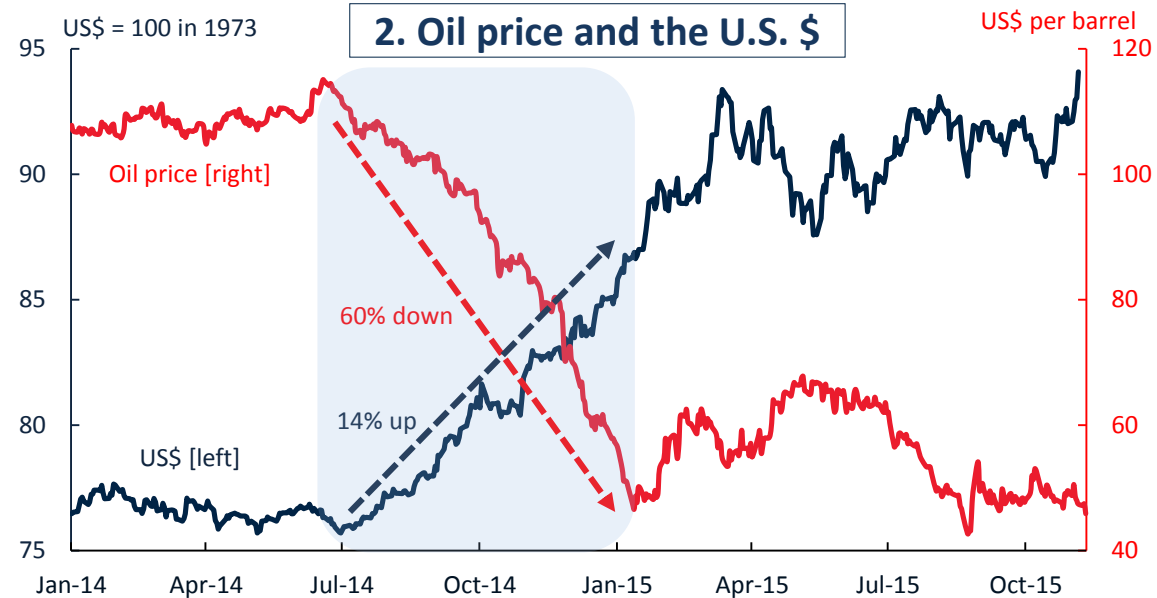


(2) Appreciation of the U.S. dollar

1. Oil production: Iraq and Libya during 2014



2. Oil price and the U.S. \$

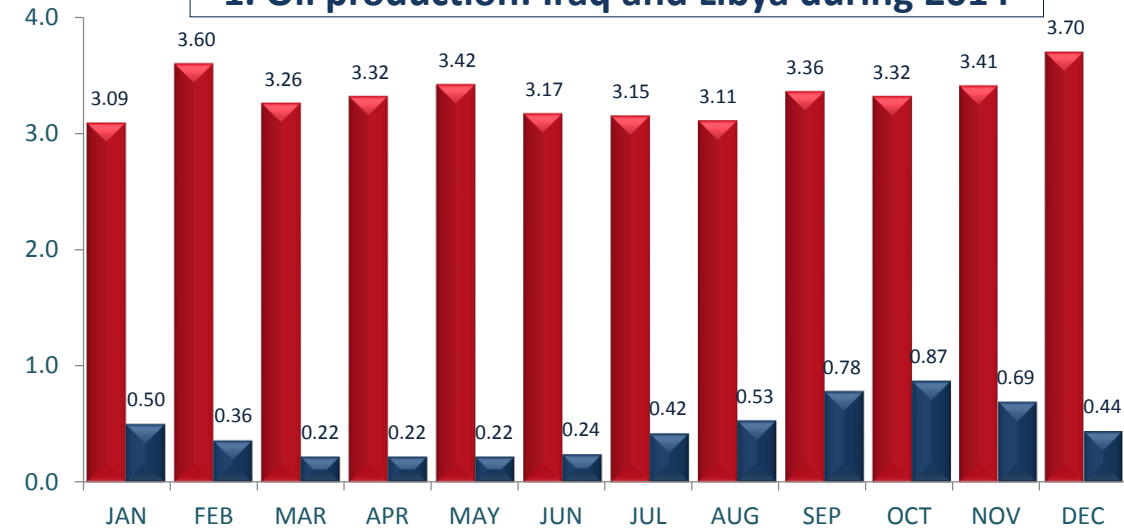


Source: IEA, Bloomberg, FRED.

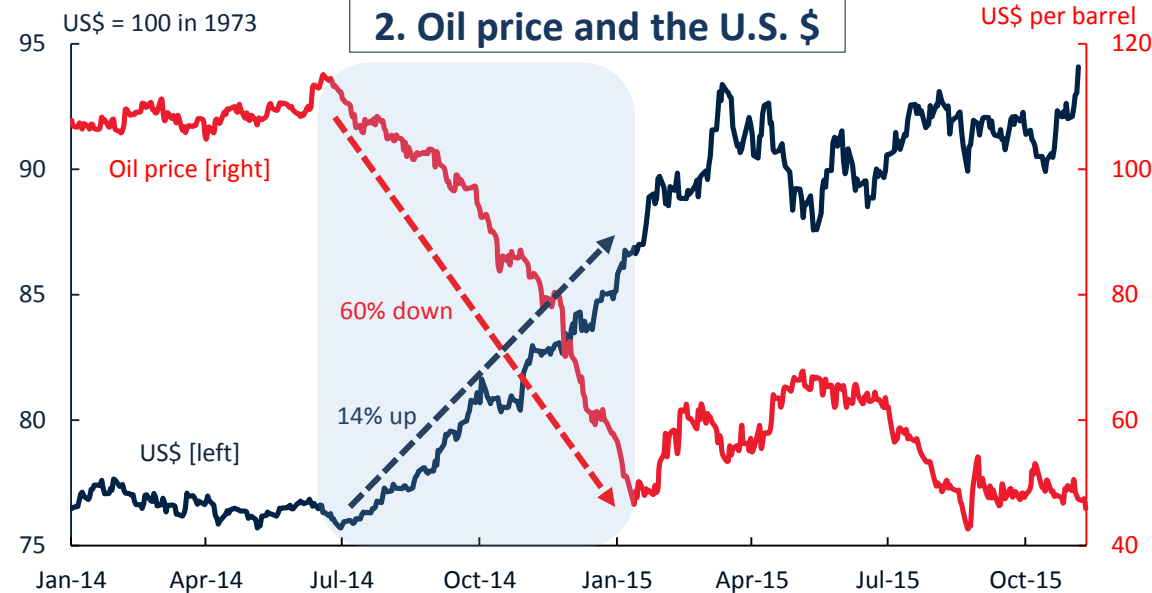
Notes: Last observation for exchange rate and oil prices is November 30, 2015.

(3) OPEC's changing objective

1. Oil production: Iraq and Libya during 2014



2. Oil price and the U.S. \$



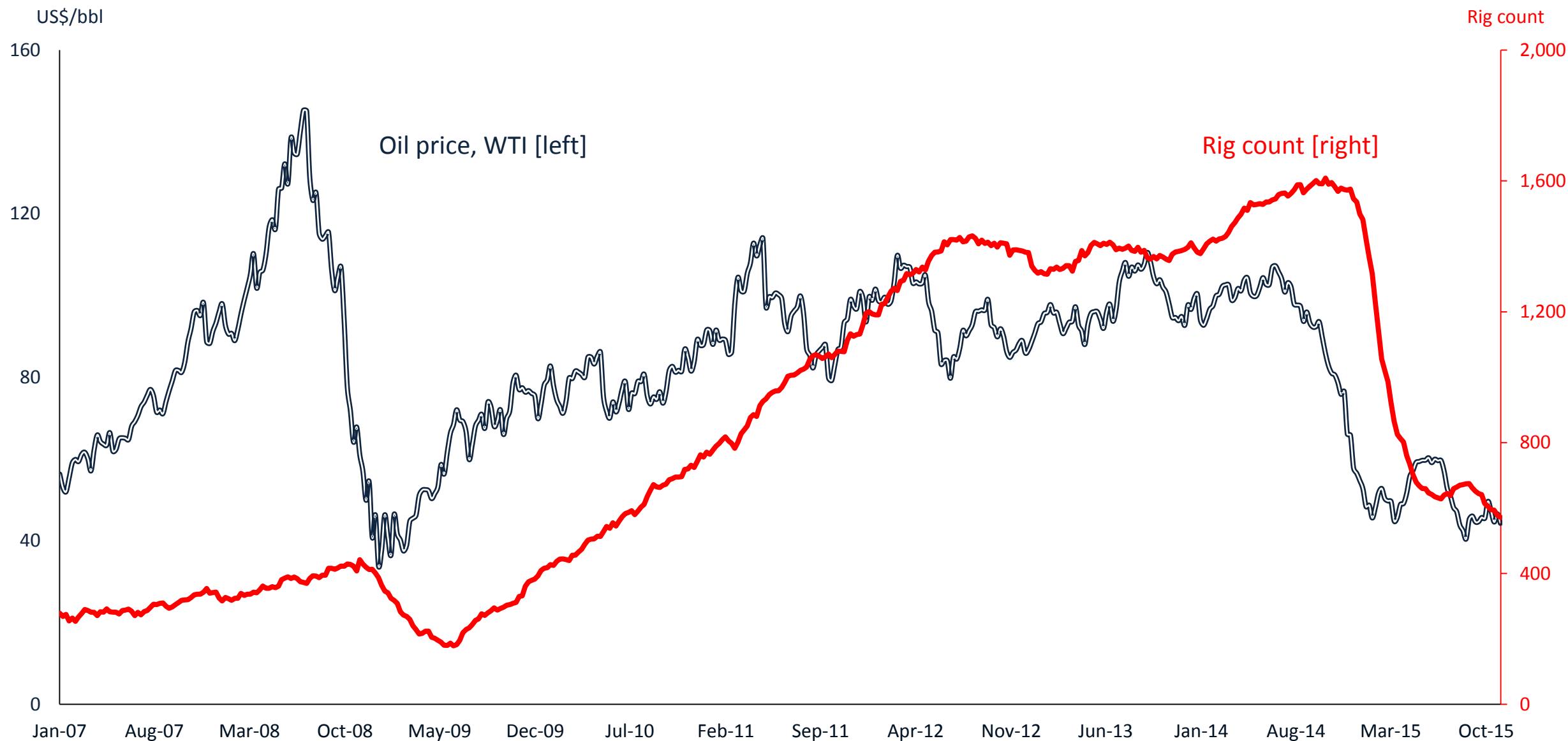
Source: IEA, Bloomberg, FRED, and World Bank.

Notes: Last observation for exchange rate and oil prices is November 30, 2015.

3. OPEC's changing objectives

- Following the East Asian financial crisis when oil dropped below \$10/bbl, OPEC began setting a price target range, initially set at \$20-25/bbl and gradually reaching \$100-110/bbl.
- In the face of weakening demand and increasingly strong supplies from unconventional sources, in its November 27, 2014 meeting, OPEC decided not to cut production in order to defend market share. Following the decision, Brent prices plunged 10 percent. It was the first time in recent history when OPEC took such a bold move. An earlier, similar move was taken in 1985/86.
- The decision most likely reflects the realization that global commodity markets cannot be “managed” for long, regardless the nature of the commodity. Maintaining high and stable prices through commodity agreements not only attracts suppliers from countries not bound by the agreements but also encourages development of substitute products:
 - *The International Tin Agreement (1954-85) had two implications: (i) Artificially high tin prices made non-member producers more competitive; (ii) it encouraged the use of aluminum, a substitute product.*
 - *The International Coffee Agreement (1962-89) attracted new producers, including Vietnam (not member of the Agreement), which is now world's second largest coffee supplier.*

The oil price plunge led to a sharp decline in the U.S. rig count

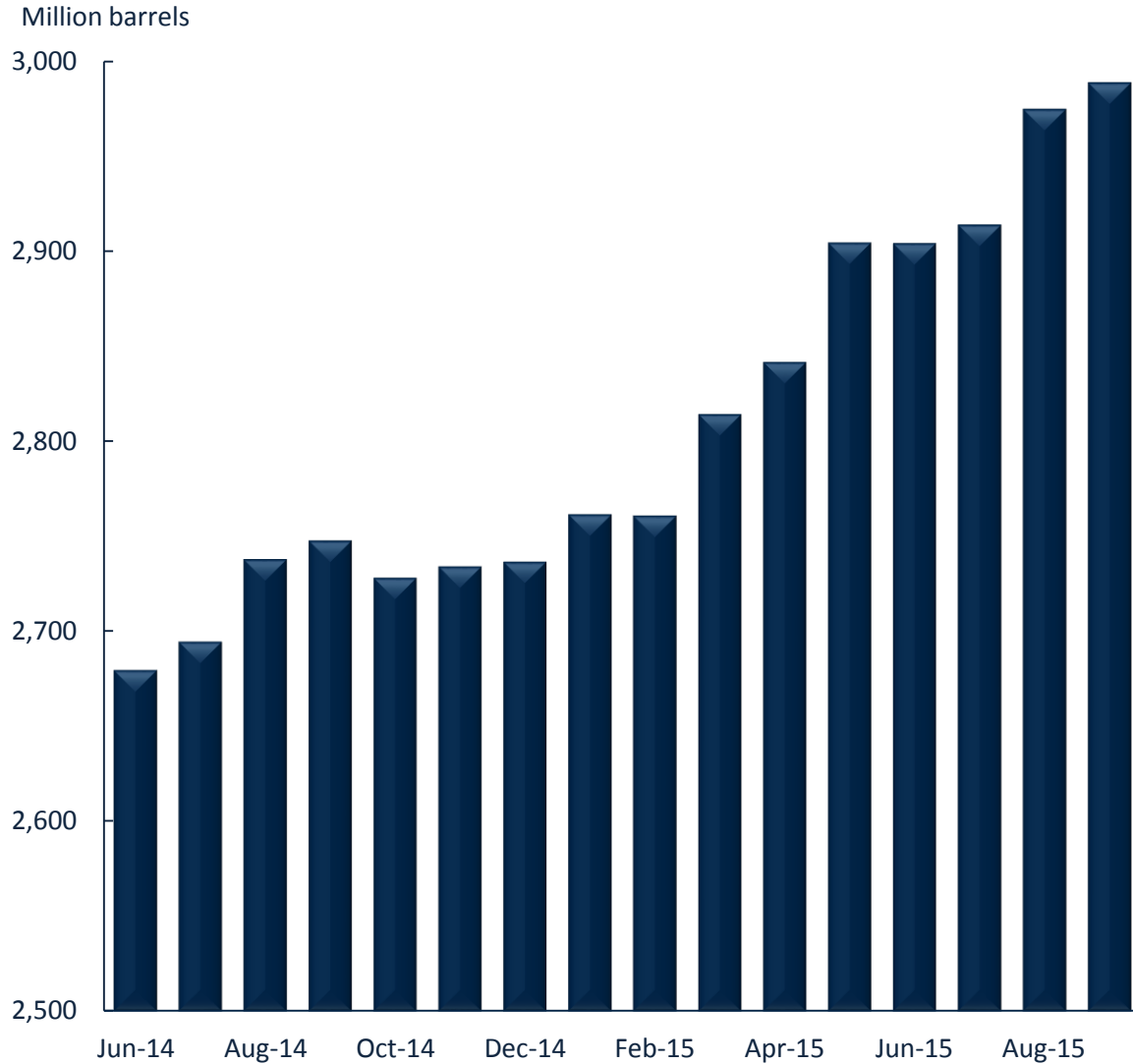


Source: Baker Hughes, Bloomberg, and World Bank

Note: Weekly data, last observation November 15, 2015.

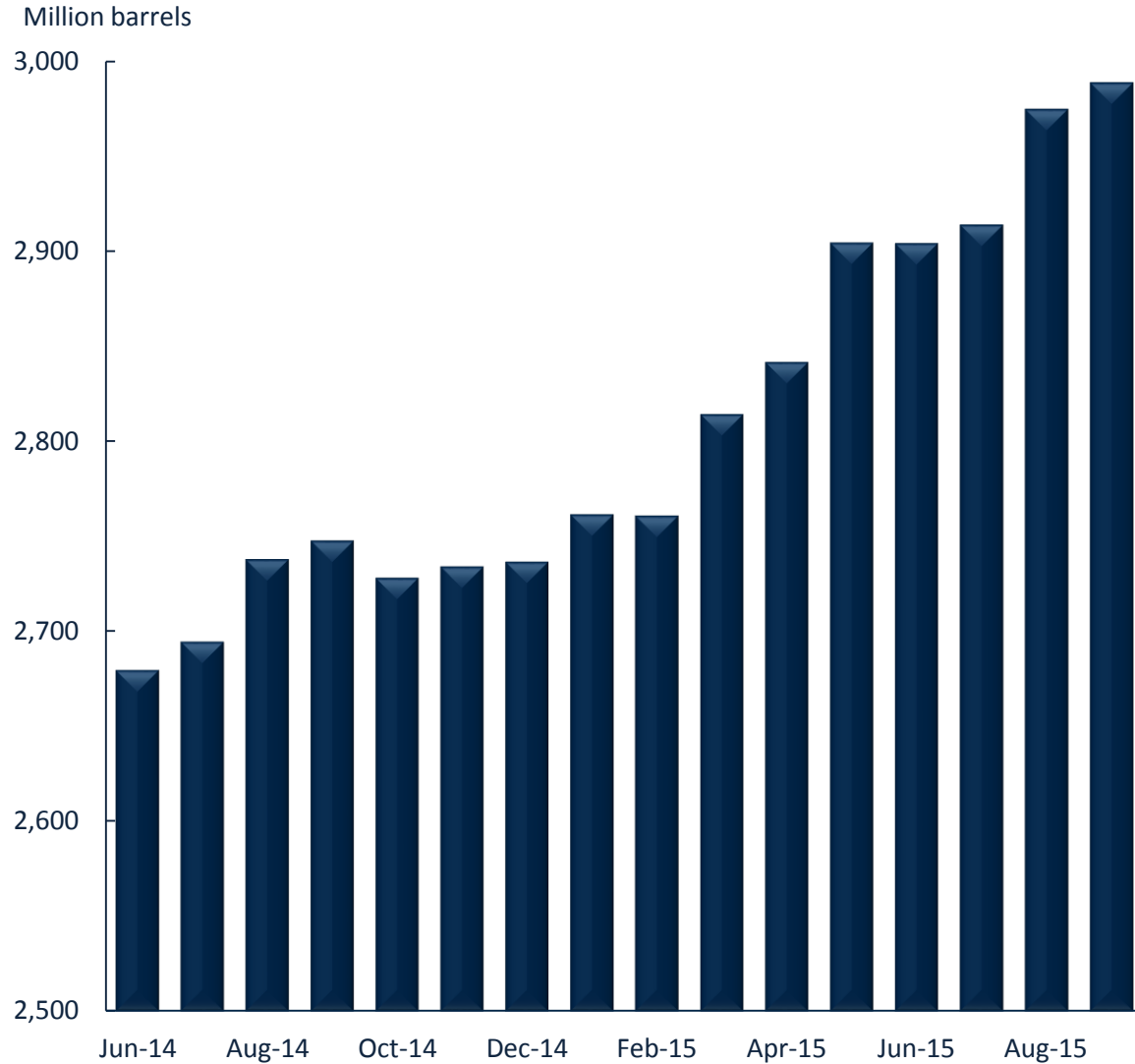
Not only low oil prices are reflected in elevated OECD stocks ...

OECD stocks

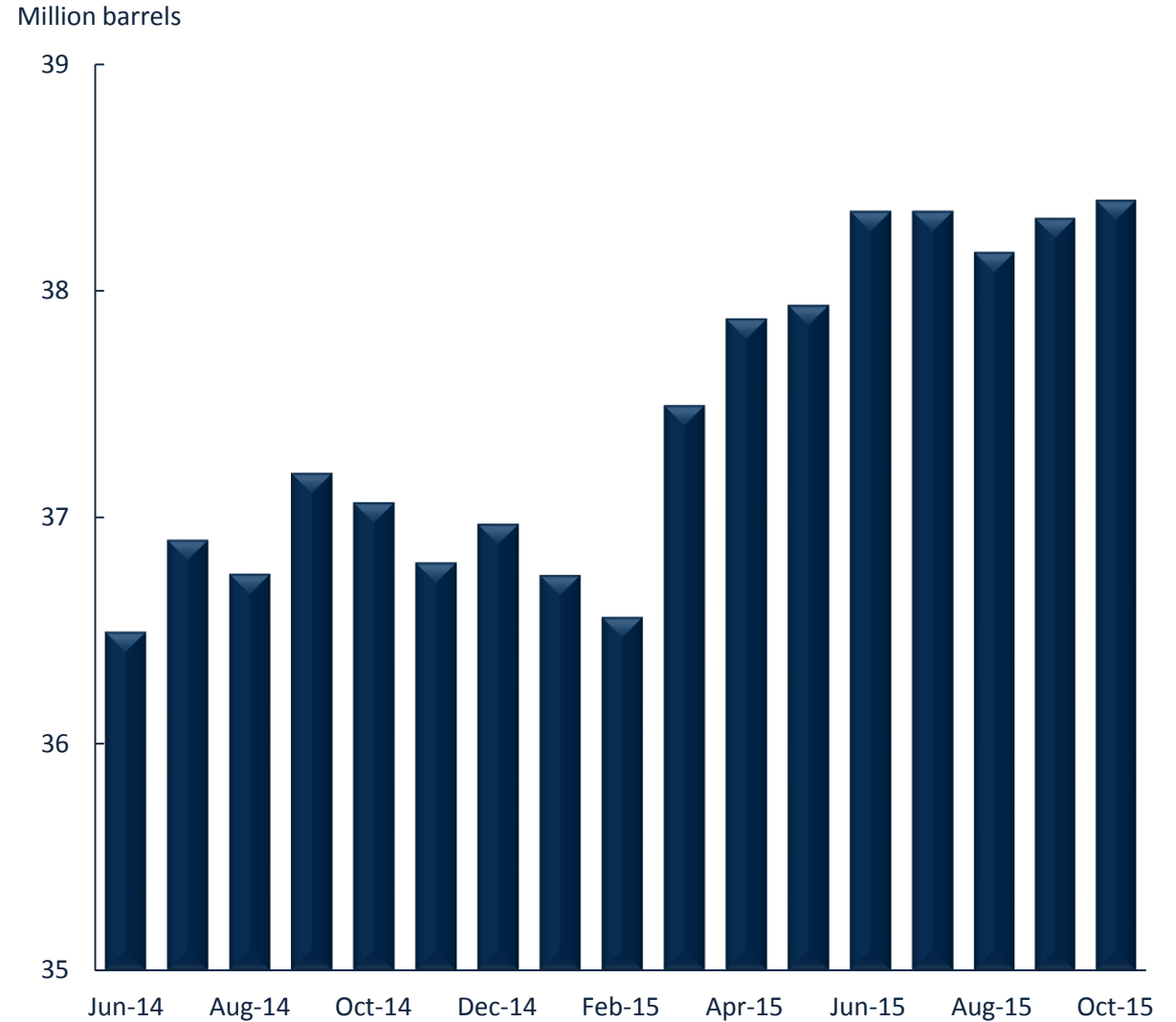


... and OPEC's higher oil production ...

OECD stocks



OPEC production

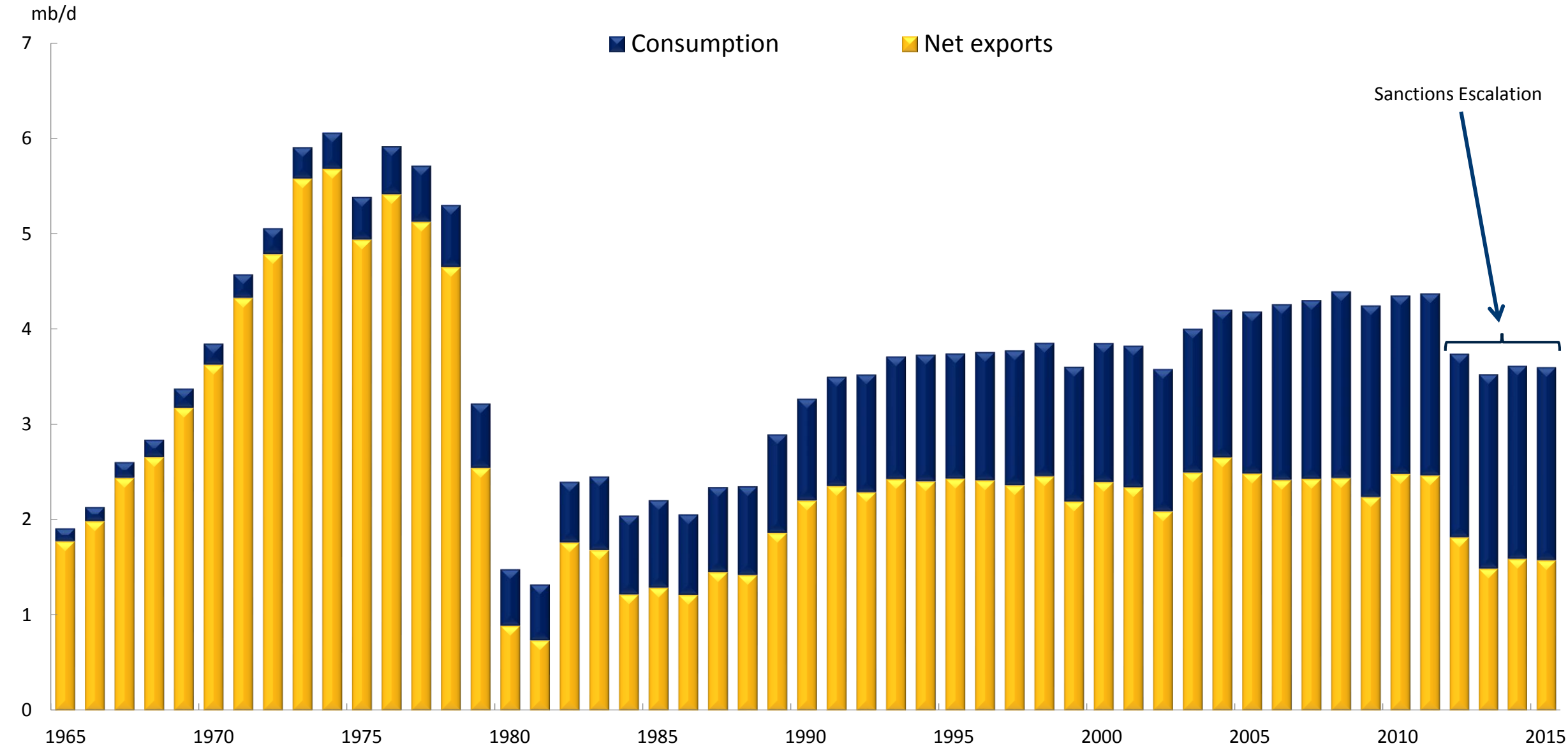


... but Iran could put further pressure on oil prices ...

An international agreement on Iran's nuclear program was reached in July 2015 and is expected to be implemented in the first half of 2016. Sanctions will be suspended at that time and terminated in 2023.

- **When sanctions are lifted:** First, Iran could immediately start exporting from its 40 million barrels of floating storage of oil, of which more than half is condensate. And, within a few months of sanctions being lifted, Iran could increase crude oil production by 0.5-0.7 mb/d, potentially reaching a 2011 pre-sanctions level of 3.6 mb/d.
- **In the long term:** Iran could reach pre-revolution and Iran-Iraq war level of oil production (about 6 mb/d) if it attracts foreign investment and technical assistance. Iran has the world's fourth largest proved oil reserves (9.3% of world total) and the largest proved natural gas reserves (18.2% of world total). Thus, Iran could become a key player in global energy markets, if it attracts foreign investment and know-how.

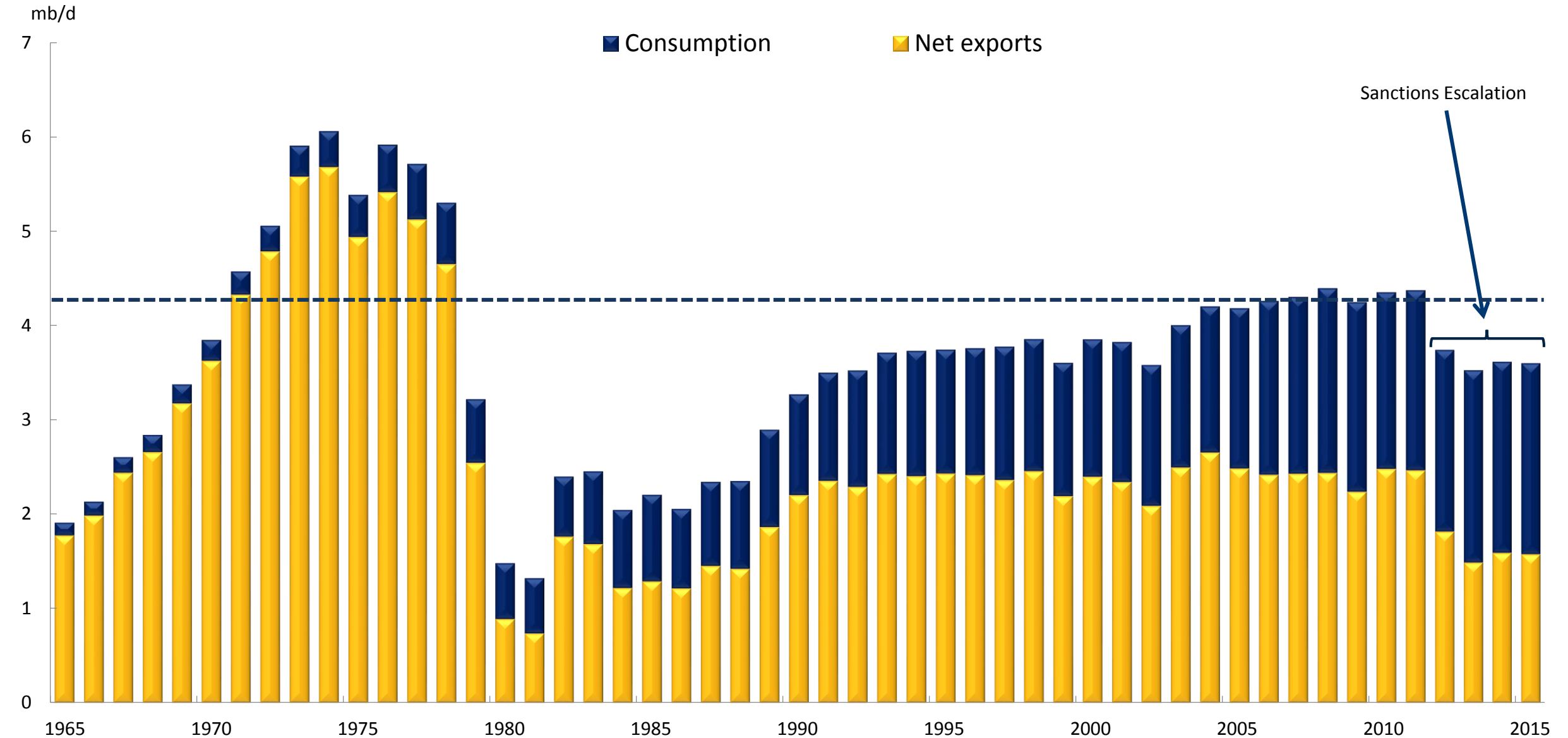
... with potential to ...



Source: BP Statistical Review.

Note: Iranian production includes crude oil and liquids.

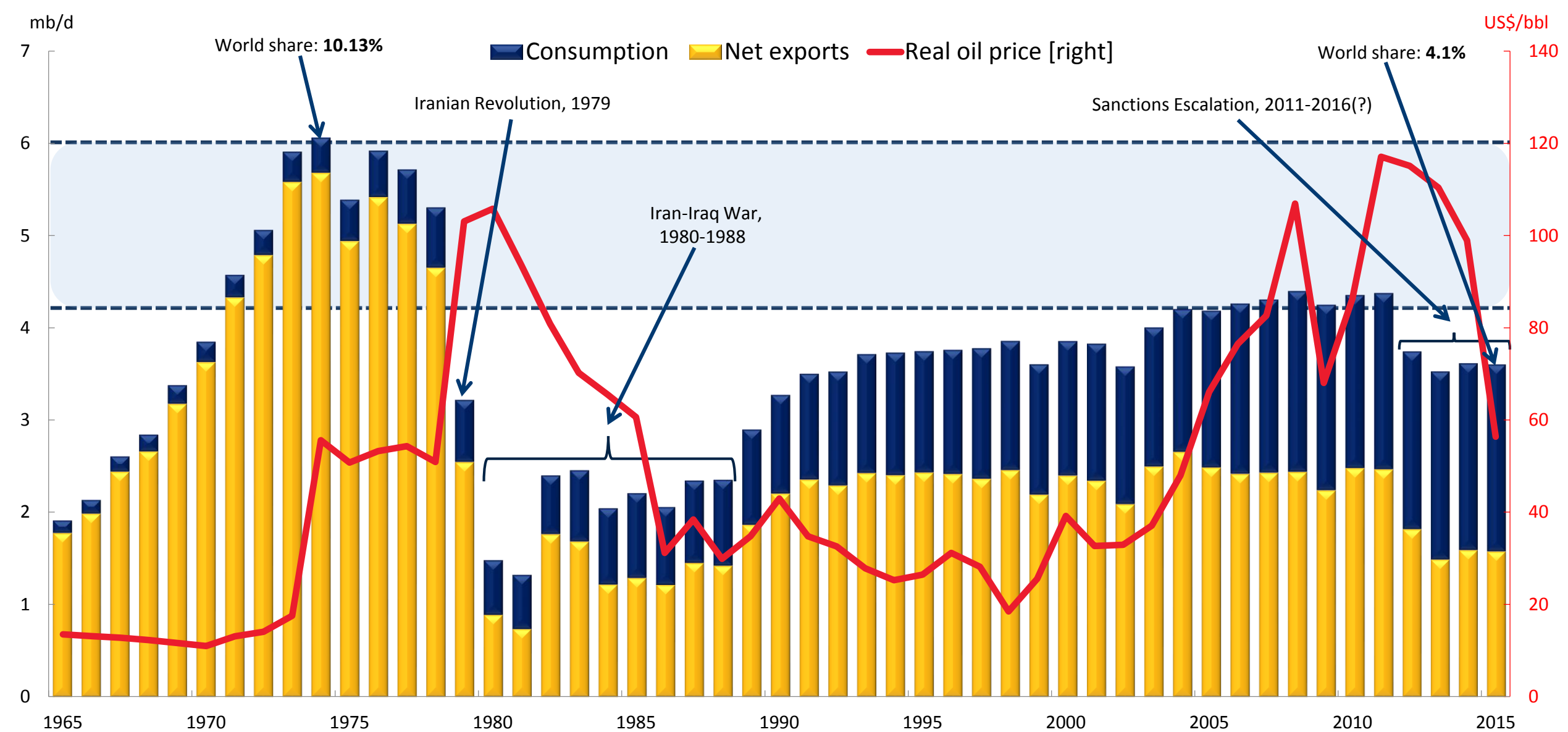
... (a) return to pre-sanctions level within 2016 ...



Source: BP Statistical Review.

Note: Iranian production includes crude oil and liquids.

... and (b) produce even more crude if financing is provided ...

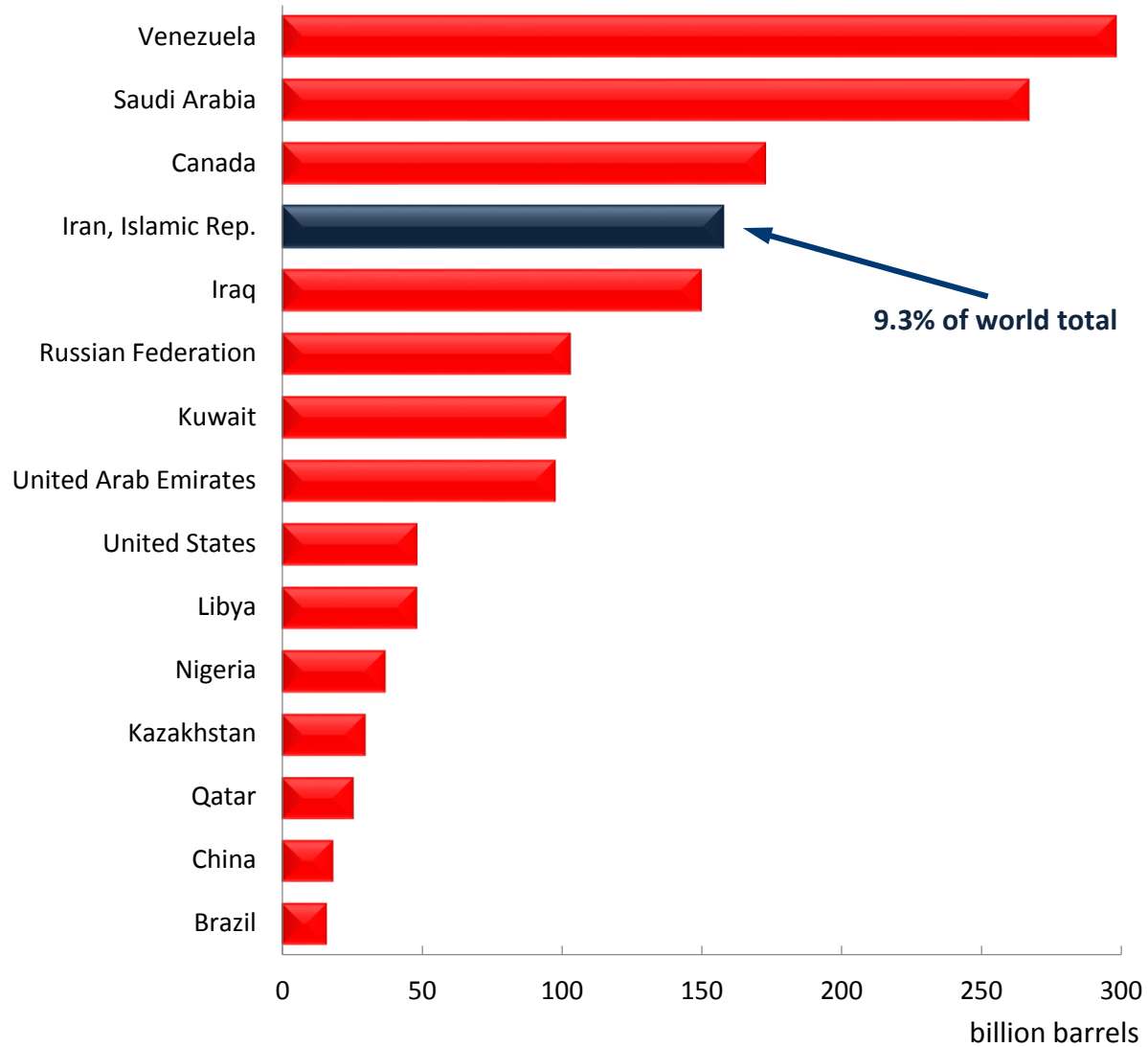


Source: BP Statistical Review.

Note: Iranian production includes crude oil and liquids.

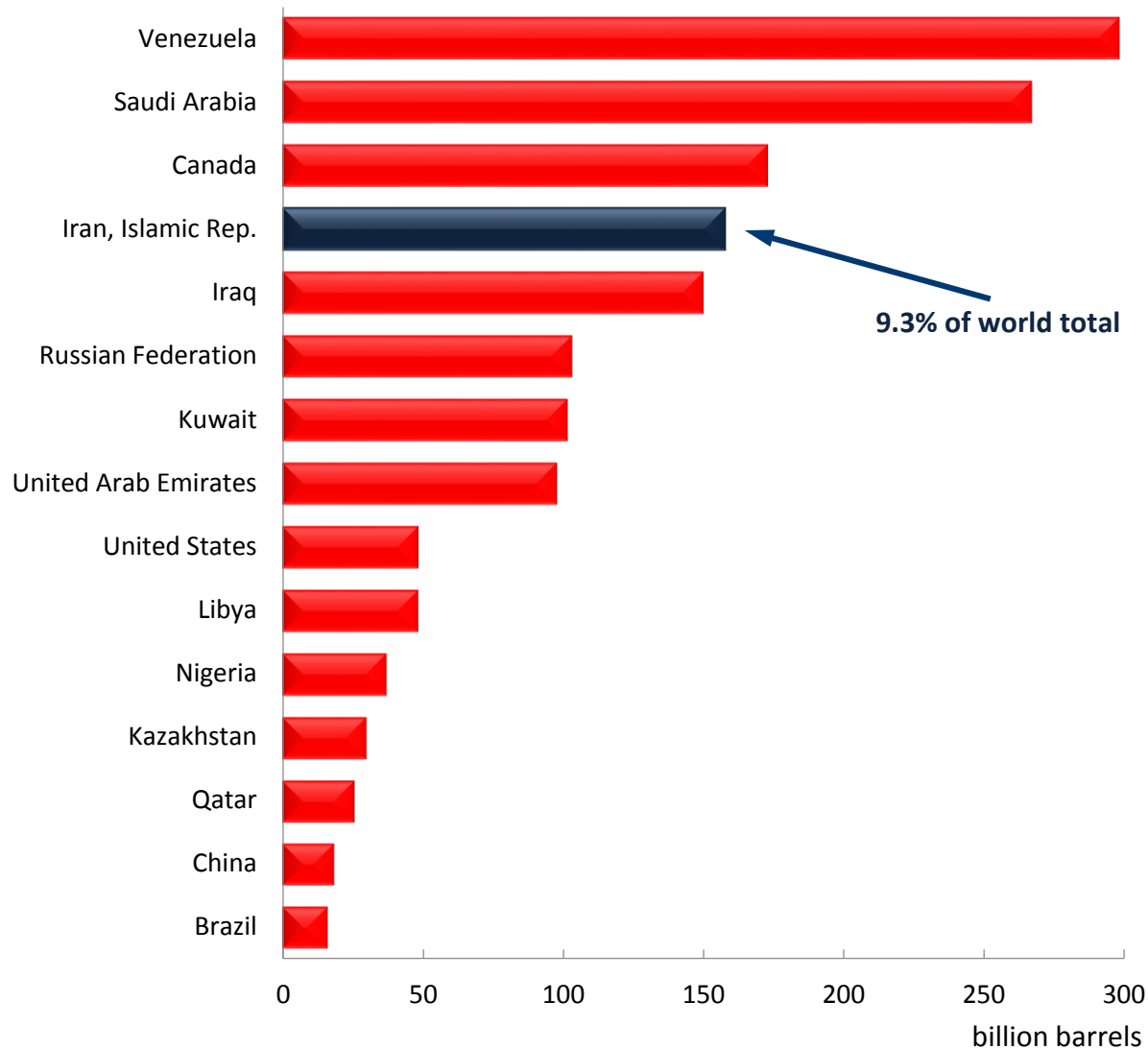
... given its large oil reserves ...

Proved oil reserves

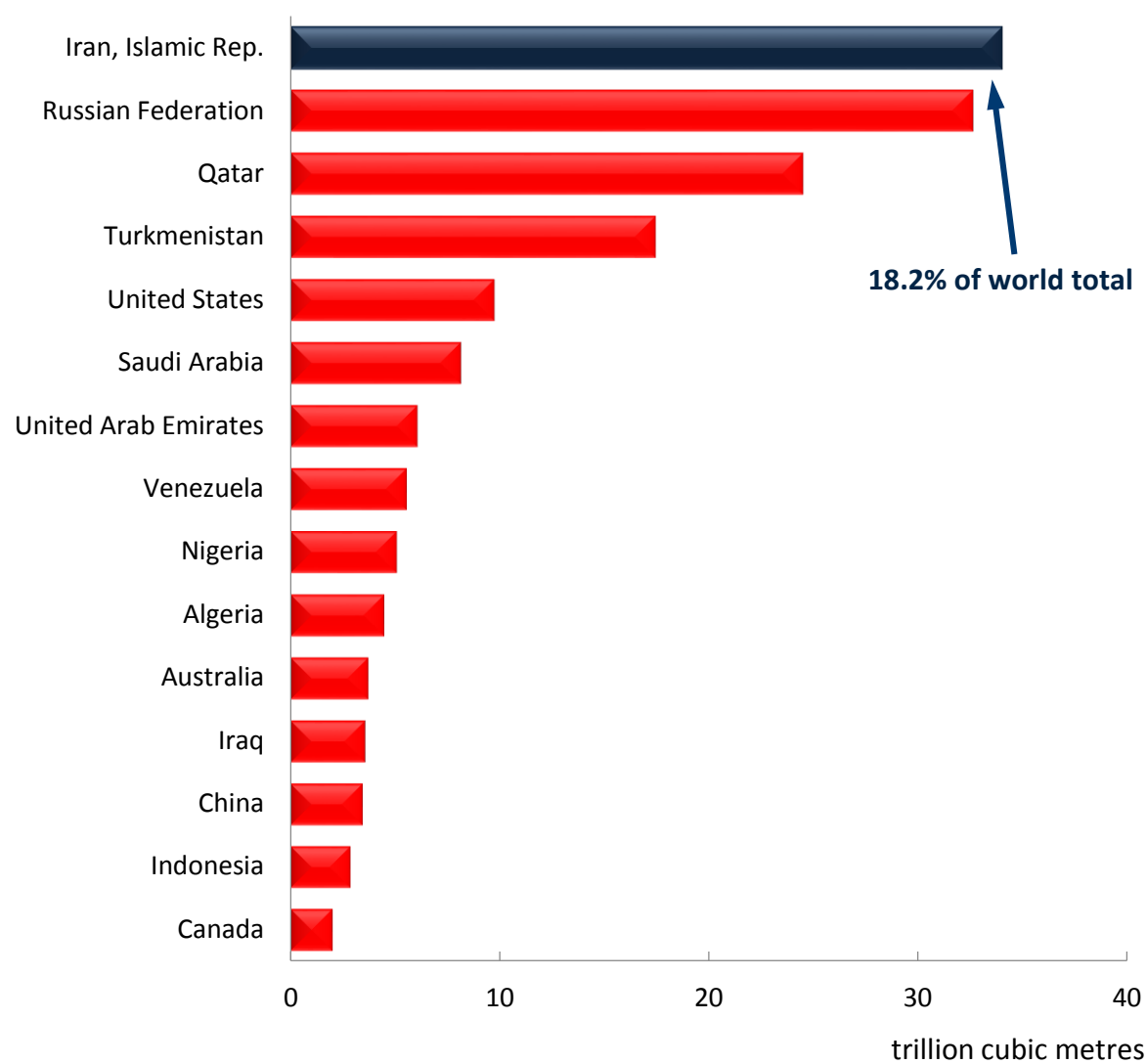


... and even larger natural gas reserves ...

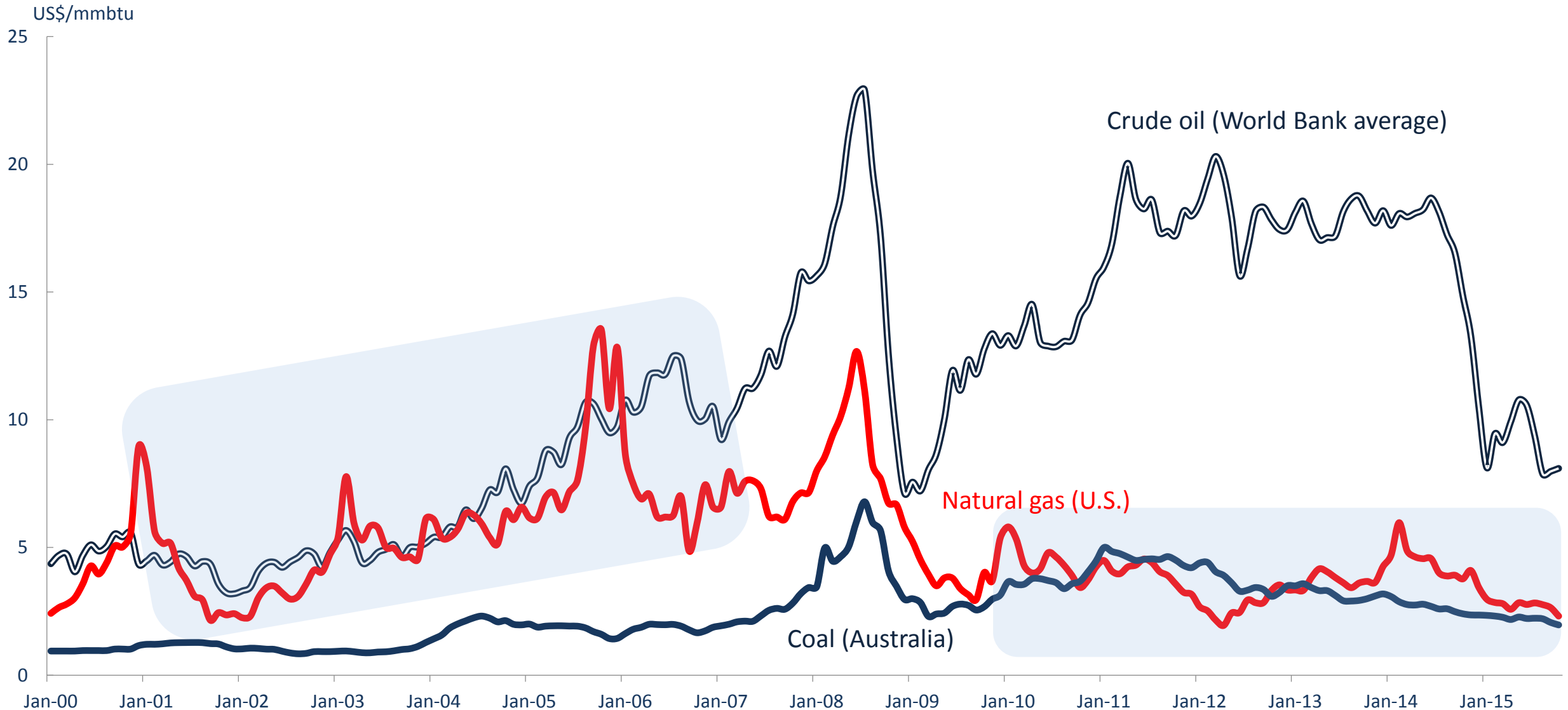
Proved oil reserves



Proved natural gas reserves



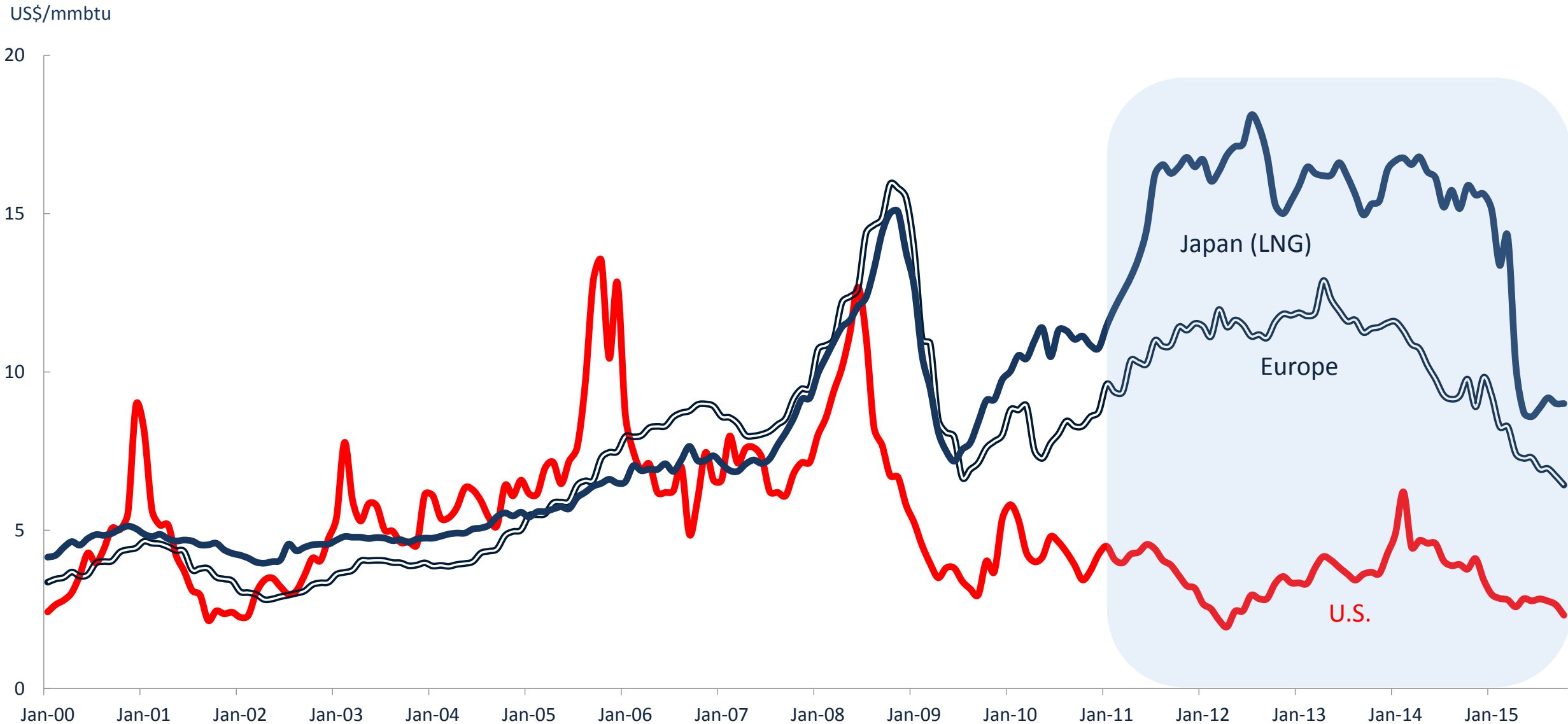
The oil price plunge brought energy prices closer together...



Source: World Bank

Note: Last observation is November 2015

... and natural gas prices as well

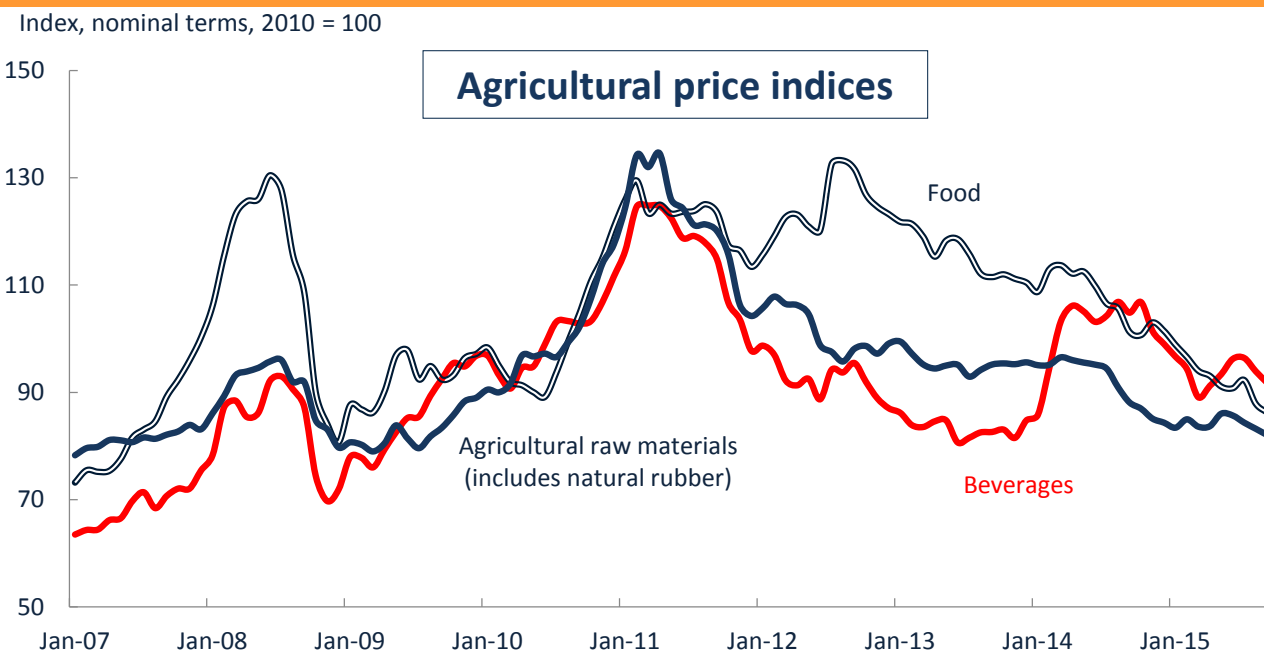


Source: World Bank

Note: Last observation is November 2015

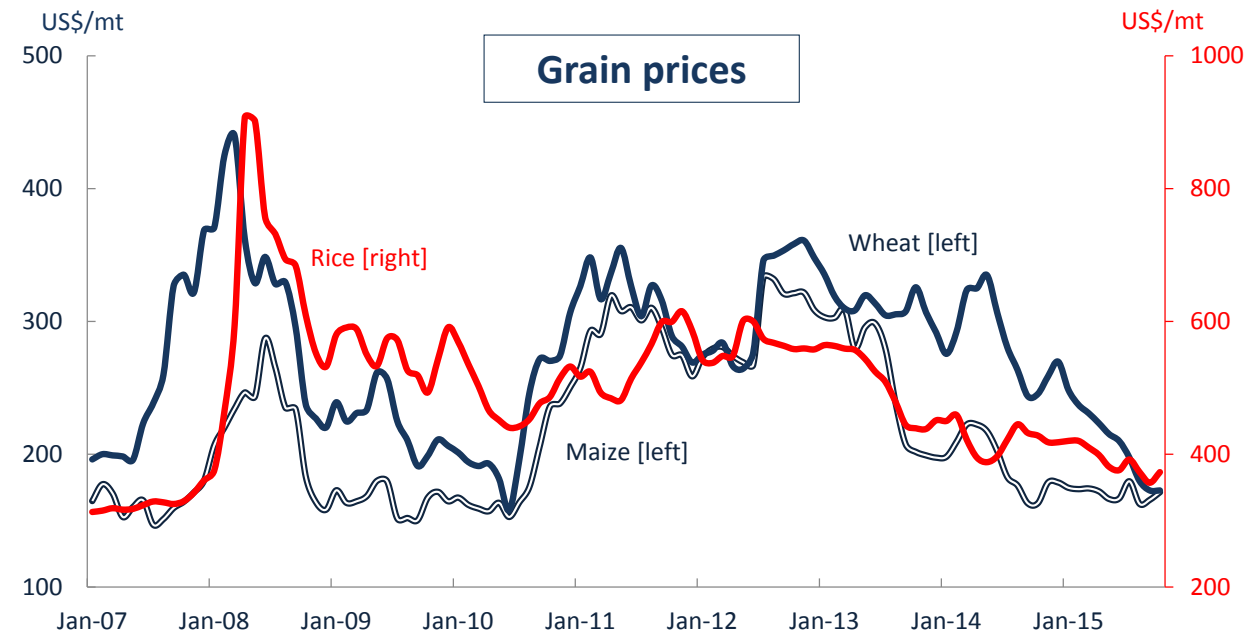
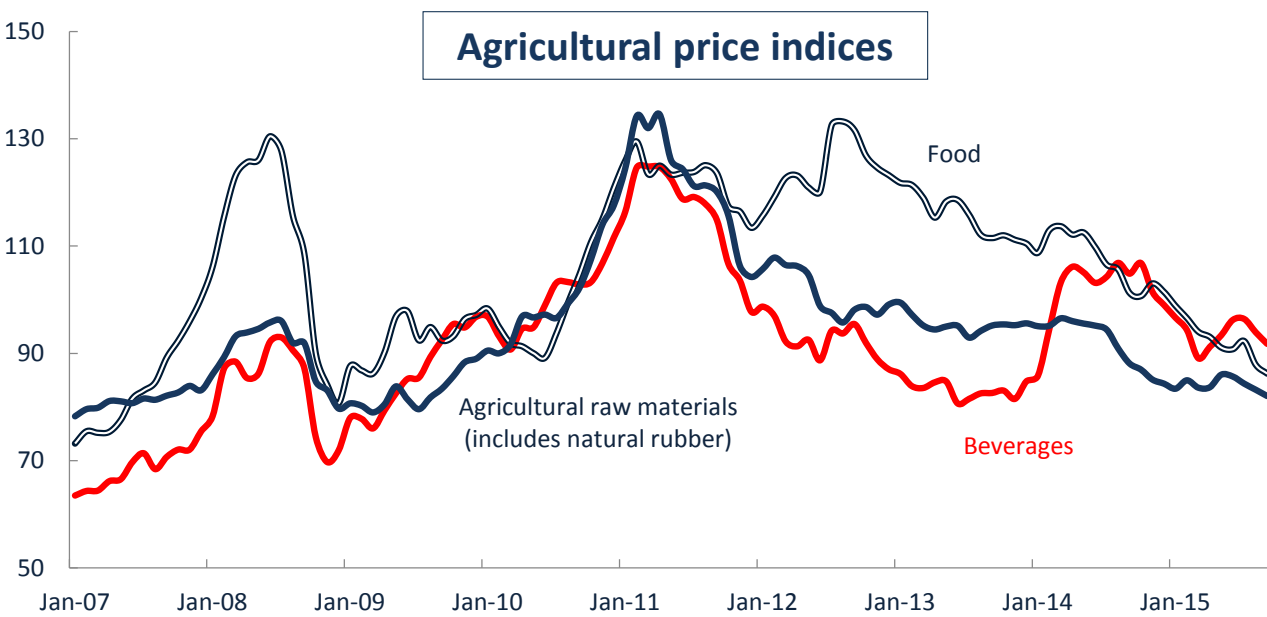
- *Recent developments & price forecasts*
- *Energy markets*
- ***Agricultural markets***
- *Metal markets*
- *Prospects of the global economy*
- *Where are commodity prices heading?*

Virtually all agricultural prices have declined as well ...



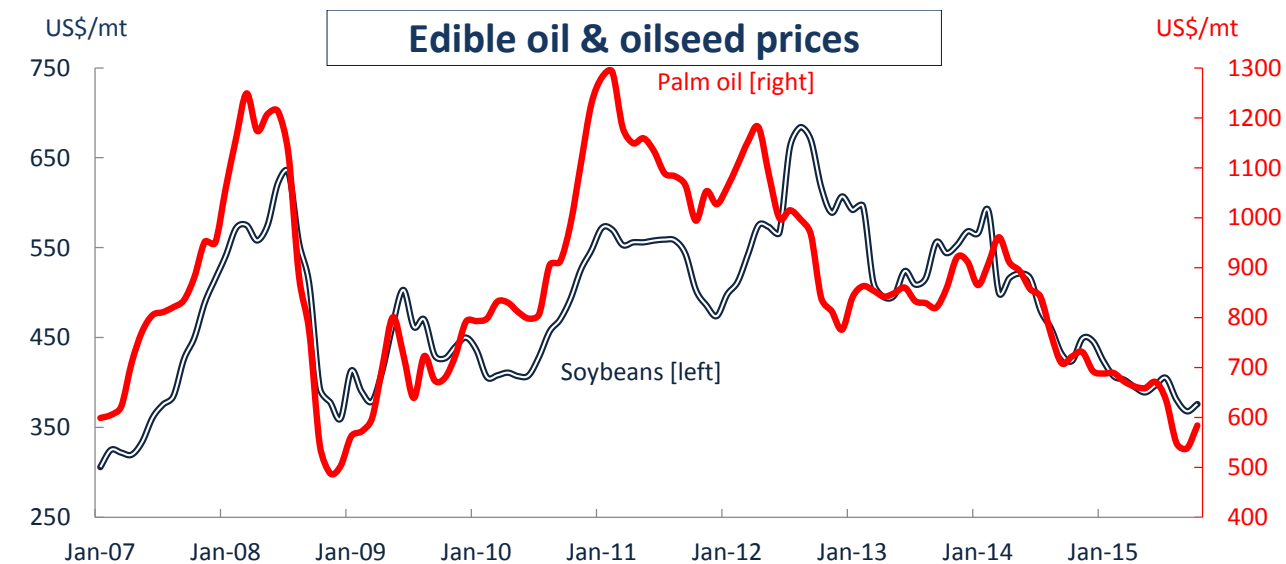
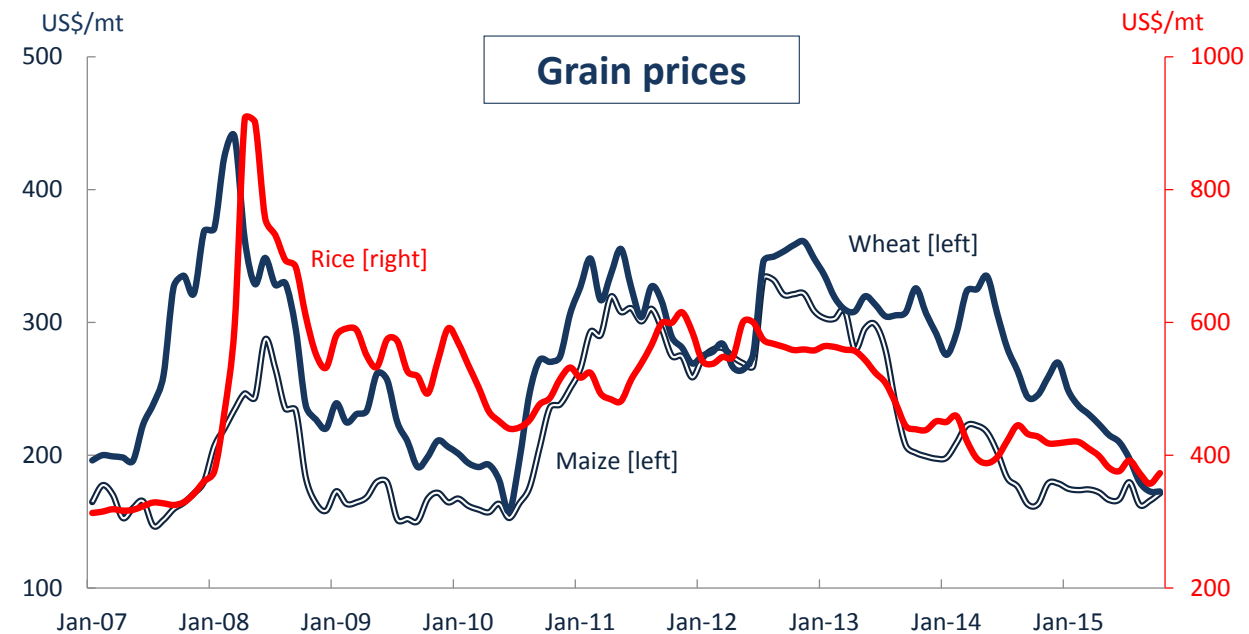
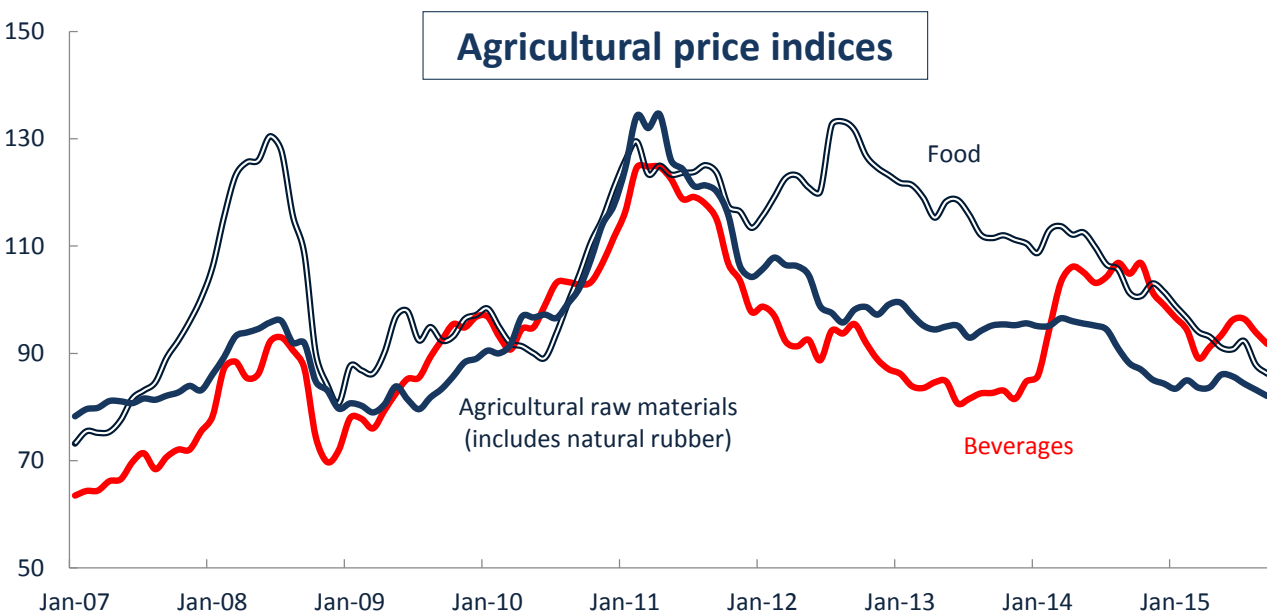
... including grains ...

Index, nominal terms, 2010 = 100



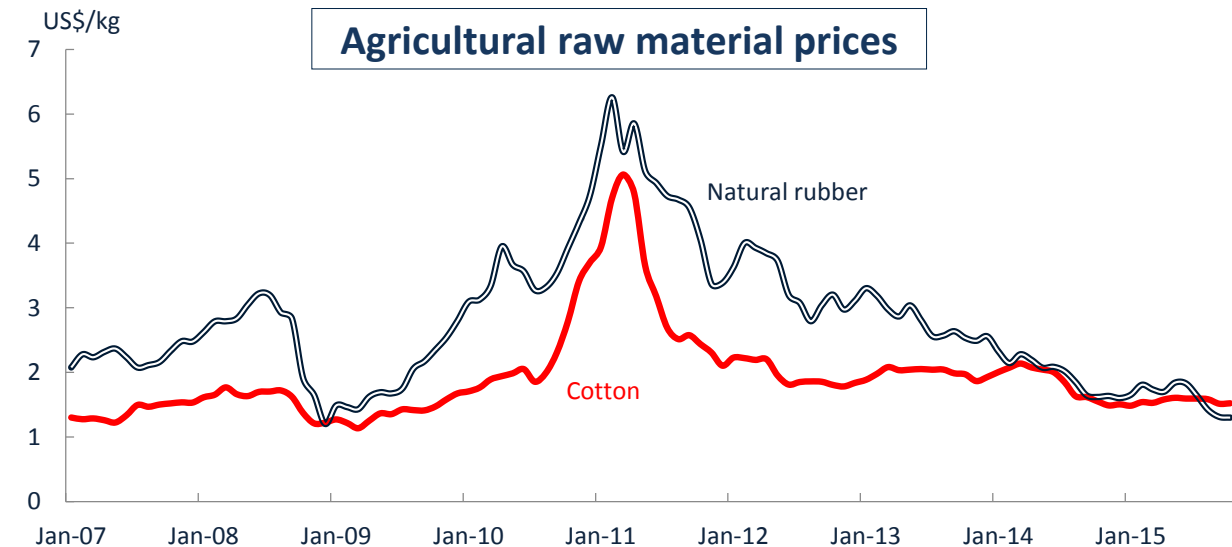
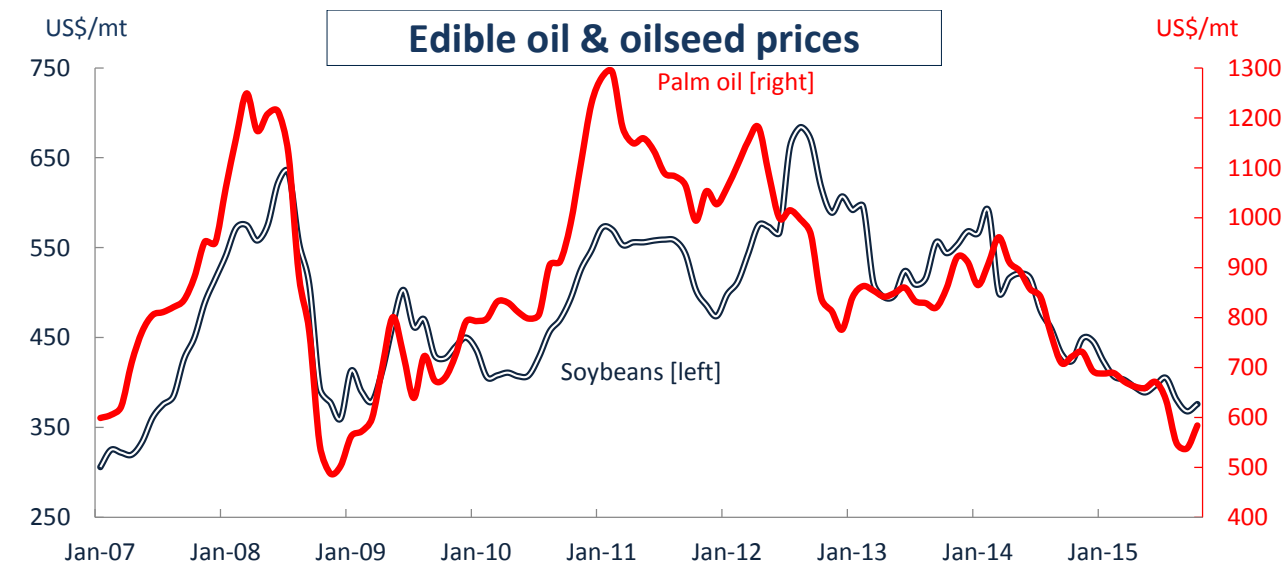
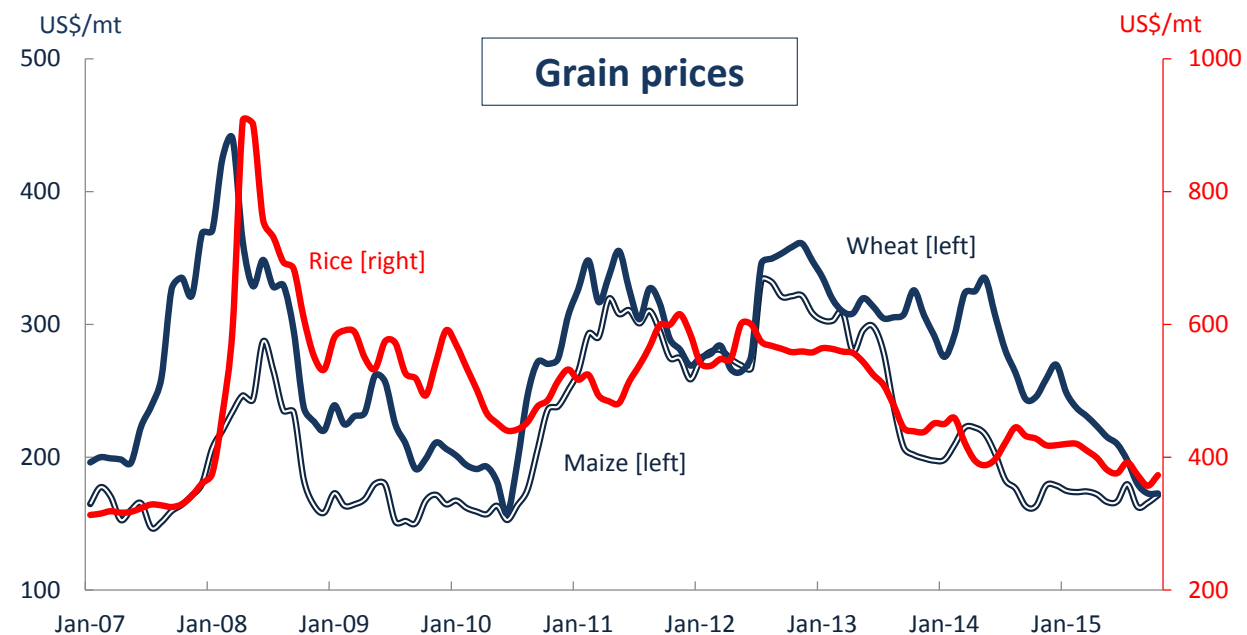
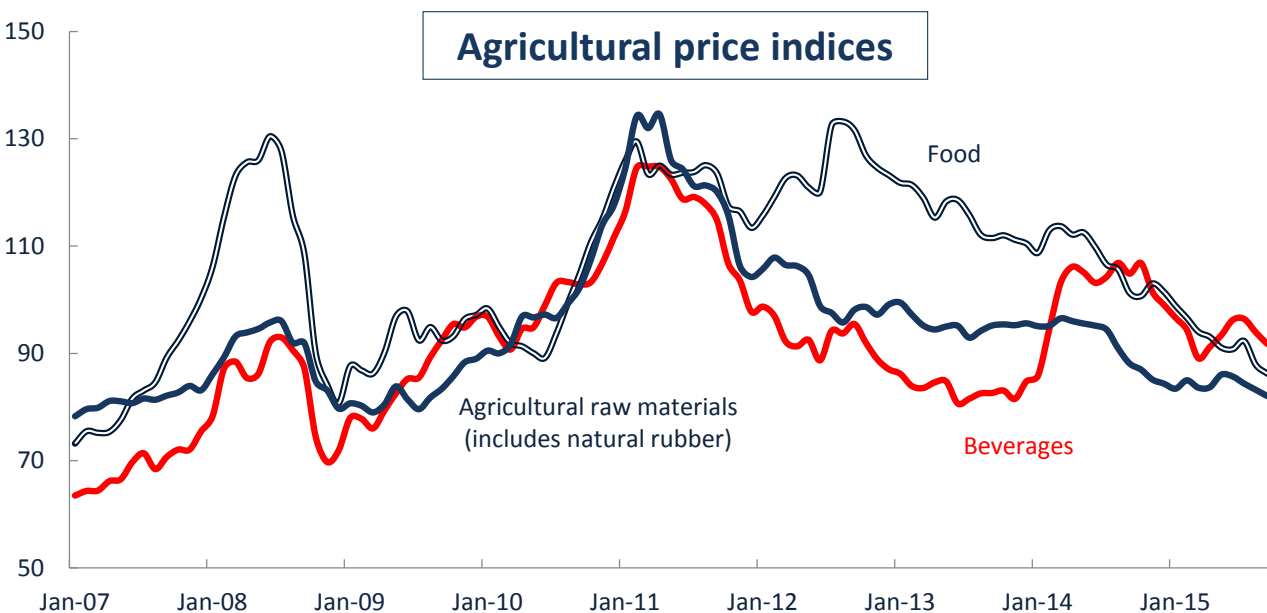
... edible oils and oil seeds...

Index, nominal terms, 2010 = 100

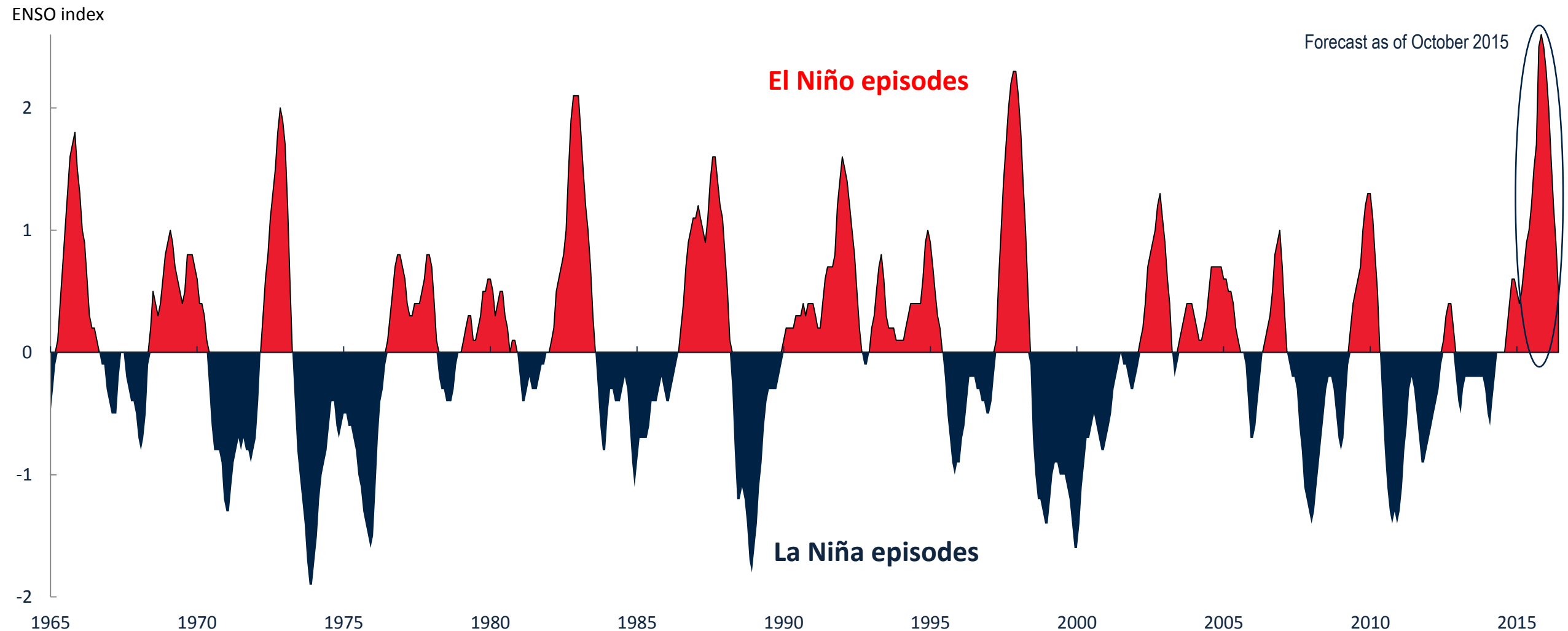


... and agricultural raw materials ...

Index, nominal terms, 2010 = 100



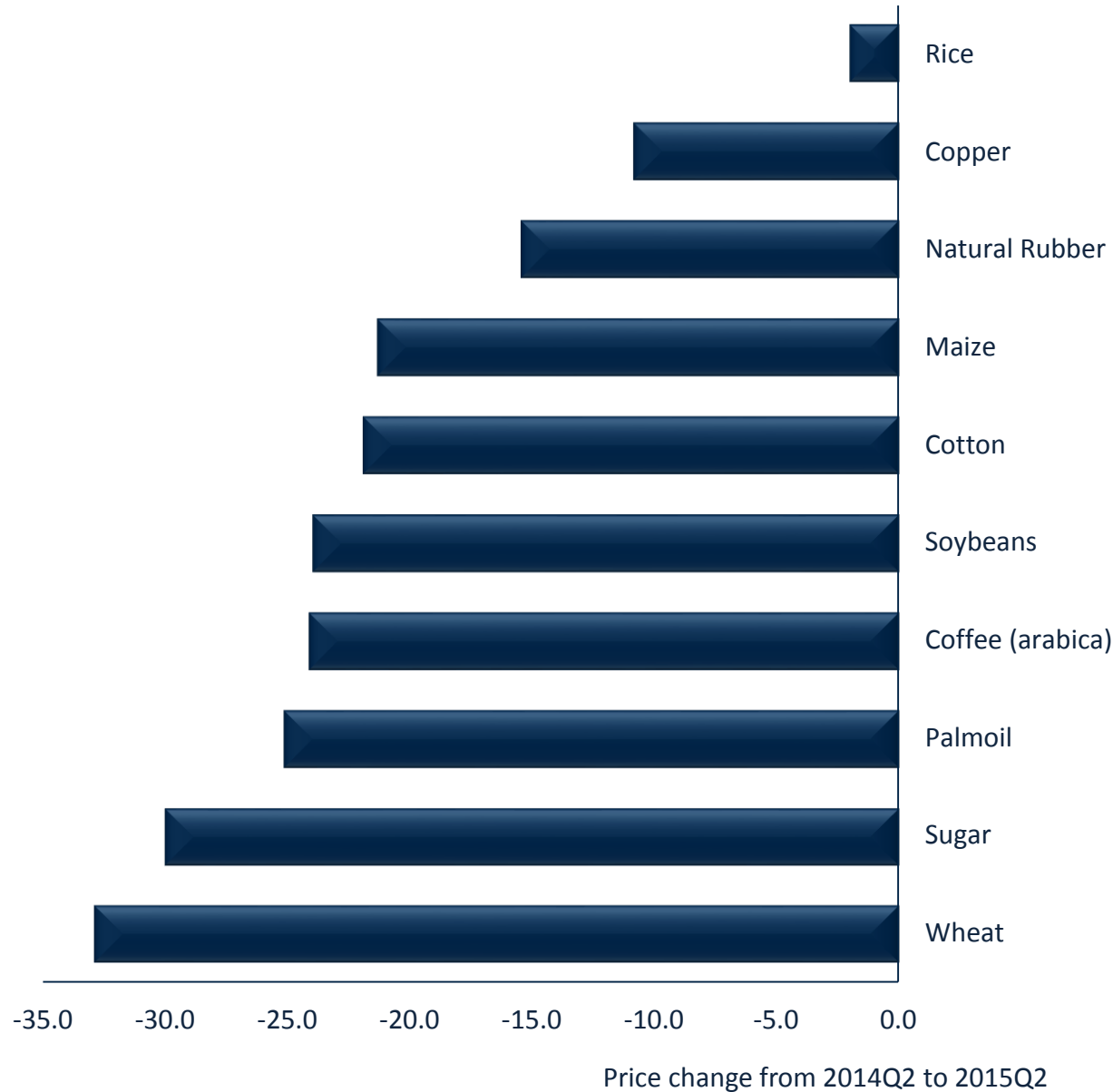
And, despite a strong El Niño episode under way ...



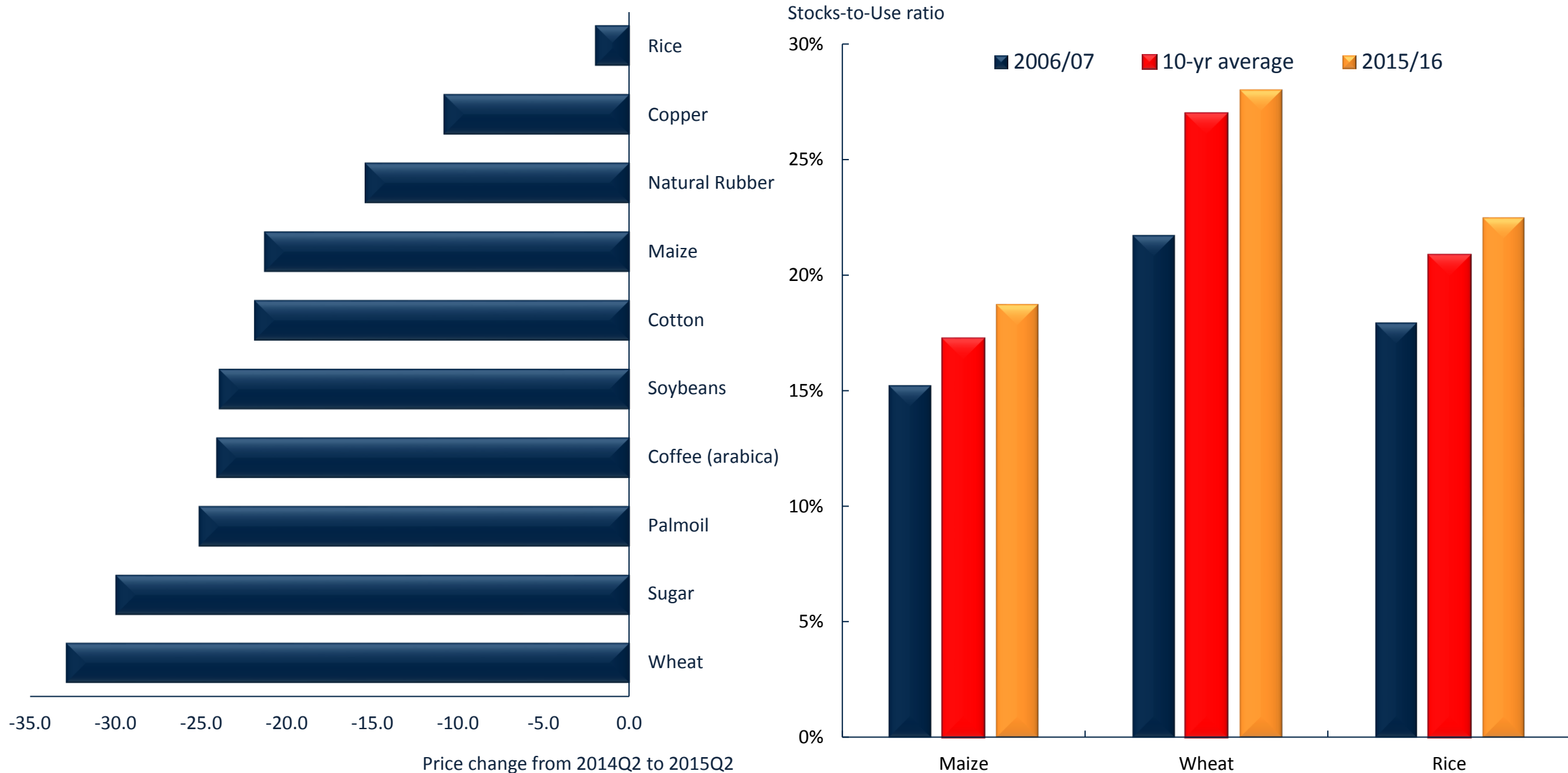
Source: National Oceanic Atmospheric Administration (NOAA; historical data through August 2015) and Earth Institute (forecasts from September 2015 to June 2016, as of September 17, 2015).

Notes: The ENSO (El Niño Southern Oscillation) Index represents a centered three-month mean SST (Sea Surface Temperature) anomaly for the Niño 3.4 region (i.e., 5°N-5°S, 120°E-170°W). According to the NOAA, events are defined as five consecutive overlapping three-month periods at or above the +0.5° anomaly for El Niño events and at or below the -0.5° anomaly for La Niña events. The threshold is further broken down into **Weak** (with a 0.5 to 0.9 SST anomaly), **Moderate** (1.0 to 1.4), **Strong** (1.5 to 1.9) and **Very Strong** (≥ 2.0) events. An event to be categorized in any of the above categories it must have equaled or exceeded the threshold for at least three consecutive 3-month periods. Note that the value of the index can change up two months after the “real” time data become available because of a filtering process applied to the data.

... prices declined significantly ...

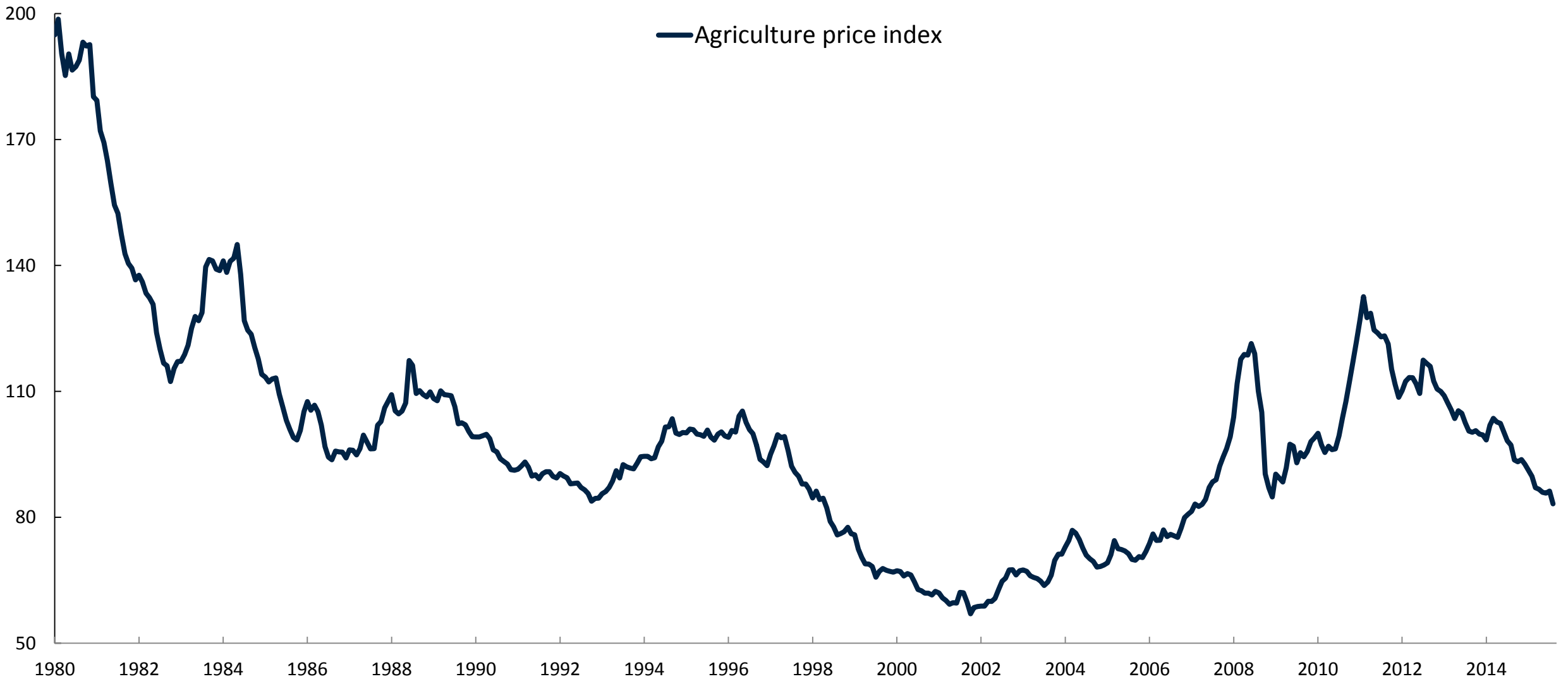


... not surprisingly given how well-supplied markets are ...



... and also based on the history of agricultural prices ...

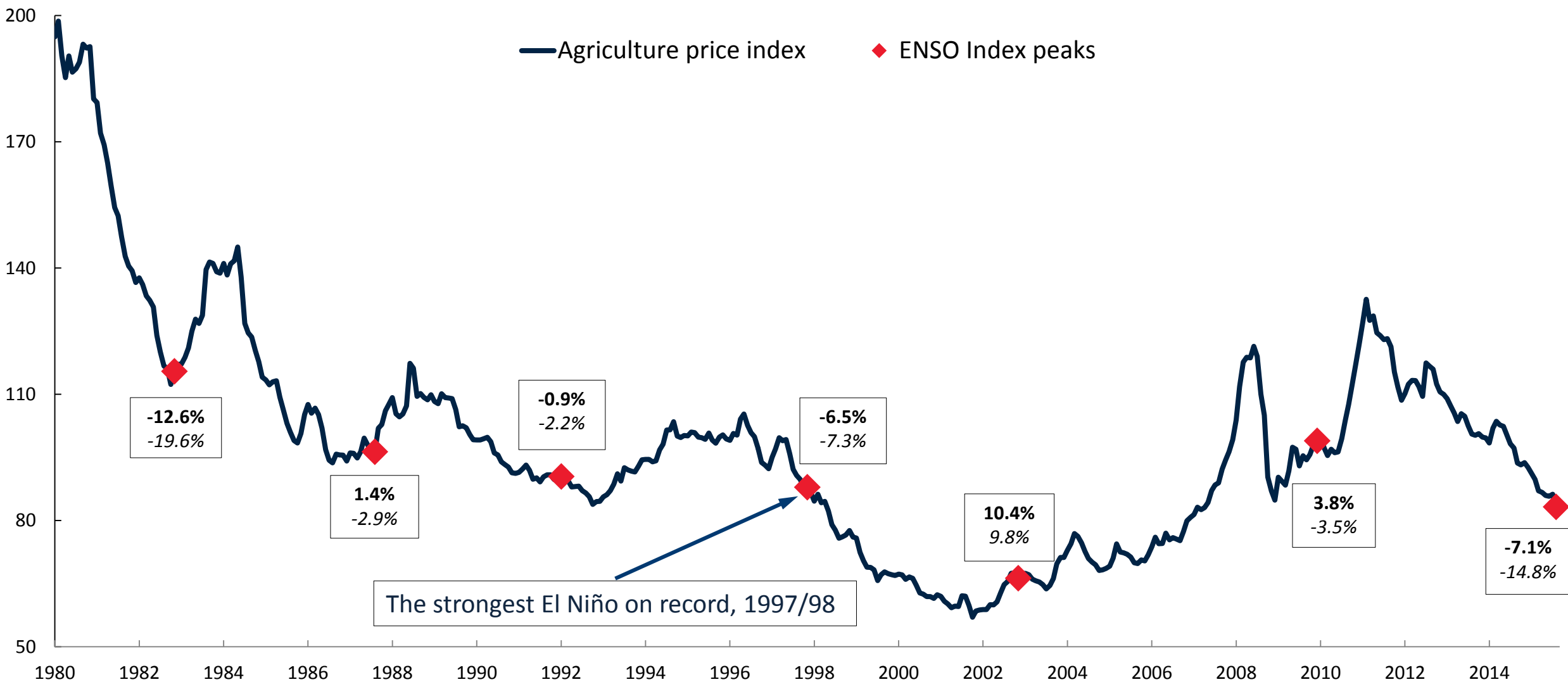
Index, deflated by U.S. CPI, Jan. 2010=100



Source: World Bank

... and El Niño's muted impact

Index, deflated by U.S. CPI, Jan. 2010=100

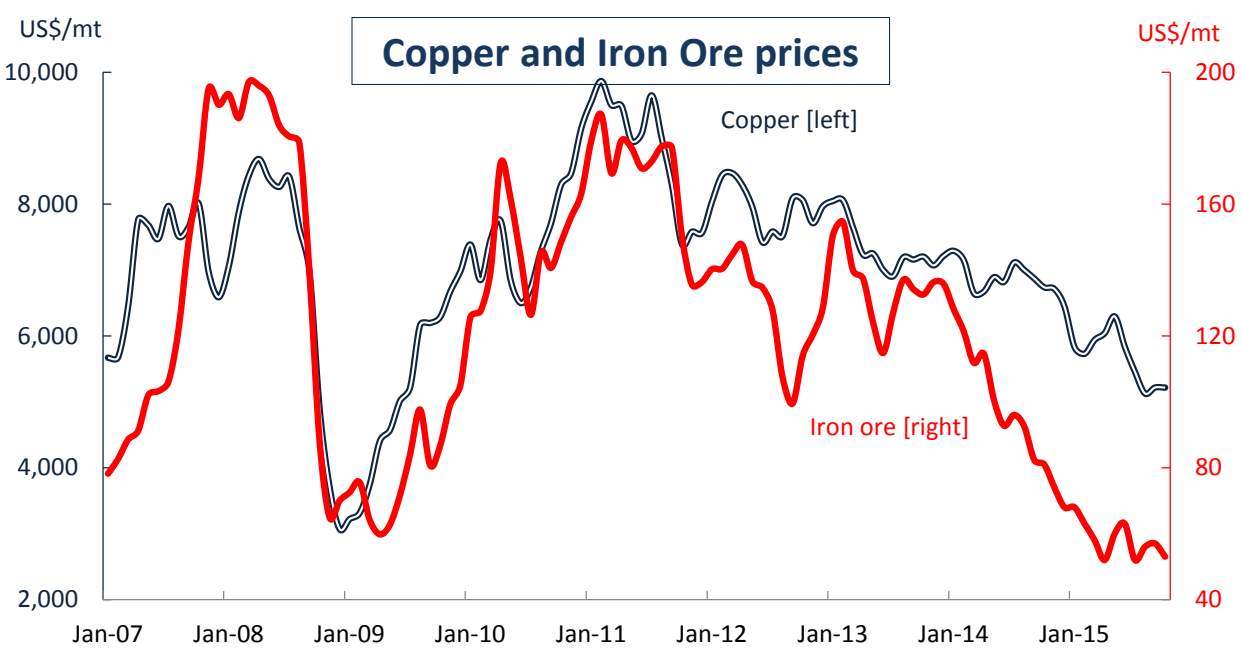


Source: World Bank and NOAA.

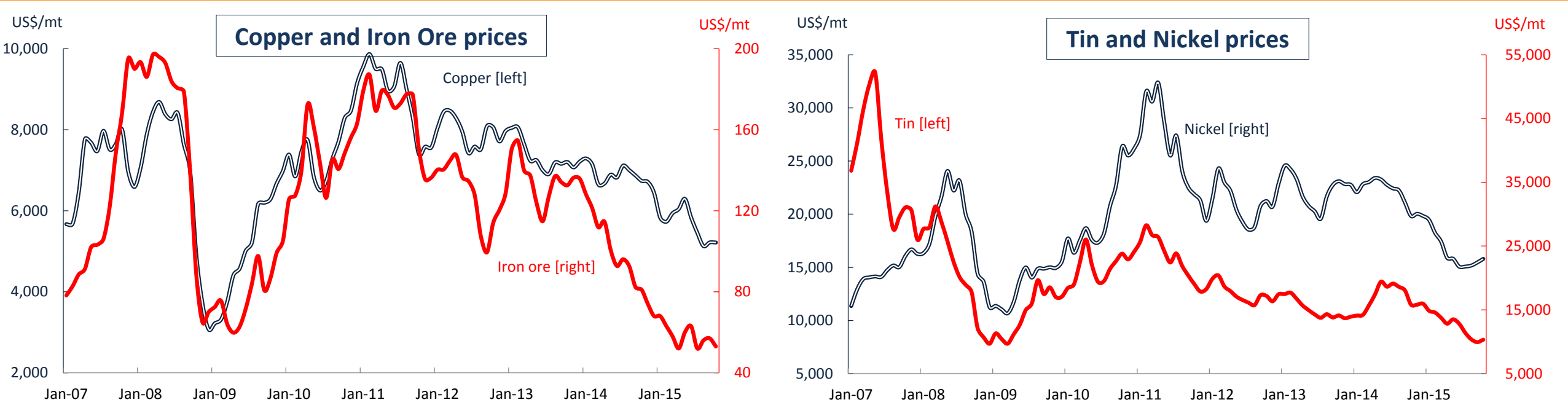
Note: The ENSO peaks reflect values greater than 1. The numbers denote percent changes of the six-month average price index leading to the episode compared to the previous six-month period (bold) and the corresponding six-month period of the previous year (italic). The last observation for both agricultural price index and El Niño is September 2015.

- *Recent developments & price forecasts*
- *Energy markets*
- *Agricultural markets*
- ***Metal markets***
- *Prospects of the global economy*
- *Where are commodity prices heading?*

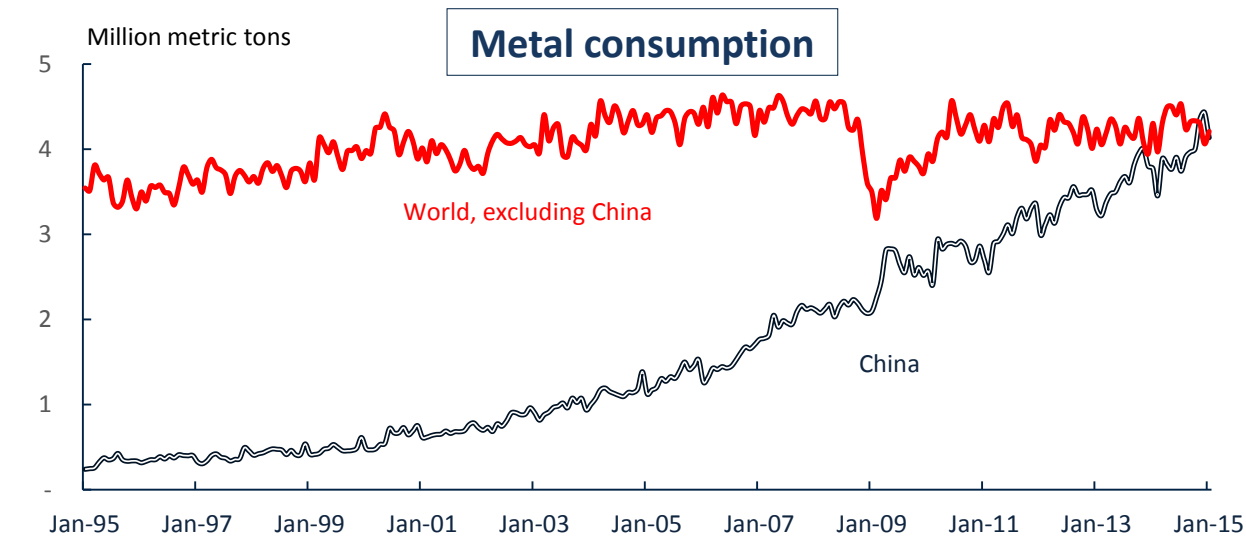
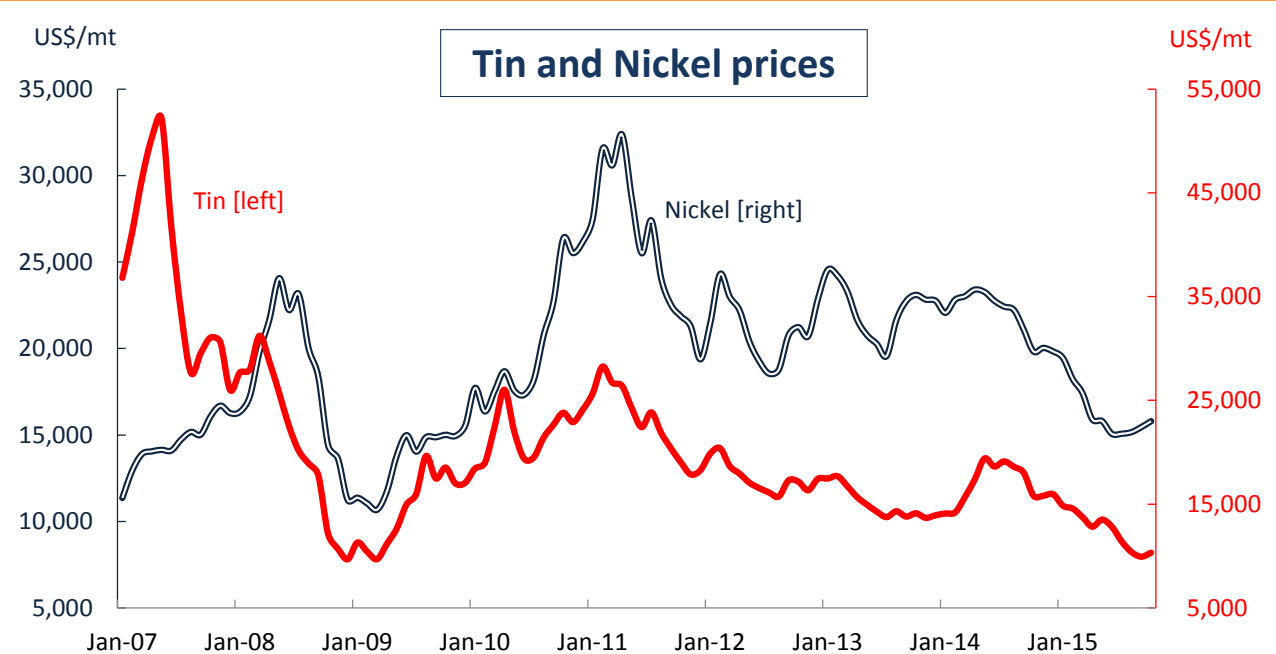
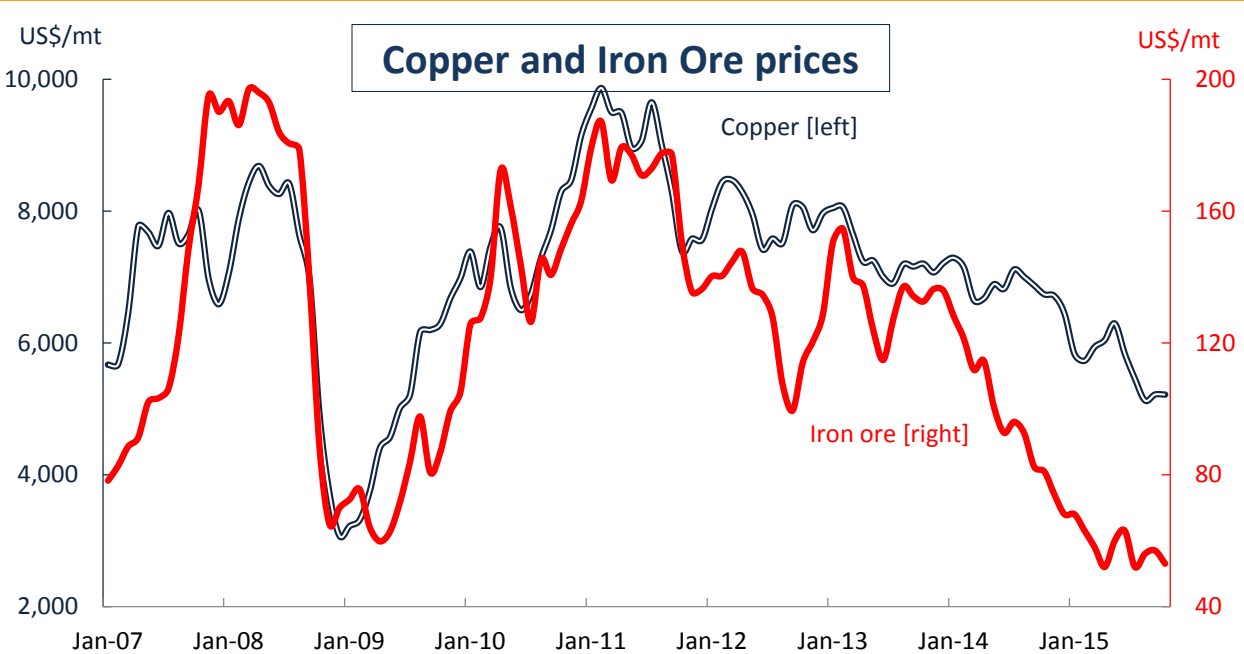
Metal prices declined as well, including copper and iron ore



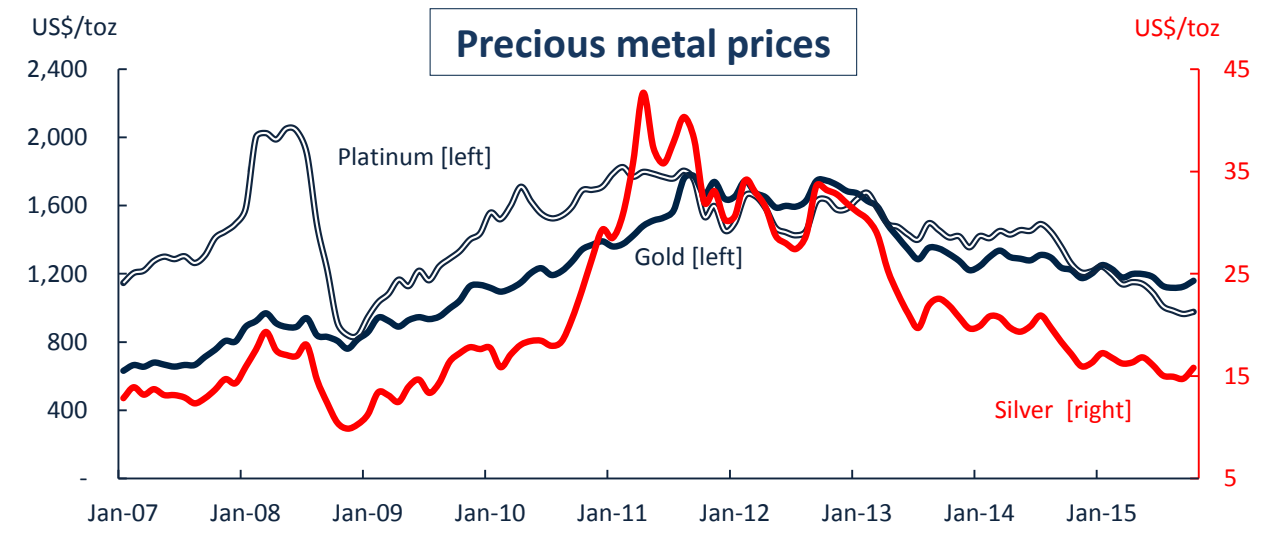
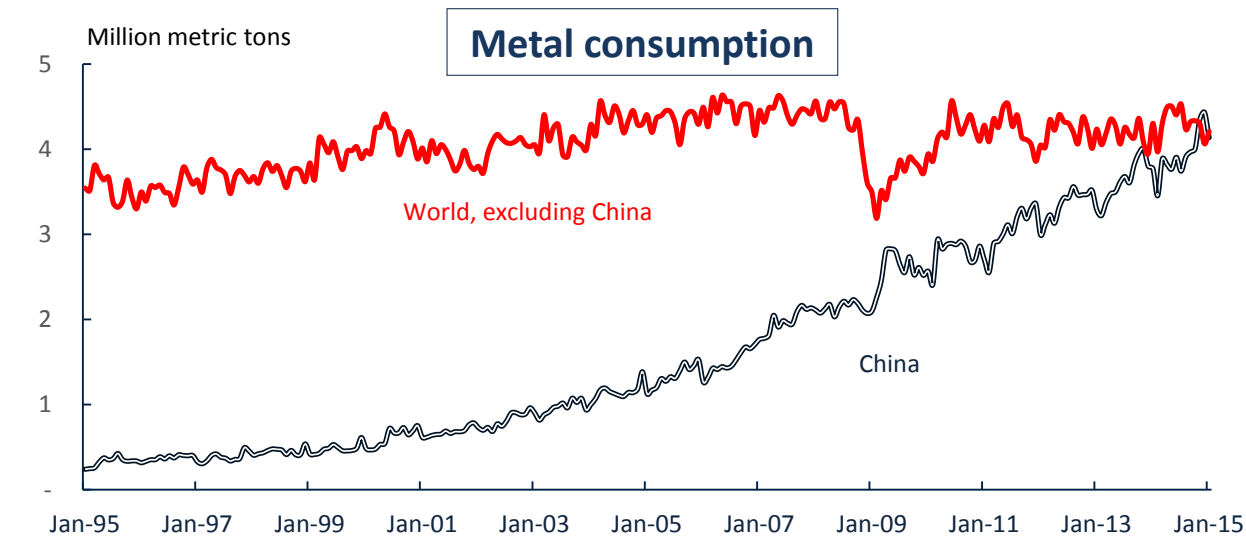
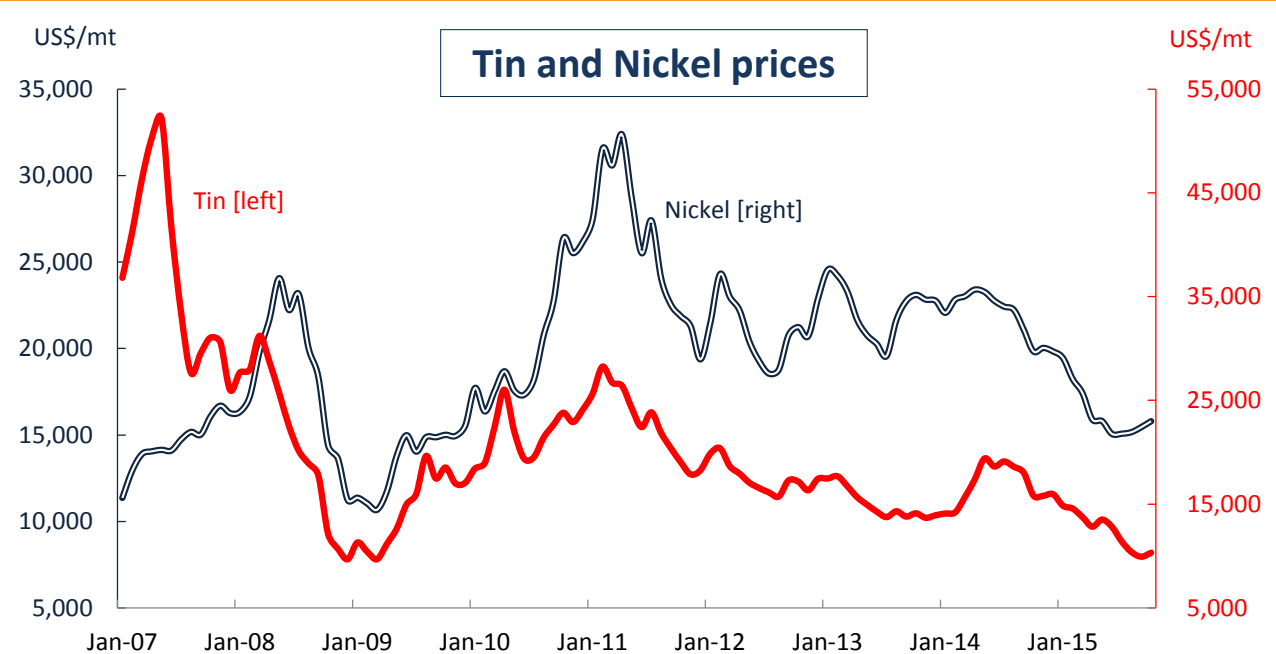
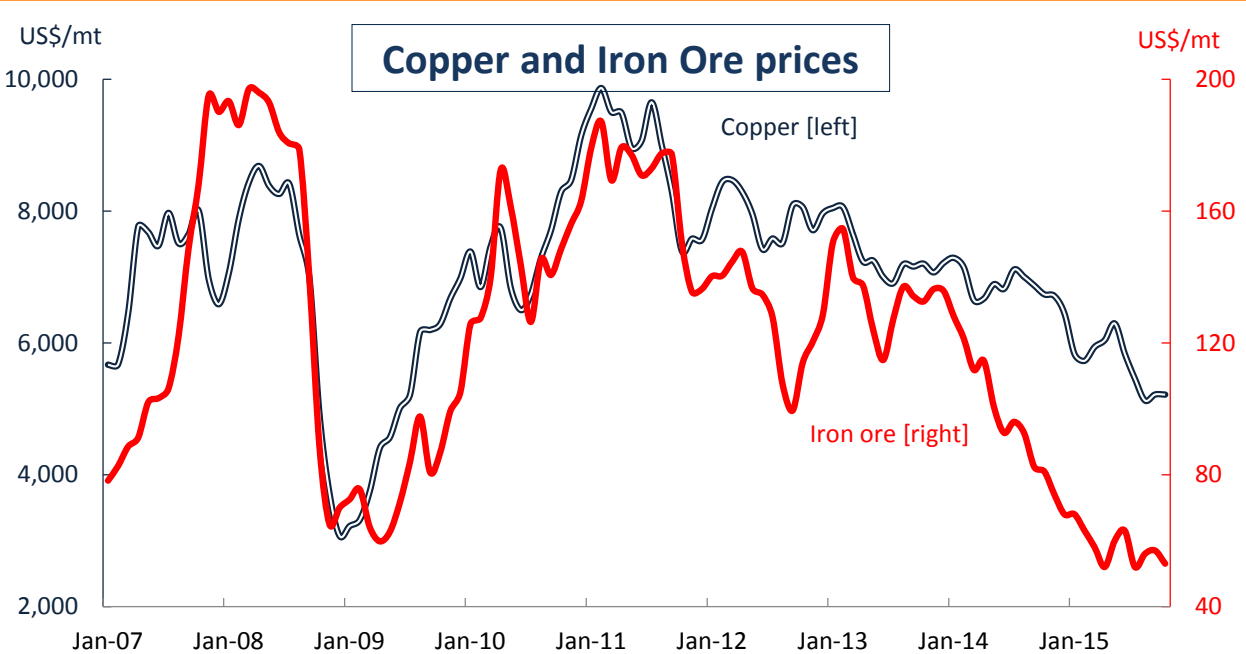
... tin and nickel ...



... on fears of slowing Chinese demand ...

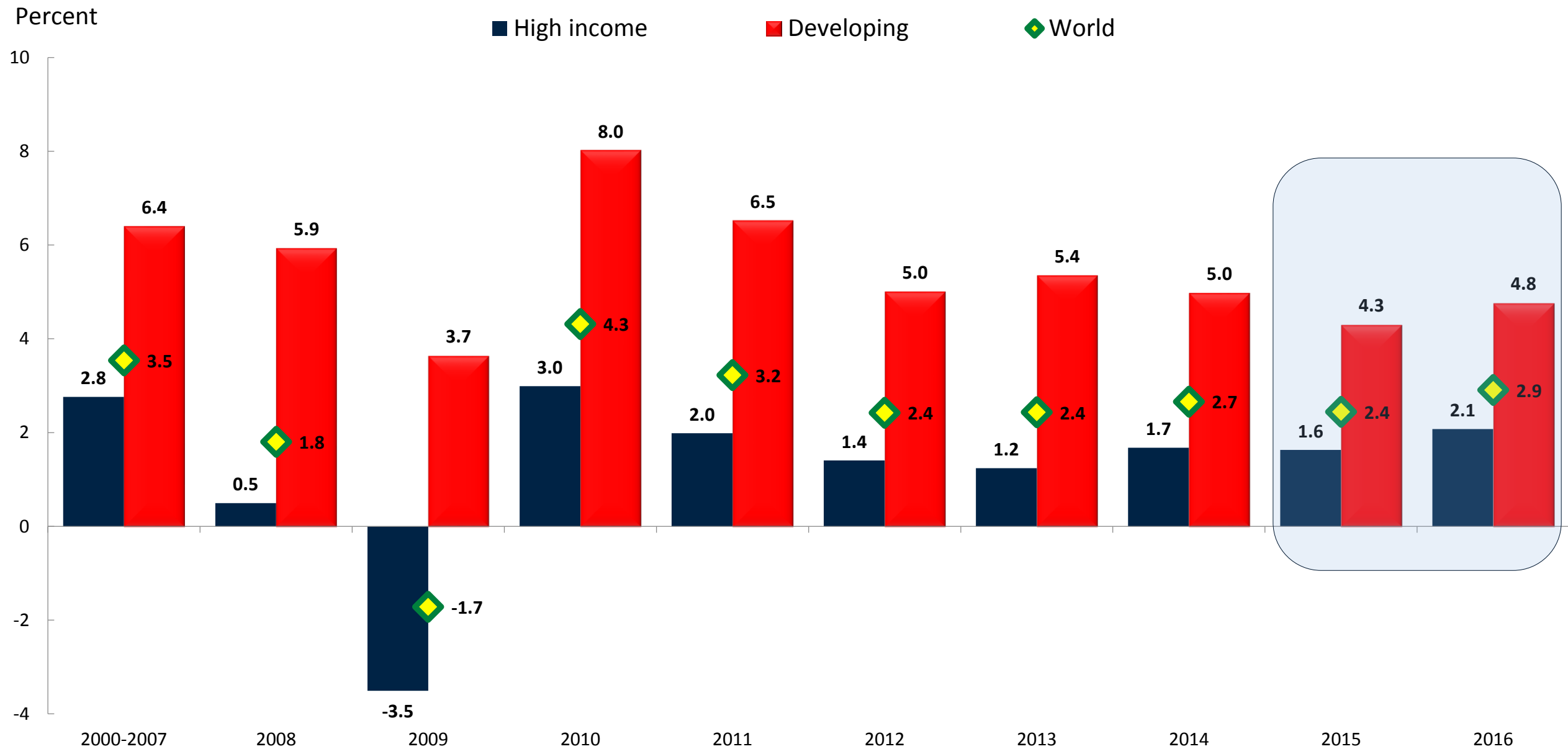


... while precious metal prices was no exception



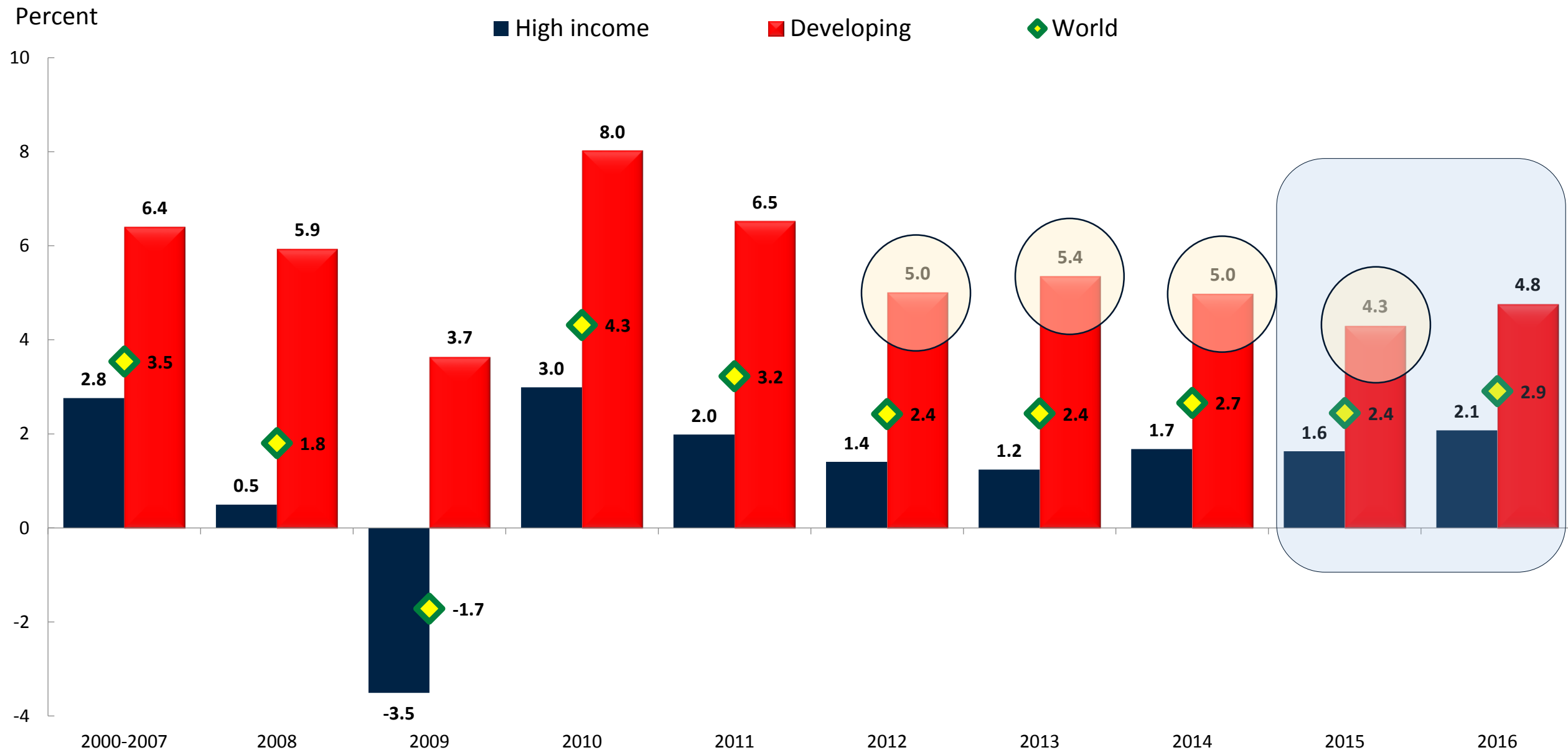
- *Recent developments & price forecasts*
- *Energy markets*
- *Agricultural markets*
- *Metal markets*
- ***Prospects of the global economy***
- *Where are commodity prices heading?*

On the growth side, there are headwinds ...



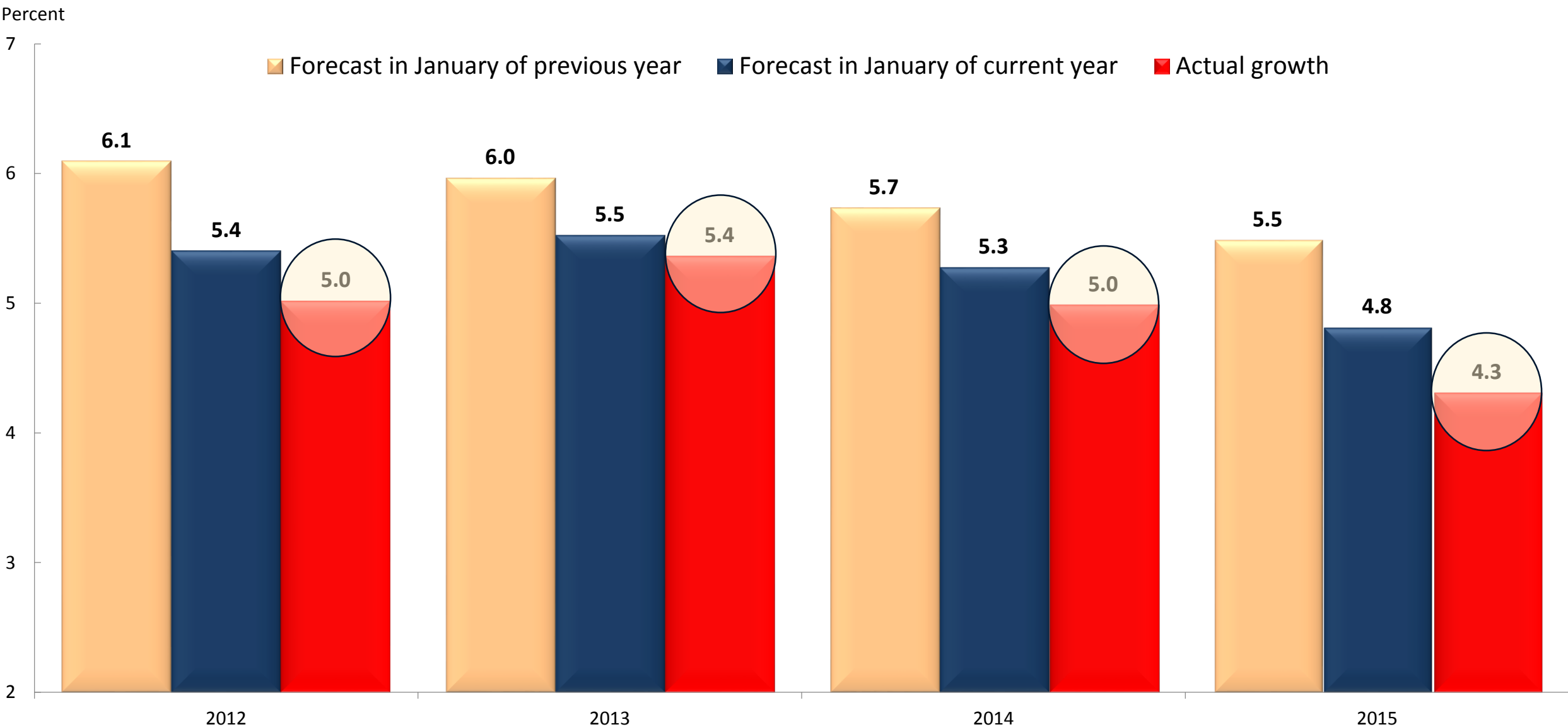
Source: World Bank (forecasts based on the October 2015 update)

On the growth side, there are headwinds ...



Source: World Bank (forecasts based on the October 2015 update)

... as evidenced by the consistency of downward revisions

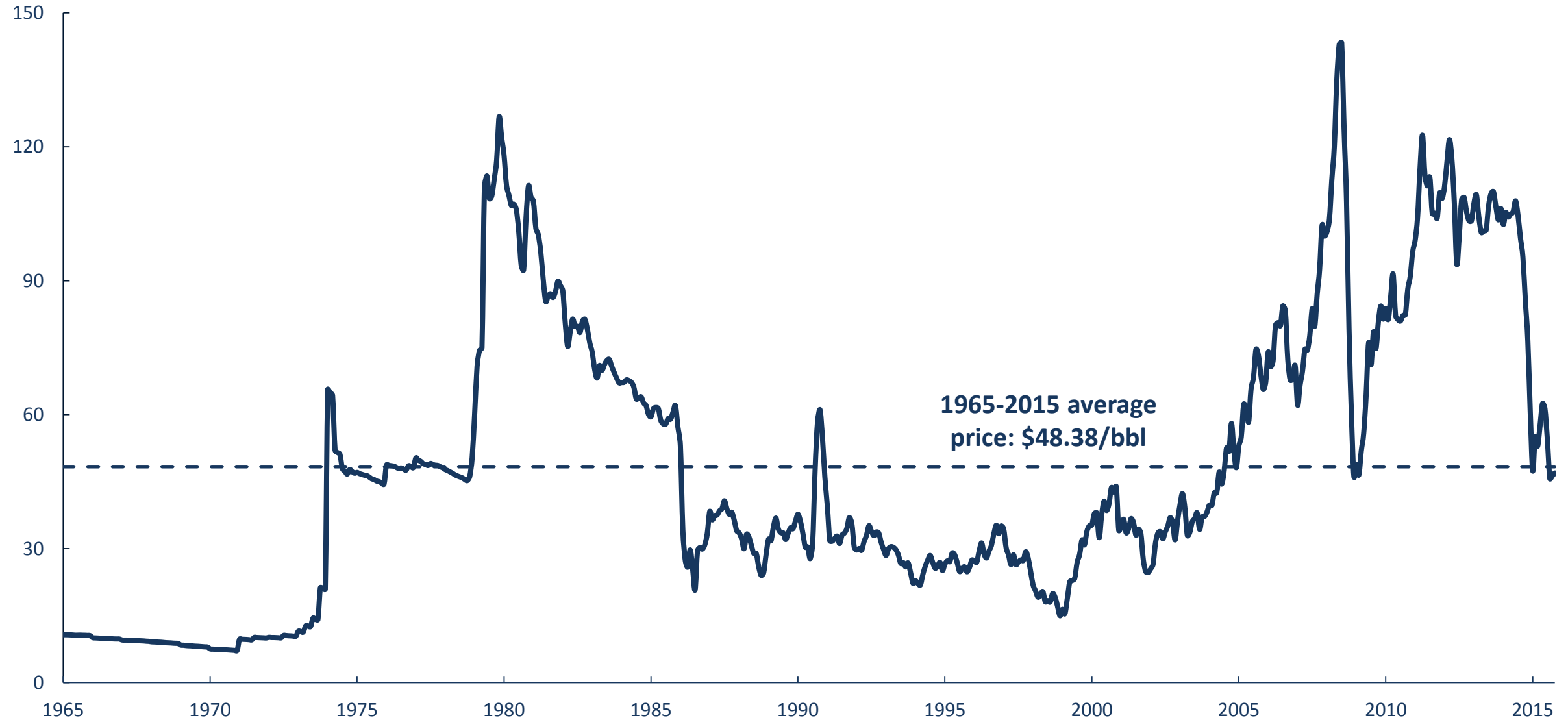


Source: World Bank, *Global Economic Prospects*
Notes: Growth refers to developing countries. Actual for 2015 is the October 2015 forecast.

- *Recent developments & price forecasts*
- *Energy markets*
- *Agricultural markets*
- *Metal markets*
- *Prospects of the global economy*
- ***Where are commodity prices heading?***

Oil prices stand at exactly their 50-year average ...

US\$/bbl, deflated by U.S. CPI (2014 terms)

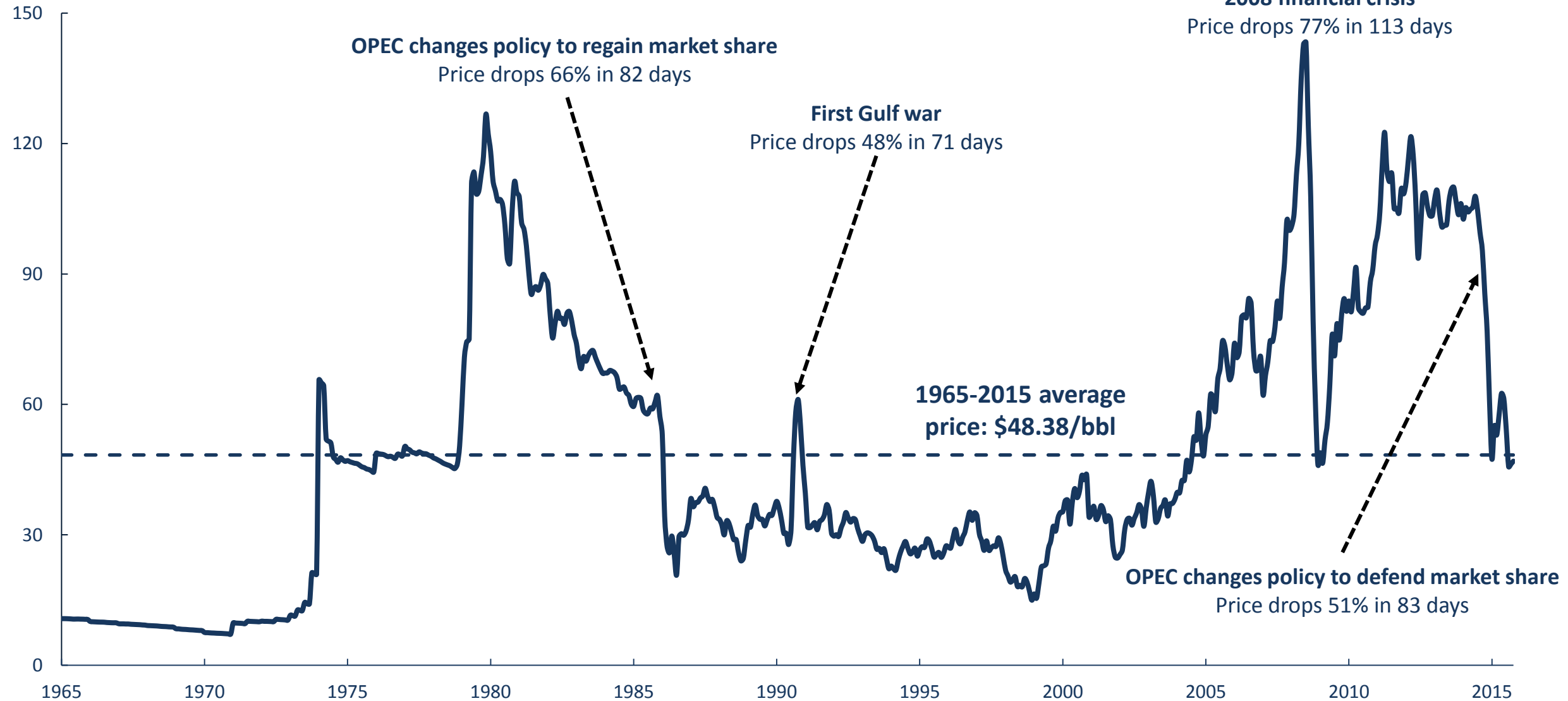


Source: World Bank

Note: Last observation is November 2015

... with remarkable similarities between the 1985/86 & 2014/15 price collapses

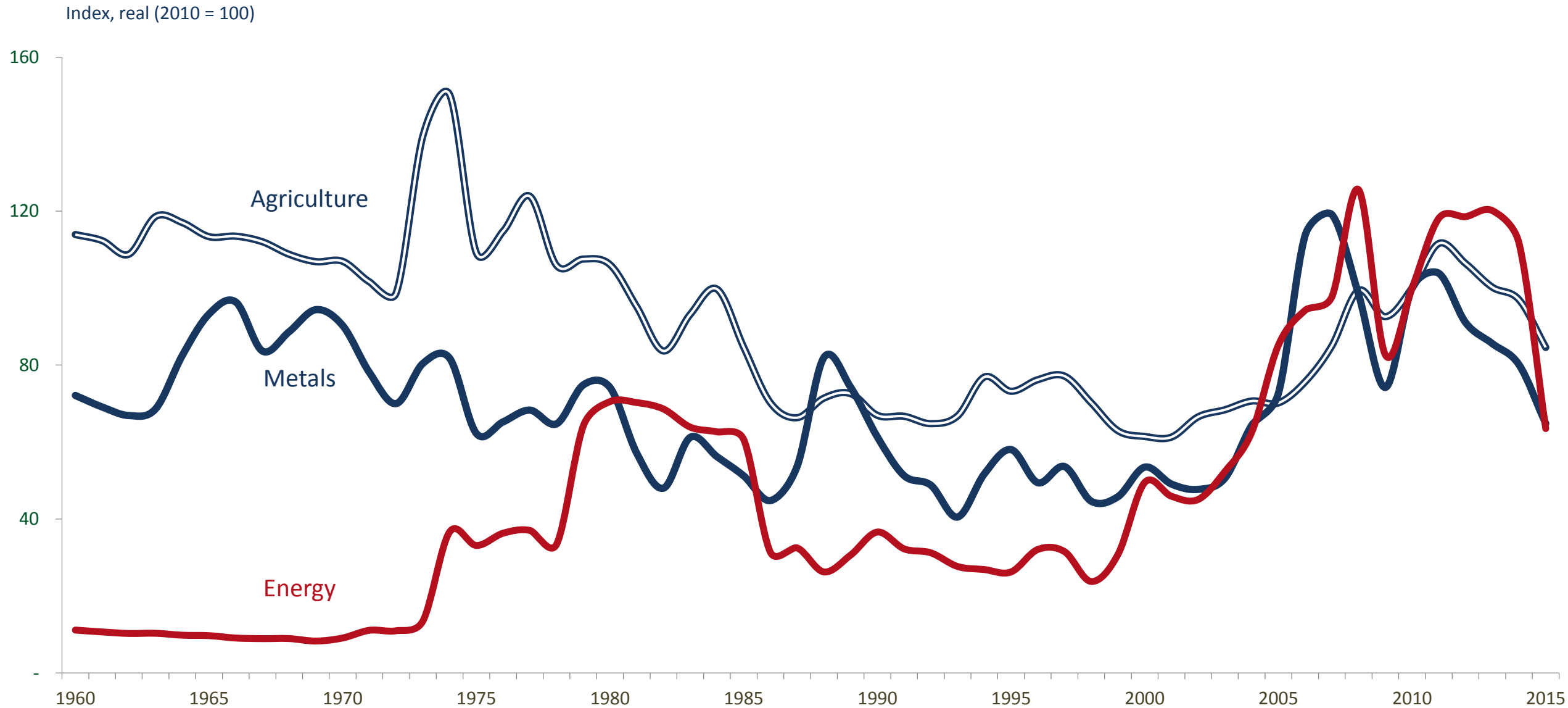
US\$/bbl, deflated by U.S. CPI (2014 terms)



Source: World Bank

Note: Last observation is November 2015

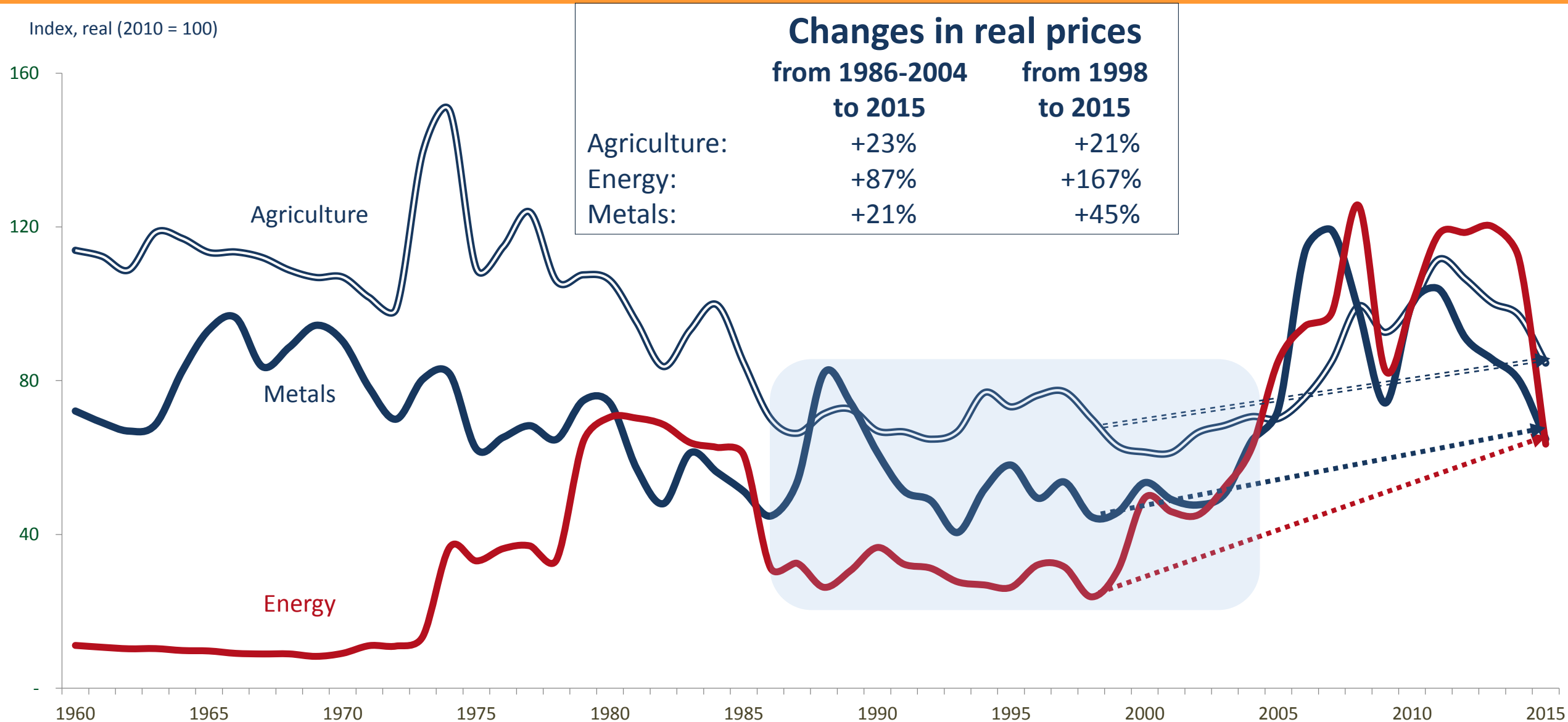
Although prices have declined considerably ...



Source: World Bank

Note: 2015 figures are forecasts as of October 2015

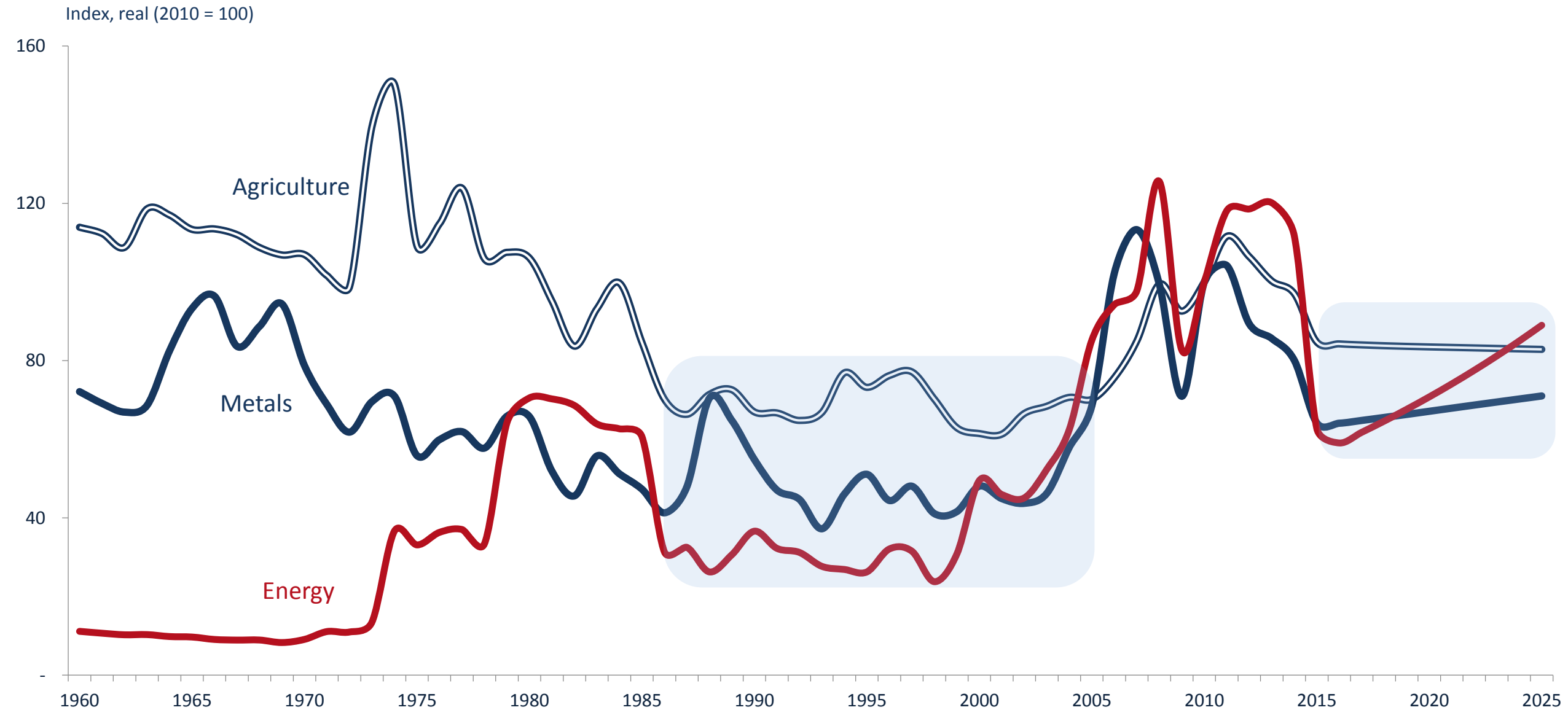
... they are still higher than the 1985-2004 average



Source: World Bank

Note: 2015 figures are forecasts as of October 2015

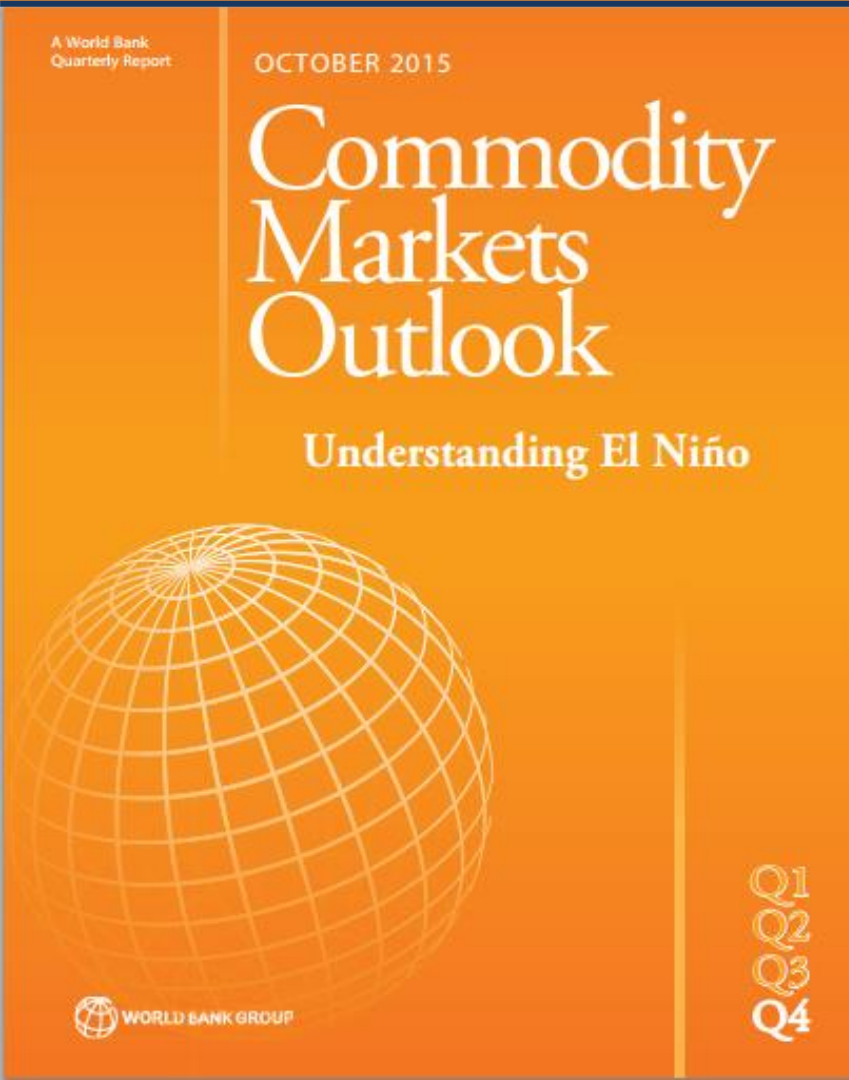
Begging the question: Is it 1985-2004 all over again?



Source: World Bank

Note: 2015 figures are forecasts as of October 2015

Thank you!



Commodity Markets

FEATURED

DATA

Latest Commodity Prices Published

November 4, 2015 — In October 2015, energy prices remained steady, and the prices of non-energy commodities increased by 0.3%. Food prices picked up by 1.7%. [Read More »](#)

PUBLICATIONS AND DATA ARCHIVES

Commodity Prices	Analysis & Forecasts	Special Focus
Pink Sheet November 2015 (PDF)	Commodity Markets Outlook October 2015 (PDF)	El Niño's impact on world commodity prices October 2015
Monthly data (XLS)	Data from charts October 2015 (XLS)	Implications of the Iran Nuclear agreement October 2015
Annual data (XLS)	Price forecasts October 2015 (PDF)	How important are China and India in global commodity markets? July 2015
	Executive summary October 2015 (PDF)	Anatomy of the last four oil price crashes April 2015
		Putting the recent plunge in oil prices in perspective January 2015

- The latest edition of the World Bank's *Commodity Markets Outlook* was published on October 20, 2015
- The next edition will be published on January 20, 2016
- Prices ("pink sheet") are updated on the third business day of each month

www.worldbank.org/commodities