Goldman Sachs

US Energy: Oil
United States

New industry perspective

March 30, 2005

Coverage view: Attractive

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Why read this report

- Updates our outlook for oil macro environment
- Updates super-spike-adjusted valuations

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Global Investment Research

Super spike period may be upon us: Sector attractive.

We believe oil markets may have entered the early stages of a "super spike" period, which we now think can drive oil prices toward $105/bbl. We see as much as 80% upside to super-spike peak values and reiterate our Attractive coverage view.

Raising 2005/2006 WTI oil price forecasts to $50/$55 from $41/$40

Our higher forecasts are driven by the combination of resilient oil demand growth, a growing premium for "light-sweet" crude like WTI relative to "heavy-sour" grades, and further sharp increases to the industry cost structure.

Raising "super spike" range to $50-$105 per bbl from $50-$80 per bbl

Our upwardly revised "super spike" range assumes US gasoline prices rise to a level of gasoline spending relative to the US economy that is still below the heights reached in 1980-1981, suggesting our new range could prove conservative, especially if there is a supply disruption in a major oil exporting country.

2006 EPS estimates for coverage universe now 53% above consensus

Our new EPS estimates correspond to an assumption of 30% average EPS growth in 2005 and 28% average EPS growth in 2006. By way of comparison, the First Call consensus is looking for only 11% EPS growth in 2005 followed by a 3% decline in 2006.

Reiterate Attractive coverage view: 80% upside to super-spike peak

Top picks remain XOM, AHC, BBG, DVN, ECA MUR, NFX, PXD, PCO, STR, and SU (all OP/A). Note, we believe the sector call is more important at this time than relative stock calls for our coverage universe. Similarly, increasing shareholder activism and the potential for M&A has reduced our confidence that Underperform-rated stocks like MRO, PCZ, UCL, WGR, and ASH will necessarily lag in the near term. The key risk to our Attractive coverage view would be a sharp slowdown in economic growth in China and other emerging Asian economies.

For Reg AC certification, see page 32. For other important disclosures, see page 35, go to http://www.gs.com/research/hedge.html, or contact your investment representative.

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The prices in this report are based on the market close of March 29, 2005.

"Super spike" period may be upon us: sector still Attractive.

We believe oil markets may have entered the early stages of what we have referred to as a "super spike" period—a multi-year trading band of oil prices high enough to meaningfully reduce energy consumption and recreate a spare capacity cushion only after which will lower energy prices return. Resilient demand has caused us to revise up our super-spike range to $50-$105 per bbl up from $50-$80 per bbl previously. We see as much as 80% total return upside to super-spike-adjusted peak values and are comfortable recommending that investors add to positions in the sector at current prices, on a pull-back, or even after rallies. Top picks remain XOM, AHC, BBG, DVN, ECA MUR, NFX, PXD, PCO, STR, and SU (all OP/A). The key risk to our Attractive coverage view would be a sharp slowdown in economic growth in China and other emerging Asian economies.

Raising 2005/2006 WTI oil price forecasts to $50/$55 from $41/$40

We have increased our 2005 and 2006 forecasts for WTI spot oil to $50 per bbl and $55 per bbl, respectively, up from $41 per bbl and $40 per bbl before (see Exhibit 1). Our higher forecasts are driven by the combination of resilient oil demand growth, a growing premium for "light-sweet" crude like WTI relative to "heavy-sour" grades, and further sharp increases to the industry cost structure.

Consistent with our WTI oil price increase, we have also raised our forecast for Henry Hub spot natural gas for 2005 and 2006 to $6.75 per MMBtu and $7.00 per MMBtu, up from $6 per MMBtu in both years, respectively. Note, our Henry Hub forecast does not rise as much as our WTI estimate due to relative weakness in residual fuel oil pricing—a key alternative fuel to natural gas.

We have made no change to our Gulf Coast 3:2:1 refining margin forecast of $6.25 per bbl for 2005 and adjusted 2006 only slightly to $6.50 per bbl from $6.25 per bbl. However, we have significantly widened our estimated spread between WTI oil and Maya crude (i.e., the spread between light-sweet crude and heavy-sour crude) to $18 per bbl and $20 per bbl in 2005 and 2006, respectively, up from $13 per bbl for both years previously. High (and rising) OPEC production volumes, limited complex refining capacity, and increasingly strict sulfur specifications in the United States and Europe are driving the widening differentials, in our view.

Raising "super spike" range to $50-$105 per bbl from $50-$80 per bbl

We have raised our estimated "super spike" range for WTI oil prices to $50-$105 per bbl from $50-$80 per bbl previously. The strength in oil demand and economic growth, especially in the United States and China, following a year of $40-$50 per bbl WTI oil has surprised us. Looking back at the late 1970s and early 1980s, we see that US gasoline spending was a much higher percentage of the US economy and consumer spending than it is today, likely explaining the lack of impact we have seen thus far from what otherwise appear to be high crude oil and gasoline prices. Our new "super spike" range assumes a level of gasoline spending relative to the economy and consumer spending that is still below the heights reached in 1980-1981, suggesting our new range could prove conservative, especially if there is a supply disruption in a major oil exporting country.

Note, our new range is now driven slightly more by the oil price we think is needed to cause a multi-year reduction in energy consumption and slightly less so by the potential for political disruption in a major oil exporting country. The reason for this adjustment in view is that persistent high prices are improving the financial position of key oil exporting countries and could serve to keep potential revolution at bay. Note, the pressure on these governments still very much exists and would be exacerbated by an unexpected sharp fall in oil prices. If future political crises are to be averted, we believe it is critical that oil exporting countries reinvest cash inflows into building a diversified economic base that can allow the majority of their growing populations to have economic hope.

2006 EPS estimates for coverage universe now 53% above First Call consensus

We believe the Street's need to further revise up its EPS projections for the sector will drive further share price outperformance versus the broader stock market and we reiterate our Attractive coverage view. Our 2005 and 2006 EPS estimates for our coverage universe have increased by 21% and 35%, respectively, from previous forecasts and now stand 19% and 53% above the corresponding First Call consensus forecasts. Our new EPS estimates correspond to an assumption of 30% EPS growth in 2005 and 28% EPS growth in 2006. By way of comparison, the First Call consensus is looking for only 11% EPS growth in 2005 followed by a 3% decline in 2006.

No change to "30-year" normalized view for cost of capital returns for industry

Though we remain very bullish on the outlook for commodity prices and the sector over the next few years, there is no change to our view that over the very long-term, which one may think of as the 30-year view of the sector, that oil, natural gas, and refining remain commodity businesses where excess returns ultimately get competed away. Our "normalized" forecasts continue to assume a long-term cost of capital-like level of returns for industry. Note, we nominally incorporate our normalized assumptions into the years 2007-2010 in our models, even though we believe on a "spot" forecasted basis that such years could remain well above the 30-year normalized view. We believe this modeling discipline is critical to remembering that over a generation, oil is a commodity business. We prefer instead to treat the potential for continued above normal returns as an option value as reflected in our super-spike-adjusted valuations.

Reiterate Attractive coverage view: 80% upside potential to super-spike peak

We believe the sector has as much as 80% total return potential upside to super-spike-adjusted peak values that correspond to a scenario that assumes a 100% probability of a super spike (see Exhibits 3 and 4). Assuming a 50% probability of a super-spike would still show 50% upside potential for the sector. For investors that do not believe we are entering a super spike phase, the sector offers 20% upside to peak valuations like seen during the 1990s oil price cycles. Our view is that this cycle is already much better than the 1990s cycles, leaving aside our view that oil prices are poised to continue to rise meaningfully from here. In addition to commodity strength, we also see M&A and increasing shareholder activism as other drivers for the sector.

There is no change to our top picks, which include Exxon Mobil among the super-cap oils; Amerada Hess, Murphy Oil, and Suncor in the domestic oil group; Devon Energy and EnCana among the large-cap E&Ps; Newfield Exploration, Pioneer Natural Resources, and Questar in mid-cap E&P; Bill Barrett Corp. in small-cap E&P; and Premcor among the R&Ms (all Outperform rated) (see Exhibit 2). Note, we believe the sector call is more important at this time than relative stock calls for our coverage universe. Similarly, increasing shareholder activism and the potential for M&A has reduced our confidence that Underperform-rated stocks like Marathon Oil, Petro-Canada, Unocal, Western Gas Resources, and Ashland will necessarily lag in the near term.

Exhibit 1: Updated commodity price forecast and super spike scenario

	WTI spot oil ($/bbl)		Brent oil ($/bbl)		Gulf Coast refining ($/bbl)		California refining ($/bbl)		Maya-WTI light-heavy ($/bbl)		Henry Hub bid week natural gas ($/MMBtu)	
	new	old	new	old	new	old	new	old	new	old	new	old
Base case commodity forecasts												
2005E:												
1QE	$49.00	$45.00	$46.50	$42.00	$6.00	$6.00	$18.50	$13.75	$17.25	$15.00	$6.32	$5.75
2QE	$49.00	$40.00	$46.00	$37.00	$7.75	$7.75	$22.00	$17.75	$17.50	$13.00	$6.25	$5.75
3QE	$50.00	$40.00	$47.00	$37.00	$6.50	$6.50	$19.00	$16.50	$18.25	$11.00	$7.00	$6.00
4QE	$52.00	$40.00	$48.50	$37.00	$4.75	$4.75	$16.50	$12.25	$19.00	$13.00	$7.35	$6.50
Year	$50.00	$41.25	$47.00	$38.25	$6.25	$6.25	$19.00	$15.06	$18.00	$13.00	$6.73	$6.00
2006E	$55.00	$40.00	$52.00	$37.00	$6.50	$6.25	$20.00	$15.00	$20.00	$13.00	$7.00	$6.00
2007N	$30.00	$28.00	$27.00	$25.00	$4.50	$4.00	$13.50	$12.25	$9.00	$7.50	$4.50	$4.50
2008N	$30.00	$28.00	$27.00	$25.00	$4.50	$4.00	$13.50	$12.25	$9.00	$7.50	$4.50	$4.50
2009N	$30.00	$28.00	$27.00	$25.00	$4.50	$4.00	$13.50	$12.25	$9.00	$7.50	$4.50	$4.50
2010N	$30.00	$28.00	$27.00	$25.00	$4.50	$4.00	$13.50	$12.25	$9.00	$7.50	$4.50	$4.50
Super spike potential												
2005E	$50.00	$50.00	$47.00	$47.00	$6.25	$8.50	$19.00	$15.00	$18.00	$13.00	$6.75	$8.50
2006E	$75.00	$60.00	$72.00	$57.00	$9.00	$10.00	$21.75	$16.50	$20.00	$13.00	$9.00	$10.00
2007E	$105.00	$70.00	$102.00	$67.00	$13.00	$11.50	$25.75	$18.00	$20.00	$7.50	$13.00	$11.50
2008E	$75.00	$80.00	$72.00	$77.00	$9.00	$13.00	$21.75	$19.50	$20.00	$7.50	$9.00	$13.00
2009E	$50.00	$28.00	$47.00	$25.00	$6.50	$4.50	$19.25	$15.00	$20.00	$7.50	$6.50	$4.50
2010E	$30.00	$28.00	$27.00	$25.00	$4.50	$4.50	$13.50	$12.25	$20.00	$7.50	$4.50	$4.50

Source: Goldman Sachs Research estimates.

Exhibit 2: Ratings summary and order of preference of our coverage universe

	Low-beta	High-beta					Emerging
	Super-cap integrated	Domestic oil	Large-cap E&P	Mid-cap E&P	Small-cap E&P	R&M	market oils
Outperform (25%)	XOM	AHC, MUR		NFX, STR		PCO	
		SU	ECA		BBG		
			DVN	PXD			
In-Line (59%)	CVX		EOG, APA	NBL	THX, COG	SUN	
	COP	OXY	XTO, BR, TLM	UPL	KWK	TSO	PBR
			APC		EAC	VLO	UGP
					SKE		
		KMG			FST	FTO	
Underperform (14%)		MRO	UCL		WGR	ASH	
		PCZ					PZE
Not Rated (2%)				PPP			

Note: Ratings are relative to our Attractive coverage view, except the emerging market oils where we have a Neutral coverage view.

Source: Goldman Sachs Research.

Exhibit 3: Integrated oil, domestic oil/E&P, and R&M risk/reward summary

	Price 3/29/2005	Ticker	Rating/ Coverage View	Market Cap. ($ mn)	Enterprise Value ($ mn)	Risk/reward based on 1990s cycle valuation parameters: Trough risk	Mid-cycle value	Peak upside	Total Return to: Trough	Mid-cycle	Peak	Super-spike-adjusted: Peak value	Total Return
Super-cap integrated oils													
ChevronTexaco (a)	$57.89	CVX	IL/A	122,646	123,656	$48	$62	$79	(14%)	10%	39%	$119	109%
ConocoPhillips (a)	$103.63	COP	IL/A	71,528	87,391	$65	$94	$123	(35%)	(7%)	21%	$198	93%
ExxonMobil (a)	$58.27	XOM	OP/A	372,075	364,856	$42	$56	$72	(26%)	(2%)	25%	$104	80%
Average									**(25%)**	**0%**	**28%**		**94%**
Domestic oils													
Amerada Hess (a)	$93.45	AHC	OP/A	8,571	11,529	$75	$107	$142	(18%)	16%	53%	$213	129%
Kerr-McGee (a)	$76.76	KMG	IL/A	12,529	16,152	$51	$74	$93	(31%)	(1%)	24%	$140	85%
Marathon Oil (a)	$45.03	MRO	U/A	15,626	15,736	$29	$41	$53	(33%)	(6%)	20%	$78	76%
Murphy Oil (a)	$96.50	MUR	OP/A	8,866	8,977	$60	$86	$130	(37%)	(10%)	36%	$174	82%
Occidental Petroleum (a)	$68.41	OXY	IL/A	27,175	29,857	$45	$62	$74	(33%)	(8%)	10%	$130	92%
Petro-Canada (b)	$55.72	PCZ	U/A	14,487	15,430	$38	$49	$70	(31%)	(11%)	26%	$100	80%
Suncor Energy (b)	$37.95	SU	OP/A	17,189	19,158	$23	$38	$53	(39%)	1%	40%	$68	81%
Average									**(32%)**	**(3%)**	**30%**		**89%**
Large-cap E&Ps													
Anadarko Petroleum (a)	$73.28	APC	IL/A	18,125	22,455	$45	$63	$82	(38%)	(13%)	13%	$131	79%
Apache Corp. (a)	$58.55	APA	IL/A	19,115	21,744	$43	$58	$71	(26%)	(0%)	22%	$128	120%
Burlington Resources (a)	$48.51	BR	IL/A	18,992	20,702	$32	$44	$55	(33%)	(9%)	14%	$101	108%
Devon Energy (a)	$45.15	DVN	OP/A	21,944	28,138	$30	$42	$54	(33%)	(6%)	20%	$86	92%
EnCana Corp. (b)	$67.03	ECA	OP/A	31,249	37,219	$48	$64	$80	(28%)	(4%)	20%	$115	72%
EOG Resources (a)	$44.75	EOG	IL/A	10,669	11,726	$28	$37	$50	(37%)	(17%)	12%	$70	58%
Talisman Energy (b)	$32.37	TLM	IL/A	12,139	13,692	$22	$30	$38	(31%)	(7%)	18%	$58	79%
Unocal (a)	$59.66	UCL	U/A	16,142	18,071	$36	$49	$62	(38%)	(17%)	5%	$80	36%
XTO Energy (b)	$31.30	XTO	IL/A	10,873	12,253	$23	$29	$35	(26%)	(7%)	12%	$54	73%
Average									**(32%)**	**(9%)**	**15%**		**80%**
Mid-cap E&Ps													
Newfield Exploration (a)	$69.81	NFX	OP/A	4,405	4,957	$48	$76	$96	(31%)	9%	38%	$139	99%
Noble Energy (b)	$64.91	NBL	IL/A	3,833	4,579	$51	$75	$99	(21%)	16%	53%	$153	136%
Pioneer Natural Resources (b)	$40.63	PXD	OP/A	5,837	7,213	$30	$43	$56	(26%)	6%	38%	$87	115%
Pogo Producing (b)	$48.04	PPP	NR	3,055	3,286	$40	$50	$60	(16%)	5%	25%	$100	109%
Questar Corp. (b)	$57.63	STR	OP/A	4,881	5,899	$39	$58	$76	(31%)	2%	33%	$98	72%
Ultra Petroleum (b)	$47.54	UPL	IL/A	3,591	3,680	$22	$41	$60	(54%)	(14%)	26%	$76	60%
Average									**(30%)**	**4%**	**36%**		**99%**
Large/mid-cap E&P Average									**(31%)**	**(4%)**	**23%**		**87%**

Ratings are relative to our coverage view. OP - Outperform, IL - In-Line; U - Underperform; NR - Not rated; CS - Coverage suspended. Coverage view: Attractive (A), Neutral (N), Cautious (C).
NA - Not available or Not applicable; NM - Not meaningful.
EV is enterprise value. DACF is unlevered after-tax cash flow from operations. GCI is gross cash invested. E - Estimate; N - Normalized/mid-cycle estimate
(a) Covered by Arjun Murti, Brian Singer. (b) Covered by Brian Singer, Arjun Murti.

Source: Goldman Sachs Research estimates, company reports.

Exhibit 3 cont'd: Integrated oil, domestic oil/E&P, and R&M risk/reward summary

	Price 3/29/2005	Ticker	Rating/ Coverage View	Market Cap. ($ mn)	Enterprise Value ($ mn)	Risk/reward based on 1990s cycle valuation parameters: Trough risk	Mid-cycle value	Peak upside	Total Return to: Trough	Mid-cycle	Peak	Super-spike-adjusted: Peak value	Total Return
Small-cap E&P													
Bill Barrett Corp. (b)	$28.74	BBG	OP/A	1,262	1,310	$19	$33	$46	(34%)	15%	60%	$51	78%
Cabot Oil & Gas Corp. (b)	$53.00	COG	IL/A	1,743	1,961	$32	$46	$61	(39%)	(13%)	15%	$98	85%
Encore Acquisition Co. (b)	$39.66	EAC	IL/A	1,206	1,384	$20	$33	$46	(50%)	(17%)	16%	$71	80%
Forest Oil Corp.(b)	$39.17	FST	IL/A	2,105	2,966	$24	$35	$46	(39%)	(11%)	17%	$75	92%
The Houston Exploration Co. (b)	$54.57	THX	IL/A	1,740	1,971	$45	$60	$75	(18%)	10%	37%	$119	118%
Quicksilver Resources (b)	$45.80	KWK	IL/A	2,276	2,546	$19	$38	$57	(59%)	(17%)	24%	$71	55%
Spinnaker Exploration (b)	$34.03	SKE	IL/A	1,147	1,215	$23	$36	$49	(32%)	6%	44%	$77	125%
Western Gas Resources (b)	$33.36	WGR	U/A	2,457	2,670	$21	$32	$42	(37%)	(4%)	26%	$54	61%
Average									**(38%)**	**(4%)**	**30%**		**87%**
R&M													
Ashland (a)	$64.16	ASH	U/A	4,515	5,894	$45	$56	$68	(28%)	(11%)	8%	$68	8%
Frontier Oil (a)	$35.30	FTO	IL/A	958	984	$15	$21	$35	(57%)	(40%)	1%	$59	67%
Premcor (a)	$56.77	PCO	OP/A	5,065	6,070	$30	$48	$66	(47%)	(15%)	16%	$121	113%
Sunoco (a)	$98.74	SUN	IL/A	6,849	8,456	$57	$90	$123	(41%)	(7%)	26%	$193	97%
Tesoro (a)	$34.40	TSO	IL/A	2,286	4,531	$22	$34	$46	(36%)	(1%)	34%	$65	89%
Valero Energy (a)	$68.96	VLO	IL/A	17,698	21,115	$35	$55	$76	(49%)	(20%)	11%	$116	69%
Average									**(43%)**	**(16%)**	**16%**		**74%**
Emerging Market Oils													
Petrobras (b)	$41.67	PBR	IL/N	42,490	58,520	$20	$35	$50	(48%)	(12%)	24%	NA	NA
Petrobras Energia (b)	$11.54	PZE	U/N	2,459	4,327	NA	NA	NA	NA	NA	NA	NA	NA
Ultrapar (b)	$16.01	UGP	IL/N	1,283	1,341	NA	NA	NA	NA	NA	NA	NA	NA
Average									**(48%)**	**(12%)**	**24%**		

Ratings are relative to our coverage view. OP - Outperform, IL - In-Line; U - Underperform; NR - Not rated; CS - Coverage suspended. Coverage view: Attractive (A), Neutral (N), Cautious (C).
NA - Not available or Not applicable; NM - Not meaningful.
EV is enterprise value. DACF is unlevered after-tax cash flow from operations. GCI is gross cash invested. E - Estimate; N - Normalized/mid-cycle estimate
(a) Covered by Arjun Murti, Brian Singer. (b) Covered by Brian Singer, Arjun Murti.

Source: Goldman Sachs Research estimates, company reports.

Exhibit 4: Integrated oil, domestic oil/E&P, and R&M ratings and summary valuation

	Price		Rating/ Coverage	P/E				EV/DACF				EV/GCI				Free Cash Yield (ex. acq.)				Div.
	3/29/2005	Ticker	View	2004E	2005E	2006E	2007N	2004E	2005E	2006E	2007N	2004E	2005E	2006E	2007N	2004E	2005E	2006E	2007N	Yield
S&P 500	1165.36			18.4	17.5	16.4	15.3													1.7%
XOI	829.63																			
Super-cap integrated oils																				
ChevronTexaco (a)	$57.89	CVX	IL/A	10.4	8.5	7.6	16.5	9.1	6.0	5.1	7.5	1.07	0.94	0.84	0.74	6.3%	9.6%	10.7%	3.8%	2.8%
ConocoPhillips (a)	$103.63	COP	IL/A	9.0	7.3	6.1	14.6	6.7	5.7	4.8	7.7	1.05	0.90	0.79	0.66	7.2%	10.3%	11.3%	2.1%	1.9%
Exxon Mobil (a)	$58.27	XOM	OP/A	14.7	12.4	10.6	20.8	10.5	8.8	7.6	11.6	1.45	1.25	1.13	1.02	7.1%	6.9%	7.9%	3.3%	1.9%
Average				**11.3**	**9.4**	**8.1**	**17.3**	**8.8**	**6.8**	**5.8**	**8.9**	**1.19**	**1.03**	**0.92**	**0.81**	**6.9%**	**8.9%**	**10.0%**	**3.1%**	**2.2%**
Domestic oils																				
Amerada Hess (a)	$93.45	AHC	OP/A	10.7	9.8	5.7	14.4	6.6	4.5	3.5	4.8	0.66	0.61	0.57	0.51	4.5%	6.3%	15.5%	1.1%	1.3%
Kerr-McGee (a)	$76.76	KMG	IL/A	16.3	9.6	7.9	24.4	5.2	5.4	4.2	5.7	0.78	0.82	0.68	0.60	5.7%	7.3%	9.8%	2.5%	2.3%
Marathon Oil (a)	$45.03	MRO	U/A	11.6	8.8	6.4	18.0	5.9	5.5	4.5	6.5	0.68	0.57	0.67	0.60	9.6%	0.8%	8.8%	-1.1%	2.5%
Murphy Oil (a)	$96.50	MUR	OP/A	19.2	14.0	10.6	38.5	8.3	6.1	5.2	9.1	1.31	1.24	1.09	0.93	3.2%	3.3%	5.7%	-1.1%	0.9%
Occidental Petroleum (a)	$68.41	OXY	IL/A	11.0	8.6	6.8	19.8	6.5	5.9	4.7	7.8	1.30	1.10	0.95	0.82	7.5%	10.0%	12.7%	4.1%	1.6%
Petro-Canada (b)	$55.72	PCZ	U/A	11.1	9.2	7.6	18.1	5.5	5.5	4.8	7.0	1.06	0.85	0.75	0.64	5.3%	1.4%	7.0%	-1.0%	0.8%
Suncor Energy (b)	$37.95	SU	OP/A	21.7	27.3	8.6	33.5	12.4	13.5	5.4	13.3	2.14	1.69	1.52	1.21	1.4%	-2.9%	8.6%	-5.2%	0.5%
Average (ex-Suncor)				**13.3**	**10.0**	**7.5**	**22.2**	**6.3**	**5.5**	**4.5**	**6.8**	**0.96**	**0.86**	**0.78**	**0.68**	**5.9%**	**4.8%**	**9.9%**	**0.8%**	**1.6%**
Large-cap E&Ps																				
Anadarko Petroleum (a)	$73.28	APC	IL/A	10.6	8.3	7.0	17.5	6.4	5.4	4.5	6.8	0.85	0.77	0.79	0.64	0.8%	5.2%	6.4%	0.0%	0.8%
Apache Corp. (a)	$58.55	APA	IL/A	11.2	7.9	6.7	15.2	6.1	4.7	3.9	6.2	1.16	0.98	0.80	0.70	4.1%	9.5%	11.9%	2.2%	0.8%
Burlington Resources (a)	$48.51	BR	IL/A	12.6	9.6	8.2	20.6	6.3	5.0	4.5	6.7	1.18	0.92	0.87	0.79	9.8%	11.3%	10.9%	2.7%	0.7%
Devon Energy (a)	$45.15	DVN	OP/A	10.3	9.5	8.1	16.7	5.2	5.5	4.8	6.4	0.76	0.70	0.63	0.58	7.8%	7.5%	9.8%	2.6%	0.9%
EnCana Corp. (b)	$67.03	ECA	OP/A	15.8	11.2	9.2	21.4	7.3	6.1	5.1	7.0	1.22	0.97	0.85	0.73	-2.6%	2.2%	3.8%	-0.2%	0.6%
EOG Resources (a)	$44.75	EOG	IL/A	18.5	12.0	10.5	26.4	7.2	5.7	4.9	7.2	1.40	1.21	1.06	0.88	0.3%	4.2%	7.6%	-0.8%	0.4%
Talisman Energy (b)	$32.37	TLM	IL/A	25.3	12.0	9.0	23.0	6.1	4.7	4.0	5.5	1.09	0.92	0.77	0.64	3.6%	3.4%	4.6%	-0.5%	0.7%
Unocal (a)	$59.66	UCL	U/A	14.9	11.0	9.1	27.1	7.1	5.6	4.9	6.7	0.86	0.75	0.67	0.59	5.0%	7.4%	8.3%	1.7%	1.3%
XTO Energy (b)	$31.30	XTO	IL/A	18.1	12.4	9.4	18.3	8.0	7.3	5.7	7.7	2.49	1.88	1.53	1.29	5.3%	7.5%	8.6%	3.1%	0.6%
Average				**15.2**	**10.4**	**8.6**	**20.7**	**6.6**	**5.6**	**4.7**	**6.7**	**1.22**	**1.01**	**0.89**	**0.76**	**3.8%**	**6.5%**	**8.0%**	**1.2%**	**0.8%**
Mid-cap E&Ps																				
Newfield Exploration (a)	$69.81	NFX	OP/A	12.1	9.1	7.5	18.2	4.7	4.3	3.9	5.5	1.12	0.85	0.76	0.65	3.1%	3.1%	5.9%	1.3%	0.0%
Noble Energy (b)	$64.91	NBL	IL/A	11.9	9.1	6.9	16.1	5.8	4.9	3.9	4.8	1.10	0.95	0.88	0.73	1.2%	11.5%	21.3%	10.4%	0.3%
Pioneer Natural Resources (b)	$40.63	PXD	OP/A	16.0	14.1	9.2	22.0	4.9	5.6	4.3	6.1	1.22	1.01	0.88	0.70	7.7%	8.3%	12.2%	3.6%	0.5%
Pogo Producing (b)	$48.04	PPP	NR	11.4	9.0	6.6	22.6	4.4	4.2	3.1	4.3	0.79	0.69	0.58	0.48	9.7%	14.9%	12.6%	3.0%	0.5%
Questar Corp. (b)	$57.63	STR	OP/A	21.5	16.7	13.0	18.0	9.5	8.2	7.2	8.5	1.27	1.18	1.08	0.97	2.9%	2.4%	4.0%	1.8%	1.5%
Ultra Petroleum (b)	$47.54	UPL	IL/A	35.2	23.3	18.4	25.9	19.1	12.7	10.4	12.6	11.79	7.34	4.89	3.48	0.3%	0.2%	1.3%	-0.5%	0.0%
Average (ex. Ultra Petroleum)				**14.6**	**11.6**	**8.7**	**19.4**	**5.9**	**5.4**	**4.5**	**5.8**	**1.10**	**0.94**	**0.84**	**0.71**	**4.9%**	**8.0%**	**11.2%**	**4.0%**	**0.6%**
Large/mid-cap E&P Average (ex. Ultra Petroleum)				**15.0**	**10.9**	**8.6**	**20.2**	**6.4**	**5.5**	**4.6**	**6.4**	**1.18**	**0.98**	**0.87**	**0.74**	**4.2%**	**7.0%**	**9.1%**	**2.2%**	**0.7%**

*Ratings are relative to our coverage view. OP - Outperform, IL - In-Line; U - Underperform; NR - Not rated; CS - Coverage suspended. Coverage view: Attractive (A), Neutral (N), Cautious (C).
NA - Not available or Not applicable; NM - Not meaningful.
DACF is unlevered after-tax cash flow from operations. GCI is gross cash invested. E - Estimate; N - Normalized/mid-cycle estimate
(a) Covered by Arjun Murti, Brian Singer. (b) Covered by Brian Singer, Arjun Murti.

Source: Goldman Sachs Research estimates, company reports.

Exhibit 4 cont'd: Integrated oil, domestic oil/E&P, and R&M ratings and summary valuation

	Price	Ticker	Rating/ Coverage	P/E				EV/DACF				EV/GCI				Free Cash Yield (ex. acq.)				Div.
	3/29/2005		View	2004E	2005E	2006E	2007N	2004E	2005E	2006E	2007N	2004E	2005E	2006E	2007N	2004E	2005E	2006E	2007N	Yield
Small-cap E&P																				
Bill Barrett Corp. (b)	$28.74	BBG	OP/A	NM	128.4	28.0	114.0	13.5	7.9	6.2	9.3	3.82	1.57	1.38	1.12	-8.1%	-10.2%	-5.9%	-7.6%	0.0%
Cabot Oil & Gas Corp. (b)	$53.00	COG	IL/A	18.4	15.7	10.3	32.8	6.4	5.8	4.4	6.5	1.13	1.01	0.88	0.75	0.9%	2.5%	7.7%	1.0%	0.3%
Encore Acquisition (b)	$39.66	EAC	IL/A	15.4	12.4	8.0	17.4	6.8	6.6	5.1	8.2	1.83	1.35	1.17	0.96	-1.8%	-0.5%	6.0%	-4.8%	0.0%
Forest Oil Corp. (b)	$39.17	FST	IL/A	18.6	10.0	5.9	19.5	4.7	4.0	3.0	4.4	0.61	0.58	0.51	0.41	11.8%	11.7%	15.0%	1.1%	0.0%
The Houston Exploration (b)	$54.57	THX	IL/A	9.8	8.7	6.3	14.8	4.0	3.4	2.8	3.6	0.81	0.66	0.55	0.43	8.8%	5.9%	11.7%	1.6%	0.0%
Quicksilver Resources (b)	$45.80	KWK	IL/A	74.1	33.0	17.8	33.6	24.7	15.0	9.6	13.1	3.07	2.68	2.35	1.95	-5.8%	-3.2%	1.8%	-1.1%	0.0%
Spinnaker Exploration (b)	$34.03	SKE	IL/A	22.0	17.4	7.4	21.5	5.1	4.2	2.8	3.9	0.91	0.79	0.68	0.53	-5.0%	-2.4%	6.0%	-5.0%	0.0%
Western Gas Resources (b)	$33.36	WGR	U/A	19.3	14.6	12.3	20.8	9.6	7.7	7.1	9.6	1.76	1.46	1.26	1.08	-0.5%	0.8%	0.8%	-2.5%	0.3%
Average				**25.4**	**30.0**	**12.0**	**34.3**	**9.4**	**6.8**	**5.1**	**7.3**	**1.74**	**1.26**	**1.10**	**0.90**	**0.0%**	**0.6%**	**5.4%**	**-2.2%**	**0.1%**
R&M																				
Ashland (a)	$64.16	ASH	U/A	11.6	8.3	16.8	21.7	6.2	6.0	5.2	5.6	0.65	0.58	0.37	0.33	0.0%	25.0%	6.1%	4.7%	1.7%
Frontier Oil (a)	$35.30	FTO	IL/A	16.6	10.2	8.0	27.1	7.0	5.5	5.5	10.6	1.76	1.43	1.22	1.03	13.7%	3.1%	12.8%	5.2%	0.7%
Premcor (a)	$56.77	PCO	OP/A	9.9	7.5	5.2	13.7	5.4	5.4	3.8	7.7	1.73	1.29	1.18	0.92	7.1%	6.3%	16.2%	4.7%	0.1%
Sunoco (a)	$98.74	SUN	IL/A	11.6	10.2	8.5	14.1	7.4	6.8	5.6	7.0	1.06	1.01	0.89	0.80	13.4%	6.0%	9.9%	6.1%	1.6%
Tesoro (a)	$34.40	TSO	IL/A	6.7	7.1	5.3	15.3	5.2	5.0	3.8	6.2	1.08	0.91	0.80	0.64	22.1%	13.7%	21.1%	6.5%	0.0%
Valero Energy (a)	$68.96	VLO	IL/A	10.3	8.3	6.9	16.6	7.0	5.8	4.7	8.1	1.44	1.22	1.04	0.88	7.5%	8.7%	11.8%	2.4%	0.5%
Average				**11.1**	**8.6**	**8.4**	**18.1**	**6.4**	**5.8**	**4.8**	**7.5**	**1.29**	**1.07**	**0.92**	**0.77**	**10.6%**	**10.5%**	**13.0%**	**4.9%**	**0.8%**
Emerging Market Oils																				
Petrobras (b)	$41.67	PBR	IL/N	6.0	5.9	5.4	8.3	5.7	5.0	4.5	5.8	1.07	1.05	0.89	0.82	0.6%	5.9%	8.1%	0.2%	4.1%
Petrobras Energia (b)	$11.54	PZE	U/N	8.7	5.8	3.1	4.6	8.0	4.6	3.3	3.9	0.52	0.50	0.45	0.39	11.8%	15.7%	30.1%	19.2%	0.0%
Ultrapar (b)	$16.01	UGP	IL/N	8.8	8.8	8.2	11.7	6.2	6.3	5.5	7.2	0.81	0.74	0.71	0.63	3.0%	5.8%	8.0%	3.9%	2.5%
				7.8	**6.8**	**5.6**	**8.2**	**6.7**	**5.3**	**4.4**	**5.6**	**0.80**	**0.76**	**0.68**	**0.61**	**5.2%**	**9.1%**	**15.4%**	**7.8%**	**2.2%**

*Ratings are relative to our coverage view. OP - Outperform, IL - In-Line; U - Underperform; NR - Not rated; CS - Coverage suspended. Coverage view: Attractive (A), Neutral (N), Cautious (C).
NA - Not available or Not applicable; NM - Not meaningful.
DACF is unlevered after-tax cash flow from operations. GCI is gross cash invested. E - Estimate; N - Normalized/mid-cycle estimate
(a) Covered by Arjun Murti, Brian Singer. (b) Covered by Brian Singer, Arjun Murti.

Source: Goldman Sachs Research estimates, company reports.

Fundamentals and geopolitical turmoil driving WTI oil prices

We believe the significant increase in WTI oil prices in recent years has been primarily driven by fundamental factors and geopolitical turmoil as follows:

- **Rising E&P cost structures** due to increased geologic maturity in many of the traditional areas of oil supply as well as service and materials cost inflation have driven an increase in long-dated WTI oil prices and in turn spot WTI oil prices.
- **Growing premium for light-sweet crude oils like WTI relative to heavy-sour grades** is due to high (and rising) OPEC production volumes, limited complex refining capacity, and increasingly strict sulfur specifications in the United States and Europe.
- **Significant increases in energy efficiency since the 1970s** have allowed world economies to more easily withstand what otherwise appear to be high nominal oil prices.
- **Geopolitical turmoil in key oil exporting countries** coupled with populist rhetoric in many of these same places that keep foreign oil companies from developing host country resources in a timely manner has limited supply growth from areas that could otherwise meet oil demand growth at lower prices.

In our view, speculative length (i.e., hedge fund activity) has played a negligible role in global oil markets beyond day-to-day trading noise.

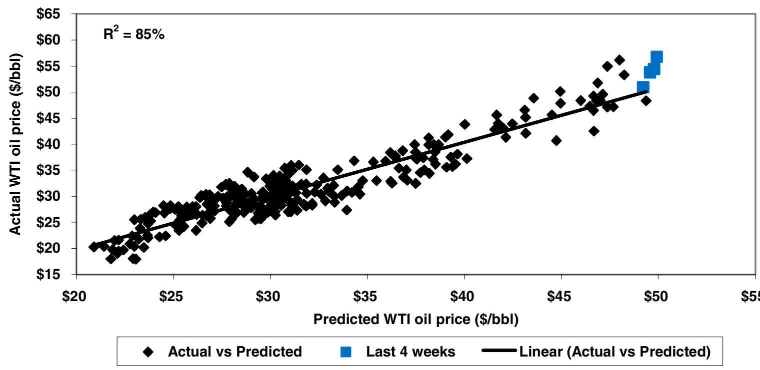
Multi-factor regression model shows fundamentals the key to WTI oil

Our multi-factor regression model, which we first introduced in December 2004, shows that the two overwhelming drivers of the variance in WTI spot oil prices is the long-dated WTI oil price and the spread between light-sweet and heavy-sour crude oils (see Exhibit 5). Oil inventories and speculative length have played only a minor role in oil price fluctuations this decade to date. We believe analysts that have stubbornly stuck to the oil price-to-inventory models that used to work in the 1990s have mistakenly attributed the higher oil prices to a risk premium that we do not think exists (see Exhibit 6).

Long-dated WTI oil price strength driven by rising E&P cost structures

We believe the rise in long-dated WTI oil prices, which we refer to as the futures contracts starting 60 months forward, is driven by the sharp increase in “all-in” E&P unit cost structures in recent years (see Exhibit 7). Note, included in our cost structure analysis is the differential between realized company revenues per barrel of oil equivalent (BOE) and the WTI oil price benchmark. We believe the combination of increased maturity in the traditional areas of oil company operations, coupled with rising labor, materials, and oil service cost inflation, will drive further increases in the long-dated WTI oil price. We note that steel price increases and drilling rig rate hikes are likely to be felt to a much greater degree in 2005 and 2006 than was the case in 2003 or 2004 (see Exhibits 8 and 9).

Exhibit 5: Multi-factor regression model explains oil price movements better



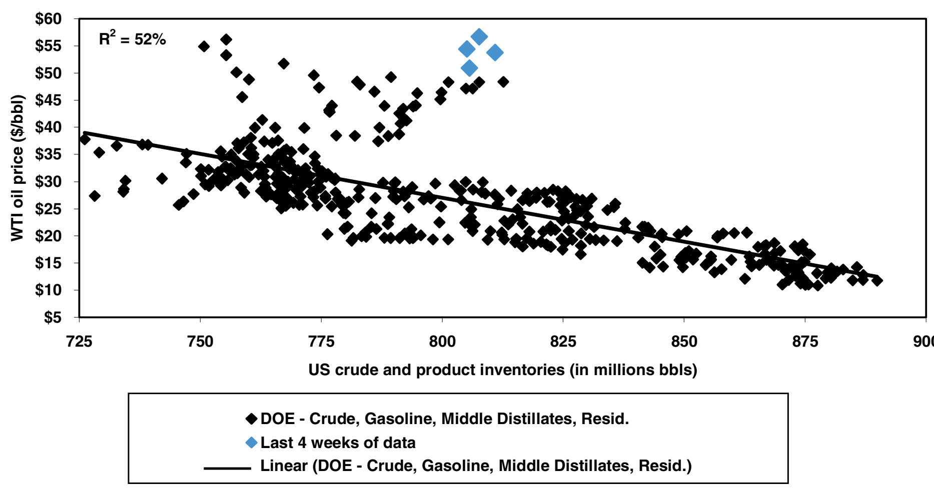
Regression variables for predicted WTI oil price include:
- Long-dated WTI oil price
- Maya-WTI spread
- DOE crude and key products inventory
- Speculative length

<u>Sensitivity analysis (impact on WTI spot):</u>

$1/bbl change in long-date oil price	$0.77
$1/bbl change in Maya-WTI spread	$1.27
10 mn bbls change in DOE inventories	$0.55
10 mn bbls change in net speculative length	$0.23

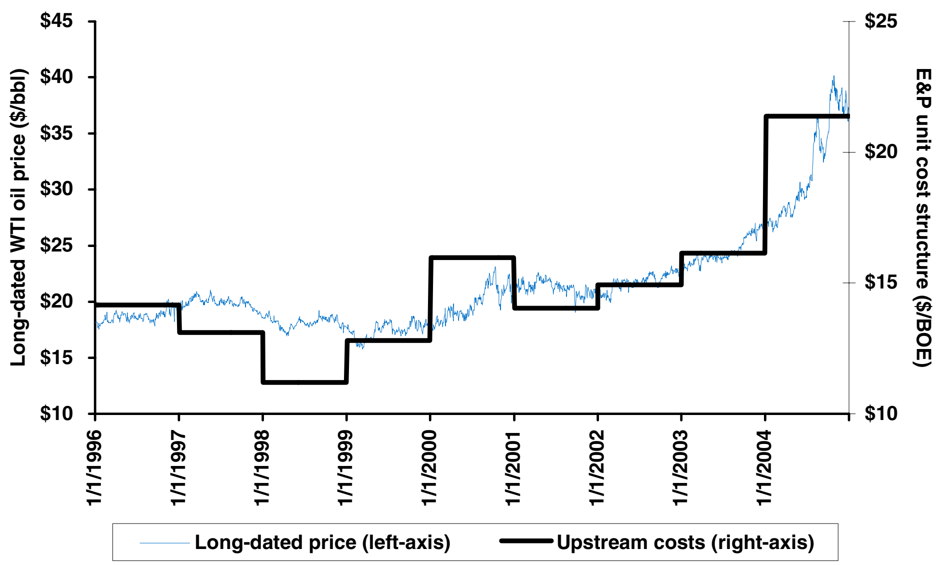
Source: Department of Energy, Bloomberg, CFTC, Goldman Sachs Research estimates.

Exhibit 6: Simple oil price-to-inventory models no longer works



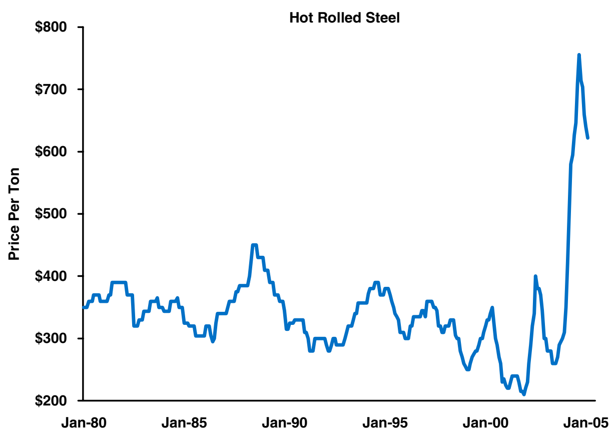
Source: Department of Energy, Bloomberg, Goldman Sachs Research estimates.

Exhibit 7: Rise in long-dated WTI oil price driven by rise in E&P cost structure



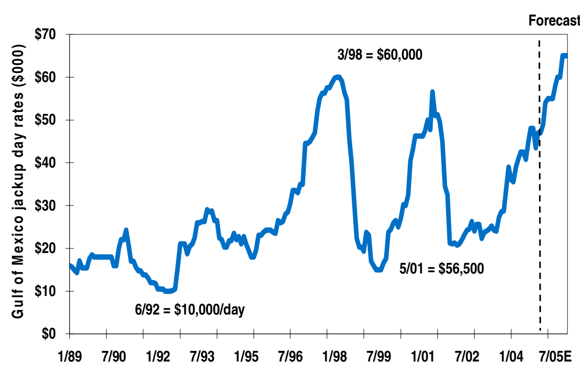
Source: Goldman Sachs Commodities Research, Goldman Sachs Research estimates.

Exhibit 8: Steel price inflation has yet to be felt



Source: Purchasing Magazine.

Exhibit 9: Oil service inflation will be felt as well



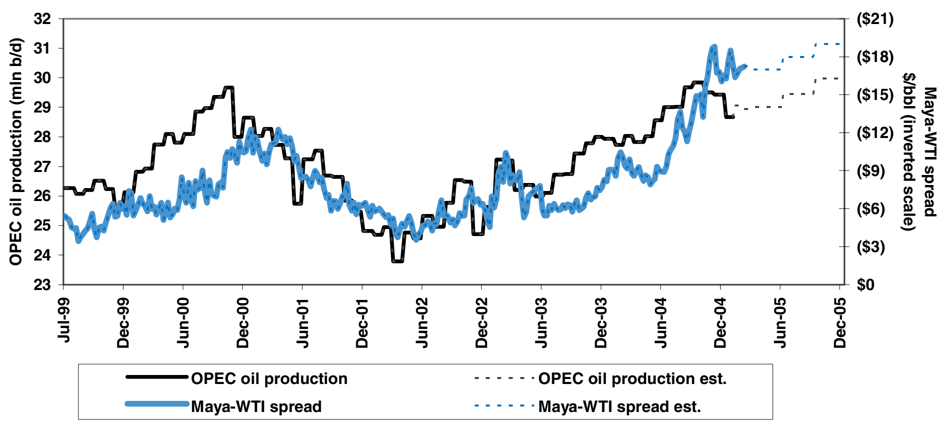
Source: ODS-Petrodata, Goldman Sachs Research estimates.

Premium for light-sweet crude oils critical to WTI oil price strength

We believe the growing premium for light-sweet crude oils like WTI relative to heavy-sour grades is due to high (and rising) OPEC production volumes, limited complex refining capacity, and increasingly strict sulfur specifications in the United States and Europe. Historically, the spread has correlated well with OPEC production levels, given that marginal OPEC supply tends to be of grades that are heavy and/or sour (see Exhibit

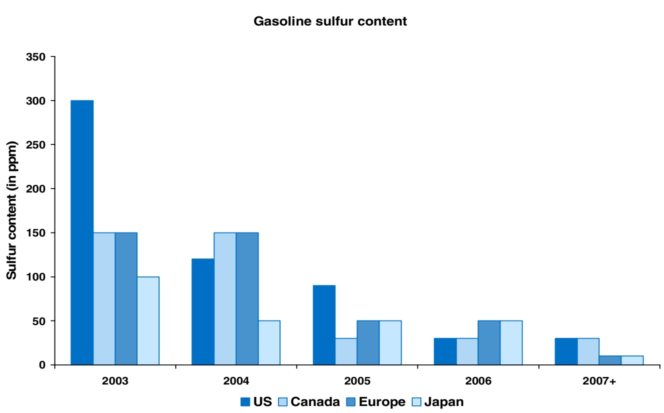
10). However, we believe in the next few years that this relationship could further break down in favor of a wider spread, as complex refining capacity that can process heavy-sour barrels appears to be maxed out at the same time that large oil consuming regions like the United States and Europe are mandating sharp reductions in the allowed sulfur content of gasoline and diesel fuels (see Exhibit 11).

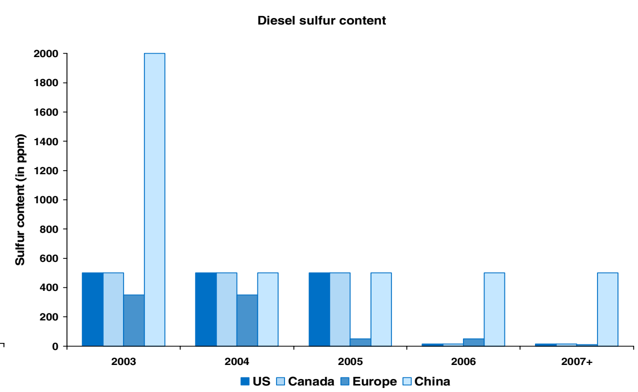
Exhibit 10: Growing premium for light-sweet crude oil like WTI



Source: Department of Energy, Bloomberg, Goldman Sachs Research estimates.

Exhibit 11: Tightening sulfur specifications likely to further boost premium for WTI



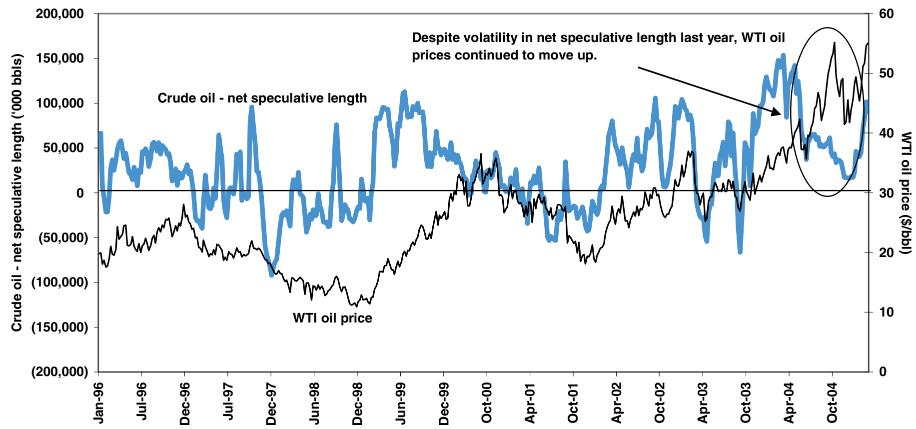


Source: Environmental Protection Agency, Department of Energy, Goldman Sachs Research estimates.

Speculative activity contributes to day-to-day volatility, but not much more

Our analysis shows that speculative activity on the part of hedge funds and other non-industry participants has likely contributed to day-to-day price volatility, but not much more. We are highly skeptical that speculative activity accounts for any of the sustained rise in oil prices. As shown in Exhibit 12, there appears to be no long-term relationship between speculative length and oil prices. Despite ups and downs in net speculative length, oil prices have steadily increased in recent years.

Exhibit 12: Impact of speculative activity overstated, in our view

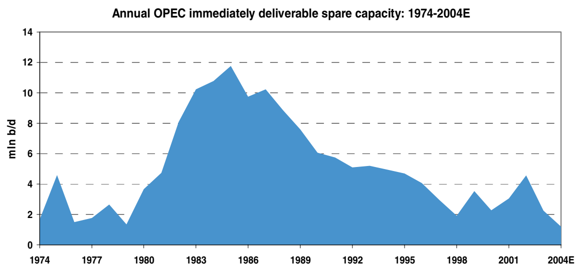


Source: CFTC, Bloomberg, Department of Energy.

Short-term inventories less relevant in secularly tight environment

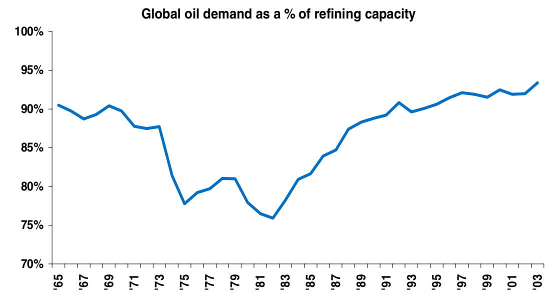
We believe movements in short-term inventories are not as relevant in a secularly tight environment as would be the case during an era of significant overcapacity. During much of the 1980s and 1990s, there was significant overcapacity throughout the energy supply chain (see Exhibits 13 and 14). Given the ability to easily "turn on the taps" either in terms of crude oil supply or refining capacity to meet surge demand, it is logical that movements in short-term inventories played the dominant role in driving energy commodity prices. However, in an era of secular tightness, where the addition of meaningful new quantities of supply is measured in 5-10 year increments as opposed to a few months or quarters, we are not surprised that short-term price movements are largely unaffected by short-term inventory movements.

Exhibit 13: OPEC spare capacity essentially gone



Source: BP Statistical Review of World Energy, Goldman Sachs Research estimates.

Exhibit 14: Refineries now running full out



Source BP Statistical Review of World Energy, Goldman Sachs Research estimates.

We do not believe world is "running out of oil": Increased investment the key

We are not subscribers to the theory that global oil supply has hit some magical inflection point that will result in permanent supply declines at some point in the near future. Though we recognize that the nature of oil is such that it will be difficult for anyone to definitively prove or disprove such theories, it appears to us that there exists a large "known" quantity of both conventional and unconventional oil resources to develop.

The issue to us is that a large portion of these resources are effectively off limits to western investment due to either outright prohibitions or major restrictions on investments placed by host governments in the Middle East, Russia, and Venezuela. Until the political landscape changes to allow for significant increases in investment either by the host countries themselves (through state-owned oil companies) or by foreign oil entities, we believe the current tight supply/demand environment will persist until demand destruction materializes.

Ultimately, though, we believe either material new investments will be made or demand will be destroyed, allowing for a return of a spare supply cushion, lower commodity prices, and a return of "cost of capital" rates of return for industry at large. It is for this reason that we have made little change to our "normalized" view of industry, which we mean to be the 30-year view of industry conditions.

Super-spike period may be upon us: WTI could reach $105/bbl

We believe oil markets may have entered the early stages of a period we have called a "super spike" that corresponds to a multi-year trading band of oil prices that are high enough to meaningfully reduce energy consumption. Note, we appear to have entered this period without a supply disruption yet occurring in a major oil exporting country. Owing to that fact and considering additional analysis we have conducted that points to the likelihood of needing even higher oil prices than previously thought to meaningfully curtail energy demand, we have raised our estimated super-spike trading band to $50-$105 per bbl for WTI spot oil up from $50-$80 per bbl previously. We have also adjusted corresponding super spike upside for Henry Hub spot natural gas and US refining margins.

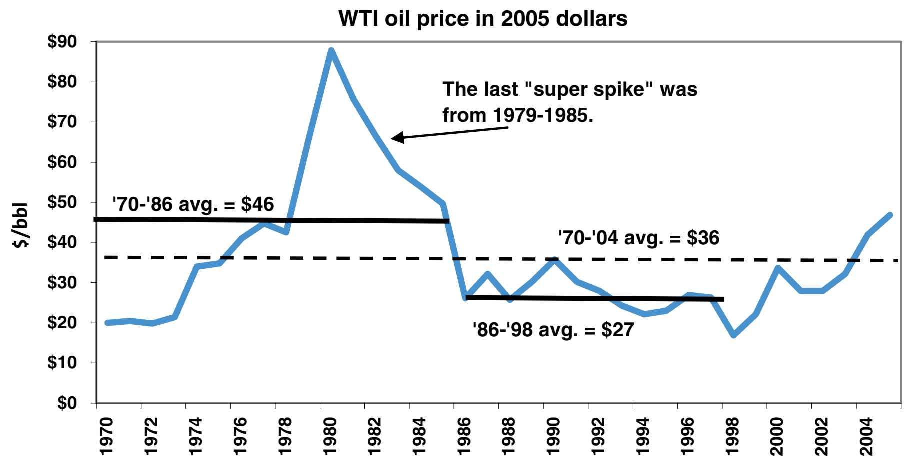
The essence of a super spike: Demand destruction needed to create spare cushion

The essence of our super spike view is our belief that because spare capacity throughout the energy supply chain is limited and given any supply additions take a very long time to complete—even if access to resources and politics were not an issue (which they of course are)—that only a sharp sustained increase in energy commodity prices will meaningfully reduce energy consumption and recreate the kind of spare cushion that existed through much of the 1980s and 1990s. The potential for a supply disruption in a major oil exporting country, we believe, would further spike oil prices to levels needed to stimulate a negative demand response.

That '70s show: A historical perspective on what the future may hold

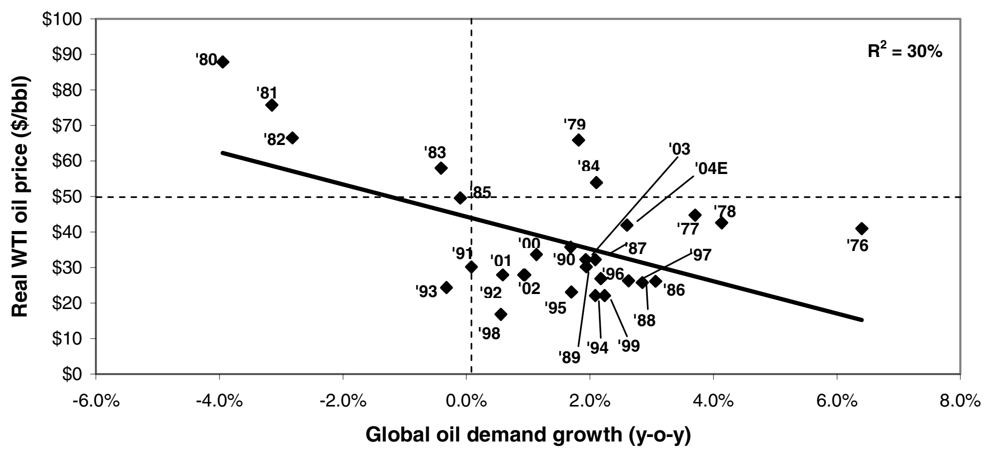
In our view, the current environment looks more like the 1970s than it does the 1980s or 1990s from the perspective of oil markets. During the 1970s the world experienced an extended period of very high oil prices, stagflation, misery indices, the fall of the Shah of Iran, an Iranian hostage crisis, the fear that the world was running out of oil, two major Arab oil embargoes, and a deep global recession (see Exhibits 15 and 16). The combination of these events caused a multi-year decline in oil demand, which, when combined with continued supply growth, led to an extended period of overcapacity and lower prices which only recently ended.

Exhibit 15: The last "super spike" was from 1979-1985



Source: BP Statistical Review of World Energy, Bureau of Labor Statistics, Bloomberg, Department of Energy, Goldman Sachs Research estimates.

Exhibit 16: The early 1980s are the only multi-year period of declining oil demand



Source: International Energy Agency, Bureau of Labor Statistics, BP Statistical Review of World Energy, Bloomberg, Department of Energy, Goldman Sachs Research estimates.

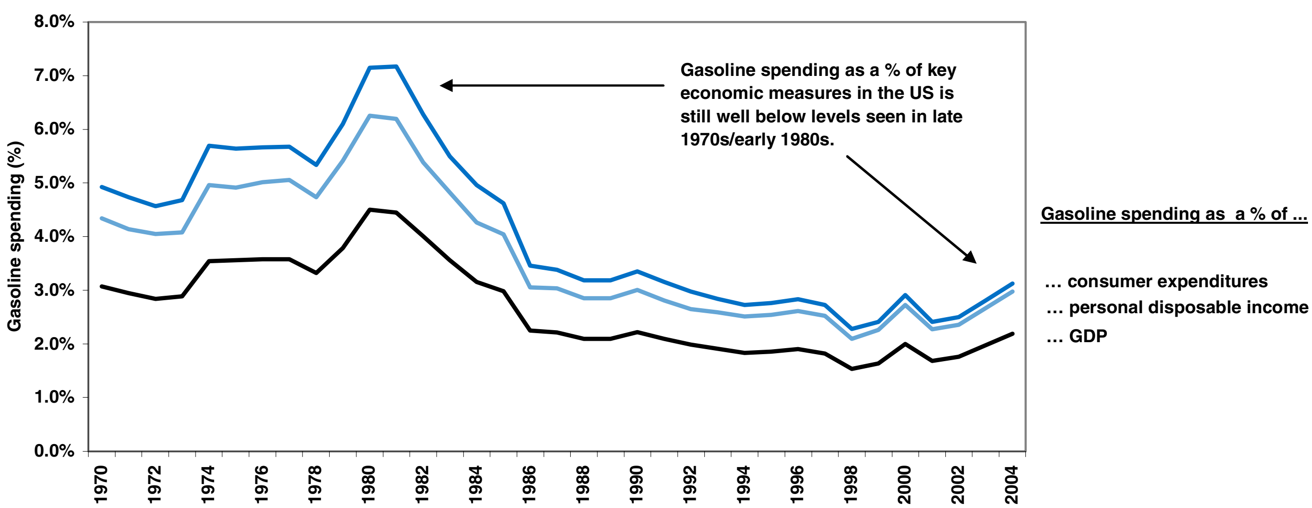
Raising super spike upside to $50-$105/bbl from $50-$80/bbl for WTI oil

Our previous estimated super spike range of $50-$80 per bbl WTI spot oil was based on the simple assumption of repeating the $50-$80 per bbl real oil price environment of 1979-1985. However, our surprise at what has been very strong oil demand even in the face of higher energy commodity prices has caused to us to look deeper at the relative position of energy and energy prices in the 1970s. During 1980-1981, gasoline spending in the United States corresponded to an average 4.5% of GDP, 7.2% of consumer expenditures, and 6.2% of personal disposable income (see Exhibit 17).

Our new $50-$105 per bbl super spike range perhaps conservatively corresponds to gasoline spending in the United States that reaches 3.6% of forecasted GDP, 5.3% of consumer expenditures, and 5.0% of personal disposable income (see Exhibit 18). If we were to assume that gasoline spending needs to reach the heights of the 1970s, our upside super-spike estimate would be $135 per bbl for WTI.

In contrast to the 1970s, industrial oil consumption is today a much smaller piece of oil demand in the United States (see Exhibit 19). In our view, rising oil demand in China and India perhaps is equivalent to the industrial consumption that used to occur in the United States in the 1970s. The issue, though, is complicated by the fact that end prices tend to be far more regulated in China and India, potentially muting the impact of higher spot WTI oil prices. In addition, China, in particular, has the potential to revalue its currency upward, which could also mute any further increases in WTI oil prices measured in US dollars. We note that China's trading partners like the United States have been calling for an upward revaluation of its currency, which is currently pegged at a fixed rate to the US dollar. To the extent an upward revaluation occurs, we believe the need for demand destruction falls back on gasoline consumption in the United States.

Exhibit 17: Gasoline spending now a much lower proportion of the US economy



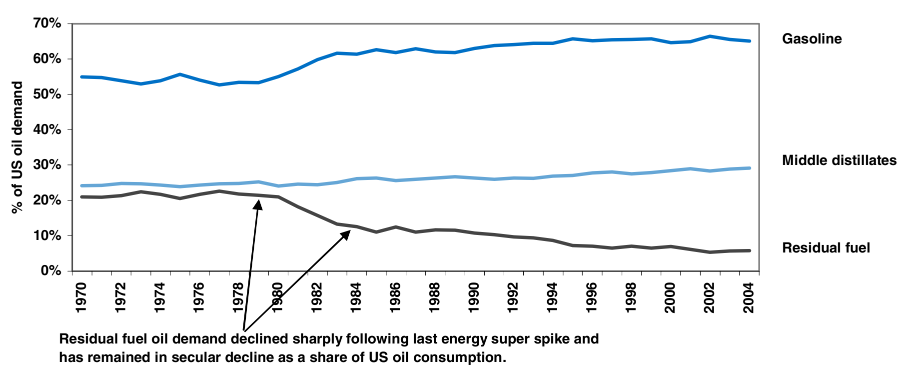
Source: Department of Energy, American Petroleum Institute, Goldman Sachs Economics Research, Goldman Sachs Research estimates.

Exhibit 18: Is $3.50-$4.30 per gallon US retail gasoline prices needed to curb demand?

	2005E	2006E	2007E	2008E	'80-'81 Avg.
Economic forecasts ($ bn, nominal):					
US GDP	$12,461	$13,184	$13,948	$14,757	
US consumer expenditures	8,706	9,159	9,599	10,031	
US personal disposable income	9,110	9,684	10,149	10,605	
Estimated gasoline spending as a % of:					
US GDP	2.6%	2.9%	3.6%	4.3%	4.5%
US consumer expenditures	3.7%	4.2%	5.3%	6.3%	7.2%
US personal disposable income	3.5%	4.0%	5.0%	6.0%	6.2%
Estimated gasoline spending ($ bn)	$319	$387	$507	$636	
Gasoline demand (thous. b/d)	9,206	9,353	9,503	9,655	
Estimated US retail gasoline price ($/g)	**$2.26**	**$2.70**	**$3.48**	**$4.30**	
Estimated US retail gasoline price ($/bbl)	$94.89	$113.47	$146.30	$180.57	
Gasoline taxes ($/bbl)	18.45	18.45	18.45	18.45	
Est. R&M spread ($/bbl)	18.50	21.00	24.00	27.00	
Estimated WTI oil price ($/bbl)	**$57.95**	**$74.02**	**$103.85**	**$135.12**	

Source: Department of Energy, Goldman Sachs Economics Research, Goldman Sachs Research estimates.

Exhibit 19: Industrial use of oil greatly diminished versus 1970s



Source: Department of Energy, Goldman Sachs Research estimates.

At what gasoline price will Americans stop buying SUVs? $4/gallon could do it

Perhaps the ultimate answer to high how oil prices need to go before demand destruction occurs is derived from knowing when American consumers will stop buying gas guzzling sport utility vehicles (SUVs) and instead seek fuel efficient alternatives. Based on our analysis of gasoline spending and the economy noted above, we estimate that US gasoline prices may need to exceed $4 per gallon (see Exhibit 18).

Even under perfect conditions, adding supply is a 5-10-year proposition

Why can't supply solve the problem? It is our observation that even if perfect conditions existed—where future areas of opportunity were open for mass investment today—that it would still take 5-10 years to bring major new quantities of supply on line. Although the expectation of future supply gains could help dampen long-dated WTI oil prices even in the face of cost inflation in traditional areas of activity, the reality would be that supply/demand would remain tight until the new supply actually materialized. As such, the world would still be very exposed to geopolitical turmoil and the potential for supply disruptions in major oil exporting countries, the probability of which would be higher if oil prices were lower.

Supply conditions are not perfect: Middle East demographics are not favorable

It is important to remember that the Middle East has been one of the few areas in the past 30 years to experience massive population growth, on the order of 2%-3% per annum. The combination of rising populations, a lack of a diversified economic base, and the existence of governments that are not representative of or responsive to underlying populations all point to ongoing geopolitical turmoil and an inability to meaningfully add to oil supply.

The fact that oil prices have remained high for an extended period of time undoubtedly serves to increase the probabilities that existing governments in key oil exporting countries will remain in power. With that said, such countries have yet to take the necessary steps to allow for large increases in investment in oil supply, either by their state-owned oil companies or by foreign oil companies. Until new investments are made, we believe demand destruction will be needed to recreate a spare capacity cushion in order to return to a period of lower energy prices.

Supply growth expected, just not enough to recreate a spare capacity cushion

We believe investors need to differentiate between growth in supply and growth in spare capacity. The former we think is likely in the years ahead. The latter we think is unlikely without demand destruction. Given that we do not believe the world is running out of oil, we do not see a supply crisis per se as much as we see a lack of growth in spare capacity. Our base-line forecasts continue to call for growth in both OPEC and non-OPEC supply in the years ahead. However, the rate of growth, in our view, is consistent with the rate of growth in oil demand, rendering no change in spare capacity (see Exhibit 20).

Exhibit 20: Oil supply/demand: 2004-2006E
in million b/d, unless otherwise indicated

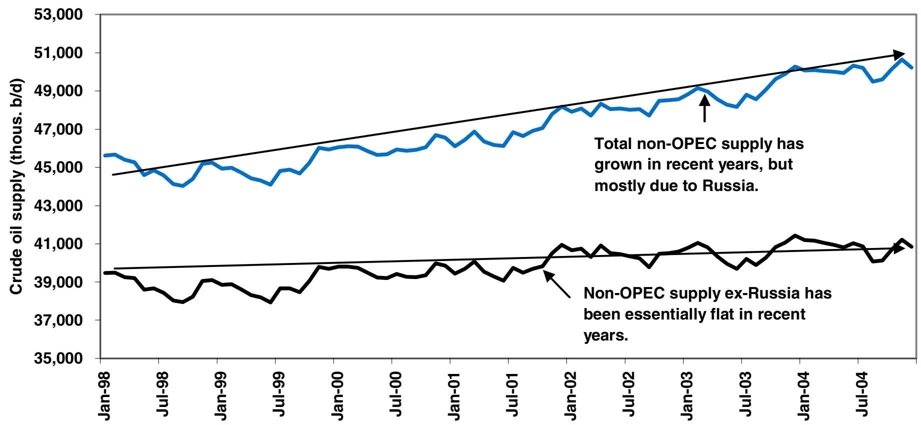
	2004					2005E					2006E
	1Q	2Q	3Q	4Q	Year	1QE	2QE	3QE	4QE	Year	2006E
Demand	82.4	81.2	81.9	84.2	82.4	84.3	83.3	84.1	86.7	84.6	86.6
y-o-y growth	*2.0*	*3.9*	*2.6*	*2.1*	*2.6*	*1.9*	*2.1*	*2.1*	*2.5*	*2.1*	*2.0*
Supply:											
Non-OPEC	50.0	50.0	49.7	50.4	50.0	51.0	50.7	50.8	51.3	50.9	51.8
y-o-y growth	*1.0*	*1.7*	*0.9*	*0.4*	*1.0*	*1.0*	*0.7*	*1.1*	*0.9*	*0.9*	*0.9*
OPEC:											
Crude	27.9	28.1	29.2	29.6	28.7	28.9	29.0	29.5	30.0	29.3	30.5
NGLs	4.3	4.3	4.3	4.4	4.3	4.7	4.7	4.8	4.9	4.8	4.9
Total	32.2	32.4	33.5	34.0	33.0	33.6	33.7	34.3	34.9	34.1	35.4
Total	82.2	82.4	83.2	84.4	83.1	84.5	84.4	85.0	86.1	85.0	87.2
Total stock change/miscellaneous:											
Reported OECD:											
Industry	**(0.6)**	**0.9**	**0.5**	**(0.1)**	**0.1**	**(0.3)**	**0.8**	**0.7**	**(0.9)**	**0.1**	**0.3**
Government	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**
Total	**(0.5)**	**0.9**	**0.5**	**(0.0)**	**0.2**	**(0.1)**	**1.0**	**0.9**	**(0.7)**	**0.2**	**0.4**
Floating storage/oil in transit	**(0.2)**	**(0.1)**	**0.2**	**0.1**	**(0.0)**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Other & misc. to balance	**0.5**	**0.5**	**0.5**	**(0.4)**	**0.3**	**0.4**	**0.1**	**0.1**	**0.2**	**0.2**	**0.2**
Total stock change & misc.	**(0.2)**	**1.3**	**1.3**	**(0.3)**	**0.5**	**0.3**	**1.1**	**0.9**	**(0.5)**	**0.5**	**0.6**
Demand growth (y-o-y)	2.5%	5.0%	3.3%	2.5%	3.3%	2.3%	2.6%	2.6%	3.0%	2.6%	2.4%
Supply growth (y-o-y):											
Non-OPEC	2.1%	3.5%	1.8%	0.9%	2.0%	1.9%	1.3%	2.1%	1.8%	1.8%	1.8%
OPEC	6.6%	8.0%	9.6%	7.0%	7.8%	4.3%	3.9%	2.1%	2.6%	3.2%	3.8%
Total	3.8%	5.2%	4.8%	3.3%	4.2%	2.9%	2.4%	2.1%	2.1%	2.4%	2.6%
WTI spot oil prices ($/bbl)	$35.33	$38.31	$43.91	$48.31	$41.51	$49.00	$49.00	$50.00	$52.00	$50.00	$55.00

Source: International Energy Agency, Department of Energy, BP Statistical Review of World Energy, Goldman Sachs Research estimates.

Risks to supply growth skewed to the downside

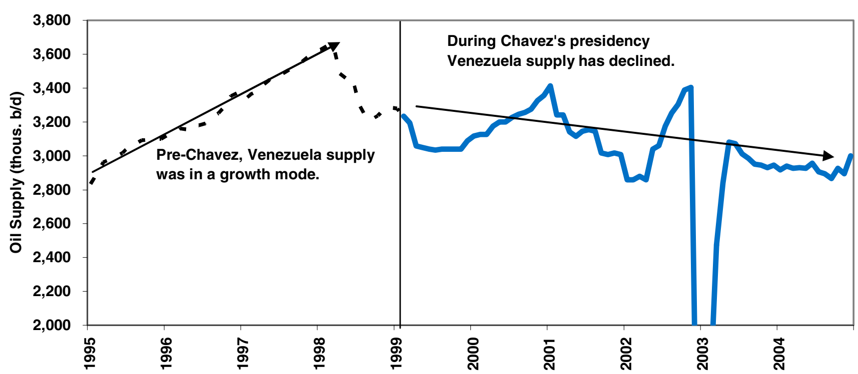
In our view, risks to supply growth are skewed to the downside. We believe Russian oil supply growth is likely to slow meaningfully in coming years given the effective nationalization of Yukos, what was its most successful and fastest growing major oil company. Russia has been the main driver of non-OPEC supply growth in recent years (see Exhibit 21). Though the situations are not identical, we note that Venezuela oil supply was on a sharp upward trend in the mid-1990s until the election of current president Hugo Chavez in 1999 led to a reversal in the country's oil policies away from foreign participation and liberalization for its state-owned oil company. Under the Chavez administration, Venezuela oil supply has been on a steadily eroding trend (see Exhibit 22). As for Russia, our base-case forecasts call for continued growth in supply, but we increasingly wonder if this is too optimistic.

Exhibit 21: Russia supply growth has been key to non-OPEC growth



Source: International Energy Agency.

Exhibit 22: Venezuela supply has declined since Chavez was elected



Source: International Energy Agency

2005 and 2006 forecast increases could prove conservative

We believe our new EPS estimates for 2005 and 2006 could prove conservative, especially if our upwardly revised super spike range transpires in the next two years. Continued upward EPS revisions for the sector, we think will drive further share price outperformance for the stocks.

Risk to new forecasts for 2005 and 2006 skewed to the upside

We believe the increases in our commodity price forecast are more likely to prove conservative than optimistic. However, we would rather remain in the mode of having to increase EPS forecasts than risk needing to cut estimates, given that EPS reductions are likely to be met by a greater negative stock price reaction than the boost garnered by an EPS increase, all else equal.

Greater premium for light-sweet crude and higher long-dated price drive increase

Exhibit 23 disaggregates the change in our 2005 WTI spot oil price forecast by the key drivers of our multi-factor regression model. As shown, the bulk of the forecast increase can be attributed to a wider premium for light-sweet crude oil relative to heavy-sour grades, with most of the remaining variance driven by higher E&P unit costs as shown by a higher long-dated WTI oil price forecast. Note, current long-dated WTI oil prices are already well ahead of our forecasts for the remainder of 2005 and 2006 and we also see upside risk to our assumed spread between WTI (light-sweet) and Maya (heavy-sour) crude oil. As such, we believe our forecasts for WTI spot oil for 2005 and 2006 are likely to prove conservative.

Exhibit 23: Growing premium for light-sweet crude the major variance to our forecast

Key variances between new $50/bbl 2005 forecast and previous $42/bbl forecast (which we rounded to $40):

	New	Old	Impact
Light-heavy spread ($/bbl)	$18	$12	$7.38
Long-dated price (impact of unit cost structure increase only) ($/bbl)	$42	$32	$2.43
DOE crude and key products inventories (thousands bbls)	701,000	664,000	($2.04)
Speculative length (millions bbls)	77	67	$0.23
			$8.00

Note: Previously the model was calculating a $42 WTI oil price, which we rounded to a $40 forecast.

Source: International Energy Agency, Goldman Sachs Research estimates.

New 2006 EPS forecasts are 53% above the First Call consensus

Exhibit 24 shows our updated EPS forecasts for our universe of companies. Our new EPS estimates for 2005 and 2006 are 19% and 53% the corresponding First Call consensus forecasts. We note that our new EPS estimates correspond to an assumption of 30% average EPS growth in 2005 and 28% average EPS growth in 2006. By way of comparison, the First Call consensus is looking for only 11% EPS growth in 2005 followed by a 3% decline in 2006. In our view, as the Street needs to increase its EPS estimates closer to our own forecasts, integrated oil, E&P, and R&M stocks will outperform.

Exhibit 24: Updated EPS estimates for our coverage universe

	1Q 2005E			First	GS vs.	2005E			First	GS vs.	2006E			First	GS vs.	2007N		
	new	old	% change	Call	FC	new	old	% change	Call	FC	new	old	% change	Call	FC	new	old	% change
Super-cap integrated oils:																		
ChevronTexaco	$1.64	$1.27	29.4%	$1.45	12.9%	$6.81	$5.39	26.5%	$5.45	25.0%	$7.65	$5.77	32.8%	$4.92	55.6%	$3.50	$3.25	7.9%
ConocoPhillips	$3.46	$2.97	16.6%	$3.19	8.6%	$14.22	$11.38	24.9%	$11.65	22.0%	$17.00	$12.30	38.2%	$10.29	65.2%	$7.10	$6.25	13.6%
Exxon Mobil	$1.20	$1.12	7.2%	$1.14	5.6%	$4.70	$4.20	11.8%	$4.24	10.8%	$5.50	$4.50	22.2%	$4.05	35.8%	$2.80	$2.50	12.1%
Average			***17.7%***		***9.0%***			***21.0%***		***19.3%***			***31.0%***		***52.2%***			***11.2%***
Domestic oil:																		
Amerada Hess	$2.00	$2.00	-0.1%	$2.22	-9.8%	$9.50	$9.00	5.5%	$8.91	6.6%	$16.50	$12.85	28.5%	$9.65	71.0%	$6.50	$6.25	4.0%
Kerr-McGee	$2.15	$1.86	15.6%	$2.12	1.5%	$7.98	$6.60	21.0%	$7.39	7.9%	$9.70	$7.60	27.7%	$6.49	49.5%	$3.15	$3.00	5.1%
Marathon Oil	$1.09	$0.98	11.6%	$1.03	5.7%	$5.09	$4.08	24.8%	$4.28	19.0%	$7.05	$5.10	38.4%	$4.11	71.6%	$2.50	$2.45	2.1%
Murphy Oil	$1.07	$1.20	-10.4%	$1.33	-19.4%	$6.91	$5.90	17.0%	$6.22	11.0%	$9.15	$6.25	46.4%	$5.42	68.7%	$2.50	$2.35	6.4%
Occidental Petroleum	$1.95	$1.85	5.8%	$1.90	2.9%	$7.95	$6.45	23.2%	$6.91	15.0%	$10.00	$7.30	37.0%	$6.23	60.5%	$3.45	$3.15	9.7%
Petro-Canada	$1.38	$1.31	5.7%	NM	NM	$6.03	$4.72	27.7%	NM	NM	$7.31	$4.96	47.4%	NM	NM	$3.07	$2.54	21.1%
Suncor Energy	$0.23	$0.24	-3.2%	NM	NM	$1.39	$1.18	17.3%	NM	NM	$4.43	$3.23	37.2%	NM	NM	$1.13	$0.94	20.1%
Average			***3.6%***		***-3.8%***			***19.5%***		***11.9%***			***37.5%***		***64.3%***			***9.8%***
Large-cap E&Ps																		
Anadarko Petroleum	$1.94	$1.67	16.5%	$1.89	2.8%	$8.81	$6.65	32.4%	$7.29	20.8%	$10.50	$7.45	41.0%	$7.02	49.6%	$4.20	$3.90	7.6%
Apache	$1.63	$1.36	19.2%	$1.60	1.6%	$7.41	$5.60	32.4%	$6.14	20.7%	$8.80	$6.35	38.6%	$5.55	58.5%	$3.85	$3.30	16.5%
Burlington Resources	$1.09	$0.83	31.6%	$1.02	7.2%	$5.04	$3.38	49.0%	$3.88	30.0%	$5.90	$4.07	44.9%	$3.61	63.4%	$2.35	$2.00	17.2%
Devon Energy	$1.20	$1.10	8.8%	$1.23	-2.6%	$4.74	$4.20	13.0%	$4.39	8.1%	$5.60	$4.50	24.5%	$4.17	34.3%	$2.70	$2.70	0.2%
EnCana Corp	$1.19	$1.23	-3.5%	$1.31	-9.2%	$6.00	$4.80	25.0%	$5.36	11.9%	$7.27	$6.00	21.0%	$5.21	39.5%	$3.13	$3.04	3.0%
EOG Resources	$0.81	$0.68	19.1%	$0.78	4.4%	$3.71	$2.95	25.8%	$2.97	25.1%	$4.25	$3.02	40.6%	$2.77	53.5%	$1.70	$1.55	9.4%
Talisman Energy	$0.55	$0.59	-7.3%	NM	NM	$2.70	$2.37	13.9%	NM	NM	$3.60	$2.67	35.1%	NM	NM	$1.41	$1.14	23.8%
Unocal	$1.34	$1.21	10.0%	$1.30	2.7%	$5.41	$4.40	22.9%	$4.66	16.0%	$6.55	$4.40	48.9%	$4.00	63.8%	$2.20	$2.00	10.2%
XTO Energy	$0.54	$0.50	8.4%	$0.56	-3.1%	$2.52	$2.19	14.8%	$2.27	11.0%	$3.33	$2.54	31.2%	$2.37	40.5%	$1.71	$1.61	6.7%
Average			***11.4%***		***0.5%***			***25.5%***		***17.9%***			***36.2%***		***50.4%***			***10.5%***
Mid-cap E&Ps																		
Newfield Exploration	$1.78	$1.59	11.8%	$1.76	1.3%	$7.69	$6.19	24.3%	$6.94	10.8%	$9.28	$7.07	31.3%	$6.60	40.6%	$3.83	$3.56	7.7%
Noble Energy	$1.50	$1.40	7.0%	$1.53	-2.0%	$7.13	$5.82	22.5%	$6.63	7.5%	$9.36	$6.77	38.3%	$6.71	39.6%	$4.03	$3.77	6.8%
Pioneer Natural Resources	$0.55	$0.55	0.8%	$0.48	15.5%	$2.88	$2.62	9.8%	$2.58	11.7%	$4.39	$3.58	22.9%	$2.61	68.4%	$1.85	$1.73	7.0%
Pogo Producing	$1.21	$1.17	3.3%	$1.12	8.4%	$5.36	$4.38	22.3%	$4.65	15.2%	$7.28	$4.85	50.0%	$4.31	68.9%	$2.13	$2.03	4.9%
Questar Corp.	$1.12	$1.10	2.0%	$1.08	3.5%	$3.45	$3.28	5.1%	$3.29	4.8%	$4.43	$3.88	14.0%	$3.56	24.3%	$3.21	$3.17	1.1%
Ultra Petroleum	$0.43	$0.40	6.9%	$0.43	0.6%	$2.04	$1.83	11.9%	$1.80	13.5%	$2.59	$2.19	18.1%	$2.19	18.3%	$1.83	$1.81	1.2%
Average			***5.3%***		***4.5%***			***16.0%***		***10.6%***			***29.1%***		***43.3%***			***4.8%***
Small-cap E&Ps:																		
Bill Barrett Corp.	($0.02)	$0.02	NM	$0.10	NM	$0.22	$0.20	11.9%	$0.49	-54.3%	$1.03	$0.90	13.9%	$0.81	26.6%	$0.25	$0.23	10.2%
Cabot Oil & Gas	$0.72	$0.67	7.4%	$0.79	-9.3%	$3.37	$2.98	12.8%	$3.24	3.9%	$5.15	$3.79	35.7%	$3.26	57.9%	$1.62	$1.54	5.1%
Encore Acquisition	$0.79	$0.68	16.5%	$0.73	8.2%	$3.21	$2.58	24.2%	$2.79	15.0%	$4.97	$3.32	49.4%	$2.73	81.9%	$2.28	$1.95	16.8%
Forest Oil	$0.80	$0.68	17.3%	$0.80	-0.1%	$3.90	$2.94	32.5%	$3.04	28.3%	$6.66	$4.44	49.8%	$3.11	114.0%	$2.01	$1.62	24.4%
The Houston Exploration Co.	$1.28	$1.19	7.9%	$1.47	-12.8%	$6.29	$5.81	8.2%	$5.94	5.8%	$8.68	$7.11	22.2%	$5.57	55.9%	$3.69	$3.57	3.2%
Quicksilver Resources	$0.17	$0.16	10.7%	$0.21	-18.2%	$1.39	$1.13	22.2%	$1.24	11.8%	$2.58	$2.10	22.5%	$1.67	54.4%	$1.36	$1.32	3.4%
Spinnaker Exploration	$0.40	$0.34	16.3%	$0.40	-0.9%	$1.96	$1.25	57.0%	$1.90	2.9%	$4.61	$3.04	52.0%	$2.53	82.4%	$1.58	$1.28	23.6%
Western Gas Resources	$0.55	$0.48	15.1%	$0.44	25.1%	$2.28	$1.91	19.4%	$1.79	27.5%	$2.72	$2.09	30.0%	$1.87	45.6%	$1.61	$1.57	2.5%
Average			***13.0%***		***-1.1%***			***23.5%***		***5.1%***			***34.4%***		***64.8%***			***11.2%***
Refining & Marketing																		
Ashland*	$0.90	$0.83	8.9%	$0.68	32.6%	$6.94	$6.13	13.1%	$5.42	28.0%	$3.55	$3.05	16.4%	$4.60	-22.9%	$2.75	$2.40	14.7%
Frontier Oil	$0.57	$0.43	33.8%	$0.53	8.1%	$3.45	$2.50	38.0%	$2.74	26.0%	$4.40	$2.88	52.7%	$2.75	59.9%	$1.30	$1.10	19.0%
Premcor	$0.89	$0.89	0.2%	$0.90	-0.8%	$7.57	$6.17	22.6%	$5.05	50.0%	$11.00	$7.90	39.2%	$5.62	95.7%	$4.15	$3.75	10.5%
Sunoco	$1.70	$1.95	-12.9%	$1.85	-8.2%	$9.68	$8.65	11.9%	$7.92	22.3%	$11.65	$9.75	19.5%	$7.93	46.9%	$7.00	$6.25	12.1%
Tesoro Petroleum	$0.48	$0.42	14.4%	$0.50	-4.3%	$4.82	$4.32	11.7%	$3.41	41.4%	$6.55	$4.60	42.4%	$3.33	96.8%	$2.25	$2.00	12.3%
Valero Energy	$1.88	$1.76	6.7%	$1.80	4.2%	$8.33	$6.65	25.2%	$6.41	30.0%	$9.95	$6.75	47.3%	$5.80	71.5%	$4.15	$3.60	15.4%
Average			***8.5%***		***5.3%***			***20.4%***		***33.0%***			***36.3%***		***58.0%***			***14.0%***
Emerging market oils:																		
Petrobras	$1.66	$1.57	5.6%	NM	NM	$8.00	$7.09	12.8%	NM	NM	$8.30	$7.70	7.7%	NM	NM	$5.38	$5.00	7.7%
Petrobras Energia	$0.51	$0.83	-38.7%	NM	NM	$2.00	$1.79	11.9%	NM	NM	$3.69	$3.05	21.0%	NM	NM	$2.49	$2.18	14.2%
Ultrapar	$0.38	$0.52	-27.1%	NM	NM	$1.86	$1.74	6.6%	NM	NM	$2.17	$1.95	11.6%	NM	NM	$1.42	$1.37	3.7%
Average			***-20.1%***					***10.4%***					***13.5%***					***8.5%***
Commodity prices and margins:																		
WTI spot oil ($/bbl)	$49.00	$45.00	8.9%			$50.00	$41.25	21.2%			$55.00	$40.00	37.5%			$30.00	$28.00	7.1%
Henry Hub spot gas ($/MMBtu)	$6.38	$5.75	11.0%			$6.75	$6.00	12.5%			$7.00	$6.00	16.7%			$4.50	$4.50	0.0%
Gulf Coast refining margin ($bbl)	$6.00	$6.00	0.0%			$6.25	$6.25	0.0%			$6.50	$6.25	4.0%			$4.50	$4.00	12.5%
GS estimate variance vs. First Call (all companies)					**1.8%**			**21.4%**		**15.6%**			**34.6%**		**55.8%**			**10.2%**
GS estimate variance vs. First Call (excluding small-cap E&P)					**2.5%**			**20.9%**		**18.7%**			**34.6%**		**53.2%**			**10.0%**

E-Estimate; N-Normalized/mid-cycle estimate; NM-Not meaningful; NA-Not available. *Ashland's fiscal year ends September 30 (calendar quarters shown)

Source: Goldman Sachs Research estimates.

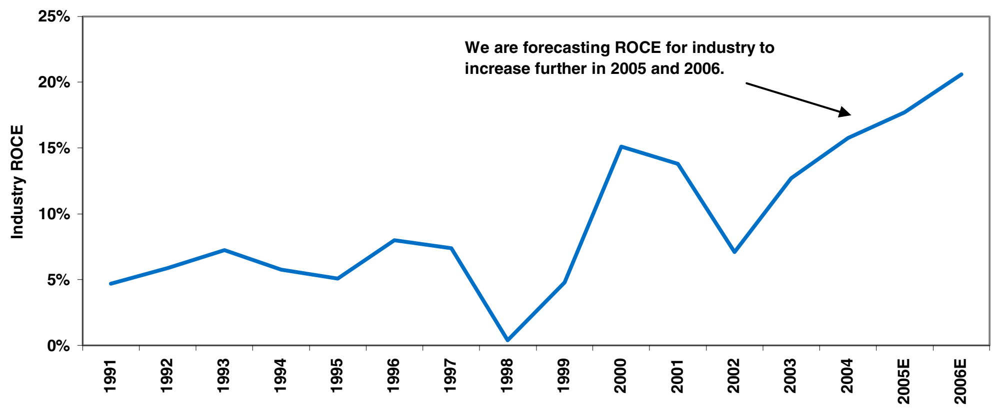
Super spike potential shows meaningful additional upside to EPS/cash flow/ROCE

Exhibits 26-29 show upside sensitivities to EPS, debt-adjusted cash flow, ROCE, and operating free cash flow yield under our $50-$105 per bbl WTI oil price (and equivalent natural gas price and refining margin) super spike range. While such upside sensitivities may sound far-fetched today, we note that the prospect for a full year of $50 per bbl oil in 2005 sounded ludicrous just 12-18 months ago and now may prove conservative!

ROCE for sector forecast to rise further

Some investors have understandably expressed concern that although EPS estimates may be rising that returns on capital employed (ROCE) for the sector have peaked. We understand the concern but continue to forecast rising ROCE for our coverage universe (see Exhibit 25). We note that under our super spike scenario described below, ROCE is also expected to rise materially in addition to EPS and cash flow. In our view, the potential for rising ROCE in addition to rising EPS argues for the potential for multiple expansion on higher earnings, rather than simply the same valuation multiple on higher earnings/cash flow.

Exhibit 25: Sector ROCE forecast to rise further



Source: Company data, Goldman Sachs Research estimates.

Exhibit 26: EPS sensitivity to various "super spike" oil prices, natural gas prices, and refining margins

				EPS					% change versus GS base case				
				2005E	2006E	2007E	2008E	2009E	2005E	2006E	2007E	2008E	2009E
	GS 2005E Base Case*	First Call Consensus	% variance	$50 oil/ $6.75 gas/ $6.25 refining	$75 oil/ $9 gas/ $9 refining	$105 oil/ $13 gas/ $13 refining	$75 oil/ $9 gas/ $9 refining	$50 oil/ $6.50 gas/ $6.50 refining	$50 oil/ $6.75 gas/ $6.25 refining	$75 oil/ $9 gas/ $9 refining	$105 oil/ $13 gas/ $13 refining	$75 oil/ $9 gas/ $9 refining	$50 oil/ $6.50 gas/ $6.50 refining
Large-cap integrated oils													
ChevronTexaco	$6.83	$5.39	27%	$6.83	$11.29	$17.33	$12.33	$7.27	0%	65%	154%	81%	7%
ConocoPhillips	14.22	11.54	23%	14.22	25.22	38.47	23.95	14.38	0%	77%	171%	68%	1%
ExxonMobil	4.70	4.20	12%	4.70	7.40	10.50	7.67	5.29	0%	58%	124%	63%	13%
Average			**21%**						**0%**	**67%**	**149%**	**71%**	**7%**
Domestic oils													
Amerada Hess	$9.50	$8.93	6%	$9.50	$26.99	$45.59	$31.68	$17.58	0%	184%	380%	233%	85%
Kerr-McGee	7.98	7.39	8%	7.98	15.92	34.67	20.28	9.70	0%	100%	335%	154%	22%
Marathon Oil	5.09	4.24	20%	5.09	12.60	21.96	13.20	6.37	0%	147%	331%	159%	25%
Murphy Oil	7.09	6.19	14%	7.09	15.55	26.13	19.09	9.79	0%	119%	269%	169%	38%
Occidental Petroleum	7.95	6.89	15%	7.95	16.30	26.26	16.63	8.63	0%	105%	230%	109%	9%
Petro-Canada	6.03	5.68	6%	6.03	12.38	22.24	15.05	7.58	0%	118%	292%	165%	34%
Suncor Energy	1.39	1.55	-10%	1.39	6.93	9.56	7.26	3.32	0%	347%	517%	368%	114%
Average			**9%**						**0%**	**160%**	**336%**	**194%**	**47%**
Large-cap E&Ps													
Anadarko Petroleum	$8.81	$7.26	21%	$8.81	$17.38	$32.68	$20.09	$10.46	0%	97%	271%	128%	19%
Apache Corporation	7.41	6.13	21%	7.41	13.98	24.29	16.53	9.28	0%	89%	228%	123%	25%
Burlington Resources	5.04	3.87	30%	5.04	9.66	18.15	11.31	6.18	0%	92%	260%	124%	23%
Devon Energy	4.74	4.38	8%	4.74	9.65	18.92	11.90	5.83	0%	103%	299%	151%	23%
EnCana Corp.	6.00	5.36	12%	6.00	12.51	28.81	17.43	8.23	0%	133%	437%	225%	54%
EOG Resources	3.71	2.97	25%	3.71	6.80	12.68	7.90	4.55	0%	83%	241%	113%	22%
Talisman Energy	2.70	2.67	1%	2.70	7.55	15.63	8.93	3.34	0%	183%	485%	235%	25%
Unocal	5.41	4.62	17%	5.41	10.56	16.85	10.80	5.78	0%	95%	212%	100%	7%
XTO Energy	2.52	2.26	12%	2.52	5.16	9.53	6.11	3.63	0%	105%	278%	142%	44%
Average			**16%**						**0%**	**109%**	**301%**	**149%**	**27%**
Mid-cap E&Ps													
Newfield Exploration	$7.69	$6.91	11%	$7.69	$15.09	$28.49	$17.84	$10.06	0%	96%	271%	132%	31%
Noble Energy	7.23	6.62	9%	7.23	15.14	28.42	18.43	10.92	0%	110%	293%	155%	51%
Pioneer Natural Resources	2.88	2.58	12%	2.88	7.38	15.11	9.23	4.97	0%	156%	424%	220%	73%
Pogo Producing	5.36	4.64	15%	5.36	12.30	22.03	13.60	6.99	0%	130%	311%	154%	31%
Questar Corp.	3.45	3.29	5%	3.45	5.70	11.15	8.17	6.01	0%	73%	239%	148%	83%
Ultra Petroleum	2.04	1.80	14%	2.04	3.84	8.77	5.92	3.89	0%	113%	387%	229%	116%
Average			**11%**						**0%**	**113%**	**321%**	**173%**	**64%**
Small-cap E&P:													
Bill Barrett Corp.	$0.22	$0.49	-54%	$0.22	$2.13	$6.22	$3.60	$1.48	0%	335%	1170%	635%	202%
Cabot Oil & Gas	3.37	3.21	5%	3.37	8.76	16.78	10.11	5.44	0%	160%	398%	200%	62%
Encore Acquisition	3.21	2.71	18%	3.21	7.88	15.86	12.08	6.85	0%	146%	395%	277%	113%
Forest Oil Corporation	3.90	3.03	29%	3.90	11.71	22.99	13.51	6.51	0%	200%	489%	246%	67%
Houston Exploration	6.29	5.86	7%	6.29	13.72	27.18	15.98	8.24	0%	118%	332%	154%	31%
Quicksilver Resources	1.36	1.24	9%	1.36	4.22	9.44	6.11	3.30	0%	211%	595%	350%	143%
Spinnaker Exploration	1.96	1.89	3%	1.96	8.20	17.29	11.29	5.52	0%	319%	784%	477%	182%
Western Gas Resources	2.28	1.79	27%	2.28	4.26	8.78	6.22	3.71	0%	86%	285%	173%	62%
Average			**14%**						**0%**	**177%**	**468%**	**268%**	**94%**
R&M:													
Frontier Oil	$3.45	$2.74	26%	$3.45	$7.69	$13.22	$8.04	$4.62	0%	123%	283%	133%	34%
Premcor	7.57	5.05	50%	7.57	15.69	25.04	17.96	13.60	0%	107%	231%	137%	80%
Sunoco	9.68	7.92	22%	9.68	19.05	30.00	18.66	11.17	0%	97%	210%	93%	15%
Tesoro Petroleum	4.82	3.42	41%	4.82	9.24	15.52	9.67	5.86	0%	92%	222%	101%	22%
Valero Energy	8.33	6.41	30%	8.33	14.66	23.26	15.53	10.61	0%	76%	179%	86%	27%
Average			**34%**						**0%**	**99%**	**225%**	**110%**	**36%**
Integrated oil/E&P/R&M average			**15%**						**0%**	**134%**	**344%**	**186%**	**53%**

*Reflects $50/bbl WTI oil, $6.75/MMBtu Henry Hub gas, and $6.25/bbl Gulf Coast refining margin.

Source: Company reports, Goldman Sachs Research estimates.

Exhibit 27: Debt adjusted cash flow sensitivity to various "super spike" oil prices, natural gas prices, and refining margins

$ millions

	GS 2005E Base Case*	DACF ($ mln) 2005E $50 oil/ $6.75 gas/ $6.25 refining	DACF ($ mln) 2006E $75 oil/ $9 gas/ $9 refining	DACF ($ mln) 2007E $105 oil/ $13 gas/ $13 refining	DACF ($ mln) 2008E $75 oil/ $9 gas/ $9 refining	DACF ($ mln) 2009E $50 oil/ $6.50 gas/ $6.50 refining	% change versus GS base case 2005E $50 oil/ $6.75 gas/ $6.25 refining	% change versus GS base case 2006E $75 oil/ $9 gas/ $9 refining	% change versus GS base case 2007E $105 oil/ $13 gas/ $13 refining	% change versus GS base case 2008E $75 oil/ $9 gas/ $9 refining	% change versus GS base case 2009E $50 oil/ $6.50 gas/ $6.50 refining
Super-cap integrated oils											
ChevronTexaco	$20,660	$20,660	$29,657	$40,760	$30,690	$21,020	0%	44%	97%	49%	2%
ConocoPhillips	15,083	$15,083	22,795	32,035	21,807	15,205	0%	51%	112%	45%	1%
ExxonMobil	41,182	$41,182	57,120	73,784	55,951	41,810	0%	39%	79%	36%	2%
Average							**0%**	**44%**	**96%**	**43%**	**1%**
Domestic oil											
Amerada Hess	$2,771	$2,771	$4,796	$6,945	$5,311	$3,759	0%	73%	151%	92%	36%
Kerr-McGee	3,108	3,108	4,556	7,600	5,274	3,569	0%	47%	145%	70%	15%
Marathon Oil	2,840	2,840	6,451	9,991	6,960	4,590	0%	127%	252%	145%	62%
Murphy Oil	1,468	1,468	2,440	3,694	2,961	1,879	0%	66%	152%	102%	28%
Occidental Petroleum	5,043	5,043	8,421	12,211	8,318	5,174	0%	67%	142%	65%	3%
Petro-Canada	3,112	3,112	4,858	7,574	5,762	3,774	0%	56%	143%	21%	21%
Suncor Energy	1,431	1,431	5,438	7,309	5,902	3,188	0%	280%	411%	123%	123%
Average							**0%**	**102%**	**199%**	**88%**	**41%**
Large-cap E&Ps											
Anadarko Petroleum	$3,982	$3,982	$6,460	$11,263	$7,659	$4,872	0%	62%	183%	92%	22%
Apache Corpation	4,638	4,638	7,365	11,259	8,088	5,306	0%	59%	143%	74%	14%
Burlington Resources	4,159	4,159	6,144	9,983	6,829	4,545	0%	48%	140%	64%	9%
Devon Energy	5,127	5,127	7,766	13,563	9,454	5,949	0%	51%	165%	84%	16%
EnCana Corp.	6,322	6,322	9,676	17,390	12,206	8,140	0%	53%	175%	29%	29%
EOG Resources	2,047	2,047	3,222	5,137	3,663	2,614	0%	57%	151%	79%	28%
Talisman Energy	3,107	3,107	5,142	8,296	5,789	3,714	0%	65%	167%	20%	20%
Unocal	3,144	3,144	4,494	6,447	4,849	3,492	0%	43%	105%	54%	11%
XTO Energy	1,810	1,810	3,109	5,655	3,923	2,663	0%	72%	212%	117%	47%
Average							**0%**	**57%**	**160%**	**68%**	**22%**
Mid-cap E&Ps											
Newfield Exploration	$1,190	$1,190	$1,787	$2,869	$2,077	$1,508	0%	50%	141%	75%	27%
Noble Energy	1,454	1,454	2,567	3,959	2,980	2,262	0%	76%	172%	105%	56%
Pioneer Natural Resources	1,478	1,478	2,374	3,901	2,731	1,899	0%	61%	164%	85%	29%
Pogo Producing	865	865	1,360	2,034	1,465	1,020	0%	57%	135%	69%	18%
Questar Corp.	731	731	977	1,600	1,295	1,062	0%	34%	119%	45%	45%
Ultra Petroleum	310	310	534	1,153	820	585	0%	72%	272%	89%	89%
Average							**0%**	**58%**	**167%**	**78%**	**44%**
Small-cap E&P:											
Bill Barrett Corp.	$147	$147	$285	$571	$414	$290	0%	93%	287%	181%	97%
Cabot Oil & Gas	347	347	595	931	661	474	0%	71%	168%	90%	37%
Encore Acquisition	248	248	465	850	685	448	0%	87%	242%	176%	80%
Forest Oil Corporation	802	802	1,527	2,555	1,743	1,143	0%	90%	219%	117%	43%
Houston Exploration	560	560	834	1,343	940	662	0%	49%	140%	68%	18%
Quicksilver Resources	182	182	448	908	640	408	0%	146%	399%	252%	124%
Spinnaker Exploration	301	301	657	1,151	895	626	0%	118%	282%	197%	108%
Western Gas Resources	370	370	567	1,048	828	603	0%	53%	183%	124%	63%
Average							**0%**	**88%**	**233%**	**146%**	**68%**
R&M:											
Frontier Oil	$177	$177	$280	$441	$276	$173	0%	59%	150%	56%	-2%
Premcor	1,118	1,118	2,028	2,533	1,844	1,414	0%	81%	127%	65%	27%
Sunoco	1,322	1,322	2,113	2,982	2,046	1,456	0%	60%	125%	55%	10%
Tesoro Petroleum	666	666	1,028	1,556	1,054	737	0%	54%	134%	58%	11%
Valero Energy	3,618	3,618	5,735	8,605	6,057	4,450	0%	58%	138%	67%	23%
Average							**0%**	**63%**	**135%**	**60%**	**14%**
Integrated oil/E&P/R&M average							**0%**	**71%**	**174%**	**85%**	**35%**

*Reflects $50/bbl WTI oil, $6.75/MMBtu Henry Hub gas, and $6.25/bbl Gulf Coast refining margin.

Source: Company reports, Goldman Sachs Research estimates.

Exhibit 28: Return on capital employed sensitivity to various "super spike" oil prices, natural gas prices, and refining margins

		ROCE					change versus GS base case				
		2005E	2006E	2007E	2008E	2009E	2005E	2006E	2007E	2008E	2009E
	GS 2005E Base Case*	$50 oil/ $6.75 gas/ $6.25 refining	$75 oil/ $9 gas/ $9 refining	$105 oil/ $13 gas/ $13 refining	$75 oil/ $9 gas/ $9 refining	$50 oil/ $6.50 gas/ $6.50 refining	$50 oil/ $6.75 gas/ $6.25 refining	$75 oil/ $9 gas/ $9 refining	$105 oil/ $13 gas/ $3 refining	$75 oil/ $9 gas/ $9 refining	$50 oil/ $6.50 gas/ $6.50 refining
Super-cap integrated oils											
ChevronTexaco	24%	24%	37%	54%	37%	21%	0%	13%	29%	13%	-3%
ConocoPhillips	23%	23%	34%	46%	27%	16%	0%	11%	23%	5%	-7%
ExxonMobil	26%	26%	37%	50%	38%	27%	0%	11%	24%	12%	1%
average	**24%**	**24%**	**36%**	**50%**	**34%**	**21%**	**0%**	**12%**	**26%**	**10%**	**-3%**
Domestic oil											
Amerada Hess	13%	13%	31%	52%	37%	20%	0%	18%	40%	24%	7%
Kerr-McGee	18%	18%	32%	66%	38%	18%	0%	14%	48%	20%	0%
Marathon Oil	16%	16%	33%	53%	31%	15%	0%	17%	37%	15%	-1%
Murphy Oil	20%	20%	39%	67%	52%	27%	0%	20%	47%	32%	8%
Occidental Petroleum	18%	18%	41%	63%	39%	19%	0%	23%	45%	21%	1%
Petro-Canada	18%	18%	31%	51%	33%	17%	0%	13%	34%	16%	-1%
Suncor Energy	11%	11%	45%	65%	54%	26%	0%	35%	55%	44%	15%
Average	**16%**	**16%**	**36%**	**60%**	**41%**	**20%**	**0%**	**20%**	**44%**	**24%**	**4%**
Large-cap E&Ps											
Anadarko Petroleum	18%	18%	33%	60%	39%	20%	0%	14%	42%	21%	2%
Apache Corpation	22%	22%	39%	68%	49%	27%	0%	16%	46%	26%	5%
Burlington Resources	23%	23%	44%	89%	67%	39%	0%	21%	66%	44%	16%
Devon Energy	17%	17%	34%	72%	51%	26%	0%	17%	55%	34%	9%
Encana Corp.	14%	14%	26%	56%	33%	15%	0%	12%	41%	18%	1%
EOG Resources	22%	22%	37%	73%	49%	28%	0%	15%	50%	27%	6%
Talisman Energy	18%	18%	40%	77%	44%	17%	0%	22%	60%	27%	-1%
Unocal	24%	24%	33%	52%	33%	17%	0%	8%	27%	8%	-7%
XTO Energy	19%	19%	35%	68%	51%	32%	0%	15%	49%	32%	13%
Average	**20%**	**20%**	**36%**	**68%**	**46%**	**25%**	**0%**	**16%**	**49%**	**26%**	**5%**
Mid-cap E&Ps											
Newfield Exploration	16%	16%	29%	53%	35%	20%	0%	12%	37%	19%	4%
Noble Energy	16%	16%	24%	45%	32%	20%	0%	8%	30%	16%	4%
Pioneer Natural Resources	19%	19%	26%	62%	48%	31%	0%	7%	43%	29%	11%
Pogo Producing	24%	24%	31%	57%	38%	20%	0%	6%	33%	14%	-4%
Questar Corp.	14%	14%	20%	37%	27%	20%	0%	6%	23%	13%	6%
Ultra Petroleum	38%	38%	54%	122%	90%	53%	0%	16%	84%	52%	15%
Average	**19%**	**21%**	**30%**	**63%**	**45%**	**27%**	**0%**	**9%**	**41%**	**24%**	**6%**
Small-cap E&P:											
Bill Barrett Corp.	2%	2%	13%	38%	23%	11%	0%	12%	36%	22%	9%
Cabot Oil & Gas	16%	16%	38%	77%	52%	29%	0%	22%	60%	36%	13%
Encore Acquisition	14%	14%	29%	57%	47%	27%	0%	15%	43%	32%	13%
Forest Oil Corporation	11%	11%	30%	64%	46%	25%	0%	18%	53%	35%	14%
Houston Exploration	16%	16%	33%	69%	44%	23%	0%	17%	53%	28%	7%
Quicksilver Resources	11%	11%	28%	64%	48%	27%	0%	17%	53%	37%	16%
Spinnaker Exploration	8%	8%	28%	63%	49%	27%	0%	21%	56%	41%	19%
Western Gas Resources	16%	16%	25%	49%	35%	21%	0%	9%	33%	19%	5%
Average	**12%**	**12%**	**28%**	**60%**	**43%**	**24%**	**0%**	**16%**	**48%**	**31%**	**12%**
R&M:											
Frontier Oil	25%	25%	50%	95%	68%	43%	0%	25%	69%	43%	18%
Premcor	20%	20%	38%	56%	37%	26%	0%	18%	36%	18%	6%
Sunoco	20%	20%	37%	57%	36%	22%	0%	17%	37%	16%	2%
Tesoro Petroleum	17%	17%	30%	51%	33%	20%	0%	13%	33%	15%	2%
Valero Energy	24%	24%	39%	63%	43%	29%	0%	15%	38%	19%	5%
Average	**21%**	**21%**	**39%**	**64%**	**44%**	**28%**	**0%**	**17%**	**43%**	**22%**	**6%**
Integrated oil/E&P/R&M average	**18%**	**18%**	**34%**	**62%**	**43%**	**24%**	**0%**	**16%**	**44%**	**25%**	**6%**

*Reflects $50/bbl WTI oil, $6.75/MMBtu Henry Hub gas, and $6.25/bbl Gulf Coast refining margin.

Source: Company reports, Goldman Sachs Research estimates.

Exhibit 29: We expect investors to benefit from super spike free cash flow via special dividends or share buybacks

$ millions

	Current equity market capitalization	Operating free cash flow: GS 2005E Base Case*	2006E $75 oil/ $9 gas/ $9 refining	2007E $105 oil/ $13 gas/ $13 refining	2008E $75 oil/ $9 gas/ $9 refining	2009E $50 oil/ $6.50 gas/ refining	2010N $30 oil/ $4.50 gas/ refining	Free cash yield (%): GS 2005E Base Case*	$75 oil/ $9 gas/ $9 refining	$105 oil/ $13 gas/ $13refining
Large-cap integrated oils										
ChevronTexaco	$123,494	$11,860	$20,589	$31,940	$21,761	$12,108	$6,164	10%	17%	26%
ConocoPhillips	72,646	7,379	13,888	23,558	14,101	7,659	2,524	10%	19%	32%
Exxon Mobil	376,034	25,528	41,011	57,984	39,840	25,380	15,332	7%	11%	15%
Average								**9%**	**16%**	**25%**
Domestic oil/E&P										
Amerada Hess	$8,675	$538	$2,581	$4,743	$3,135	$1,589	$453	6%	30%	55%
Kerr-McGee	12,728	914	2,238	5,455	3,136	1,439	395	7%	18%	43%
Marathon Oil	15,754	120	3,376	6,870	3,936	1,612	357	1%	21%	44%
Murphy Oil	9,156	301	1,266	2,685	1,950	864	175	3%	14%	29%
Occidental Petroleum	27,500	2,715	6,011	10,130	6,198	3,015	1,100	10%	22%	37%
Petro-Canada	14,573	201	2,382	5,176	3,531	1,699	460	1%	16%	16%
Suncor Energy	17,320	(492)	3,202	5,016	3,869	1,066	1,943	-3%	18%	18%
Average								**4%**	**20%**	**35%**
Large-cap E&Ps										
Anadarko Petroleum	$18,296	$950	$3,129	$8,378	$4,761	$1,967	$247	5%	17%	46%
Apache Corp.	19,425	1,822	4,392	8,592	5,453	2,656	709	9%	23%	44%
Burlington Resources	19,465	2,152	3,782	7,787	4,603	2,271	665	11%	19%	40%
Devon Energy	22,304	1,654	4,447	10,245	6,154	2,658	1,179	7%	20%	46%
EnCana Corp.	31,142	677	3,632	12,175	6,999	2,764	495	2%	12%	12%
EOG Resources	10,796	449	1,650	3,545	2,031	970	160	4%	15%	33%
Talisman Energy	12,281	415	2,095	5,751	3,153	986	(44)	3%	17%	17%
Unocal	15,991	1,192	2,471	4,404	2,799	1,428	405	7%	15%	28%
XTO Energy	11,082	813	1,783	4,399	2,678	1,435	597	7%	16%	40%
Average								**6%**	**17%**	**34%**
Mid-cap E&Ps										
Newfield Exploration	$4,482	$138	$710	$2,026	$1,198	$591	$93	3%	16%	45%
Noble Energy	3,915	439	1,403	2,941	1,955	1,228	529	11%	36%	75%
Pioneer Natural Resources	5,952	485	1,332	3,032	1,829	964	436	8%	22%	51%
Pogo Producing	3,054	455	732	1,477	899	444	127	15%	24%	48%
Questar Corp.	4,880	119	335	991	664	408	229	2%	7%	7%
Ultra Petroleum	3,598	8	197	826	466	201	21	0%	5%	5%
Average								**7%**	**18%**	**39%**
Small-cap E&P:										
Bill Barrett Corp.	$1,217	($129)	$1	$328	$155	$16	($71)	-11%	0%	27%
Cabot Oil & Gas	1,769	44	287	667	385	186	32	2%	16%	38%
Encore Acquisition	1,197	(7)	209	594	427	189	(10)	-1%	17%	50%
Forest Oil Corporation	2,149	247	763	1,918	1,087	467	39	11%	35%	89%
Houston Exploration	1,782	103	390	928	513	223	18	6%	22%	52%
Quicksilver Resources	2,338	(72)	184	664	384	140	1	-3%	8%	28%
Spinnaker Exploration	1,185	(27)	255	773	517	247	38	-2%	21%	65%
Western Gas Resources	2,524	19	174	684	449	209	29	1%	7%	27%
Average								**0%**	**16%**	**47%**
R&M:										
Frontier	$970	$30	$226	$410	$246	$143	$54	3%	23%	42%
Premcor	5,240	318	1,338	2,120	1,433	1,003	273	6%	26%	40%
Sunoco	7,010	409	1,289	2,259	1,303	691	450	6%	18%	32%
Tesoro Petroleum	2,353	313	713	1,293	789	459	163	13%	30%	55%
Valero	18,186	1,542	3,654	6,816	4,392	2,799	747	8%	20%	37%
Average								**7%**	**24%**	**41%**
Integrated oil/E&P/R&M average								**6%**	**19%**	**38%**

We believe companies should commit to returning all excess cash flow in high spike scenarios back to shareholders via special dividends or share repurchase programs.

In our view, this free cash flow represents the upside return potential to shareholders from large price spikes.

An alternative consideration would be for managements or outside investors to consider some companies as LBO candidates, a possibility enhanced by very favorable forward curve pricing.

*Reflects $50/bbl WTI oil, $6.75/MMBtu Henry Hub gas, and $6.25/bbl Gulf Coast refining margin.

Source: Company reports, Goldman Sachs Research estimates.

Significant share price upside potential still exists

We see as much as 80% total return upside to super-spike-adjusted peak valuations and believe investors should add to positions in the sector on dips, at current levels, or even after a rally.

80% total return upside exists to super-spike-adjusted peak valuations

Given our bullish commodity macro outlook including the potential for a super spike to as much as the $105 per bbl level for WTI oil, we continue to see meaningful additional upside for shares in our coverage universe of North America-based integrated oil, E&P, and R&M companies. We estimate 80% total return upside potential to super-spike-adjusted peak values that reflects a 100% probability of a super spike. If we were to assume only a 50% probability of a super spike, we estimate 50% total return upside would exist for the sector. Given the volatile nature of energy commodities, at any point in time we accept the fact that 10%-15% downside trading risk will likely always exist.

1990s cycles not appropriate for current environment

We believe many investors are not dissimilar from ourselves having “grown up” in the 1990s-style energy commodity cycle. There is understandable concern that valuations are approaching the types of peak levels seen in the 1997 and 2001 upcycles. Investors that do not share our super spike view and believe the current cycle is not better than those in the 1990s should consider (and probably are) selling out of positions in the sector. In our view, the current upcycle is already far superior to any seen in the 1990s. However, we understand there is a natural resistance on the part of many people to move beyond that which they know best, which in this case was the rather benign commodity cycles of the 1990s.

Current cycle: Spare cushion gone, demand resilient, geopolitical turmoil higher

Without intending to fully repeat the earlier discussion on our macro view, we believe the major differences between the current cycle and the 1990s cycles include the lack of spare capacity throughout the energy supply chain, the fact that Asian economies have recovered from a “once a generation” economic crisis that occurred in the late 1990s, and the sharp increase in geopolitical turmoil primarily related to escalated unrest in the Middle East and to a lesser degree other areas.

Super spike free cash flow has option value, even if earnings not capitalized

The biggest critique we hear about super-spike-adjusted upside valuations is that the market will not capitalize super spike earnings because it will be viewed as unsustainable. We agree, and we have never assumed a multiple on super spike earnings! Our valuation premise is that the market will **not** capitalize such earnings, but that the option value of the incremental free cash flow is real and can be utilized for good.

As such, our super-spike-adjusted valuations merely reflect traditional (i.e., a 1990s-like cycle) peak values plus the addition of a probability-weighted net present value (at an 8% discount rate) of incremental free cash flow over the super-spike period (for additional details on our methodology, see our September 13, 2004 newsletter report, "Adding super spike optionality to mid-cycle/peak values"). We rather conservatively assume that the free cash flow has no value unless returned to shareholders via dividends or share buybacks. This actually may be too harsh of an assumption as undoubtedly at least some "good" spending will occur. With that said, we are purposely choosing to be conservative at this stage and would rather raise valuations later for well-spent capital.

The only company analyzed in a different manner is Murphy Oil, where we use a net asset value (NAV) approach to traditional and super-spike-adjusted valuations, given its substantial undeveloped resource exposure in deepwater Malaysia and offshore Congo.

No change to top picks: High-beta favorites plus Exxon Mobil

We believe the sector call is more important at this time than relative stock calls or relative sub-sector calls for our coverage universe. We believe most of the stocks we cover will perform well on an absolute basis and are likely to outperform the broader stock market indices like the S&P 500; hence our Attractive coverage view. With that said, there is no change to our Outperform rated top picks within the sector, though we have made some adjustments to our relative rankings among In-Line rated companies as follows (see Exhibit 30):

- **Super-cap oils.** Exxon Mobil remains our top US-based super-cap oil pick (see our March 3, 2005 report, "XOM: the super-cap stock to own for 2005-2010"). Though we continue to believe it is a close call, we now see slightly more upside in ChevronTexaco versus ConocoPhillips, given that Chevron's shares have lagged of late and its relative valuation improved.

- **Domestic oils:** Amerada Hess, Murphy Oil, and Suncor are our favorites among the domestic oil group. Though not a top pick, Occidental Petroleum continues to execute well during this up cycle.

- **Large-cap E&P:** Of the large-cap E&Ps, EnCana is our top pick followed by Devon Energy. We think it is a very close call between Outperform-rated Devon and In-Line-rated Apache and EOG Resources. Devon's exploration upside, which we do not think is reflected in its share price, is the key to giving Devon the higher rating. Closely following Apache and EOG, we believe the outlook remains favorable for In-Line rated XTO Energy, Burlington Resources, and Talisman Energy. Even our view of In-Line rated Anadarko Petroleum has improved relative to 12 months ago.

- **Mid-cap E&P:** The mid-cap E&Ps as a sub-sector appear to have the most favorable risk/reward within our coverage universe. Our top picks remain Newfield Exploration and Questar. Pioneer Natural Resources is also Outperform rated but our relative ranking for it is more price-sensitive than for Newfield or Questar. The outlook for In-Line rated Noble Energy and Ultra Petroleum is also favorable.

- **Small-cap E&P:** With its recent pullback, we see the shares of Bill Barrett Corp. as particularly attractive among small-cap E&Ps. Among In-Line rated small-caps, The Houston Exploration and Cabot Oil & Gas are our next favorites followed closely by Quicksilver Resources.

- **R&M:** Premcor is our favorite R&M followed in order by Sunoco, Tesoro, and Valero Energy.

Exhibit 30: Ratings summary and order of preference of our coverage universe

	Low-beta	High-beta					Emerging
	Super-cap integrated	Domestic oil	Large-cap E&P	Mid-cap E&P	Small-cap E&P	R&M	market oils
Outperform (25%)	XOM	AHC, MUR		NFX, STR		PCO	
		SU	ECA		BBG		
			DVN	PXD			
In-Line (59%)	CVX		EOG, APA	NBL	THX, COG	SUN	
	COP	OXY	XTO, BR, TLM	UPL	KWK	TSO	PBR
			APC		EAC	VLO	UGP
					SKE		
		KMG			FST	FTO	
Underperform (14%)		MRO	UCL		WGR	ASH	
		PCZ					PZE
Not Rated (2%)				PPP			

Note: Ratings are relative to our Attractive coverage view, except the emerging market oils where we have a Neutral coverage view.

Source: Goldman Sachs Research.

M&A activity forecast to increase

We believe M&A activity is likely to increase in the coming year, including the potential for super-cap oils to acquire E&P companies based in North America (see our February 17, 2005 report, "Rethinking super-cap oil interest in domestic E&P"). The desire to add developable resources we believe will be the biggest driver of M&A activity, rather than the potential for cost cutting, which was a key driver in the low-priced environment of the late 1990s. As we have previously published, we believe the following companies within our coverage universe look to be the most attractive as potential consolidation candidates:

- **Domestic oil:** Murphy Oil (deepwater Malaysia and Congo discoveries and unexplored acreage), Suncor (Canadian oil sands)

- **Large-cap E&P:** EOG Resources, EnCana, Burlington Resources, Devon Energy, Anadarko Petroleum, XTO Energy (unconventional gas in North America)

- **Mid-cap E&P:** Pioneer Natural Resources, Questar, Ultra Petroleum (unconventional gas in North America)

- **Small-cap E&P:** Bill Barrett Corp., Quicksilver Resources, Cabot Oil & Gas, Western Gas Resources (unconventional gas in North America)

- **R&M:** Premcor (US refining capacity)

One company notably absent from our list of potential consolidation candidates is Unocal. Recent articles in the Wall Street Journal and on the news wires have speculated that Unocal is being evaluated as a consolidation candidate by CNOOC, ChevronTexaco, and ENI. We have no independent confirmation that any of these companies are actively considering a bid for Unocal and our base-case view remains that Unocal is more attractive as a merger-of-equals candidate with a domestic-focused E&P rather than as a consolidation candidate by a larger entity. We note that Unocal has attractive assets in the Far East and Azerbaijan as well as some interesting acreage in the deepwater Gulf of Mexico. Our concern with Unocal has been with the rest of its very mature, conventional North America property base, which we think would not be attractive to a larger entity. However, by applying the theory that where there is smoke there may be fire, we cannot entirely rule out the potential for a larger company to consider Unocal a consolidation candidate.

Shareholder activism increasing; LBO funds may not be far behind

We believe the recent investment in Kerr-McGee shares by Carl C. Icahn (and related parties) signals a new round of potential shareholder activism in the sector, the likes of which has not be seen in 15-20 years (see our March 7, 2005 report on Kerr-McGee, "Time for a major revamp of its E&P strategy"). While Kerr-McGee has a long track record of disappointing stock price, financial, and operational performance, we believe both activist shareholders and potential leveraged buy-out (LBO) funds will not limit themselves to perpetual underperformers. In our view, the Street is currently placing a high premium on unconventional gas assets in North America that are capable of showing predictable, multi-year growth. Companies with short reserve life, conventional properties, on the other hand, are trading at deep discounts. While many of these companies are soundly managed, we would be surprised if Kerr-McGee is the only company that attracts non-traditional investors. Companies with short reserve life, conventional properties that are trading for less than 5X 2005E EV/DACF include Pogo Producing, The Houston Exploration Company, Forest Oil, and Spinnaker Exploration.

Shareholder activism reduces confidence that Underperform rated stocks will lag near term

A challenge in this environment is finding stocks to sell against our top picks for investors that engage in "pair-trading" strategies. As we have noted previously, we have less confidence that our Underperform-rated stocks like Ashland, Marathon Oil, Petro-Canada, Unocal, and Western Gas Resources will be weak on either an absolute or relative basis, given what appears to be increasing shareholder activism in the group.

Key risk: Economic slowdown in China

Going into 2005, we thought the big risks were the potential for a US economic slowdown following a year of $40-$50 per bbl oil, warm winter weather weakening prices due to inventory builds, a reduced risk premium or surge in supply following peaceful US and Iraqi elections, and economic weakness in China and other emerging Asian countries. Recent upward revisions to US GDP forecasts by Goldman Sachs economists, in our view, have greatly reduced the fear that $40-$50 per bbl oil is hurting the US economy. We had a warm winter through January, yet oil prices remained firm. US and Iraqi elections were relatively "peaceful", but we have yet to see any surge in supply nor has there been any reduction in what looks to be an imaginary risk premium. This leaves only the potential for a sharp slowdown in China or other emerging Asian economies as a possible cycle killer. Though recent economic data points appear quite positive, we are respectful of the fact that it is more difficult to gauge the true health of the Chinese economy than other more developed regions.

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