

Hold

MktCap: 8.8 trn won

ROE: 15.14%

Op.Magin: 6.36%

PER: 12.19 x

PBR: 2.92 x

Dividend Yield: 6.46 %

Major Shareholder:

Saudi Aramco. (35%)

Foreign Shares: 46.4%

Valuation

Target Price: 70,000-99,000

Price: 78,300

Maintain Hold, with TP range of 70,000-99,000

Our overall outlook on S-Oil is good, based on its specialized and differentiated production and client base, but not good enough to invest in the company at this time. Lower bound of our target price range turned out to be 70,000 won, which is lower than the current stock price of 78,300 won. A decent amount of dividend is expected, but short-term investors might not fully enjoy dividend yield in case of ex-dividend.

Strong cracking margin and weakening refining margin

Under the circumstances of slowly shrinking refining margin and increasing cracking margin, S-Oil has been the biggest beneficiary of this trend. As cracking margin is expected to be widening, S-Oil will be able to maintain its high profitability and productivity. On the other hand, its sales decreased by 1.6% in 2006 due to tough competition in domestic market, arising from weakening refining margin.

Dividend issue

S-Oil usually pays dividends twice a year: during and at the end of each fiscal year. Although the company paid dividend of 8,300 won per share in March this year, it's expected to pay additional dividend at the end of 2007 thanks to 1) strong cracking margin, and 2) increased reserve by treasury stock transaction amounting to 2.4 trillion won.

Eun Young Bu

Colin K. Kim

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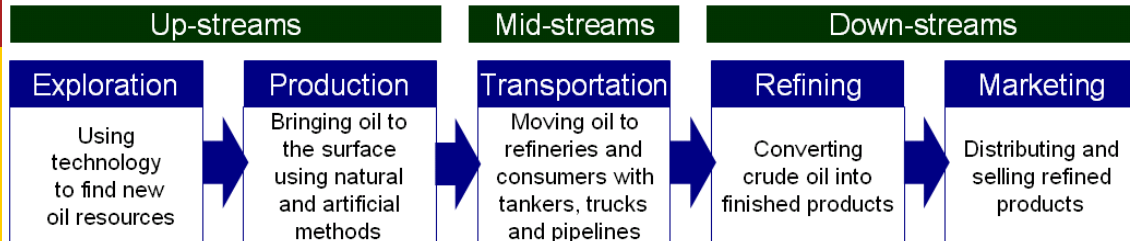
Jong Wook Lee

Jae Won Jang

1. Introduction to the petroleum refining industry

The oil industry is referred to as a whole process, from exploring oil from oil fields and refining oil, to supplying oil products to manufacturing companies and end-consumers.

It is generally divided into three part; up-streams, mid-streams, and down streams according to each stage of the process. See below to help you understand a whole production flow.



Crude oil needs to be converted into usable products such as gasoline, diesel, LPG to be able to be consumed. The domestic refineries such as S-Oil, GS Caltex, and SK Energy usually participate in the refining and marketing process.

* Refining process

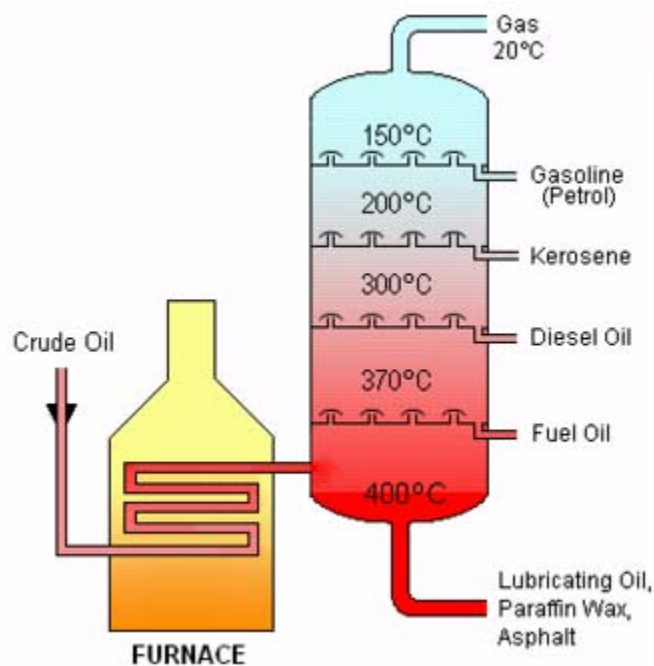
Crude oil is composed mainly of hydrocarbons of various weights. When the crude oil is heated, the different hydrocarbons boil at different temperatures and can therefore be drawn off and re-liquefied. Refineries are rated according to this crude distillation capacity.

Since lighter hydrocarbons are usually more valuable than heavy ones, most refineries further process the middle and heavy distillates in various "downstream" operations that extract further light hydrocarbons ("cracking" long hydrocarbons into smaller pieces). Common downstream operations include vacuum distillation, catalytic cracking, hydrocracking, and coking.

All of these processes occur in separate production units that are interconnected and that generally operate on a continuous-flow basis. Most refineries also operate gasoline-blending processes and have significant storage facilities.

(Reference: http://www.hoovers.com/petroleum-refining--ID__155--/free-ind-fr-profile-basic.xhtml)

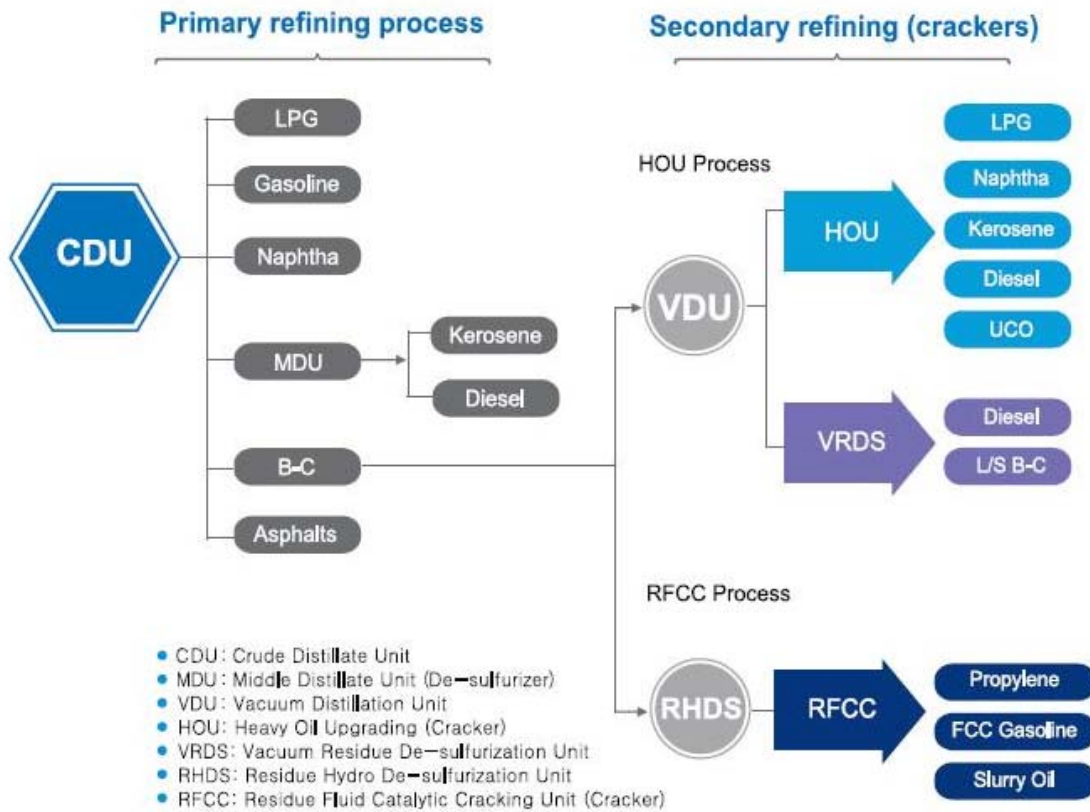
Crude oil costs vary according to origin because of transportation costs and the grade of the oil. Most Korean refineries are heavily relying on Dubai containing high sulfur.



Generally, LPG and gasoline are more expensive than heavy oils such as B-C or Asphalt. Gasoline or gases are produced less than heavy oil whereas the demand on them is much higher. (B-C is approximately 40% of their outputs)

This resulted in development of the process of turning B-C into usable products. This process includes Fluid Catalytic Cracking (RFCC), Thermal Cracking (HOU), and Hydro-cracking (VRDS), and is normally called “cracking”, long hydrocarbons into smaller and lighter pieces.

While large integrated oil companies, like Exxon Mobil and BP, supply their refineries with oil from their own exploration and production operations, many refineries including Korean one must buy oil from other producers or wholesalers. To ensure adequate supplies, anticipated need is filled under short or long-term supply contracts (that typically contain a price adjustment mechanism) and through purchases on the spot market. Refiners are very sensitive to market prices of crude oil and can adjust their refineries to accept oil of varying grades, depending on availability and comparative prices.



* Two significant indicators: Refining spread and Cracking spread

1) Refining spread

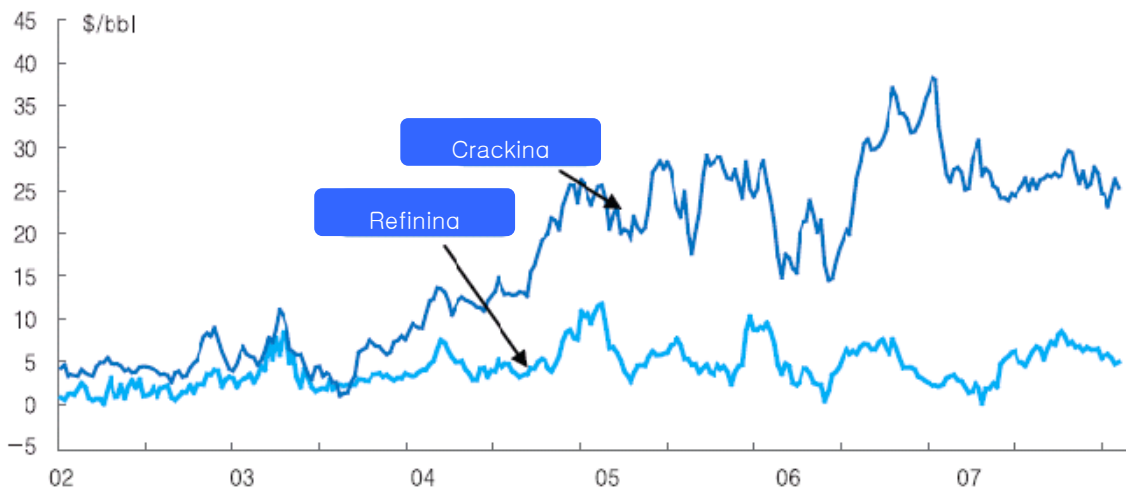
Refining spread means the profit as refining 1 bbl of crude oil. It is generally calculated by the spread(differences) between the MOPS(Means Of Platts Singapore; especially the price of gasoline and LPG) in SGX(Singapore Exchange market) and Dubai crude oil price. It is the most significant factor to determine the profit margin of the refining companies.

Refining spread is generally stable in a long term scale. However, since only \$1 of change in spread significantly influences the profit, the changes are very important to the stock price of companies. It is seasonal fluctuation as well, due to the annual maintenance period of the facilities.

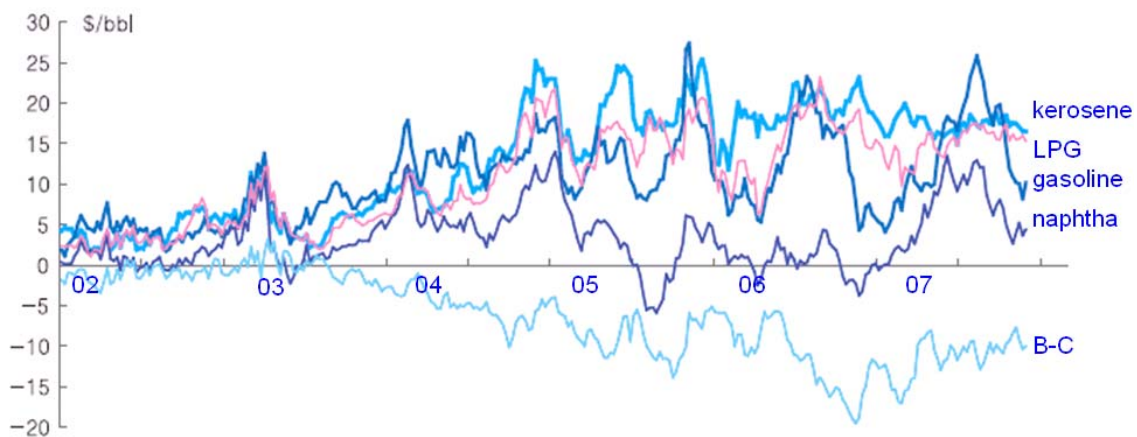
2) Cracking spread

Cracking margin is usually calculated by the price of gasoline less B-C and is much higher than refining spread. Recently, demand on light oil is rising sharply, encouraging refineries to expand its cracking facilities and production of light oil.

<Recent trend of refining spread and cracking spread>



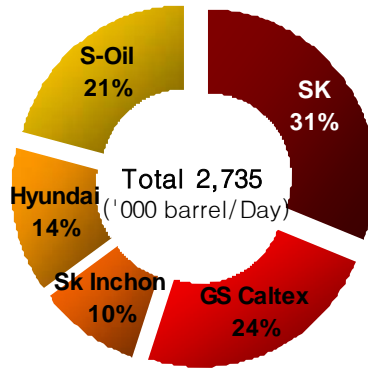
<Price spread to a crude oil, Dubai>



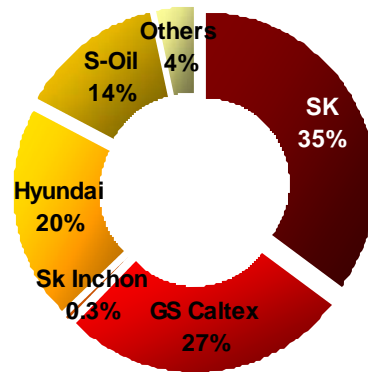
2. Domestic market situation

There are four main players in domestic petroleum refining market. : SK Energy, S-Oil, GS Caltex, and Hyundai Oilbank. SK Energy is the market leader, holding 31% of market shares based on refining capacity. Taking into account of its subsidiary, SK Incheon, SK Energy accounts for 41% of the domestic market.

Market Share by Company Based on CDU(2005)



Market Share by Company Based on the Number of Gas Stations

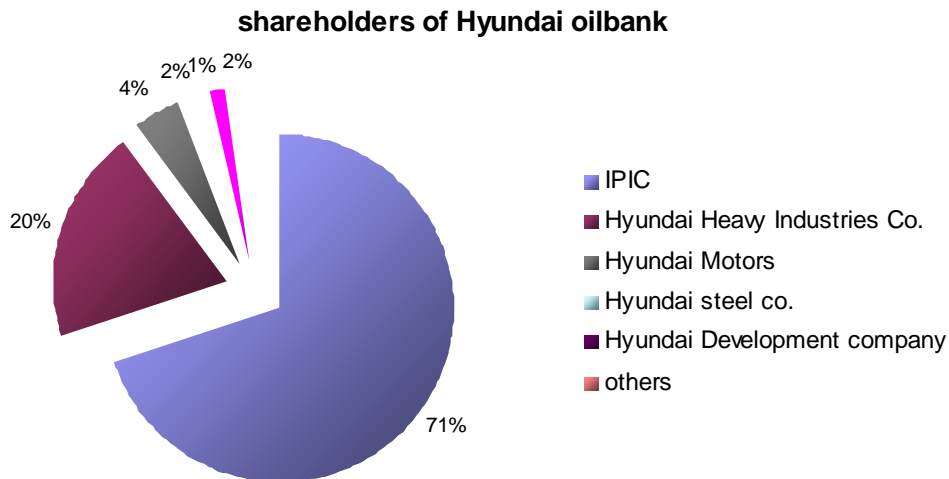


* Competition on bidding Hyundai Oilbank

Currently IPIC, an oil company in the United Arab Emirates` state, is looking to sell half of its 70 percent stake in Hyundai Oilbank. Several local and foreign bidders are known to make bids for the stake, including GS Caltex, Hyundai Heavy Industries Co., Lotte Group, Conoco-Phillips Co., a multinational petrochemical firm based in the United States, and S-oil.

This is considered to be a huge issue as the competitive situation will go through a big change depending on who takes over Hyundai Oilbank. In case GS Caltex successfully acquires Hyundai Oilbank, it will be able to meaningfully compete with SK Energy, the market leader.

Since S-Oil recently cancelled its plans to build a second plant in Seo-san city, the company is able to self-fund for M&A. According to Hyundai oilbank's officials, S-Oil and GS Caltex are considered to be the strongest candidates because they have offered the highest bidding price,



3. S-Oil: Competitive Advantages Analysis

1) A strong relationship with its supplier, Saudi Aramco, a major shareholder

S-Oil purchases crude from Saudi Aramco, an upstream producer having a strong presence in Saudi Arabia. Aramco is claiming 35% stakes in S-Oil, enabling stable supply of crude. As its crude supply is based on the long-term contract, S-Oil could develop its refining facilities to be optimized to crack Arabian crude, which as a result brought highest operating margin to the company. The partnership with Aramco is expected to be stable and sustainable as Saudi Aramco announced its will to maintain sound relationship with a couple of current downstream alliance partners.

2) Competitive product lines in Oil refining, petrochemicals, and lube oil business

When we focus on their production capability, S-OIL is difficult to pick out weakness

comparing to other domestic competitors. It has 3 related business lines to produce various competitive petroleum products.

A. Oil refining: Some technological advantages in initial crude distillation process may exist, but it's quite difficult for the public who has no industry background to understand specific differences.

What we should take a look is the bunker-c cracking process. Cracking margin has significant impact on performance of oil refineries. S-Oil has been benefited from high cracking margins which entered into a new level of twenty dollars per barrel since 2004, despite of slightly decreasing refining margin. S-Oil has been freer from shrinking refining margin than the rest , with its large HOU facility.

S-Oil has got the highest rate of facility upgrade ratio of 42.2% compared to SK Energy (19.8%), GS Caltex (23.7%) and Hyundai Oil Bank (21.4%). However, current large gap is expected to shrink as SK Energy and GS Caltex are expanding their heavy oil upgrading (HOU) capacities, catching up with S-Oil.

Recently, GS Caltex has completed the HOU facilities in Yeo-su, and is scheduled to begin commercial production in October. SK Energy is anticipated to be the leader with new facilities of SK Incheon, which is scheduled to begin full operation in the second quarter of 2008.

Moreover, S-OIL has a competitive edge in producing ultra low-sulfur kerosene and diesel for consumers' direct use. Its products are well-known for their lowest level of sulfur content, which will make it more competency as environmental regulations gets stricter.

B. Petrochemicals: Naphtha is refined during crude distillation, and it is converted into petrochemical products such as benzene, toluene and xylene in BTX plant. There's more. S-Oil has the world-largest single para-xylene plant. The low- priced products from existing BTX plant are used as raw materials to produce high-value added para-xylene products. It means S-Oil is not only able to produce high-valued petrochemical products but reduce production cost.

C. Lube oil business: Since its foundation in 1976, S-Oil has been a leader of lube base oils in the domestic market. Now, after continuous facility upgrades, S-Oil is an all-round lube oil maker with consistent production system up from crude oil down to lubricants, which enables to sustain stable good quality and steady supply to customers. And also the company concentrates on producing relatively high-value added lubricants to maximize its advantage as a high-quality lube base oil manufacturer.

3) Domestic Sales & Exports

The sales of S-Oil can be divided into two segments, domestic market and abroad. 45% of total sales have been occurred in domestic market, such as government & other companies (51%), gas stations (30%) and end-consumers (19%). About 55% of total sales go to global market, such as Japan (27%), USA (21%), China (20%), Australia (5%), Singapore (5%), Chile (3%) and others (19%). This diverse client base makes it possible reducing seasonal fluctuation and regional risk.

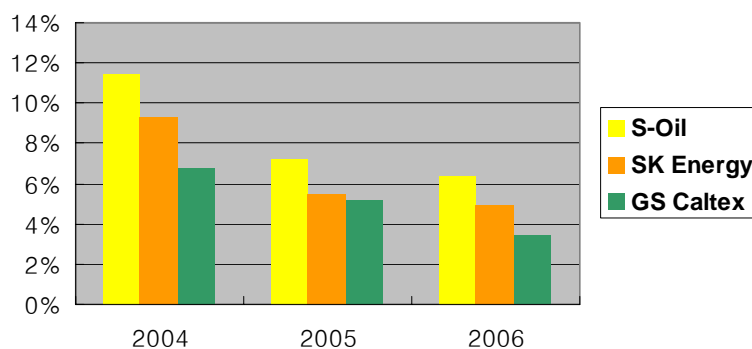
Although there's no much room for further increase in domestic market shares, the stagnant market share is not considered to be such a critical issue as each player established its own position in the market and S-Oil has been successfully diversified its client base into overseas market.

4) Strong financial performance

S-Oil has aggressively pushed ahead with its far-sighted investments that have enabled the Company to become a global leader in terms of cracking capacity. Thanks to its high conversion capacity, S-Oil is the biggest beneficiary of the change of refining economics since 2004, in which cracking spreads have entered a new plateau in the level of late twenty-dollar per barrel. This makes it possible for S-Oil to show off the highest profitability and return among its competitors.

Taking into account of abnormal performance in 2004 due to the increased cracking margin, S-Oil has achieved stable operating margin of 6-7%, and ROE of 25% to 30%, which are consistently higher than its main competitors, SK Energy and GS Caltex.

Comparison of Operating Margins



The company's high operating margin can be broke down into two factors, higher gross margin

and lower SG&A compared to its competitors. In 2006, S-Oil achieved a quite high gross margin and spent less SG&A, which accounts for 2.6% of its sales, resulting in higher operating margin of 6.36%. SK Energy recorded slightly higher net profit margin than S-Oil thanks to income from its subsidiary, SK Incheon.

<Performance comparison of the three in 2006>

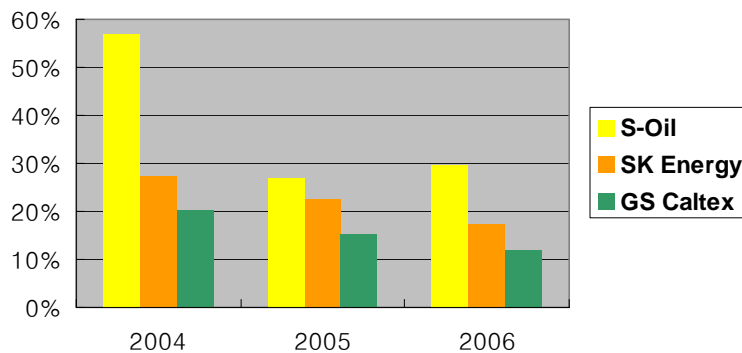
	S-Oil	SK Energy	GS Caltex
gross margin	9%	10.03%	6.99%
SG&A	2.60%	5.11%	3.70%
operating margin	6.36%	4.93%	3.40%
net profit margin	5.21%	5.89%	3.24%

(source : each company's financial statement)

SK Energy and GS caltex might have to spend higher proportion of its sales in marketing and promotion to maintain its market shares. As S-Oil doesn't aim to aggressively expand its domestic market shares, high margin is expected to remain stable around the current level.

The investment productivity of S-Oil is significantly superior to that of both SK Energy and GS Caltex. ROE is consistently higher than its competitors and ROA is two times of SK Energy, the market leader in terms of market share.

Comparison of ROEs

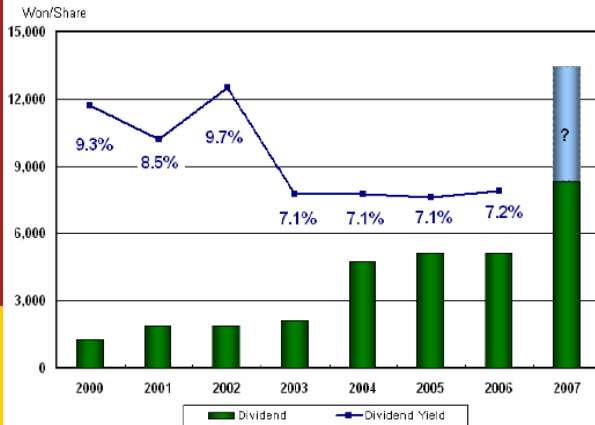


	S-Oil	SK Energy	GS Caltex
ROA	15.14%	7.11%	5.55%

The company's current ratio was 139% in 2006, which has been gradually improved from 71% in 2001, and debt ratio decreased to 185.2% from 255.5% in 2001.



5) High dividend yield



After its outstanding performance in 2004, S-Oil has been paid out 60-70% of its earnings, maintaining 7% of dividend yield. It pays dividend twice a year, during and at the end of each fiscal year. This year, S-Oil paid 8,300won per share in April, bringing 12% of dividend yield to its shareholders. Total amount of dividend paid was about 90% of net profit last year, but S-Oil will keep paying regular year-end dividend this year thanks to the widening trend of crack spread and increased reserves coming from its treasury stock transaction of selling its stake of 28.4% to Hanjin Energy at 2.4 trillion won.

4. Risk

1) Stagnant capacity

- Plant expansion plan was postponed indefinitely

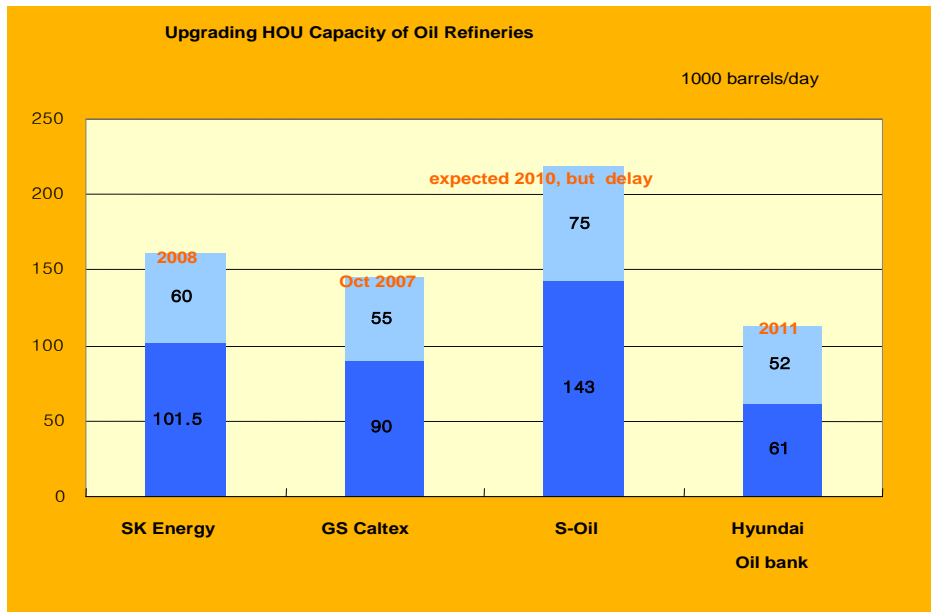
: The capacity of oil refining firm is a critical factor to determine its competitiveness. In addition, to increase capacity, there should be huge investment and long time to build facility. Therefore, once S-oil misses the opportunity to expand its capacity at the certain time, S-oil would face lack of competitiveness in the future with higher possibility.

Thus, we consider the delay of plant expansion as a risk factor. Due to doubled construction cost and conflicts with local community, plant expansion plan was postponed indefinitely.

Competitors may threat S-OIL with larger capacity within few years. Based in the figure below, S-oil would have smaller capacity than SK Energy and GS Caltex after 2008 in case S-oil does not upgrade its capacity of refineries.

Whether S-oil would invest on refining facility or not would be an important factor to anticipate

the competitive and it's sustainable in the future.



2) Low domestic market share

- To increase market share in a mature market, there should be huge marketing expense.

: S-OIL has reserved around 13.4% of market share based on the number of gas station
 There's little incentive to actively expand its domestic market shares. At a glance, it seems that there are plenty of rooms to increase. However, domestic market has mature structure and it hasn't been changed for last seven years. In other words, it is an oligopoly market. Thus, if S-oil announces to increase its domestic market share and locate marketing expense in it, it won't be a good signal.

구분	SK	GS	현대	S-Oil	무플 등	계
2001 (점유율)	3,835 (35.7)	2,896 (27.0)	2,144 (20.0)	1,434 (13.4)	424 (4.0)	10,733
2002 (점유율)	3,862 (35.7)	2,906 (26.8)	2,157 (19.9)	1,450 (13.4)	453 (4.2)	10,828
2003 (점유율)	3,847 (35.0)	2,953 (26.8)	2,148 (19.5)	1,464 (13.3)	593 (5.4)	11,005
2004 (점유율)	3,913 (34.4)	3,066 (27.0)	2,191 (19.3)	1,540 (13.6)	648 (5.7)	11,365
2005 (점유율)	4,005 (34.3)	3,165 (27.1)	2,245 (19.1)	1,599 (13.7)	650 (5.6)	11,664
2006 (점유율)	4,183 (34.8)	3,258 (27.1)	2,336 (19.4)	1,609 (13.4)	633 (5.3)	12,019

3) Possible exports decrease to China

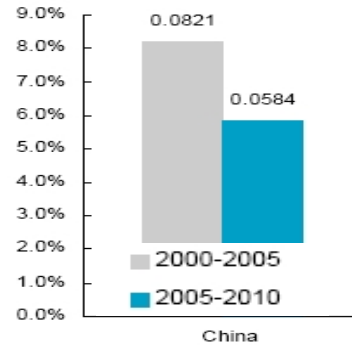
- China market has become a mature market. The Expected growth rate becomes lower.

The figure on the right shows demands trend in China.

Gray square represents the growth rate during 2000~2005.

Blue square represents the growth rate during 2005~2010.

As it shows, Oil demands in China becomes mature.



- Chinese local firms would increase its capacity of refineries, so large portion of china market demands would be satisfied with its domestic supply

- Export to China (11% of total sales) may lose its ground

: By 2010, new refining facilities currently under construction in China will have been started their operating Total capacity is considered to be sufficient for whole Chinese market demands. In addition, several Asian oil firms plan to increase its capacity. China oil market has huge size and relatively higher growth rate. It attracts foreign firms. In other words, S-oil may face stiff competition after other major Asian firms finishing their investment on new facilities.

년도	국가	지역	기업	분기	신증설(천b/d)
07	인도	Mumbai	HPCL	1	48
07	인도	Visakhapatnam	HPCL	2	16
07	말레이시아	Kemaman	Kemaman Bitumen	2	13
07	파키스탄	Karachi	Bosicor	2	17
07	태국	Sriracha	Thai Oil	2	50
07	싱가폴	Jurong/P. Ayer Chawan	Concord Energy /1	3	75
07	중국	Dushanzi	PetroChina	4	80
07	중국	Qingdao	Sinopec	4	200
07	중국	Yumen	PetroChina	4	50
07	중국	Qinyang	PetroChina	4	36

08	중국	Yanshan	Sinopec	1	40
08	중국	Changqing	PetroChina	1	100
08	중국	Maoming	Sinopec	1	80
08	일본	Kashima	Kashima Oil	1	56
08	인도	Vadinar	Essar Oil	2	71
08	인도	Koyali	IOC	2	40
08	인도	Manali	CPCL	2	60
08	중국	Huizhou	CNOOC	2	240
08	스리랑카	North of Colombo	Private Sector	2	20
08	인도	Jamnagar /1	Reliance	3	580
08	태국	Map Ta Phut	PTT Rayong /6	3	65
08	중국	Fushun	PetroChina	3	46
08	중국	Fujian	Sinopec/Exx/SA	4	160
09	인도	Ambalamugal, Kochi /1	BPCL/Kochi Ref.	1	30
09	중국	Tianjin	Sinopec	1	200
09	중국	Tianjin	Sinopec	1	(50)
09	베트남	Dung Quat	Petrovietnam	1	121
09	이란	Abadan	NIOC	1	50
09	이란	Arak	NIOC	1	80
09	이란	Tabriz	NIOC	1	51
09	인도	Mangalore	MRPL/ONGC	2	106
09	중국	Qinzhou (Guangxi)	PetroChina/3	2	200
09	말레이시아	Melaka	M'sia Ref. Co.	2	25
09	인도	Bina /1	BORL (GR)	4	120

4) Fluctuating Oil prices and demands trend

- Fluctuating oil price affects to unsustainable supply cost.

: Oil price has been fluctuating by political and economic reasons



- Fluctuating demands occurs difference between procurements price and end-products price

When oil price increases faster than end-products price, refining margin could lower to less than break-even level. (Usually 10\$/bbl)

4. Valuation

The most pivotal factor which affects S-Oil's performance is undoubtedly oil price. On one hand, when oil price goes up, oil refineries tend to pass through their cost to customers by raising the price of products. Revenues will move up and down accordingly. On the other hand, its cost is heavily based on at what price the company can import crude oil, which is determined partly by the oil price in the international market. Even though some companies get hold of long-term contracts of importing oil, a part of the procurement price is floating-based.

Therefore, in deriving TP for S-Oil, we have come up with three scenarios, in which oil price move differently – 1) it will go up to \$100/barrel and continue to be strong, 2) it will be hovering around the current price, \$80/barrel, and 3) it is expected to go down to \$60/barrel. In each scenario, we tested both objective and relative valuation methods.



Revenue forecast	2006/12	2007/12	2008/12	2009/12	2010/12	2011/12	2012/12
	14,556,000	15,247,563	20,692,246	20,821,913	20,821,913	20,821,913	20,821,913

IC forecast	2006/12	2007/12	2008/12	2009/12	2010/12	2011/12	2012/12
Operating current asset	3,296,399	3,666,091	4,975,199	5,006,376	5,006,376	5,006,376	5,006,376
Non-IBD	3,102,631	4,420,734	5,999,314	6,036,908	6,036,908	6,036,908	6,036,908
Operating working capital	193,768	(754,643)	(1,024,115)	(1,030,532)	(1,030,532)	(1,030,532)	(1,030,532)
Net PPE	1,560,188	2,034,502	2,760,994	2,778,295	2,778,295	2,778,295	2,778,295
Other operating assets (net)	17,737	10,068	13,663	13,749	13,749	13,749	13,749
Operating IC	1,771,693	1,289,928	1,750,542	1,761,512	1,761,512	1,761,512	1,761,512

NOPLAT	2006/12	2007/12	2008/12	2009/12	2010/12	2011/12	2012/12
EBIT	925,749	1,020,790	1,385,300	1,393,981	1,393,981	1,393,981	1,393,981
Adjustment in pension-related liability	1,895	(157)	(213)	(215)	(215)	(215)	(215)
Increase in general allowances	403	(1,945)	(2,639)	(2,656)	(2,656)	(2,656)	(2,656)
Adjusted EBIT	928,046	1,018,688	1,382,447	1,391,110	1,391,110	1,391,110	1,391,110
Taxes	296,162	272,735	370,125	372,444	372,444	372,444	372,444
NOPLAT	631,884	745,953	1,012,322	1,018,666	1,018,666	1,018,666	1,018,666

ROIC	2007/12	2008/12	2009/12	2010/12	2011/12	2012/12
NOPLAT	745,953	1,012,322	1,018,666	1,018,666	1,018,666	1,018,666
Operating IC (Beginning)	1,289,928	1,750,542	1,761,512	1,761,512	1,761,512	1,761,512
ROIC	57.83%	57.83%	57.83%	57.83%	57.83%	57.83%
ROIC (when using ROIC avg.)	48.73%	66.59%	58.01%	57.83%	57.83%	57.83%

FCF	2007/12	2008/12	2009/12	2010/12	2011/12	2012/12
NOPLAT	745,953	1,012,322	1,018,666	1,018,666	1,018,666	1,018,666
Depreciation	25,523	34,637	34,854	34,854	34,854	34,854
EBIT	771,476	1,046,959	1,053,519	1,053,519	1,053,519	1,053,519
(-) Increase in WC	(948,411)	(269,472)	(6,418)	0	0	0
(-) CAPEX	499,837	761,128	52,155	34,854	34,854	34,854
(-) Increase in other assets	(7,669)	3,595	86	0	0	0
Total investment	(456,243)	495,251	45,823	34,854	34,854	34,854
FCF	1,227,718	551,708	1,007,696	1,018,666	1,018,666	1,018,666

Cost of equity	
korean risk free rate	5.01%
korean market risk premium	7.50%
levered company beta	0.52
company risk premium	3.90%
levered cost of equity	8.91%

Financing Structure	
Equity	
Current Price('000)	78.3 (as of Oct 12 close)
No. of shares in issue	112,582,000
Equity	8,815,170,600
Debt	
ST debt	972,410,339
Current Portion of LT borrowings	101,441,492
Bonds	208,468,967
LT debt	688,929,008
Debt	1,971,249,806
D/C	18.28%
E/C	81.72%

Cost of Debt	
korean risk free rate	5.01%
spread over risk free rate	0.00%
cost of borrowing	5.01%
Marginal Tax rate	27.50%
cost of debt	3.63%

WACC 7.95%

PVs of FCF (2007-2011)	1,137,351	473,478	801,154	750,264	695,040	643,880
Total discounted FCF	4,501,167					

CV	
ROIC on New Investment	10%
NOPLAT terminal growth	1%
CV	13,199,949

FCF+CV	11,134,506,881
No. of shares in issue	112,582,000

Target price 99,000

Scenario #2

: Oil price will be hovering around \$80/barrel

	1Q07	2Q07	3Q07	4Q07	1Q08	2Q08	3Q08	4Q08	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10	4Q10	1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	3Q12	4Q12
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How will it affect the unit price?

LPG	52.1	56.5	58.1	61.4	62.3	59.8	56.8	61.9	62.3	59.8	56.8	61.9	62.3	59.8	56.8	61.9	62.3	59.8	56.8	61.9	62.3	59.8	56.8	61.9
Gasoline	67.5	85.3	87.4	95.7	97.9	91.7	84.4	96.9	97.9	91.7	84.4	96.9	97.9	91.7	84.4	96.9	97.9	91.7	84.4	96.9	97.9	91.7	84.4	96.9
Naphtha	59.3	69.4	70.3	76.0	77.6	73.2	68.1	76.9	77.6	73.2	68.1	76.9	77.6	73.2	68.1	76.9	77.6	73.2	68.1	76.9	77.6	73.2	68.1	76.9
Kerosene	70.7	87.0	90.1	96.5	98.3	93.4	87.7	97.5	98.3	93.4	87.7	97.5	98.3	93.4	87.7	97.5	98.3	93.4	87.7	97.5	98.3	93.4	87.7	97.5
Jet oil	69.0	76.3	85.5	91.5	93.1	88.6	83.4	92.3	93.1	88.6	83.4	92.3	93.1	88.6	83.4	92.3	93.1	88.6	83.4	92.3	93.1	88.6	83.4	92.3
Diesel	69.7	80.2	89.1	96.5	98.5	92.9	86.4	97.5	98.5	92.9	86.4	97.5	98.5	92.9	86.4	97.5	98.5	92.9	86.4	97.5	98.5	92.9	86.4	97.5
Bunker-C	50.9	56.4	58.8	63.1	64.2	61.0	57.2	63.7	64.2	61.0	57.2	63.7	64.2	61.0	57.2	63.7	64.2	61.0	57.2	63.7	64.2	61.0	57.2	63.7
Asphalt	35.4	37.9	50.9	58.9	61.1	55.0	47.9	60.0	61.1	55.0	47.9	60.0	61.1	55.0	47.9	60.0	61.1	55.0	47.9	60.0	61.1	55.0	47.9	60.0
Other	48.2	50.9	56.8	62.1	63.5	59.5	54.9	62.9	63.5	59.5	54.9	62.9	63.5	59.5	54.9	62.9	63.5	59.5	54.9	62.9	63.5	59.5	54.9	62.9

How much will be sold (barrels)?

LPG	2,058	1,893	2,153	2,153	2,153	2,153	2,153	2,153	2,153	2,153	2,153	2,153	2,153	2,153	2,153	2,153	2,153	2,153	2,153	2,153	2,153	2,153	2,153	2,153
Gasoline	4,172	3,420	4,333	4,333	4,333	4,333	4,333	4,333	4,333	4,333	4,333	4,333	4,333	4,333	4,333	4,333	4,333	4,333	4,333	4,333	4,333	4,333	4,333	4,333
Naphtha	5,408	4,540	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534	5,534
Kerosene	6,744	2,772	3,316	5,136	5,980	2,635	3,316	5,136	5,980	2,635	3,316	5,136	5,980	2,635	3,316	5,136	5,980	2,635	3,316	5,136	5,980	2,635	3,316	5,136
Jet oil	4,903	6,692	8,432	8,432	8,432	8,432	8,432	8,432	8,432	8,432	8,432	8,432	8,432	8,432	8,432	8,432	8,432	8,432	8,432	8,432	8,432	8,432	8,432	8,432
Diesel	11,169	8,336	10,802	12,019	11,579	9,249	10,802	12,019	11,579	9,249	10,802	12,019	11,579	9,249	10,802	12,019	11,579	9,249	10,802	12,019	11,579	9,249	10,802	12,019
Bunker-C	5,309	4,682	4,551	4,551	4,551	4,551	4,551	4,551	4,551	4,551	4,551	4,551	4,551	4,551	4,551	4,551	4,551	4,551	4,551	4,551	4,551	4,551	4,551	4,551
Asphalt	924	1,058	787	787	787	787	787	787	787	787	787	787	787	787	787	787	787	787	787	787	787	787	787	787
Other	3,463	3,276	3,495	3,495	3,495	3,495	3,495	3,495	3,495	3,495	3,495	3,495	3,495	3,495	3,495	3,495	3,495	3,495	3,495	3,495	3,495	3,495	3,495	3,495

How much will the revenues be?

LPG	107,151	106,979	125,048	132,264	134,234	128,762	122,378	133,322	134,234	128,762	122,378	133,322	134,234	128,762	122,378	133,322	134,234	128,762	122,378	133,322	134,234	128,762	122,378	133,322
Gasoline	281,406	291,834	378,879	414,536	424,270	397,230	365,684	419,763	424,270	397,230	365,684	419,763	424,270	397,230	365,684	419,763	424,270	397,230	365,684	419,763	424,270	397,230	365,684	419,763
Naphtha	320,818	314,986	388,849	420,848	429,584	405,318	377,007	425,539	429,584	405,318	377,007	425,539	429,584	405,318	377,007	425,539	429,584	405,318	377,007	425,539	429,584	405,318	377,007	425,539
Kerosene	476,646	241,027	298,771	495,749	587,776	246,138	290,875	500,593	587,776	246,138	290,875	500,593	587,776	246,138	290,875	500,593	587,776	246,138	290,875	500,593	587,776	246,138	290,875	500,593
Jet oil	338,390	510,396	721,285	771,230	784,864	746,989	702,802	778,552	784,864	746,989	702,802	778,552	784,864	746,989	702,802	778,552	784,864	746,989	702,802	778,552	784,864	746,989	702,802	778,552
Diesel	778,191	668,457	962,292	1,159,223	1,140,110	859,037	932,854	1,172,199	1,140,110	859,037	932,854	1,172,199	1,140,110	859,037	932,854	1,172,199	1,140,110	859,037	932,854	1,172,199	1,140,110	859,037	932,854	1,172,199
Bunker-C	270,047	263,976	267,631	286,960	292,237	277,579	260,478	289,794	292,237	277,579	260,478	289,794	292,237	277,579	260,478	289,794	292,237	277,579	260,478	289,794	292,237	277,579	260,478	289,794
Asphalt	32,735	40,068	40,056	46,348	48,065	43,294	37,728	47,270	48,065	43,294	37,728	47,270	48,065	43,294	37,728	47,270	48,065	43,294	37,728	47,270	48,065	43,294	37,728	47,270
Other	166,833	166,865	198,598	217,024	222,055	208,081	191,779	219,726	222,055	208,081	191,779	219,726	222,055	208,081	191,779	219,726	222,055	208,081	191,779	219,726	222,055	208,081	191,779	219,726
Refining total	2,772,217	2,604,588	3,381,409	3,944,183	4,063,195	3,312,429	3,281,585	3,986,758	4,063,195	3,312,429	3,281,585	3,986,758	4,063,195	3,312,429	3,281,585	3,986,758	4,063,195	3,312,429	3,281,585	3,986,758	4,063,195	3,312,429	3,281,585	3,986,758

How much cost will incur?

COGS	2,875	3,205	3,694	4,033	4,125	3,869	3,569	4,082	4,125	3,869	3,569	4,082	4,125	3,869	3,569	4,082	4,125	3,869	3,569	4,082	4,125	3,869	3,569	4,082
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Yearly?

	2007	2008	2009	2010	2011	2012
Revenue	14,842,716	17,111,436	17,111,436	17,111,436	17,111,436	17,111,436
Refining	12,702,397	14,643,967	14,643,967	14,643,967	14,643,967	14,643,967
Lubricating	911,343	1,050,642	1,050,642	1,050,642	1,050,642	1,050,642
Petro-chemical	1,228,977	1,416,827	1,416,827	1,416,827	1,416,827	1,416,827

Revenue forecast	2006/12	2007/12	2008/12	2009/12	2010/12	2011/12	2012/12
	14,556,000	14,842,716	17,111,436	17,111,436	17,111,436	17,111,436	17,111,436
IC forecast	2006/12	2007/12	2008/12	2009/12	2010/12	2011/12	2012/12
Operating current asset	3,296,399	3,568,751	4,114,237	4,114,237	4,114,237	4,114,237	4,114,237
Non-IBD	3,102,631	4,303,357	4,961,127	4,961,127	4,961,127	4,961,127	4,961,127
Operating working capital	193,768	(734,606)	(846,891)	(846,891)	(846,891)	(846,891)	(846,891)
Net PPE	1,560,188	1,980,483	2,283,201	2,283,201	2,283,201	2,283,201	2,283,201
Other operating assets (net)	17,737	9,801	11,299	11,299	11,299	11,299	11,299
Operating IC	1,771,693	1,255,678	1,447,609	1,447,609	1,447,609	1,447,609	1,447,609
NOPLAT	2006/12	2007/12	2008/12	2009/12	2010/12	2011/12	2012/12
EBIT	925,749	993,687	1,145,572	1,145,572	1,145,572	1,145,572	1,145,572
Adjustment in pension-related liabilities	1,895	(153)	(176)	(176)	(176)	(176)	(176)
Increase in general allowances	403	(1,893)	(2,183)	(2,183)	(2,183)	(2,183)	(2,183)
Adjusted EBIT	928,046	991,640	1,143,213	1,143,213	1,143,213	1,143,213	1,143,213
Taxes	296,162	265,493	306,074	306,074	306,074	306,074	306,074
NOPLAT	631,884	726,147	837,139	837,139	837,139	837,139	837,139
ROIC	2007/12	2008/12	2009/12	2010/12	2011/12	2012/12	
NOPLAT	726,147	837,139	837,139	837,139	837,139	837,139	
Operating IC (Beginning)	1,255,678	1,447,609	1,447,609	1,447,609	1,447,609	1,447,609	
ROIC	57.83%	57.83%	57.83%	57.83%	57.83%	57.83%	
ROIC (when using ROIC avg.)	47.97%	61.93%	57.83%	57.83%	57.83%	57.83%	
FCF	2007/12	2008/12	2009/12	2010/12	2011/12	2012/12	
NOPLAT	726,147	837,139	837,139	837,139	837,139	837,139	
Depreciation	24,845	28,643	28,643	28,643	28,643	28,643	
EBIT	750,992	865,782	865,782	865,782	865,782	865,782	
(-) Increase in WC	(928,374)	(112,285)	0	0	0	0	
(-) CAPEX	445,141	331,361	28,643	28,643	28,643	28,643	
(-) Increase in other assets	(7,936)	1,498	0	0	0	0	
Total investment	(491,170)	220,574	28,643	28,643	28,643	28,643	
FCF	1,242,162	645,208	837,139	837,139	837,139	837,139	

Cost of equity	
korean risk free rate	5.01%
korean market risk premium	7.50%
levered company beta	0.52
company risk premium	3.90%
levered cost of equity	8.91%

Financing Structure	
Equity	
Current Price('000)	78.3 (as of Oct 12 close)
No. of shares in issue	112,582,000
Equity	8,815,170,600
Debt	
ST debt	972,410,339
Current Portion of LT borrowings	101,441,492
Bonds	208,468,967
LT debt	688,929,008
Debt	1,971,249,806
D/C	18.28%
E/C	81.72%

Cost of Debt	
korean risk free rate	5.01%
spread over risk free rate	0.00%
cost of borrowing	5.01%
Marginal Tax rate	27.50%
cost of debt	3.63%

WACC	
	7.95%

PVs of FCF (2007-2011)	1,150,731	553,721	665,555	616,566	571,183	529,140
Total discounted FCF	4,086,897					

CV	
ROIC on New Investment	10%
NOPLAT terminal growth	1%
CV	10,847,710

FCF+CV	9,538,171,243
No. of shares in issue	112,582,000

Target price	85,000
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Revenue forecast	2006/12	2007/12	2008/12	2009/12	2010/12	2011/12	2012/12
	14,556,000	13,636,102	14,240,925	14,240,925	14,240,925	14,240,925	14,240,925

IC forecast	2006/12	2007/12	2008/12	2009/12	2010/12	2011/12	2012/12
Operating current asset	3,296,399	3,278,635	3,424,057	3,424,057	3,424,057	3,424,057	3,424,057
Non-IBD	3,102,631	3,953,522	4,128,879	4,128,879	4,128,879	4,128,879	4,128,879
Operating working capital	193,768	(674,887)	(704,822)	(704,822)	(704,822)	(704,822)	(704,822)
Net PPE	1,560,188	1,819,483	1,900,185	1,900,185	1,900,185	1,900,185	1,900,185
Other operating assets (net)	17,737	9,004	9,403	9,403	9,403	9,403	9,403
Operating IC	1,771,693	1,153,600	1,204,767	1,204,767	1,204,767	1,204,767	1,204,767

NOPLAT	2006/12	2007/12	2008/12	2009/12	2010/12	2011/12	2012/12
EBIT	925,749	912,907	953,398	953,398	953,398	953,398	953,398
Adjustment in pension-related liabilities	1,895	(141)	(147)	(147)	(147)	(147)	(147)
Increase in general allowances	403	(1,739)	(1,816)	(1,816)	(1,816)	(1,816)	(1,816)
Adjusted EBIT	928,046	911,027	951,435	951,435	951,435	951,435	951,435
Taxes	296,162	243,911	254,729	254,729	254,729	254,729	254,729
NOPLAT	631,884	667,116	696,706	696,706	696,706	696,706	696,706

ROIC	2007/12	2008/12	2009/12	2010/12	2011/12	2012/12
NOPLAT	667,116	696,706	696,706	696,706	696,706	696,706
Operating IC (Beginning)	1,153,600	1,204,767	1,204,767	1,204,767	1,204,767	1,204,767
ROIC	57.83%	57.83%	57.83%	57.83%	57.83%	57.83%
ROIC (when using ROIC avg.)	45.61%	59.08%	57.83%	57.83%	57.83%	57.83%

FCF	2007/12	2008/12	2009/12	2010/12	2011/12	2012/12
NOPLAT	667,116	696,706	696,706	696,706	696,706	696,706
Depreciation	22,825	23,838	23,838	23,838	23,838	23,838
EBIT	689,941	720,543	720,543	720,543	720,543	720,543
(-) Increase in WC	(868,656)	(29,934)	0	0	0	0
(-) CAPEX	282,121	104,540	23,838	23,838	23,838	23,838
(-) Increase in other assets	(8,733)	399	0	0	0	0
Total investment	(595,268)	75,005	23,838	23,838	23,838	23,838
FCF	1,285,209	645,538	696,706	696,706	696,706	696,706

Cost of equity	
korean risk free rate	5.01%
korean market risk premium	7.50%
levered company beta	0.52
company risk premium	3.90%
levered cost of equity	8.91%

Financing Structure	
Equity	
Current Price('000)	78.3 (as of Oct 12 close)
No. of shares in issue	112,582,000
Equity	8,815,170,600
Debt	
ST debt	972,410,339
Current Portion of LT borrowings	101,441,492
Bonds	208,468,967
LT debt	688,929,008
Debt	1,971,249,806
D/C	18.28%
E/C	81.72%

Cost of Debt	
korean risk free rate	5.01%
spread over risk free rate	0.00%
cost of borrowing	5.01%
Marginal Tax rate	27.50%
cost of debt	3.63%

WACC 7.95%

PVs of FCF (2007-2011)	1,190,610	554,004	553,906	513,135	475,365	440,375
Total discounted FCF	3,727,394					

CV	
ROIC on New Investment	10%
NOPLAT terminal growth	1%
CV	9,027,964

FCF+CV	8,264,196,190
No. of shares in issue	112,582,000

Target price 73,000

Conclusion (Target Price)

Type	NOPLAT	EV/EBITDA
Scenario #1	99,000	78,000
Scenario #2	85,000	76,000
Scenario #3	73,000	70,000

The current price of S-Oil is KRW 78,300 as of Oct 12, 2007. Rather than suggesting a single target price, we would like to conclude with different target price for each scenario, given that oil price movement is extremely tricky to predict. Even in Scenario 1, which assumed oil price would go over 100\$/bbl, the safety margin does not seem to be large enough. Considering the high risk arising in investment under the current uncertain macroeconomic environment, we suggest 'Hold' opinion on S-OIL.

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