

2008 world oil price outlook

New York Energy Forum, January 16, 2008



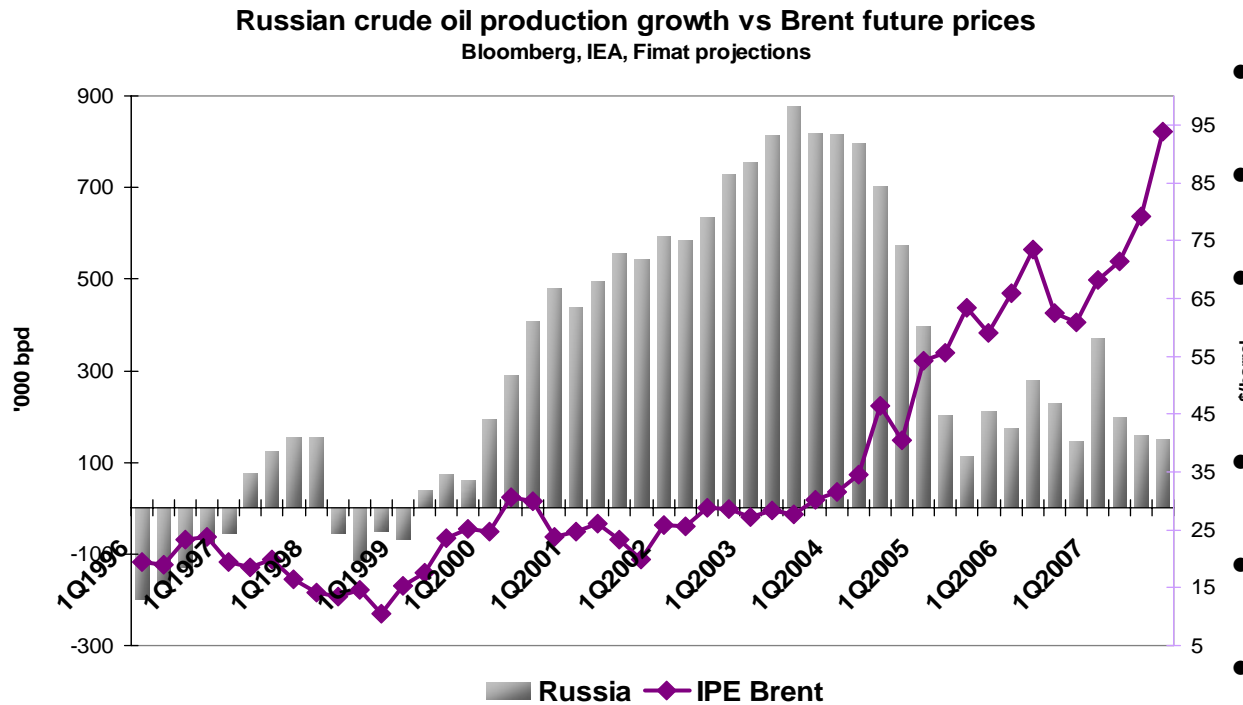
2008 front-month WTI price forecast

	1Q	2Q	3Q	4Q	FY
2007	58.27	65.02	75.15	90.50	72.36
2008	84	79	81	76	80



Oil price forecasts: why they're so often off the mark

Getting fundamentals wrong: markets and politics



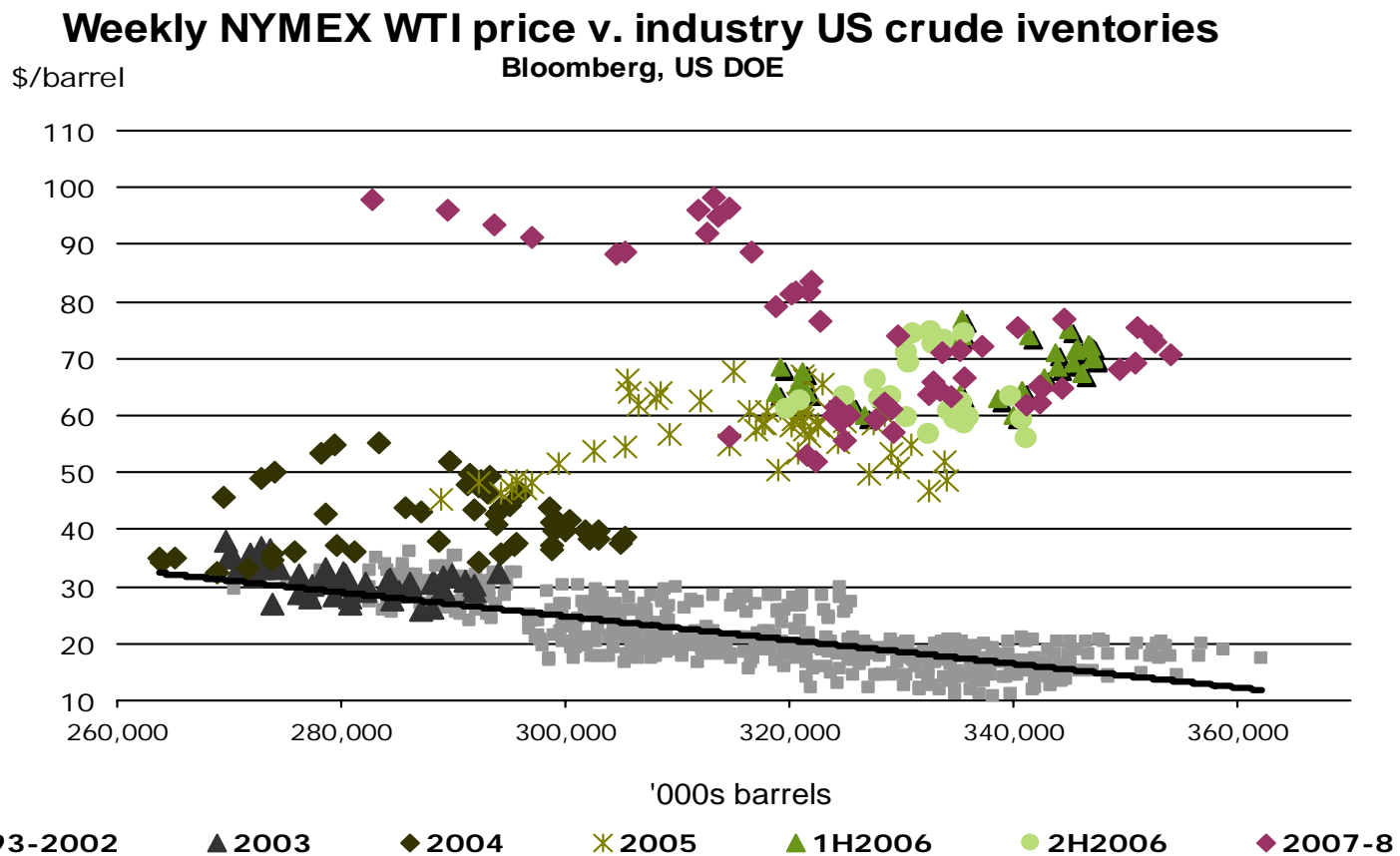
- Forecasting the present
- “Business as usual”
- The “unforeseen and almost certainly unforeseeable”
- Recessions, wars and other evils
- Political effect of prices
- Fundamental impact of politics

Russian supply growth vs. oil prices, 1996-2007: modeling mugged by politics



Stocks vs. prices: reading the tea leaves

Getting the fundamentals right and the price wrong: shifting relationships



Beyond fundamentals

- Capacity constraints
 - Wellhead
 - Transportation
 - Refining
- Cost increases
- Labor shortage
- Geopolitical risk
 - Iran
 - Iraq
 - Nigeria
- Investment climate
 - Resource nationalism
 - Russia – Caspian – Venezuela...
 - NOCs vs. IOCs
 - “Chindia” vs. the west
 - Majors vs. service cos.
- New players
 - Oil as asset class
 - Funds vs. fundamentals
 - Oil as currency hedge?



What a difference a year can make...

2007

Tight oil fundamentals...

Demand growth runs ahead of supply

Stock draws

Spare capacity wafer thin at best

... ignite geopolitical risk...

Resource nationalism curtails investment, hampers supply growth

IOCs on the defensive

Petro-arrogance in the axis of oil

Supply cuts cause big price “bang”

Festering grassroots nationalism

Iran price “premium”

... and strategic investment value

Oil as currency hedge

2008

Looser oil fundamentals...

Supply growth runs ahead of demand

Stock builds

Spare capacity rebuilding

... cool geopolitical risk

Resource nationalism still going strong but trends diverge

IOCs more accommodating, getting resigned to reduced role

Demagogue petro-regimes face confidence crisis

Easing fundamentals erode disruption payoff

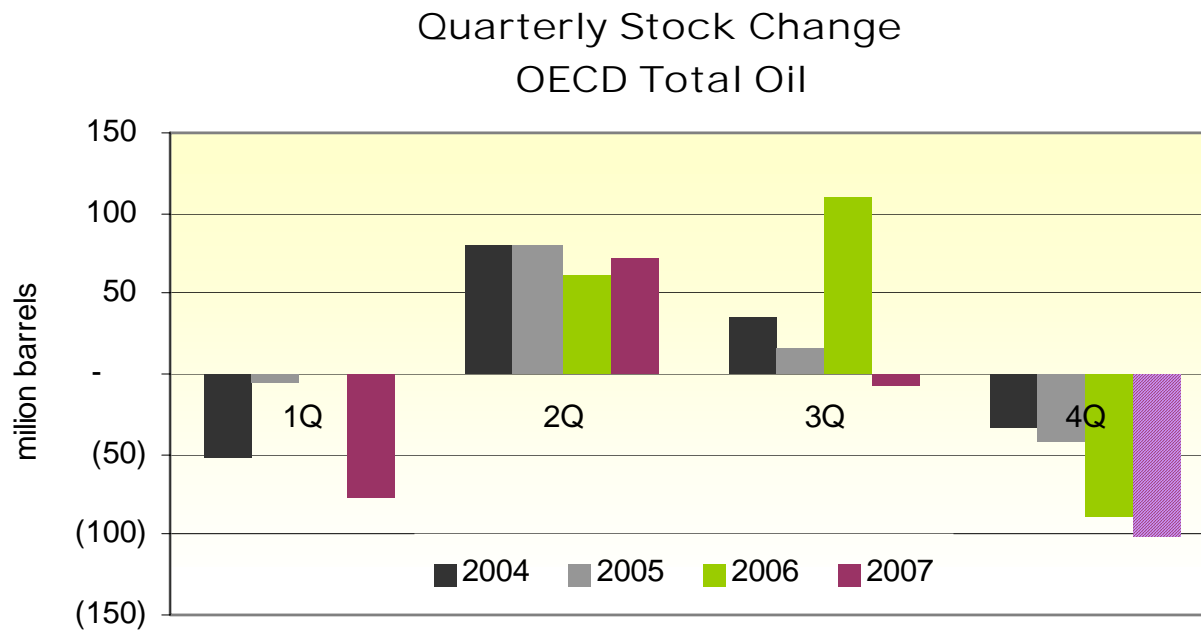
Iranian risk off radar

--- casting doubt on oil as hedge

Currency hedge less effective

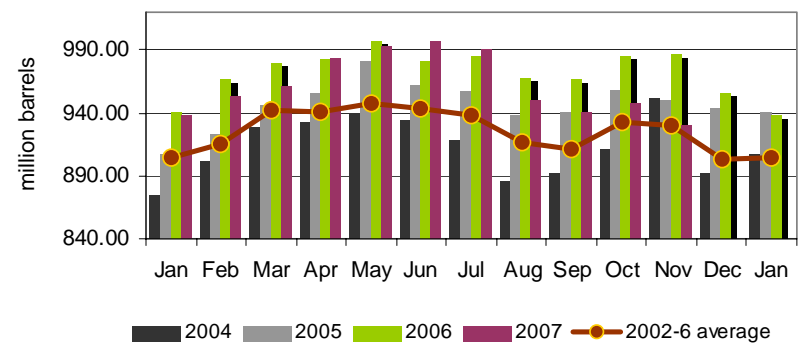


In the rearview mirror: the year of drawing dangerously

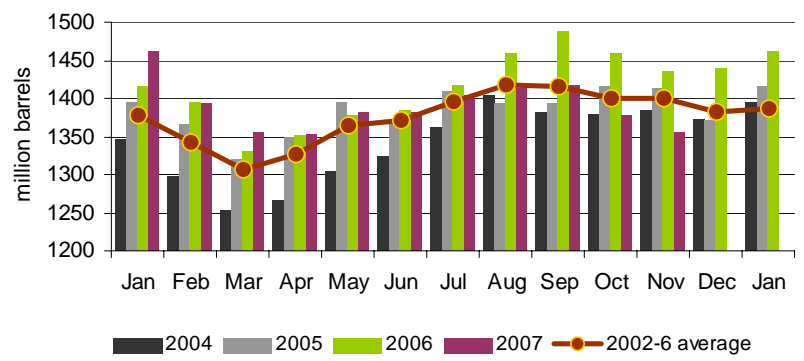


Tightness spanning the oil complex

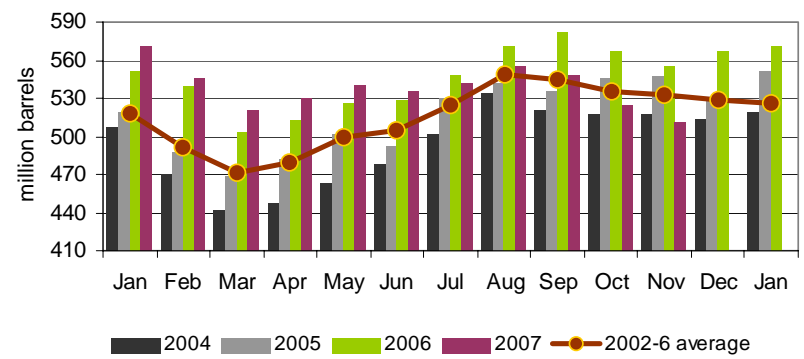
Total OECD crude oil inventories
Source: IEA



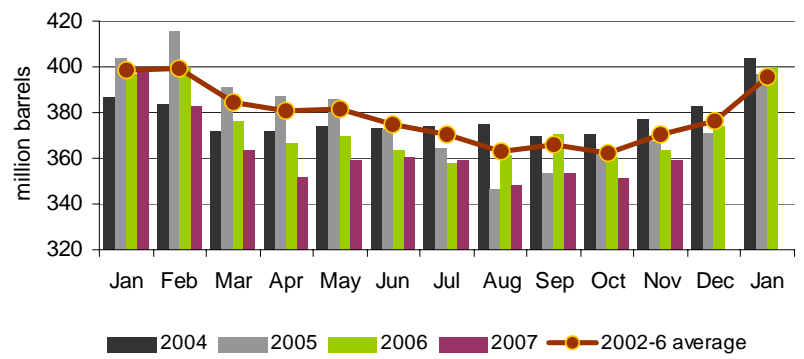
Total OECD product inventories
Source: IEA



Total OECD middle distillate inventories
Source: IEA



Total OECD gasoline inventories
Source: IEA

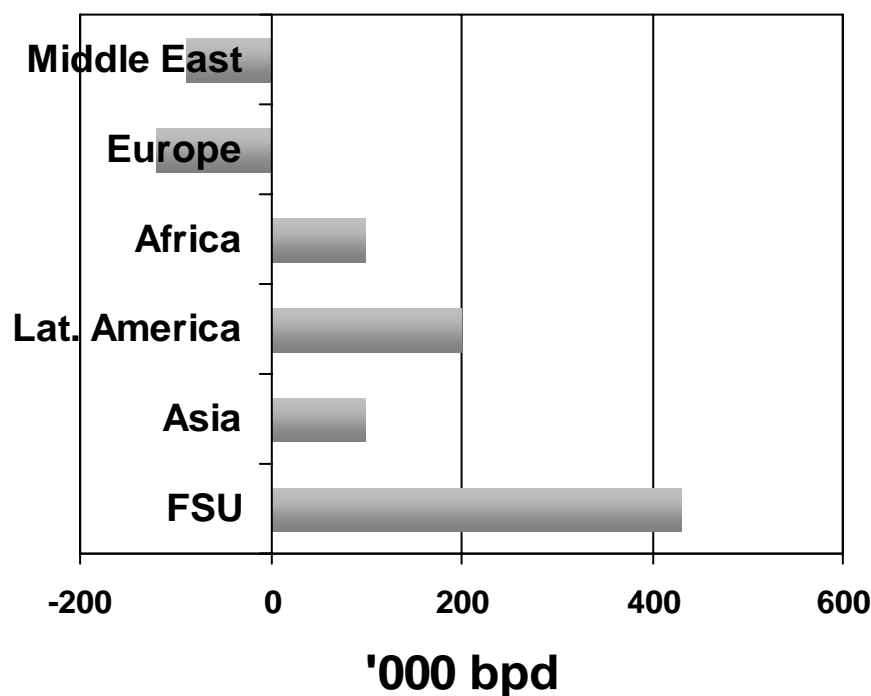


Godot sightings

OPEC leads total supply growth rebound to 2.52 million bpd in 2008; non-OPEC continues to inch up

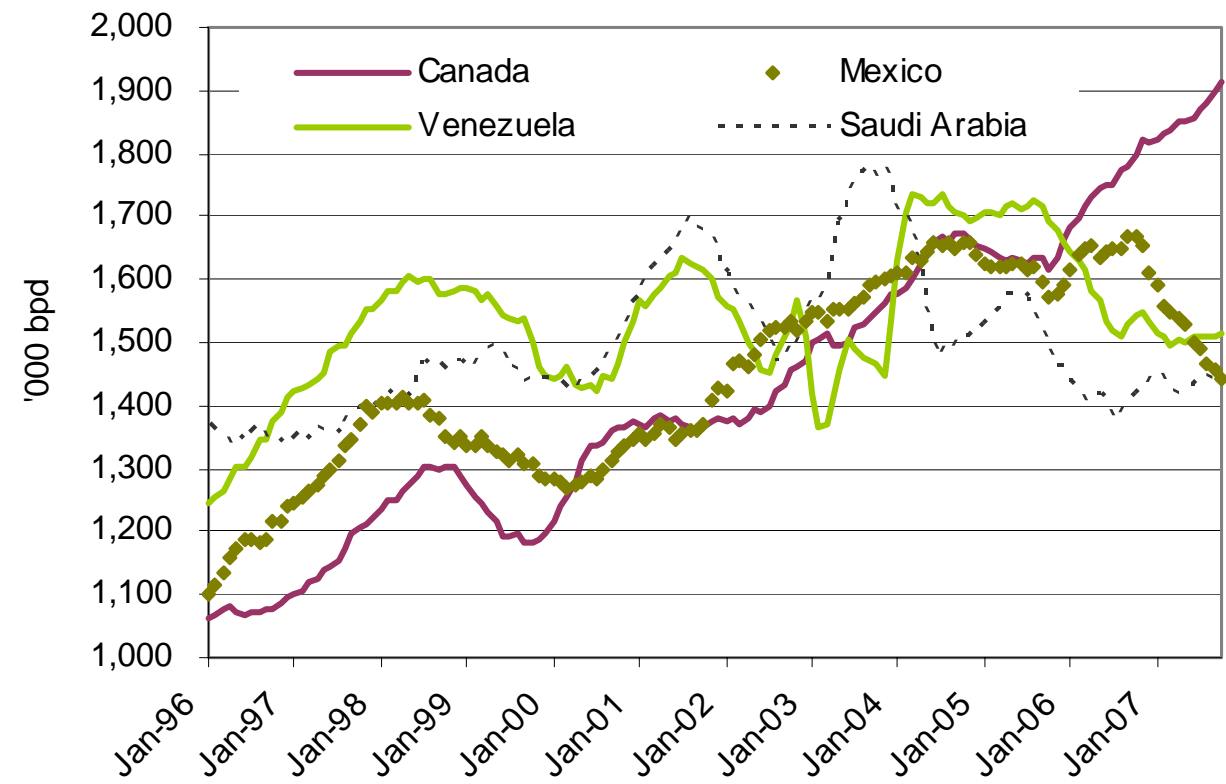
- OPEC +1.9 million bpd
 - Crude +1.4 million bpd
 - NGLs +500,000 bpd
- NON-OPEC +620,000 bpd
 - FSU: +430,000 bpd
 - Asia +100,000 bpd
 - Lat. America +200,000 bpd
 - Africa +100,000 bpd
 - N. Sea -120,000 bpd
 - Middle East -90,000 bp

Non-OPEC supply growth 2008



US crude supply: northern exposure

Top US crude imports
IEA January 2008



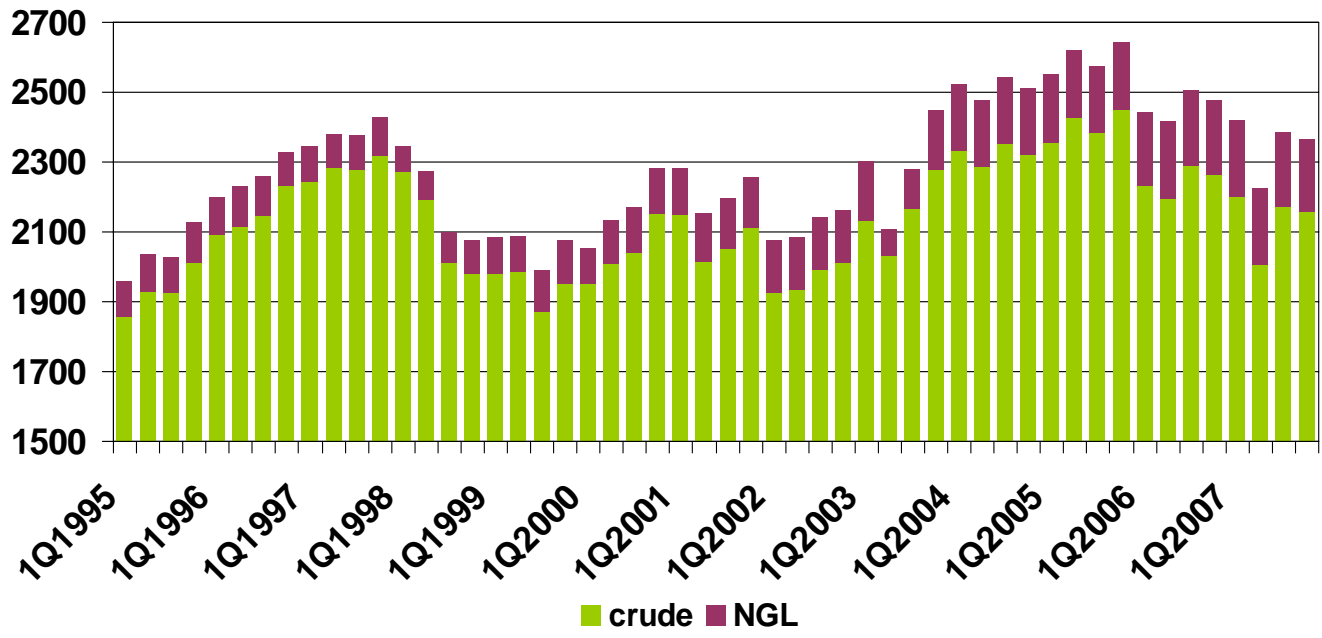
OPEC oil

- Internal fractures deepen...
- ... but hawks increasingly marginalized
- Hawks also under dovish pressure both internationally and domestically:
 - Saudi concerns / demand security
 - Accommodating Angola
 - Recovery in Iraq and Nigeria?
 - Domestic pressures in Iran and Venezuela



Grass-root pressures: light at the end of the tunnel?

Nigerian production



Loosening fundamentals may dampen grassroots claims

Splintering movement:

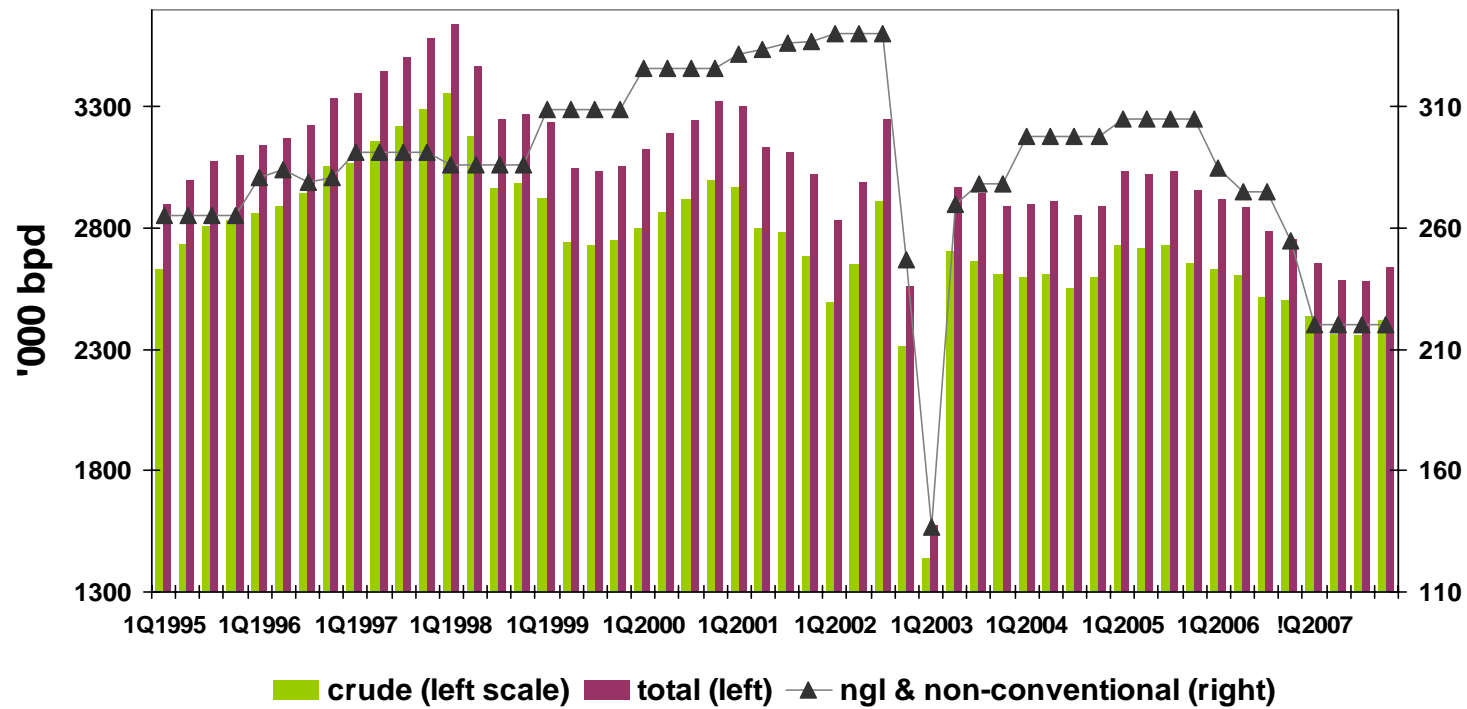
Asari Dokubu/Tom Ateke/Henry Oka



Addicted to oil



Venezuelan production decline



Iranian wild card



January 16, 2008

2008 Price Outlook

Demand and the R word

2001

- Jet fuel contraction led the OECD demand decline (outside of Asia)
- Terrorism compounded impact of economic decline
- China/non-OECD Asia resilient and insulated
- China driven by domestic demand, infrastructure development
- Mideast hit by low oil price

2008

- Airline industry overhaul – more efficient, demand less elastic
- China more exposed to US and global downturn risk
- China industrial overcapacity buildup
- Booming Mideast demand as oil windfall, deftly harnessed, compounds impact of explosive demographic expansion

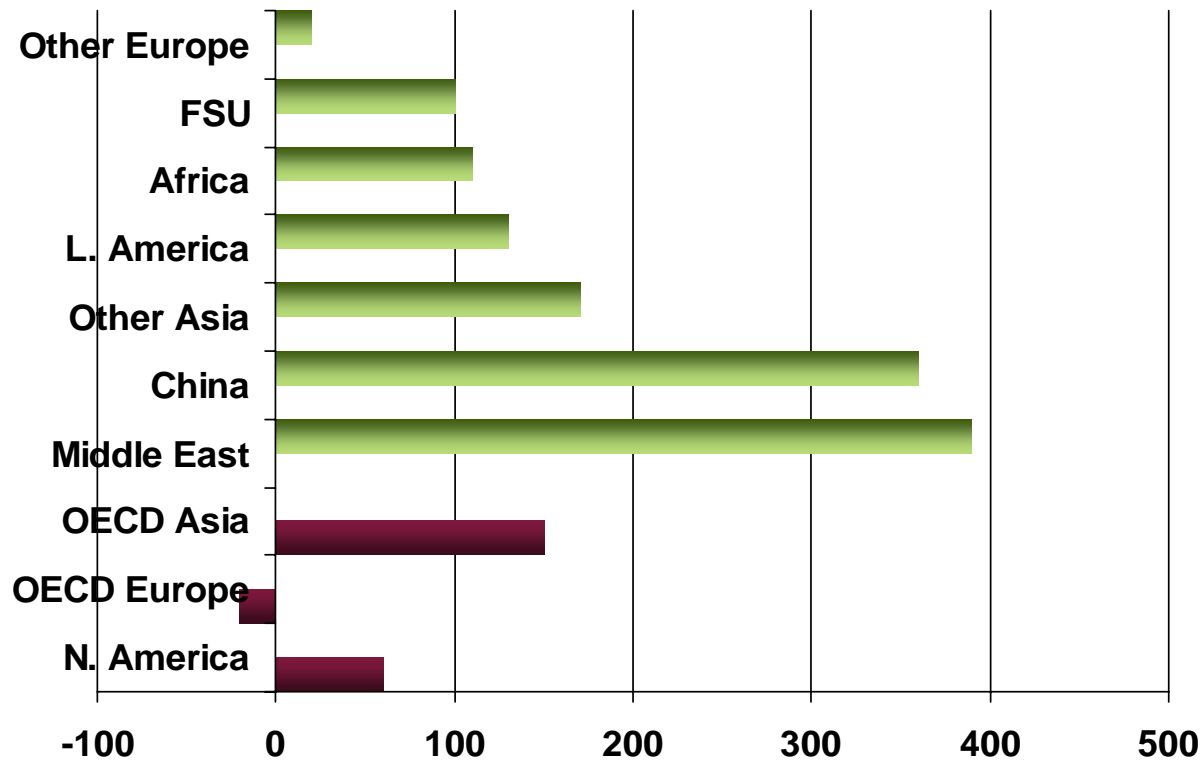


Demand growth rises East

East of Suez continues to dominate global demand growth, up 1.44 million bpd yr/yr

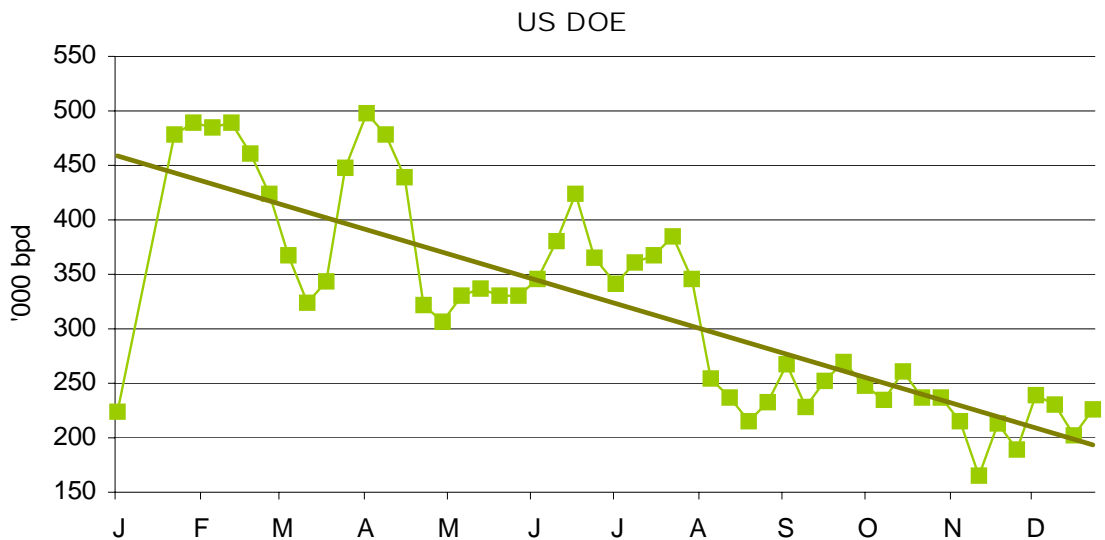
OECD
180,000 bpd

Non-OECD
1.44 million bpd



US gasoline demand: the big engine that couldn't any more

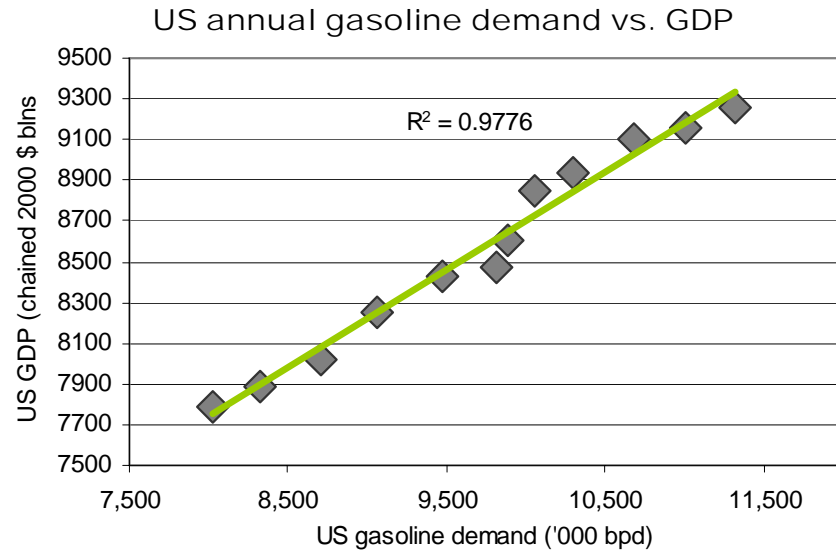
US Gasoline demand growth: 2007 vs. 2002-6 ave.
(4-week rolling ave.)



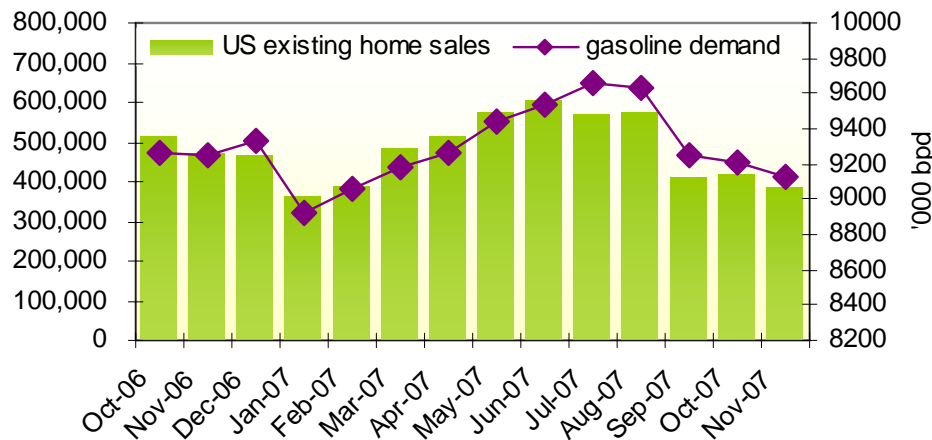
- US demand – the engine of OECD demand growth
- US gasoline – the lion's share of US demand
- But slower economic growth will take a toll on demand



Slower economy to cut US driving demand



US Homes Sales v. Monthly Gasoline Demand
National Association of Realtors, IEA, US DOE, Fimat



US diesel demand: the little engine that ran out of cash

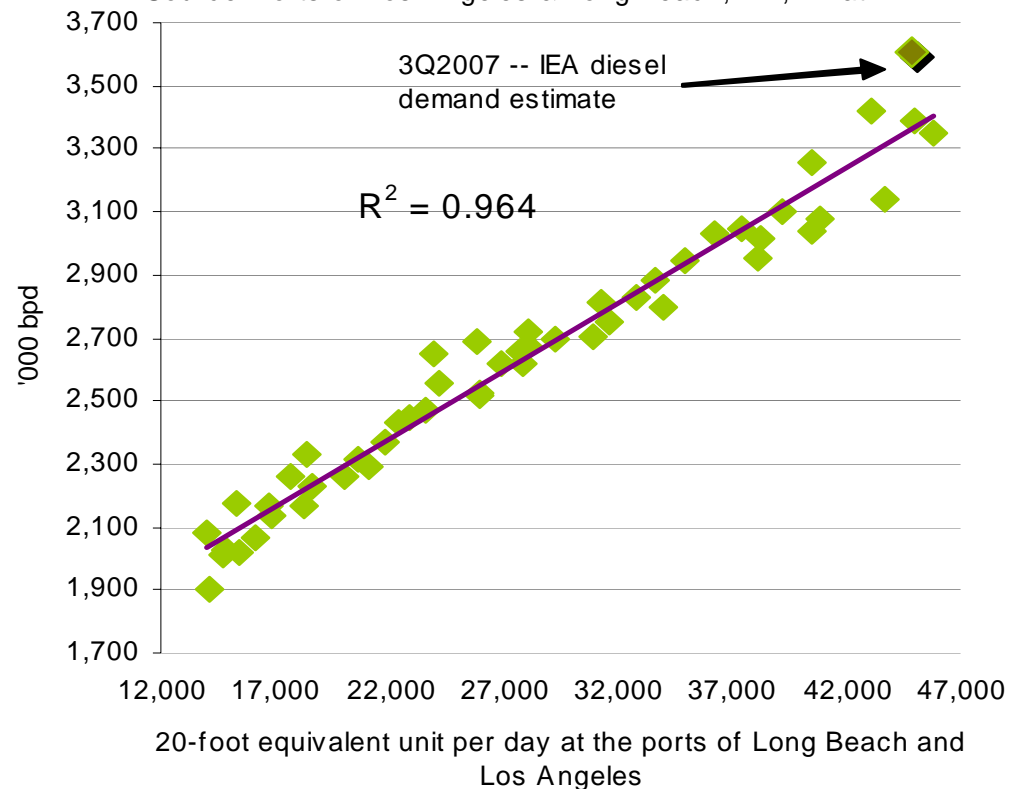
US demand for diesel had grown faster than for any other product, driven by trucking demand for Chinese imports, but...

- Currency depreciation and economic slowdown are eroding imports
- Efficiency improvements cut the diesel intensity of imports

Recent estimates appear overstated

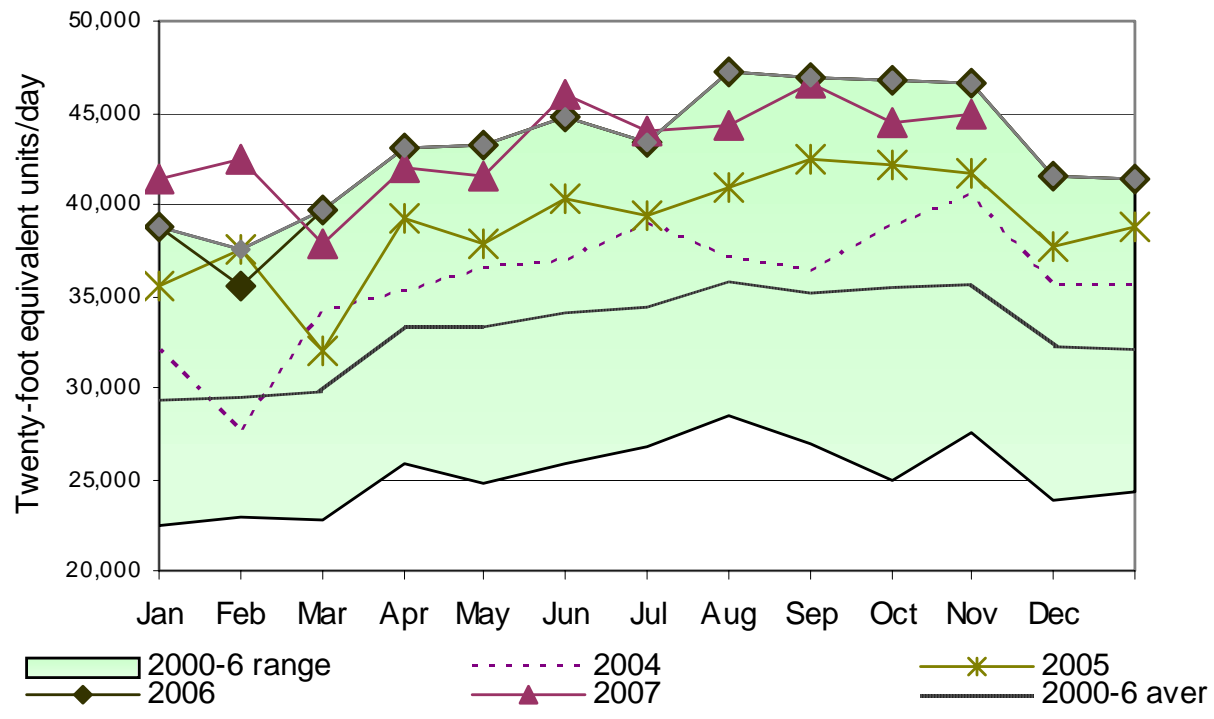
US Diesel Demand V. West Coast Container Trade, 1Q1995-3Q2007

Source: Ports of Los Angeles & Long Beach, IEA, Fimat



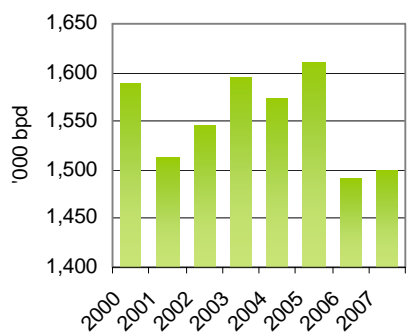
US imports of goods reverse course

Container Traffic at the Ports of Los Angeles and Long Beach

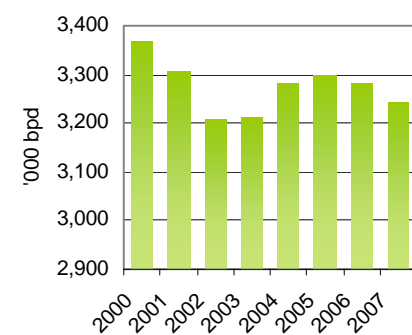


Refining chickens coming home to roost

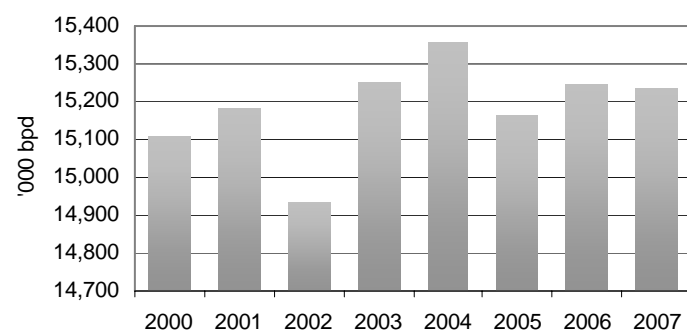
PADD 1 Refinery Crude Runs



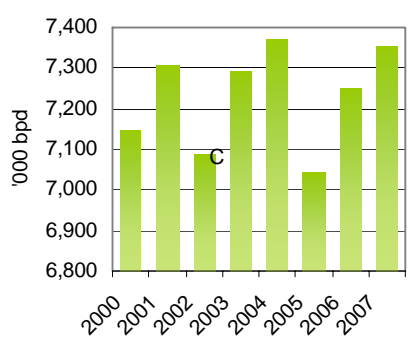
PADD 2 Refinery Crude Runs



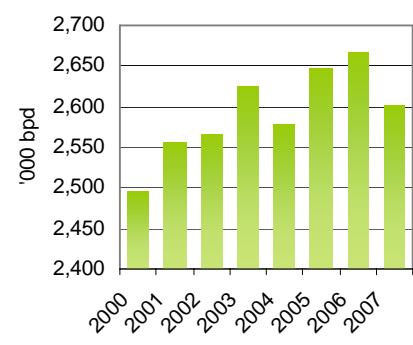
US Average Refinery Crude Runs



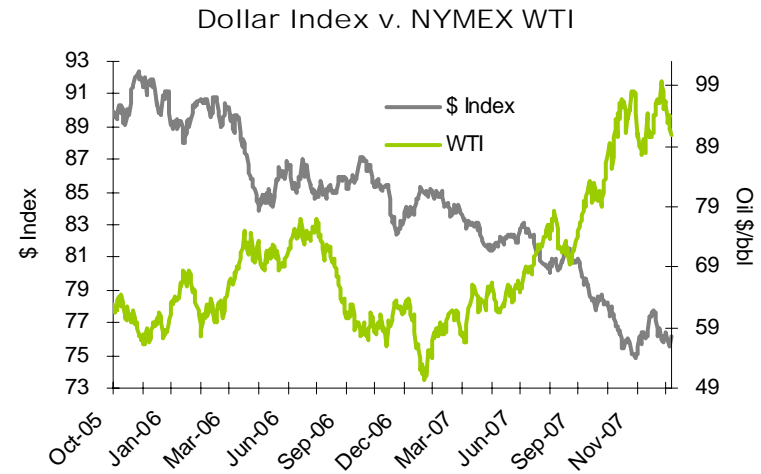
PADD 3 Refinery Crude Runs



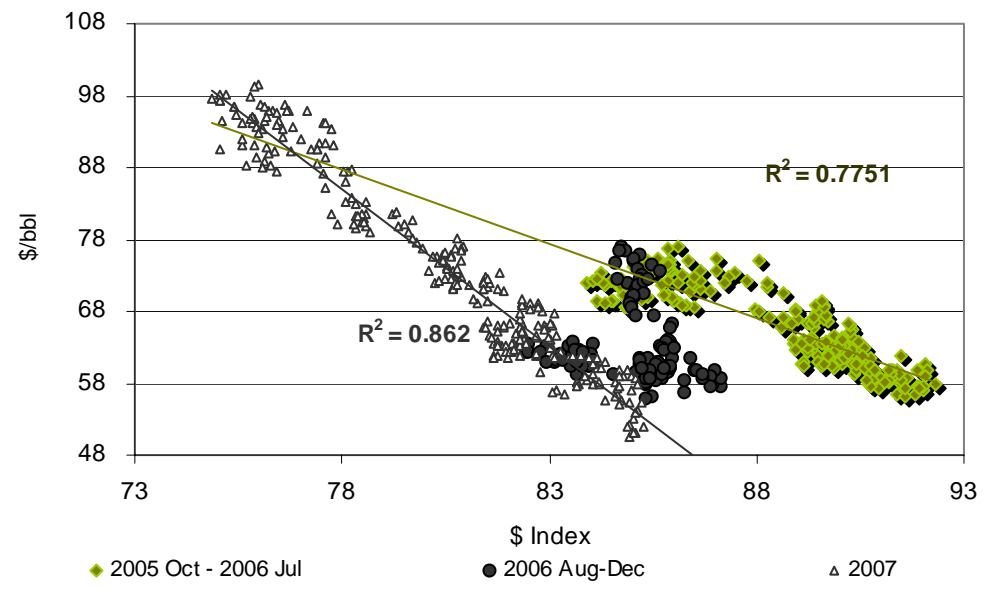
PADD 5 Refinery Crude Runs



Oil and the dollar: less than meets the eye



Oil Prices and Currency Fluctuations:
Front-month NYMEX WTI v. dollar index, Oct 2005-Jan 2008



Oil as currency hedge

Oil & the Dollar: Spurious Correlation?

