

Weekly Update

Petro Petrol

Asia Pacific / Energy · Chemicals

Dec 28 2007

중국 에너지 정책의 미래

중국, 에너지 절감 정책과 대체 에너지 개발에 적극적

중국 국가발전개혁위원회(NDRC)는 지난 12월 26일 발표한 ‘중국 에너지 현황과 정책’ 에서 중국 에너지 정책의 방점이 에너지 효율의 증대, 대체에너지 비중 확대를 통한 에너지 안정 공급, 환경 보호 등에 맞춰질 것임을 시사했음. Energy intensity가 높은 산업 부문에 대해 강도 높은 요구가 지속될 전망.

This week's indicator - Petroleum

12월 21일자 기준으로 미국 가솔린 재고는 전주 대비 0.31% 증가한 205.9 백만 bbl 을 나타냈으며 정제 가동율은 88.1%에 달했음. 원유 재고는 293.6 백만 bbl로 비교적 큰 폭인 1.11%의 감소세를 기록. 12월 18일 기준 NYMEX 미결제 약정은 164,558천 계약 증가, 순매수 포지션은 6,860천 계약 감소세를 나타냈음. 싱가포르 연료유 재고는 전주대비 5.0% 증가하였음.

This week's Indicator - Petrochemical

나프타 가격의 고공행진으로 에틸렌-나프타 마진 축소 기조 지속되고 있으나 PE, MEG등 다운스트림 품목과 나프타 간 마진은 비교적 양호한 양상을 유지하고 있음. 전반적으로 나프타 가격 상승에 따라 4/4분기 기업들의 cash margin은 부진한 양상.

Best AP Oil & Chem Performers of the Week

Company	Country	MKT. Cap (\$ mil)	%chg (-5D)	%chg (-1M)	%chg (-3M)	%chg (-6M)
Bharat Petroleum	India	4,359.9	12.9	21.4	77.6	175.9
China Petroleum & Chemical	China	26,350.2	10.1	20.0	76.5	86.4
Hindustan Petroleum	India	2,927.2	9.9	19.2	33.5	70.0
PTT Exploration & Production PCL	Thailand	15,239.2	9.1	12.1	32.1	55.1
Asian Paints (India)	India	2,669.9	8.9	11.5	32.0	52.8

Source: Factset, Mirae Asset Research, * Base line: Dec. 26, 2007

Worst AP Oil & Chem Performers of the Week

Company	Country	MKT. Cap (\$ mil)	%chg (-5D)	%chg (-1M)	%chg (-3M)	%chg (-6M)
Hyosung	Korea	2,173.0	(4.8)	(2.2)	(18.7)	23.4
Singapore Petroleum	Singapore	2,681.8	(2.1)	(5.2)	14.2	37.1
Orica	Australia	8,622.8	(1.2)	12.1	5.2	4.0
Eternal Chemical	Taiwan	792.8	(0.9)	(7.0)	(29.5)	(31.1)
Nan Ya Plastics	Taiwan	19,612.6	(0.8)	0.8	(1.1)	11.3

Source: Factset, Mirae Asset Research, * Base line: Dec. 26, 2007

This Week's Issue

‘중국 에너지 현황 및 정책’의 주요 시사점

중국 에너지 시장의 주요 현상

- 석탄을 중심으로 한 보유 에너지원은 여전히 풍부하지만, 개발의 어려움은 가중되고 있음
- 인당 에너지 소비는 여타 국가 대비 아직도 현저히 낮은 수준
- 지역 간 에너지 배분의 불균등
- 에너지 공급 능력이 최근 수년간 급격히 증가
- 석탄, 석유, 대체에너지원 등 에너지원 별 소비 비중의 최적화 및 기술적 진보, 에너지 절감 노력 등이 꾸준히 전개되고 있음.
- 에너지 효율은 아직 낮으며 환경문제로부터의 도전이 심각해지고 있음.

향후 정책 방향과 시사점

- 에너지 효율 제고 노력의 지속 : 철강, 화학, 전력 부문 등 에너지 소비가 큰 산업에 대한 에너지 효율 관련 규제 강화 지속. 관련 산업 부문의 설비 증설 억제 효과 가능
- 에너지 자급을 제고 노력의 지속 : 원유 등에서 수입의존도가 급격하게 늘고 있는 상황을 극복하기 위해, 내륙 자원 개발에 보다 박차를 가할 듯
- 대체에너지 개발을 최우선적으로 고려 : 2010년까지 10%, 2015년까지 15%라는 대체에너지 비중(1차 에너지원 내)목표를 재확인. 수력, 풍력, 태양광 등을 개발 대체에너지원의 중점 분야로 언급함.

Asian Oil & Gas Peer Review

Company	Ticker	Country	Mkt. cap (mil \$)	PER				PBR				ROE				EV/EBITDA			
				2006	2007E	2008E	2009E	2006	2007E	2008E	2009E	2006	2007E	2008E	2009E	2006	2007E	2008E	2009E
ASIAN OIL & GAS																			
CNOOC	883-HK	Hong Kong	74,536	10.4	17.8	14.9	13.3	3.0	4.2	3.5	2.9	33.9	25.7	26.6	24.2	5.9	11.0	9.4	8.6
Woodside Petroleum	WPL-AU	Australia	29,949	17.6	26.8	20.1	19.3	6.0	6.5	5.2	4.5	37.1	25.6	28.9	25.2	9.8	13.6	10.5	9.8
Avg. – Large Cap E&P				14.0	22.3	17.5	16.3	4.5	5.3	4.4	3.7	35.5	25.7	27.8	24.7	7.8	12.3	9.9	9.2
Santos	STO-AU	Australia	7,017	9.6	14.2	15.2	14.5	2.1	2.4	2.2	2.0	24.9	17.8	15.5	14.6	4.4	6.1	6.3	6.4
Oil Search	OSH-AU	Australia	4,726	6.9	33.5	25.3	23.8	2.2	3.2	3.0	2.7	35.1	9.6	12.1	11.9	3.8	8.6	7.9	7.9
Aus. Worldwide Exploration	AWE-AU	Australia	1,314	46.0	5.9	9.9	12.5	3.1	1.9	1.6	1.4	6.9	35.4	17.6	12.8	17.3	3.4	4.9	6.2
Japan Petroleum Exploration	1662	Japan	4,118	24.0	25.2	23.6	23.1	1.2	1.1	1.0	1.0	5.3	4.3	4.6	4.4	9.5	11.2	10.4	10.3
Avg. – Mid/Small Cap E&P				21.6	19.7	18.5	18.5	2.2	2.2	2.0	1.8	21.6	16.8	12.5	10.9	21.6	7.3	7.4	7.7
Oil & Natural Gas	500312-IN	India	67,066	10.6	12.2	11.9	11.4	3.3	3.4	2.9	2.6	29.2	29.7	25.5	23.5	29.2	5.9	5.9	5.9
Reliance Industries	500325-IN	India	106,805	11.8	31.0	24.2	17.1	2.7	5.4	4.3	3.5	20.4	19.4	18.8	22.0	20.4	19.6	14.9	10.7
Origin Energy	ORG-AU	Australia	6,546	22.9	17.5	15.8	13.4	1.5	1.3	1.2	1.1	10.7	6.8	7.2	8.2	10.3	6.6	6.1	5.4
PetroChina	6226576	Japan	326,514	14.0	15.5	14.4	14.0	3.4	3.4	3.0	2.7	25.8	24.4	22.7	20.2	7.6	9.2	8.5	8.2
Sinopec	600028-CN	China	224,778	14.7	31.8	24.7	24.9	3.0	2.3	2.0	1.7	22.1	21.6	20.0	17.3	8.1	21.6	20.0	17.3
Nippon Oil	5001	Japan	11,616	19.9	9.5	13.1	14.7	1.2	1.0	0.9	0.9	6.0	10.9	6.4	6.0	7.7	6.3	7.4	7.6
Avg. – Integrated Oil				15.6	19.6	17.4	15.9	2.5	2.8	2.4	2.1	19.0	18.8	16.8	16.2	13.9	11.5	10.5	9.2
GAIL (India)	532155-IN	India	11,540	8.8	18.2	17.3	16.0	2.7	3.5	3.1	2.8	-	19.4	18.3	17.9	-	11.9	11.3	10.7
Caltex Australia	CTX-AU	Australia	4,535	13.3	11.3	11.3	11.1	2.6	1.8	1.7	1.6	20.4	16.9	15.3	14.8	7.7	6.0	7.0	6.5
Bharat Petroleum	500547-IN	India	4,360	28.7	10.9	10.6	9.3	1.3	1.4	1.2	1.1	6.1	14.3	12.5	12.6	6.1	8.4	8.1	7.2
Hindustan Petroleum	500104-IN	India	2,927	5.0	9.9	9.1	7.5	1.3	1.1	1.0	0.9	5.3	12.3	11.6	12.1	5.3	8.8	8.2	6.9
Thai Oil PCL	TOP-TH	Thailand	5,258	6.5	10.5	8.3	9.8	1.6	2.2	1.9	1.8	25.2	22.5	24.2	18.3	4.7	7.1	6.0	6.7
Formosa Petrochemical	6505-TW	Taiwan	26,721	14.7	12.6	11.9	14.5	3.0	3.7	3.6	3.6	20.8	30.5	30.8	24.9	10.0	9.3	8.7	10.2
Aromatics PCL	ATC-TH	Thailand	1,887	4.9	6.9	6.4	6.4	1.4	2.2	1.8	1.6	30.6	34.4	27.7	24.9	5.4	7.2	6.4	5.9
S-Oil	010950-KR	Korea	10,012	7.6	11.3	11.2	12.5	2.4	2.5	2.4	2.3	31.1	26.6	22.0	18.8	4.2	7.1	7.2	7.8
GS Holdings	078930-KR	Korea	5,868	7.0	14.3	9.5	10.1	1.1	1.8	1.6	1.4	16.3	14.5	18.6	15.2	4.7	25.5	16.8	18.4
SK Energy	036770-KR	Korea	17,371	-	18.4	11.7	11.4	-	2.6	2.2	1.9	-	15.4	19.3	16.8	-	-	-	-
Avg. – Ref/Aromatics				10.7	12.4	10.7	10.9	1.9	2.3	2.1	1.9	19.5	20.7	20.0	17.6	6.0	10.1	8.9	8.9

Source: Factset, Mirae Asset Research

Asian Chemical Peer Review

Company	Ticker	Country	Mkt. cap (mil\$)	PER				PBR				ROE				EV/EBITDA			
				2006	2007E	2008E	2009E	2006	2007E	2008E	2009E	2006	2007E	2008E	2009E	2006	2007E	2008E	2009E
Reliance Industries	609962	India	106,805	16.5	31.0	24.2	17.1	2.8	5.4	4.3	3.5	20.3	19.4	18.8	22.0	9.3	19.6	14.9	10.7
CNOOC	B00G0S	Hong Kong	74,536	10.4	17.8	14.9	13.3	3.0	4.2	3.5	2.9	33.9	25.7	26.6	24.2	5.9	11.0	9.4	8.6
Oil & Natural Gas	613936	India	67,066	10.6	12.2	11.9	11.4	2.8	3.4	2.9	2.6	28.8	29.7	25.5	23.5	5.1	5.9	5.9	5.9
PetroChina Co.	622657	Hong Kong	38,482	14.0	15.5	14.4	14.0	3.4	3.4	3.0	2.7	25.8	24.4	22.7	20.2	7.6	9.2	8.5	8.2
PTT PCL	642038	Thailand	30,711	6.2	11.4	10.5	10.3	2.0	2.9	2.4	2.1	36.7	27.8	24.8	21.6	4.2	7.7	7.0	6.7
Woodside Petroleum	697972	Australia	29,949	17.6	26.8	20.1	19.3	3.3	6.5	5.2	4.5	29.2	25.6	28.9	25.2	9.8	13.6	10.5	9.8
Formosa Petrochemical	671871	Taiwan	26,721	11.8	12.6	11.9	14.5	2.7	3.7	3.6	3.6	20.4	30.5	30.8	24.9	10.0	9.3	8.7	10.2
SINOPEC	629181	Hong Kong	26,350	11.7	15.7	13.7	12.6	2.4	3.2	2.7	2.3	22.1	21.8	20.6	18.7	6.7	9.3	8.5	7.8
PTT E&P PCL	B1359K	Thailand	15,239	11.3	17.9	14.3	13.3	3.6	4.9	4.0	3.3	35.0	29.7	30.1	27.0	4.5	7.6	6.1	5.6
Bumi Resources	604348	Indonesia	12,356	8.6	17.6	23.3	17.7	4.6	11.2	7.8	5.4	72.8	38.4	35.1	35.0	5.8	24.5	12.3	8.7
S-Oil	640605	South Korea	10,012	7.6	11.3	11.2	12.5	2.4	2.3	2.0	1.7	31.1	21.6	20.0	17.3	4.2	7.1	7.2	7.8
Oil & Gas Development	673271	Pakistan	8,846	11.4	10.1	9.0	8.8	2.7	4.5	4.0	3.5	-	45.5	43.2	40.6	7.0	6.1	5.2	5.1
Santos	677670	Australia	7,017	9.6	14.2	15.2	14.5	2.1	2.4	2.2	2.0	24.9	17.8	15.5	14.6	4.4	6.1	6.3	6.4
Origin Energy	621486	Australia	6,546	28.7	17.5	15.8	13.4	1.3	1.3	1.2	1.1	6.1	6.8	7.2	8.2	10.3	6.6	6.1	5.4
Caltex Australia	616150	Australia	4,535	13.3	11.3	11.3	11.1	1.3	1.8	1.7	1.6	5.3	16.9	15.3	14.8	7.7	6.0	7.0	6.5
Yanzhou Coal Mining	610989	Hong Kong	3,873	13.1	22.6	16.3	13.6	1.6	3.4	2.9	2.5	13.0	15.4	19.2	20.2	4.9	12.2	9.6	8.2
Paladin Resources	666846	Australia	3,475	-9.5	9.7	16.2	10.6	3.8	2.9	2.5	2.0	-6.6	2.8	13.1	18.0	-11.30	51.2	12.7	7.2
Bharat Petroleum	609972	India	4,360	5.1	10.9	10.6	9.3	1.0	1.4	1.2	1.1	20.2	14.3	12.5	12.6	4.1	8.4	8.1	7.2
IRPC PCL	690529	Thailand	3,466	17.4	9.4	9.5	10.7	1.4	1.2	1.1	1.1	8.6	14.3	12.8	9.8	11.9	8.9	8.2	9.1
Banpu PCL	607484	Thailand	3,172	13.7	17.8	14.2	12.5	2.3	3.9	3.4	2.9	16.6	24.7	26.7	26.0	6.0	13.5	10.2	8.9
Pakistan Petroleum	B02VH2	Pakistan	3,152	9.8	11.1	9.4	7.9	4.1	4.8	3.8	3.0	47.7	45.4	41.9	36.9	5.6	5.6	5.0	4.2
Singapore Petroleum	681234	Singapore	2,682	7.9	8.1	7.7	7.6	1.4	2.2	1.9	1.9	19.0	26.6	23.3	16.9	5.8	6.2	5.6	5.5
Petronas Dagangan	669593	Malaysia	2,513	9.5	11.7	10.6	9.7	1.8	-	-	-	19.7	17.3	16.2	15.1	5.0	6.6	6.1	5.6
Hindustan Petroleum	610047	India	2,927	5.0	9.9	9.1	7.5	0.9	1.1	1.0	0.9	18.4	12.3	11.6	12.1	4.6	8.8	8.2	6.9
Energi Mega Persada	B01BKT	Indonesia	2,308	36.1	153.3	32.7	52.0	4.1	4.4	4.5	6.4	16.1	5.7	13.9	13.9	15.9	50.5	15.8	12.5
Rayong Refinery	B115VS	Thailand	1,894	5.7	7.7	8.7	7.1	1.1	1.3	1.2	1.1	22.0	17.6	13.9	14.8	6.5	5.6	6.0	5.1
Petron	668413	Philippines	1,317	6.4	9.5	8.0	6.4	1.2	1.5	1.3	1.1	20.2	17.4	17.5	18.4	4.8	6.2	5.5	4.9
Pakistan State Oil Co.	666941	Pakistan	1,210	14.3	12.8	-	-	3.2	-	-	-	22.5	-	-	-	8.3	-	-	-
Shell Refining CoBhd	680350	Malaysia	1,006	12.3	11.0	14.0	9.7	1.6	1.8	1.8	1.5	13.4	17.5	14.3	15.2	6.5	6.4	8.7	6.9

Source: Factset, Mirae Asset Research

Asian Oil & Gas Stock Performance

Company	Country	Mkt cap. (mil \$)	Curr. Price	% change				% change				% change			Relative to MSCI AC Asia				
				52w High	52w Low	% below 52w high	% above 52w low	-5D	-1M	-3M	-6M	-52W	-3Y	-5Y	-1W	-1M	-3M	-6M	-1Y
PetroChina	China	326,514.1	142	203	85	(29.7)	67.3	3.6	(5.9)	3.2	24.7	37.2	243.1	812.8	2.6	(5.5)	30.7	45.1	32.5
SINOPEC	China	26,350.2	123	134	5.6	(8.5)	120.9	10.1	8.5	32.1	39.0	82.4	286.1	794.9	4.7	11.4	41.1	43.7	72.7
Reliance Industries	India	106,804.9	2,896.7	3,235.0	1,250.0	(10.5)	131.7	7.1	0.5	24.8	70.0	126.9	640.0	1,190.1	(1.7)	2.8	35.3	68.2	103.2
CNOOC	HongKong	74,535.5	131	17.6	6.1	(25.3)	114.0	6.1	(5.9)	5.5	52.8	90.2	209.2	546.7	(6.2)	(4.6)	29.0	63.1	71.6
Oil & Natural Gas	India	67,065.9	1,236.2	1,386.9	750.0	(10.9)	64.8	4.7	4.4	32.0	32.1	39.2	116.4	428.4	4.4	(2.5)	39.7	41.2	29.8
PTT PCL	Thailand	30,710.9	368.0	440.0	189.0	(16.4)	94.7	8.2	(0.5)	10.2	37.3	73.6	112.7	765.9	(0.3)	(11.4)	8.2	34.9	38.2
Woodside Petroleum	Australia	29,906.5	49.7	56.7	34.8	(12.2)	42.9	7.2	1.9	2.2	8.9	31.8	147.1	303.4	(3.2)	(16.6)	(3.9)	6.2	9.6
Formosa Petrochemical	Taiwan	26,720.7	94.0	108.0	65.7	(13.0)	43.1	2.6	1.1	(5.1)	12.0	35.3	77.0		(0.5)	(0.4)	(3.4)	17.0	24.6
PTT E&P PCL	Thailand	15,239.2	156.0	176.0	85.5	(11.4)	82.5	9.1	4.0	13.9	43.1	59.2	169.0	453.2	(2.5)	1.3	15.7	42.0	26.5
Bumi Resources	Indonesia	12,356.0	6,000	6,400	860	(6.3)	597.7	4.3	20.0	76.5	175.9	581.8	650.0	29,900.0	(5.6)	10.1	86.6	212.5	507.2
S-Oil	Korea	10,011.9	83,500	88,000	62,500	(5.1)	33.6	(0.5)	0.6	6.5	15.7	16.6	28.5	328.2	(4.9)	4.0	4.7	10.9	8.4
Yanzhou Coal Mining	China	3,872.9	15.4	17.8	6.2	(13.4)	149.8	6.3	8.9	(5.6)	45.1	141.6	113.0	684.3	(3.0)	8.5	9.9	42.7	138.8
Oil & Gas Development	Pakistan	8,845.8	126.2	132.8	104.9	(5.0)	20.3	(0.2)	3.2	9.6	5.2	9.3	72.3		1.0	6.5	5.9	0.9	(8.5)
Santos	Australia	6,986.0	13.7	16.1	8.9	(15.1)	54.2	4.0	(0.7)	(7.5)	(4.5)	38.0	62.1	122.7	2.6	0.7	2.6	3.9	27.1
Origin Energy	Australia	6,523.4	8.5	10.8	8.1	(20.7)	5.2	(0.1)	(3.2)	(18.0)	(13.1)	3.6	27.3	138.7	(2.5)	(5.2)	(15.3)	(0.4)	2.2
Caltex Australia	Australia	4,535.3	19.2	28.1	18.4	(31.5)	4.6	(0.7)	(14.2)	(19.6)	(23.4)	(17.2)	75.6	802.8	(5.4)	3.0	(16.3)	(18.8)	(13.2)
Bharat Petroleum	India	4,359.9	475.5	483.5	287.1	(1.7)	65.6	12.9	21.4	30.3	40.5	49.6	6.3	122.1	2.1	20.6	27.8	26.1	18.2
Paladin Resources	Australia	3,491.2	6.5	10.8	5.1	(39.6)	28.1	7.8	(7.4)	(9.1)	(23.7)	(18.3)	1,244.3	43,366.7	3.5	(19.5)	16.6	(17.0)	(12.1)
IRPC PCL	Thailand	3,466.2	6.0	7.6	4.9	(21.1)	23.0	3.4	0.0	(13.7)	0.0	0.0	68.3	326.5	(9.1)	(19.3)	(18.4)	(11.6)	(31.3)
Banpu PCL	Thailand	3,171.9	394.0	480.0	165.0	(17.9)	138.8	5.3	(1.0)	20.1	55.1	113.0	155.8	1,112.3	(3.4)	1.2	28.1	58.1	103.7
Singapore Petroleum	Singapore	2,681.8	7.5	9.1	4.0	(16.7)	86.6	(2.1)	(5.2)	14.2	37.1	71.4	98.4	819.5	(0.6)	(8.5)	16.6	35.6	55.2
Pakistan Petroleum	Pakistan	3,152.4	256.4	276.8	210.5	(7.4)	21.8	0.2	3.2	6.4	6.8	20.6	112.4		0.7	0.1	6.9	3.2	3.3
Petronas Dagangan Bhd	Malaysia	2,513.4	8.5	9.3	4.7	(8.6)	79.8	1.8	(4.0)	(1.7)	6.3	78.3	131.5	225.0	(1.4)	(5.9)	(4.5)	10.5	59.6
Hindustan Petroleum	India	2,927.2	340.1	346.4	222.7	(1.8)	52.7	9.9	19.2	22.3	29.9	24.9	(11.7)	16.2	10.1	20.2	24.6	16.7	8.7
Energi Mega Persada	Indonesia	2,307.8	1,510.0	1,530	490	(1.3)	208.2	2.7	11.0	77.6	86.4	184.9	151.7		4.6	(1.9)	68.2	96.9	150.0
Rayong Refinery	Thailand	1,893.7	223	27.0	13.8	(17.4)	61.6	0.0	1.4	(10.1)	16.1	30.4			4.5	(6.9)	(3.9)	23.0	12.3
Petron	Philippines	1,316.9	5.8	7.4	4.0	(21.6)	46.8	1.8	(1.7)	3.6	7.4	41.5	81.3	276.6	(0.9)	(10.0)	15.0	18.5	31.5
Pakistan State Oil	Pakistan	1,209.7	432.8	434.0	291.6	(0.3)	48.4	1.6	3.3	21.9	10.7	46.2	53.5	119.2	(2.6)	5.0	18.6	0.2	20.4
Shell Refining Bhd	Malaysia	1,006.0	11.2	11.6	9.5	(3.4)	17.9	1.8	0.0	1.8	2.8	5.7	20.4	235.3	(1.7)	(4.3)	(1.5)	6.5	(5.2)

Source: Factset, Mirae Asset Research

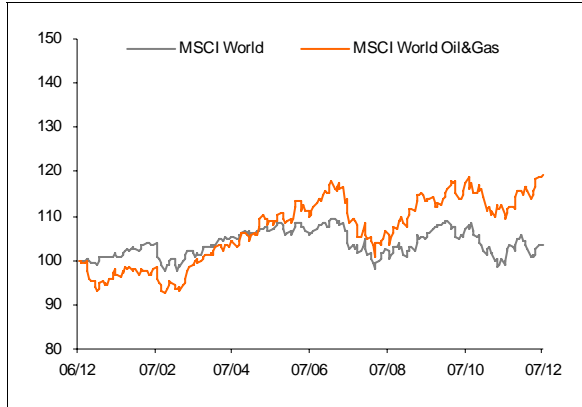
Asian Chemical Stock Performance

Company	Country	Mkt cap. (mil \$)	Curr. Price	% change				% change				% change			Relative to MSCI AC Asia				
				52w High	52w Low	% below 52w high	% above 52w low	-5D	-1M	-3M	-6M	-52W	-3Y	-5Y	-1W	-1M	-3M	-6M	-1Y
Nan Ya Plastics	Taiwan	19,612.6	83.7	99.0	52.7	(15.5)	58.8	(0.8)	0.8	(1.1)	11.3	55.9	91.6	234.5	(0.1)	(6.3)	(1.1)	29.5	44.7
Formosa Plastics	Taiwan	15,648.4	89.0	102.0	52.1	(12.7)	70.8	2.9	0.5	(2.2)	3.5	65.4	90.3	147.8	(0.1)	(9.4)	4.4	25.5	48.8
Formosa Chemicals & Fibre	Taiwan	13,499.8	79.5	92.5	53.5	(14.1)	48.6	0.6	(2.5)	(4.8)	(6.0)	44.8	52.7	185.5	(0.9)	(4.9)	(3.0)	15.0	36.9
LG Chem	Korea	7,364.0	91,900	138,000	41,550	(33.4)	121.2	(0.6)	(8.0)	(6.4)	22.0	113.2	119.3	108.2	(12.1)	(28.7)	(10.1)	34.5	86.2
Orica	Australia	8,622.8	31.5	34.9	22.7	(9.8)	38.7	(1.2)	12.1	5.2	4.0	28.6	60.8	210.1	7.0	0.5	1.7	(1.3)	8.8
PTT Chemical PCL	Thailand	5,450.8	123.0	139.0	67.5	(11.5)	82.2	7.0	6.0	(3.9)	39.8	65.1	42.0		(0.9)	(6.4)	6.1	30.2	37.0
Sinopec Shanghai Petrochemical	China	1,510.1	5.1	7.4	3.3	(31.4)	55.2	7.4	11.5	(17.3)	(2.1)	35.3	79.1	308.1	2.8	(3.2)	(7.1)	(3.4)	17.7
Honam Petrochemical	Korea	3,562.8	105,000	175,000	63,800	(40.0)	64.6	5.7	7.6	(39.8)	15.3	54.0	116.7	328.6	(14.7)	(17.5)	(33.6)	4.1	48.1
Asian Paints (India)	India	2,669.9	1,097.4	1,120.0	642.0	(2.0)	70.9	8.9	9.7	11.5	33.5	53.1	239.0	405.7	(2.1)	(5.7)	0.1	15.6	24.2
Hyosung	Korea	2,173.0	58,100	77,400	23,300	(24.9)	149.4	(4.8)	(2.2)	(18.7)	23.4	118.0	483.9	367.2	(4.6)	(15.5)	(7.7)	22.5	123.0
Hanwha Chemical	Korea	2,010.5	18,900	30,900	11,750	(38.8)	60.9	1.1	(5.3)	(21.1)	(17.6)	53.7	75.8	410.8	(8.5)	(12.3)	(25.3)	(6.0)	54.7
Taiwan Fertilizer	Taiwan	2,379.6	79.0	86.0	53.0	(8.1)	49.1	6.0	6.5	3.7	15.0	26.8	136.5	396.9	(2.7)	(2.7)	13.1	19.9	3.6
Aromatics PCL	Thailand	1,887.0	65.5	80.0	30.8	(18.1)	113.0	0.0	3.1	(9.7)	3.1	100.0	3.1	1,124.3	5.0	(2.6)	(7.4)	17.2	86.6
Sinopec Yizheng Chemical Fibre	China	471.6	2.6	5.6	1.7	(53.0)	53.8	5.6	2.7	(32.6)	(29.7)	50.3	59.4	143.5	1.7	(10.2)	(29.0)	(25.5)	41.9
Samsung Fine Chemicals	Korea	1,224.1	44,550	79,300	22,250	(43.8)	100.2	1.5	0.6	(28.6)	32.0	94.5	156.0	191.2	(3.9)	(28.8)	(21.6)	28.4	79.2
Fauji Fertilizer	Pakistan	997.2	124.0	129.2	103.7	(4.0)	19.6	1.9	3.5	8.2	1.8	15.9	58.4	271.0	(3.8)	3.0	1.3	(4.8)	(8.7)
Eternal Chemical	Taiwan	792.8	32.1	54.5	30.5	(41.1)	5.2	(0.9)	(7.0)	(29.5)	(31.1)	(29.2)	110.2	85.9	(1.5)	(7.5)	(26.2)	(27.2)	(34.0)
Oriental Union Chemical	Taiwan	907.7	37.5	54.5	20.0	(31.2)	87.0	5.6	(2.1)	(11.5)	36.4	75.5	29.4	77.1	(1.3)	(18.8)	(11.6)	43.1	64.4
Engro Chemical Pakistan	Pakistan	887.6	281.5	296.7	156.5	(5.1)	79.9	1.7	2.6	7.6	13.5	79.9	160.4	266.2	(1.7)	0.9	10.0	6.3	43.4
ICI Pakistan	Pakistan	470.5	208.0	234.3	114.1	(11.2)	82.3	(0.3)	(2.0)	33.5	28.6	79.3	124.9	296.6	(7.6)	(3.1)	21.7	19.8	51.4

Source: Factset, Mirae Asset Research

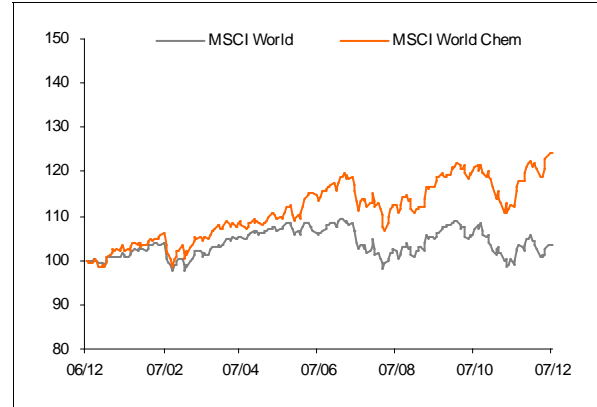
Performance!

MSCI World vs. MSCI World Oil&Gas



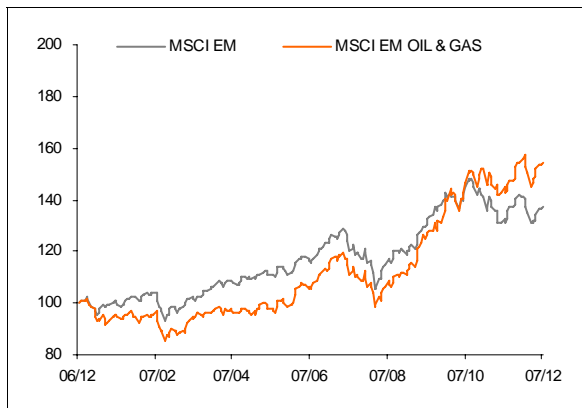
Source: Datastream, Mirae Asset Research

MSCI World vs. MSCI World Chem



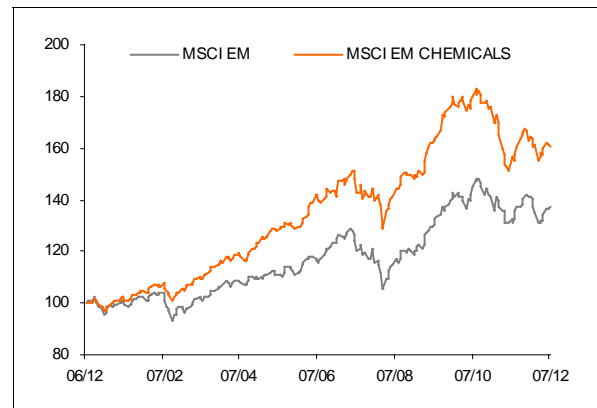
Source: Datastream, Mirae Asset Research

MSCI EM vs. MSCI EM Oil & Gas



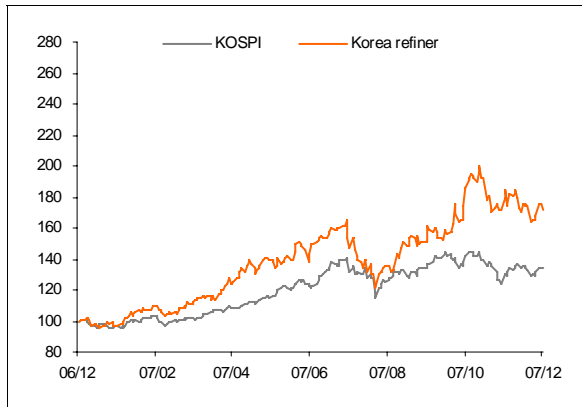
Source: Datastream, Mirae Asset Research

MSCI EM vs. MSCI EM Chemicals



Source: Datastream, Mirae Asset Research

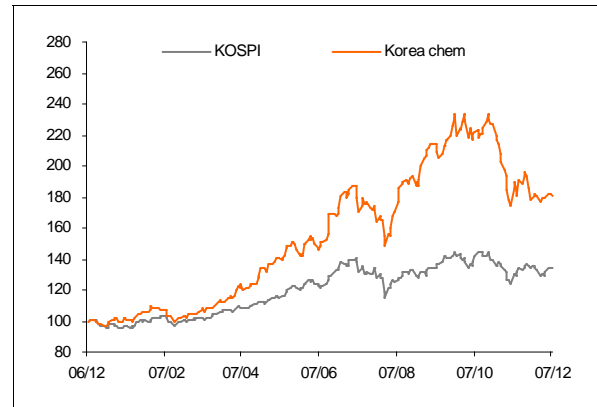
KOSPI vs. Korea refiners



Source: Datastream, Mirae Asset Research

* Korea chem: LG Chem, KCC, Kumho petrochemical, Cheil Industries, Honam petrochem, Hanwha Chemical, DC Chem, Samsung Fine chem, KP Chemical, SK Chemicals, Korea petrochemical

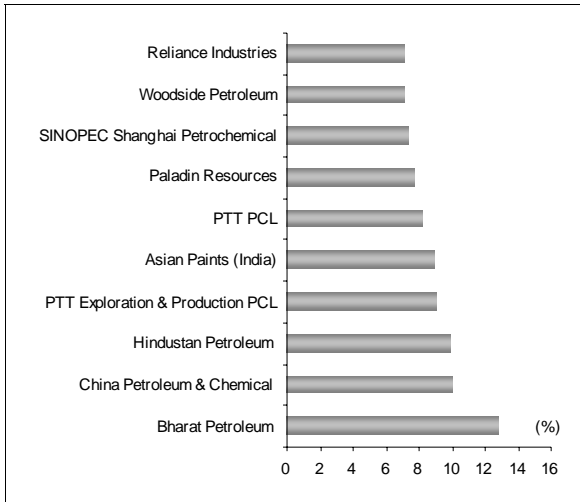
KOSPI vs. Korea chem



Source: Datastream, Mirae Asset Research

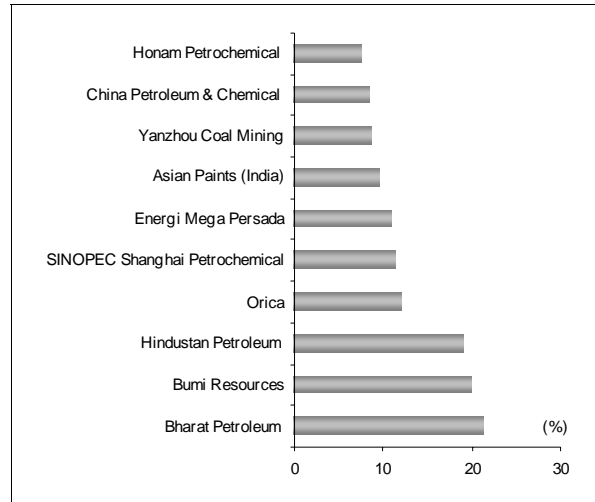
* Korea refiner : SK, SK Energy, S-OIL, GS

AP Top 10 by Absolute Performance – Last Week



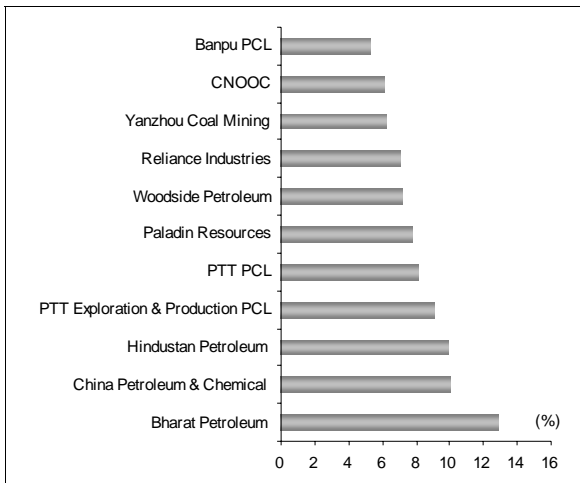
Source: Factset, Mirae Asset Research

AP Top 10 by Absolute Performance – Last Month



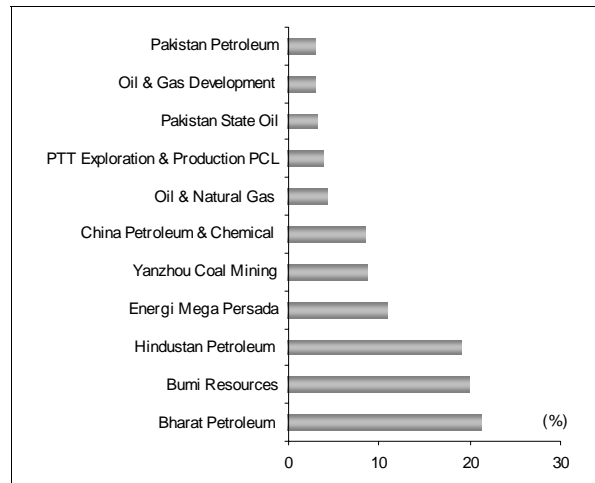
Source: Factset, Mirae Asset Research

AP Oil&Gas Stock Performance – Last Week



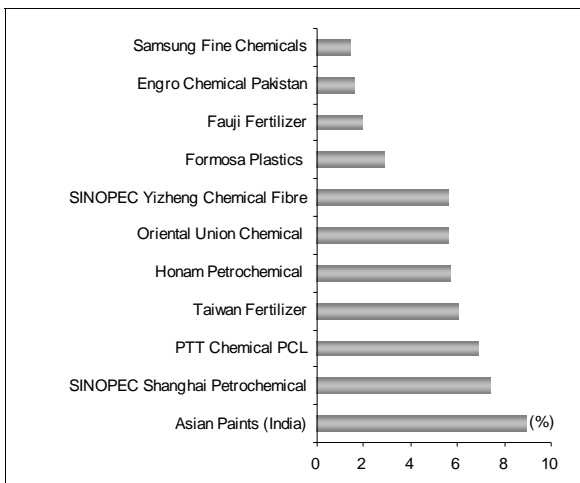
Source: Factset, Mirae Asset Research

AP Oil&Gas Stock Performance – Last Month



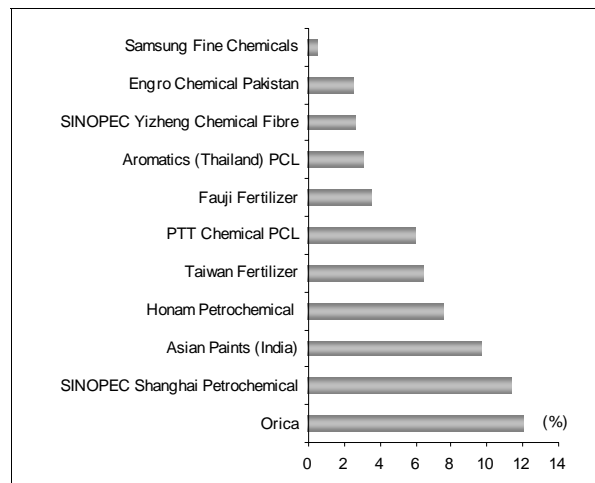
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AP Chemical Stock Performance – Last Week



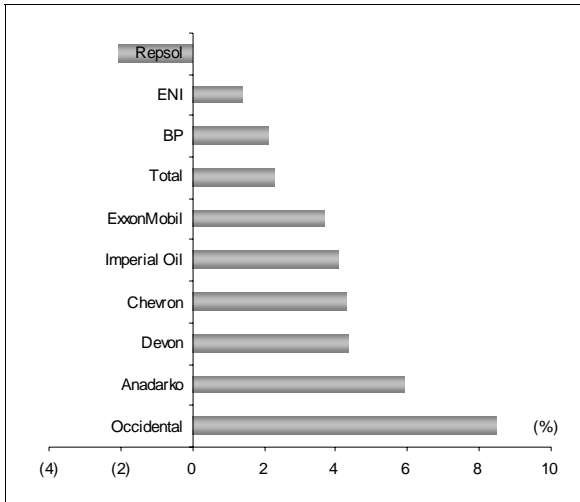
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AP Chemical Stock Performance – Last Month



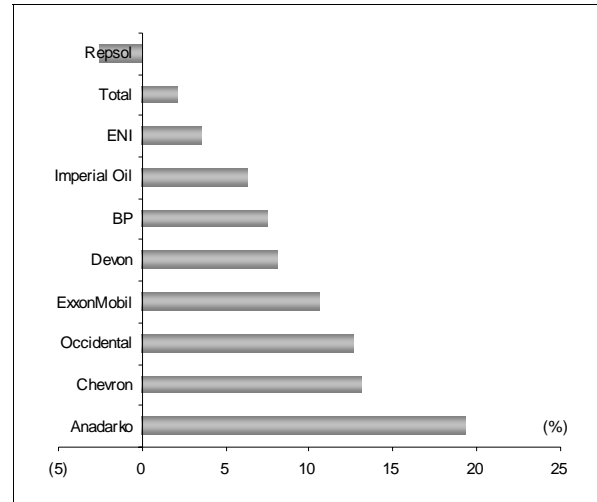
Source: Factset, Mirae Asset Research

Global Oil & Chem Stock Performance – Last Week



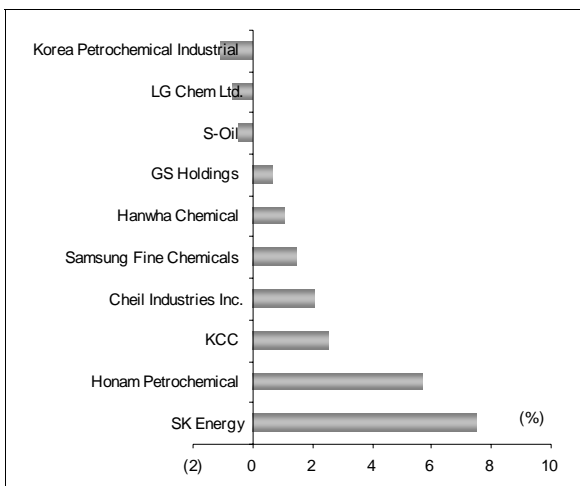
Source: Factset, Mirae Asset Research

Global Oil & Chem Stock Performance – Last Month



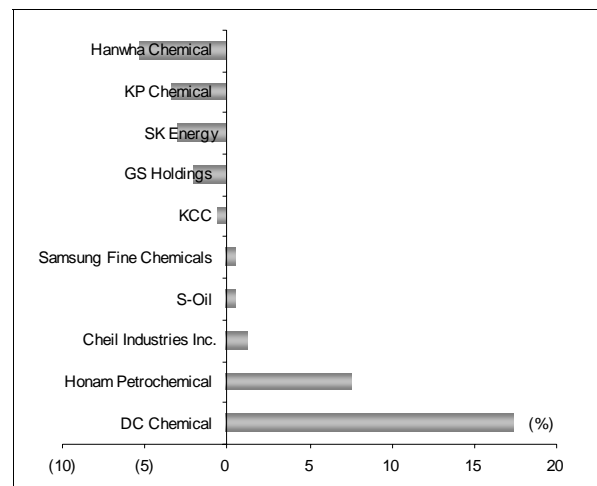
Source: Factset, Mirae Asset Research

Korea Oil & Chem Stock Performance – Last Week



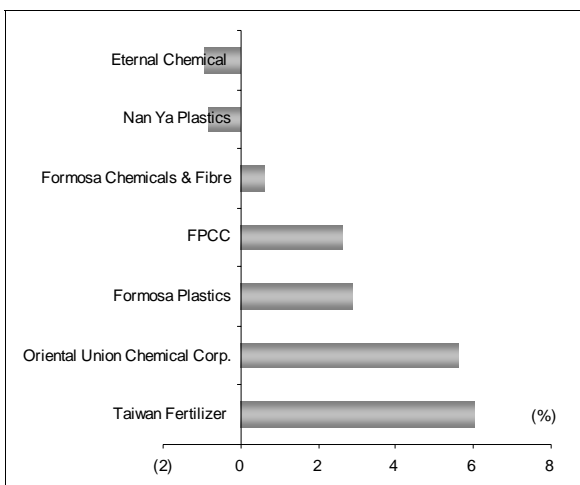
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Korea Oil & Chem Stock Performance – Last Month



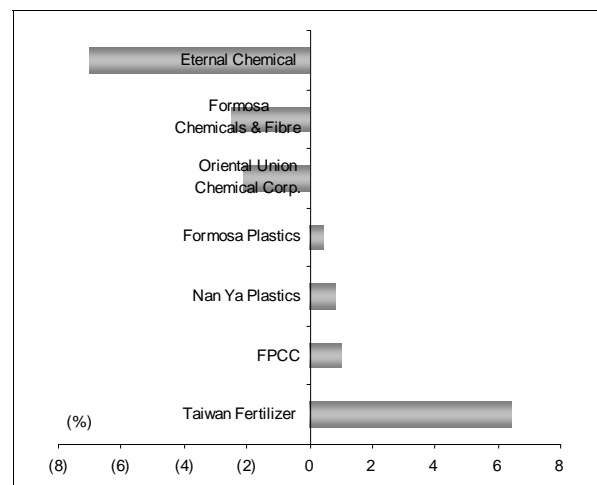
Source: Factset, Mirae Asset Research

Taiwan Oil & Chem Stock Performance – Last Week



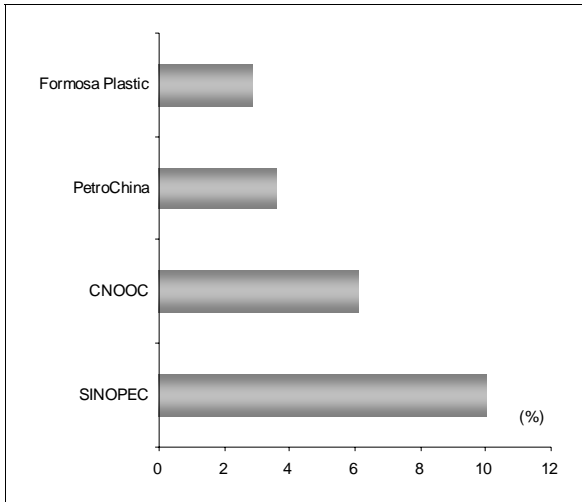
Source: Factset, Mirae Asset Research

Taiwan Oil & Chem Stock Performance – Last Month



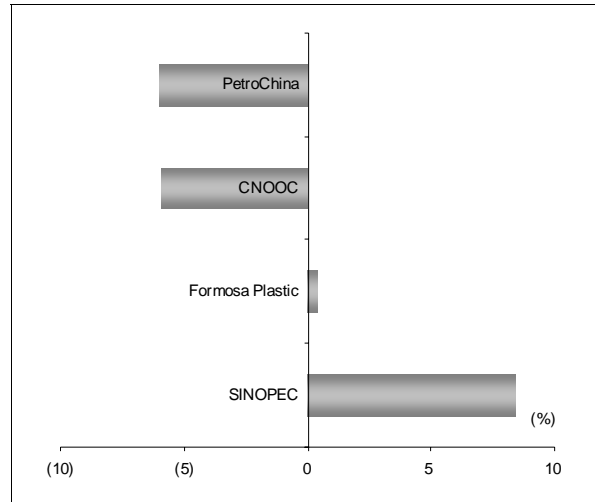
Source: Factset, Mirae Asset Research

China Oil & Chem Stock Performance – Last Week



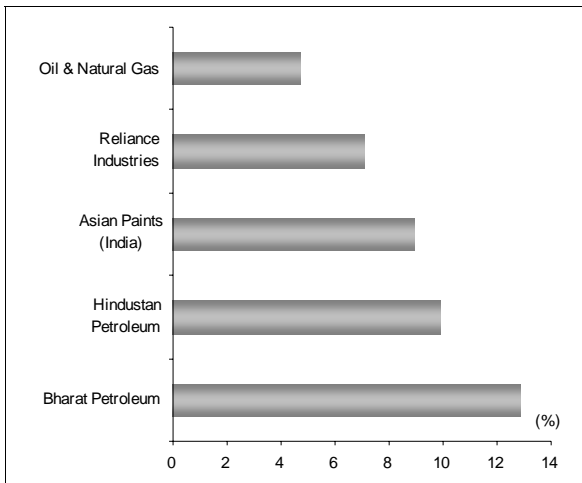
Source: Factset, Mirae Asset Research

China Oil & Chem Stock Performance – Last Month



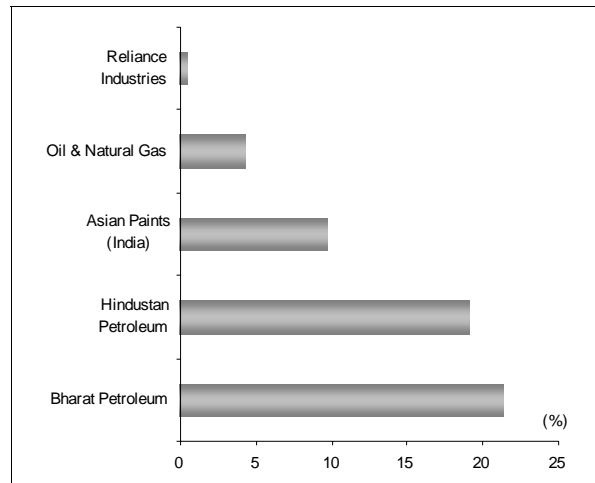
Source: Factset, Mirae Asset Research

India Oil & Chem Stock Performance – Last Week



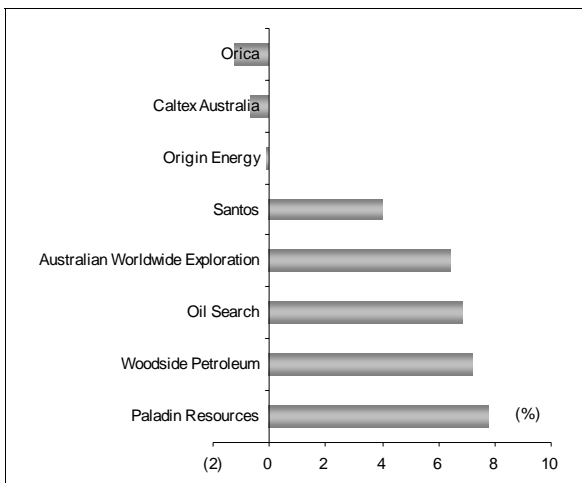
Source: Factset, Mirae Asset Research

India Oil & Chem Stock Performance – Last Month



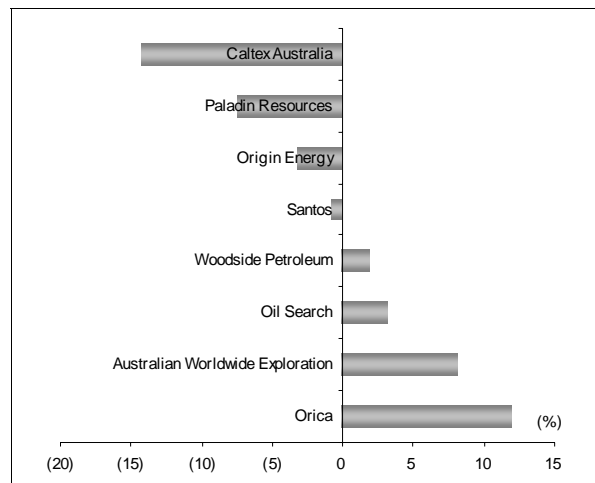
Source: Factset, Mirae Asset Research

Australia Oil&Chem Stock Performance – Last Week



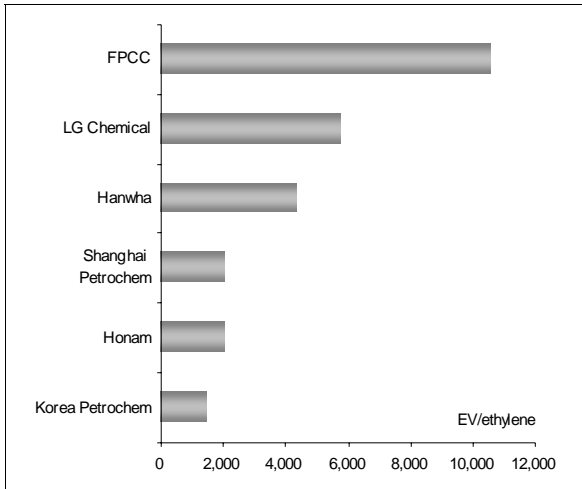
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Australia Oil&Chem Stock Performance – Last Month



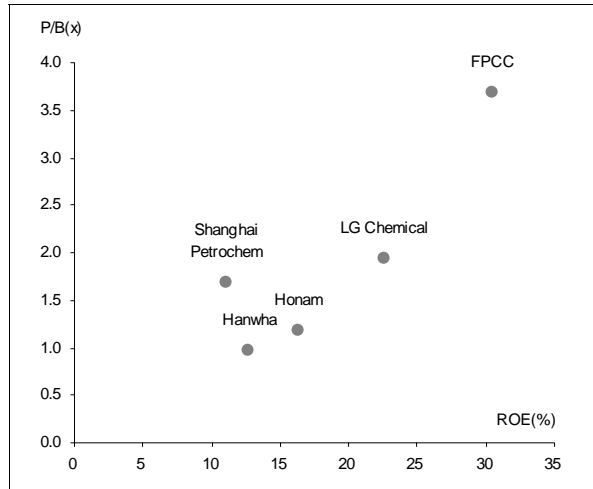
Source: Factset, Mirae Asset Research

AP NCC Comparison



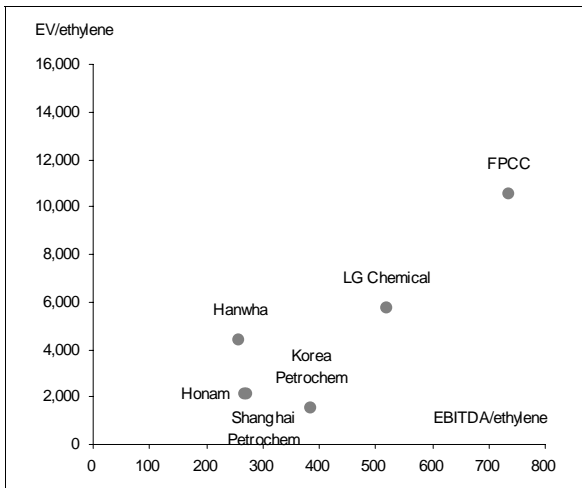
Source: Factset, Mirae Asset Research

AP NCC Comparison : P/B vs. ROE



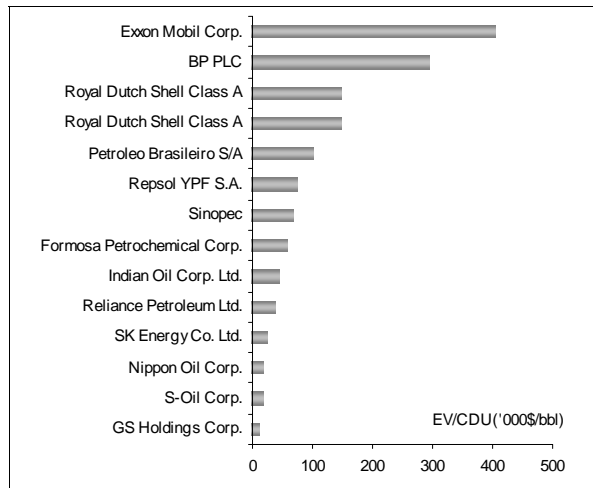
Source: Factset, Mirae Asset Research

AP NCC Comparison : EBITDA/Ethylene capacity



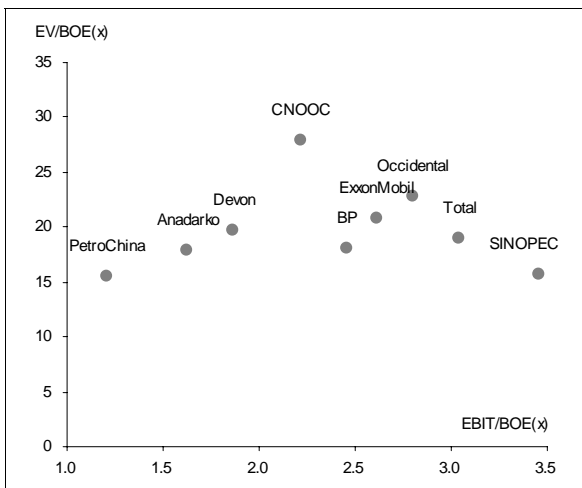
Source: Factset, Mirae Asset Research

Global CDU Comparison



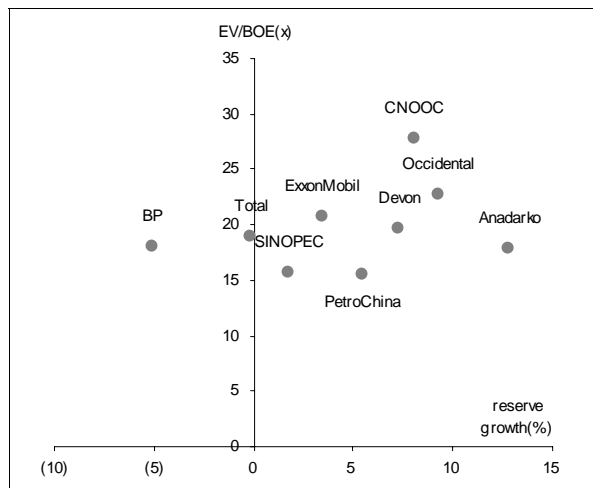
Source: Factset, Mirae Asset Research

(EV/BOE) / (EBIT/BOE)



Source: Factset, Mirae Asset Research

(EV/BOE) / (reserve growth)



Source: Factset, Mirae Asset Research

US Petroleum Inventory Overview

US Petroleum Inventory Trends

('000 bbl)	Date	Gasoline	Distillate	Heating Oil	Crude Oil
2 year ago	2005.12.23	202,853	126,790	54,705	322,593
1 year ago	2006.12.22	203,853	133,592	56,840	320,975
1 month ago	2007.11.23	196,628	130,916	44,666	313,153
1 week ago	2007.12.14	205,221	129,376	40,544	296,932
Current	2007.12.21	205,857	126,608	39,820	293,633

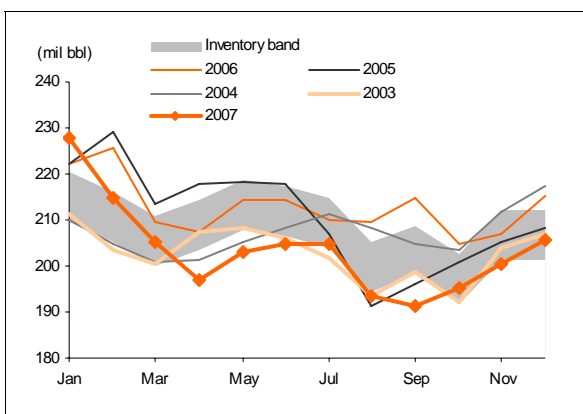
Source: EIA, Mirae Asset Research

Change in US Petroleum Inventory

('000 bbl)	Change from last(%)				
Nov. 23,2007	Stock	1 week ago	1 month ago	1 year ago	2 year ago
Crude Oil	293,633	↓ -1.11	↓ -6.23	↓ -8.52	↓ -8.98
Gasoline	205,857	↑ 0.31	↑ 4.69	↑ 0.98	↑ 1.48
Distillate	126,608	↓ -2.14	↓ -3.29	↓ -5.23	↓ -0.14
Heating Oil	39,820	↓ -1.79	↓ -10.85	↓ -29.94	↓ -27.21

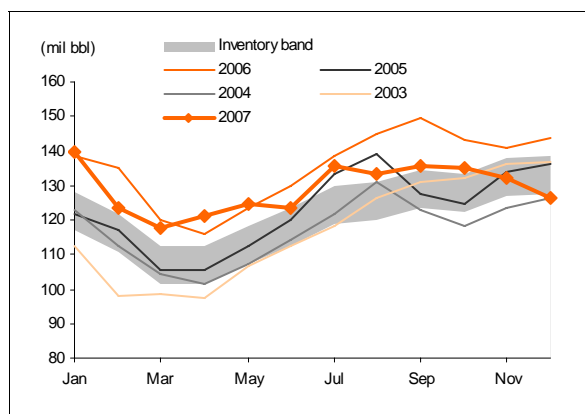
Source: EIA, Mirae Asset Research

U.S. Gasoline Stock



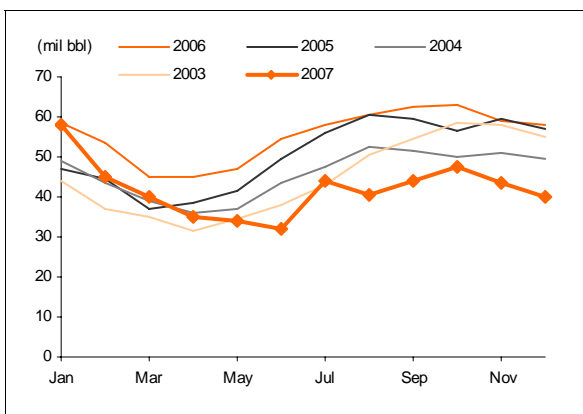
Source: EIA, Mirae Asset Research

U.S. Distillate Stock



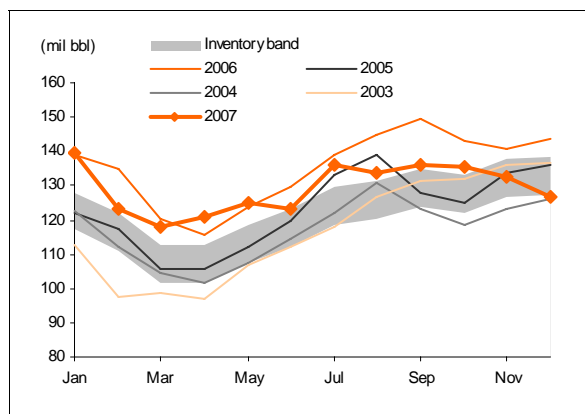
Source: EIA, Mirae Asset Research

U.S. Heating Oil Stock



Source: EIA, Mirae Asset Research

U.S. Crude Oil Stock



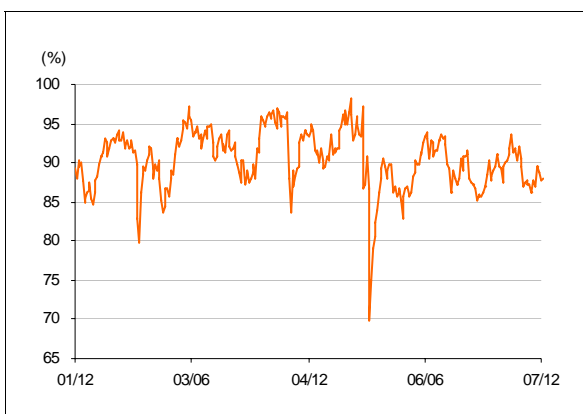
Source: EIA, Mirae Asset Research

US Curde Oil Treatment Volume and Refinery Facility Utilization Rate

('000 bbl)	Date	Net Import	Input	Refinery capa	Utilization Rate(%)
2 year ago	05.12.23	12,770	15,087	17,137	88.9
1 year ago	06.12.22	10,823	15,625	17,390	90.9
1 month ago	07.11.23	12,149	15,470	17,448	89.4
1 week ago	07.12.14	11,367	15,240	17,436	87.8
Current	07.12.21	11,656	15,218	17,436	88.1

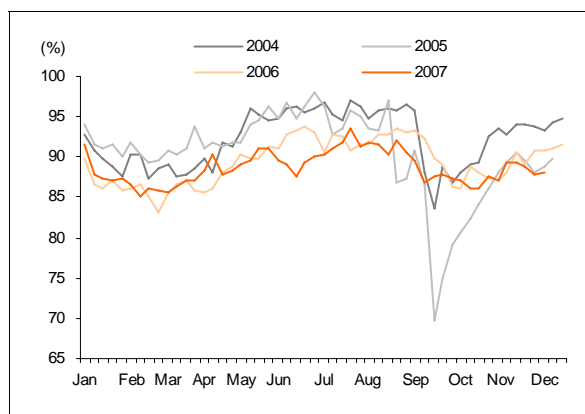
Source: EIA, Mirae Asset Research

U.S. Weekly Utilization of Refinery Operable Capacity



Source: EIA, Mirae Asset Research

U.S. Yearly Utilization of Refinery Operable Capacity



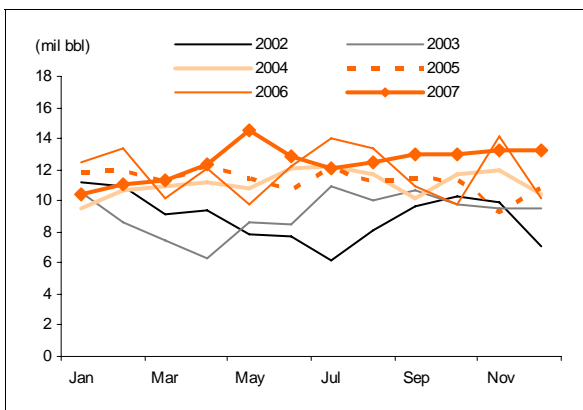
Source: EIA, Mirae Asset Research

Weekly Singapore B/C Oil Inventory Trends

Date	Stock ('000 bbl)	YoY (%)	WoW (%)
2007-11-07	12,476	(10.4)	(3.6)
2007-11-14	12,644	(10.7)	1.3
2007-11-21	13,061	(12.2)	3.3
2007-11-28	13,246	(6.3)	1.4
2007-12-05	13,584	(5.7)	2.6
2007-12-12	13,020	12.0	(4.2)
2007-12-19	12,658	12.7	(2.8)
2007-12-26	13,287	30.9	5.0

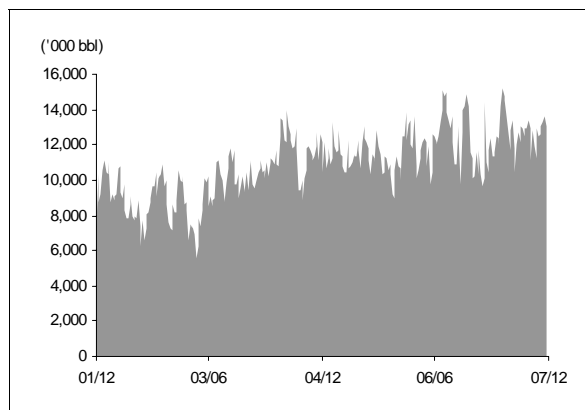
Source: Bloomberg, Mirae Asset Research

Yearly Singapore's B/C Oil Inventory



Source: Bloomberg, Mirae Asset Research

Weekly Singapore's B/C Oil Inventory



Source: Bloomberg, Mirae Asset Research

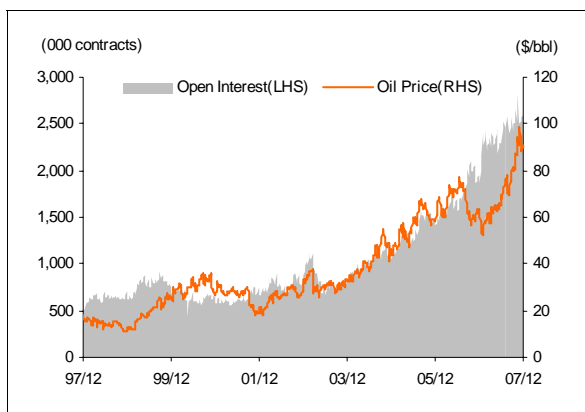
Commodity Future Trading Commission Overview

Commitments of Traders

('000 contracts)	Date	Open interest	Long position	Short position	Net Long position
5 year ago	02.12.23	882,045	65,442	8,117	57,325
3 year ago	04.12.21	1,060,379	72,036	42,275	29,761
2 year ago	05.12.20	1,417,287	135,066	83,036	52,030
1 year ago	06.12.19	1,825,990	169,480	128,666	40,814
1 month ago	07.11.20	2,506,389	273,540	131,986	141,554
1 week ago	07.12.11	2,591,489	248,864	122,840	126,024
Current	07.12.18	2,426,931	251,399	132,235	119,164

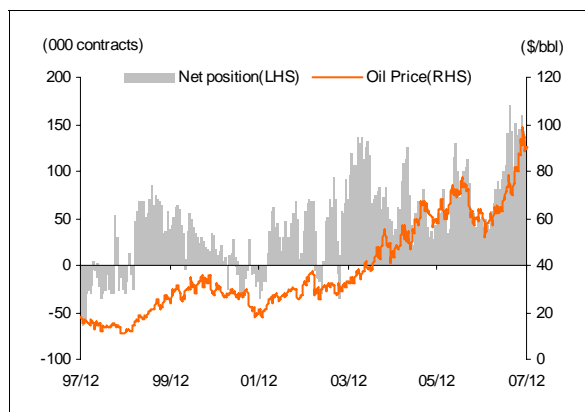
Source: CFTC, Mirae Asset Research

Crude Oil Price vs. Open Interest



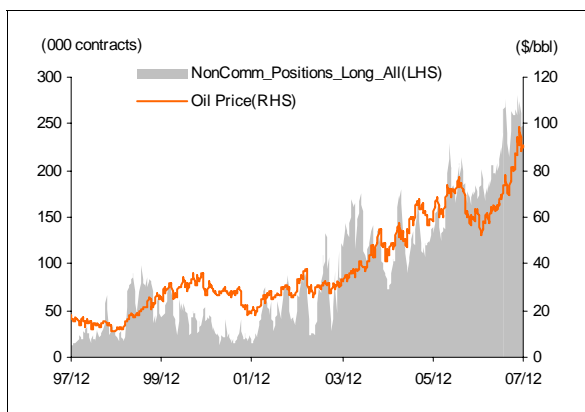
Source: CFTC, Mirae Asset Research

Crude Oil Price vs. Net Position



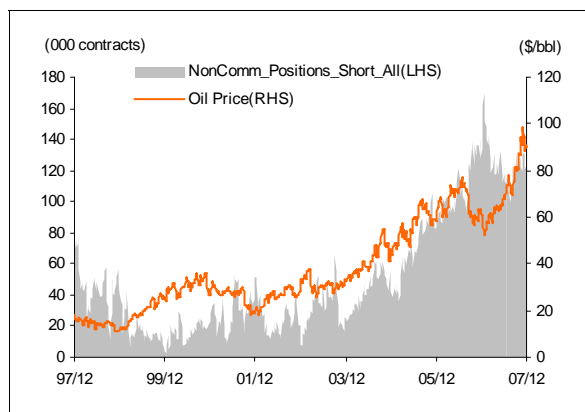
Source: CFTC, Mirae Asset Research

Crude Oil Price vs. Non Commercial Long Position



Source: CFTC, Mirae Asset Research

Crude Oil Price vs. Non Commercial Short Position



Source: CFTC, Mirae Asset Research

Japan Petroleum Inventory Overview

Japan's Crude Imports and Refinery Facility Utilization Rate

(Unit: mil bbl)	Crude Oil Import	Refinery facility utilization rate(%)
2007.06	18,573	73.0
2007.07	21,298	82.7
2007.08	20,619	87.5
2007.09	17,008	78.5
2007.10	20,487	78.5

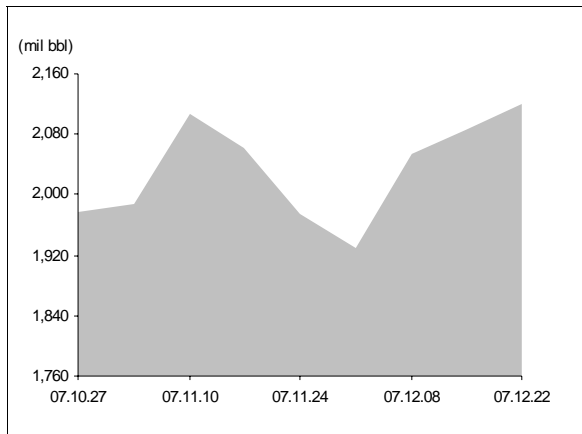
Source: PAJ, Mirae Asset Research

Japan's Crude Oil Inventory

(mil bbl, %)	Utilization rate	Gasoline	Naphtha	Jet	Kerosene	Diesel
2007.11.04 ~ 2007.11.10	83.5%	2,108	1,614	838	4,356	1,575
2007.11.11 ~ 2007.11.17	81.3%	2,063	1,809	804	4,474	1,521
2007.11.18 ~ 2007.11.24	88.6%	1,975	1,892	843	4,397	1,728
2007.11.25 ~ 2007.12.01	90.1%	1,931	1,812	820	4,180	1,645
2007.12.02 ~ 2007.12.08	89.8%	2,055	1,913	820	4,154	1,582
2007.12.09 ~ 2007.12.15	92.5%	2,085	1,943	829	4,250	1,618
2007.12.16 ~ 2007.12.22	92.7%	2,121	1,877	828	4,111	1,646

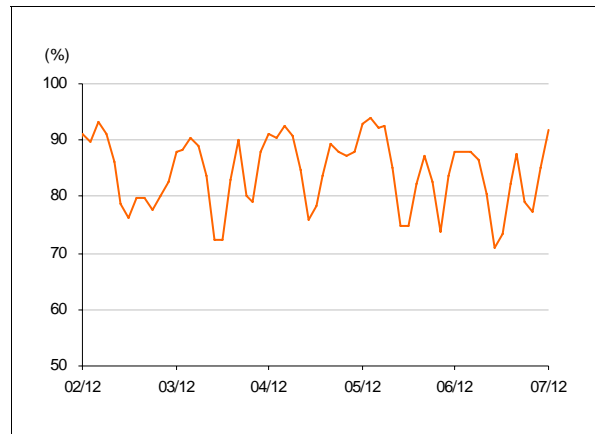
Source: PAJ, Mirae Asset Research

Weekly Japan's Gasoline Stock



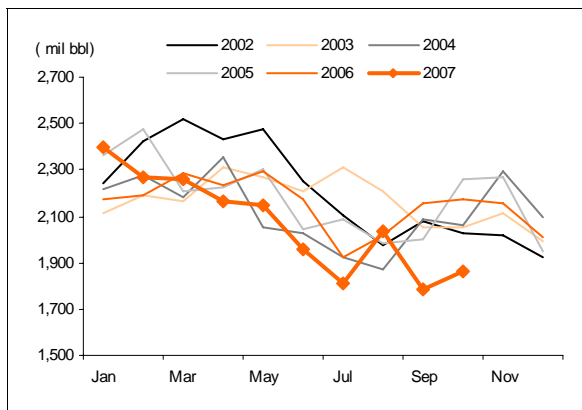
Source: PAJ, Mirae Asset Research

Japan's Facility Utilization Rate



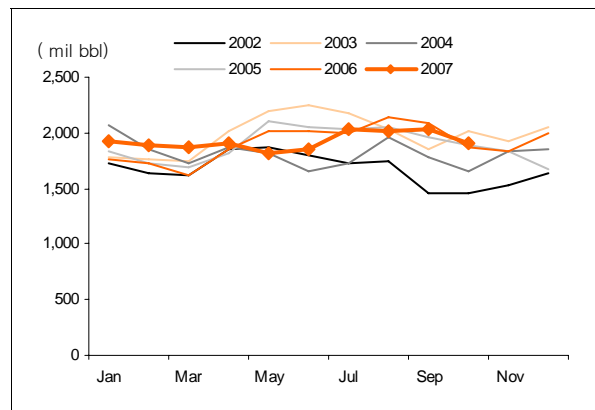
Source: PAJ, Mirae Asset Research

Yearly Japan's Gasoline Stock



Source: PAJ, Mirae Asset Research

Japan's B/C Stock



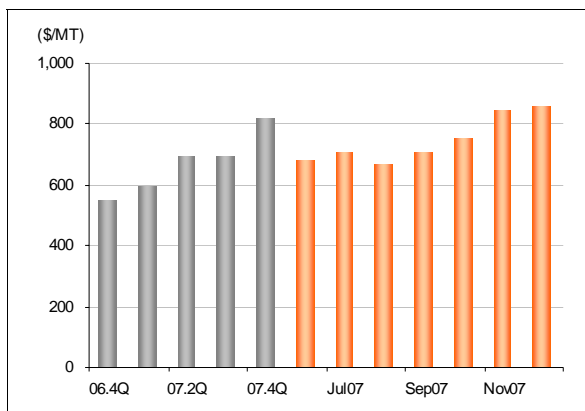
Source: PAJ, Mirae Asset Research

Petrochemical Product Price Trends

Product		Yearly					Quarterly						Monthly		
		2004	2005	2006	2007	YoY(%)	06.4Q	07.1Q	07.2Q	07.3Q	07.4Q	YoY(%)	Oct.07	Nov.07	Dec.07
Crude Oil	(\$/bb)	33.6	49.4	61.5	68.4	11.2	57.2	55.5	64.8	69.9	83.0	45.1	77.2	86.8	85.1
Diesel	(\$/bb)	48.3	70.4	81.7	89.1	9.1	74.9	73.6	85.7	89.9	107.0	43.0	99.0	112.8	109.2
Gasoline*	(\$/bb)	49.5	65.7	76.8	86.2	12.3	67.1	70.1	91.5	87.1	96.2	43.4	91.0	101.8	95.7
Gasoline**	(\$/bb)	53.8	73.3	85.6	94.0	9.9	73.4	76.1	101.3	97.7	100.8	37.4	97.7	105.5	99.2
B/C	(\$/bb)	28.4	40.8	48.8	58.2	19.1	43.0	45.1	54.2	59.7	73.6	71.0	69.4	77.6	73.7
Naphtha	(\$/MT)	387	487	582	697	19.9	543	589	693	689	817	50.5	752	841	858
Ethylene	(\$/MT)	893	867	1,114	1,122	0.7	1,117	1,132	999	1,169	1,190	6.5	1,172	1,177	1,222
Propylene	(\$/MT)	846	955	1,123	1,149	2.3	1,164	1,182	1,144	1,126	1,148	(1.3)	1,119	1,126	1,200
Benzene	(\$/MT)	822	842	886	1,038	17.2	971	1,002	1,106	1,022	1,023	5.4	1,030	1,048	992
Toluene	(\$/MT)	647	696	846	869	2.7	834	848	881	836	913	9.4	864	943	932
Xylene	(\$/MT)	576	692	893	906	1.5	842	863	1,002	880	885	5.1	840	914	901
PX	(\$/MT)	780	907	1,159	1,142	(1.5)	1,128	1,142	1,226	1,105	1,097	(2.8)	1,048	1,118	1,125
OX	(\$/MT)	723	774	973	1,056	8.5	961	1,061	1,126	1,050	1,017	5.9	1,008	1,039	1,005
PTA	(\$/MT)	712	815	917	907	(1.1)	1,049	883	913	955	877	(16.4)	880	880	870
MEG	(\$/MT)	944	939	914	1,117	22.3	938	928	974	1,075	1,487	58.6	1,373	1,493	1,596
SM	(\$/MT)	1,033	1,034	1,217	1,298	6.7	1,324	1,211	1,417	1,299	1,268	(4.2)	1,271	1,285	1,250
PA	(\$/MT)	803	840	1,078	1,230	14.1	1,085	1,209	1,271	1,258	1,195	10.2	1,217	1,189	1,180
Phenol	(\$/MT)	663	1,020	1,162	1,554	33.7	1,319	1,435	1,554	1,635	1,583	20.0	1,579	1,580	1,590
BPA	(\$/MT)	1,230	1,585	1,384	1,880	35.8	1,597	1,780	1,939	1,945	1,878	17.6	1,932	1,867	1,835
2-EH	(\$/MT)	874	978	1,247	1,607	28.9	1,463	1,547	1,629	1,636	1,622	10.9	1,629	1,618	1,620
TDI	(\$/MT)	1,550	1,700	1,931	4,187	116.9	1,882	3,722	3,441	4,510	5,017	166.6	5,619	4,976	4,457
LDPE	(\$/MT)	1,099	1,115	1,228	1,430	16.4	1,277	1,293	1,348	1,497	1,579	23.7	1,538	1,591	1,610
LLDPE	(\$/MT)	962	1,058	1,221	1,333	9.1	1,270	1,276	1,286	1,353	1,415	11.4	1,355	1,420	1,472
HDPE	(\$/MT)	960	1,032	1,233	1,349	9.4	1,275	1,264	1,294	1,380	1,457	14.3	1,395	1,456	1,520
PP	(\$/MT)	967	1,063	1,230	1,327	7.8	1,276	1,270	1,290	1,366	1,382	8.2	1,355	1,381	1,408
PS	(\$/MT)	1,169	1,170	1,248	1,435	14.9	1,363	1,390	1,435	1,450	1,465	7.5	1,461	1,477	1,458
PVC	(\$/MT)	881	811	821	928	13.1	838	841	916	990	965	15.3	985	955	957
ABS	(\$/MT)	1,276	1,408	1,528	1,701	11.3	1,601	1,620	1,679	1,727	1,778	11.0	1,762	1,784	1,787
PET	(\$/MT)	1,448	1,768	1,583	1,508	(4.8)	1,547	1,430	1,494	1,545	1,560	0.8	1,545	1,556	1,578
DOP	(\$/MT)	935	1,013	1,298	1,582	21.9	1,472	1,558	1,602	1,594	1,583	7.5	1,591	1,584	1,575
MDF	(\$/MT)	640	538	639	686	7.4	721	707	683	678	685	(5.0)	656	685	715

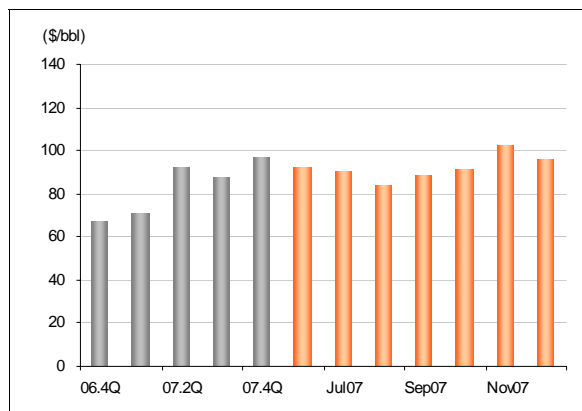
Source: Datastream, Mirae Asset Research, * Note: Each data refers to annual, quarterly, monthly average data. * Gasoline is divided into regular and premium gasoline. *Reg.: Regular gasoline, Pre.: Premium gasoline

Naphtha price soaring



Source: Datastream *Naphtha Singapore Spot FOB

Gasoline price increase slowed



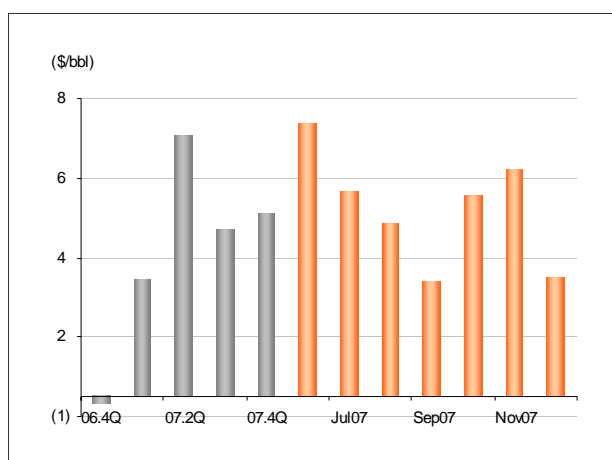
Source: Datastream, * Regular gasoline

Margin and Spread by Petrochemical Product

	Yearly					Quarterly						Monthly		
	2004	2005	2006	2007	YoY(%)	06.4Q	07.1Q	07.2Q	07.3Q	07.4Q	YoY	Oct.07	Nov.07	Dec.07
Simple margin	5.0	5.0	2.5	4.5	80.3	(0.2)	2.9	6.5	4.2	4.6	흑전	5.0	5.7	3.0
Complex margin	13.2	15.9	14.7	16.3	11.4	11.0	13.6	20.3	15.7	15.8	43.9	15.3	17.5	14.5
Ethylene-Naphtha	505	380	533	425	(20.2)	575	543	306	480	373	(35.0)	420	336	365
Propylene-Naphtha	459	469	541	452	(16.5)	621	593	451	436	331	(46.6)	367	285	342
LDPE-Naphtha	711	628	647	732	13.2	734	704	655	807	762	3.9	785	749	753
LLDPE-Naphtha	574	571	639	635	(0.6)	727	686	593	664	598	(17.7)	602	578	614
HDPE-Naphtha	573	545	651	651	0.0	732	675	601	690	640	(12.6)	642	615	663
MEG-Naphtha	557	452	332	420	26.6	395	339	281	386	670	69.7	620	651	739
PVC-Naphtha	493	324	239	231	(3.5)	295	252	223	300	148	(49.6)	232	114	99
BPA-Naphtha	843	1,098	802	1,182	47.4	1,054	1,191	1,246	1,256	1,061	0.6	1,180	1,025	978
Pheno-Naphtha	275	534	580	856	47.6	776	846	861	946	766	(1.3)	827	739	733
DMF-Naphtha	253	51	58	(11)	(118.9)	178	118	(10)	(12)	(132)	적전	(97)	(157)	(143)
LDPE-Ethylene	206	248	114	307	169.5	159	161	349	327	389	144.6	366	414	388
LLDPE-Ethylene	69	190	107	210	97.5	153	143	287	184	225	47.5	183	243	250
HDPE-Ethylene	67	165	119	227	90.8	158	131	295	211	267	69.1	223	279	298
PVC-Ethylene	445	388	277	381	37.3	292	289	429	419	384	31.6	413	381	360
MEG-Ethylene	676	679	579	781	34.8	603	588	675	724	1,130	87.5	1,021	1,139	1,229
PP-Propylene	121	107	107	177	65.1	113	88	146	240	233	106.8	236	255	209
PS-SM	136	136	32	137	332.6	39	179	17	151	197	404.9	191	192	208
ABS-SM*	718	850	871	1,000	14.8	886	966	913	1,025	1,093	23.3	1,076	1,090	1,112
PX-Naphtha	393	420	577	444	(23.0)	585	553	533	416	280	(52.2)	295	277	267
PTA-PX*	189	207	141	142	1.1	293	117	92	214	142	(51.7)	178	130	116
PET-(PX+EG)*	709	963	651	516	(20.8)	624	503	506	587	466	(25.3)	517	449	433
TDI-Toluene	1,058	1,171	1,288	3,527	173.9	1,248	3,077	2,772	3,874	4,323	246.4	4,963	4,259	3,749
PA-OX	145	136	193	269	39.8	211	243	246	302	270	27.9	300	243	265
2EH-Propylene*	28	23	124	457	269.5	300	364	485	511	474	58.2	510	492	420
DOP-2EH*	82	76	101	88	(13.3)	122	113	81	72	89	(27.4)	85	94	87

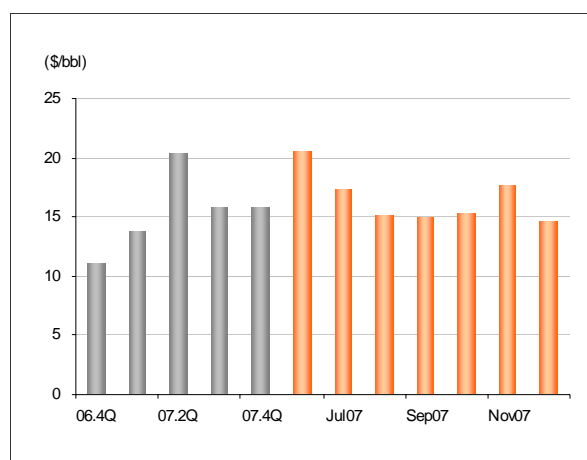
Source: Datastream, Mirae Asset Research, * refers to actual margin in won term; others are simple spreads

Simple margin



Source: Datastream, Mirae Asset Research

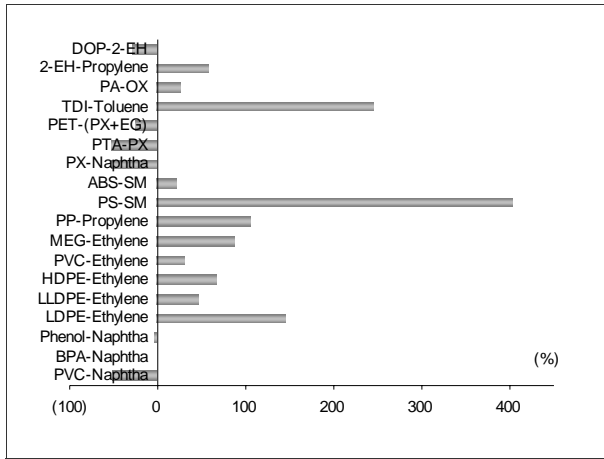
Crack margin



Source: Datastream, Mirae Asset Research

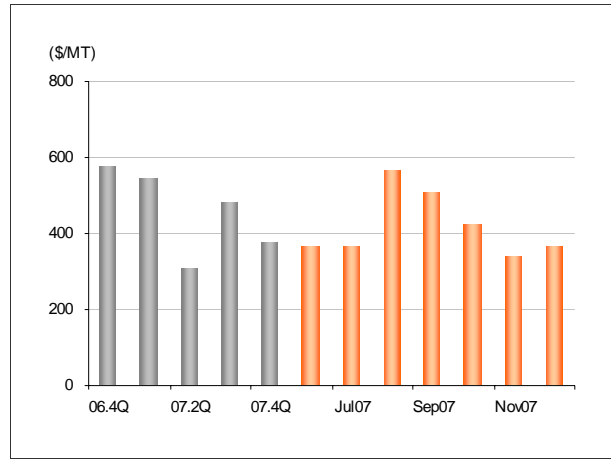
Margin by Major Product

Spread Growth by Product (YoY) – as of 4Q07



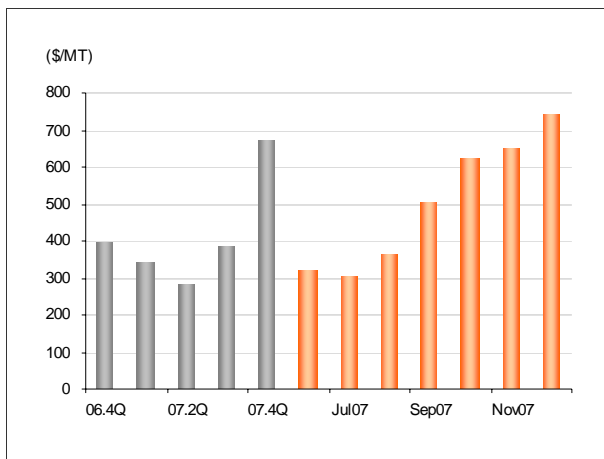
Source: Datastream, Mirae Asset Research

Ethylene - Naphtha



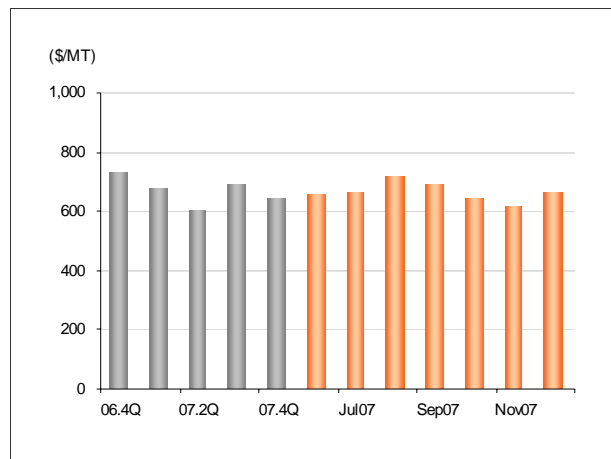
Source: Datastream, Mirae Asset Research

MEG - Naphtha



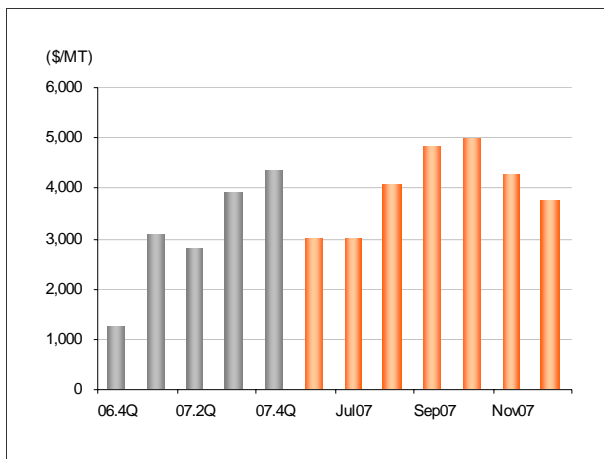
Source: Datastream, Mirae Asset Research

HDPE - Naphtha



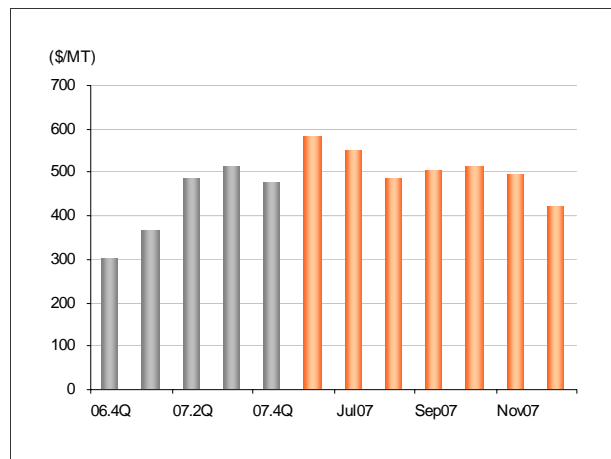
Source: Datastream, Mirae Asset Research

TDI - Toluene



Source: Datastream, Mirae Asset Research

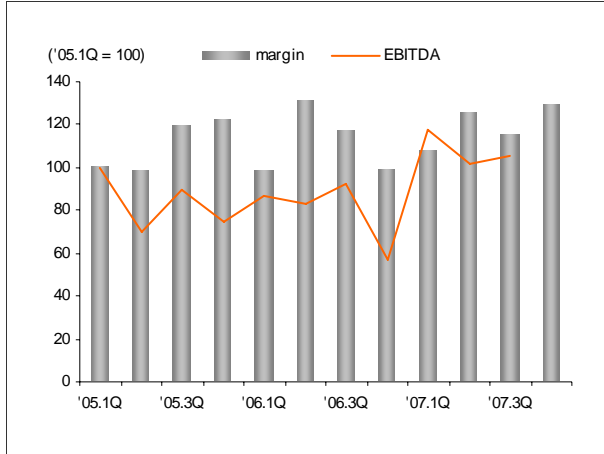
2-EH – Propylene (Oxo-alcohol margin)



Source: Datastream, Mirae Asset Research

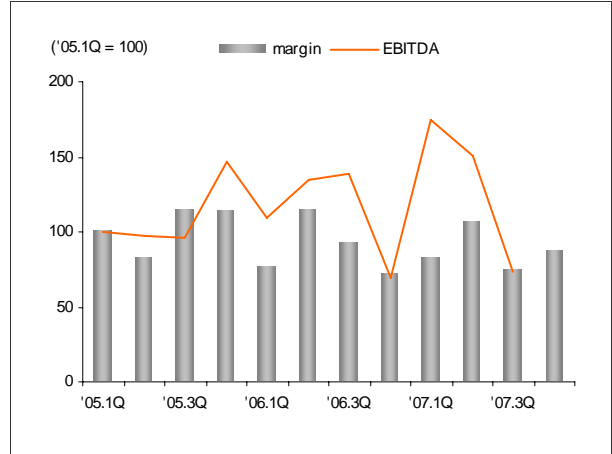
Margin by Company : Korea & China

SK Energy (096770 KS)



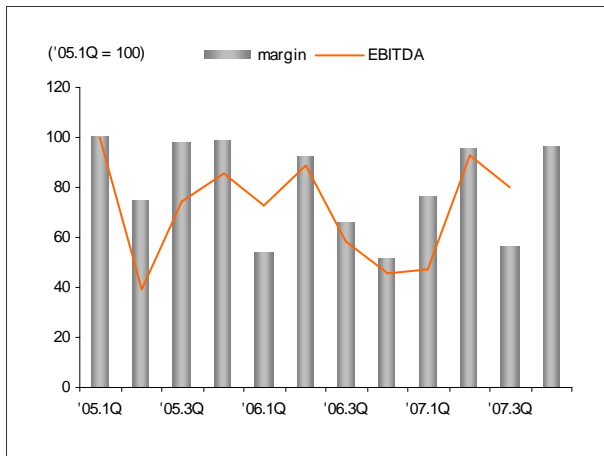
Source: Company Data, Datastream, Mirae Asset Research

S-OIL (010950 KS)



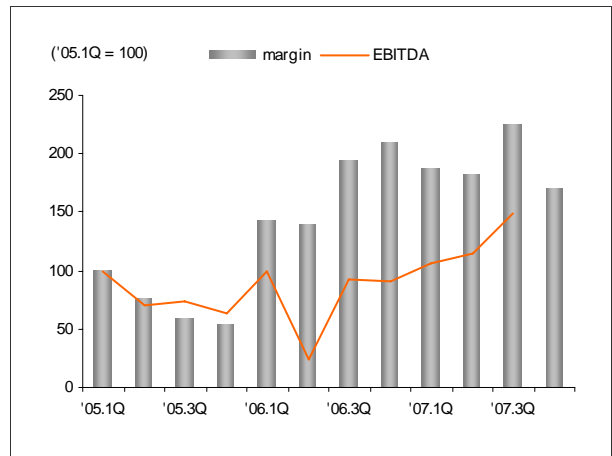
Source: Company Data, Datastream, Mirae Asset Research

GS Caltex (Unlisted)



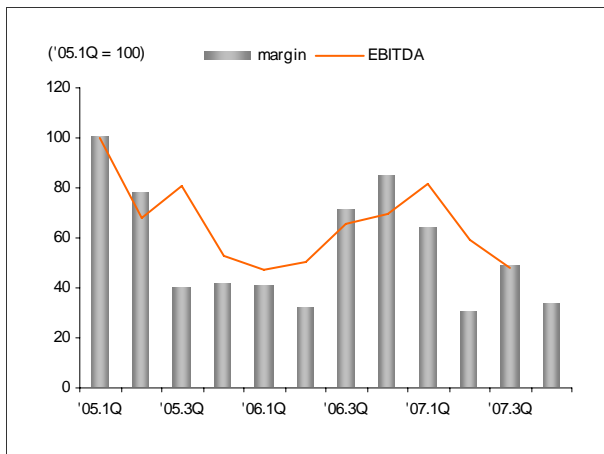
Source: Company Data, Datastream, Mirae Asset Research

LG Chem (051910 KS)



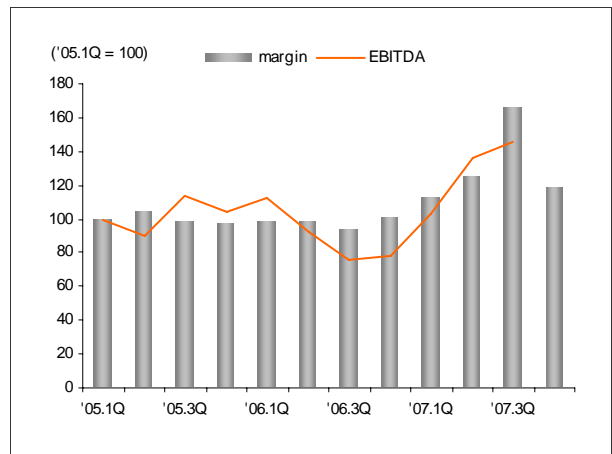
Source: Company Data, Datastream, Mirae Asset Research

Honam Petrochemical (011170 KS)



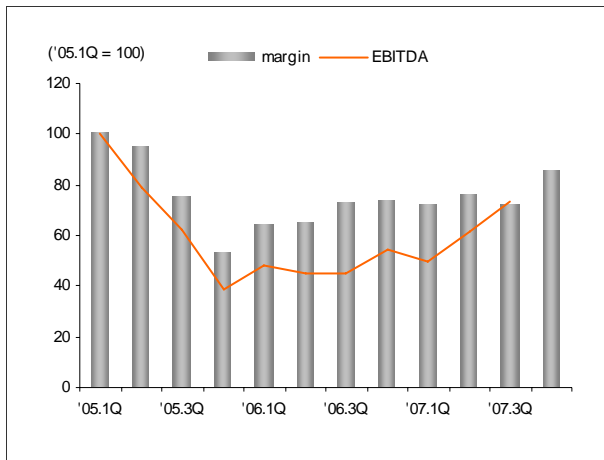
Source: Company Data, Datastream, Mirae Asset Research

Kumho Petrochemical (011780 KS)



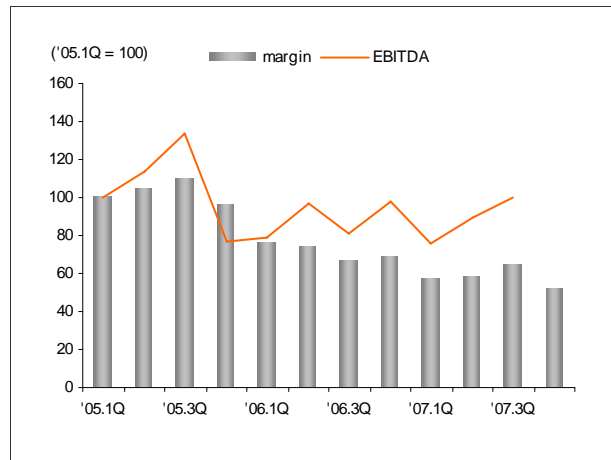
Source: Company Data, Datastream, Mirae Asset Research

Hanwha Chemical (009830 KS)



Source: Company Data, Datastream, Mirae Asset Research

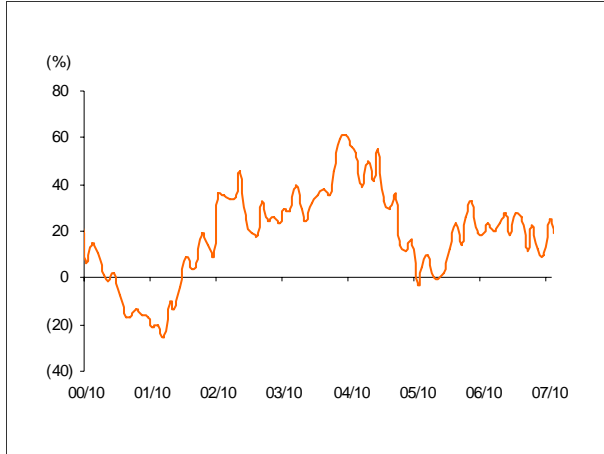
SK Chemicals (006120 KS)



Source: Company Data, Datastream, Mirae Asset Research

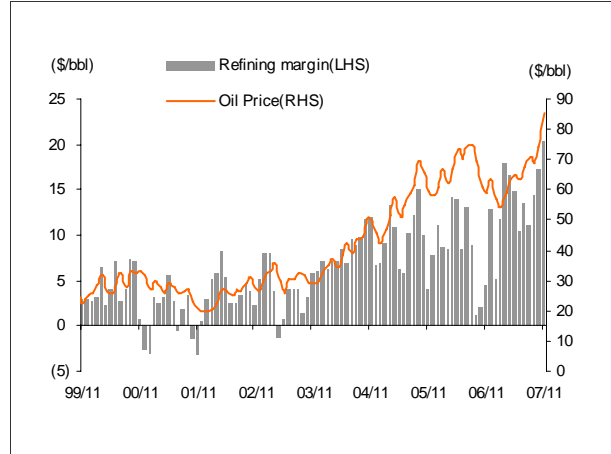
Korea Petrochemical Product and Imports/Exports Trends

Petrochemical Product Exports Growth Slowed



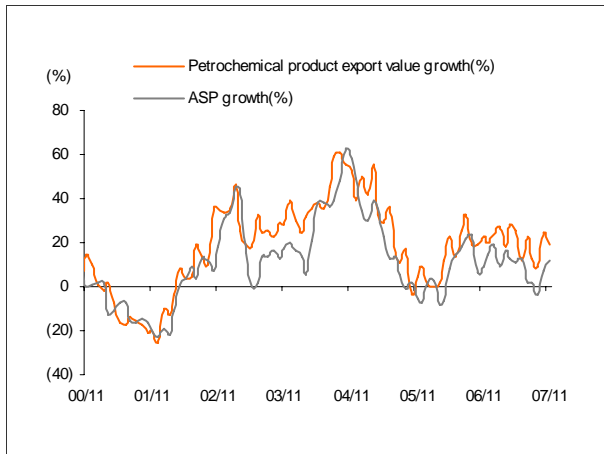
Source: KITA, Mirae Asset Research

Refining Margin for Exports and Dubai Oil Price Trends



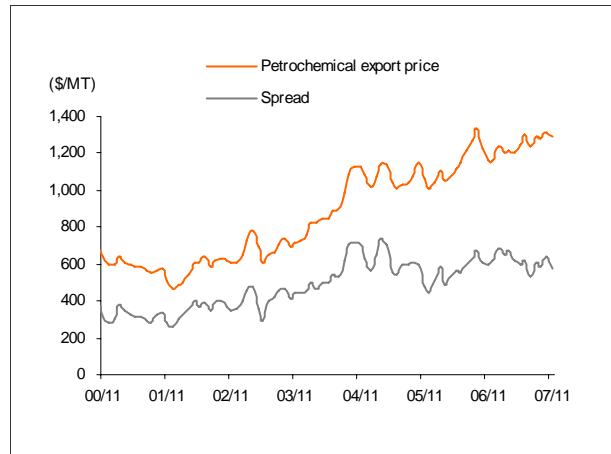
Source: KITA, Mirae Asset Research

Petrochemical Product Export Value and Price Growth



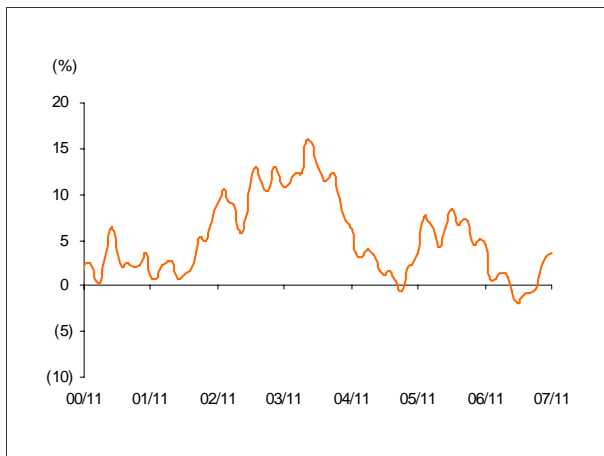
Source: KITA, Mirae Asset Research

Petrochemical Product Export Price and Spread Trends



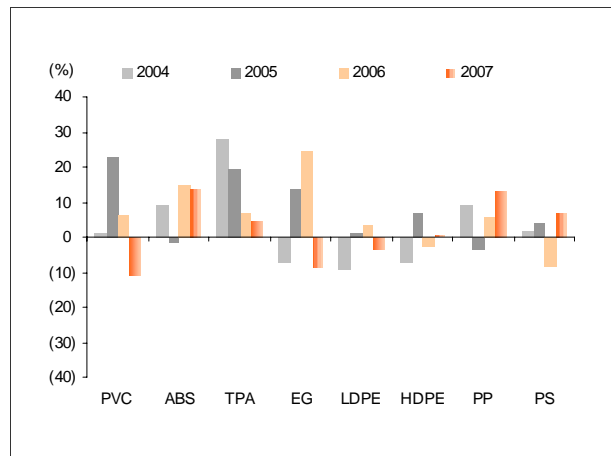
Source: KITA, Mirae Asset Research

Synthetic Resin Exports Volume Growth



Source: KITA, Mirae Asset Research

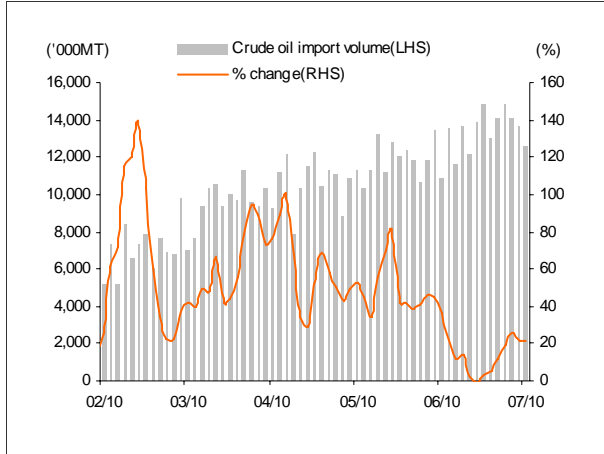
Annual Cumulative Shipment Growth by Petrochemical Product



Source: KITA, Mirae Asset Research

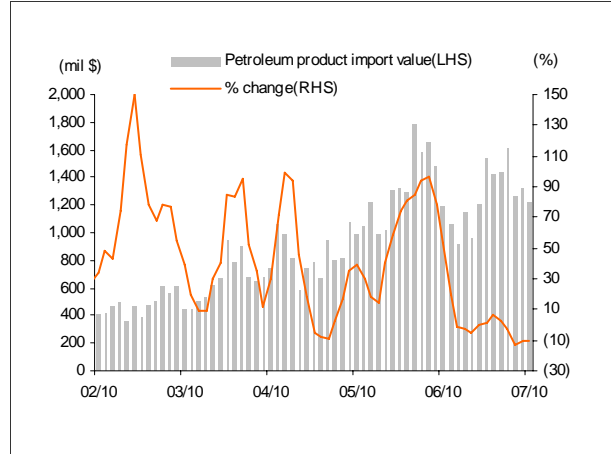
China Petrochemical Product and Imports/Exports Trends

Crude Oil Imports



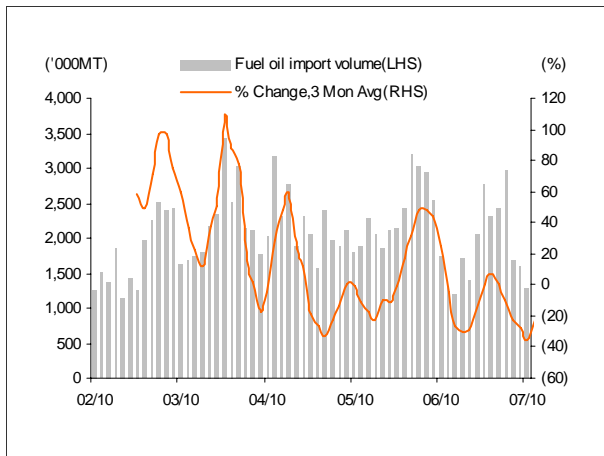
Source: KITA, Mirae Asset Research

Petroleum Products Imports



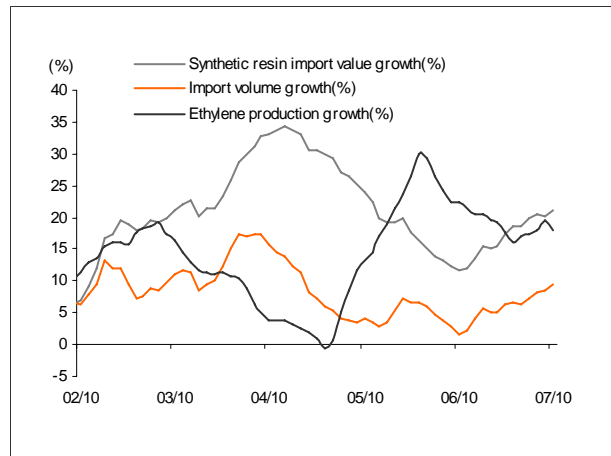
Source: KITA, Mirae Asset Research

B-C Oil Import



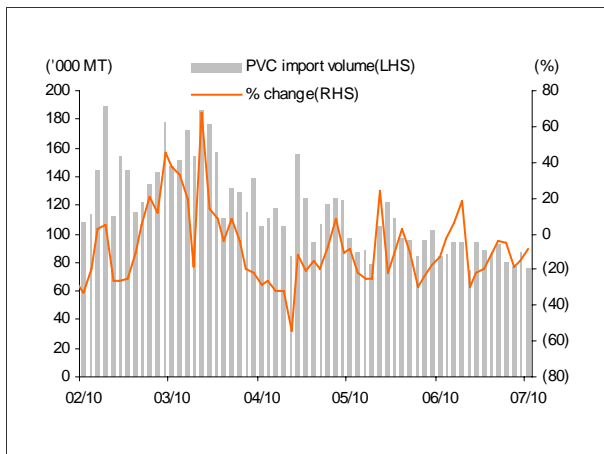
Source: KITA, Mirae Asset Research

Synthetic Resin Import Growth



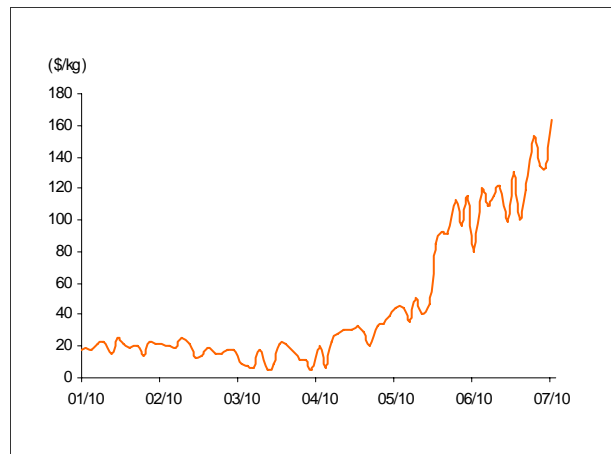
Source: KITA, Mirae Asset Research

PVC Import Volume and Growth



Source: KITA, Mirae Asset Research

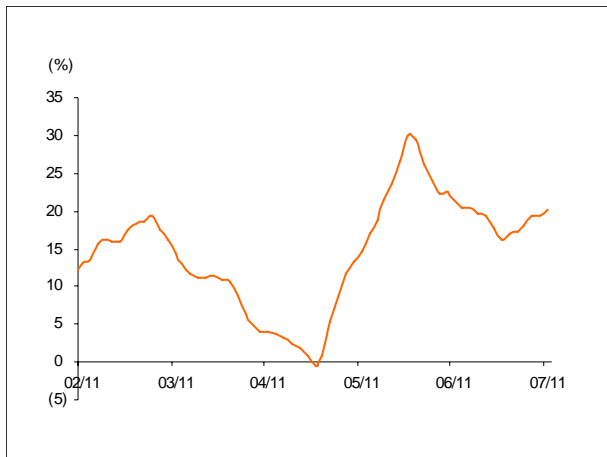
Polysilicon Import Price



Source: KITA, Mirae Asset Research

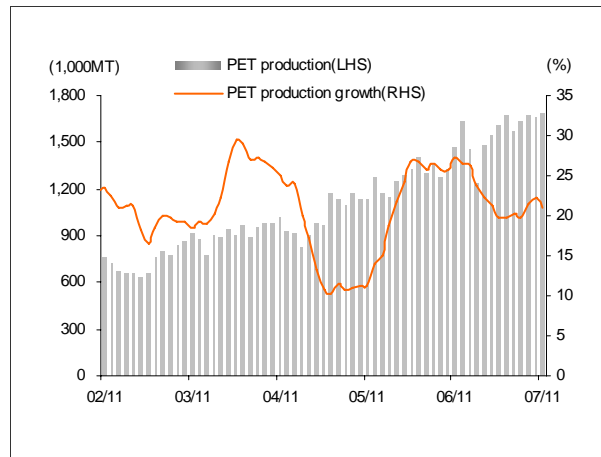
China Production Statistics

Ethylene Production Growth



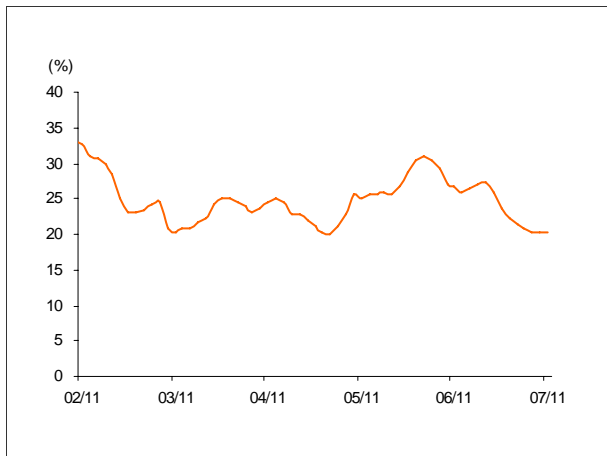
Source: CEIC, Mirae Asset Research

PET Production Growth



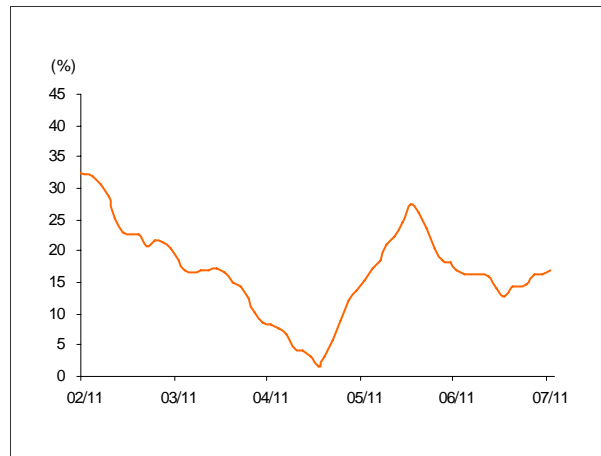
Source: CEIC, Mirae Asset Research

PVC Production Growth



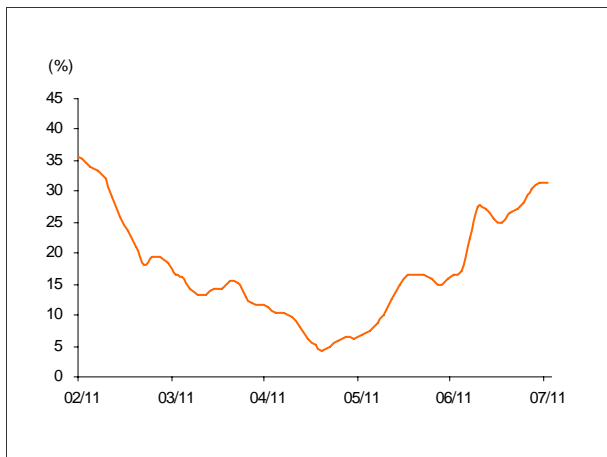
Source: CEIC, Mirae Asset Research

PE Production Growth



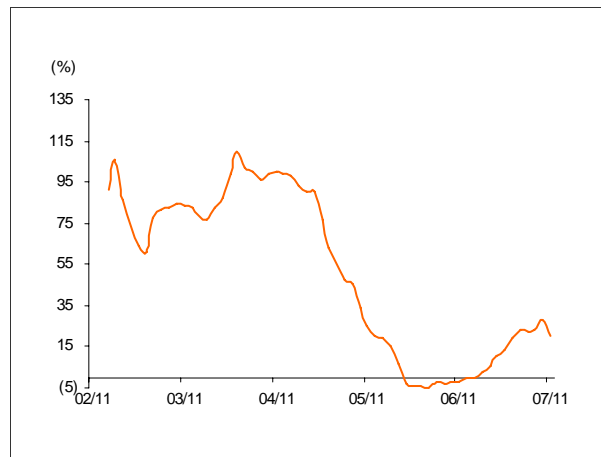
Source: CEIC, Mirae Asset Research

PP Production Growth



Source: CEIC, Mirae Asset Research

MEG Import Growth



Source: CEIC, Mirae Asset Research

● 투자의견 ●

종목별 투자의견 (6개월 기준)

- BUY : 현주가 대비 목표주가 +20% 초과
- Hold : 현주가 대비 목표주가 ±10%이내
- Reduce : 현주가 대비 목표주가 -20%초과
- 단, 업종 투자의견에 의한 ±10%내의 조정치 감안 가능

업종별 투자의견

- Attractive : 현 업종지수대비 +10% 초과
- Neutral : 현 업종지수대비 ±10% 이내
- Cautious : 현 업종지수 대비 -10%초과
- ※ 업종별 투자의견의 용어를 재정의 함
- Overweight → Attractive / Underweight → Cautious로 2005년 8월 3일부터 변경함

● Earnings Quality Score ●

$$\text{Earnings Quality Score} = 0.70 * (\text{Earnings Stability}) + 0.15 * (\text{Earnings Certainty}) + 0.15 * (\text{Earnings Forecast Accuracy})$$

1. Historical Earnings Stability

- 최근 5년간 분기 순이익 성장률(YoY)의 변동성을 100분위 지표로 환산.
- 변동성은 outlier에 의한 왜곡현상을 최소화하기 위해 표준편차(SD) 대신 MAD(Median Absolute Deviation)로 산정.
- 순이익 분기 성장률(YoY) 변동성이 낮을수록 등 지표값이 높음.

2. Consensus Forecast Certainty

- 12개월 예상 EPS(컨센서스 기준) 추정치에 대한 애널리스트간 견해차를 100분위 지표로 환산.
- 견해차는 12개월 예상 EPS의 '표준편차 / 평균'으로 산정.
- 견해차가 작을수록 등 지표값이 높음.

3. Consensus Forecast Accuracy

- 최근 3년간 EPS surprise 절대값의 평균(median)을 100분위 지표로 환산.
- EPS surprise는 '(연말 실제치 - 연초 추정치)/연초 추정치'로 산정.
- Surprise의 절대크기가 낮을수록 등 지표값이 높음.

* 참고사항

- 1) Consensus Forecast Certainty 및 Consensus Forecast Accuracy는 예상 EPS 컨센서스 추정치 수가 5개 이상인 기업만을 대상으로 하였음.
- 2) 각 지표를 산정할 수 없을 경우에는 평균인 50을 부여하였음.

● Compliance Notice ●

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종목	담당자	종류	담당자 보유주식수			1%이상 보유여부	유가증권 발행관련	계열사 관계여부	자사주 취득부
			수량	취득가	취득일				
해당사항없음									