

The Global Oil Market Outlook: *Ten Lessons About the Petroleum Sector*

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Energy Information Administration

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Looking forward is always about the past

But: Which past? Whose past?

- Most analysts' pasts are rooted in the 1980s, 1990s, a period whose basic structures no longer exist
- In that 'old world' capacities were ample:
 - Higher prices pulled in more Opec crude, prices fell, Opec cut
 - Higher margins generated higher throughput, margins fell
- For them, recent experience is exceptional and the norms of the past will return soon
- But what if the recent past provides a new norm?
- What new paradigm should inform the market outlook?

**Every year is different, but 2005's
market teaches 10 important lessons**

1. This year looks a lot like 2005 – except prices are higher

- Very little has changed in the structural tightness that has underpinned the market for the past three years
- As has been the case for the last 6 years, the early year market consensus was relatively bearish

Consensus Forecast*	Prompt Price**	Average WTI Prices	
2000	\$24.36	\$22.49	\$30.20
2001	\$25.45	\$33.26	\$25.92
2002	\$20.87	\$20.39	\$26.08
2003	\$24.22	\$27.13	\$31.02
2004	\$26.27	\$28.90	\$41.46
2005	\$37.33	\$50.13	\$56.68
2006	\$58.13	\$59.85	??

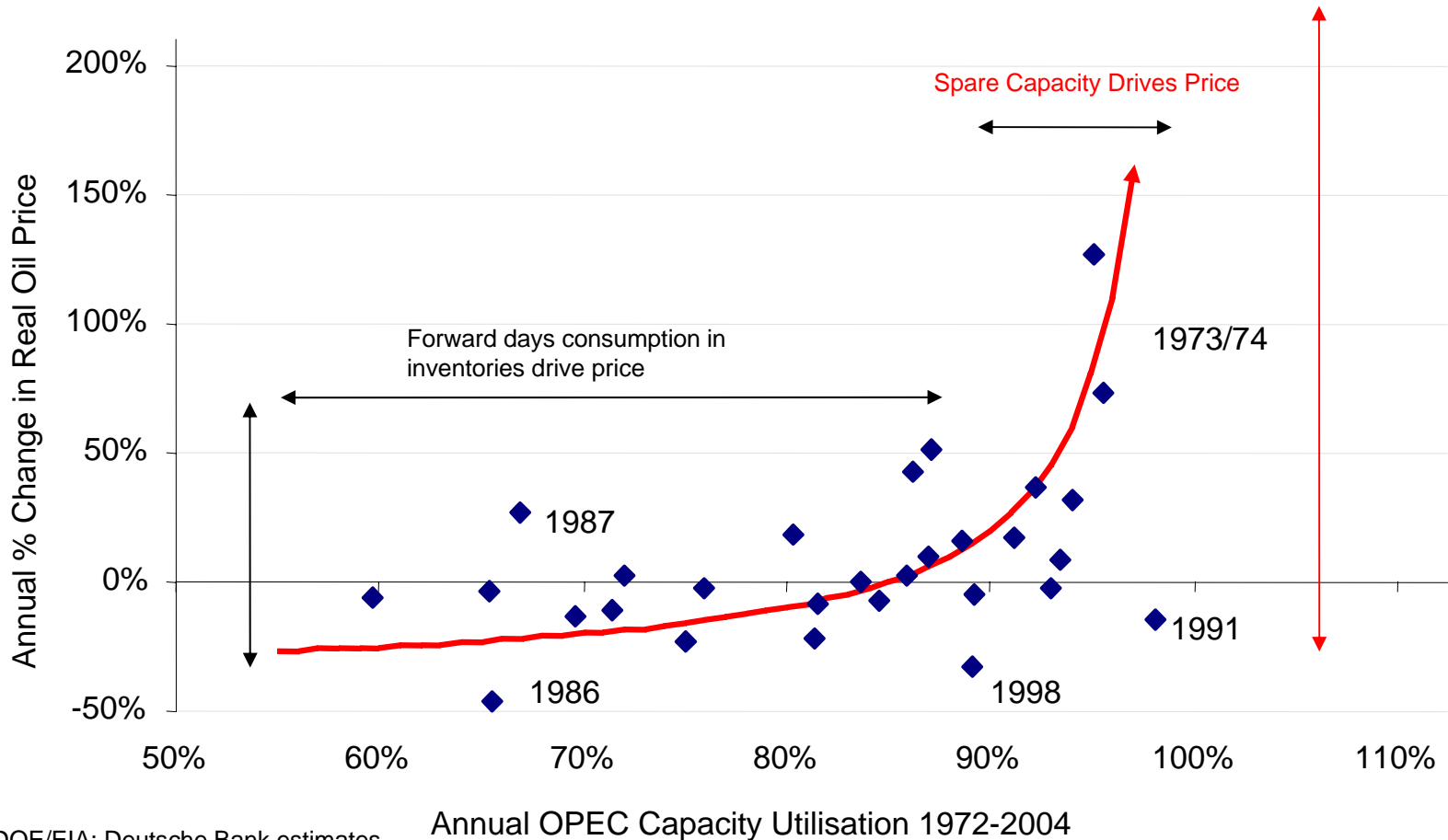
* As of November the prior year **As of first trading day in November

2001 is the only exception, saved by 9/11

The reasons for a bearish outlook were similar to last year – and also likely wrong

- Bears point towards *slowing economic and demand growth; rapidly increasing supply, lack of new investor interest and the willingness of governments to act against price spikes*
- How much has really changed? *Some product, crude inventories have been restored, BUT the market still confronts supply constraints:*
 - Demand looks set to grow again by 1.3-1.8-mmb/d
 - Non-Opec supply looks set to grow by less than 1-mmb/d
 - Opec growth will at best be 500-kb/d, maybe much less
 - Global refining growth will at best be 1.3-mmb/d
 - Investor interest in the best performing asset class in 2005 (oil and gas) is growing again
 - The market, is precariously balanced with risks primarily on the supply side – including effects of a major disruption

2. Lack of supply cushions mean that upward price pressures persist

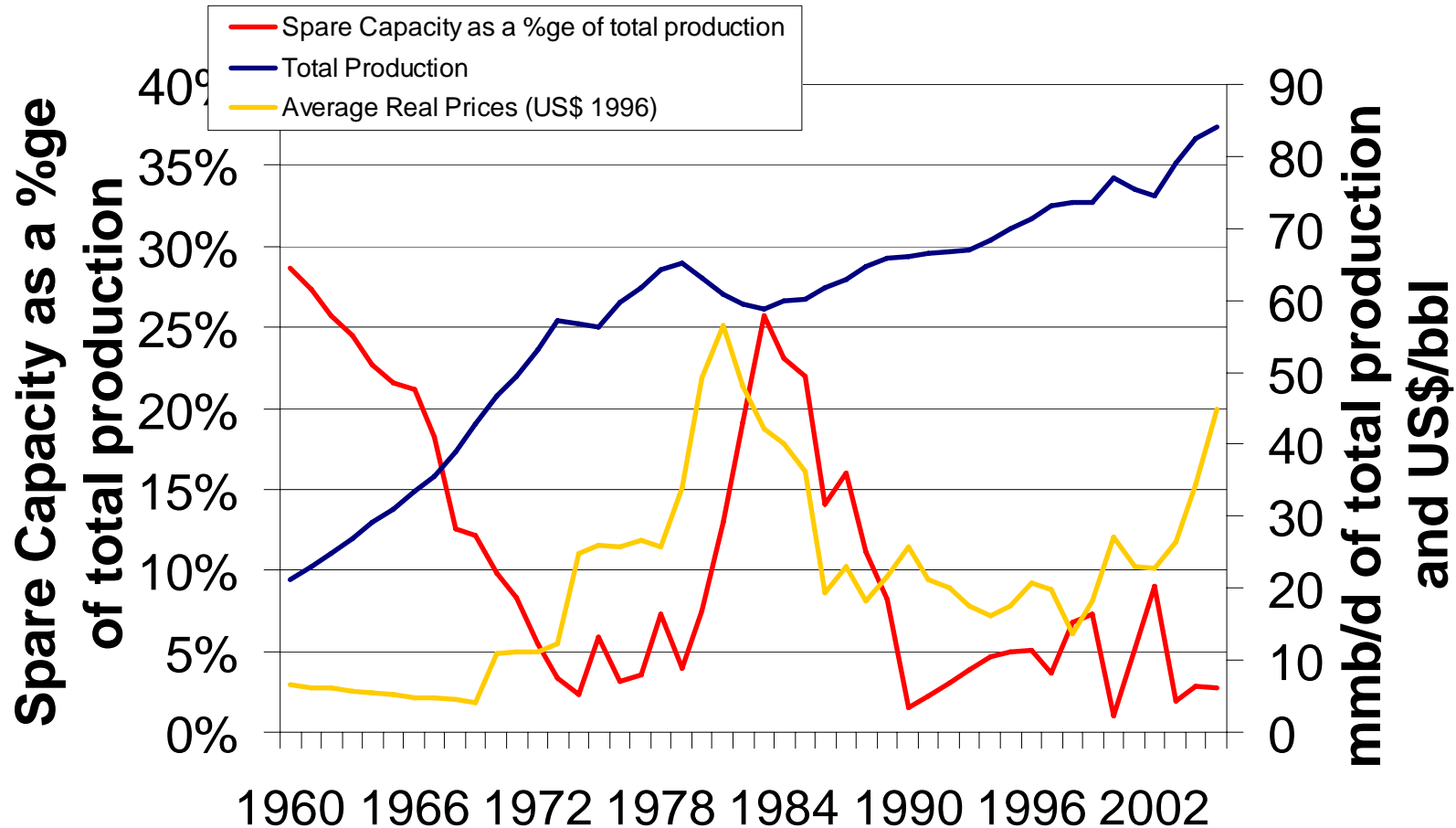


Source: US DOE/EIA; Deutsche Bank estimates

Annual OPEC Capacity Utilisation 1972-2004

In a market with limited spare capacity, old truisms no longer hold

Traditionally prices and spare capacity are inversely related: it's something structural

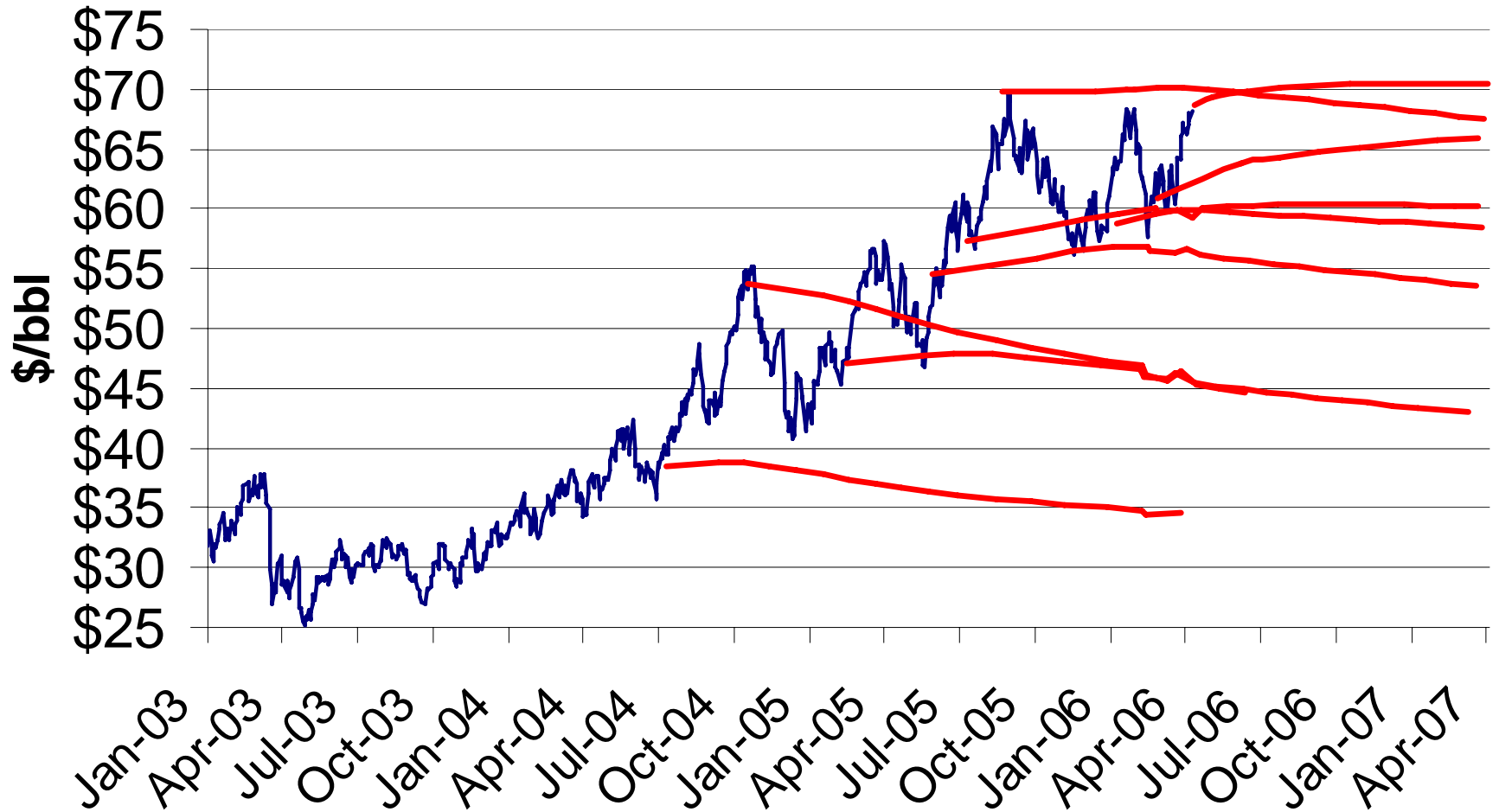


Prices have shot up as a result

IPE Brent 2000-2006 YTD, rising at an ever faster rate



Forward prices have risen even more remarkably

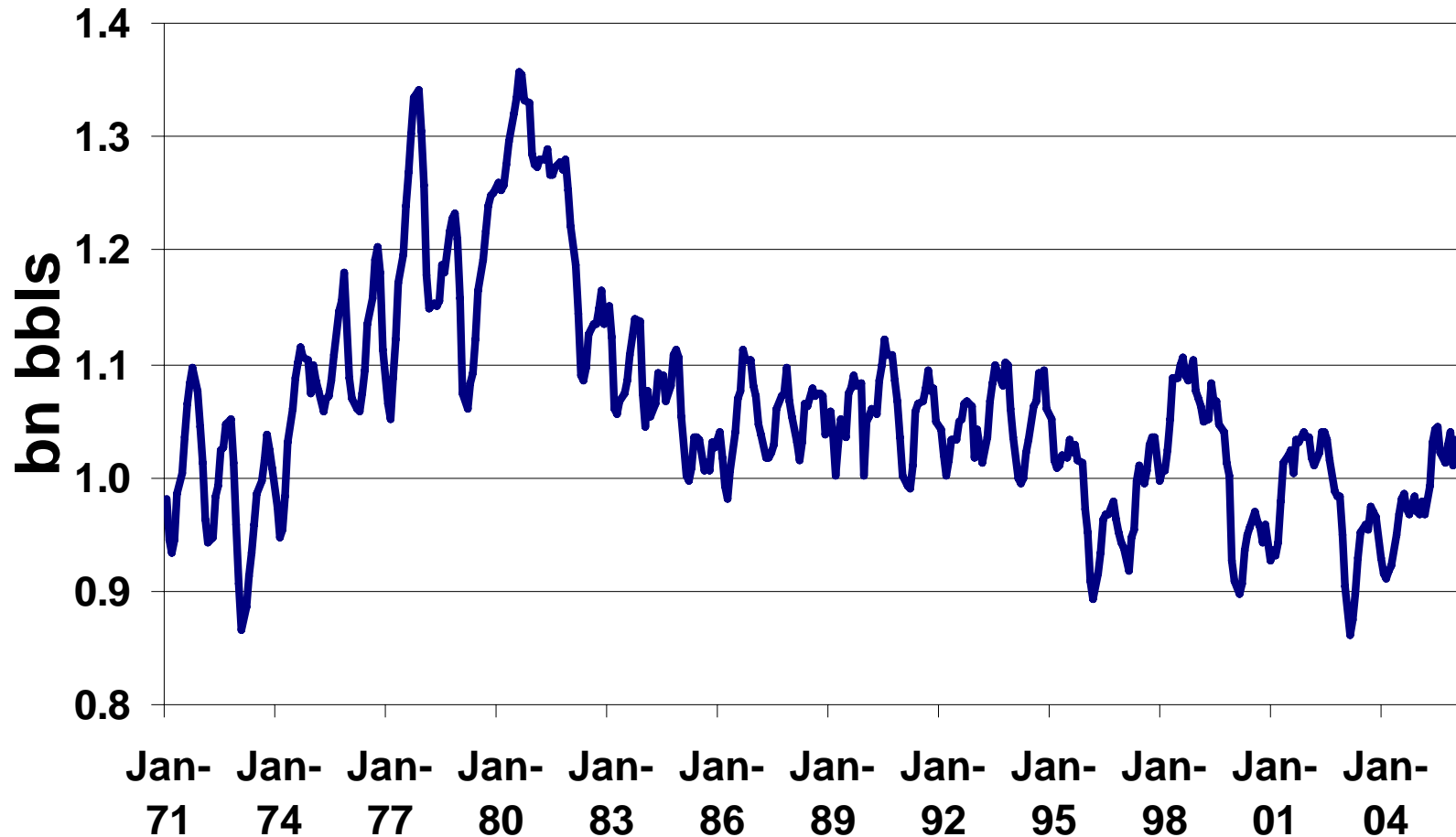


3. Steep contango and inventory builds are unlikely to unsettle the market

- Key truisms of the old market are that prices fall in a contango and that stock builds will undermine any price rise
- However, in a structurally tight market, these ‘truisms’ may not be valid
- An important lesson from 2005 is that structural tightness creates demand for inventory
 - A similar trend was seen in the 1970s when participants added 30 days of forward cover
- In this context, and given the changing balances over the past few years, 5-year averages are irrelevant, lack meaning, mislead analysis

Added inventory has to be seen in context of the macro trend

Total US Commercial Stocks Since 1971

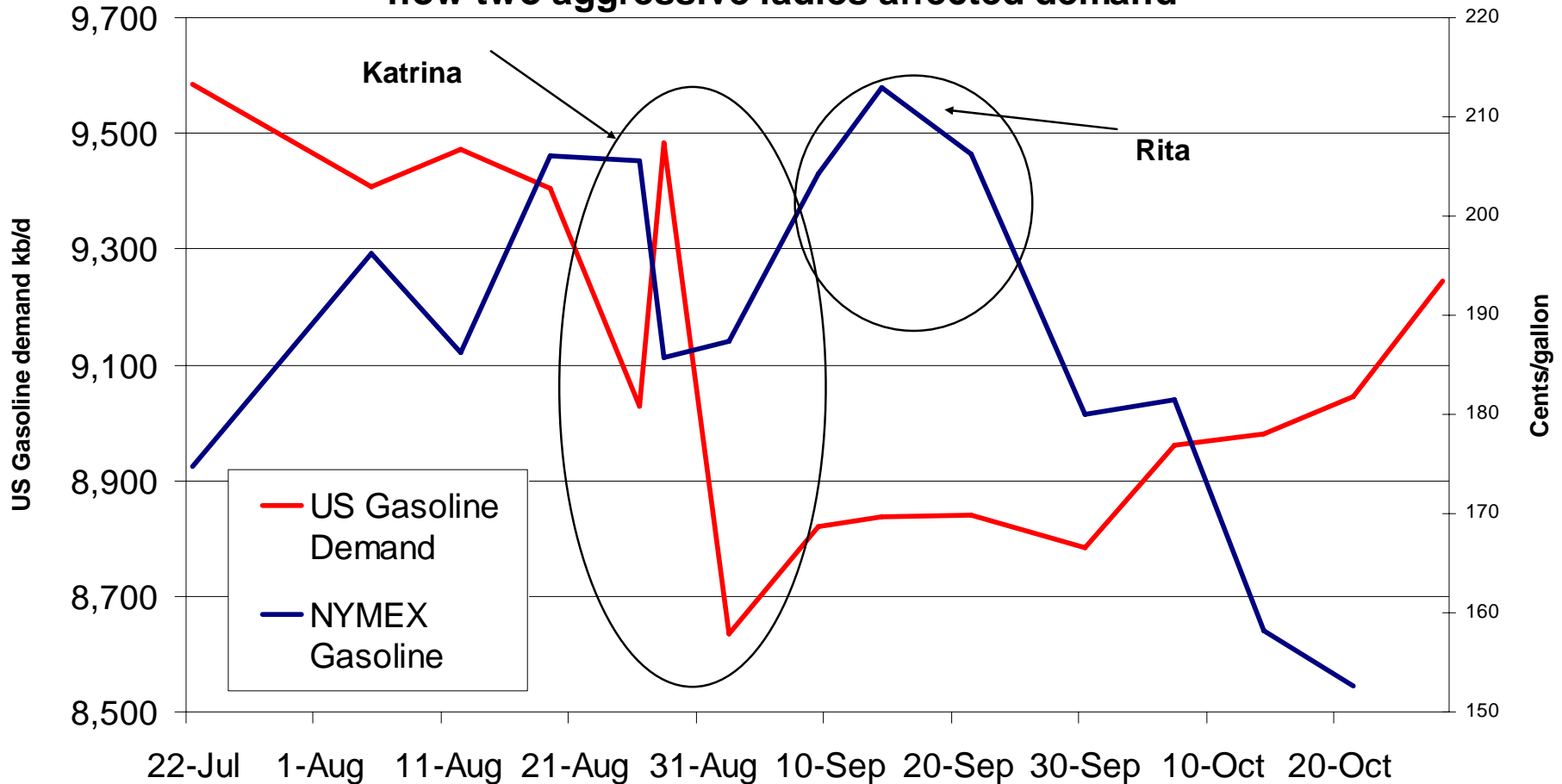


4. Traditional relationship between price expectations, price behaviour has broken down

- In well-supplied, over-capacity markets, if people thought prices would fall, they would rise; and vice-versa
- Spare capacities could be marshalled quickly and Opec could rein in output, with a near immediate impact
- Today, large, sustained capital expenditures are required to restore equilibrium
- Critical bottlenecks need to be overcome
- Inputs are in acute short supply
- It will take time for the structural tightness to be eased
- It is unlikely for added supply to balance the product market before 2008-09 or the crude market before the turn of the decade

5. Demand is price responsive – but it takes a price spike

Gasoline demand and NYMEX prices:
how two aggressive ladies affected demand



6. When price impacts demand, demand is not destroyed but suspended and will return

- In high income countries, it is in the short-run very hard to erode energy consumption, hence reduction in demand only occurs with sharp spikes in prices
- This reaction to prices is in part what occurred in the US after the hurricanes
 - However, there were also other factors at play – a large US city and region stopped consuming
- By the end of 2005, demand for the major products had picked up tremendous pace
- In key emerging markets, especially China, higher prices result in higher demand, since low prices reflect price controls, rationed supply, high prices trigger supply to sate demand

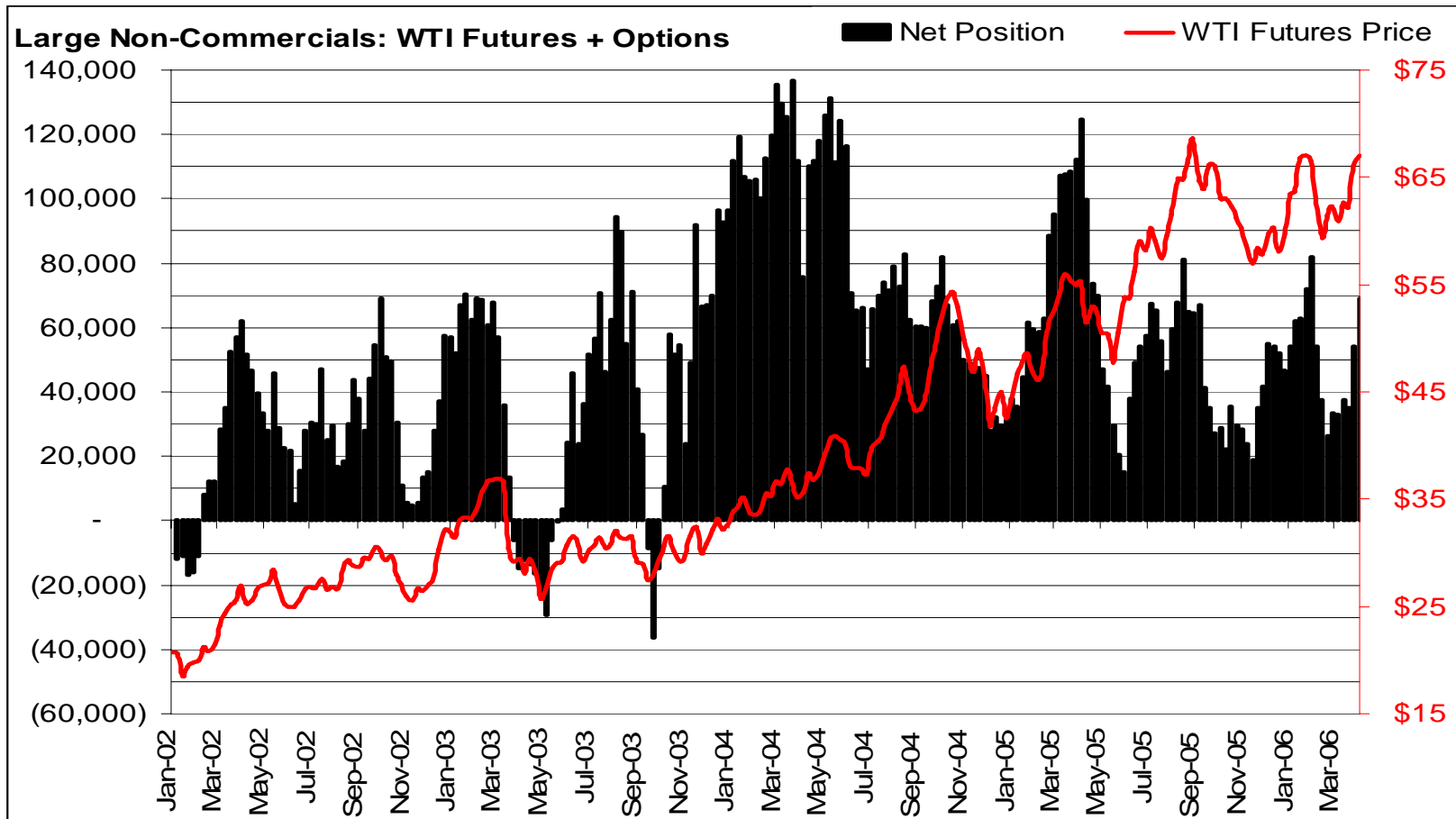
7. Government actions affect the risks/rewards of speculation

- Prior to 'Katrina' both the US government and the IEA did not want to affect the workings of the market except in the event of a severe political disruption
- Together with Opec guaranteeing a market floor this set the stage for a virtually free bet on rising prices
- After the hurricanes, governments have opened the door for release of strategic stocks and suspension of any form of restriction to increase supplies in the short term
- These actions could loom large in the case of a disruption in 2006
- Governments are significantly responsible for today's range-bound prices – speculators/investors believe Opec will intervene if WTI falls below \$55; USG will intervene if prices spike above \$7X

8. Speculators, investors will find innovative ways to invest in a tight oil market

- In large part the retrenchment post-Katrina was caused by the withdrawal of large amount of investment money from the oil space
- The penalty paid in a contango market by index investors is suggested by some as a reason why the boom is over
- But active investors seek protection against anticipated 'penalties'
- There are many alternative strategies for investors to seek returns in commodity markets even if prices don't rise indefinitely
- As seen in the early part of 2006 much investment money has been standing on the sidelines waiting for the right moment to re-enter the market – perhaps an additional \$50-billion

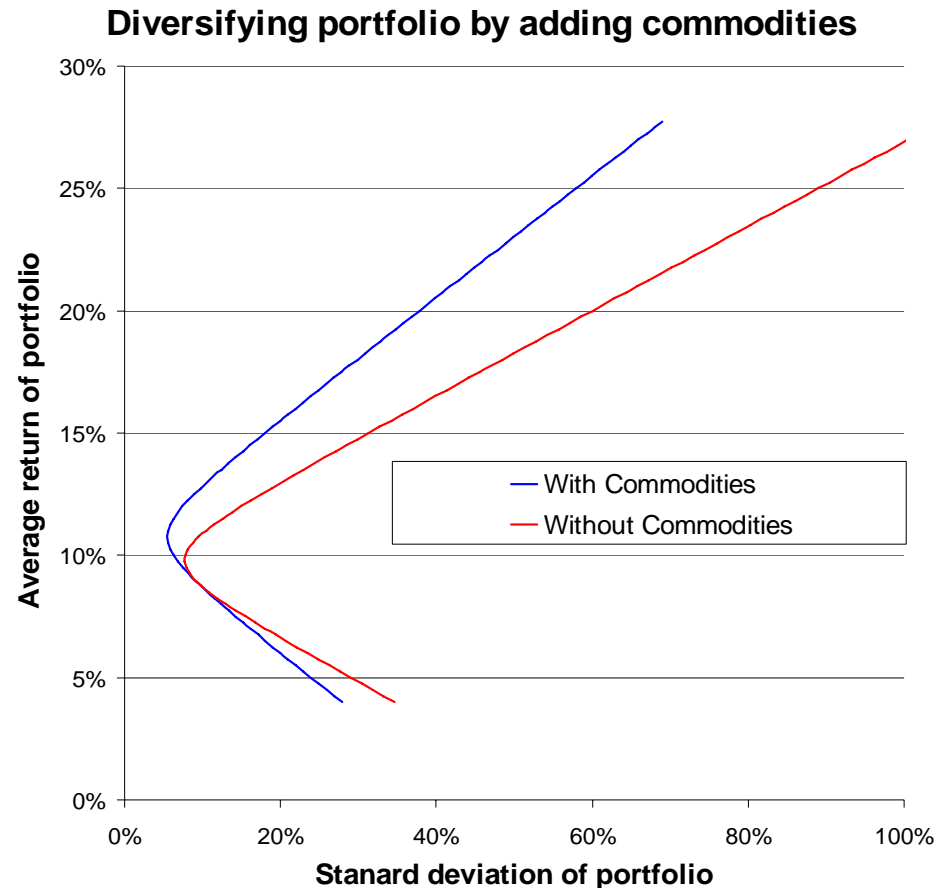
Financial investors returned to the market after a long liquidation



- **Prices failed to fall to \$50-\$53, as pension funds, other investors get back into commodities**
- **“New money” gets into oil as the new year begins**

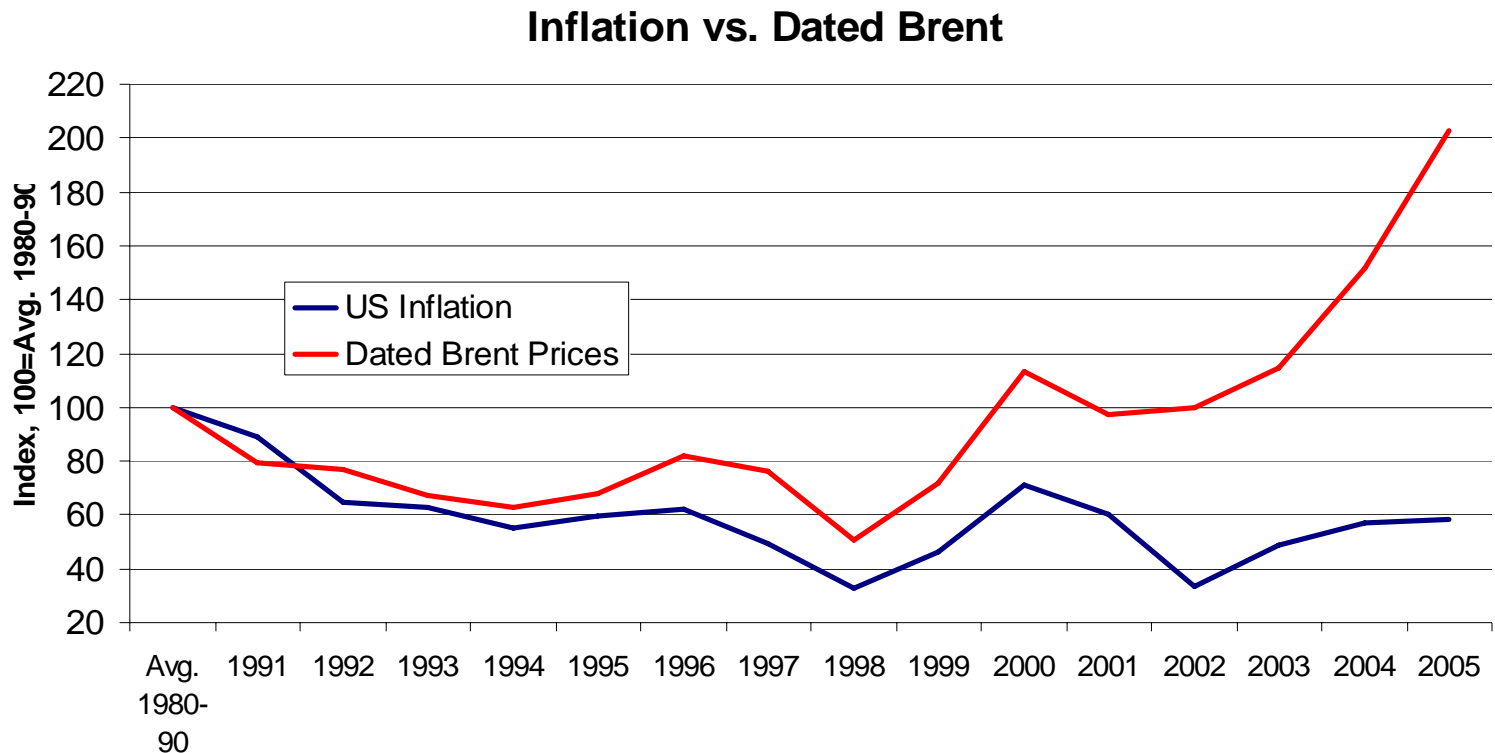
Capital is entering energy for portfolio diversification

- Adding commodities to an investment portfolio adds significant diversification value
- The added value is greatest when returns to stocks and bonds are low
- Recent years have seen exceptionally low returns to stocks (2005 S&P 2.24%) and bonds (2005 EFFAS US 1.66%)
- For a given return, diversification lowers the volatility of that return



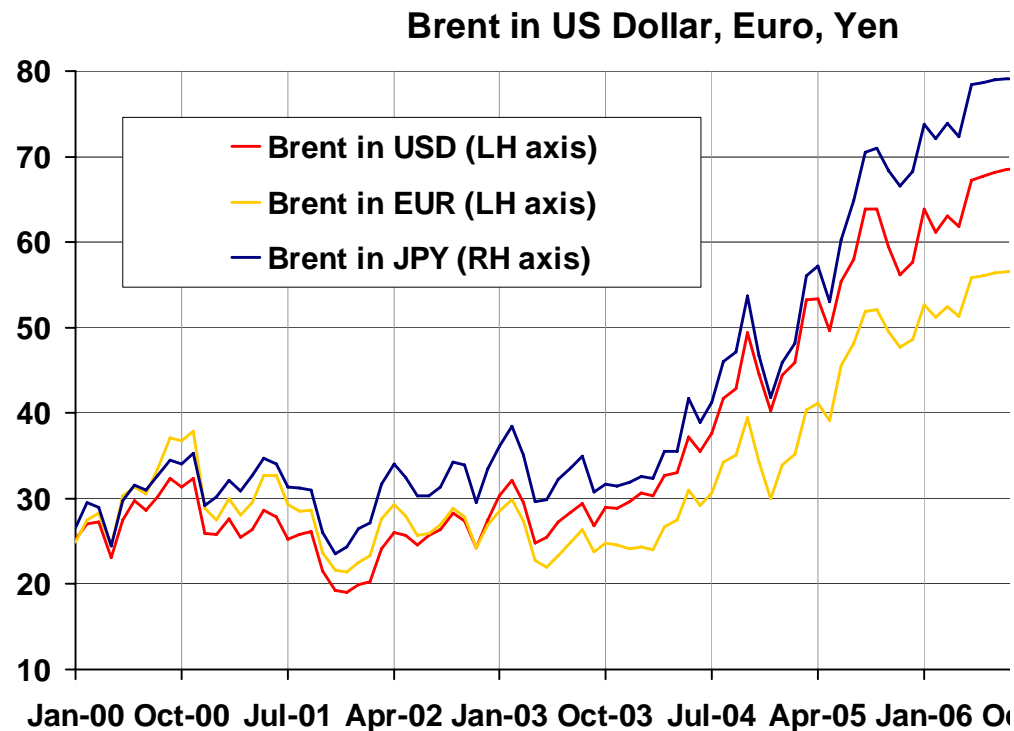
Inflation fears play another role

- As a principal cause of inflation, energy and inflation are positively related
- Investments in commodities have historically yielded positive, real returns



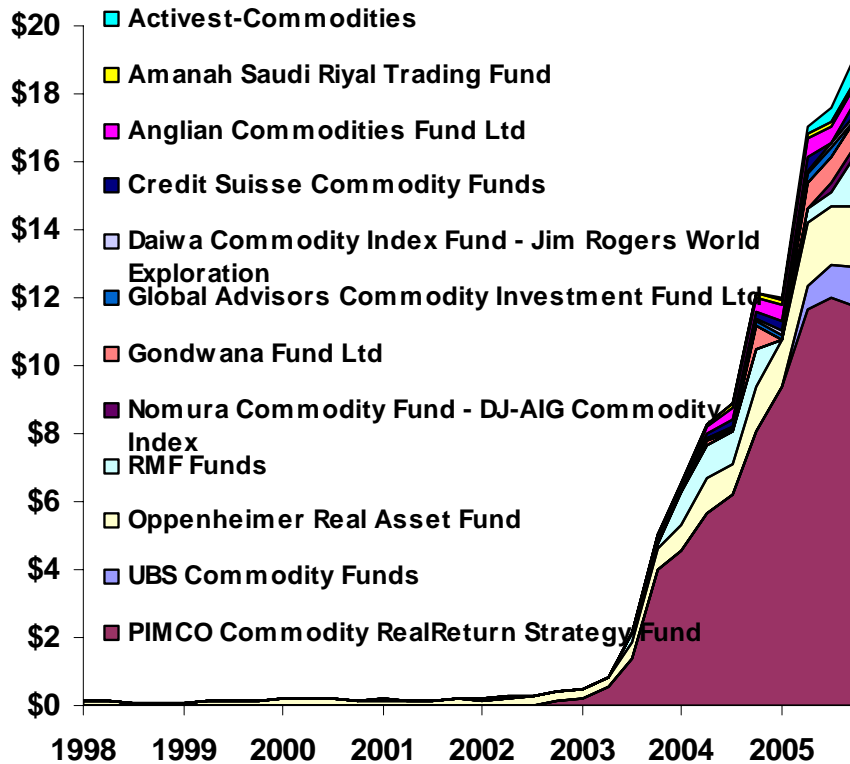
Energy investments also provide a US dollar hedge

- The main energy commodities are priced in US dollars
- Energy investments can function as a dollar hedge as a weaker dollar will improve demand in non-dollar economies

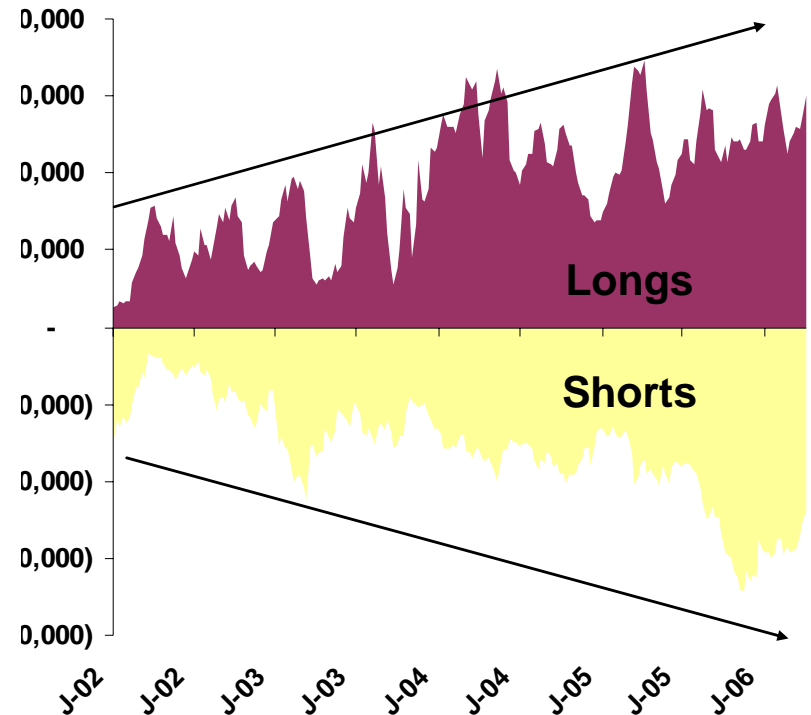


Investments in energy commodities have exploded

Mutual Funds Focused on Commodities - \$bn



Large Non-Commercial WTI Futures Positions on NYMEX



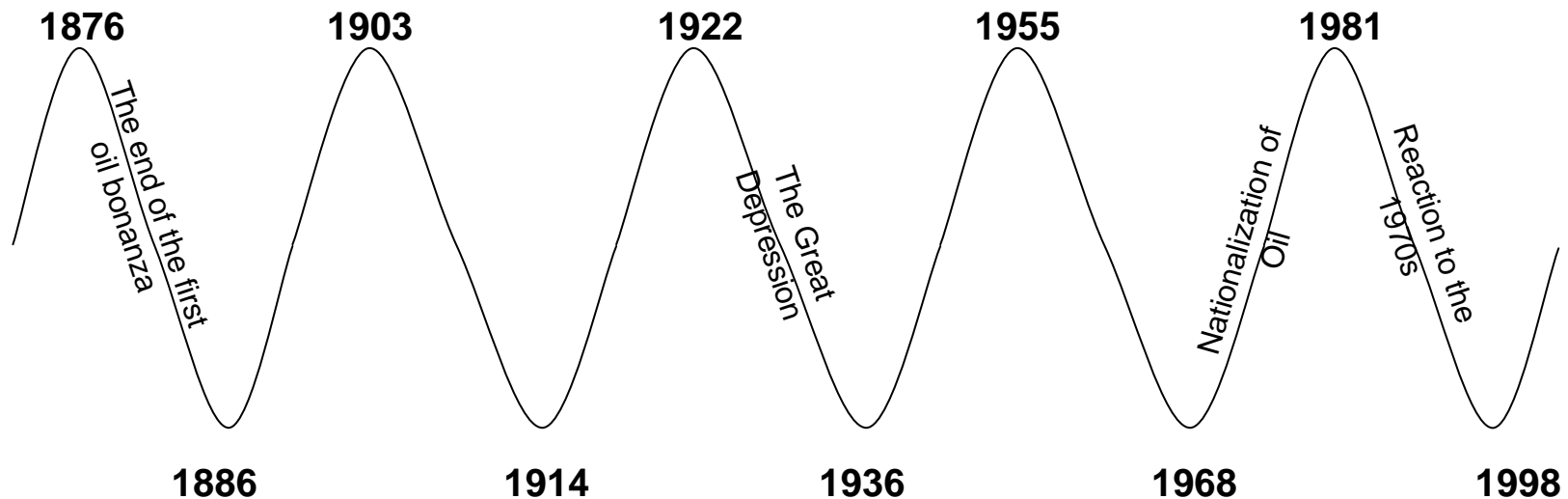
9. Fundamental imbalances, distortions buttress the long-term price rally

- Since the Venezuelan strike in 2002-2003, the global system has been plagued by imbalances
- The system oscillates between too much or too little crude, too little or too much product
- Imbalances are geographical and cannot easily be worked out – in Q1, US was long crude, short products; Europe was long products, short crude; Asia was short middle distillates in a cold winter
- The global refining system has too little of the right kind of capacity to rebalance the product markets quickly
- There's always a good deal of demand chasing one product in one area of the world, affecting global balances

10. Deceptive Retrenchments are not Turning Points

- There will be a turning point, and it will be sharp, but not in 2006-2008, or even longer
- Petroleum economics has a lot to do with cycles – with roughly 10 years from peak to trough
- This current cycle began around 2000
- Capital expenditure will again lead to surplus capacities - but it will take time before the turning point is reached

Energy cycles 1876-2005



Meanwhile the challenge is to measure the “noise”

- How much will supply grow in a given period of time?
- How much will refining capacity grow over a given period of time?
- How will demand react to prices, economic activity?
- How will weather, seasonality, Opec politics, disruptions impact the market's fundamentals?
- How will financial investments impact near and longer term prices?

For example Opec has pledged capacity growth....eventually (but when??)

Opec Production Capacity and Expansion Plans (mmb/d)

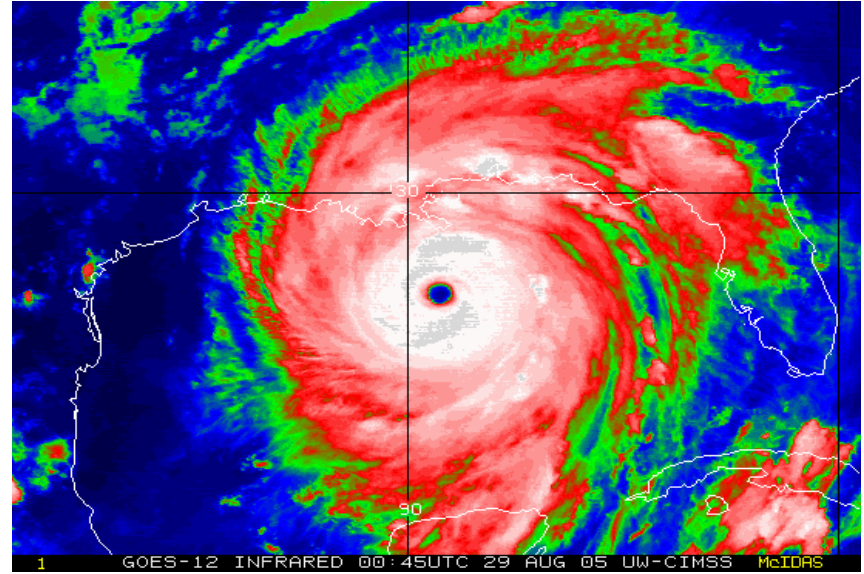
Country	2005	2006	2007	2008
Saudi Arabia**	11.00	11.30	11.80	12.05
Iran	3.95	4.10	4.30	4.40
Iraq*	1.90	2.00	2.20	2.40
Kuwait**	2.50	2.60	2.70	2.80
UAE	2.55	2.65	2.85	2.95
Qatar	0.80	0.85	0.90	0.95
Venezuela	2.65	2.65	2.65	2.65
Nigeria	2.50	2.75	2.95	3.15
Indonesia	0.95	0.90	0.95	1.05
Libya	1.65	1.80	1.90	2.05
Algeria	1.35	1.45	1.55	1.65
Total	31.80	32.95	34.65	36.00

- If all goes well, Opec might add 4.2-mmb/d by 2008
- Many open questions, doubts
- Costs are slowing Saudi expansion
- Depletion impacting Kuwait
- How much capacity can Iraq restore?, how much will it lose?
- Will Venezuela decline? rapidly?
- Can Nigeria really raise capacity to 3.15-mmb/d?
- Will Iran lose capacity?
- A more realistic number may be 2.0-mmb/d for the three years, barely enough to sate demand
- Meanwhile, this year won't likely see even 500-kb/d of new capacity

Meanwhile, geopolitics underscore supply risks

- Nigerian attacks are related to ethnic strife, political fragmentation and the country's Presidential election politics – underlying issues that will last the year
- Iran's nuclear program propels a potential disruption into a another central issue that will not disappear, as does constrained capital expenditure
- Later this year Latin America's electoral season will bring Venezuela, Mexico, Brazil, Colombia, Ecuador into the news
- The supply risks are one sided – the problem won't be too much oil but too little of the wrong kind, in the wrong place

And, lest we forget, a good deal could go wrong also in 2006



In short – 2006 looks a lot like 2005 did a year ago: everything might go well,

but only if ‘just enough’ refining and upstream capacity are developed ‘just-in-time’

HESS ENERGY TRADING COMPANY LLC

A PROFILE

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