

GLOBAL INSIGHT

Oil Security – The Economic Concerns

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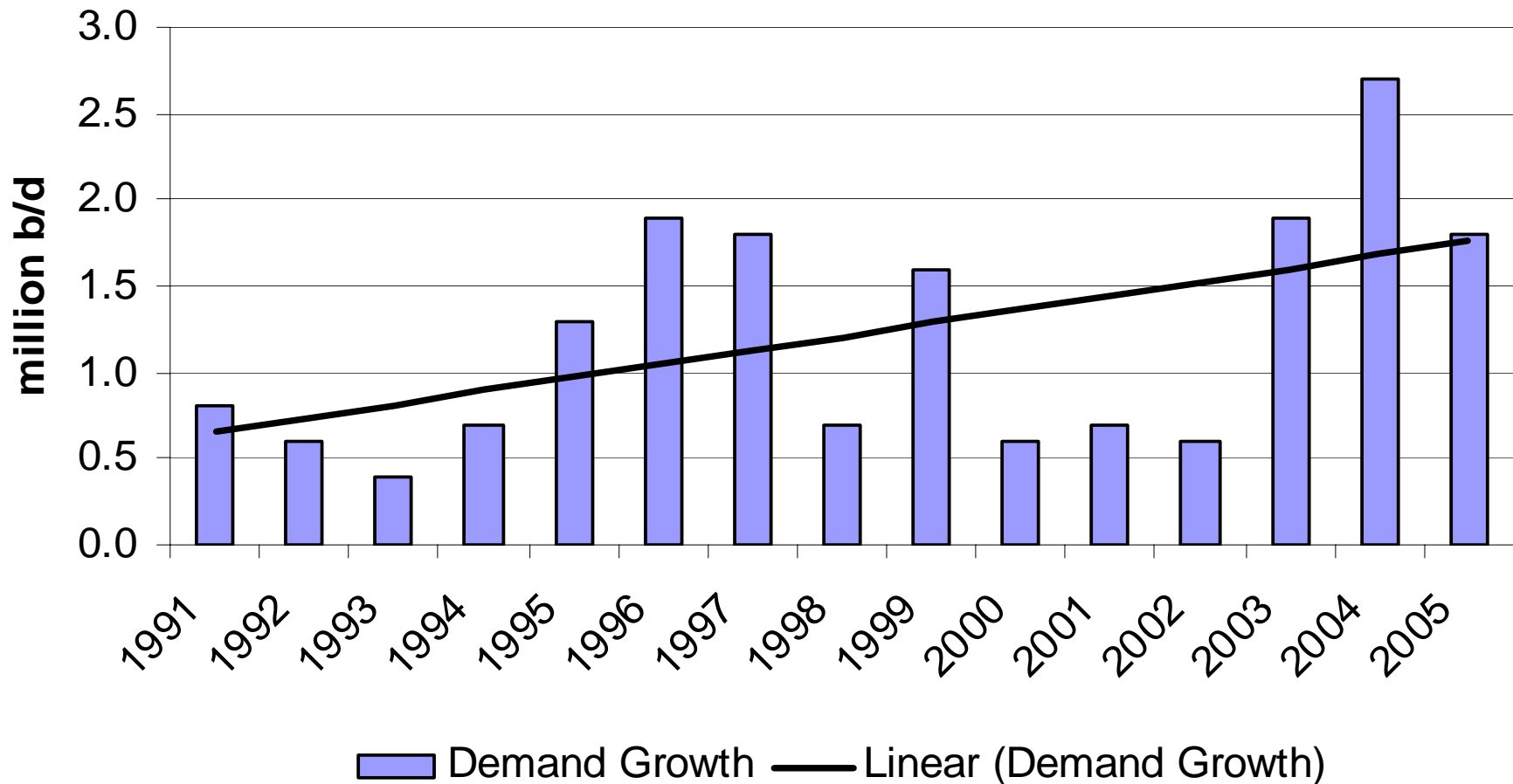
Oil Security: The Economic Concerns

- ◆ **Oil Industry: Fundamental Changes**
- ◆ **Security and Oil Prices**
- ◆ **Oil Prices and the Global Economy**
- ◆ **Conclusion**



1. Oil Industry: Fundamental Changes

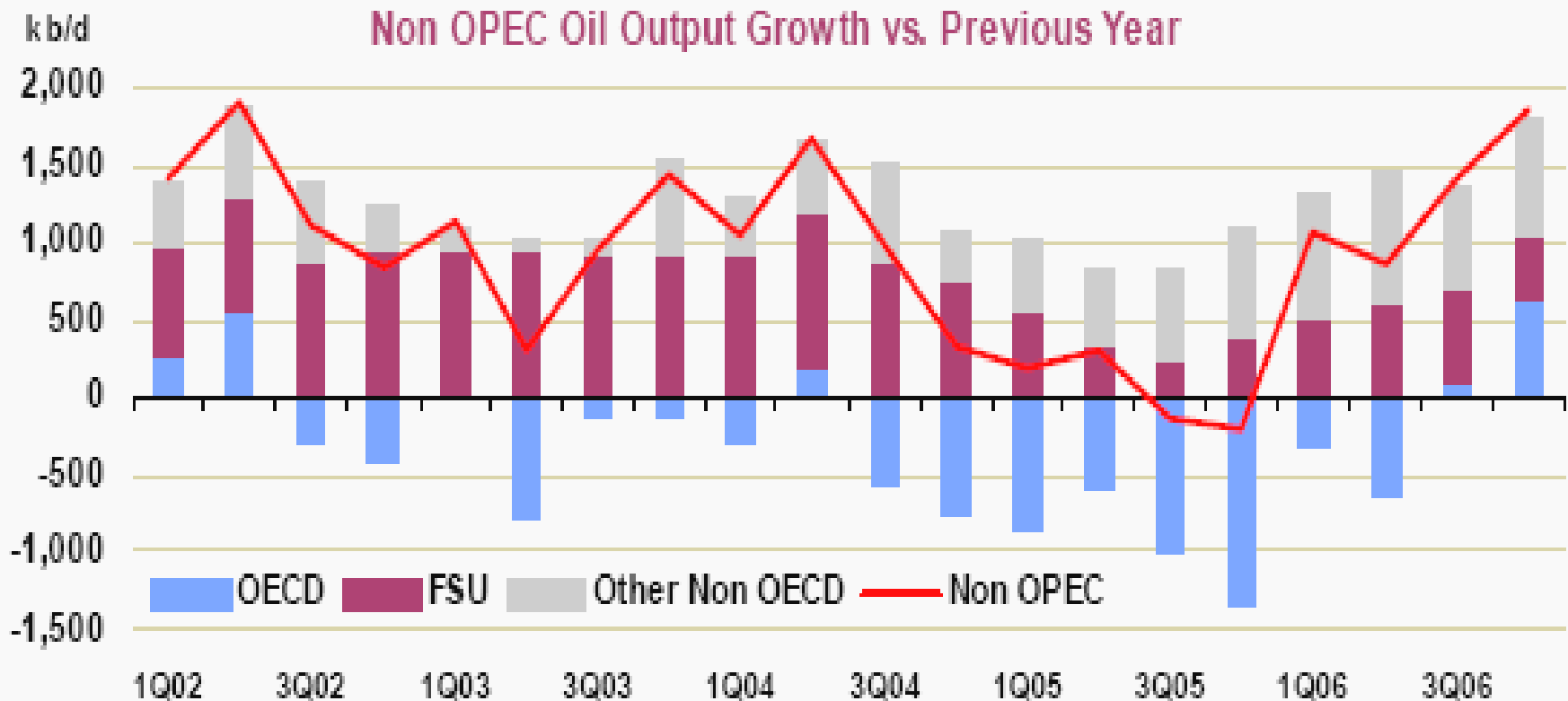
Accelerating Global Demand (IEA)



Production Problems Have Added to Tight Market

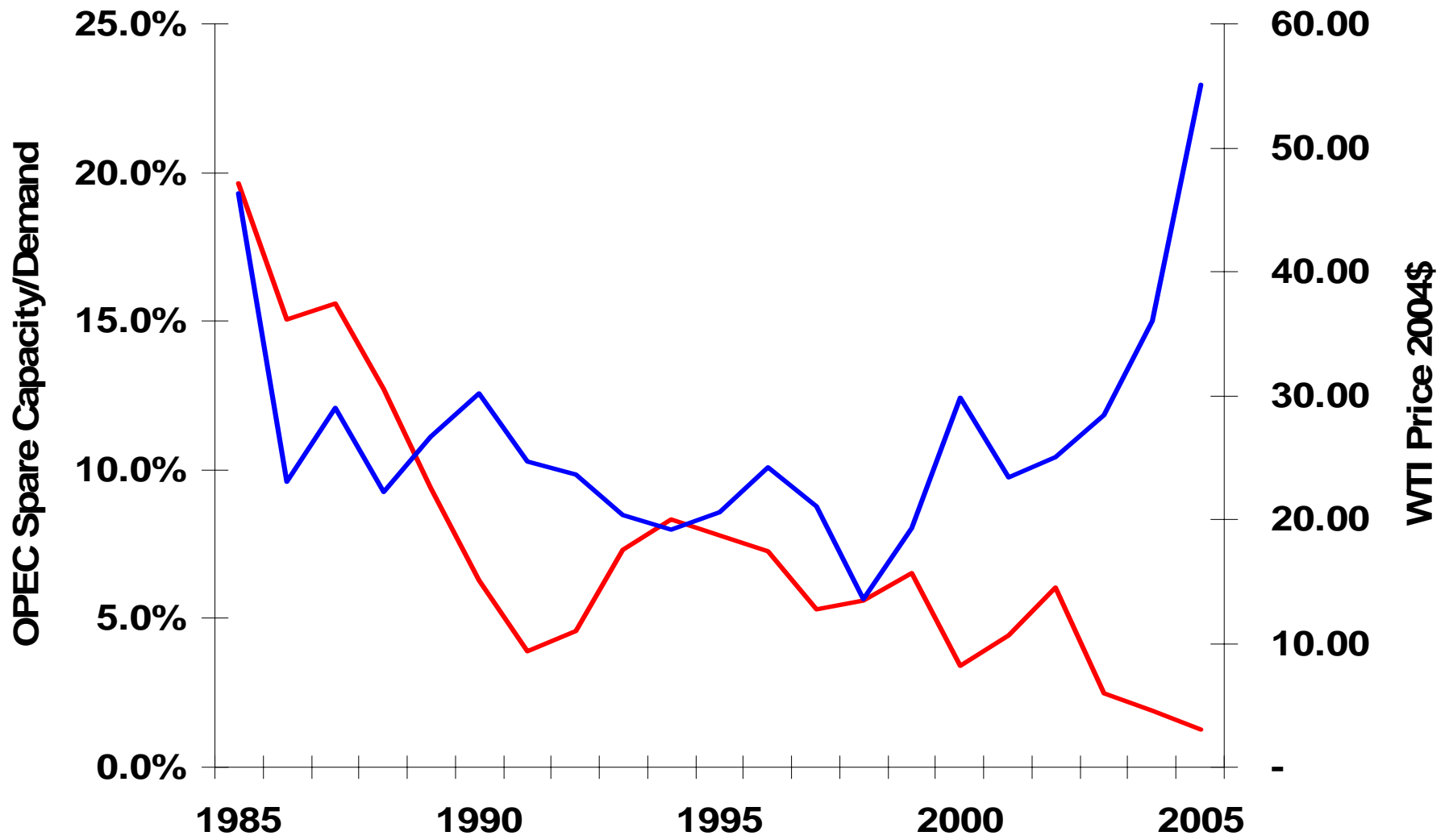
- ◆ **Iraq** – attacks on infrastructure (Kirkuk-Ceyhan)
- ◆ **Nigeria** – project delays, strike, ethnic strife
- ◆ **Venezuela** – ramifications of Chavez policy
- ◆ **Caspian** – disappointing
- ◆ **Gulf of Mexico** – Hurricanes Katrina and Rita
- ◆ **Russia** – Yukos affair, government intervention
- ◆ **OECD** – Accelerating decline rates
- ◆ **Mexico** – Cantarell past peak

Non-OPEC Oil Production Problems Key

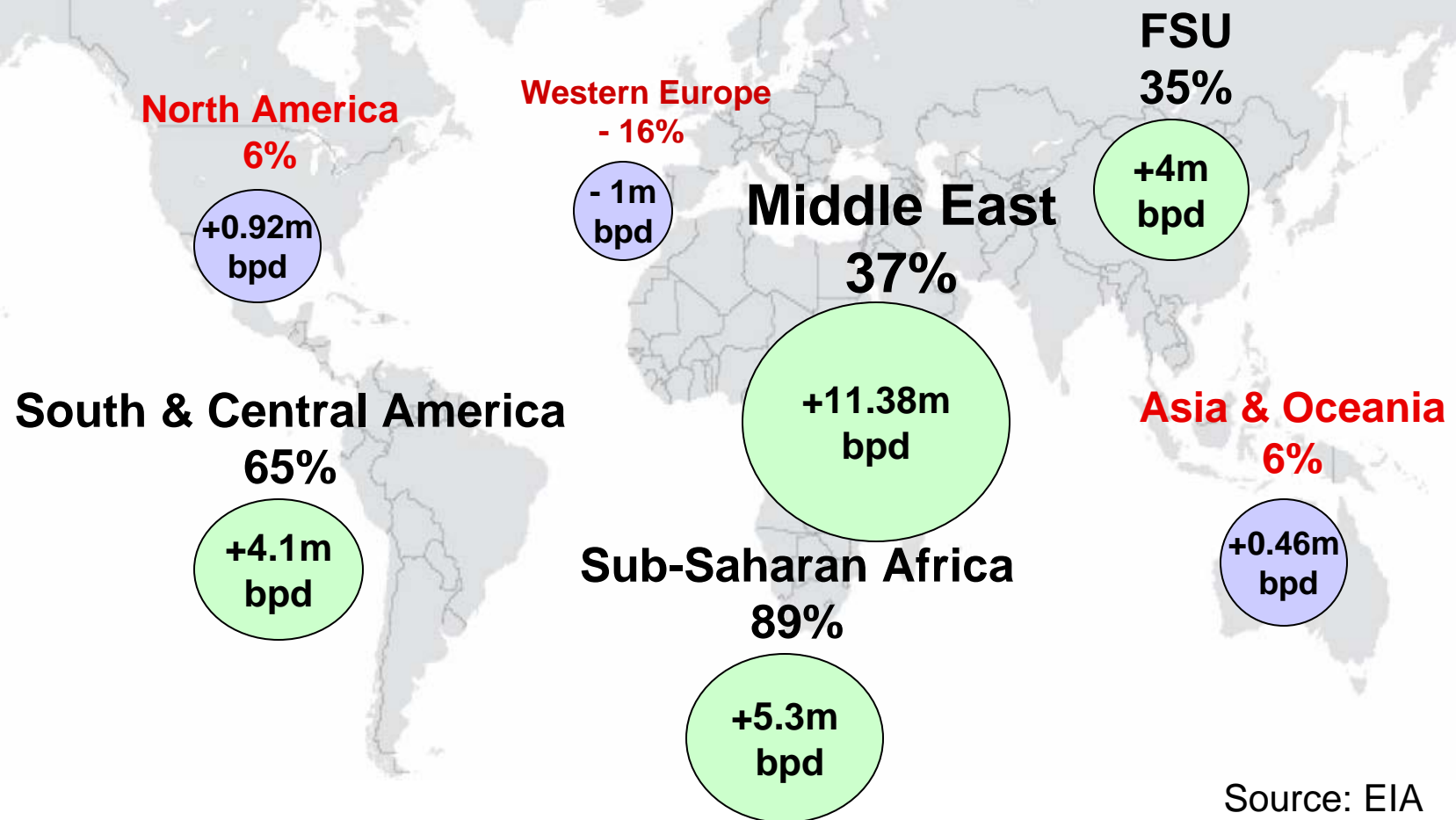


Source: IEA

OPEC Spare Capacity and Price = Increased Market Sensitivity



Expected Net Oil Production Growth to 2020 (EIA)



Source: EIA

Geographical Shift = Increased Political Risk

- ◆ **Global Insight Risk Ratings:**

OECD Risk = 1.50

‘New’ oil territories = 3.42 (significant risk)

- ◆ Concentration of supply in Middle East
- ◆ Oil consumers incrementally more dependant on exports from more distant producers
- ◆ Longer supply chain, more chokepoints = more risk of supply disruptions

Changing Oil Industry More Vulnerable to Attack

- ◆ Tight supply/demand balance = supply risks exaggerated
- ◆ Shift in production = more opportunity for attack
- ◆ Value of oil revenues = more damage caused by attack
- ◆ **Consequence:** Insurgent/terrorist groups recognise vulnerability and target oil installations where possible

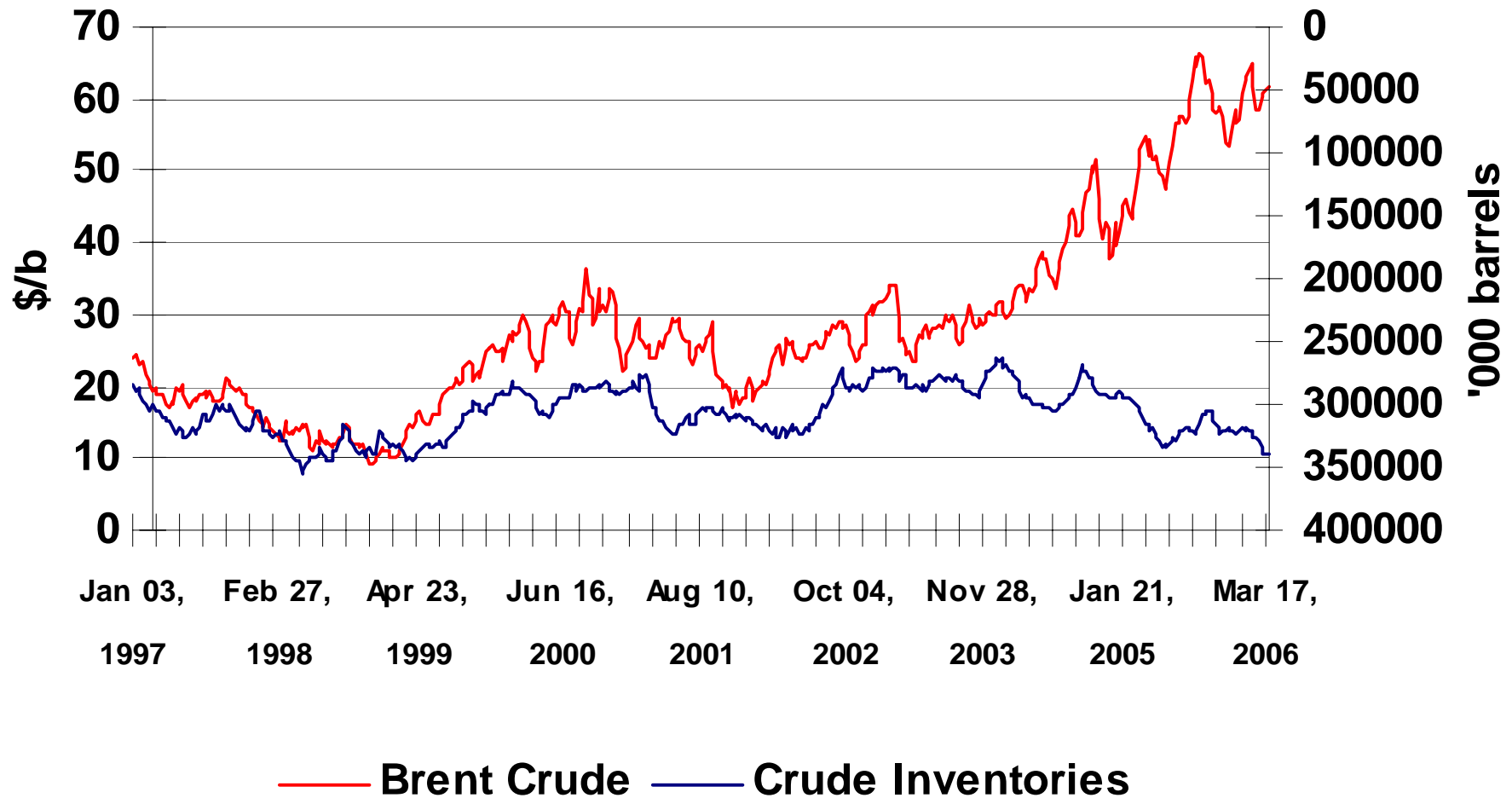
Oil Industry Becoming a Target

- ◆ 2001/02: Colombia – frequent guerrilla attacks on pipelines
- ◆ 2003-Present: Iraq – pipelines specifically targeted to cause financial damage
- ◆ 2002: Yemen – Limberg attack
- ◆ 2004: Saudi Arabia – attacks on worker compounds
- ◆ 2004-Present: Nigeria – Southern Delta
- ◆ 2001-Present: al-Qaida – Abqaiq attack, threats made to Saudi Oil
- ◆ 2003/04: Sudan – threatened attacks on oil facilities

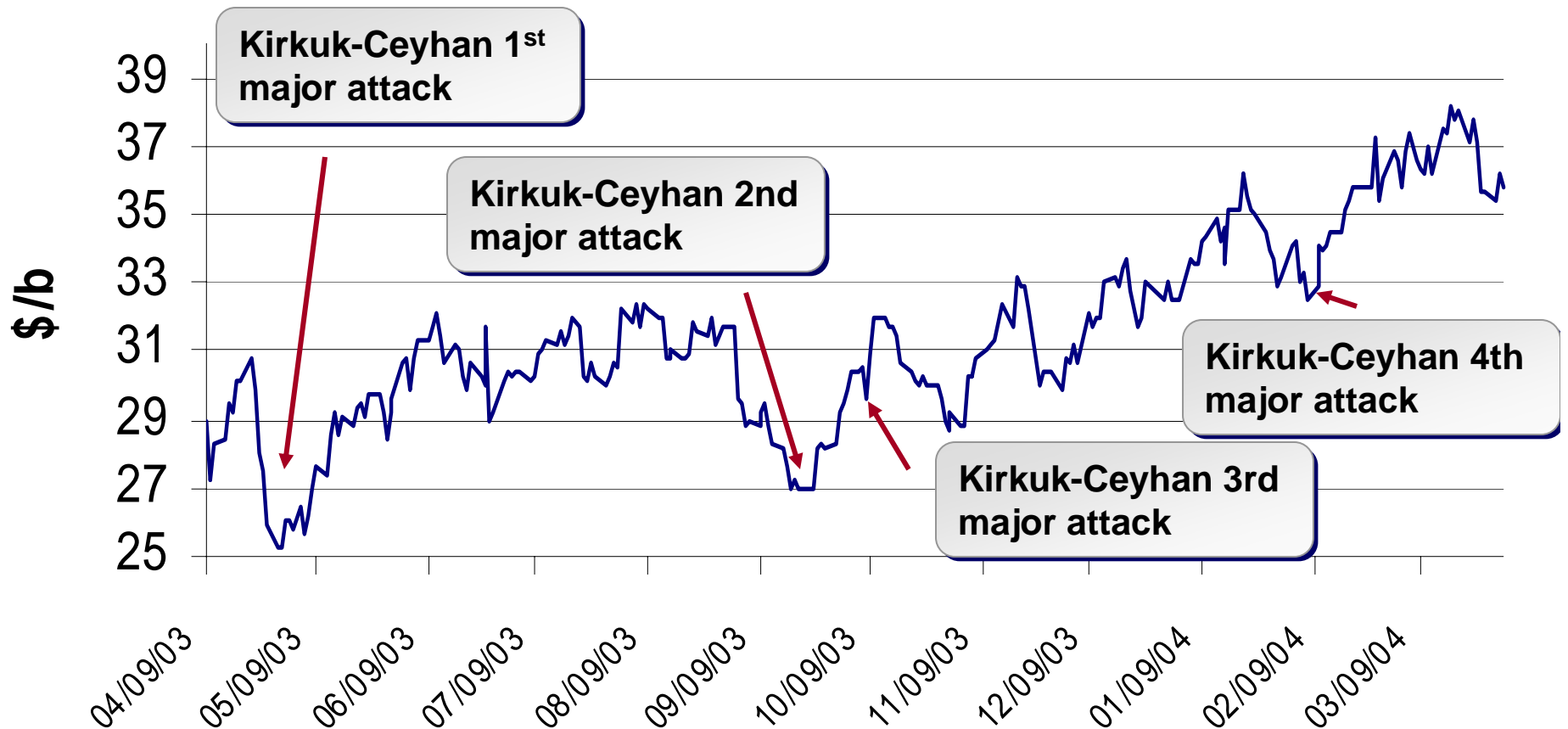


2. Security and Oil Prices

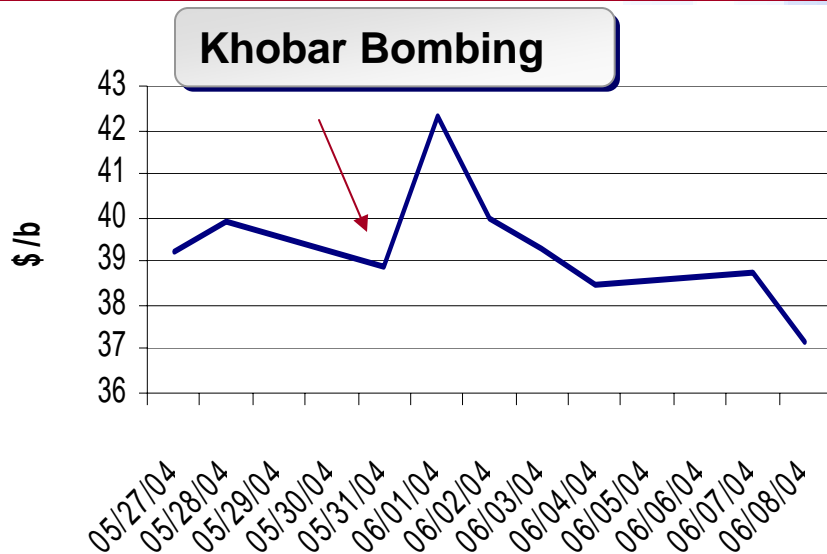
Divergence From Fundamentals: Why?



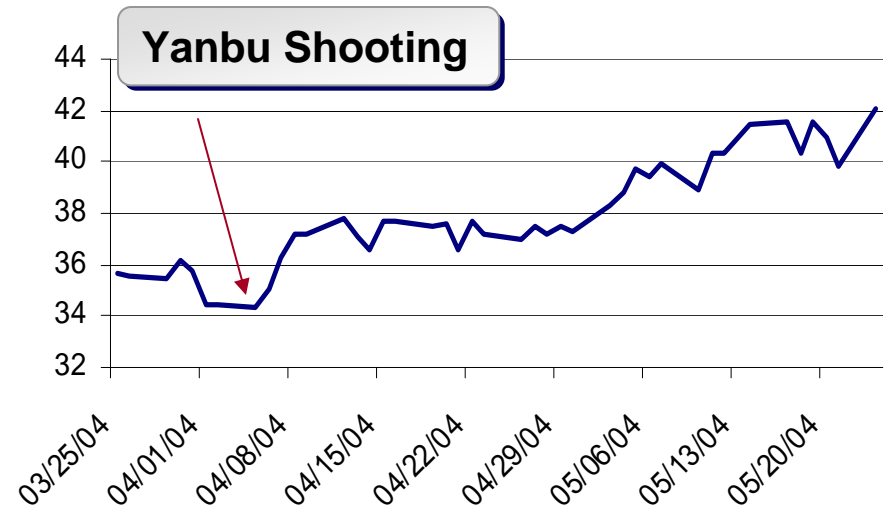
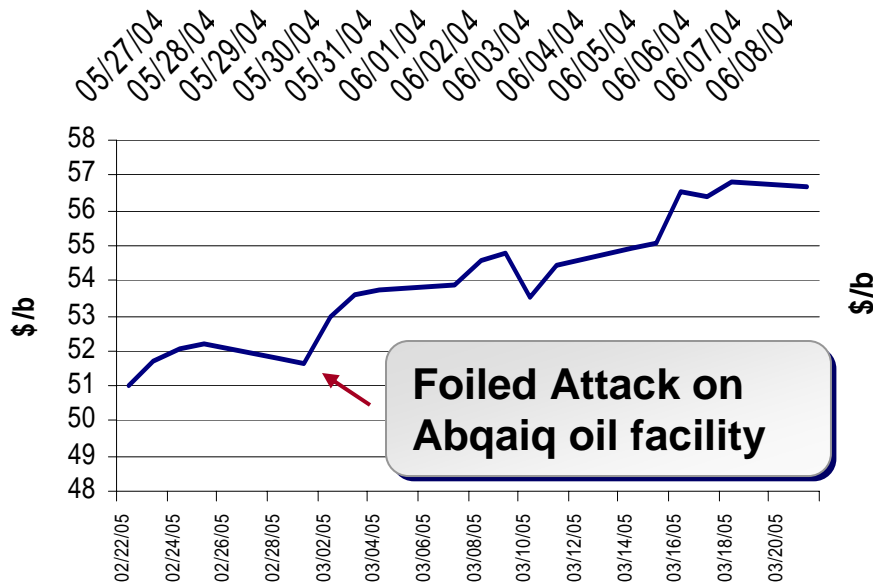
Iraq Pipeline Attacks: Cumulative Increase



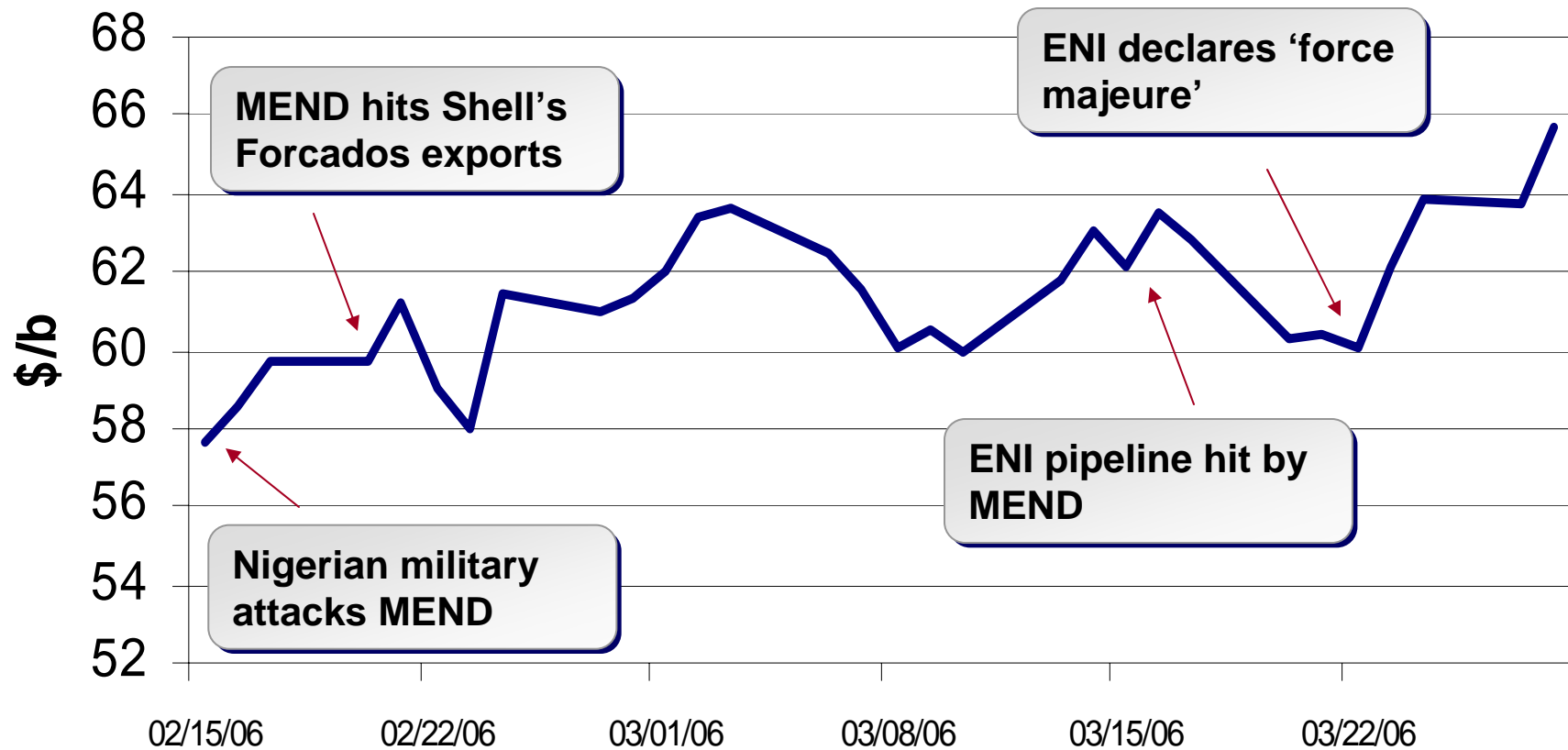
Price Spikes and Volatility



•Oil market sensitivity to Saudi security is heightened due to reduced spare capacity

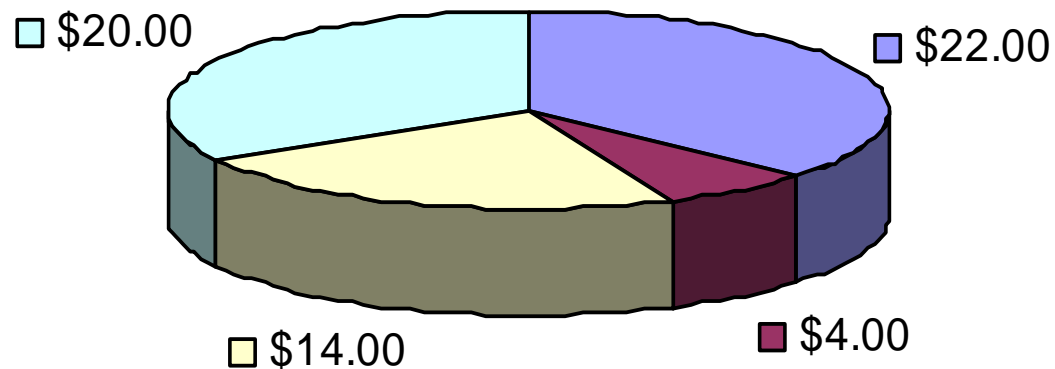


Nigeria: Volatility



Quantifying Price Impact: “Risk Premium”

- ◆ *“Proportion of oil price not attributable to supply/demand fundamentals”*



■ Costs ■ ROI ■ Fundamentals ■ Geopolitical/Security Risks

Security and Oil Prices

- ◆ Ultimately it's always a question of supply and demand
- ◆ Security/geopolitical risks = future supply
- ◆ 'Risk premium' exaggerated by lack of spare capacity
- ◆ Difficult to isolate security threats within crude price
- ◆ If quantified security 'risk premium' approximately 20-30% of oil price at present (best guess)



3. Oil Prices and the Economy

Debate Over High Oil Prices and Economy Rages

- ◆ 1970s & 80s: High oil = inflation, recession
- ◆ 1990s & 00s: High oil = lower growth
- ◆ Western economies less oil dependent now
- ◆ Energy diversification
- ◆ Growth in service sector has helped sever direct link

But

- ◆ Oil still underpins global economy
- ◆ Transport industry heavily reliant on crude
- ◆ Oil does still impact broader economy, but more lag

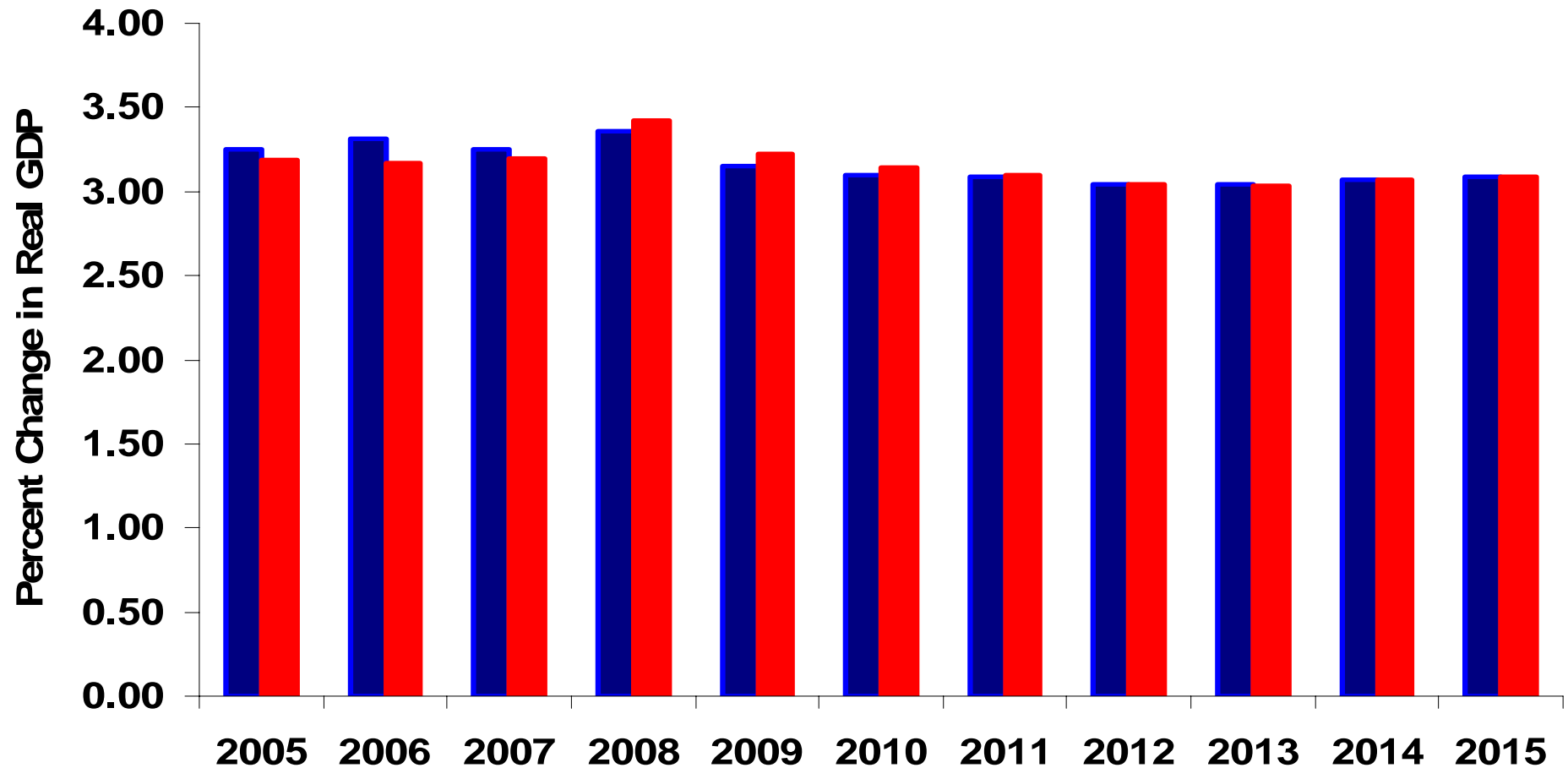
Global Economy More Resilient to High Prices

- ◆ Incremental oil demand/gdp nearly half the level of 10 years ago
- ◆ For many OECD consumers, the price of crude oil is a small fraction of their fuels costs
- ◆ In some major emerging markets, energy prices are subsidized and consumers do not 'see' higher prices
- ◆ Petro dollars are being recycled more quickly through investments and financial flows
- ◆ There is an absence of inflationary pressures thanks to increased global and domestic competition
- ◆ As a result of prudent monetary policies, inflation expectations are relatively stable

How High Can Price Go Before There is a GDP Impact?

- ◆ Global Insight sensitivity analysis of an oil price 'shock' on the global economy
- ◆ WTI price over \$100 for two months and over \$70 for six months and over \$50 for an additional year.
- ◆ Slight negative impact on global GDP in the first year, no impact in the second and positive impacts in the following years.
- ◆ Price impact shaves 0.3 – 0.4 percent off growth for China and India in year 1 and 2.
- ◆ What price is too high?

Impact of \$100 Oil Shock on World Growth



Source: Global Insight Scenario Model

■ Base Case ■ Oil Shock



4. Conclusion

Conclusion: The Causal Chain

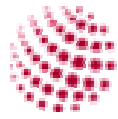
- ◆ Security > oil prices > economic consequences
- ◆ Psychological impact of 'oil jitters' on wider economy hard to quantify
- ◆ Oil industry trends will only accentuate impact of supply threats
- ◆ 'Risk premium' pales in comparison to impact of significant strike on oil infrastructure

- ◆ **Mitigates:**
- ◆ Big oil price movements require big actions – still rare
- ◆ Economies less oil dependant than in the past
- ◆ Government stocks can act as a buffer if expanded

Conclusion: Final Thought

- ◆ Can we quantify the cost of oil insecurity?
- ◆ Assuming:
 - ◆ World GDP 2006 = \$55.0trn
 - ◆ \$20/b average above trend = -0.85 GDP Growth
 - ◆ 'Risk premium' accounts for 30% of higher price...
 - ◆ ...and 50% of 'risk premium' is due to security fears
- ◆ Then oil insecurity will cost the global economy...

\$233,750,000,000 per annum in lost growth in 2006



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Thank you for listening

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