Outline: EIA oil data on Wall Street, the UBS case

- Part A Why we care
 - What we use the data for
 - Fundamentals more than anything else push oil prices around
 - What's even scarcer than oil is good timely data
- Part B Ouibbles
 - Year-over-year comparisons, growth rates or levels
 - "Revisions"
 - Filling-in-the-blanks
- Part C I wish
 - Weekly crude oil imports by source
 - Inclusion of other federal stats driving oil demand



Running debate: What causes high oil prices?

Speculators?

- "There is an orgy of speculation in the energy market... I don't understand the current price relative to the fundamentals in today's markets" Senator Byron Dorgan, North Dakota (4/3/08)
- "There is no relationship between fundamentals today and the price...there is a mismatch and anyone who tells you otherwise is wrong" Ali Al-Naimi, Saudi Oil Minister (1/7/08)
- "Speculators have driven oil prices to record highs rather than any supply shortage" OPEC Secretary-General Abdullah al-Badri (1/12/08)
- "The price seems to be driven by some speculation and also has a political premium in it, rather than actually some of the fundamental drivers" Peter Voser, CFO Shell (10/24/07)



Well which is it?

Or Fundamentals?

- "`little evidence" that speculators are systematically driving up crude oil prices"
 J. Harris, Chief Economist US Commodity Futures Trading Commission (4/3/08)
- "Given the relative stable makeup of participants and their positions in the markets and the absence of evidence that speculation has caused oil price changes, it appears that fundamentals provide the best explanation for crude oil price increases" J. Harris, Chief Economist US Commodity Futures Trading Commission (4/3/08)
- ♦ "The market fixes the price of oil" Ali Al-Naimi, Saudi Oil Minister (1/7/08)
- "In 2003, moves above \$30/barrel were widely cited as speculative and irrational. Now they are seen to reflect the increasing cost of accessing and developing reserves. If it was a speculative push in prices, the speculators were right." IEA Monthly Oil Market Report (3/11/08)



How fundamentals help: Price forecast + Sensitivity

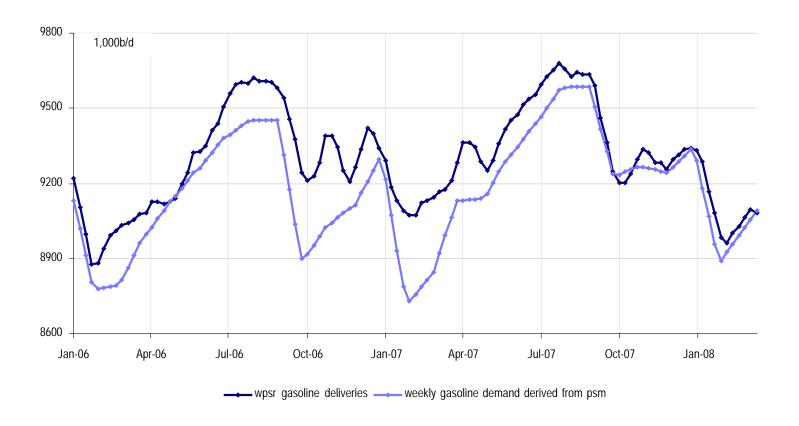
		(Q1			Q	2			Q3				Q	4			2008		
	Stocks* average Leve		Price	Time- read*	Stocks	Р	ice	Time- Spread	Stocks	Prid	се	Time- Spread	Stocks	Pr	ice	Time- Spread		Price	Time- Spread	
Bearish	238	\$	82.00	\$ 0.30	266	\$ 68	.00 \$	(5.50)	264	\$ 69.0	00 \$	(5.00)	269	\$ 67.	00 \$	(6.20)	\$	72.00	\$ (4.10)	l
(adding the largest inventory	builds this	dec	ade)																	
BASE CASE	221	\$	90.00	\$ 3.90	234	\$ 82.	00 \$	1.10	226	\$ 85.0	0 \$	2.70	225	\$ 83.0	00 \$	2.90	\$ 8	85.00	\$ 2.65	İ
Bullish	214	\$	94.00	\$ 5.40	216	\$ 91	.00 \$	4.80	200	\$ 99.0	00 \$	8.20	192	\$ 103.	00 \$	9.80	\$	97.00	\$ 7.05	ĺ
(adding the smallest invento	ry builds th	nis de	ecade)																	

^{*} Time-spread is the difference between the spot futures contract price and the price of the 2-year deferred futures contract: A negatie value means futures are in contango; positive = backwardation



Measures of US oil demand: Value in the WPSR

Plotting volume tells me little (e.g. weekly gasoline demand).





Year over year growth

Key question: How fast is demand changing?

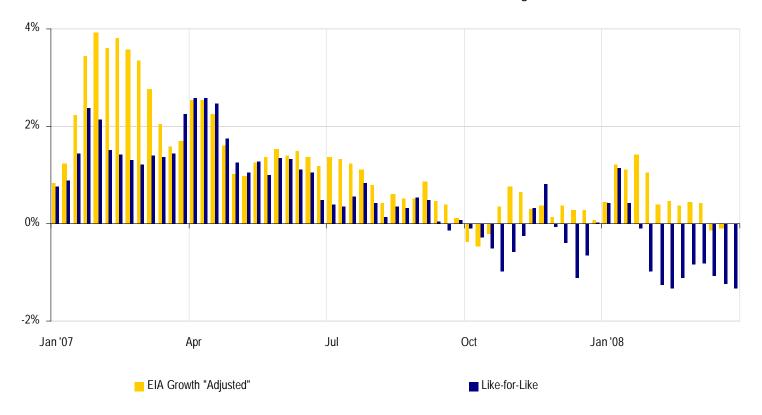
	Base				
	3/28/08	`	Year over Y	ear Growth	
	EIA/UBS	El	А	UB	S
	kbd	%	kbd	%	kbd
Gasoline	9162	0.0%	-2	-1.3%	-123
Jet Fuel	1613	3.7%	57	-0.8%	-13
Distillate Fu	4205	-3.1%	-133	-4.3%	-189
Residual Fu	612	-20.4%	-157	-22.9%	-182
Propane	1372	5.0%	65	1.0%	13
Other	3319	-3.0%	-103	-5.7%	-200
Total	20283	-1.3%	-273	-3.3%	-692
					



We like like-for-like

Plot demand growth in the "adjusted way" or the clean way?

US Gasoline Demand, Year-over-Year Change





Where we think gasoline demand is heading

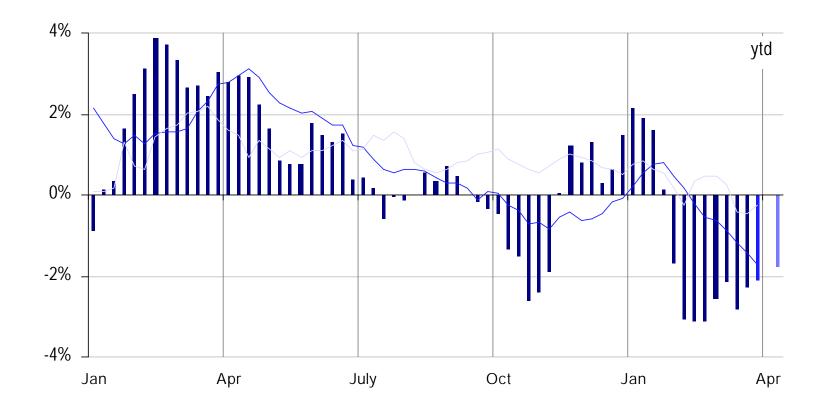
Our gasoline demand-growth trend plot





We think this is a transport, core demand story

Transport-fuel demand is down -2%, or 300kbd, in Q1

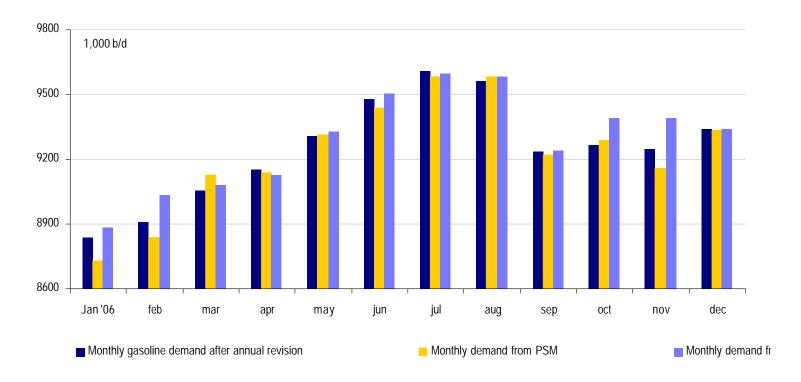




Revisions – issues of levels and growth rates

What's the best way to estimate gasoline demand each month?

The weeklies (WPSR) tend to over-estimate the level of demand (in 2006 by +40kbd on average each month), while the monthlies (PSM) underestimates the level (-20kbd per month in 2006). Neither is significantly better/worse than the other.

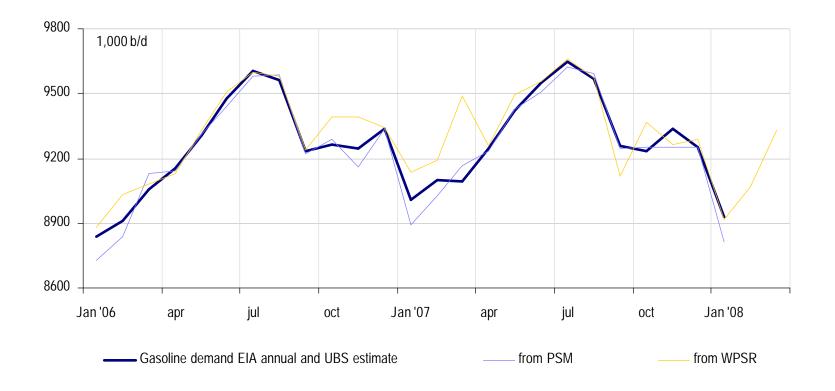






We think growth-rates work better than levels

• We take growth rates, then apply these growth rates to the fully revised historical base and thus get at a level for the balances.

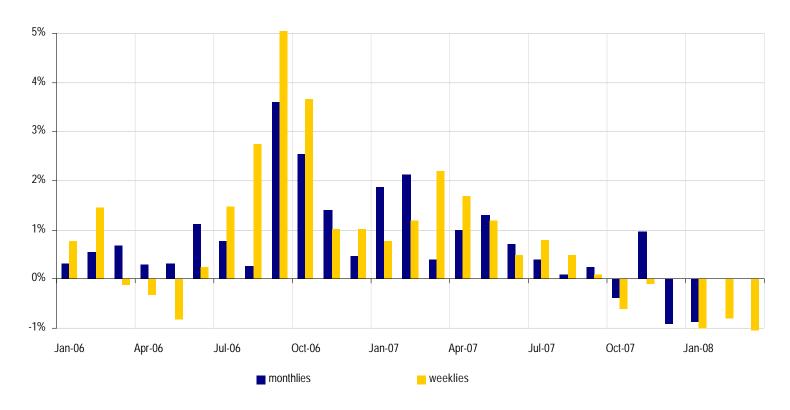






And of the two, WPSR growth rates are no worse

Gasoline demand, year over year % change in monthlies/weeklies





Making headlines: Bullish revisions 13 or 5 months?

How often does the release of monthly data spark a "bullish" headline about gasoline demand "revisions":

Compare WPS	SR and PS	M						
"Revisions": up	"Revisions": up = 1; down = 0							
	% chg	Level						
Jan-06	0	0						
Feb-06	0	0						
Mar-06	1	1						
Apr-06	1	1						
May-06	1	0						
Jun-06	1	0						
Jul-06	0	0						
Aug-06	0	1						
Sep-06	0	0						
Oct-06	0	0						
Nov-06	1	0						
Dec-06	0	0						
Jan-07	1	0						
Feb-07	1	0						
Mar-07	0	0						
Apr-07	0	0						
May-07	1	0						
Jun-07	1	0						
Jul-07	0	0						
Aug-07	0	1						
Sep-07	1	1						
Oct-07	1	0						
Nov-07	1	0						
Dec-07	0	0						
Jan-08	1	0						
_	13	5						



In conclusion: We love the things you do well

- Compare like-for-like
- There is value in growth rates
- You may want to consider emphasizing both



And if we may?

- Weekly crude oil import data by source
- New sources of data (dept of homeland sec)
- Other indicators to help our own estimating



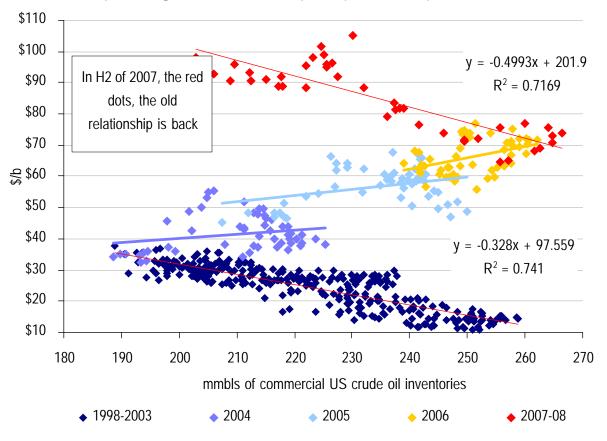
The global supply/demand context

For reference



Prices and inventories: Economics work again

Commercial crude oil inventories in Padds II & III each week since January 1998, in million barrels and the corresponding end-week WTI prompt futures price (\$/b)

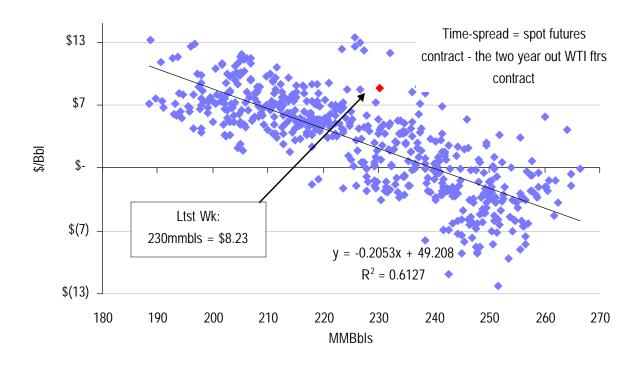


Source: Dept of Energy, Bloomberg and UBS



... another relationship that still works

... what also works still is how the level of inventories puts a premium or discount on prompt prices. In the below we co-relate US commercial crude oil inventories with the price-spread between the prompt futures contract – the two-year out futures contract. This relationship has <u>not</u> changed in the last 4 years.

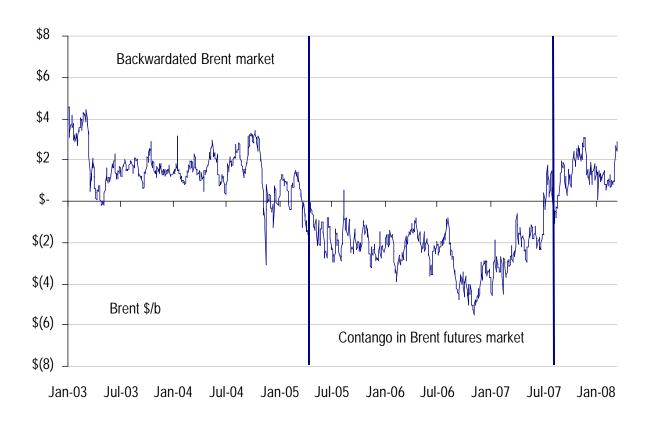


Source: Nymex, US Dept of Energy and UBS



Oil futures markets: Backwardation is here again

The Brent oil futures market turned, its contango gone, daily differentials of two-month out futures – six-month out futures

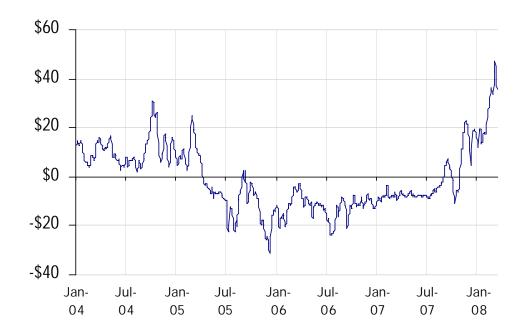


Source: Bloomberg, UBS



Spot-premiums of IPE Gasoil futures

Spot-premiums of IPE gasoil futures in London have rallied since October, and spiked from early February. A steady backwardation we saw last in 2004. Here we plot spot month – three month deferred (QS1-QS3 on Bloomberg)

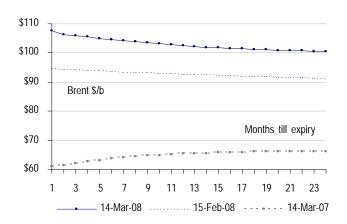


Source: Bloomberg, UBS

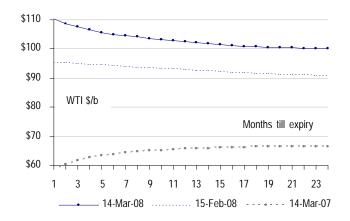


Recent structural shifts in crude oil markets

Brent futures reflect spot tightness + inflation ...



...WTI futures reflect more local issues and long term

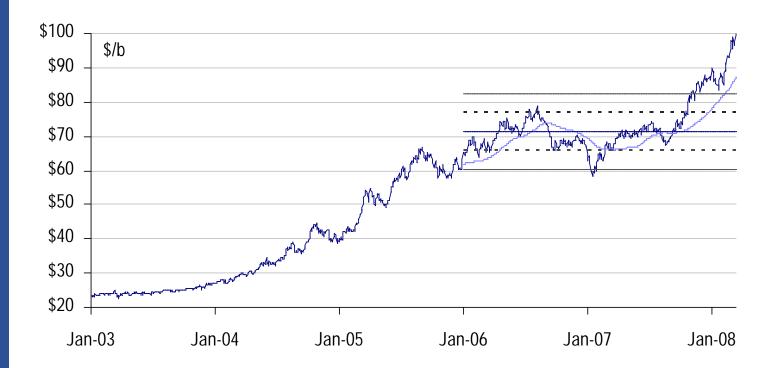


Source: Bloomberg



Upside system risk

Two-year out WTI futures have averaged \$71/b in the last two years. Their 100-day moving average has stayed within one standard deviation of that \$71 average, despite significant volatility since April 2006. That this 100-day moving average is once again challenging its 1-standard deviation border may mean a break out to the upside is imminent. Some argue that the daily settle's breakout through the 2-standard deviation range means the break out is there. We are at a cross-roads in mid-February.



Source: Bloomberg and UBS



Global oil balance..

UBS's extended global oil balance (10 years, 2003 through 2012E) ...

mmb/d	2003	2004	2005	2006	2007	2008E	2009E	2010E	2011E	2012E
Demand										
OECD America	24.5	25.4	25.5	25.3	25.6	25.5	25.4	25.6	25.9	26.1
OECD Europe	15.4	15.5	15.6	15.6	15.3	15.2	15.2	15.1	14.9	14.9
OECD Asia Pac	8.6	8.5	8.6	8.4	8.3	8.3	8.3	8.3	8.2	8.2
OECD	48.6	49.4	49.7	49.3	49.1	49.1	48.9	49.0	49.0	49.2
FSU	3.9	3.9	3.9	4.1	4.0	4.1	4.1	4.2	4.2	4.3
China	5.7	6.6	6.7	7.1	7.4	7.9	8.3	8.6	8.9	9.2
Other Asia	8.1	8.7	8.8	8.9	9.1	9.2	9.4	9.6	9.8	9.9
South America	4.8	5.0	5.0	5.2	5.4	5.5	5.7	5.7	5.7	5.7
Mideast	5.4	5.7	6.1	6.5	6.9	7.2	7.6	7.9	8.2	8.5
Africa	2.7	2.8	2.9	3.0	3.0	3.2	3.3	3.3	3.4	3.5
Non-OECD	31.1	33.3	34.2	35.5	36.6	37.8	39.1	40.1	41.1	42.0
Total	79.7	82.7	83.9	84.8	85.7	86.9	88.1	89.1	90.1	91.2
Supply										
Americas	18.1	17.9	17.7	17.8	17.9	18.0	18.2	18.3	18.5	18.6
Europe	6.4	6.1	5.7	5.2	5.0	4.7	4.4	4.1	3.6	3.2
FSU	10.4	11.3	11.7	12.2	12.8	13.0	13.1	13.2	13.2	13.3
Africa	2.2	2.4	2.4	2.6	2.8	2.8	2.9	2.9	2.8	3.0
Mideast	2.0	1.9	1.8	1.7	1.6	1.6	1.5	1.7	1.9	1.8
Asia	6.6	6.8	6.9	6.9	7.0	7.1	7.3	7.5	7.5	7.6
Non-Opec Supply	45.7	46.4	46.2	46.6	47.0	47.1	47.5	47.5	47.4	47.0
Opec Crude Oil	28.6	30.6	31.4	31.7	31.4	32.6	33.1	33.6	34.3	35.3
Opec 10	25.9	27.0	27.8	27.8	27.2	27.9	28.2	28.8	29.3	29.8
Opec non-crude	3.5	4.0	4.3	4.4	4.5	4.7	5.2	5.4	5.6	5.8
Processing Gain	1.9	2.0	2.1	2.1	2.1	2.2	2.3	2.4	2.6	2.7
Total	79.7	82.9	83.9	84.7	85.1	86.7	88.2	89.0	89.9	90.9
Memo:										
Capacity	81.6	84.4	84.8	86.3	87.8	89.1	91.0	92.0	92.4	92.4
Spare	1.9	1.5	0.9	1.5	2.8	2.4	2.8	3.0	2.5	1.5
Relative	2.4%	1.8%	1.0%	1.8%	3.2%	2.8%	3.2%	3.4%	2.8%	1.7%
To Balance										
Implied stock change	-0.0	+0.2	+0.0	-0.1	-0.7	-0.2	+0.1	-0.1	-0.2	-0.3
OECD stock cover	50.3	50.1	51.5	53.8	52.1	51.7	51.8	<i>51.7</i>	51.3	49.7



Global oil balance year-to-year changes

UBS's extended global oil balance (10 years, 2003 through 2012E) ...

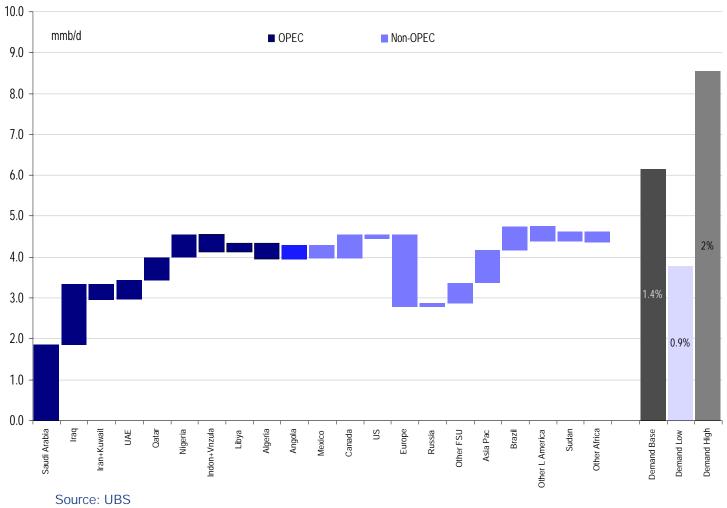
Demand	Year to Year	change in	%				Yea	r to Year ch	ange in %	
	2003	2004	2005	2006	2007	2008E	2009E	2010E	2011E	2012E
OECD America	1.7%	3.4%	0.5%	-0.7%	1.0%	-0.3%	-0.2%	0.7%	1.0%	1.0%
OECD Europe	0.9%	0.3%	0.8%	0.1%	-2.2%	-0.3%	-0.5%	-0.6%	-1.0%	0.0%
OECD Asia Pac	1.8%	-1.5%	0.8%	-1.9%	-1.6%	0.9%	-0.1%	-0.5%	-1.0%	-0.3%
OECD	1.5%	1.6%	0.6%	-0.7%	-0.5%	-0.1%	-0.3%	0.1%	0.0%	0.5%
FSU	1.4%	0.6%	0.7%	5.6%	-3.2%	1.8%	2.0%	1.0%	1.0%	1.0%
China	9.3%	16.6%	1.9%	5.1%	5.5%	5.7%	5.0%	4.0%	4.0%	3.0%
Other Asia	1.3%	7.1%	1.9%	0.3%	2.4%	1.3%	1.9%	2.0%	2.0%	2.0%
South America	-2.0%	4.8%	1.3%	2.7%	4.3%	2.6%	2.4%	1.0%	0.0%	0.0%
Mideast	2.8%	6.9%	6.3%	7.0%	5.1%	5.1%	5.1%	4.0%	4.0%	4.0%
Africa	2.1%	3.0%	4.7%	1.7%	3.2%	3.6%	3.7%	2.0%	2.0%	2.0%
Non-OECD	2.5%	7.2%	2.7%	3.6%	3.2%	3.4%	3.4%	2.5%	2.4%	2.2%
TOTAL DEMAND	1.9%	3.7%	1.5%	1.1%	1.1%	1.4%	1.3%	1.2%	1.1%	1.3%
Global GDP growth	4.0%	5.1%	4.6%	5.1%	4.9%	3.6%	3.8%	4.0%	4.2%	4.2%
Supply	Year to Year	change in	mmb/d			Υ		change in r	nmb/d	
Americas	0.1	-0.2	-0.3	0.2	0.1	0.0	0.3	0.0	0.3	0.1
Europe	-0.3	-0.3	-0.4	-0.5	-0.3	-0.3	-0.3	-0.3	-0.5	-0.4
FSU	1.0	0.9	0.4	0.5	0.6	0.2	0.2	0.0	0.1	0.1
Africa	0.1	0.2	0.1	0.2	0.1	0.1	0.1	-0.1	-0.1	0.2
Mideast	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.2	0.1	0.0
Asia	0.0	0.1	0.1	0.1	0.0	0.1	0.3	0.1	0.1	0.1
Non-Opec Supply	0.8	0.7	-0.1	0.3	0.5	0.1	0.4	0.0	-0.2	-0.4
Opec Crude Oil	1.0	2.0	0.7	0.3	-0.3	1.2	0.4	0.5	0.7	1.0
Opec 10	1.6	1.1	0.8	0.0	-0.6	0.7	0.3	0.6	0.5	0.5
Opec non-crude	0.2	0.4	0.3	0.1	0.1	0.3	0.5	0.2	0.2	0.2
Processing Gain	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2
TOTAL SUPPLY	2.1	3.2	1.0	0.8	0.3	1.6	1.5	0.8	0.9	1.0

Source: IEA, DoE, OPEC; national energy statistics agencies including OMV, AFP, UP, ANP, PTT, CERI; national oil companies, including PEMEX, international oil companies including BP and its Statistical Review of World Energy; Reuters, Bloomberg; and UBS estimates.



The easy part of our medium-term forecast

Cumulative changes in global oil production-capacity by significant producers through 2012, annual averages set against demand-growth scenarios





UBS base case supply growth 2007-12

- Saudi Arabia 's much publicized expansion plan is on track, we project a net gain of some 1.9mmb/d by 2011 including Natural Gas Liquilds (NGLs);
- Iraq's increment assumes three full years of intense development spending starting at some point in 2009. Only modest growth comes about until then;
- Iran and Kuwait manage only declines. In Iran foreign spending remains difficult, while Kuwait's political paralysis resolves too late to matter in this time frame;
- Capacity growth in UAE and Qatar growth is driven by liquids spun-off from rapidly expanding, world-scale natural gas projects, augmented by oil in Abu Dhabi;
- Nigeria 's capacity growth we scaled back as even deepwater projects are getting delayed, while some 300kbd of western delta capacity appears lost permanently;
- Indonesia, Libya, Algeria and Venezuela produce a net-decline. Output in Algeria and Indonesia slips along existing trends. Slippage in Venezuela is accelerating following expropriations of JVs in the Orinoco tar-belt. New partners there will need time to produce growth. Libya's potential is only modest medium term;

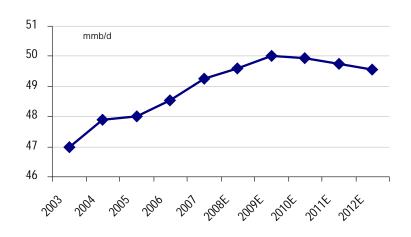
Non-Opec

- Angola's capacity growth-profile is still fairly steep, but several of the multitude of projects are also delayed. Their pace is not hampered however, by Luanda's so far only pro-forma joining of Opec. (We will add Angola to our Opec tally once the group formally includes its newest member in group output targets);
- Mexico manages no more than to keep decline rates modest. Constitutional reform, we think, is key and unlikely to yield fruit in the next 5-years already;
- Canada produces significant growth as a nealy 800kbd of new oil sands output overcomes declines in conventional supplies;
- US oil supplies slip only modestly thanks mostly to growing Gulf of Mexico deepwater flows and also biofuels additions, of another 100kbd;
- Western Europe's dominant North Sea is in decline, which is only marginally made up for by growing biofuels output;
- The lack of production growth in Russia is among the bigger shifts to become clear this year. Until new policies on tax and foreign participation become clear it's hard to expect significant new investments in Greenfield developments to come about soon. We see such a turn-around yielding fruit only late in our outlook;
- From the rest of the former Soviet Union it's big expansions around he Caspian Basin. Many are on track, albeit delayed and over budget. Kashagan's contribution, for instance, is now not pencilled in until 2012 (only 100kbd). In Azerbaijan, new discoveries vie for attention with setbacks and delays on older ones;
- In the Asia Pacific region we see modest increments from China, India and Malaysia, which in the case of China includes modest CTL flows;
- Brazil benefits from a large project pipeline for the deepwater as well as some 200kbd of biofuels additions in our view;
- Elsewhere in Latin America we see declines across the board;
- Sudan's growth trajectory seems safe;
- Elsewhere in Africa we see only modest growth offshore and in Chad but those gains fail to make up for decline rates across mature basins.

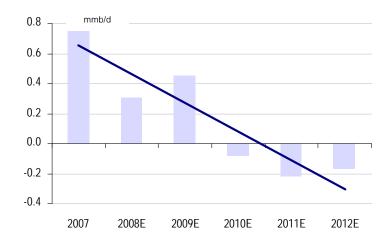


How supply is constrained

Non-opec oil supplies (including Angola) should fall...



... from 2010E onward

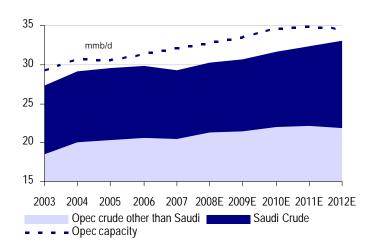






The supply side Continued...

OPEC Crude Production



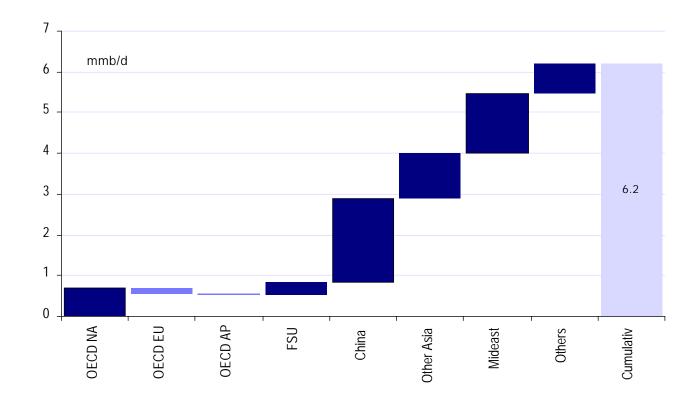
Spare Capacity





Global oil demand continued...

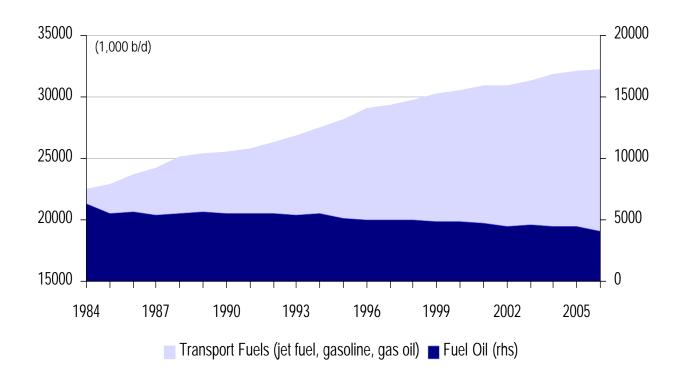
Where do we see oil demand growing in the next five years





Shifts in kind of oil demand

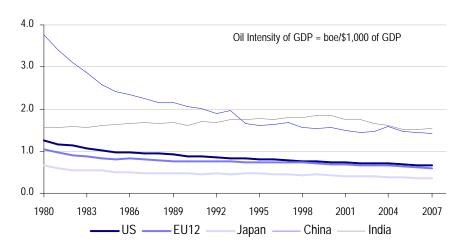
Shifts in the kind of oil that is in demand, OECD 1984-2006



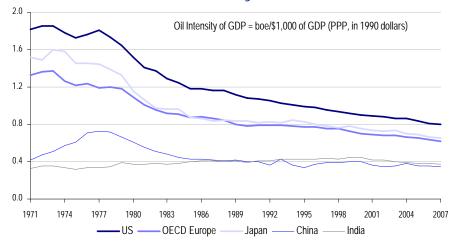


Oil Intensity of GDP Growth

Oil sensitivity with Real GDP



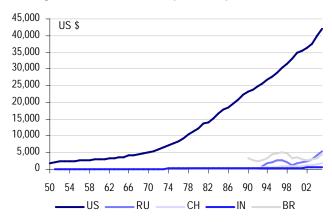
Efficiency Gains of Oil Use Have Been Many, Further Gains Won't Be Easy



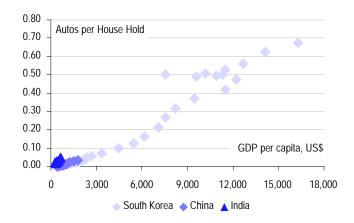


GDP per capita

A history of GDP (real) per capita



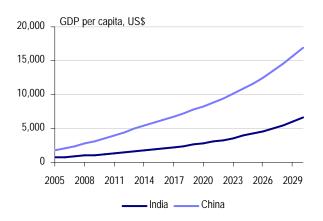
...Suggests a threshold for accelerating car ownership



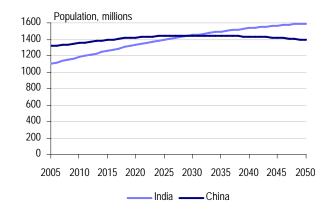


If China's car-buying patterns follow precedent ...

China reaches that level in 2010, but...



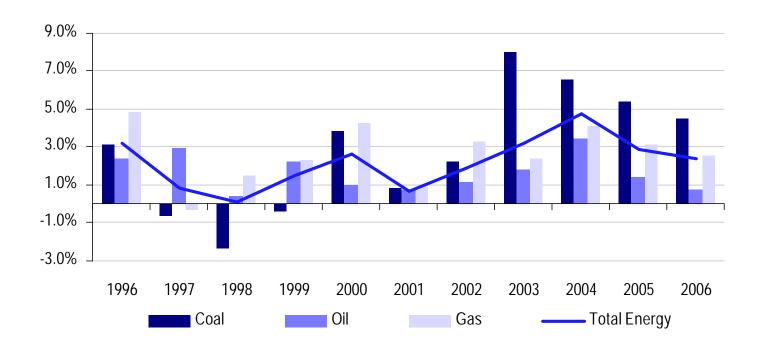
... Following South Korea poses a big problem with a population 27x as big





Upside system risk

10-year of global energy demand growth (% y/y): Coal has captured the largest share of global energy growth from 2003-06; how long can that last?



Source: BP Statistical Review of World Energy



Canada Addax Petroleum Canadian Natural Res Calvalley Centurion Energy Compton Petroleum Duvernay Oil EnCana First Calgary Galleon Energy Husky Oil Imperial Oil Nexen Niko Resources USA Basic Energy Service Baker Hughes BJ Services Cameron Intl. Chart Industries Complete Prod. Svcs Dresser Rand Dril-Quip Ensco International FMC Technologies Grant Prideco Halliburton KBR Nabors Industries Noble Drilling Precision Drilling PHI Rowan Companies Schlumberger Smith International Transocean Offshore Weatherford Int'l	cs. Oilexco OPTI Canada Petro-Canada Petrobank Energy Rally Energy Suncor Talisman Energy Tanganyika TransGlobe Energ UTS Energy WesternZagros EsAnadarko Petroleum Apache Chesapeake Energy Cimarex Energy Devon Energy Devon Energy EOG Resources Forest Oil Newfield Exploration Noble Energy Pioneer Natural Res. Quicksilver Resource Ultra Petroleum Southwestern Energy Swift Energy XTO Energy Frontier Oil Holly		Europe Acergy Aker Kvaerner Amec BG Group BP Cairn Energy CEPSA CGG-Veritas Dana Petroleum ENI ERG Fred Olsen Fugro Galp Energia Hellenic Imperial Energy Lotos MOL Motor Oil Neste OMV PKN Orlen	Seadrill SOCO Statoil Subsea 7 Technip TGS-Wavefield	Rosneft Kaza Kazh	Transneft Ufa Refinery Ufaneftekhim Akhstan MunaiGas EP India Bharat Petroleum Cairn India Hindustan Petroleum Indian Oil Corp ONGC Reliance Industries Reliance Petroleum Petronet LNG P	Korea GS Holdings. S-Oil SK Corp China CITIC CNOOC CNPC Petrochina Sinopec Phil Petro Hailand Hailand Haingchak Petro TT A & R TT E&P TT Public hai Oil Australia Caltex A Oil Sear Origin E ROC Santos Tap Oil	Nippon Mining Holdings Nippon Oil Showa Shell Sekiyu TonenGeneral Sekiyu Idemitsu Kosan ippines on Indonesia Medco Ener gi ia an Worldwide Exploration ustralia ch
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Neutral	Hold/Neutral	34%	35%
Sell	Sell	7%	26%
UBS Short-Term Rating	Rating Category	Coverage ³	IB Services ⁴
Buy	Buy	less than 1%	67%
Sell	Sell	less than 1%	25%

^{1:}Percentage of companies under coverage globally within the 12-month rating category.

Source: UBS. Rating allocations are as of 31 March 2008.

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Neutral	FSR is between -6% and 6% of the MRA.
Sell	FSR is > 6% below the MRA.
UBS Short-Term Rating	Definition
Buy	Buy: Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.
Sell	Sell: Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.



^{2:}Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.

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