



CHATHAM HOUSE

The Coming Oil Supply Crunch

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Presentation Outline

Report available at

<http://www.chathamhouse.org.uk/publications/papers/view/-/id/652/>

- The Hypothesis and Why It Matters
- The Context – Comparing the 1970s with today
- The Investment Story
- The Policy Solutions and Implications



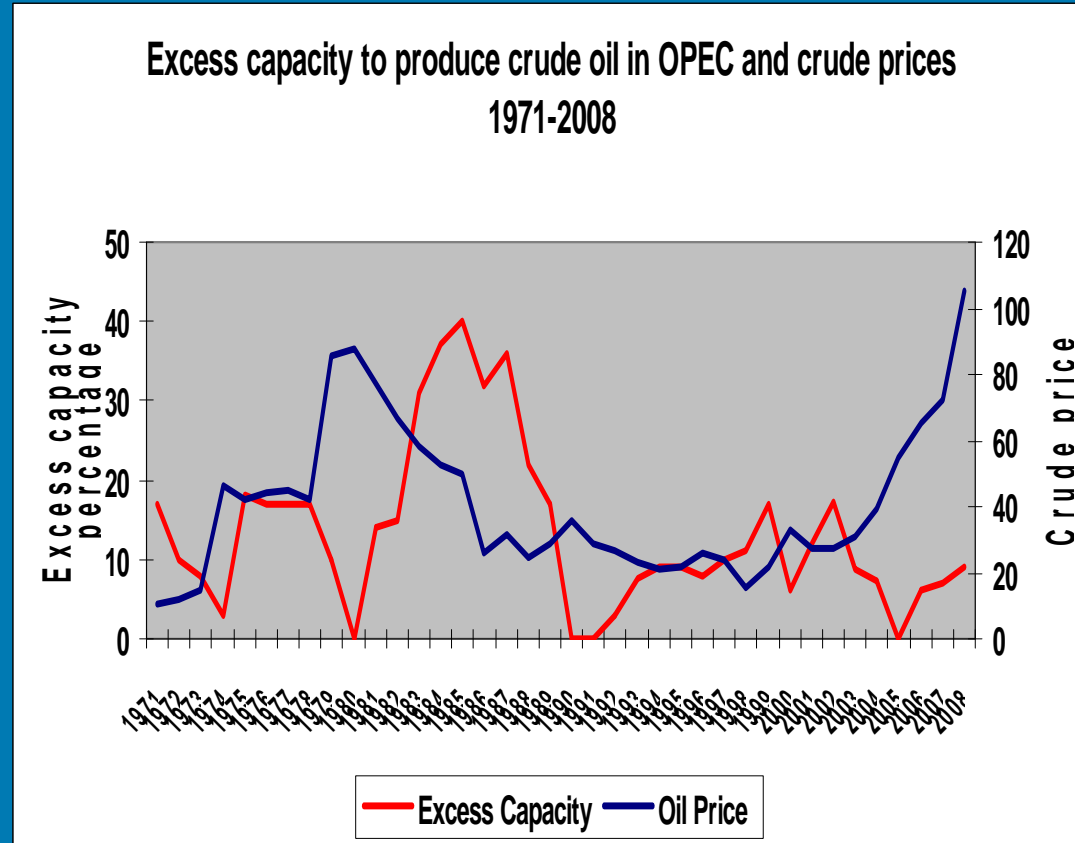
The Hypothesis

- Assuming no collapse in oil demand
- Within the next five to ten years
- Global oil markets will face a serious physical “supply crunch”
- This is nothing to do with “Peak Oil” or any below the ground constraints
- Entirely the result of “inadequate” investment by IOCs and most NOCs



Why it matters

- What does a “supply crunch” mean?
- Relates to the amount of installed excess capacity to produce crude oil in OPEC-11
- Key to understanding the history of crude oil prices



May 2008 – Based on IEA’s June estimate of 2.67 mn b/d excess



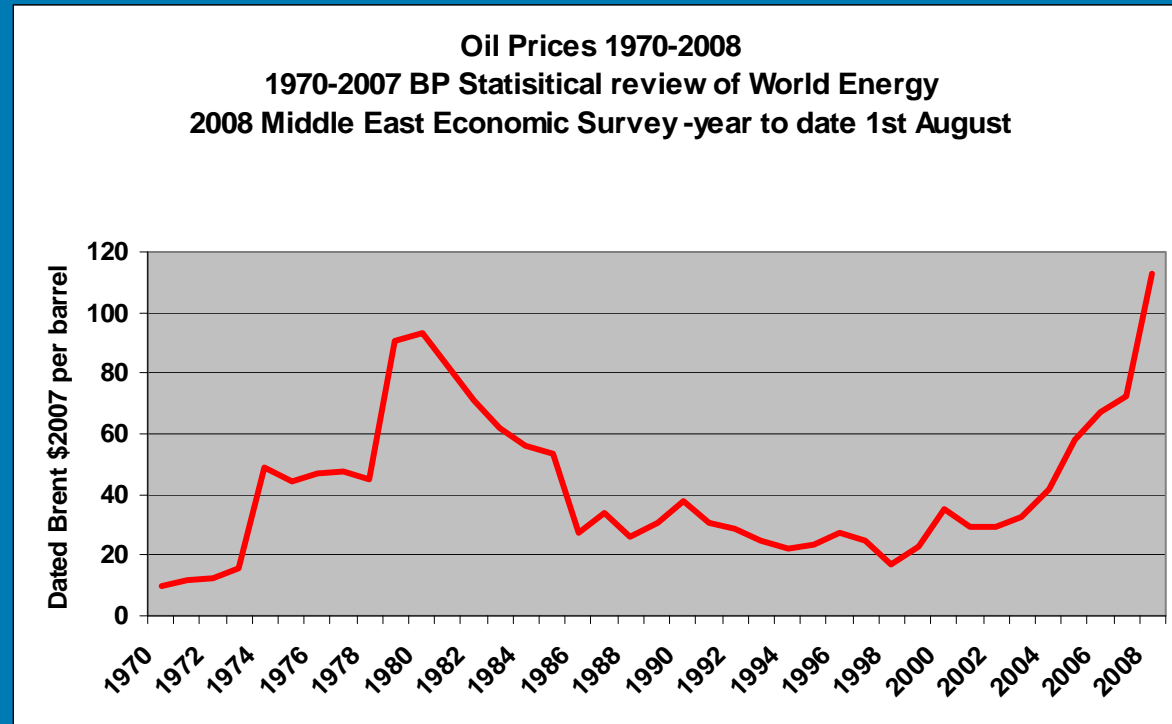
Presentation Outline

- **The Hypothesis and Why It Matters**
- The Context – Comparing the 1970s with today
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The Context – Comparing the 1970s with today Similarities

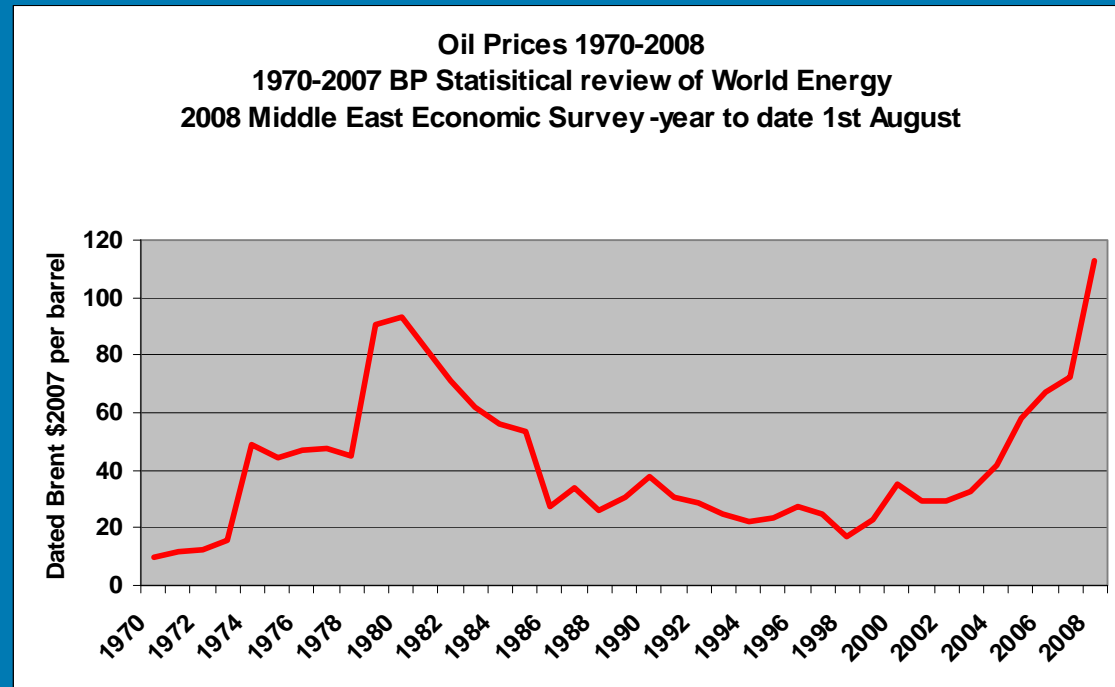
- Prices reach high levels and are expected to go higher
- THUS “oil in the ground is worth more than money in the bank”
- Similar causes



The Context – Comparing the 1970s with today

The causes of the higher prices

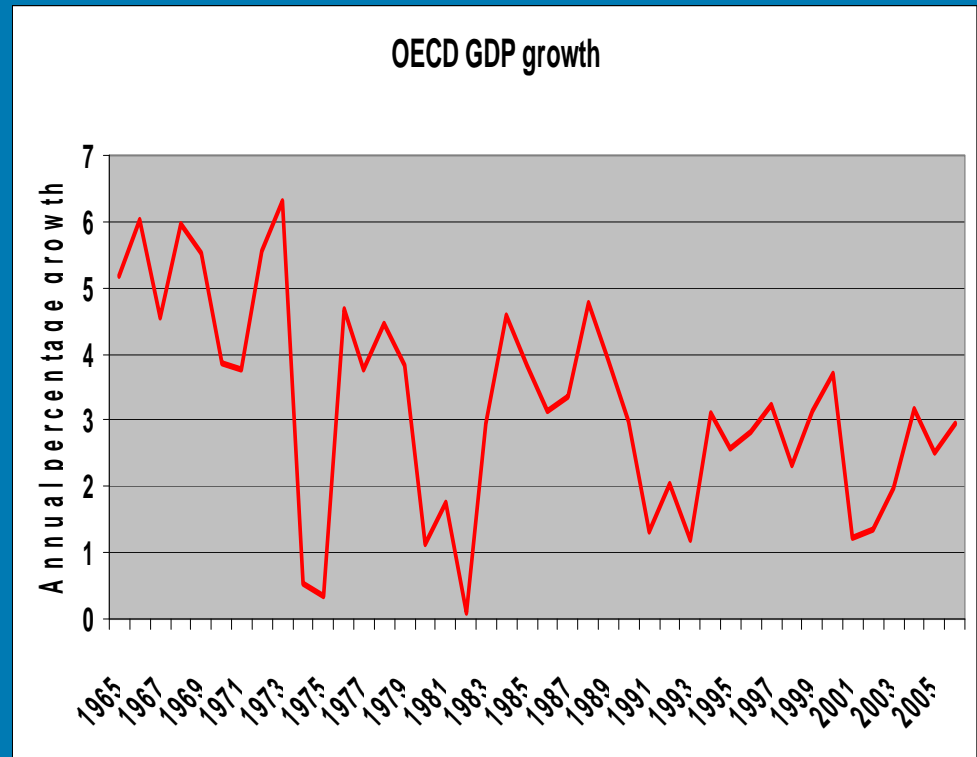
- The mythology
 - 1970s a supply driven oil shock
 - Today a demand driven shock
- The reality
 - Both had demand and supply dimensions



The Context – Comparing the 1970s with today

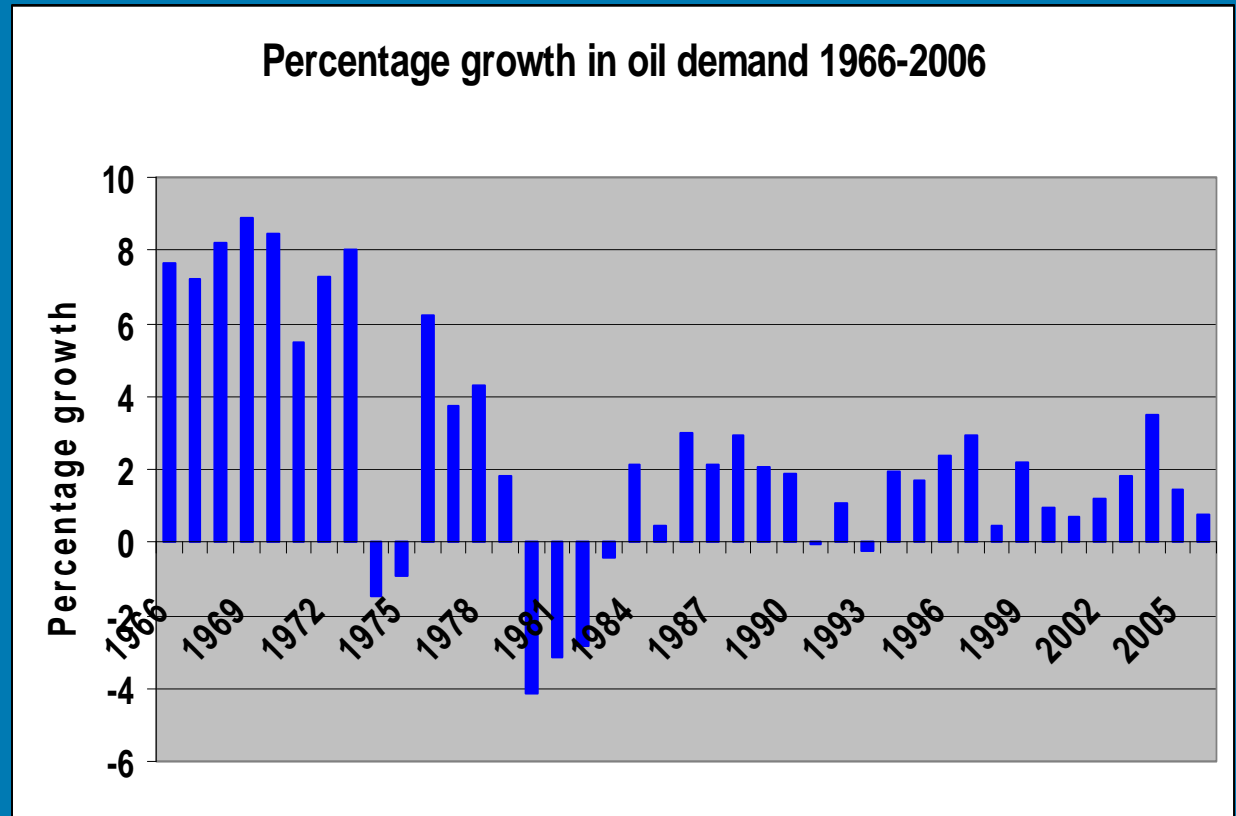
The first oil shock 1973-74

- True there was a supply problem
 - Slow down in investment after Spring 1969
- And there was the perception of a supply problem
 - Arab oil embargo 1973
- **But** demand had also been growing very strongly
 - Global economic boom
 - Falling real prices late 1960s



The Context – Comparing the 1970s with today

Declining oil prices prior to the First Oil Shock 1973-4

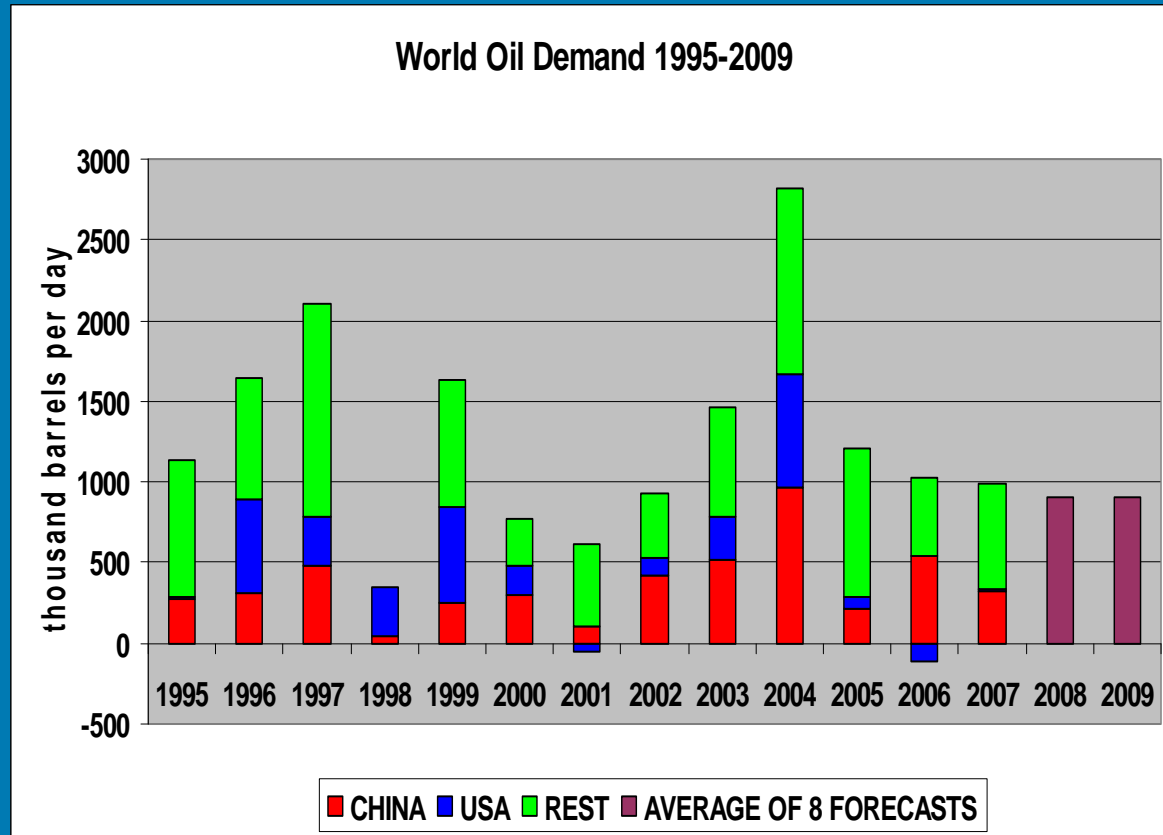


The Context – Comparing the 1970s with today

The current “oil shock” 2002-07

True demand growth in 2004
was important

But not all China!!!



The other culprit

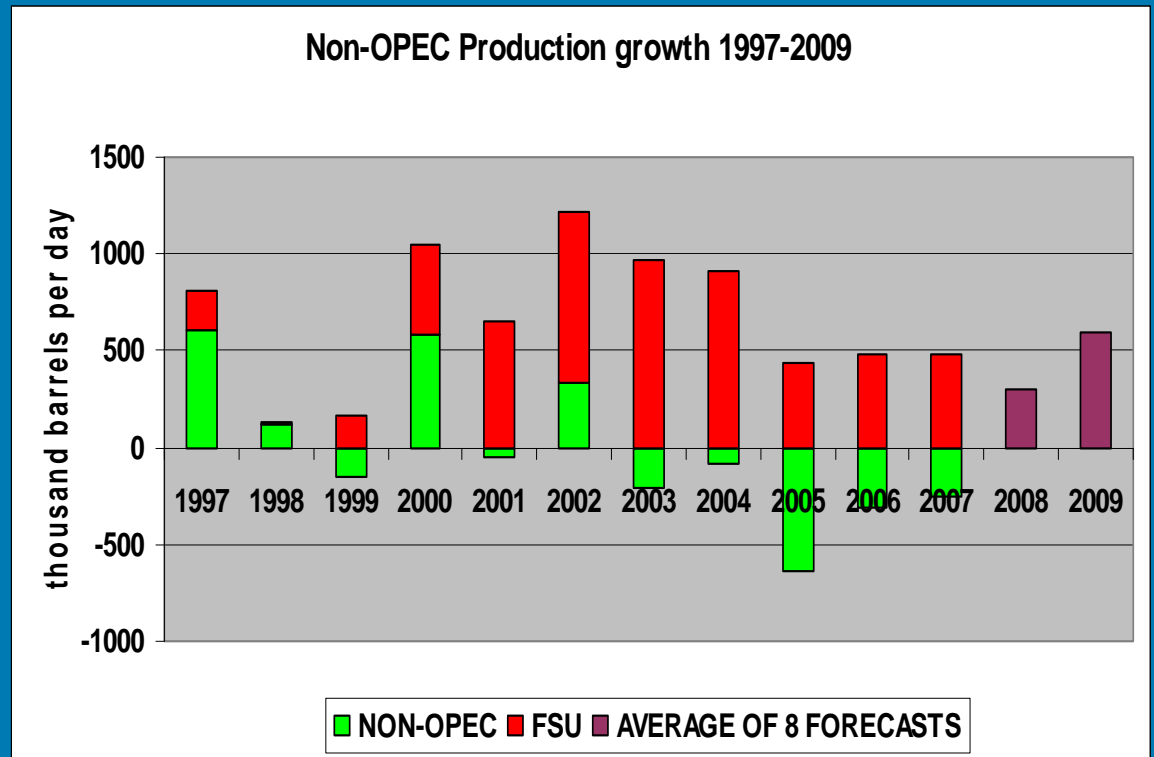
- 1996-2004 China added 3.4 mbd but US added 3.0 and India 1 mbd



The Context – Comparing the 1970s with today

The current “oil shock” 2002-07. There is a supply side to the story

- Geo-political disruptions
- Hurricanes/accidents
- Project delays because of service industry constraints
- But the key = lack of investment...



The Context – Comparing the 1970s with today Similarities

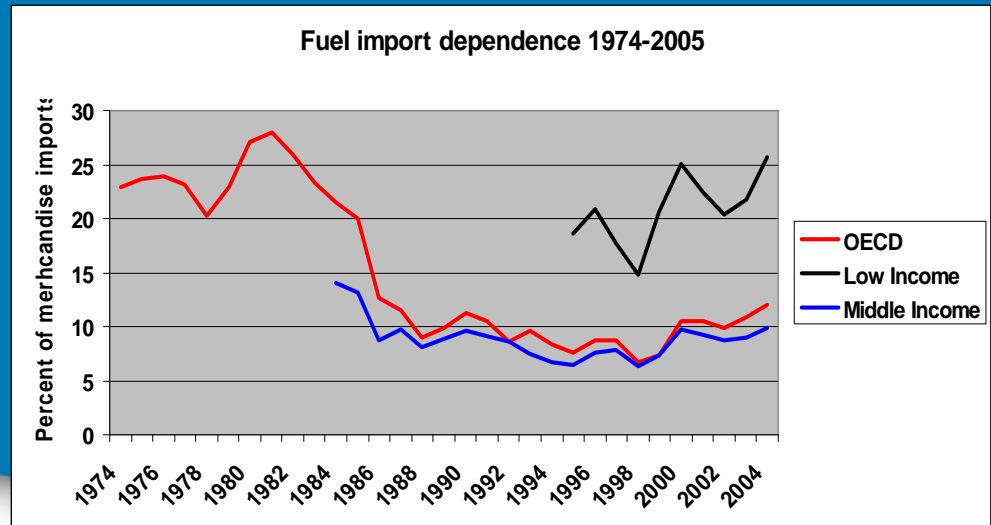
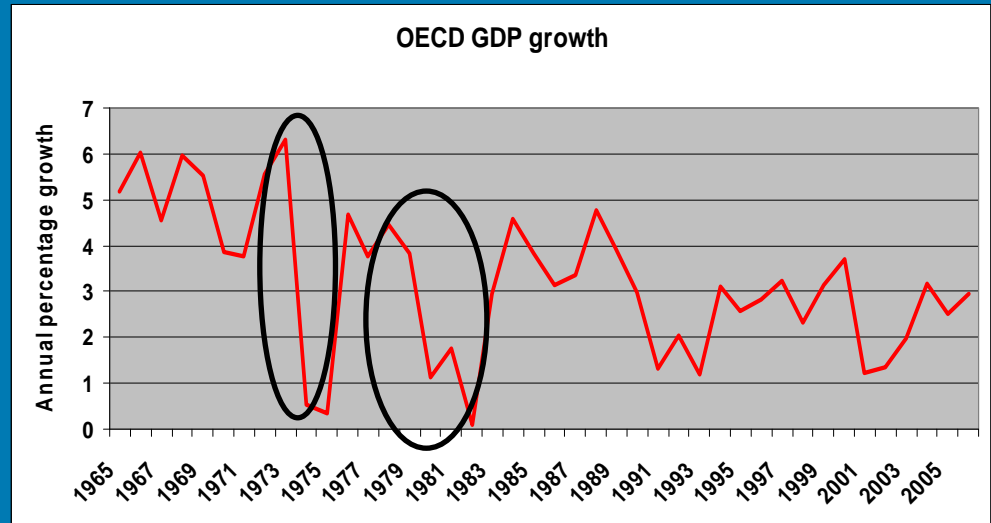
- Prices reach high levels and are expected to go higher
- Similar causes
- Security of supply as a major issue
- The presence of “resource nationalism”
- A strong outbreak of the “obsolescing bargain”



The Context – Comparing the 1970s with today

Differences

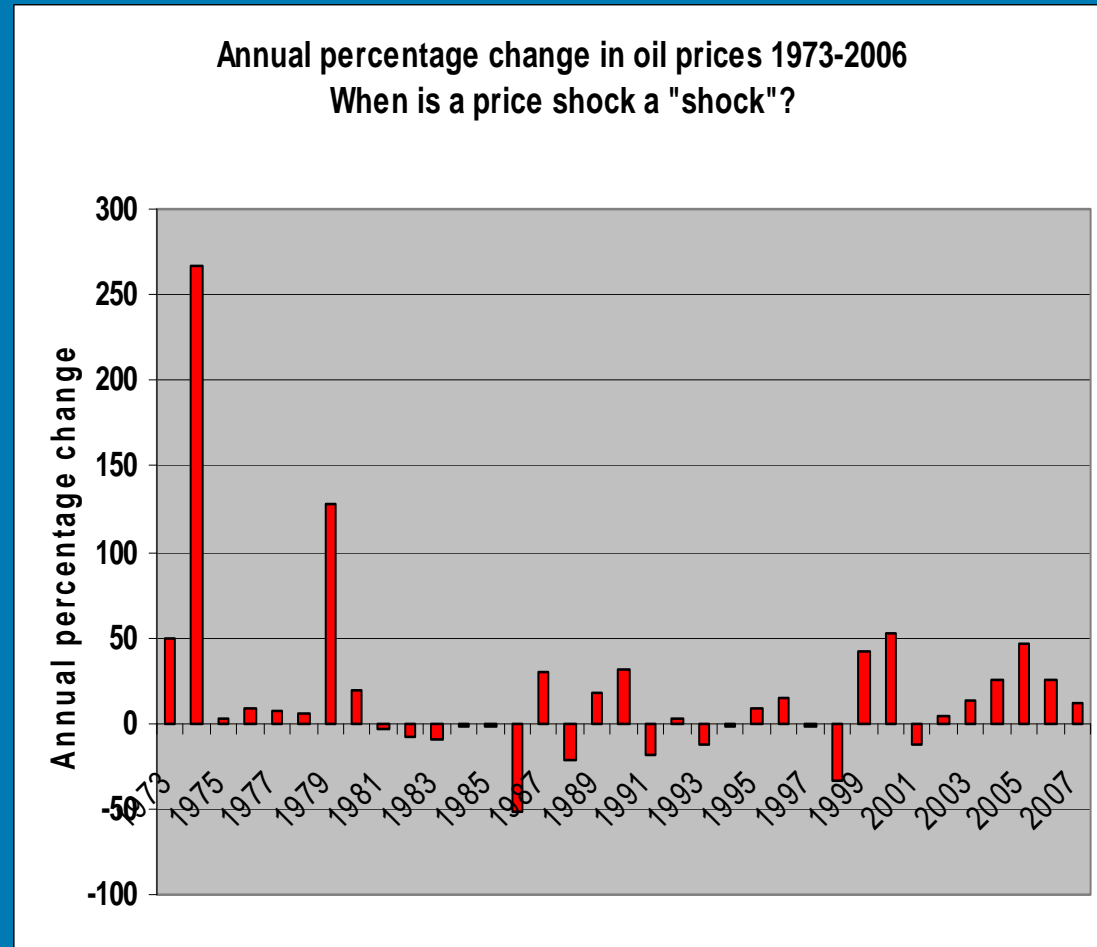
- Today (so far 😊) there has been no recession
 - Oil matters less?
 - Monetary authorities smarter?



The Context – Comparing the 1970s with today

Differences

- Today (so far) there has been no recession
- Today the price increase has been much slower and in non-dollar currencies much lower
- Today environmental concerns are major drivers of energy policy
- Major changes in “ideology” affecting investment...



Presentation Outline

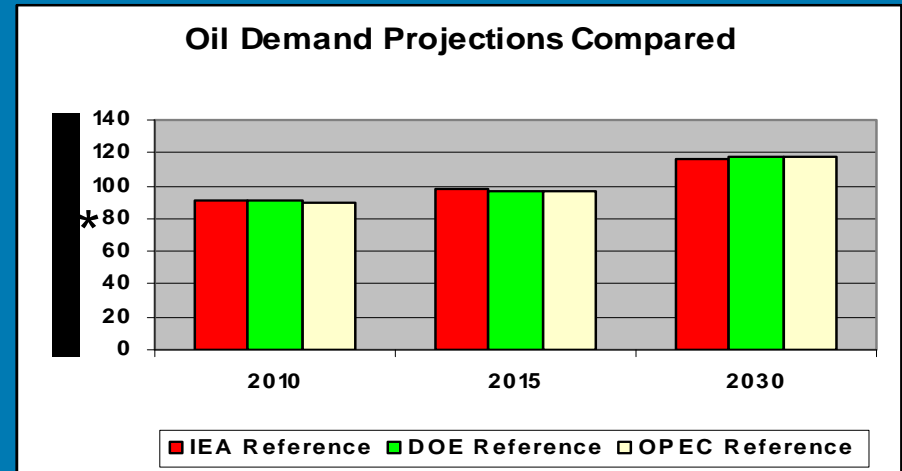
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The Investment Story –what is expected?

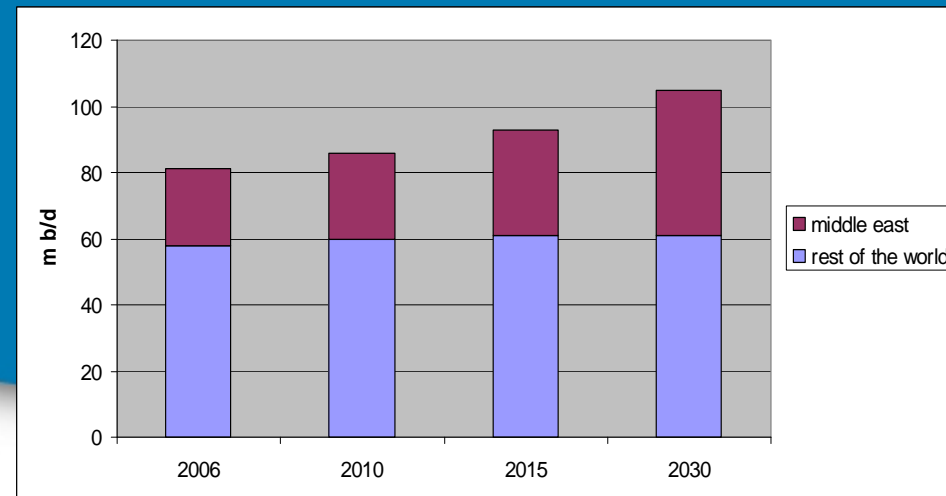
Points on these projections

- Similarity is alarming
- This is arithmetic not forecasting
- Totally ignores willingness and ability to produce at these levels



* Production 1987 =81.5 Mn b/d BP Stats Review

IEA Reference case



The Investment Story –The willingness

- IOCs
 - Discovery (since the early 1990s) of “value based management” and returning money to the shareholders.
 - Now no longer willing to “buy circuses”

- The NOCs
 - Key issue is “depletion policy”...



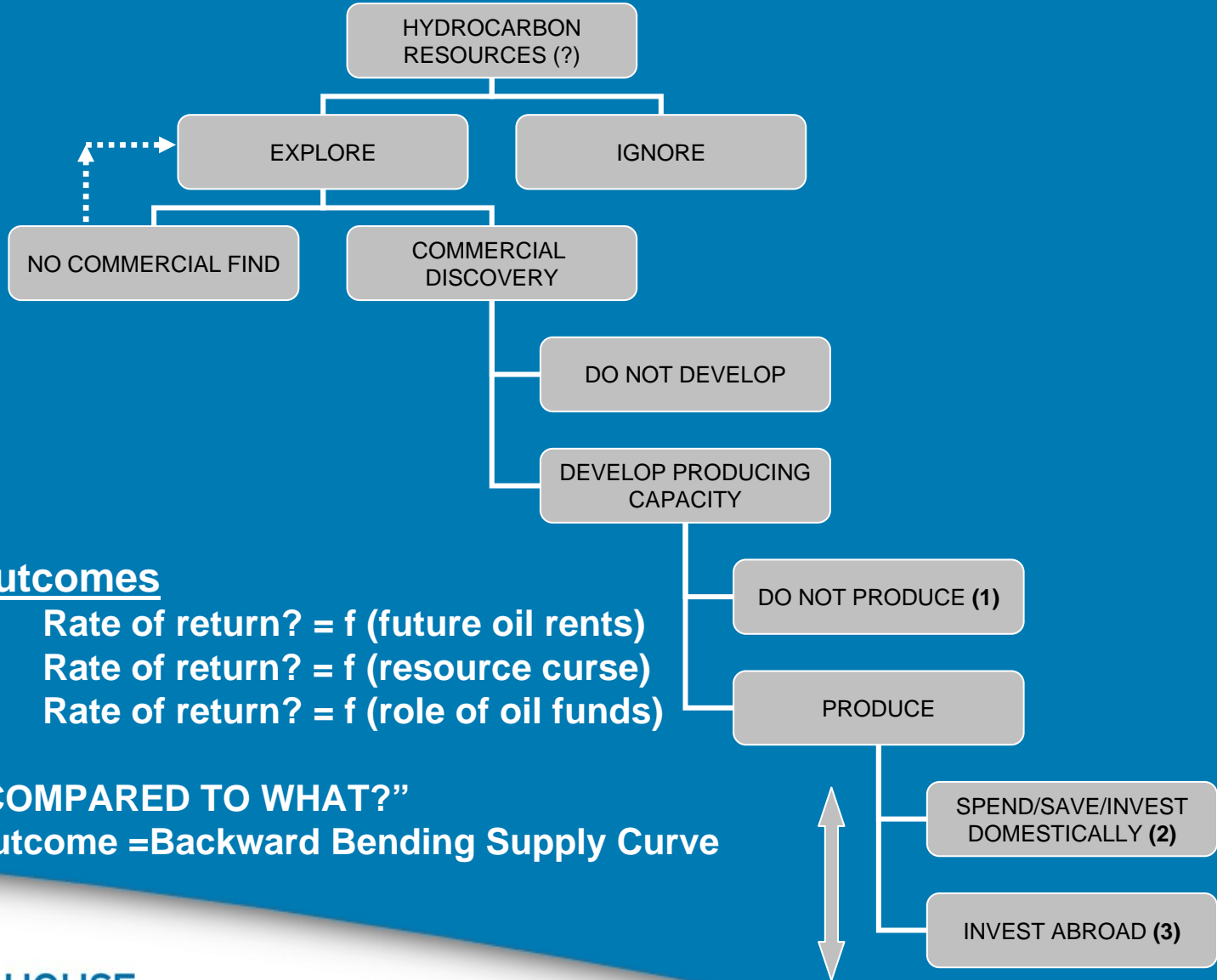
The questions: To produce now or later? Depletion and choices

Government Choices

Access to acreage

Development policy

Production policy



Outcomes

1. Rate of return? = f (future oil rents)
2. Rate of return? = f (resource curse)
3. Rate of return? = f (role of oil funds)

“COMPARED TO WHAT?”
Outcome = Backward Bending Supply Curve



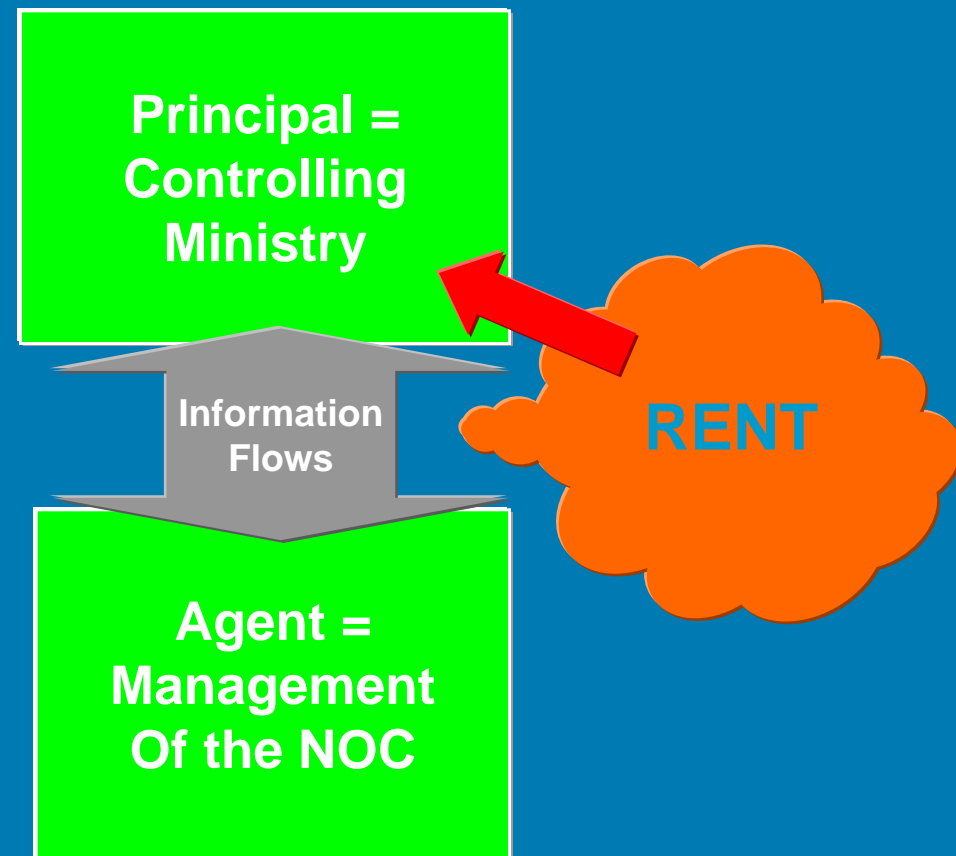
The Investment Story –The ability

- IOCs
 - Access to prime reserves limited
 - Managerially constrained
 - Service industry constraints

- The NOCs
 - Principal-Agent analysis and access to finance

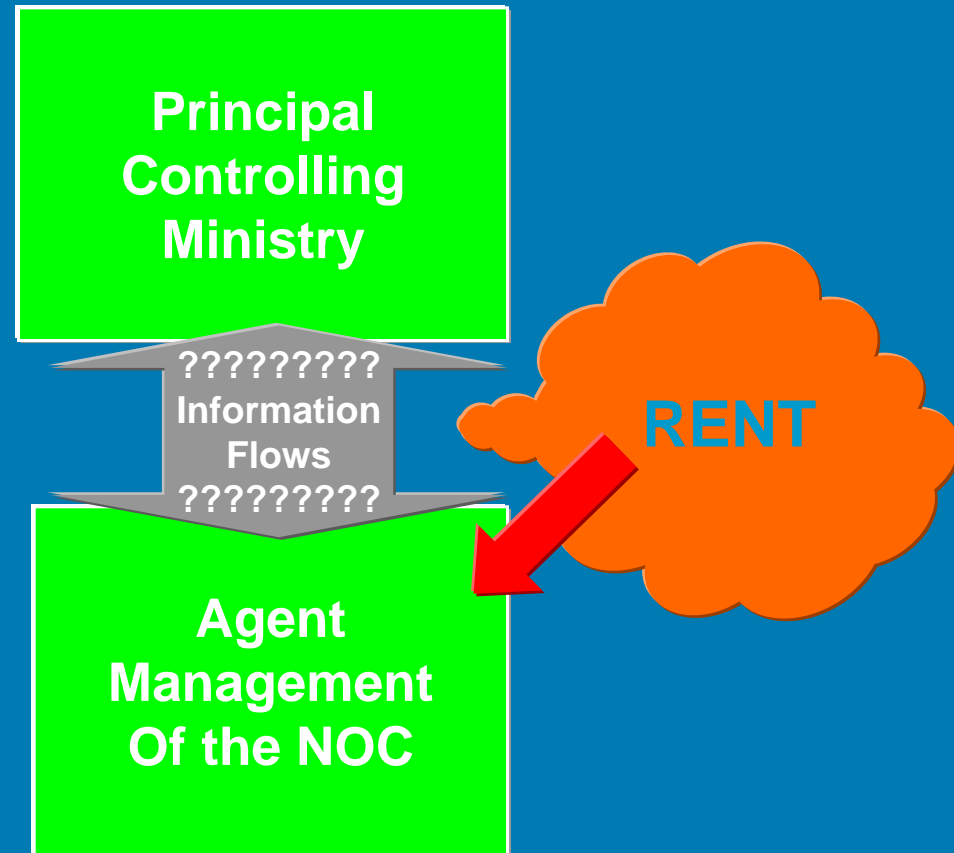
Principal – Agent Analysis

- Who is the agent and who is the principal?
- What is “rent seeking”?



Principal – Agent Analysis

- Why is the agent allowed to “rent seek”
- Key role of information asymmetries. Only the agent knows the true costs
- This may all be total rubbish **BUT** ... Finance Ministries stuffed full of young Phds from Western Universities



The Investment Story –The ability

- IOCs

- Access to prime reserves limited
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- Service industry constraints

- The NOCs

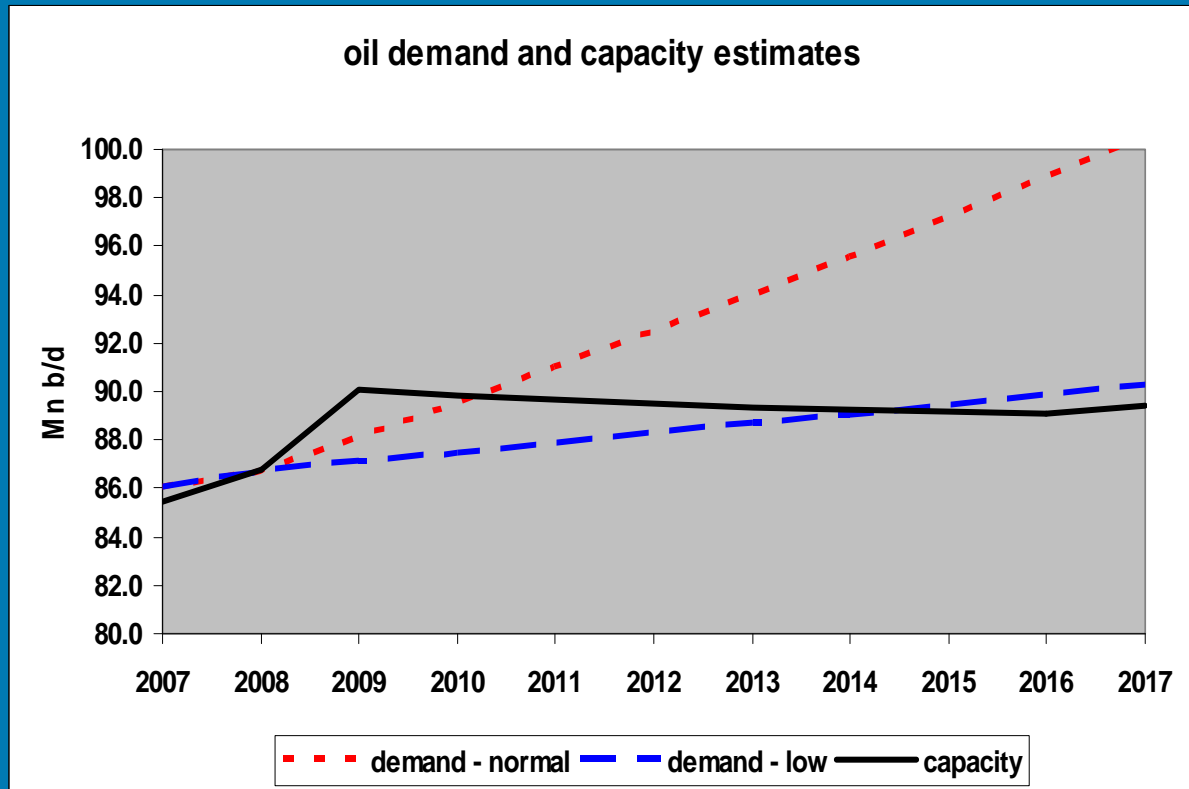
- Principal-Agent analysis and access to finance
- Resource Nationalism
- Sector structure problems

(Investing in Middle East and North Africa oil: Institutions, incentives and national oil companies. ESMAP Report No. 40405-MNA, World Bank Washington D.C. 2007)



The Investment Story – The Implications

- An estimate of the timing
- Price spike highly likely
- Problem is from what base?



Wet barrel versus paper markets –role in price making?

Wet barrel market

Paper barrel markets

Influences perceptions about surplus/shortage



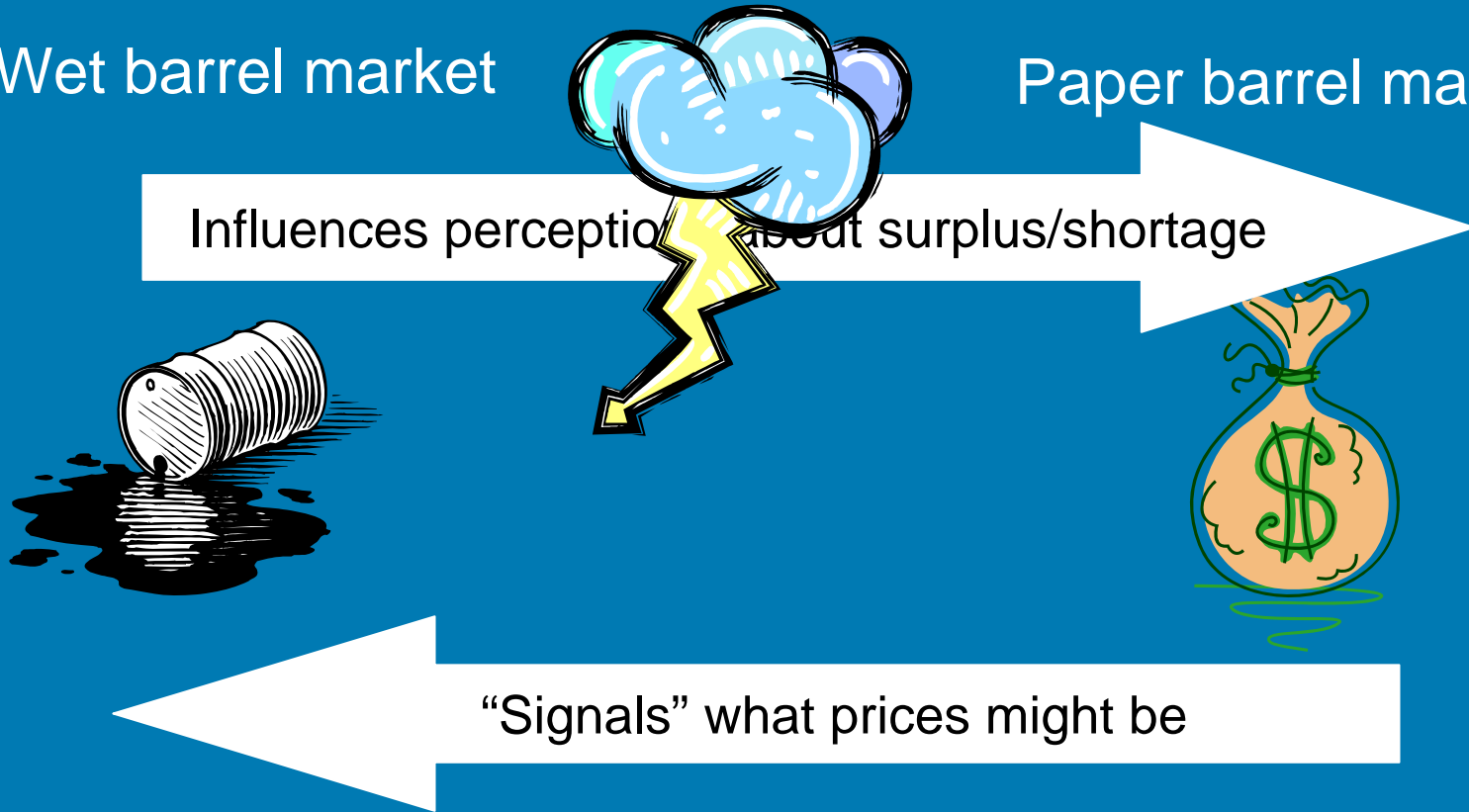
“Signals” what prices might be



Wet barrel versus paper markets –role in price making?

Wet barrel market

Paper barrel markets



Frequently there is a disconnect between the two markets
Because the “money managers” do not understand the oil industry....



Wet barrel versus paper markets –role in price making?

- “Money managers” and understanding the oil industry

“Q. Why are you pushing up the oil price?

A. Because there is a shortage.

Q. How do you know there is a shortage?

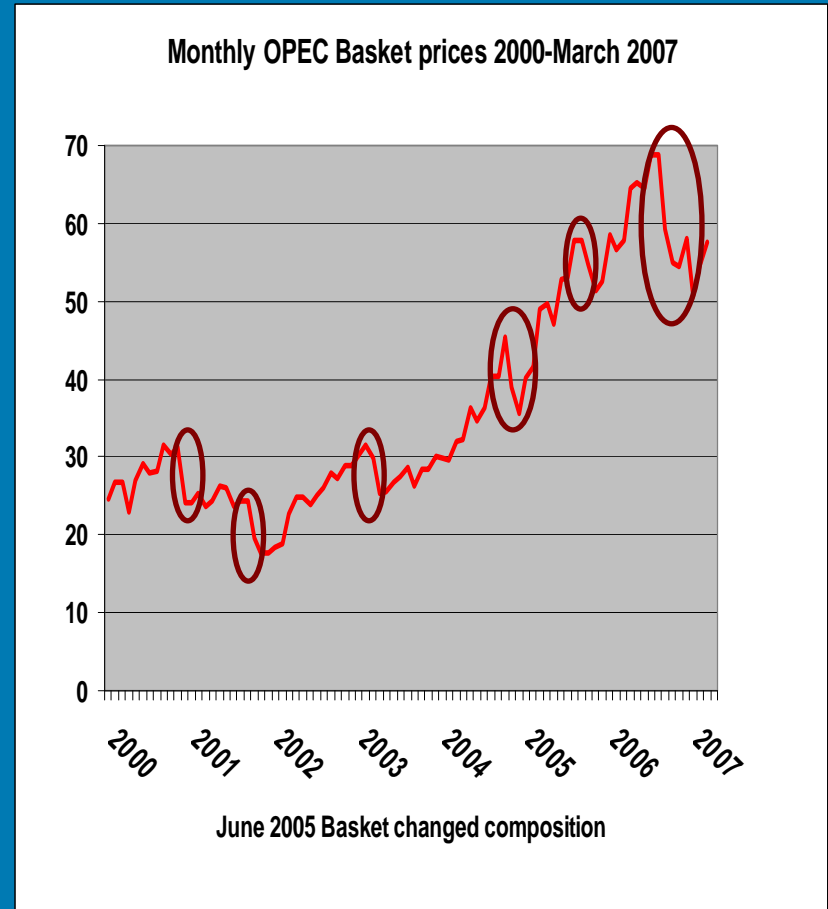
A. Because the price is going up.” 😞😞😞

“Money managers” only need to “...anticipate what the average opinion of what the average opinion might be ...” (John Maynard Keynes)



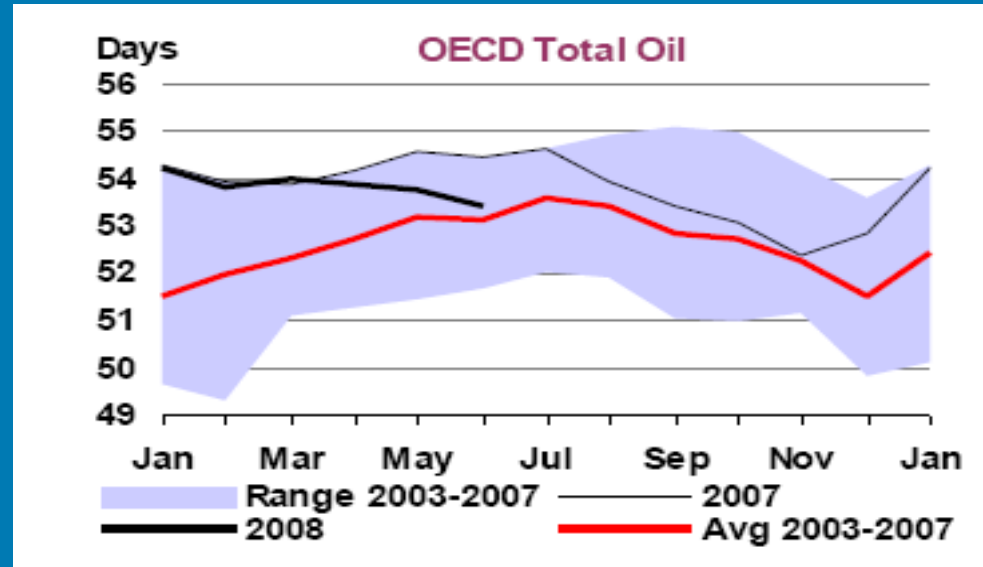
Wet barrel versus paper markets –role in price making? But the disconnect is eventually realized and price adjusts

- Since 2000 on many occasions paper markets have wrongly assumed market tightness.
- When the true situation is realized there is a quick downward adjustment
- Up to end 2006, it was \$10 from a starting point of \$25-55. End of 2006 it was \$20 from a start of \$70.
- Today Wet Barrel market comfortably supplied and the prospects are for rising inventories if OPEC does not cut

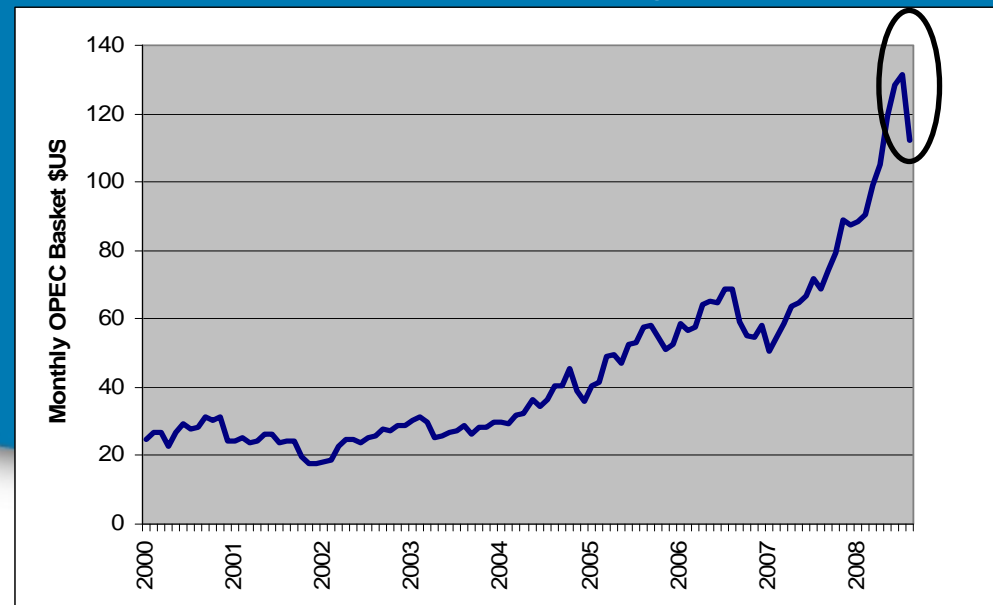


Wet barrel versus paper markets -role in price making? But the disconnect is eventually realized and price adjusts

- OECD crude and product stocks close to the top end of the last five year's range
- While concern over future supplies is justified, currently the market is well supplied
- “The penny has finally dropped!
- BUT IF MY ANALYSIS IS RIGHT THEN IN FIVE OR SO YEARS



IEA Monthly Oil Market Report 12 August 2008



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The Policy Solutions

- Need to increase investment
 - Securing access to exploration acreage for the IOCs
 - Improve fiscal terms for IOCs
 - Assist oil producers to invest revenues domestically in a productive way
 - Provide a welcoming environment for Sovereign Wealth Fund investment
 - Make OPEC part of the IEA's Emergency Sharing Scheme
- Need to reduce oil demand growth
 - Government intervention to promote energy conservation
- Need to increase the availability of other transport fuels
- BUT given the time frame unlikely these will have much of an impact...



The Policy Implications with a price hike

- A major price hike will sweep away the last vestiges of constraint on governments' intervention in the energy sector.
- However, before this happens we need a sensible informed debate to answer the following questions
 - What makes for bad energy policy interventions?
 - What makes for good energy policy interventions?
 - How can we tell the difference?
 - Is policy likely to be more effective if operated nationally, regionally or internationally?

