The current dynamics of commodity markets

London Business School – 18th October 2018

Jean-François Lambert

Lambert Commodities

Dynamics of Commodity Markets

1. Key Drivers of Commodities
2. Looking Ahead

Dynamics of Commodity Markets

1. The Key Drivers of Commodities

Dynamics of Commodity Markets: Key Drivers

a. Commodities: definition and features

b. The 3 sectors (Agri, Metals and Energy) and their idiosyncrasies

c. Price formation

d. The King of Commodities: Oil

e. Gold – A very special commodity

a. Definitions and Features

- Commodities *are* the essentials
- 3 main sectors: Agri, Metals and Energy
- Common features
  - ✓ Strategic by nature
  - ✓ Each with a unique nature
  - ✓ Market price
  - ✓ Mostly traded in USD
  - ✓ Future markets

- What is the size of the cake?
  - ✓ 4.5 Trillion USD
  - ✓ 25 pct. of world trade

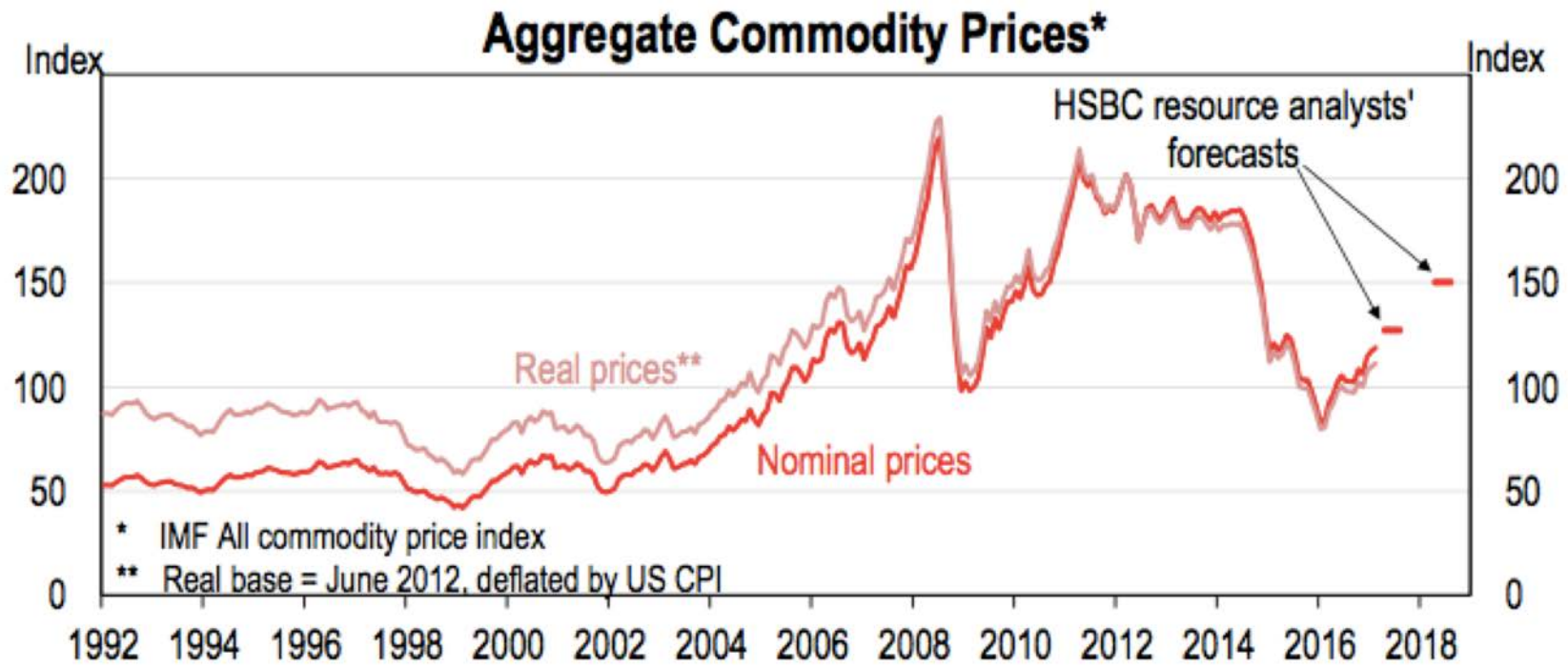
i. Agri commodities (aka "Softs")

- Cereals:
  - ✓ Grains : Corn, Wheat, Barley,
  - ✓ Rice
- Oilseeds:
  - ✓ Soybean, Palm Oil, Rapeseed
- Other Softs:
  - ✓ Cocoa, Cotton, Rubber, Coffee, Sugar
- Dairy and livestock

Specificities of Agri Commodities

- Demand is foreseeable
  - ✓ Demography
  - ✓ Urbanisation
  - ✓ Food habits
- Supply is the driving factor
  - ✓ Climate and environment
  - ✓ Crops diseases
  - ✓ Research and technology
  - ✓ Policies

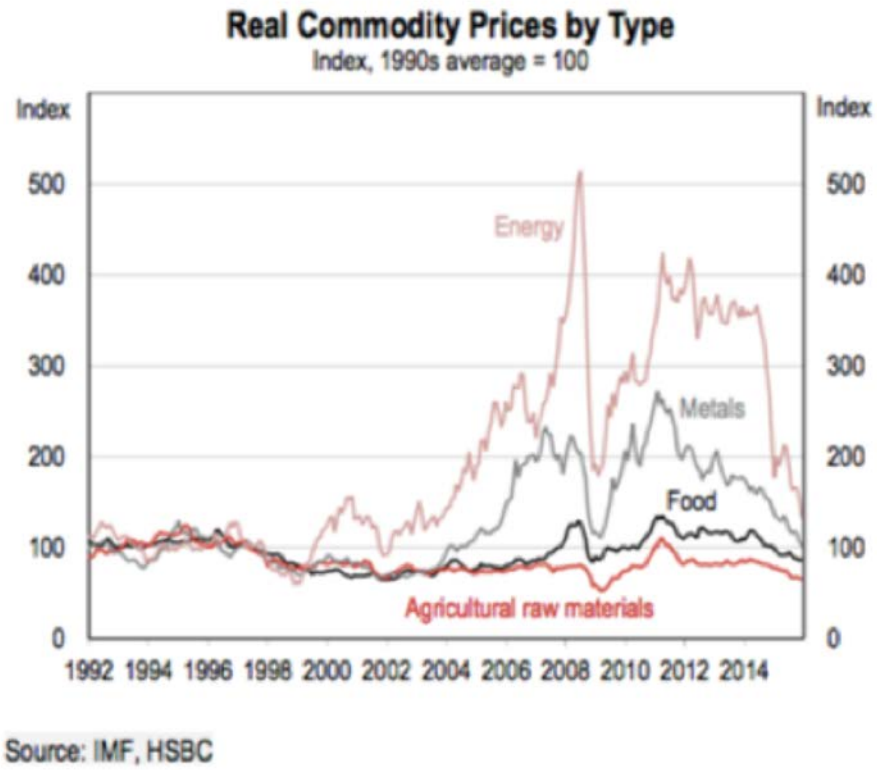
The Three Sectors - Agri



Source: IMF, HSBC estimates

The Three Sectors - Agri

- When deflated, Food and Agri sub indexes, are flat over a long period



Source: IMF, HSBC

ii. Metals (and minerals)

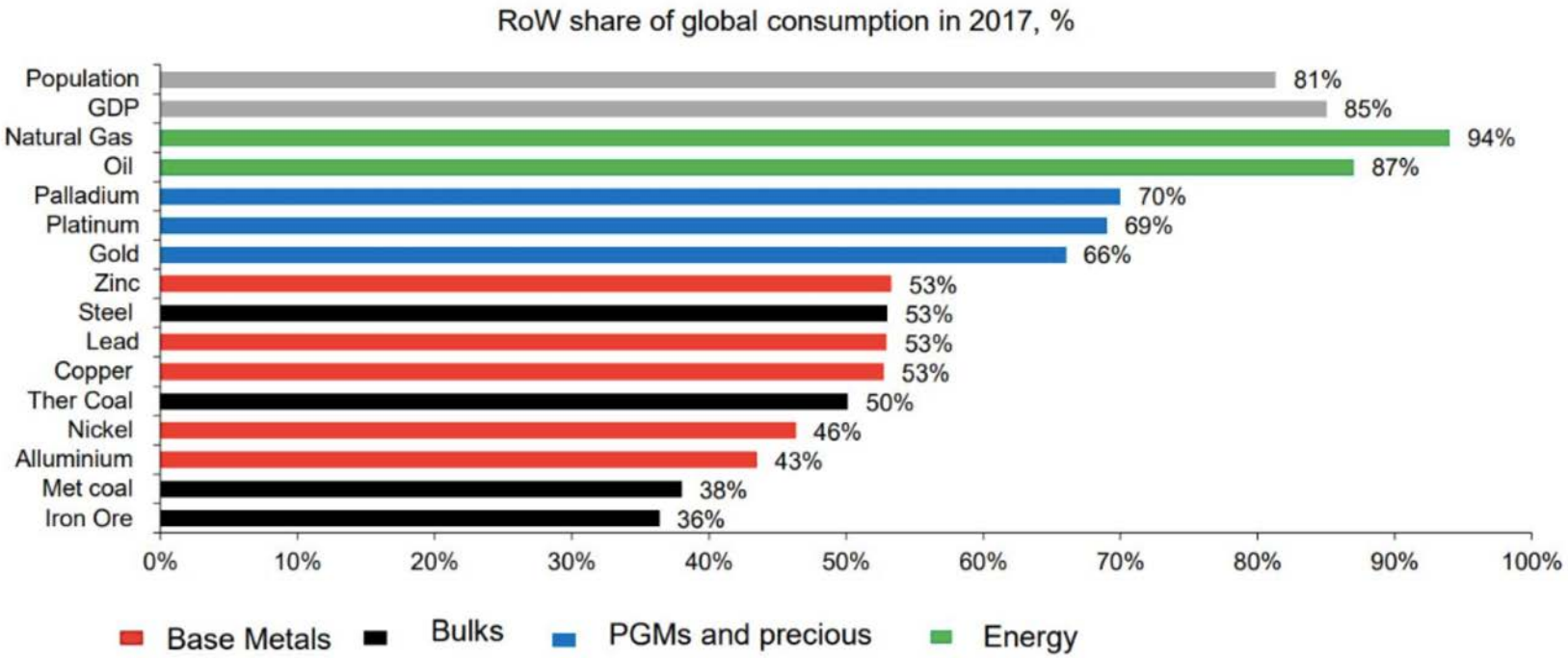
- Base Metals (Raw commodities and Industrial Metals)
  - ✓ Raw: Iron Ore, Coking Coal
  - ✓ Ferrous: Steel, Ferro Chrome
  - ✓ Non Ferrous: Copper, Aluminium, Nickel, Zinc, Lead, Tin
- Minor Metals: 27 metals Cobalt, Lithium, Magnesium, Titanium…
- Rare Earth: 17 metals – neodymium, dysprosium etc
- Precious Metals
  - ✓ Gold, Silver, Platinum, Palladium

Specificities of Metals

- Demand is the driving factor
  - ✓ Economic development
  - ✓ Urbanisation
  - ✓ China
  - ✓ Electric Vehicles
- Supply is driven by long term trends
  - ✓ 5-7 year lag time from investment to production
  - ✓ No foreseeable “peak mineral” phenomenon
  - ✓ Technology

The Three Sectors - Metals

The Rest of the World Vs China

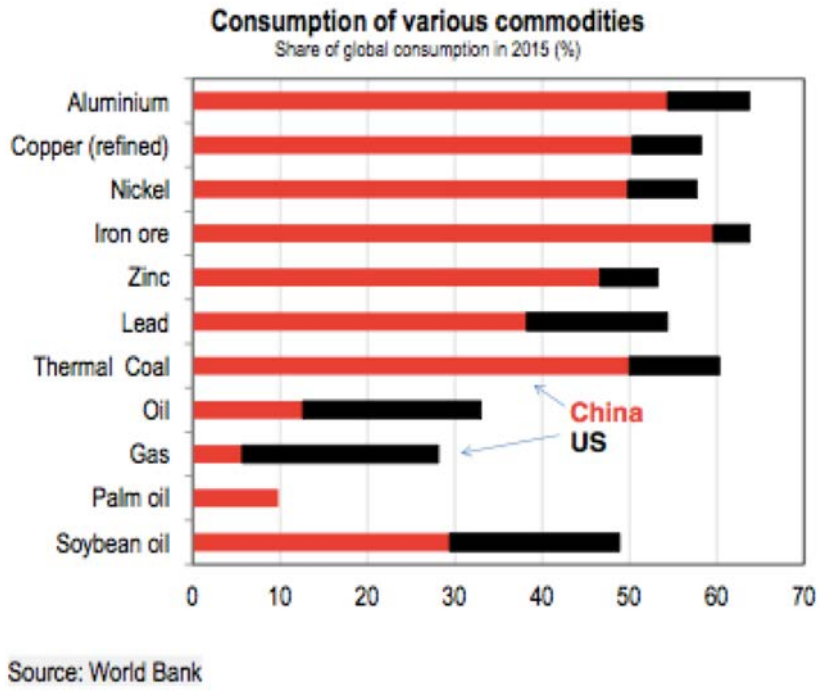


Source: World Bank (MER), UN, BP Energy Outlook, Wood Mackenzie, CRU, IHS, GFMS, Johnson Matthey, Macquarie Research, February 2018.

Source: Macquarie Bank

The Three Sectors - Metals

China vs the United States:
The largest economy is not the most influential as far as commodities



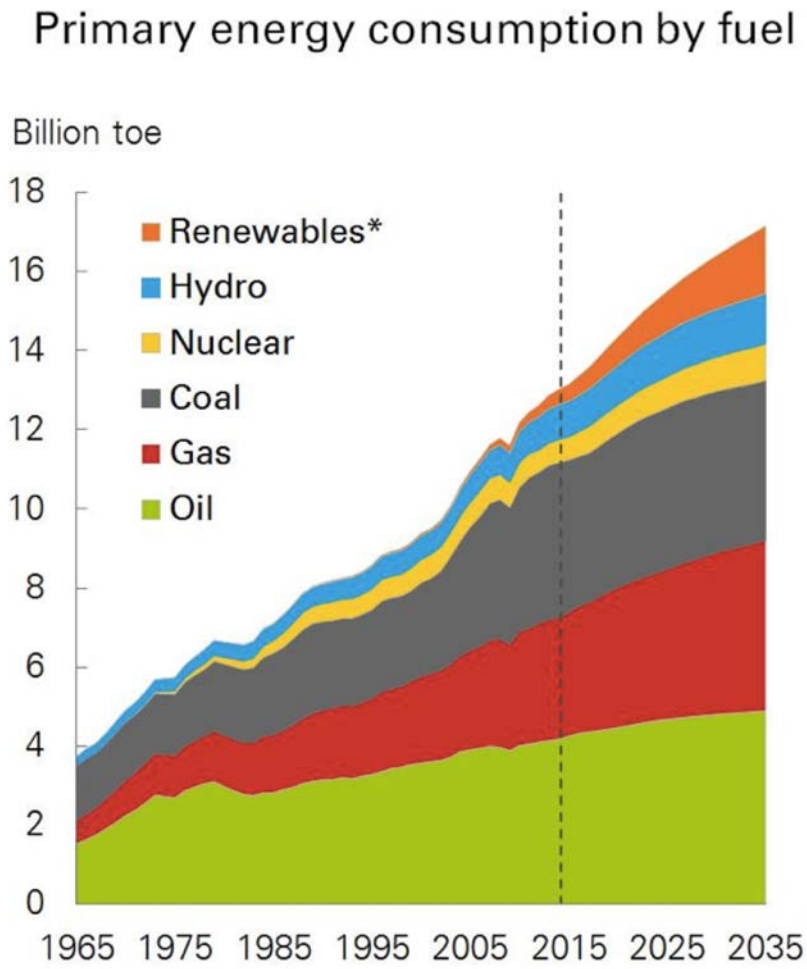
Source: World Bank

Source: HSBC

iii. Energy

- Supply driven dynamics
- The Key Contenders:
  - ✓ Coal, 28pct.
  - ✓ Gas, 24pct.
  - ✓ Oil, 33pct.
  - ✓ Renewables, 4pct.

(% of Primary Energy Consumption in 2016 – BP Energy Outlook 2018)

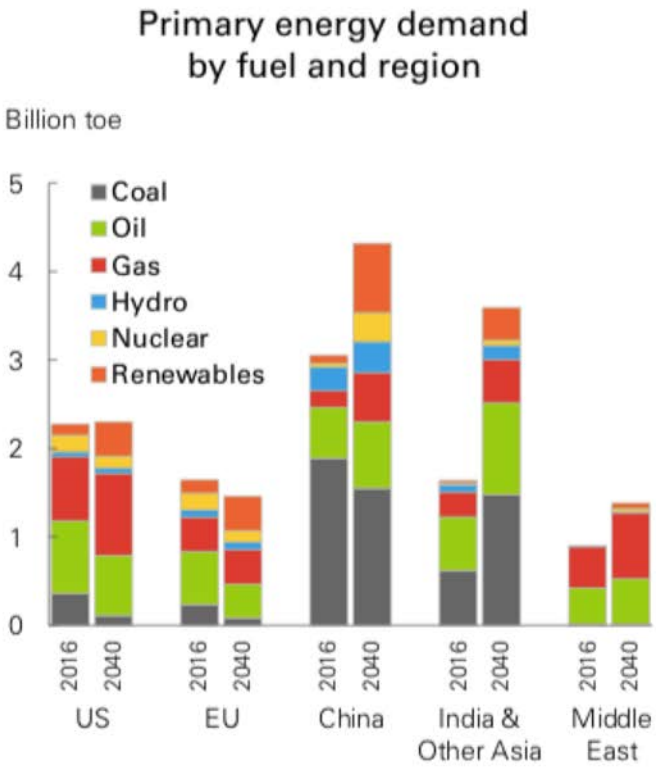


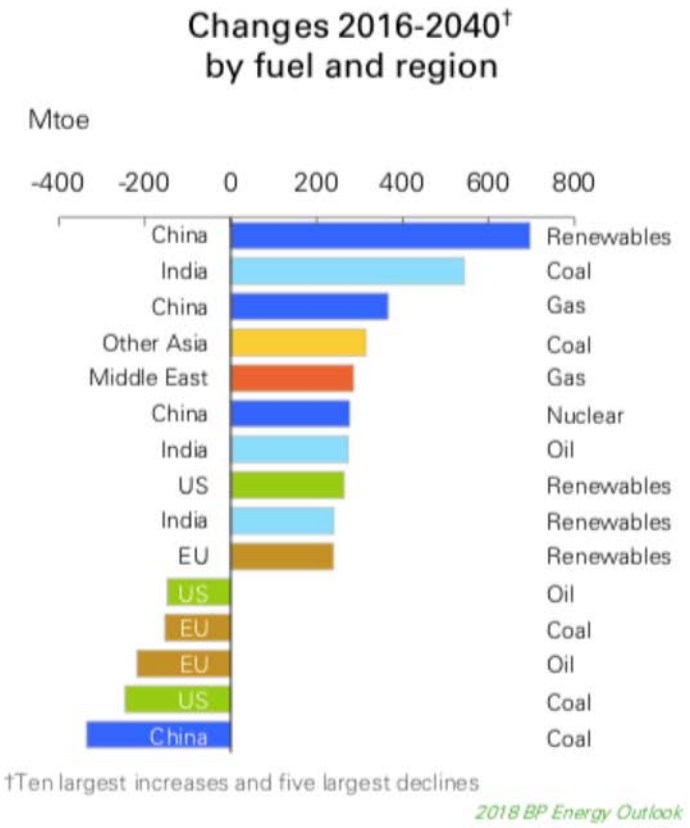
Sources BP Energy Outlook 2017

The Three Sectors - Energy

Regions

Differences in the fuel mix across regions...



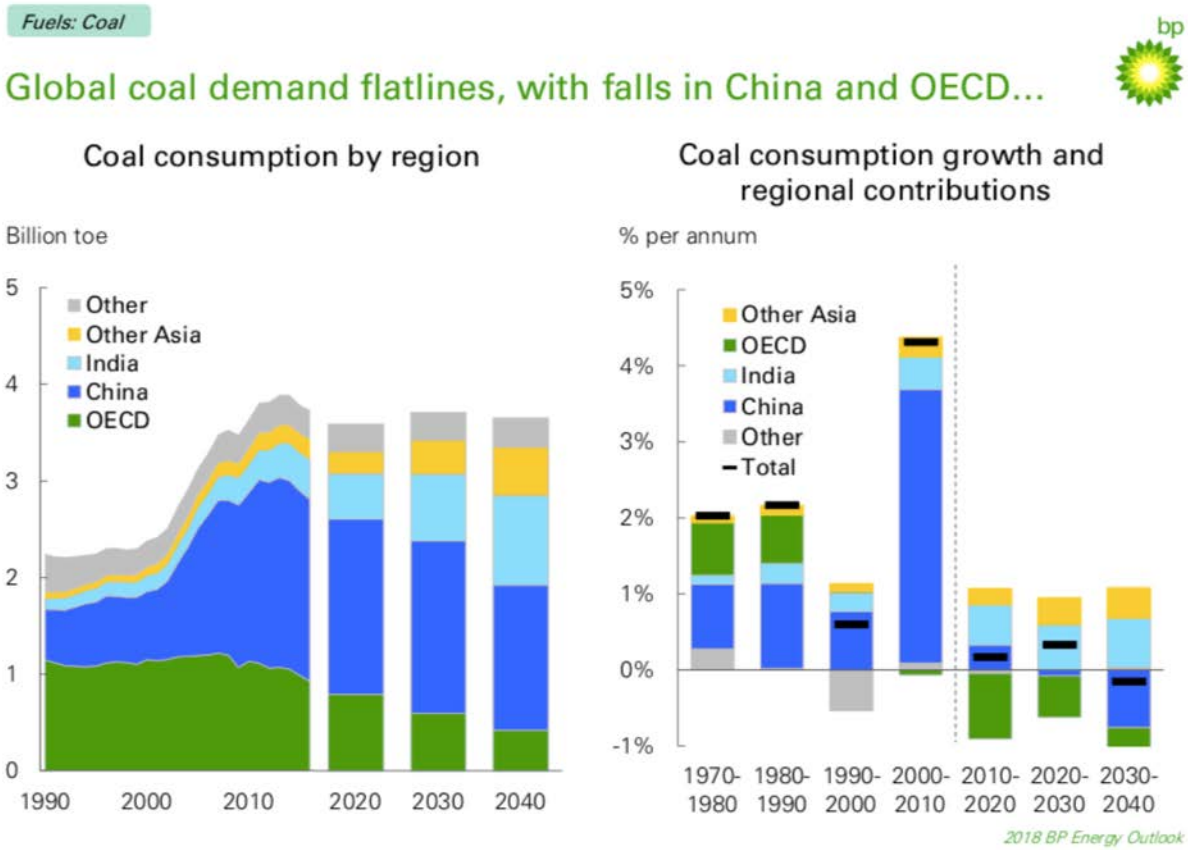


Sources BP Energy Outlook 2018

Trends (BP 2018 Energy Outlook):

- Global coal consumption to slow but not as fast as one believes
- Gas consumption to grow strongly: coal-to-gas switch & wider availability
- Oil consumption will continue to grow but is expected to plateau c.2040
- Renewables growth will accelerate. They will become the second source of energy in China by 2040 ahead of oil.

The Three Sectors - Energy



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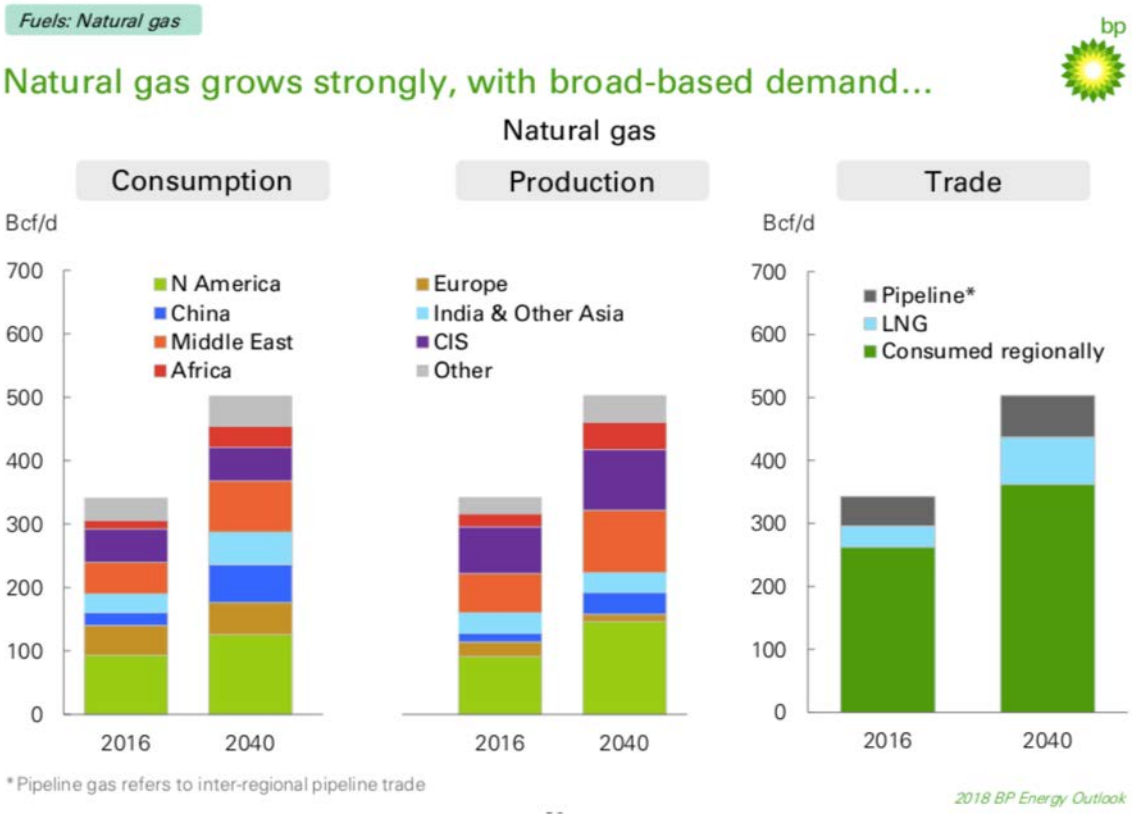

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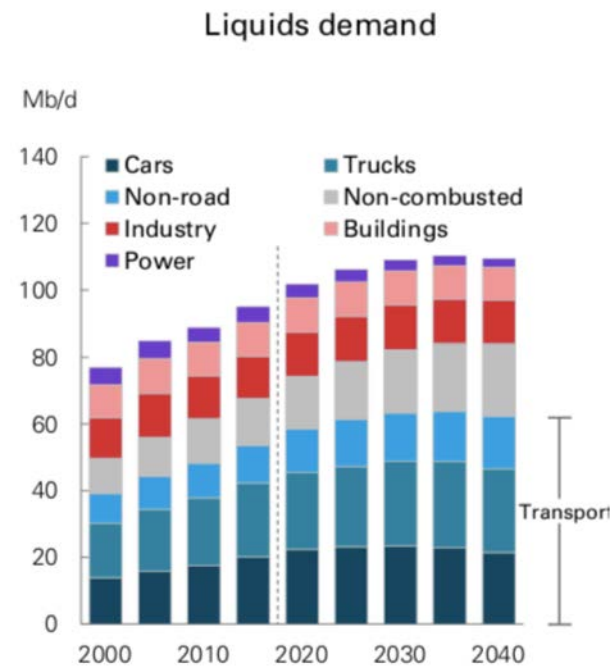
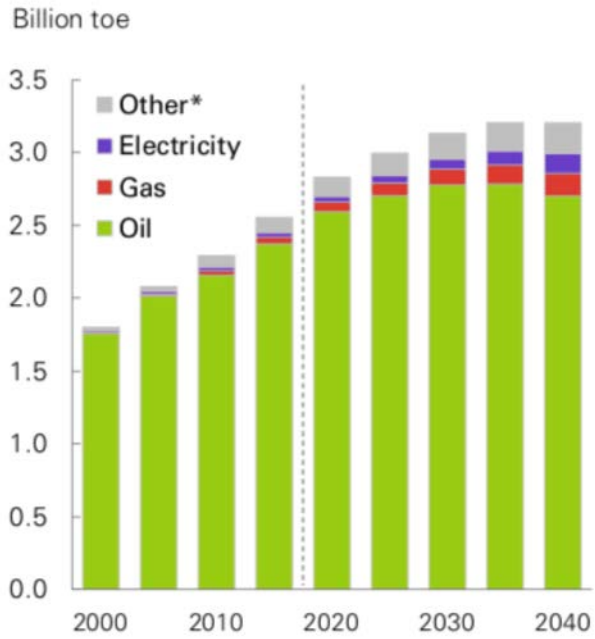
Dynamics of Commodity Markets

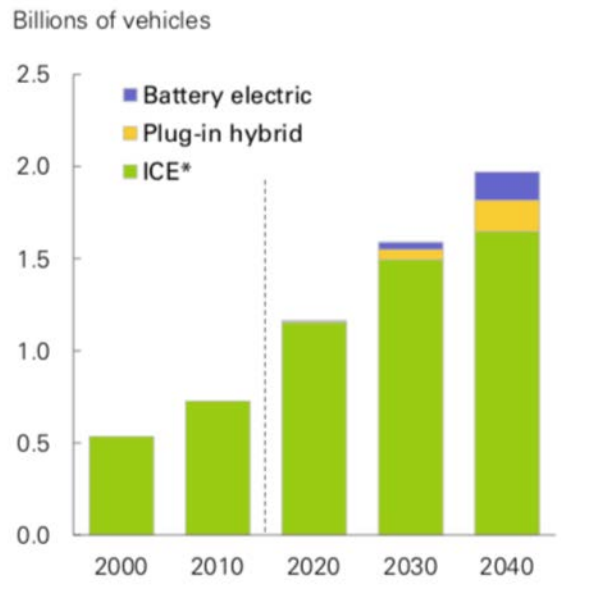
The Three Sectors - Energy



Liquids demand



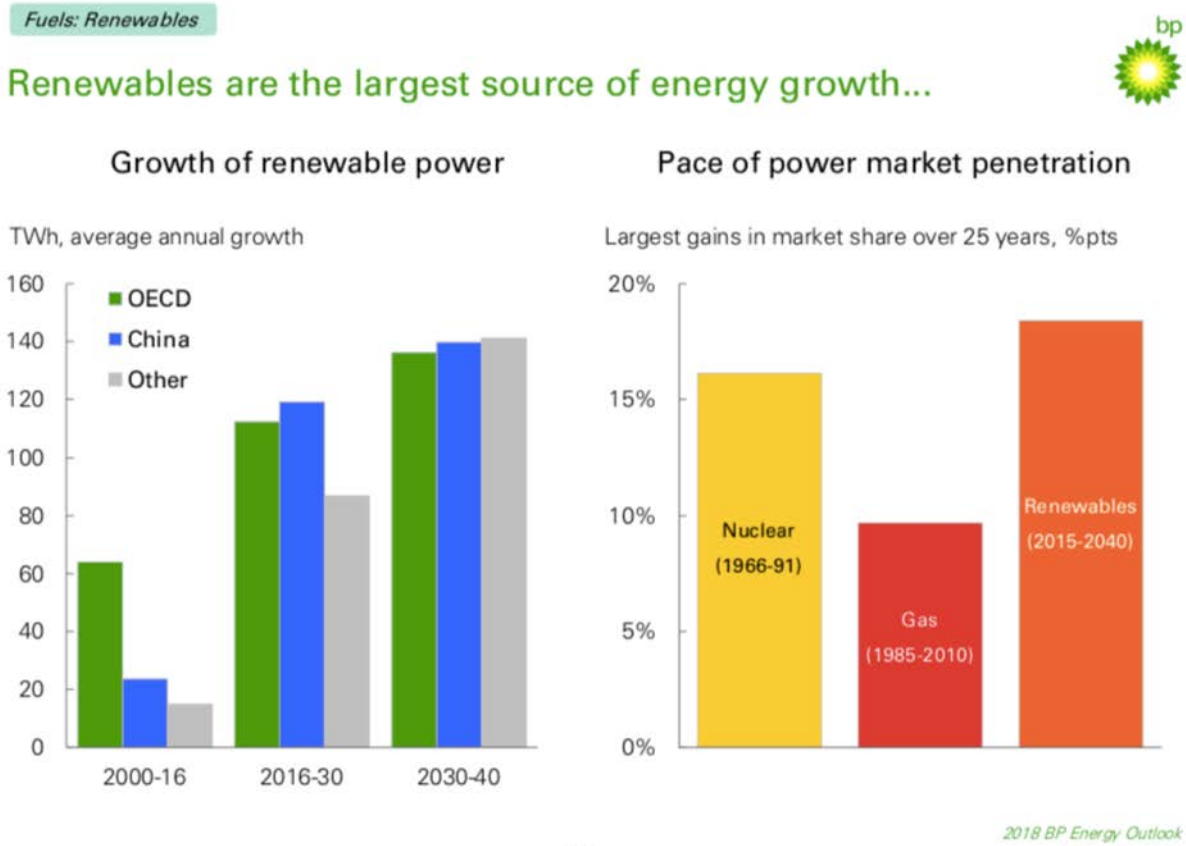
Transport energy consumption by fuel type



Passenger car parc by type

- Oil consumption will continue to grow but is expected to plateau c.2040

The Three Sectors - Energy



- Renewables growth will accelerate. They will become the second source of energy in China by 2040 ahead of oil.

The Three Sectors

- How to assess the weigh of the 3 sectors?
  - ✓ By value? By volume?
  - ✓ One lead: Weight in trade (RICI)

Dynamics of Commodity Markets

The Three Sectors

- Agri 35 pct.
- Metals 25 pct.
- Energy 40 pct.

The Three Sectors

THOMSON REUTERS/CORECOMMODITY CRB
TOTAL RETURN INDEX
THOMSON REUTERS INDICES

- Agri 41 pct.
- Metals 20 pct.
- Energy 39 pct.

The Three Sectors

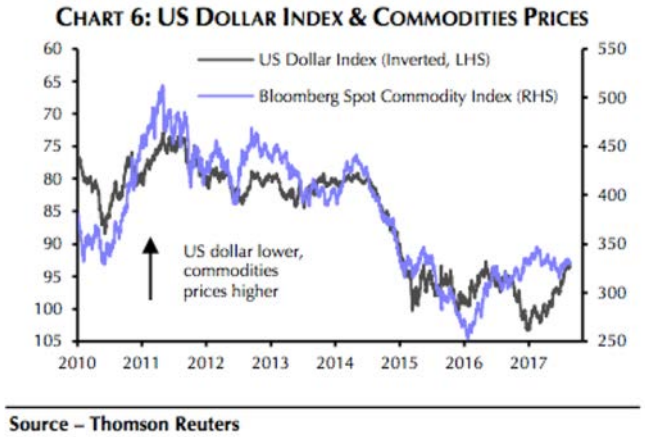
- Agri 29 pct.
- Metals 15 pct.
- Energy 56 pct.

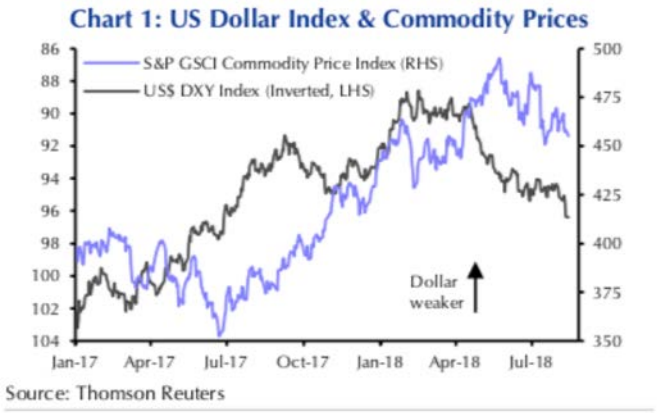
e. How commodity prices are formed?

- The Fundamentals: Physical supply and demand
- The relationship with the dollar

Dynamics of Commodity Markets

Price Formation and USD





Source Capital Economics

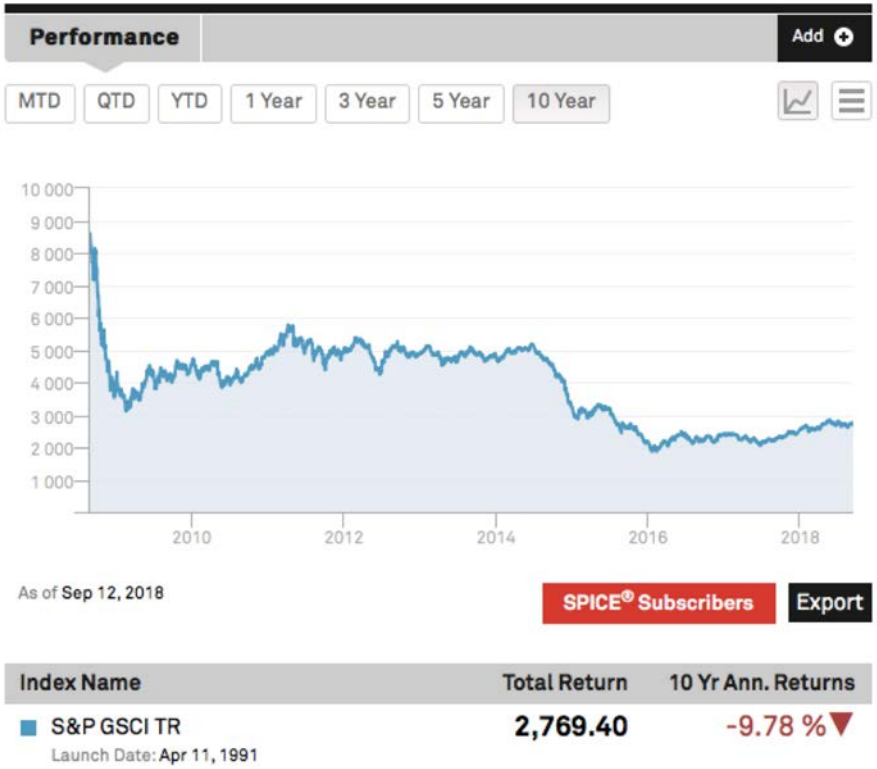
- Correlation is historically tight. Less so recently, but this is mainly due to oil.

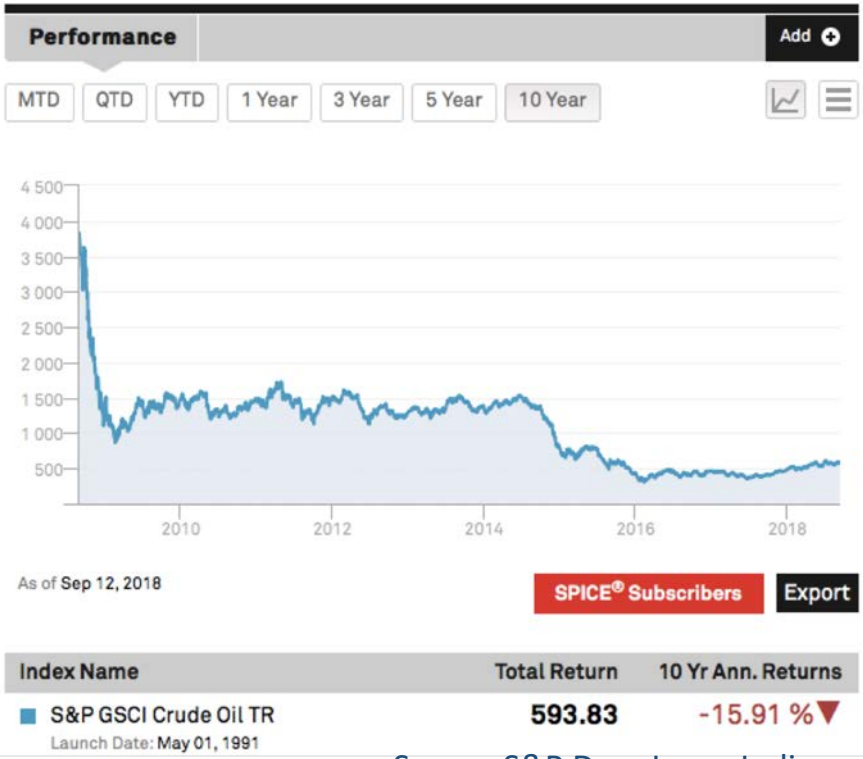
How commodity prices are formed?

- The Fundamentals: Physical supply and demand
- The relationship with the dollar
- Oil price

Dynamics of Commodity Markets

Price Formation

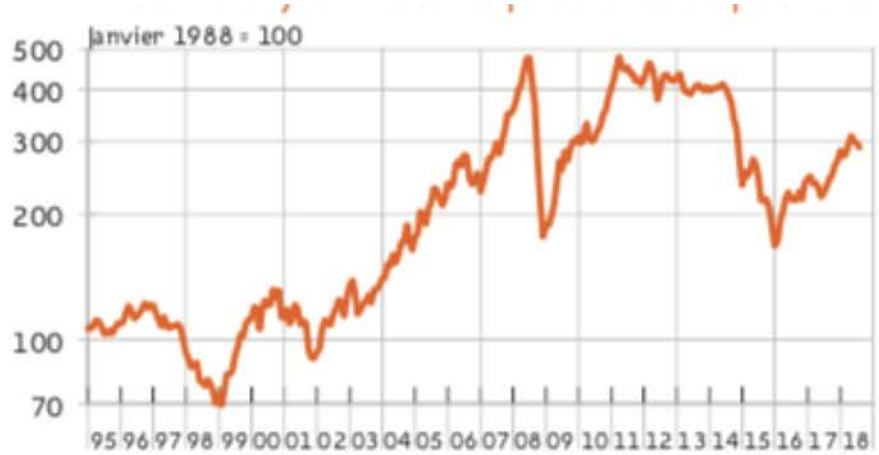




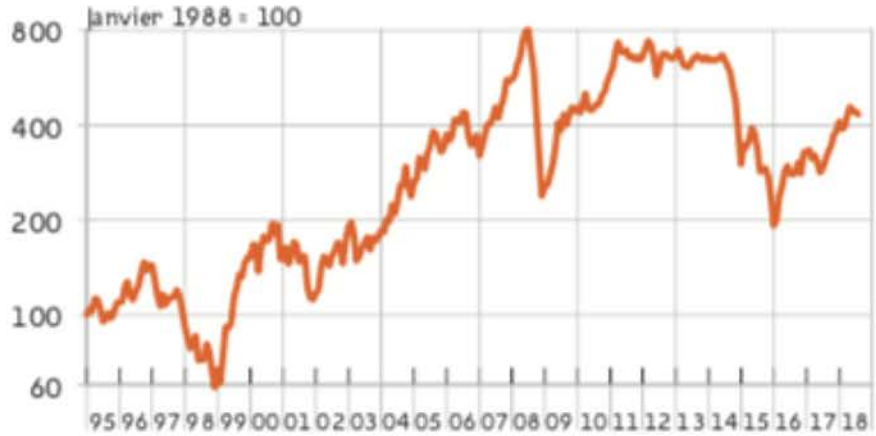
Source S&P Dow Jones Indices

- Commodity indices are strongly influenced by the oil price

COE REXECODE COMMODITY INDICES



Global



Oil

Source Cercle Cyclope

- Commodity indices are strongly influenced by the oil price

How commodity prices are formed?

- The Fundamentals: Physical supply and demand
- The relationship with the dollar
- Oil price
- Financial markets: commodities are an asset class

Financialization of commodity markets

Net investor flows into commodities have been about $25bn in 2018, bringing total assets under management to $344bn, according to RBC Capital Markets.

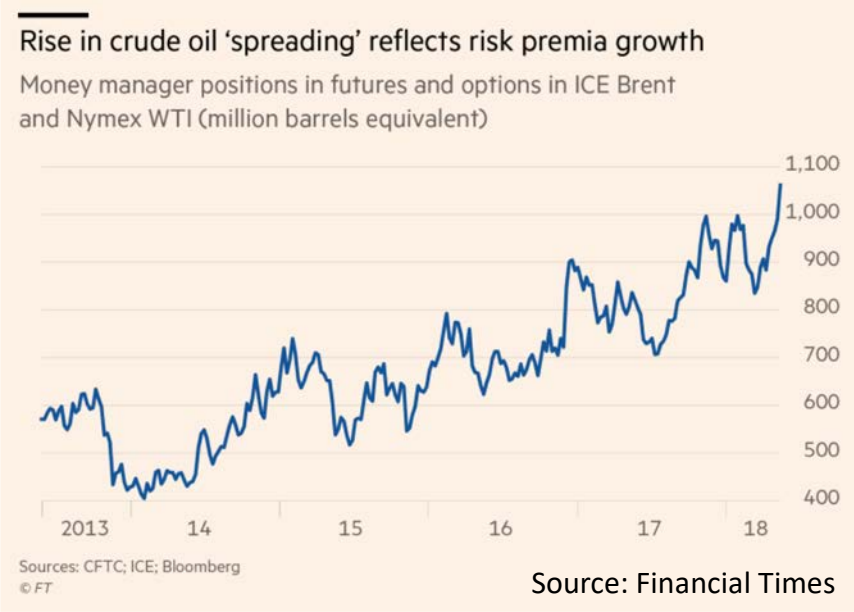
Financial Times – Sep 18

Financialization of commodity markets: new challenges for physical traders

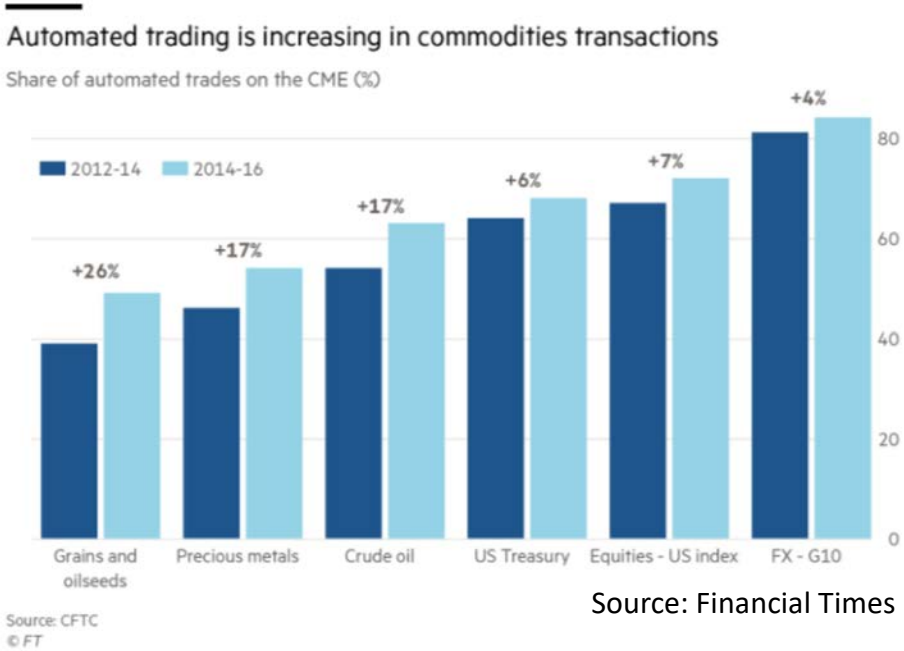
- New financial players : risk premia investors with no interest in commodity fundamentals.
- Algorithms and quants are now supporting traders. According to CFTC:
  - ✓ 2/3 of CME crude oil future contracts are now automated
  - ✓ Almost 50pct of soybean contracts
  - ✓ 54% of precious metals contracts
- Growing distortions between prices and fundamentals. Hedging more difficult

Dynamics of Commodity Markets

Price Formation



Source: Financial Times



Source: Financial Times

c. The King of Commodities: Oil

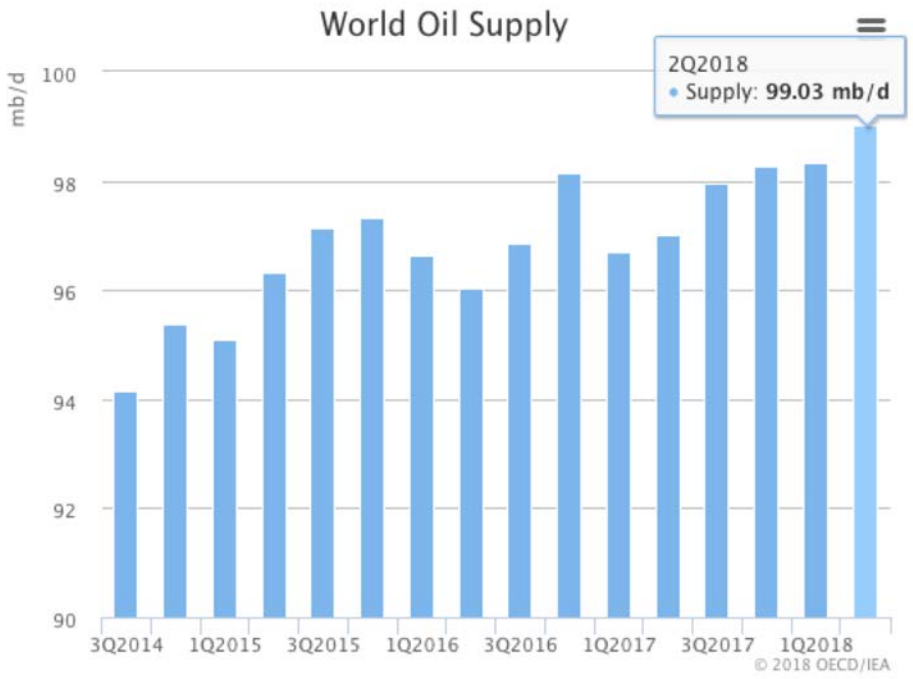
- The bulk of commodity trade
- The most liquid market
- Prices of other commodities are highly correlated
- Dominant weight in various indexes

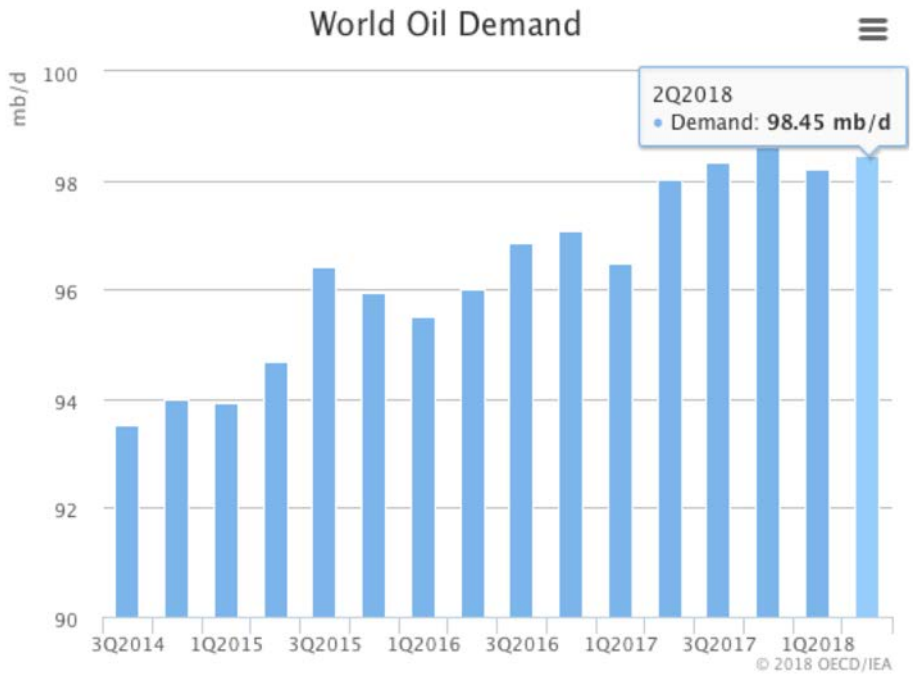
Oil: Features

- A Supply driven commodity as uncertainty over demand growth is low.

Dynamics of Commodity Markets

Oil: Supply vs Demand





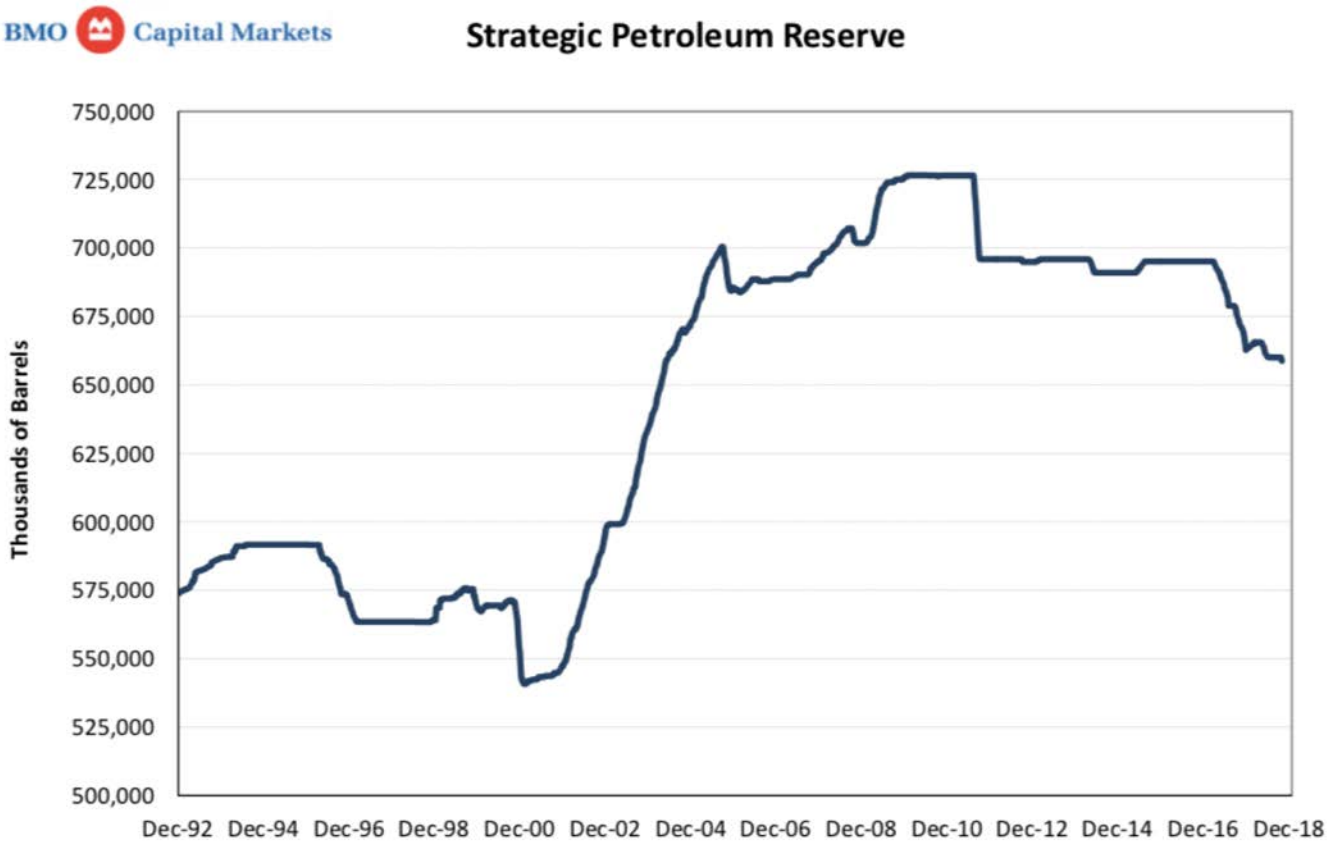
Source International Energy Agency

- Demand growth by 1.3mbpd in 2018, 1.4mbpd in 2019 (IEA).
- Supply reached 100mbpd in September, +2.6mbpd over 2017, (IEA)

Oil: Features

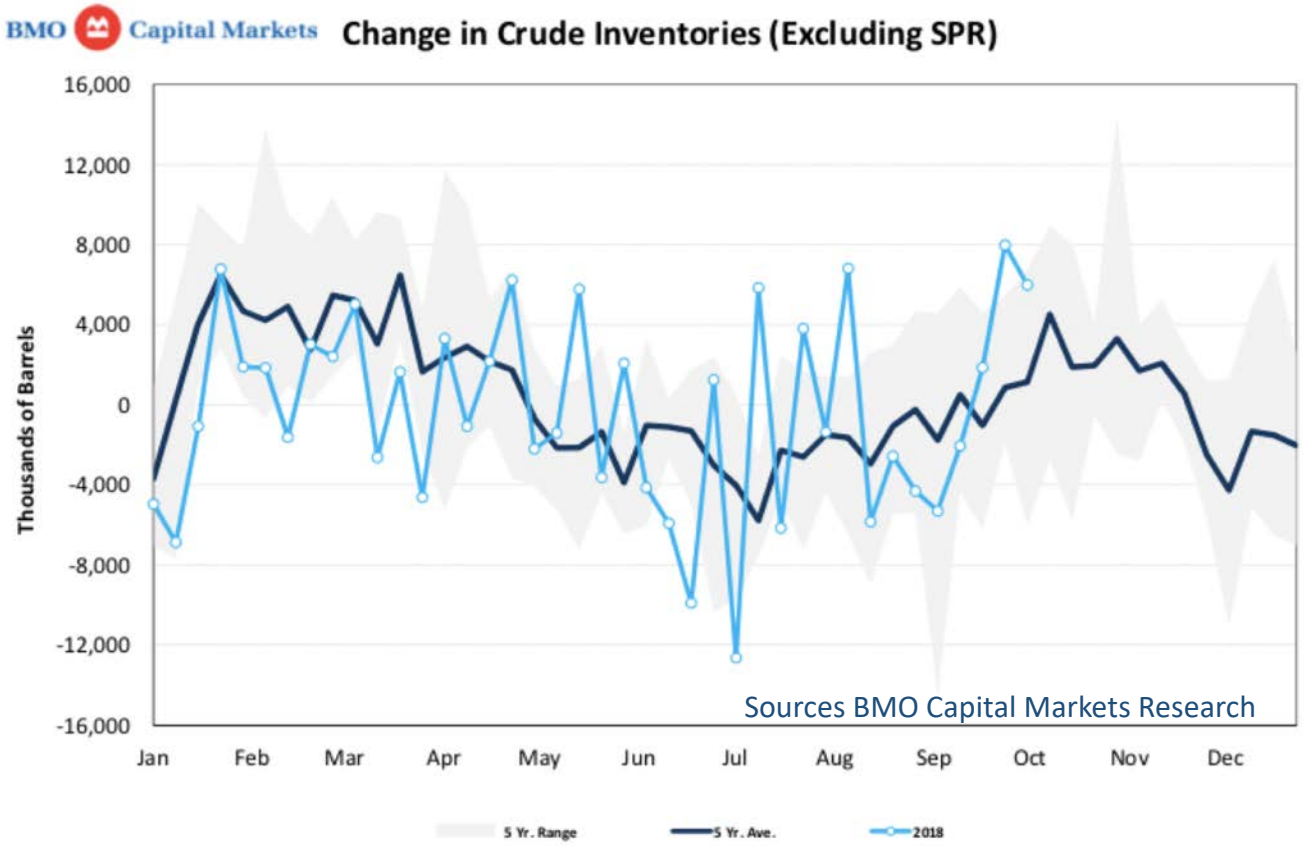
- A Supply driven commodity as uncertainty over demand growth is low.
- The importance of stocks.

Oil: Inventories matter



Sources BMO Capital Markets Research

Oil: Inventories matter



Sources BMO Capital Markets Research

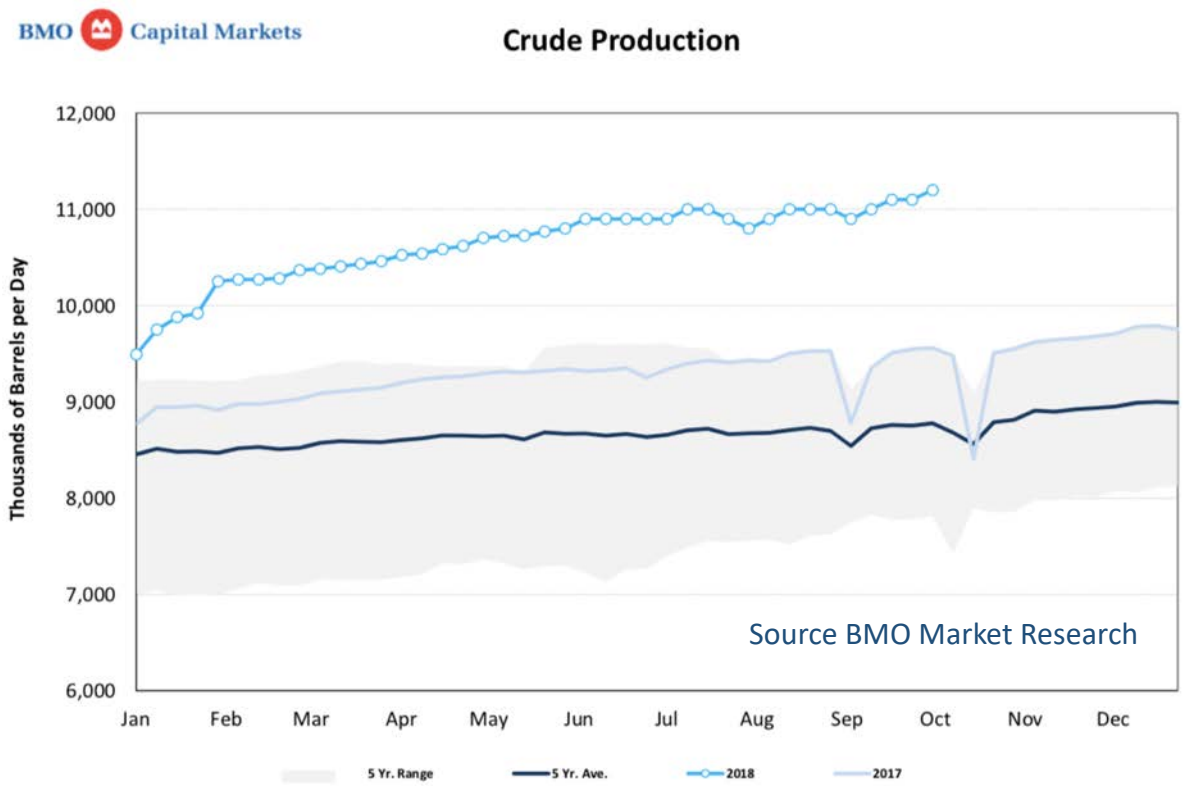
Oil: Features

- A Supply driven commodity as uncertainty over demand growth is low.
- The importance of stocks.
- Conventional vs unconventional: the new normal

Conventional vs non conventional: opposite dynamics

- Prices are kept in check between conventional and shale oil producers
- Opposite dynamics:
  - Conventional producers rely on high capex with relatively low opex
  - Shale producers run an industrial process with low capex but high opex.
- Turning on and off spigots: what is easy for shale is tricky for conventional prod
- At the right price, “Shale boys”’ production will rise fast
- US shale producers are the new swing producers. For now.
  - Logistic in the US is a limiting factor
  - the looming risk: an environmental problem

US Crude production is soaring



Source BMO Market Research

The Shale Revolution in the US

LTO= Light Tight Oil (Shale)

Figure 2.14 Wellhead break-even by play

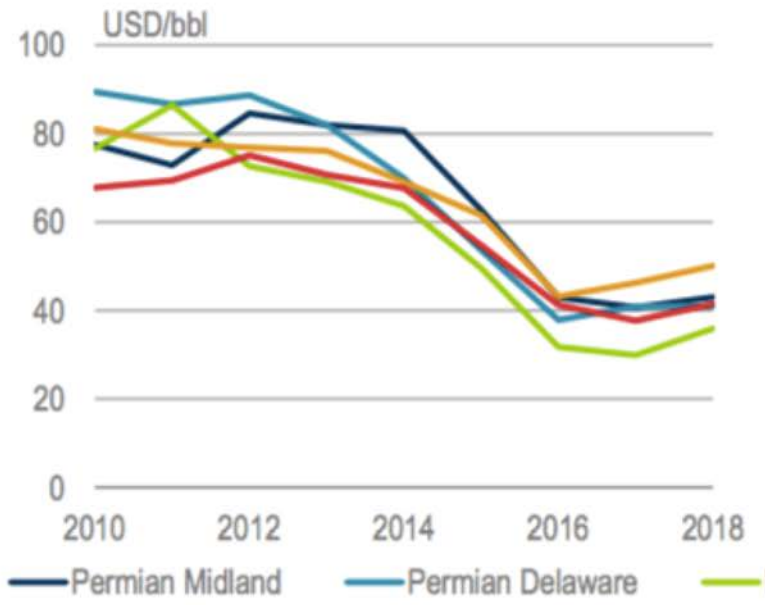
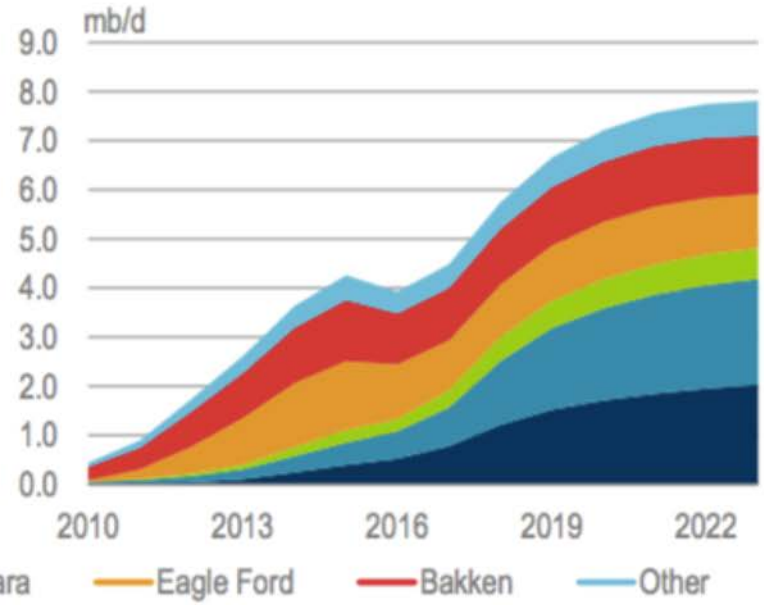


Figure 2.15 LTO production by play



Sources: IEA analysis, Rystad Energy NasWell Cube.

Source IEA Oil 2018 Report

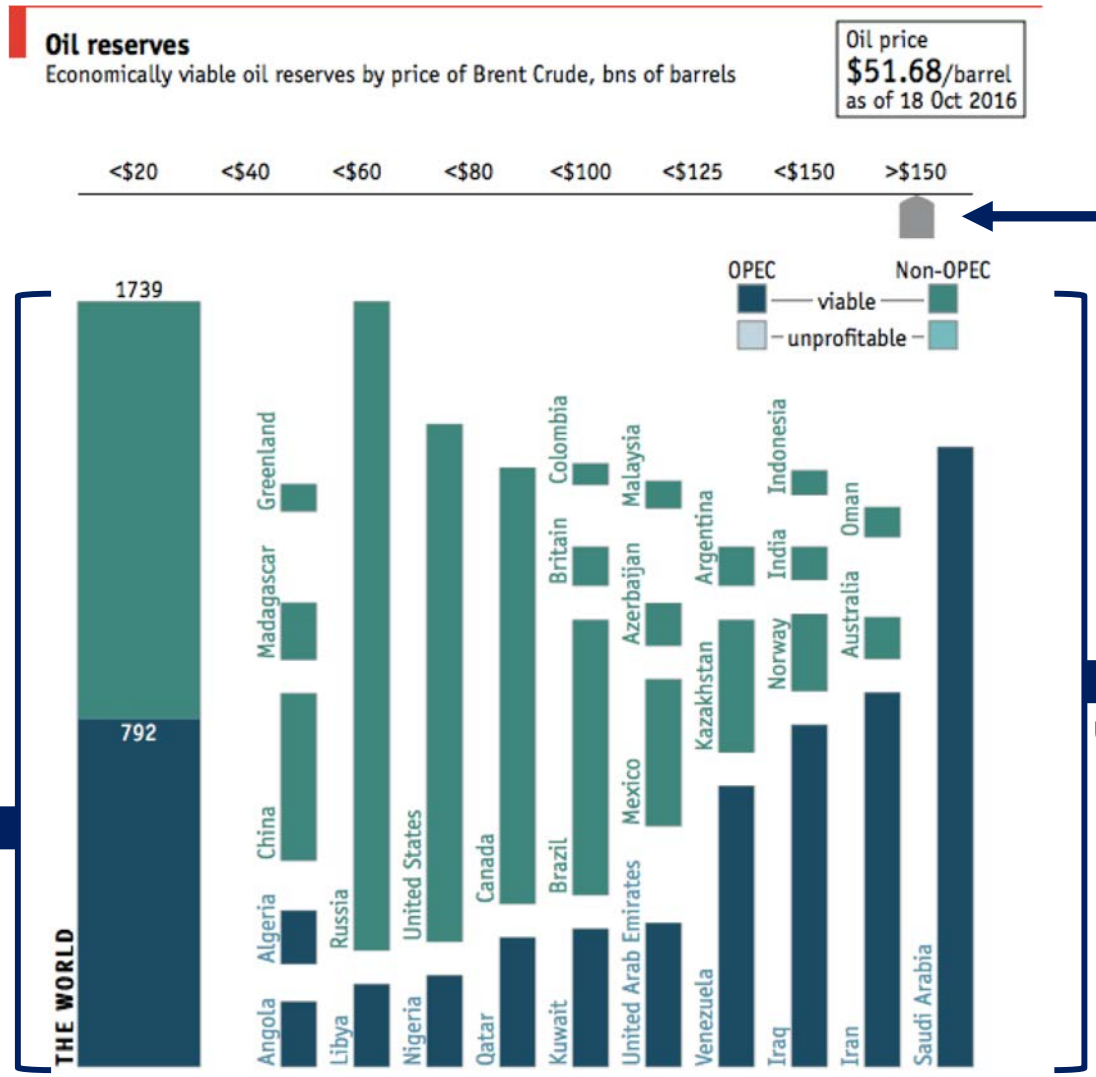
Oil: Features

- A Supply driven commodity as uncertainty over demand growth is low.
- The importance of stocks.
- Conventional vs unconventional: the new normal
- What is the real peak oil concern? Demand or supply?

Viable Oil Reserves

- Peak oil is now widely construed as the date when *demand* of oil will decline.
- Originally the world's concern was about the availability of oil *supply*. Such was what peak oil meant until the EV revolution shuffled the cards.
- Yet liquid demand is likely to continue to grow - at least till 2040 (BP 2018 Energy outlook)
- Supply is ample, but very sensitive to price.
- Whilst the focus is on demand, supply is still the most important factor. Too low a price and supply dries.
- This is why oil price cannot remain lower than 50$ pbl too long. Mechanically, supply will dry up and as demands bound to grow in sync with economic development, price will immediately rebound.

Viable Reserves vs Oil Price: an illustration



Oil Price

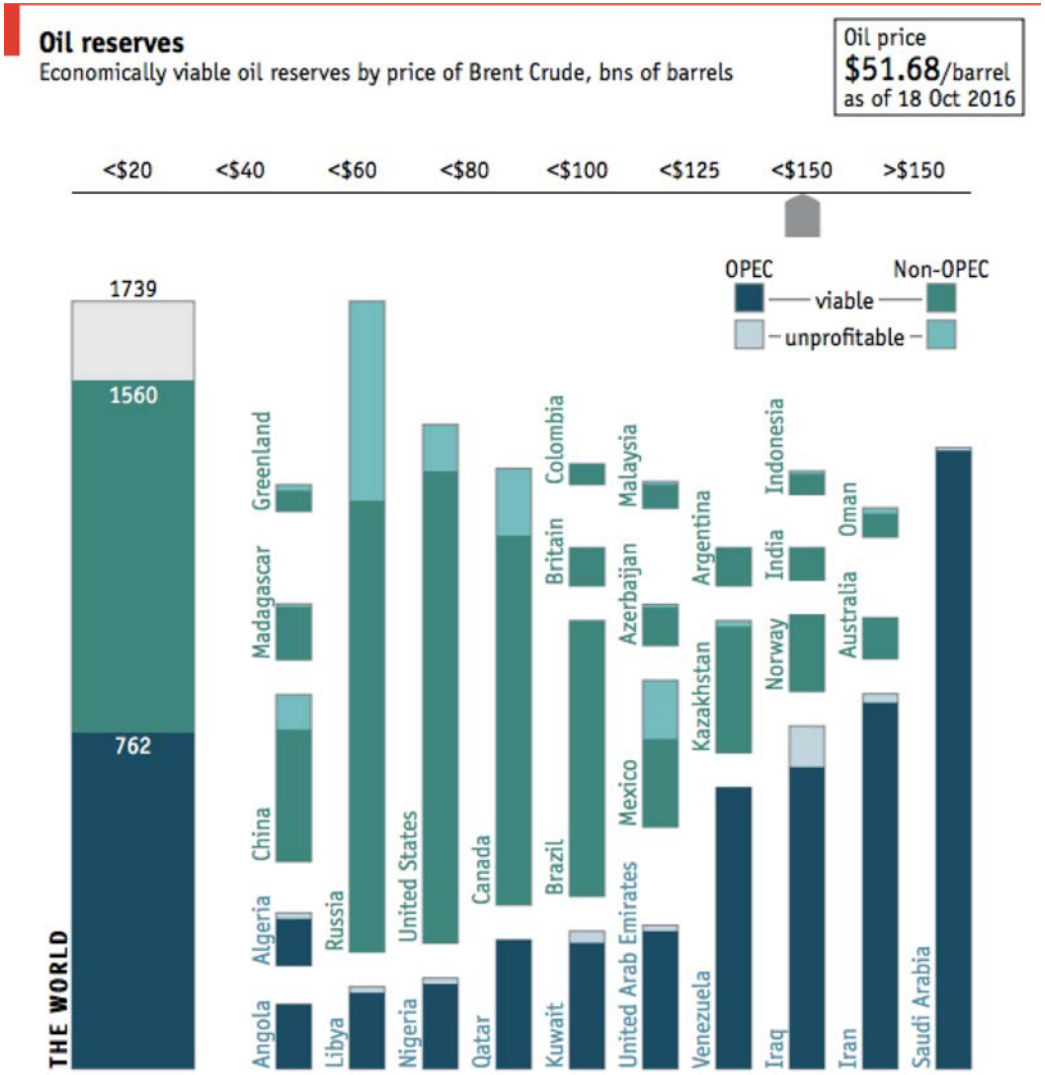
Per Country Reserve Breakdown btw viable & unprofitable at the highlighted oil price

World Reserves: 1,739 bn barrels

The Economist

Lambert Commodities

Sources: Rystad Energy; Quandl



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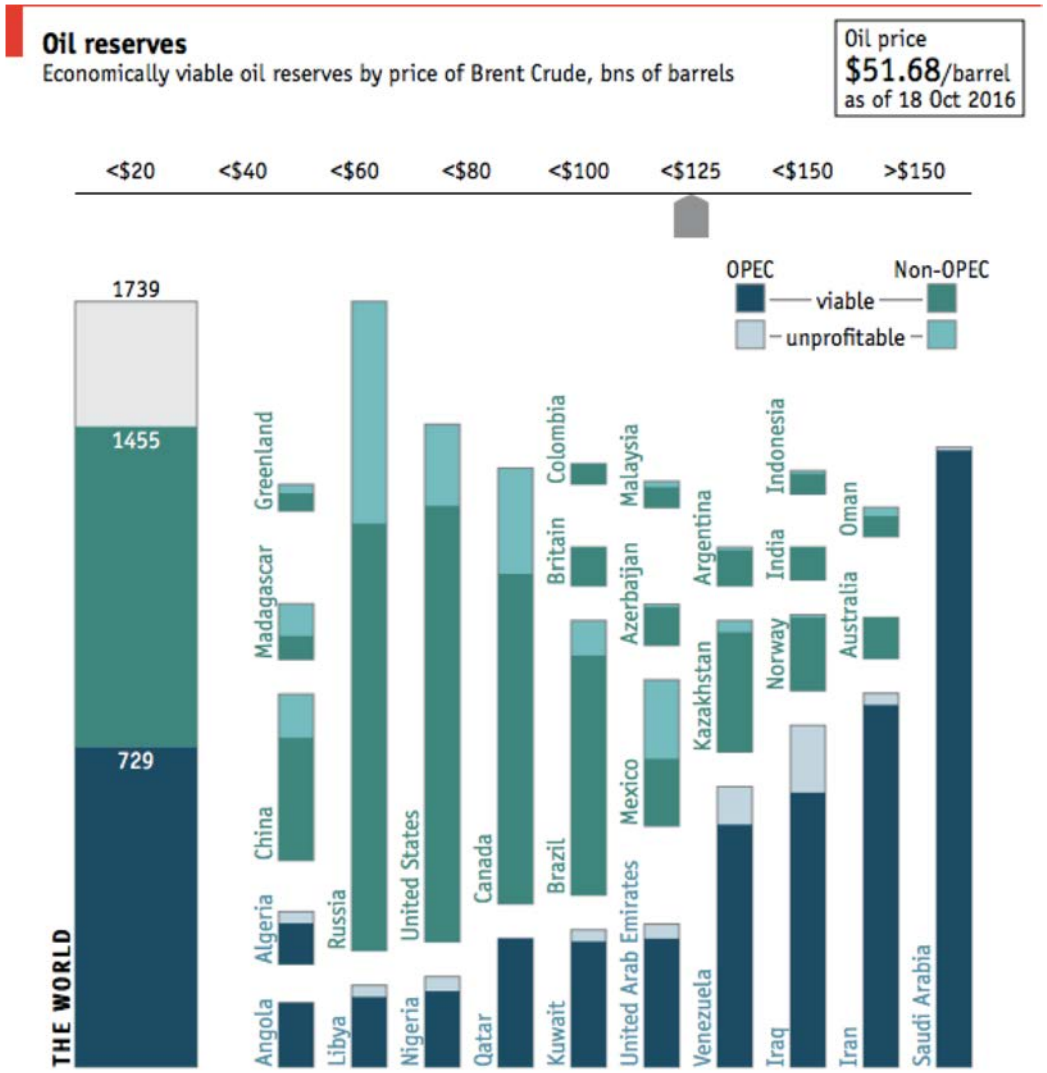

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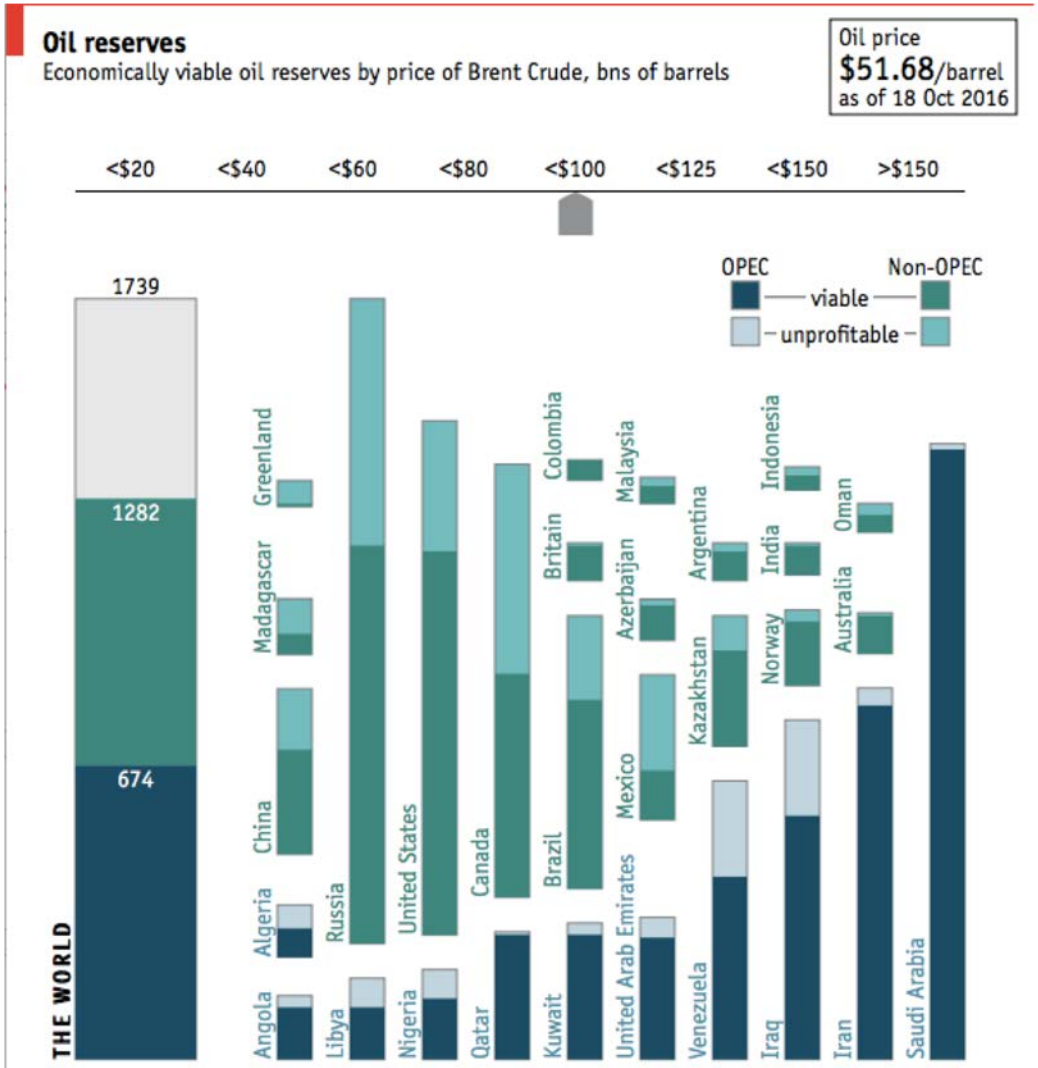


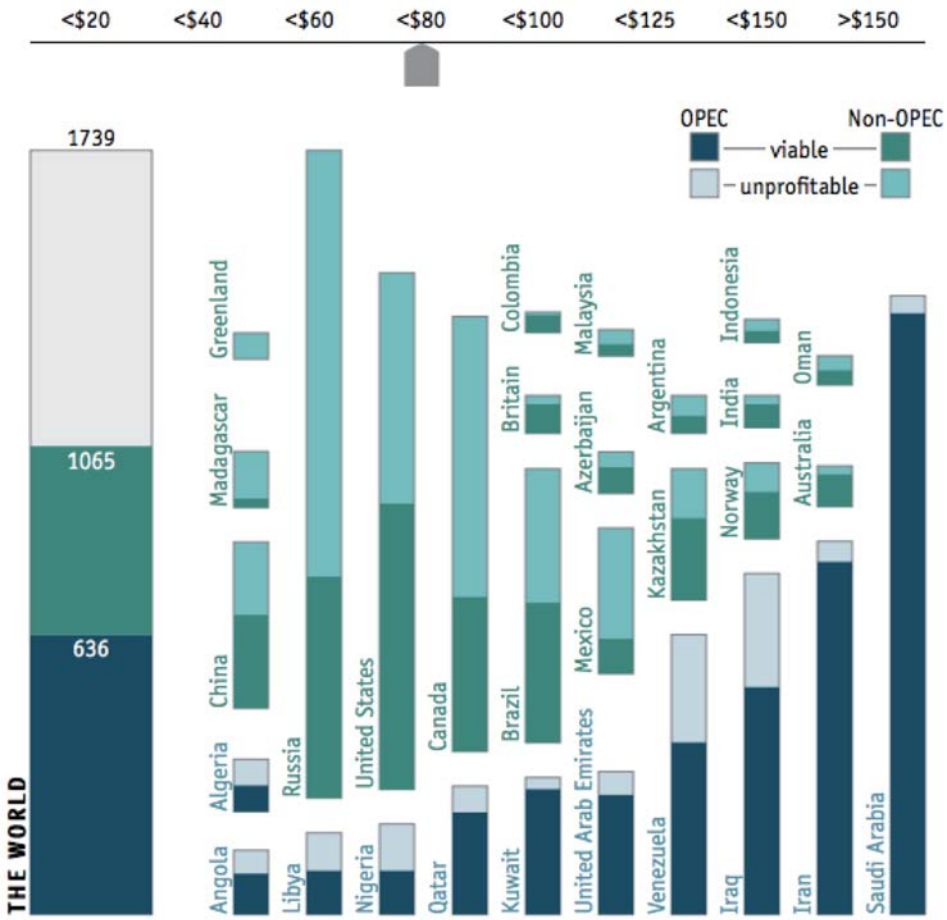
Sources: Rystad Energy; Quandl

The Economist

Oil reserves

Economically viable oil reserves by price of Brent Crude, bns of barrels

Oil price
$51.68/barrel
as of 18 Oct 2016



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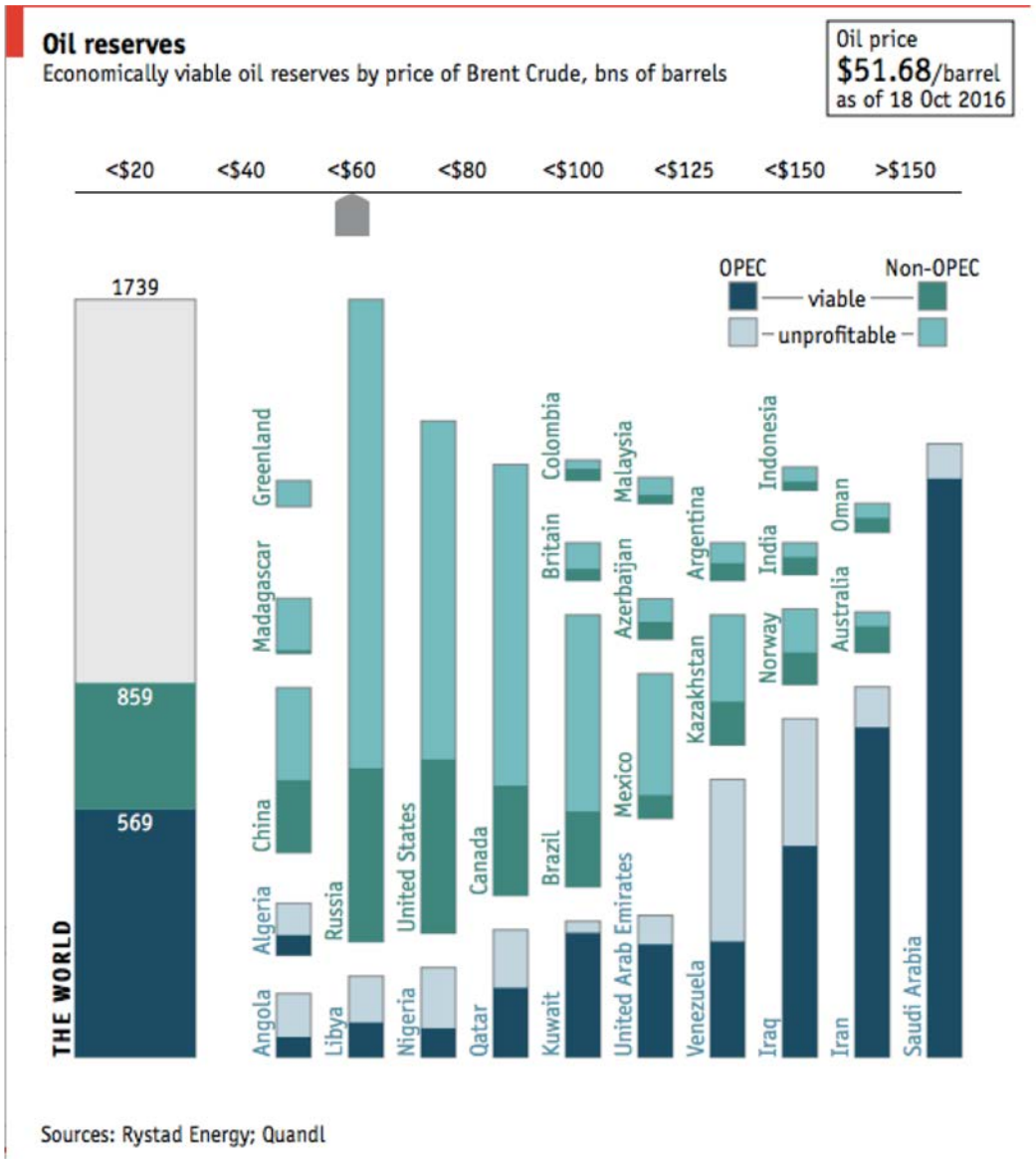
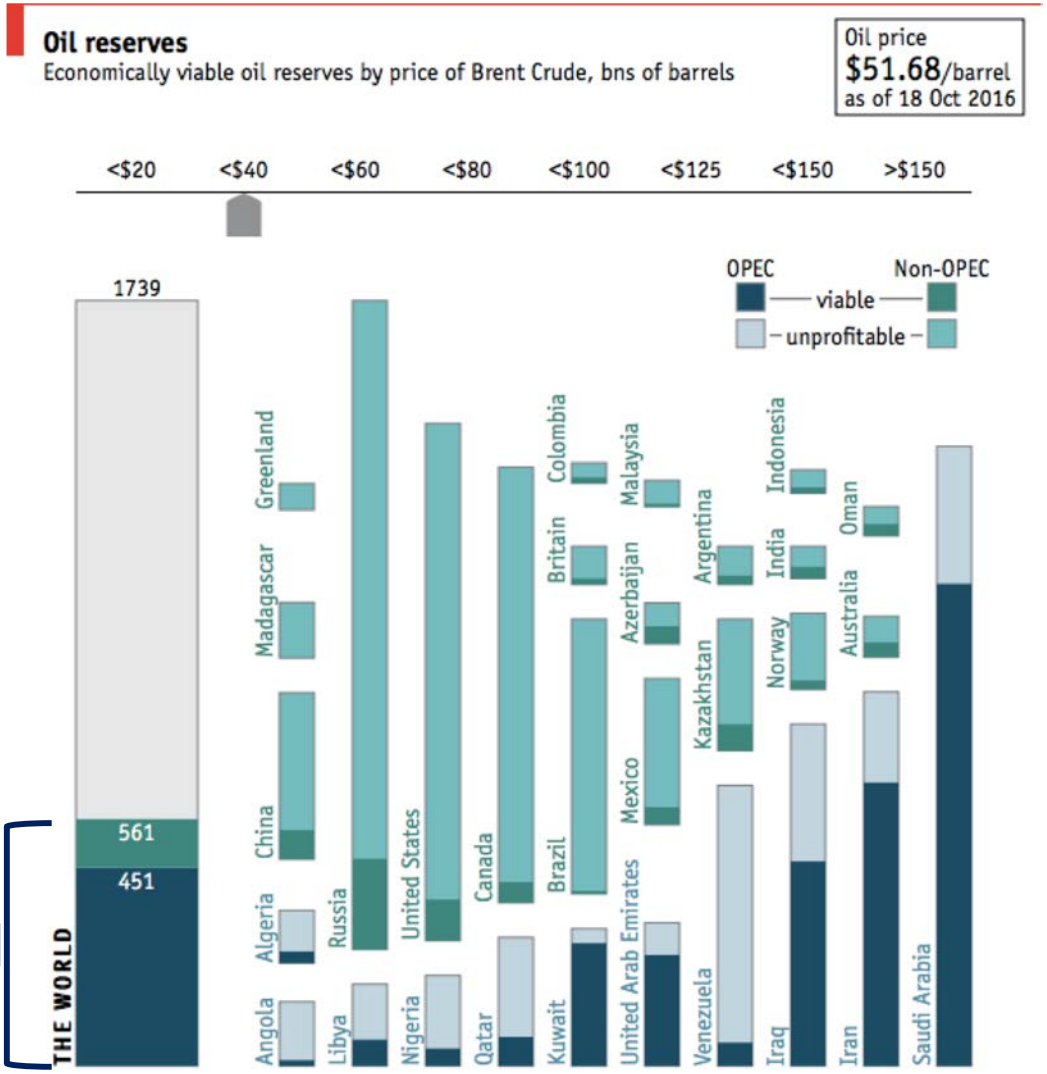


Sources: Rystad Energy; Quandl

The Economist

c.40$ pbl, viable world Reserves would shrank to 561 bn barrels:



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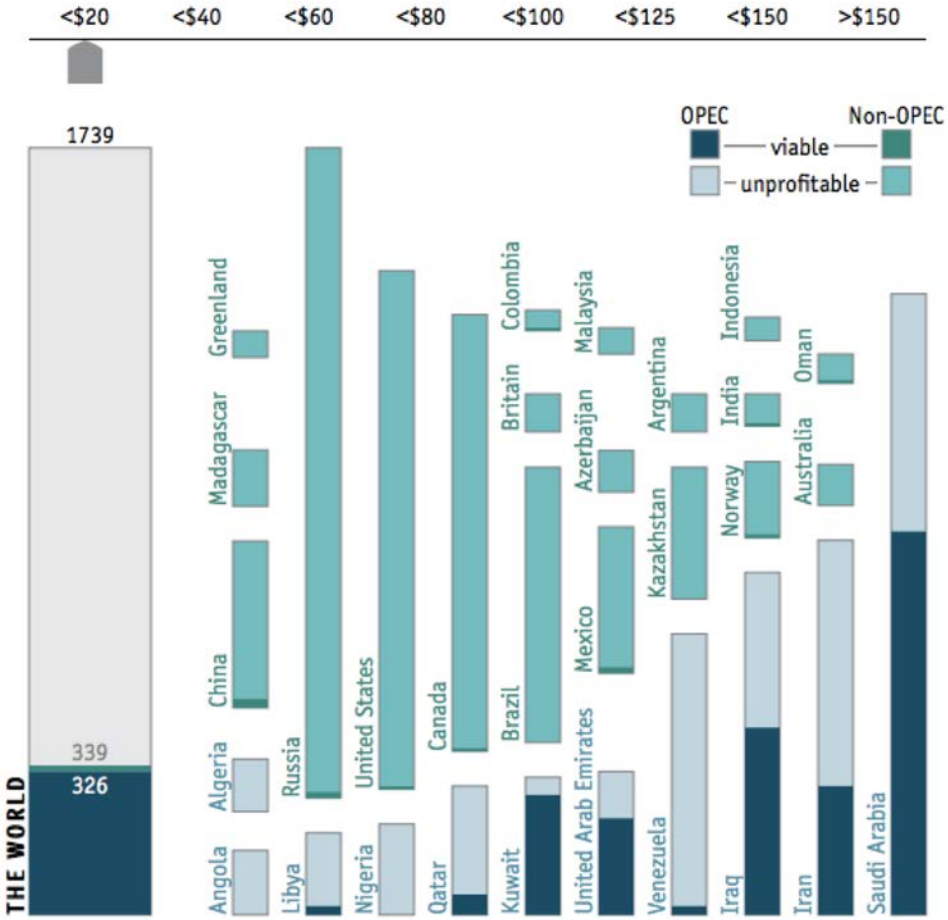


The Economist

Sources: Rystad Energy; Quandl

Historical Perspective

Source FinViz

Current Market

- The "fear factor"
  - ✓ Political uncertainty: tweets and trade wars
  - ✓ The forced market exit of Iran
  - ✓ The meltdown of Venezuela and Libya
  - ✓ KSA and Russia pumping
  - ✓ Demand is strong for now
  - ✓ Meanwhile the Shale Boys enjoy the ride as much as they can

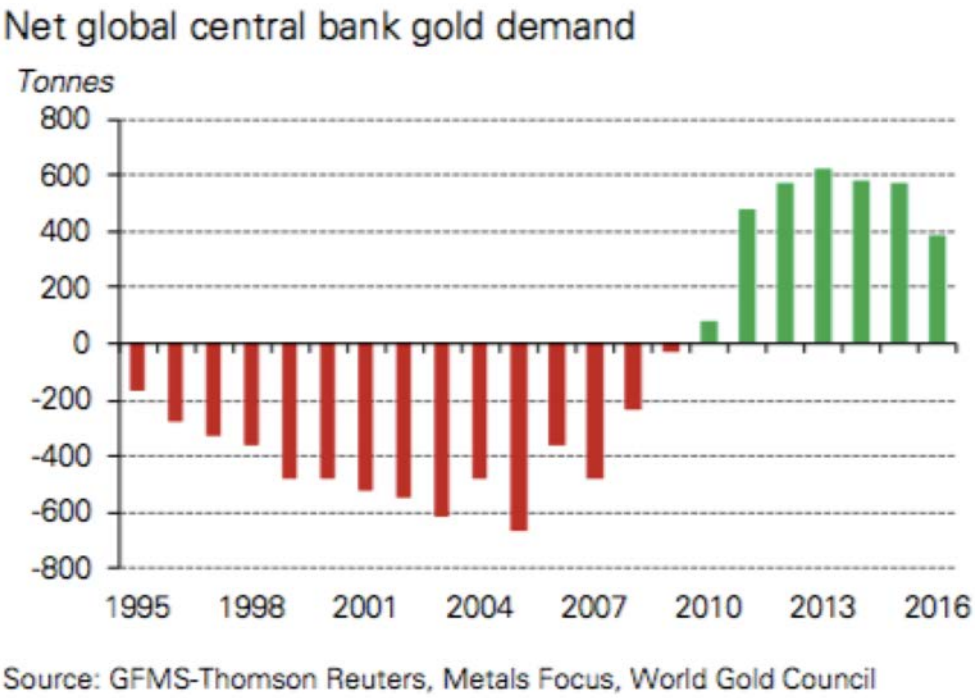
Source FinViz

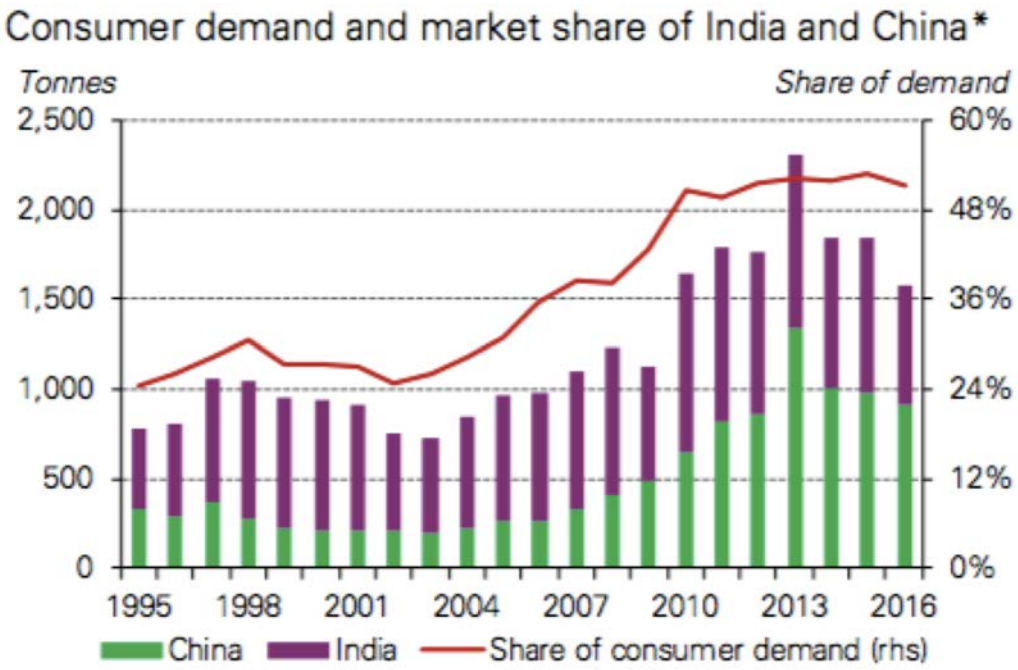
d. Gold, a very special metal: commodity and /or a quasi currency

- A mirror to USD
- A Geopolitical beacon
- A key play for central bankers
- Yet, physical demand is strong in India and China
- And like other precious metals, a technological play

Sources FinViz

Dynamics of Commodity Markets Gold



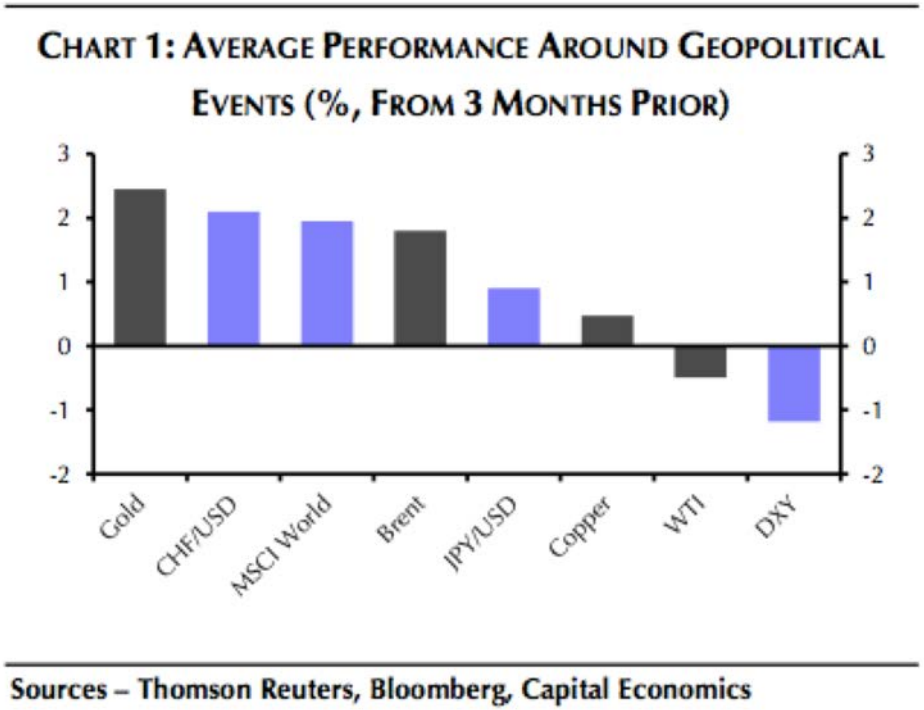


Sources World Gold Council

Dynamics of Commodity Markets

Gold

- Gold is the best hedge against conflicts
- Yet, whilst oil is affected by geopolitics, gold is not, currently



Source Capital Economics

Dynamics of Commodity Markets

2. Perspectives for 2018
   a. The Backdrop
   b. Long-Short Game
   c. Final thoughts

a. Backdrop

i. A robust economic environment

ii. China's resilience

iii. USD's strength

Dynamics of Commodity Markets

Backdrop

I. Sound fundamentals: The World Economy is (still?) in good shape

- 45 leading economies making 80 pct. of the World GDP are in growth phase (OECD)
- if the world GDP was to keep a 3.6 -3.7 pct. growth momentum, it would double in 20 years
- Merchandise Trade grew by 3.6 pct. in 2017– 3.2 pct. e.2018 (WTO)

Healthy Fundamentals, but some doubts

July 18 outlook

	2018	2019	Δ from July	
Global Economy	3.7	3.7	-0.2	-0.2
Advanced Economies	2.4	2.1	0.0	-0.1
Emerging Markets & Developing Ec.	4.7	4.7	-0.2	-0.4

October 18 outlook

Source IMF

Healthy Fundamentals

World Trade Outlook Indicator 102.3

(Index, trend = 100)

Drivers of trade	Level of Index	Direction of change
Merchandise trade volume (Q3)	102.7	↑
Export orders	102.8	↑
International air freight (IATA)	103.2	↓
Container port throughput	104.3	↑
Automobile production and sales	101.0	→
Electronic components	94.1	↓
Agricultural raw materials	100.8	↑

Source WTO – Trade Outlook Indicator Feb 2018

Still Healthy, But…

World Trade Outlook Indicator

9 August 2018

World Trade Outlook Indicator 100.3

(Index, trend = 100)

Drivers of trade

	Level of Index	Direction of change
Merchandise trade volume (Q1)	102.0	➡
Export orders	97.2	⬇
International air freight (IATA)	100.9	⬇
Container port throughput	102.2	⬇
Automobile production and sales	98.1	➡
Electronic components	102.2	⬇
Agricultural raw materials	100.1	⬆

Source WTO – Trade Outlook Indicator Aug 2018

II. China the key Stakeholder: The engine is still roaring

- 6.6 pct. Growth forecast for 2018, after 6.8 in 2017 (IMF)
- Above 6 pct growth, 11 to 12mio jobs created per year to allow the safe pursuit of urbanisation.
- High debt is concern but as Japan, it is largely in domestic hands
- USD denominated debt represents 5.9pct of GDP only (Capital Economics)
- Yet, harbingers of a potential slow down. But countermeasures taken.

Dynamics of Commodity Markets

Backdrop

III a Stronger dollar

- The fundamentals won, finally:
  - ✓ USD weakness in 2017-2018 was not sustainable:
  - ✓ Widening interest rate differential with the rest of the world
  - ✓ An underlying strong US Economy which was turbocharged by tax incentives
- Are we at the eve of a strong rally?
  - ✓ Macro 's uncertainty
  - ✓ Serious harm to emerging economies
- What impact on commodities?
  - For now, the correlation with industrial metals is strong
  - But supply concerns keep oil strong.

Dynamics of Commodity Markets

Backdrop

Source Capital Economics

- Correlation between dollar and industrial Metal prices still strong

Dynamics of Commodity Markets

Backdrop

Source Capital Economics

- Divergence of oil recently as it is affected by supply tensions

Dynamics of Commodity Markets b. Long-Short Game

- Agri: Dry summer in northern hemisphere : Bullish wheat and corn
- Metals: Cobalt, Nickel, Copper, Aluminum - Gold for geopolitics (long term bet)
- Energy: Brent back to 75 in 2019 – but fear factor and tensions could propel price beyond 100$ shortly

Dynamics of Commodity Markets c. Final Thoughts

- No new supercycle despite good economic momentum
  - A sudden demand boost is unlikely – India is not (yet) China
  - Disruption is gathering momentum
- So far the economic momentum is still strong and economists believe on its resilience.
- However, causes will have consequences. Sustained protectionism and populism are bound to take the world economy off track, eventually.

Final Thoughts

A word of caution:

Predictions tend to be wronged as soon as made, so a contrarian view to all the above might be wise!