

What the hell's going on with the oil price – the dynamics and drivers of current global oil price changes

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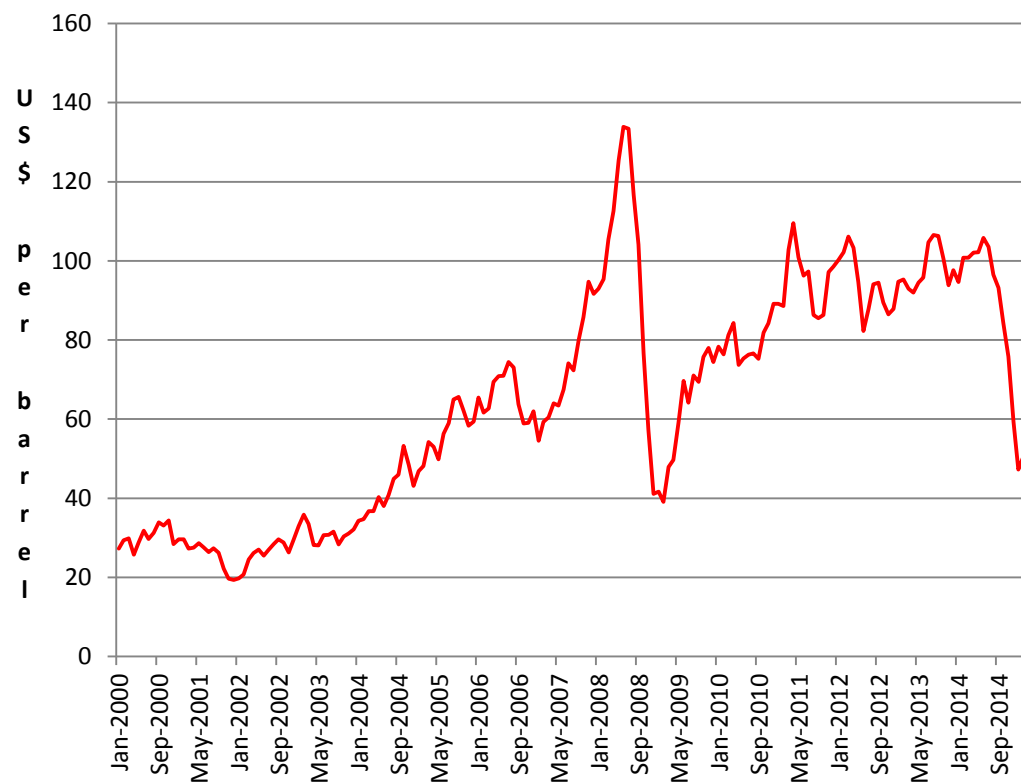
Presentation Outline

- Where are we?
- Why are we here?
- Where are we going?
- What are the implications of a low price world for Australia?

Where are we?

- Importance of using prices of West Texas Intermediate (WTI)
- Note the volatility
- **BUT** between early 2011 and June 2014 relatively stable

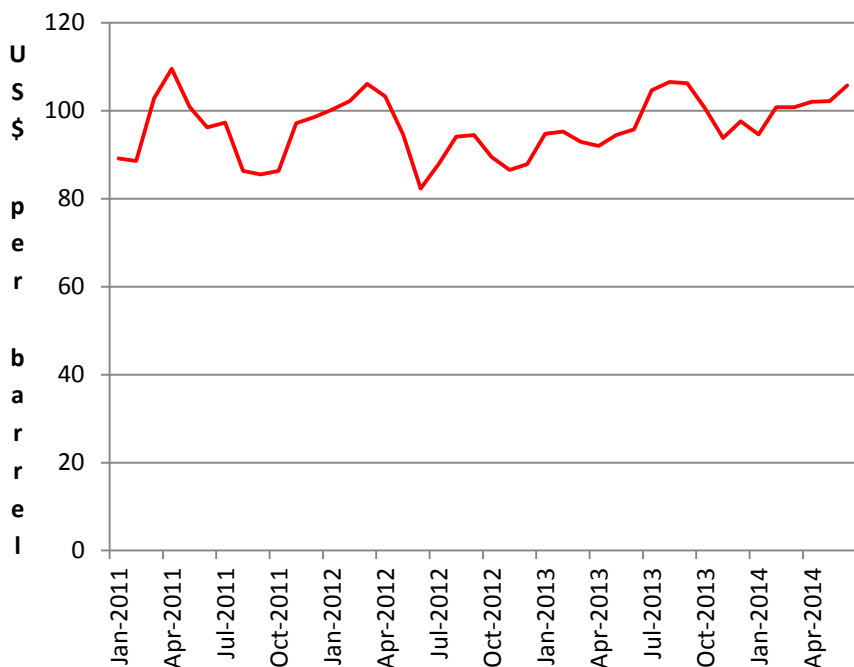
Monthly spot prices (WTI) 2000- March 2015



Where are we?

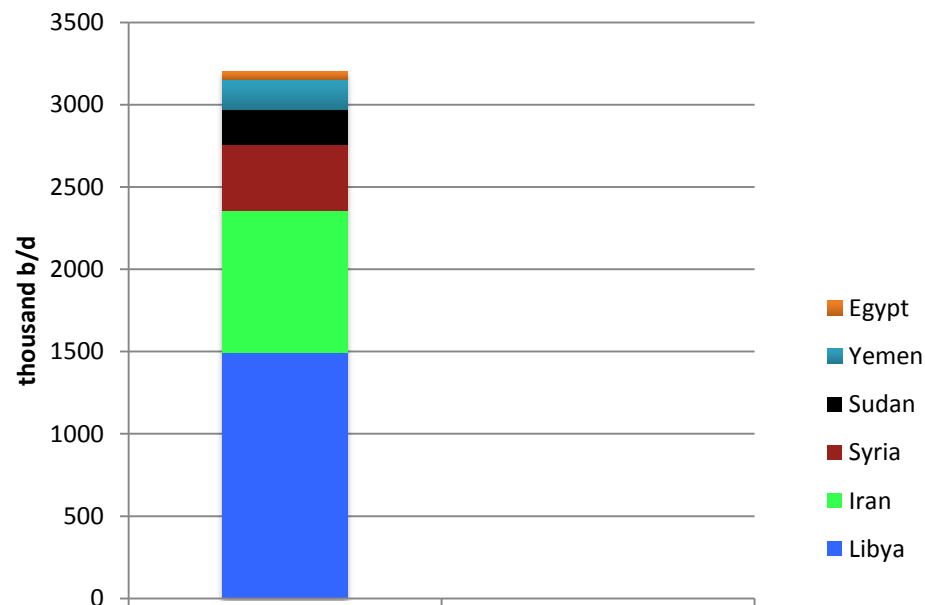
- Price stability is very remarkable given geopolitical outages

Monthly spot prices (WTI)
2011- June 2014



EIA Website 18 April 2015

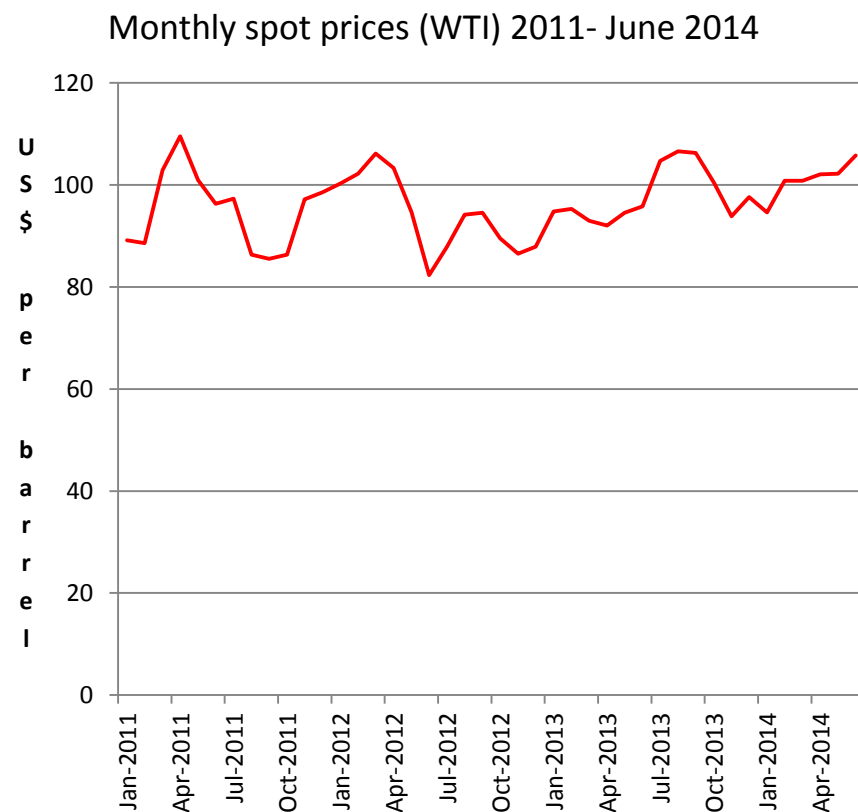
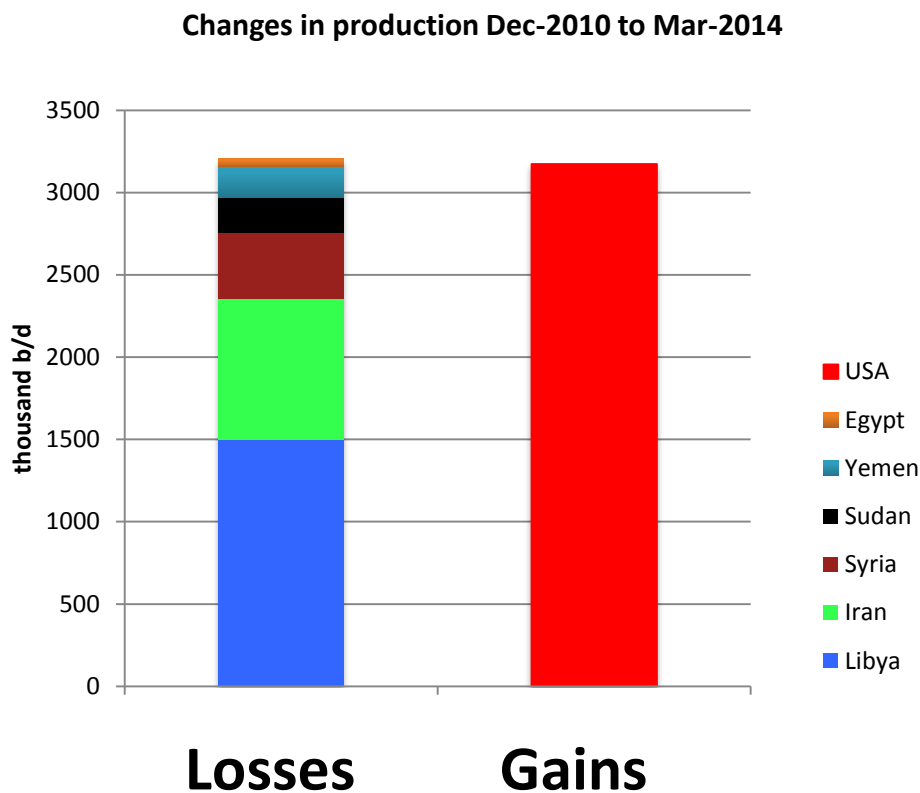
Changes in production Dec-2010 to Mar-2014



Losses

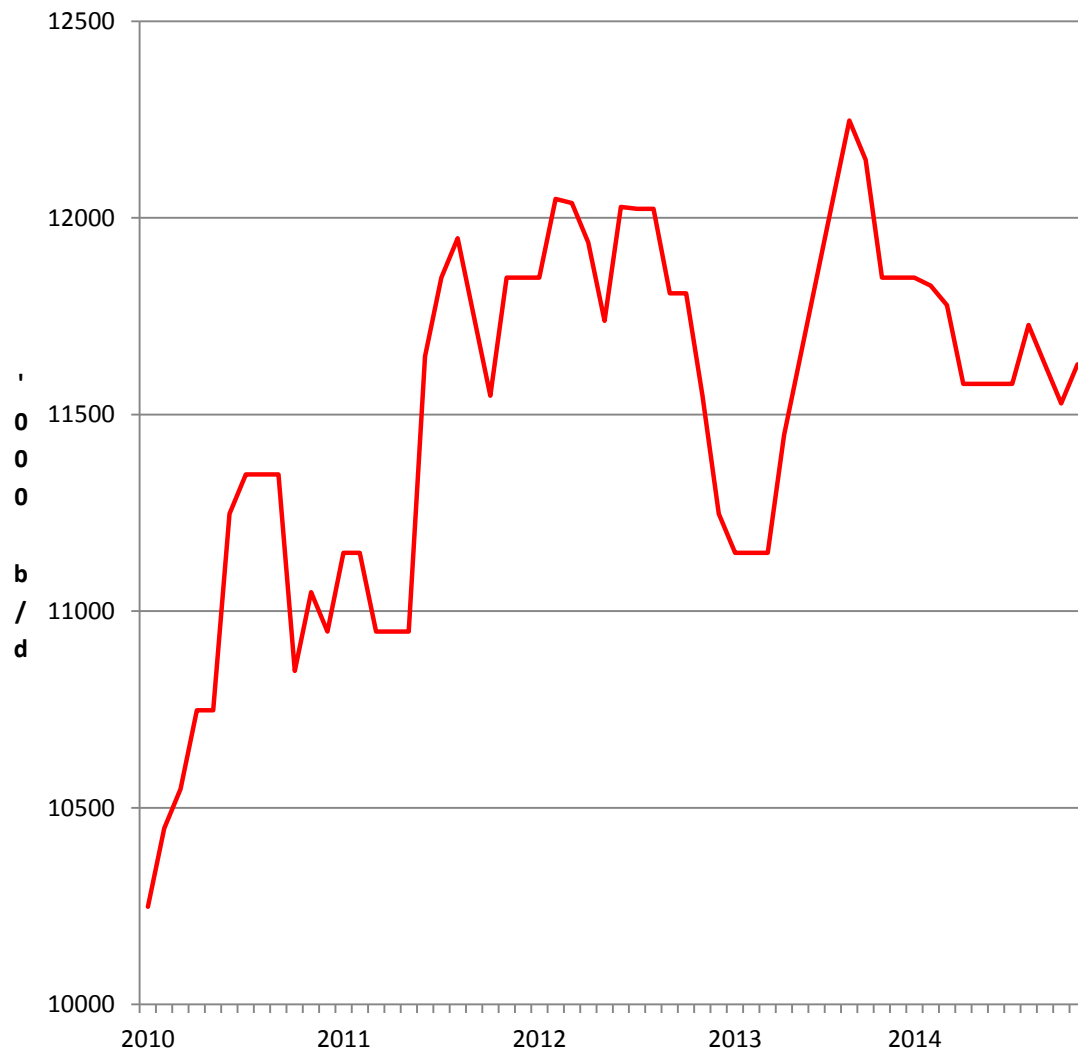
Where are we?

- Why the price stability?



Where are we?

Saudi monthly production 2010- March 2015

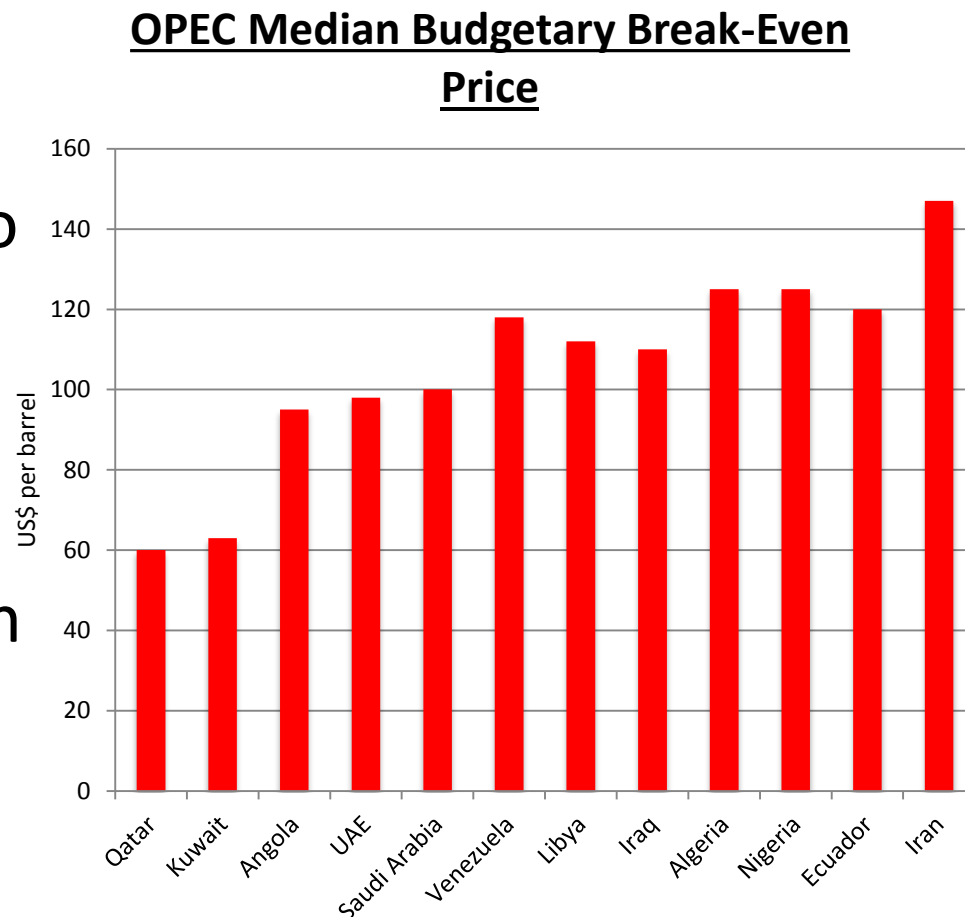


EIA Website 18 April 2015

- **BUT** gains offsetting losses was not a smooth process
- Key was Saudi Arabia (quietly) resumed a **“balancing role”**

Why are we here?

- “OPEC’s dilemma”
 - Need a high price to survive politically
 - But this leads to demand destruction

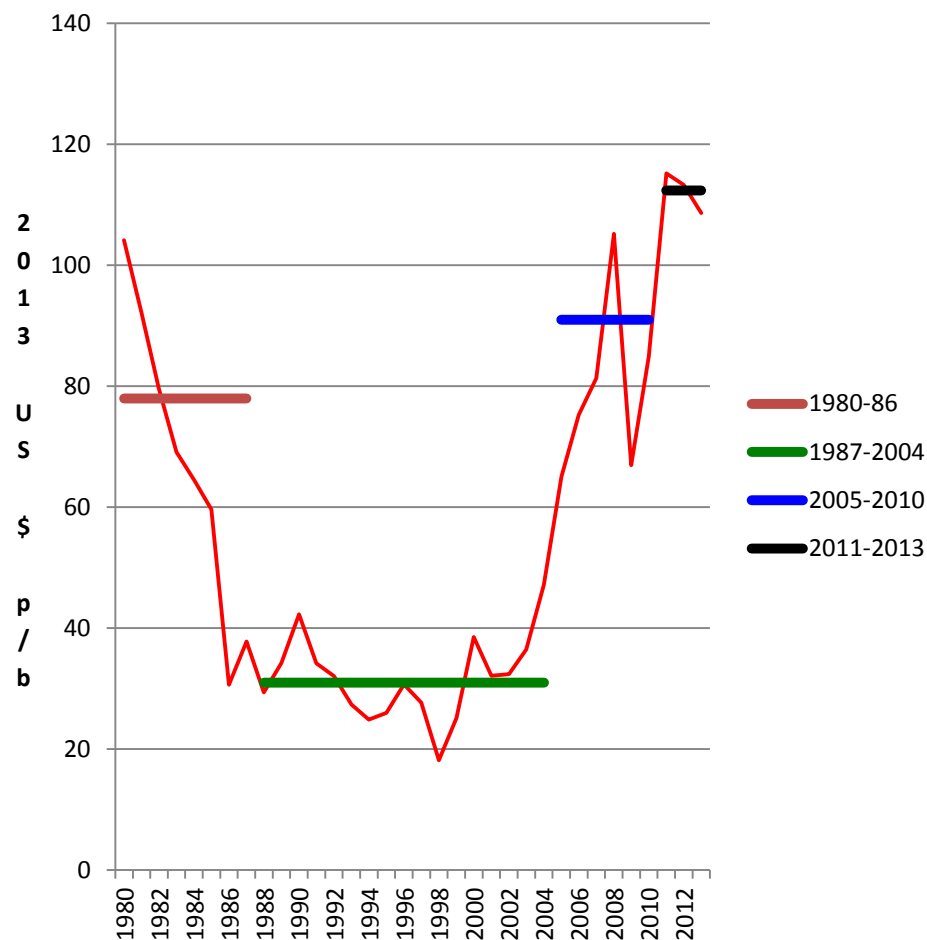


Source: Ali Aissaoui Apicorp Economic Commentary Vol 9 NO. 708 July- August 2014

Demand destruction

- **Note high prices since 2005**
- Demand disappointing in 2014. Partly because of an **income effect**.
 - IEA Oil Market Report July 2013 predicts demand growth 1.3mbd for 2014. Outcome = 0.7 mbd
- **BUT there is also a price effect leading to demand destruction.** China and India are removing subsidies on domestic prices
 - For example, the pump price of gasoline in China increased from \$0.48/liter in Jan 2004 to \$1.37 by end 2013 = an increase of 285%

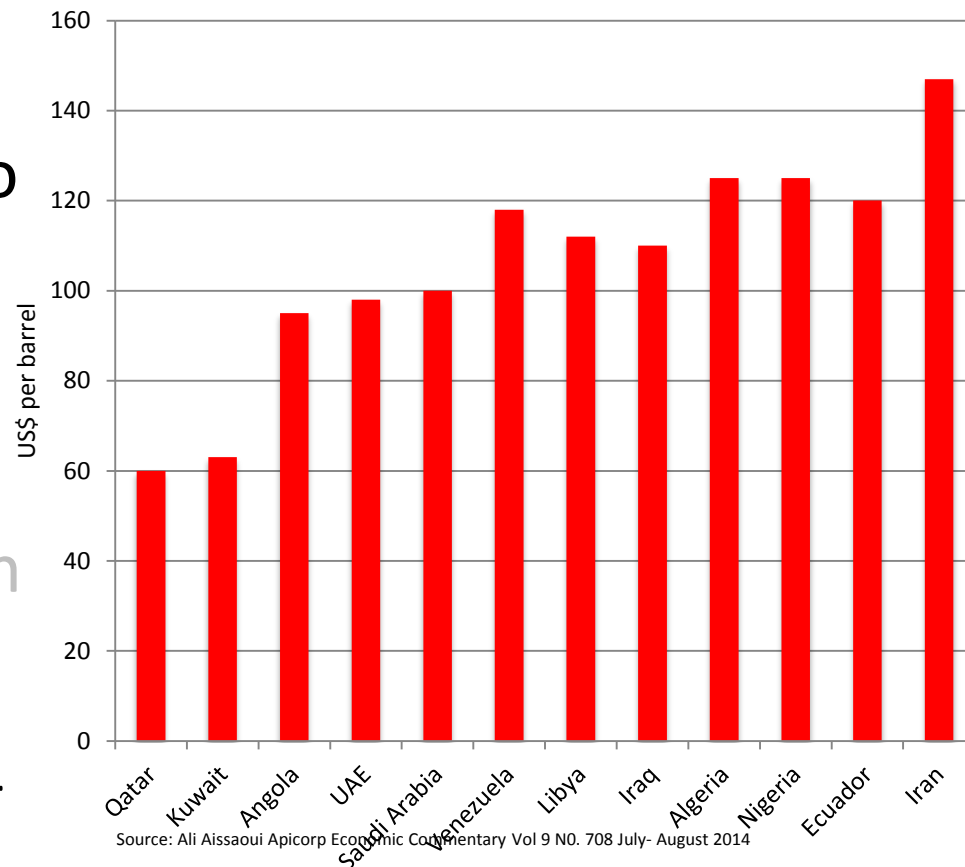
Annual average prices (Brent 2013 US\$) 1980-2013



Why are we here?

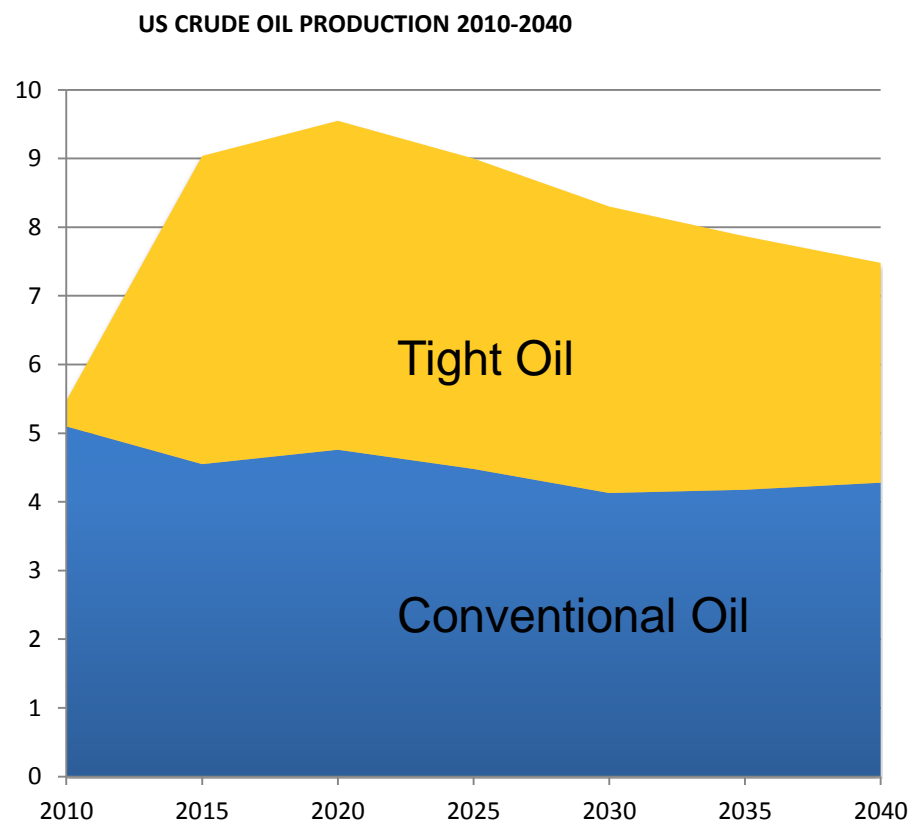
- “OPEC’s dilemma”
 - Need a high price to survive politically
 - But this leads to demand destruction
 - And increased Non-OPEC supply

OPEC Median Budgetary Break-Even Price



Increased Non-OPEC supply

- Courtesy of the “shale technology revolution” = horizontal drilling + hydraulic fracturing
- US output expected to rise from 5.5 mb/d in 2010 to 9 mb/d in 2015



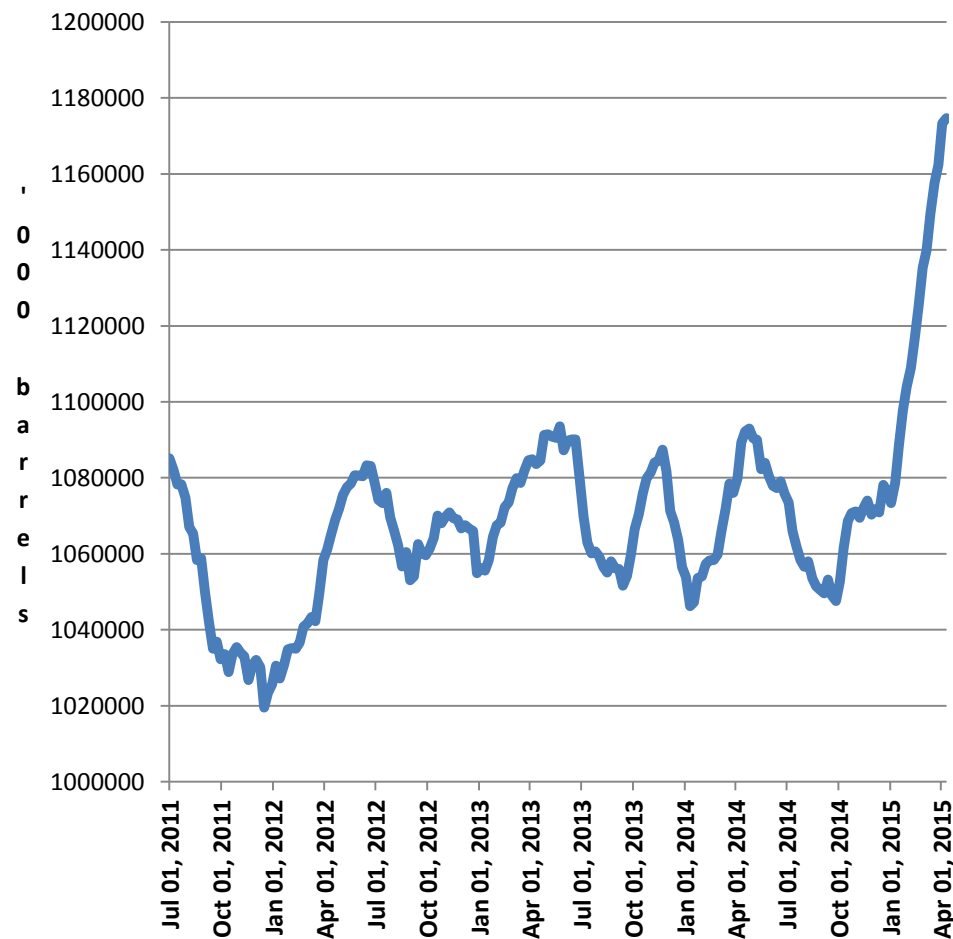
Source: EIA Energy Outlook May 2014
Note the data points are five yearly intervals

What happened next?

Dramatic rise in inventories

- If continuing oversupply cannot be stored, must be sold at lower prices
- Saudi begins to cut production during summer 2014 BUT
- Then remembers their previous “swing role”

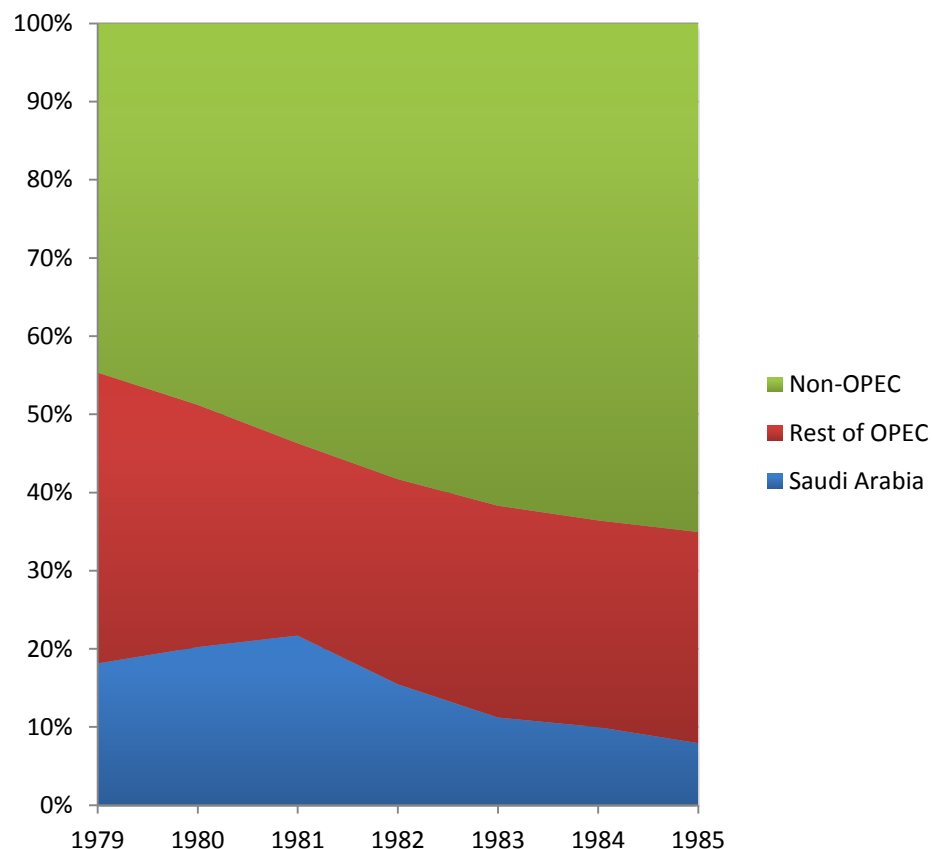
US crude oil stocks 2011-2015



The Saudi swing role

- Initially it was a reprise of 1974-78
- Key problem is after 1979 they were simply absorbing rising Non-OPEC plus rest of OPEC cheating on quotas
- Not “swinging” simply cutting, and cutting, and...

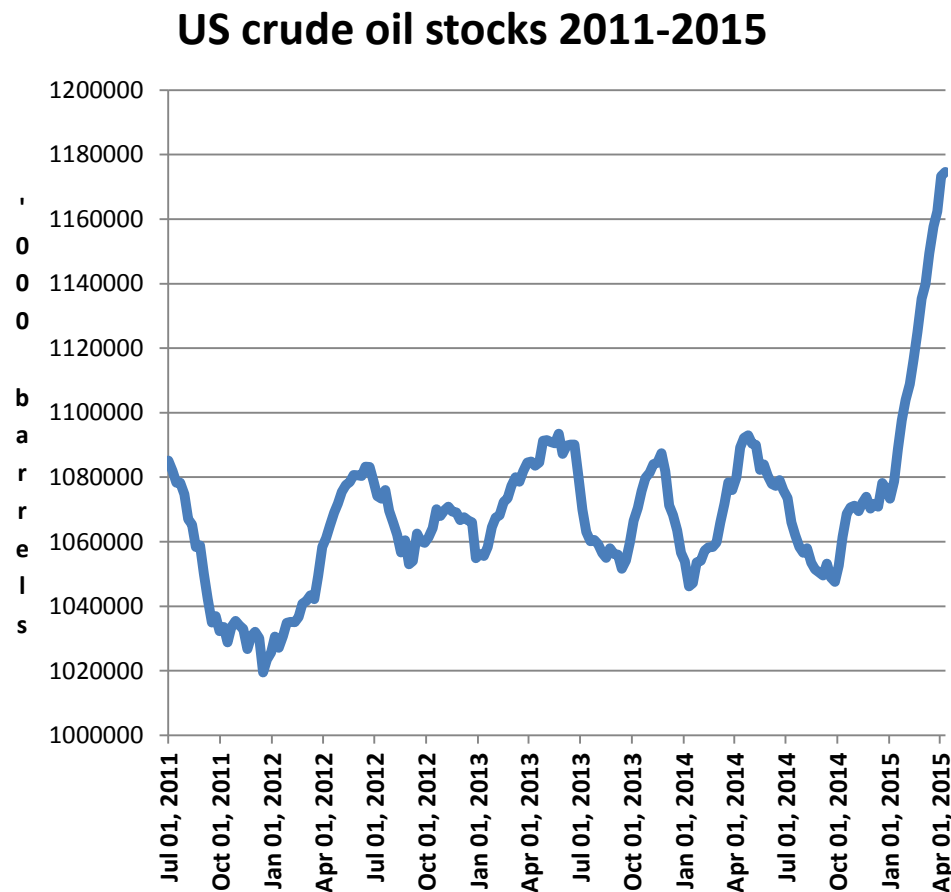
Saudi Arabia's swing role
1979-1985



What happened next?

Dramatic rise in inventories

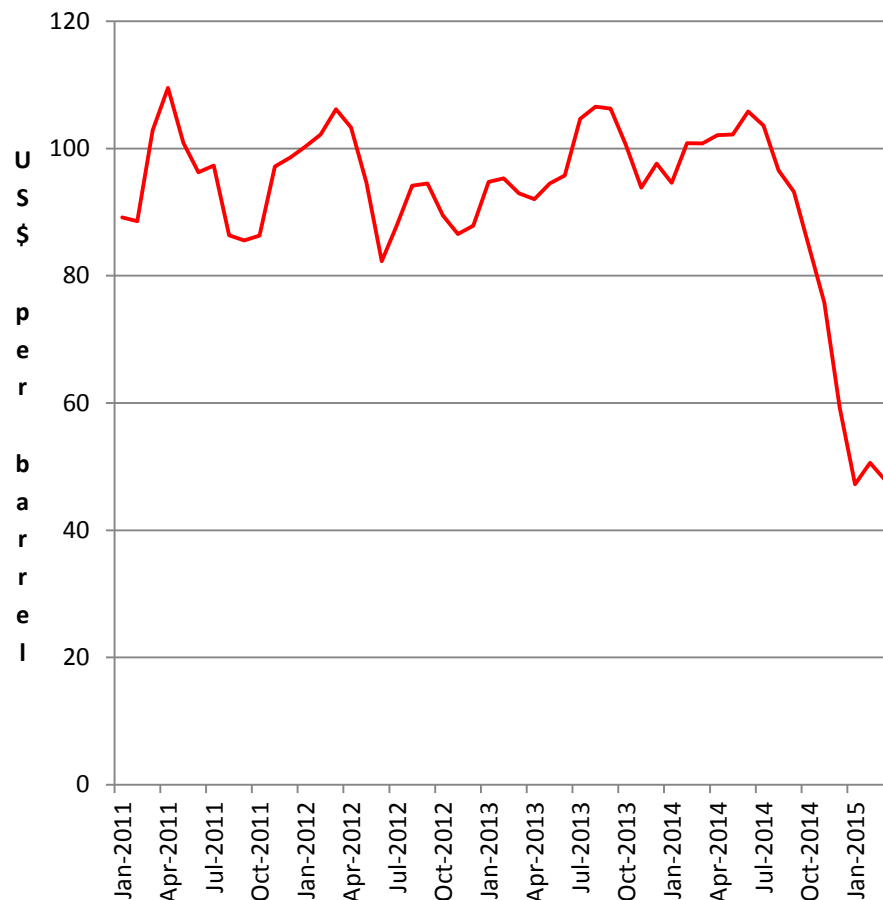
- When Saudi remembers their “swing role”, in early September 2014 they stop cutting and conspiracy theories rule!
- 27th November meeting of OPEC launches prices into a competitive market for first time since 1928



Growing over supply = From June 2014 price collapses*

- Some recovery after January 2015
- But not clear on what basis given inventories continue to rise

Monthly spot prices (WTI) 2011- March 2015



* **As predicted:** See Paul Stevens & Matthew Hulbert, Oil prices: energy investment, political stability in the exporting countries and OPEC's dilemma. Chatham House Briefing Paper, **October 2012**

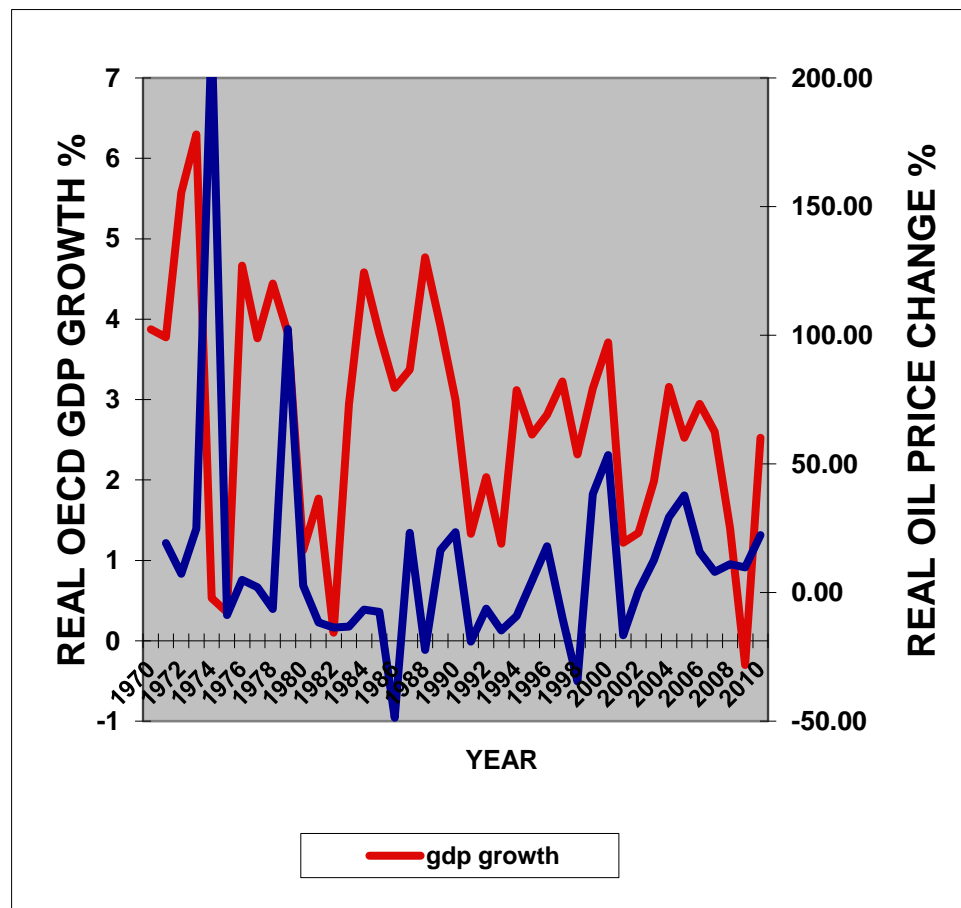
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Where are we going?

The impact of low prices? Will there be a reversed version of OPEC's dilemma?

Changes in oil prices and changes in GDP 1970-2010



- Increased Demand from higher GDP and lower prices?
 - Oil prices are not the influence on GDP they once were
 - Forgets demand destruction.
 - Ignores “OECD disease”
- Reduced Supply?

Where are we going?

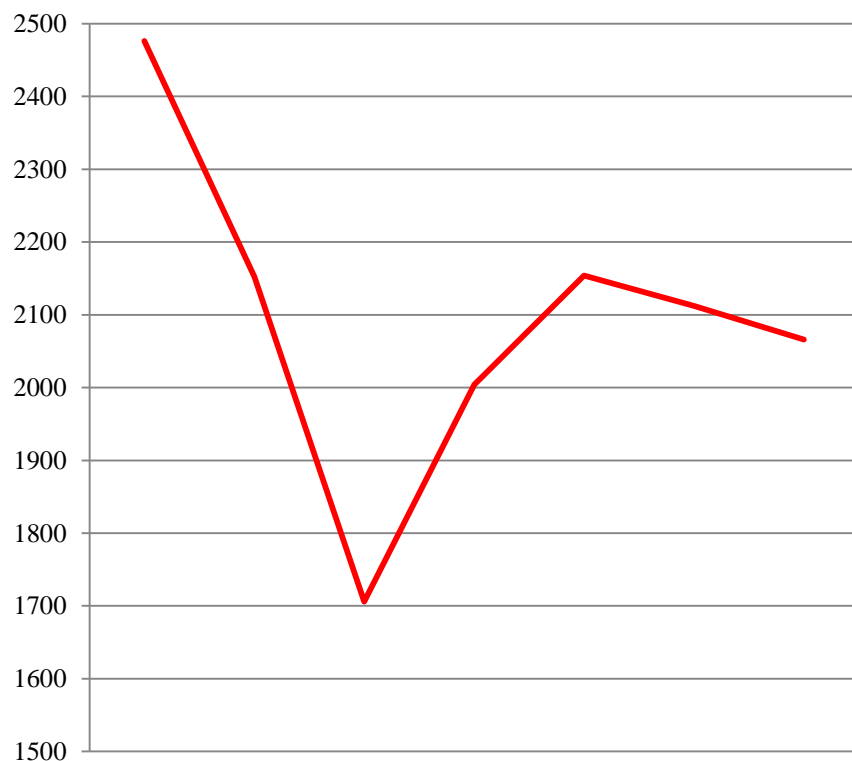
Reduced supply? “Low prices will slow US tight oil growth”

- **Break-even prices** –for NEW capacity development
 - Huge variations – claimed \$60-90 p/b
 - Cost inflation, booms and cycles
 - Break-even for WTI? Bakken \$29-41 on counties with 90% of the rigs (Bloomberg 21st January 2015)
- **Shut-in prices** –to continue EXISTING capacity = much lower
 - Very low – probably <\$40 (Bakken put at \$15 per barrel)
 - And many operators highly leveraged and need cash flow
 - A lot of hedging going on (15-20% of 2015 production)
 - AND the “fracklog” in the USA puts a cap on prices
 - Many wells drilled but not completed
 - Estimates suggest 3,000. At 800 b/d per well = 2.4 mnb/d

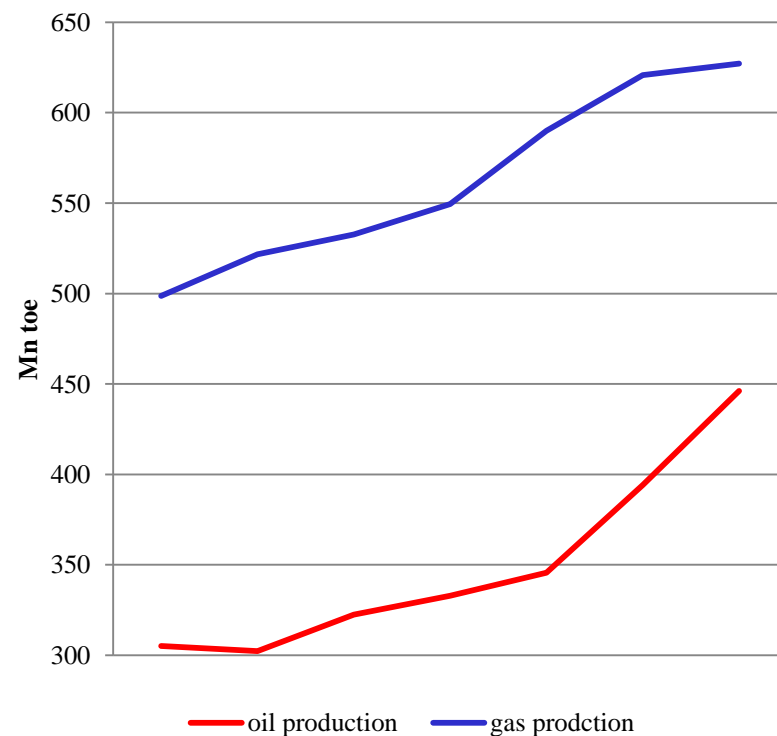
Where are we going?

Beware the rig count as a lead indicator of US production. In the past not much use ...

active well service rig count 2008-14

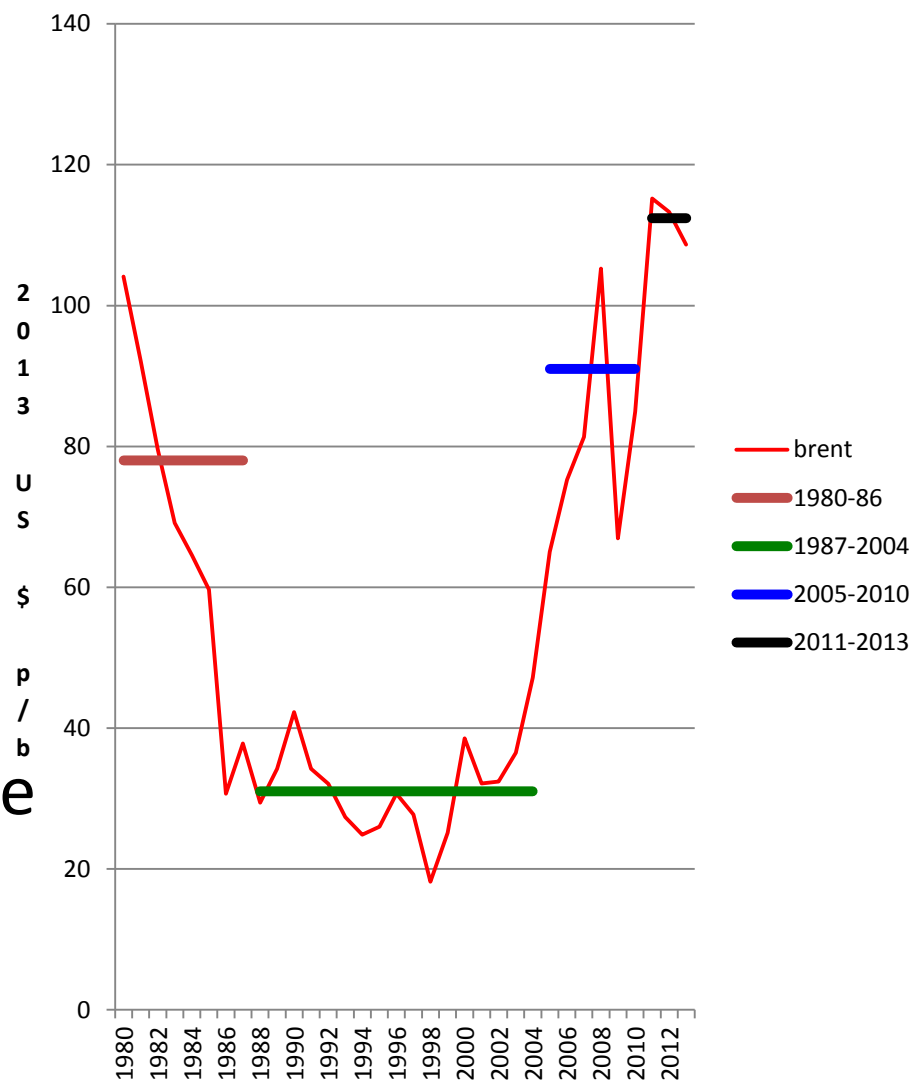


Production 2008-2014



Conclusions on “where we are going?”

Annual average prices (Brent 2013 US\$) 1980-2013



- Absent geo-political shocks we face “low” prices for “some time”.
- **BUT** beware of geo-politics
 - Middle East upheavals?
 - Political instability in some producers as revenues fall?

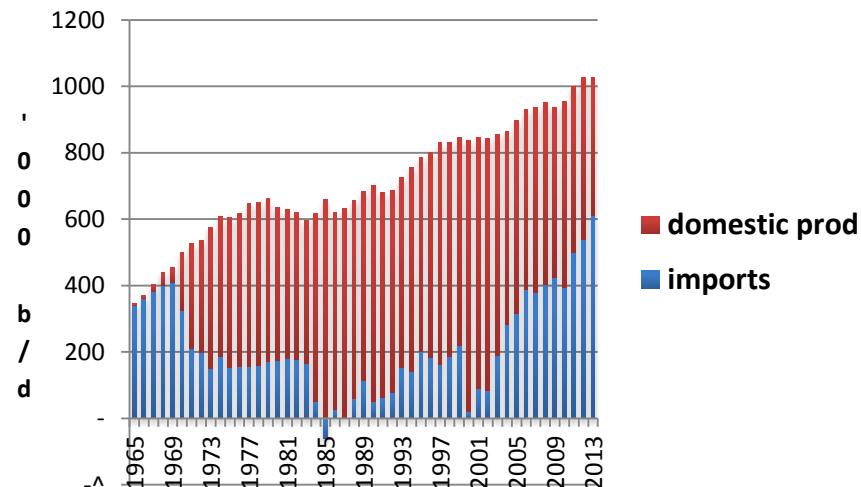
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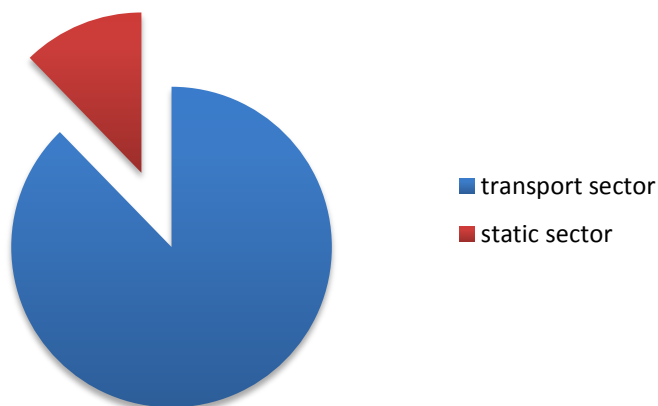
Oil in Australia

- Oil consumption growing
- Imports of refined oil products growing
- Limited scope for substitution
- 2013 oil imports 9% of imports = one of the lowest in Asia so no macro-economic boost

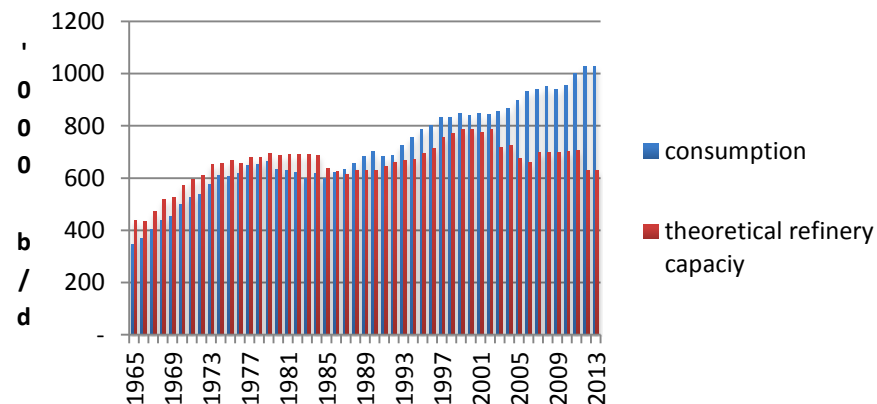
Australian oil consumption by source 1965-2013



Australian oil consumption (sales) by sector 2013-4 (ML)

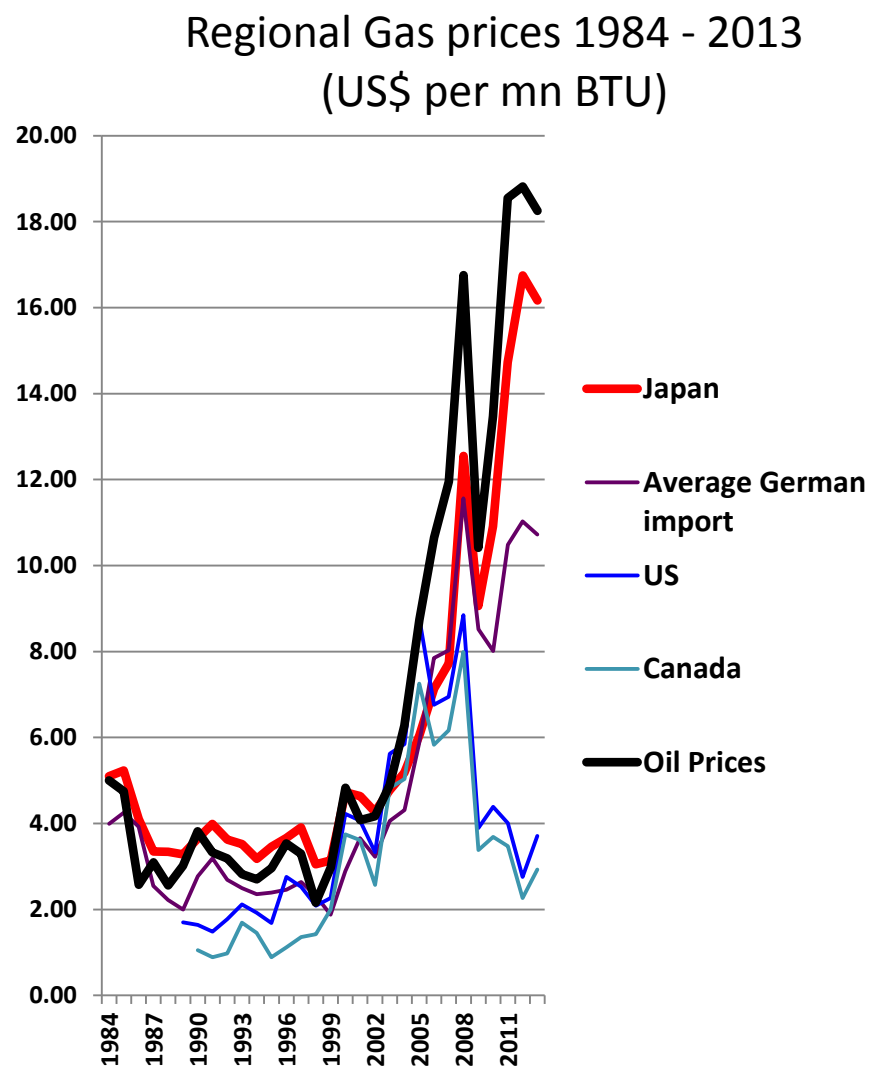


Australian consumption and theoretical refinery capacity 1965-2013



Implications for LNG

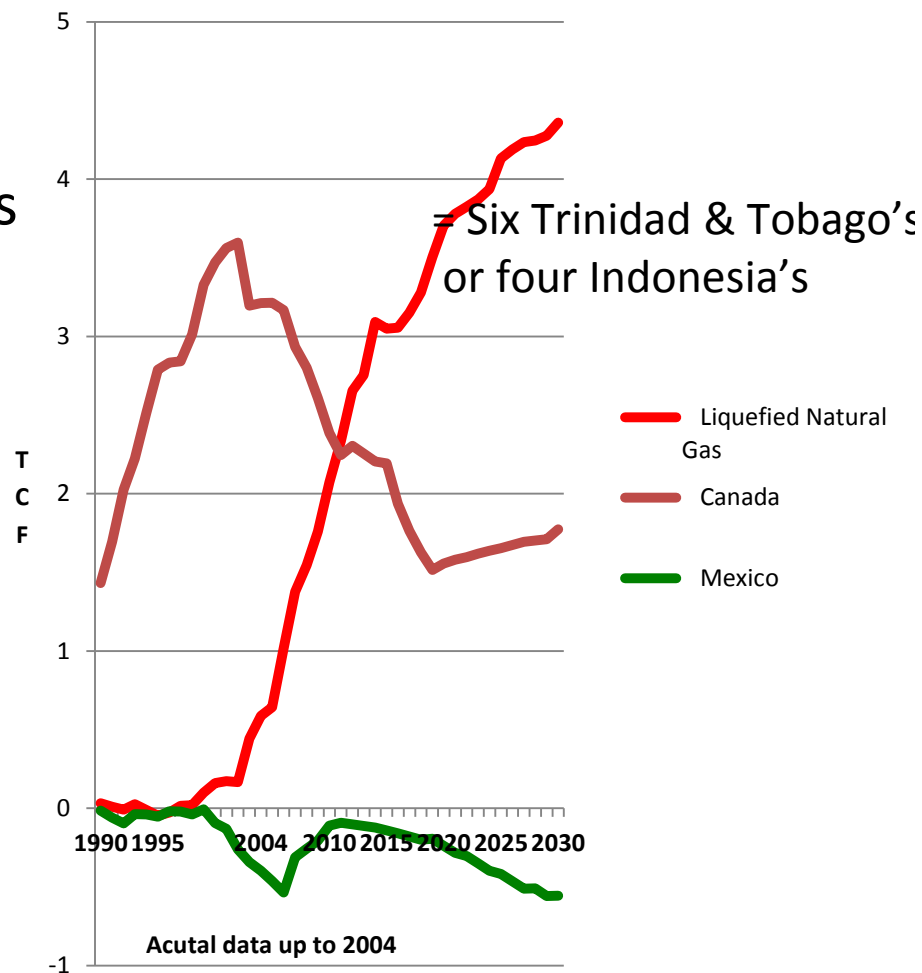
- Low oil prices and gas prices in Asia
 - Contractual link to oil?



Implications for Australian LNG

- Low oil prices and gas prices in Asia
 - Contractual link to oil?
 - Already an oversupplied market because of US shale gas
- Impact on current projects?
 - Already horribly over budget
 - Now facing lower prices ...
- Impact on future projects
 - Low prices = low investment?
 - Poor prospects for domestic gas supplies?

US Imports of natural gas by source
EIA Energy Outlook **2006**



THANK YOU FOR YOUR ATTENTION