

Equities

31 May 2011 | 50 pages

Oil sector

Recommending low-PER, high-RoE JX Holdings and Idemitsu

- **What to Buy** — Sector share prices have been weak recently, pricing in excessive concerns over temporary or insignificant factors. We remain convinced of a low-PER driven market in 2011 and recommend JX Holdings (top pick) and Idemitsu Kosan (newly upgraded to Buy), where we see good prospects for upward revisions. We also upgrade Cosmo Oil to Hold: the overhang of DTA reversal concerns has lifted and other positives have emerged, but we see risk of a plan shortfall. We maintain our Buy on AOC, our Hold on TonenGeneral, and our Hold on Showa Shell.
- **Three reasons for sluggish share prices** — We think share prices have been weak for three reasons: 1) margin contraction, 2) deteriorating sentiment due to the oil price correction, and 3) concerns of a slowdown in capacity-cut measures due to the March 11 disaster. But we believe 1) margin contraction is temporary, 2) the oil price has no impact on adjusted refinery profit, and 3) companies are standing by their existing plans to cut capacity, so we expect concerns to gradually ease.
- **Investment strategy** — In our November 30 memo, [Primary oil distributors - Still early to position for a low-PER driven market in FY3/12](#), we said JX and Idemitsu would likely attract attention in FY3/12 on undervaluation. We expect their undervaluation relative to earnings to be righted on 1) improvement in margins, which have deteriorated in May on cost increases spurred by the surge in crude and a loosening supply/demand balance and 2) rising expectations of upside to conservative company forecasts. We forecast that RoE will reach as much as 10% at JX in FY3/12 and at Idemitsu in FY3/13.
- **Future focal points (1)** — A MoM improvement in the refining margin in June would be a positive. If the government announced measures to promote the spread of renewable energy, this could be positive for sentiment on Showa Shell. We think, however, that its solar business is at risk of a plan miss.
- **Future focal points (2)** — We expect Idemitsu to make a final investment decision on the construction of a Vietnam oil refinery as early as June. We do not feel it will need to issue new shares to fund the construction but the market is likely to worry about a capital increase. We envisage TonenGeneral announcing share buybacks as early as late July or early August but with a yield of as much as 4%, we do not think the shares are greatly undervalued.

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Ticker	Rating		Target Price		Current Year Earnings Estimates		Next Year Earnings Estimates	
	Old	New	Old	New	Old	New	Old	New
5002	2M	2M	¥720	¥760	¥69	¥90	¥88	¥82
5007	3H	2H	¥210	¥240	¥19	¥14	¥21	¥13
5012	2M	2M	¥1,000	¥1,000	¥237	¥260	¥64	¥62
5017	1H	1H	¥750	¥750	¥48	¥84	¥82	¥120
5019	2H	1H	¥9,100	¥10,500	¥1,375	¥1,250	¥1,725	¥1,450
5020	1H	1H	¥640	¥650	¥73	¥86	¥80	¥76

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

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No need for excessive concern about three causes of share price weakness

We think sector share prices have been weak for the following three reasons but see no need for excessive concern about any of them. We thus recommend stock selection on first, the prospects or otherwise of upward revisions moving forward, as we did last year, and second on whether undervalued relative to RoE and other profitability metrics exists or not.

Three causes of share price weakness: No need for excessive concern

1) **Margin contraction:** We attribute this to the rapid run-up in oil prices leading to cost increases and to supply/demand easing in the wake of the March 11 disaster, but we think margins will bottom at end-May as oil prices have taken a breather and see them headed for improvement (Figure 7).

2) **Deteriorating sentiment on the crude price correction:** Adjusted profit in refining businesses primarily track margins (spreads), so the price of oil has almost no impact. Indeed, low oil prices lower the cost of crude (fuel consumed in-house) lost at refineries, which is positive.

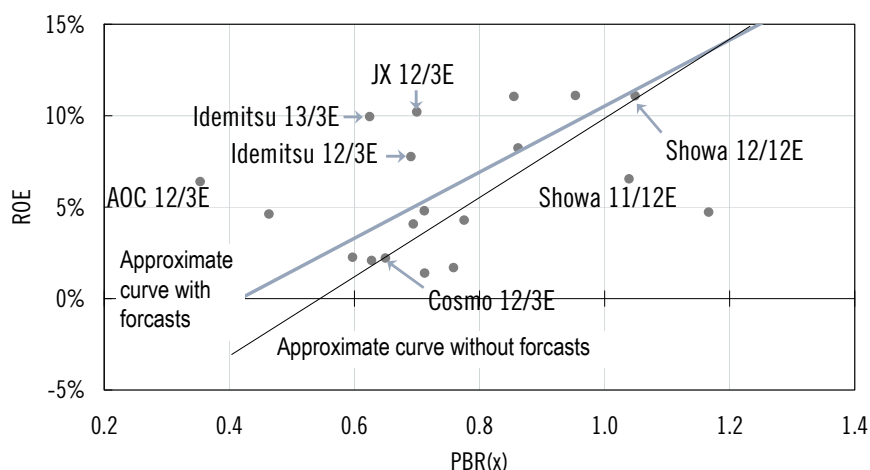
3) **Concerns about slowdown in capacity-cut measures due to the disaster:** Firms realize that demand in Japan for oil products will decline over the longer run and are broadly maintaining their existing plans to cut capacity.

Figure 1. Primary oil distributors: Investment opinion

		Rating	Target price (¥)		Target valuation		Share price (¥) 5/30	ETR	DY	DPS	EV/EBITDA	Adjusted PBR			Adjusted PER	
			Old	New								3/12E	3/12E	3/13E	10 yr bottom	3/12E
Showa Shell	5002	2M	720	760	PBR	c1.0x	770	1.0%	2.3%	18.0	4.8	1.09	1.00	0.95	15.3	9.4
Cosmo	5007	3H→2H	210	240	PBR	c0.65x	235	5.5%	3.4%	8.0	6.9	0.65	0.64	0.53	26.9	18.8
TonenGeneral	5012	2M	1,000	1,000	DY	c4%	973	6.8%	4.0%	39.0	2.4	1.82	1.76	1.63	16.2	15.2
AOC	5017	1H	750	750	PBR	c0.6x	488	55.7%	2.0%	10.0	8.9	0.38	0.35	0.29	6.1	4.1
Idemitsu	5019	2H→1H	9,100	10,500	PBR	c0.85x	8,710	22.3%	1.7%	150.0	4.9	0.71	0.64	0.52	8.4	6.0
JX HD	5020	1H	640	650	PBR	c0.9x	515	29.3%	3.1%	16.0	6.0	0.71	0.66	0.56	7.6	6.7
Average									2.8%		5.7	0.89	0.84	0.75	14.9	10.0

Note: PERs calculated excluding inventory impact. PBRs for Cosmo Oil and Idemitsu adjusted for unrealized losses on land, etc. FY3/12 and FY3/13 for Showa Shell and TonenGeneral are FY12/11 and FY12/12. EV/EBITDA multiples exclude inventory impact. JX includes equity in earnings in the metals business.

Figure 2. Primary oil distributors RoE/PBR: JX, Idemitsu, AOC look undervalued



Note: FY3/06-FY3/13E. Adjusted BPS basis for Cosmo Oil and Idemitsu, referencing unrealized losses on land.
Source: Company data, Citi Investment Research and Analysis.

Investment strategy: Focus on low PER stocks in 2011

Upgrading two names, maintaining ratings on four

As shown in Figure 1, we upgrade two names and maintain ratings on four. We upgrade Idemitsu and now have three Buys, the other two being top pick JX and AOC. We also upgrade Cosmo Oil to Hold; we also rate Showa Shell and TonenGeneral Hold.

Scenario unchanged: Focus on low PER stocks

Our upgrades come against the following backdrop. In our November 30 memo, [Primary oil distributors - Still early to position for a low-PER driven market in FY3/12](#), we said JX and Idemitsu would likely attract attention in FY3/12, when we forecast that their PERs would be low. Now that we are in 2011, we have confirmed that there has indeed been no change in the desire of sector firms to deliver margins by tightening the supply/demand balance. However, share prices have corrected on factors such as margin contraction, which we believe to be temporary, so we conclude that the primary distributor sector as a whole is somewhat undervalued.

JX and Idemitsu: Double-digit RoE, PERs below 7x

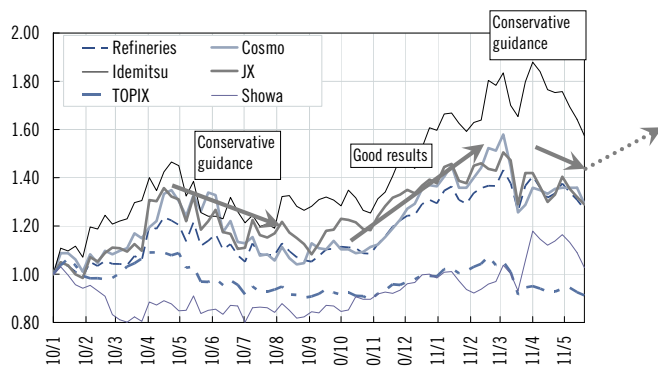
The recent deterioration in the refining margin has been caused by rising costs precipitated by the surge in the price of crude and loosening of the supply/demand balance and we think margins will improve off an end-May bottom. We somewhat conservatively assume that full-year margins will come in slightly below the previous year's level (down ¥0.5/l YoY). Even on this assumption, we expect JX to deliver double-digit RoE in FY3/12 and Idemitsu to do so in FY3/13, but both names are on FY3/13E PERs of below 7x. We think they are markedly undervalued and we strongly recommend them.

Share price moves

As last year, we envisage that sector share prices will respond to actual results more than future expectations (Figure 3). Specifically, we do not think that April–June numbers will be as bad as the market expects and if companies revise up at July–September results announcements, these could serve as catalysts. Also the

refinery closure that Showa Shell is planning for the second half of the year could heighten expectations on margins and act as a catalyst.

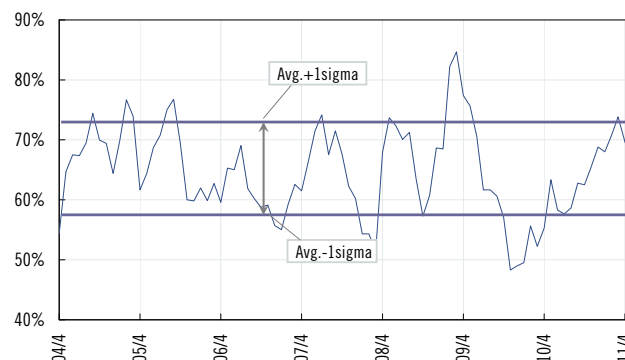
Figure 3. Share prices have tended to respond after results announcements: Now may be a time of corrections



Note: January 4, 2010 = 1.00.

Source: Bloomberg, Citi Investment Research and Analysis.

Figure 4. Primary oil distributors: PBRs largely within historical ranges



Source: Bloomberg, Citi Investment Research and Analysis.

Our three Buys

JX: Maintaining Buy on our top pick
Target price to ¥650 from ¥640

We maintain our Buy rating on JX, which remains our top pick. Our reasons: 1) although hit by the disaster, JX hiked the dividend, giving us confidence in the current management and the feeling that they are conscious of the equity market, 2) JX is conservatively budgeting for disaster-related extraordinary losses and we think there is a good chance of reversal gains leading to upward revisions, and 3) we envisage the start of production at the Chilean copper mine Caserones, which we estimate is worth as much as ¥60/share, in 2013 (assuming a longer-term copper price of \$3/lb). We find the shares markedly undervalued on an FY3/12E adjusted PBR of 0.7x and an adjusted PER of 7.6x.

Idemitsu: To Buy from Hold
Target price to ¥10,500 from ¥9,100

We upgrade Idemitsu to Buy. Our reasons: 1) with the shares having pulled back, they now strike us as markedly undervalued on an adjusted PBR of 0.7x and an adjusted PER of 8.4x, 2) the segment mix is improving at the NP level on profitability improvement in oil refining, where the tax rate is relatively low, and EPS expectations are rising more than for OP on a decline in the effective tax rate, and 3) we expect growth in production of thermal coal, demand for which is stable. The risk is the final investment decision on the Vietnam refinery project, which we envision coming in June. We think it could be built on a budget smaller than cash flow but the market may fear a capital increase as long as the company does not clearly deny it.

AOC: Maintaining Buy
Target price: ¥750

We maintain our Buy on AOC Holdings. We have seen a stream of positive newsflow, including the return to the black in FY3/11, the restoration of the dividend then (to ¥6 from zero), the announcement of a hike in the FY3/12 dividend (to ¥10 from ¥6), and the announcement of the profit growth targets for FY3/12, but the shares remain very undervalued, in our view, on a PBR of less than 0.4x. We believe that AOC will become a still more important ally for Showa Shell, which is shuttering the Ogimachi refinery in Kawasaki. It is possible that concerns that TEPCO will sell its stake in AOC on the market is capping advances for the shares but we think that TEPCO will do all it can to sell in a way that has minimal impact on the market.

North Sea positive, Egypt a cause for concern

We expect production to start at the Ome field in the North Sea in FY3/12 and are upbeat about the prospects for earnings improvement in the upstream operations, which has been an issue, so we expect the shares to move higher. The risk is AOC's Egypt rights. We do not expect conditions on the ground to advance unless the political situation calms down there. However, we believe this is already factored into the share price.

Our three Holds

Cosmo Oil: To Hold from Sell
Target price: To ¥240 from ¥210

We upgrade Cosmo Oil to Hold, mainly on significantly diminished fears of a drawdown of DTAs thanks to the improvement in the refining margin in FY3/11 and the booking of inventory valuation gains. We also see the way it was able to renew its Abu Dhabi Oil concession, the contract for which was due up in 2012, as a positive, and we believe this will support the share price.

However, we feel the plan looks a bit optimistic and think Cosmo Oil may fall short of it, as 1) it is anticipating improvement in the refining margin (+¥0.75/l YoY) and 2) it is budgeting for ¥7.5bn in alternative supply costs for the idling of the Chiba refinery (¥2.5bn in FY3/11 for around 20 days). The H1 RP estimate, at ¥24bn, is low in comparison to the full-year RP target of ¥84bn, so it looks as if there will be no downward revisions in H1, but we need to gird ourselves against the risk of a plan shortfall if the share price rises.

Showa Shell: Maintaining Hold
Target price: To ¥760 from ¥720

We raise our target price for Showa Shell to ¥760 from ¥720 and maintain our Hold rating. While we believe overvaluation has disappeared on recent share price weakness, we point to the possibility that losses in the solar business will be wider than the ¥9.5bn for which the company is budgeting. We would recommend taking profits if the shares were to advance on hopes following the announcement of measures to promote renewable energy.

Figure 5. Showa Shell theoretical share price: Adjusted oil EPS x 10 + solar EPS x 15

	12/11E	12/12E	12/13E
EPS(¥)	90.3	82.3	74.3
- Adjusted refining	66.4	85.0	82.3
- inventory impact	39.8	0.0	0.0
- Solar	-15.9	-2.7	-8.0
Theoretical share price	420	810	700

Source: Citi Investment Research and Analysis.

We use PBR as our main valuation tool but we also looked at PER for a theoretical share price for Showa Shell, as the market has high hopes for its solar operations as a growth business (Figure 5). JX and Idemitsu have fallen below an adjusted PER of 10x but if we were to value adjusted refining EPS at 10x and solar at 15x, factoring in growth expectations, we would derive a theoretical share price of ¥420 for FY12/11. Although our calculations suggest an FY12/12 theoretical share price of ¥810, this number falls to ¥700 for FY12/13 on a decline in solar EPS, given falling panel prices, unless there is an expansion in capacity from the construction of new plants. On the other hand, we think that if Showa Shell were to announce plans to construct a new plant (the No. 4 plant), fears of a capital increase would mount, as Showa Shell cut the dividend after announcing plans for plant number three.

TonenGeneral: Maintaining Hold
Target price: ¥1,000

We maintain our Hold on TonenGeneral. Our fundamental stance is unchanged from our February 17 memo, [TonenGeneral Sekiyu \(5012\) - Downgrading to Hold on share price rise and lack of additional shareholders' return](#). With ample FCF, it is at a level at which consideration needs to be given to shareholder returns, and we think the management team is also aware of this. TonenGeneral may make an announcement on share buybacks as soon as late July or early August. However, the dividend yield is around 4% and the shares do not strike us as particularly undervalued.

Disaster impact—JX may post reversal gains

Even now, around 13% of refinery capacity is idle

The March 11 eastern Japan earthquake idled three JX refineries—Sendai (145,000BD), Kashima (189,000BD), and Negishi (270,000BD)—Cosmo Oil's Chiba refinery (220,000BD), TonenGeneral's Kawasaki refinery (330,000BD), and Kyokutou Petroleum Industries' Chiba refinery (175,000BD). The capacity of these six refineries is just over 30% of the Japan total. Negishi, Kawasaki, and Kyokutou's Chiba refineries resumed operations within a week or two, but JX's Sendai and Kashima refineries and Cosmo Oil's Chiba refinery (about 13% of the Japan total) remain idled.

No worries about domestic supply

There have been absolutely no concerns about a refining capacity shortfall, as it has long been pointed out that there is a capacity glut and some 15% of petroleum products are exported. Indeed, domestic supplies were built up in response to the disaster, so around the time of the Golden Week national holidays easing in the supply/demand balance caused margin deterioration. Recently firms have resumed exports and the supply system is headed in our view for normalization.

JX: Looks to have maneuverability with extraordinary losses, so may post reversal gains

JX and Cosmo Oil, which suffered substantial physical damage, announced disaster-related losses of ¥156bn and ¥5.7bn, respectively. JX's Sendai and Kashima plants sustained grave damage and it booked ¥126bn in extraordinary losses in FY3/11, with another ¥30bn to come in FY3/12. The breakdown is shown in Figure 6 below. We think that for items such as recovery-related expenses of ¥100bn it is budgeting so as to give itself room for maneuver in a situation where it is hard to get an accurate grip on conditions and we think reversal gains may be generated as disaster recovery progresses.

Cosmo Oil: Expecting tank rebuild costs to be treated as capex

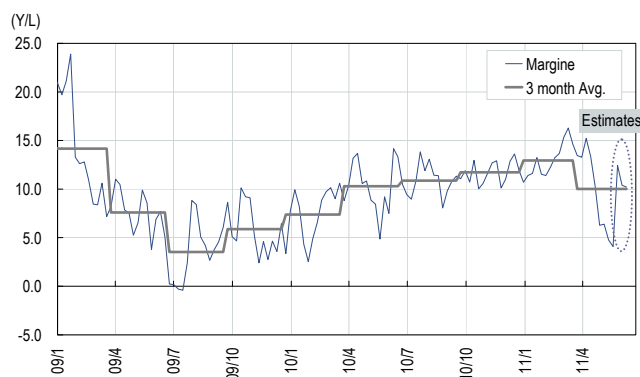
The ¥5.7bn in disaster-related losses at Cosmo Oil breaks down as follows: ¥2.2bn in destroyed asset removal costs, ¥1.7bn in recovery-support expenses for disaster-hit trading partners, and ¥1.2bn in restoration expenses for disaster-hit assets. Unlike JX, the main disaster-hit assets at Cosmo Oil were LPG tanks, where fires broke out, and while they are slated to be rebuilt, we expect the bulk of them to be treated for accounting purposes as future capex.

Figure 6. JX: Breakdown of disaster-related losses

Year booked	Year loss originates	Sum	Details
FY3/11	FY3/11	¥17bn	Write-downs of facilities, inventory, etc.
	FY3/12 and out	¥100bn	Restoration expenses: Sendai ¥50bn, Kashima ¥20bn
		¥9bn	Distribution-related costs
FY3/12	FY3/12 and out	¥30bn	Fixed costs of idled facilities

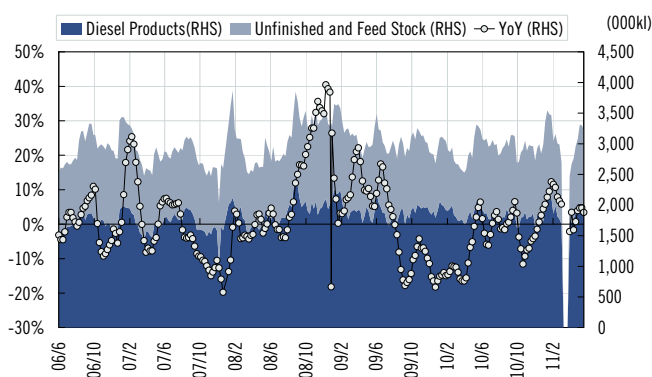
Source: Company data, Citi Investment Research and Analysis.

Figure 7. Average gasoline, diesel, kerosene margin: Set to recover from a May bottom



Source: Nikkei, Bloomberg, Citi Investment Research and Analysis.

Figure 8. Diesel inventory: Running slightly above year-ago levels



Source: Bloomberg, Citi Investment Research and Analysis.

Price trends: We see current margin decline as temporary

Oil refining: We set a somewhat conservative margin assumption of $-\text{¥}0.5/\text{l}$ YoY

Margin likely to firm up in light of costs, domestic and Asia supply/demand

The refining margin (spread between the primary distributor wholesale price and crude price) rose sharply YoY in FY3/11 ($+\text{¥}5/\text{l}$ to $+\text{¥}6/\text{l}$), but has fallen since April 2011. We see two main reasons for this: 1) costs have risen due to a rapid increase in crude prices and 2) supply/demand eased as consumers entered the Golden Week holidays in a mood of self-restraint after the eastern Japan earthquake. We think the refining margin will bottom at end-May in light of costs and supply/demand in Japan and Asia. From June, we expect a recovery (Figure 7). We discuss costs and supply/demand below.

- 1) **Costs:** The main reason margins have declined is a rapid run-up for crude prices. Although spot prices, which impact wholesale prices, are affected by crude price volatility, there is a time lag. Crude prices have stopped rising, so margins are likely to stabilize. We note that margins declined in June 2010 after a rise in crude prices in May.
- 2) **Domestic supply/demand (Figures 8-10):** We think demand will decline 2%-3% annually over the longer term. In FY11, demand for light oil, C-heavy oil, and asphalt should rise for use in reconstruction and power generation. However, it will likely take some time before this happens. Gasoline could see a larger decline because of self-restraint among consumers. However, gasoline demand is down only slightly YoY, and demand for light oil is up slightly, so demand has by no means collapsed. In addition, we see as positive the determination on the part of primary oil distributors to tighten supply/demand. After failures in FY3/10 and successes in FY3/11, we get the sense that primary oil distributors are working to ensure appropriate margins by tightening supply/demand even if that means lower operating rates. As a result, light oil inventories are down slightly YoY, and firms are basically keeping in place their policies of cutting capacity in preparation for a decline in demand medium term.
- 3) **Asia supply/demand (Figures 11 and 12):** There are concerns of an economic slowdown in China, but it still suffers from a power shortfall, and a light oil

undersupply is increasingly clear. Going forward, we think net imports of light oil will increase in China. In addition, the increase in demand for Asia as a whole is expected to outpace the increase in refining capacity, so we think the Singapore (Asia) margin will be firm. Accordingly, primary oil distributors will continue to have the choice of exporting products as one method for adjusting domestic supply/demand.

Margin assumption: ¥0.5/l YoY decline

In light of the three points above and the decline in recent margins, we estimate that the refining margin will decline ¥0.5/l, although we see this as on the conservative side. When it announced FY3/11 results, JX Holdings said it expects a decline of nearly ¥2/l in FY3/12, compared with a ¥1.5/l decline at Idemitsu and a ¥0.75/l increase at Cosmo. Although Cosmo expects the cracker it brought on-line in FY3/11 H2 will be at full capacity, its assumption looks a bit optimistic. On the other hand, JX Holdings and Idemitsu issued what seem to be conservative forecasts in light of current price declines.

Petrochemicals: Firm margins from FY3/11 H2 should continue

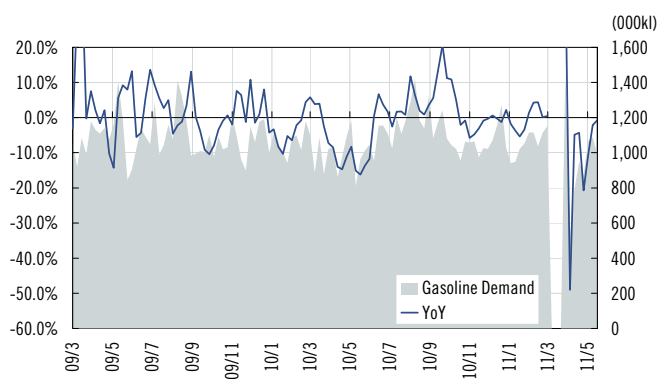
Margins firm in FY3/11 H2

Petrochemical margins were worse than refining margins in FY3/11, but they rose in H2. We think this was because 1) JX Holdings and other firms cut production, 2) there were accidents at some plants, and 3) cotton prices rose due to concern about supply. Polyester fiber, a downstream product made from paraxylene, is a replacement material for cotton, so changes in the cotton price impact the paraxylene margin.

Margins should remain firm in FY3/12

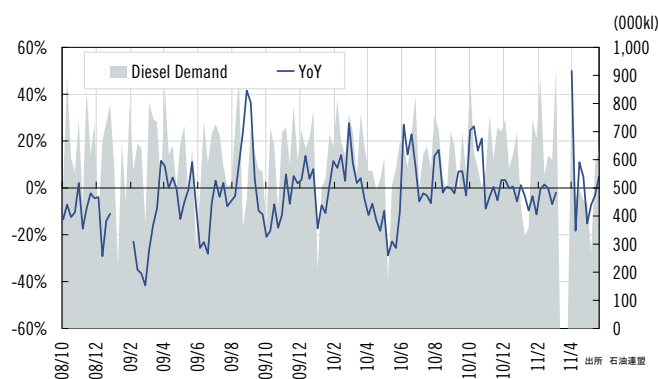
We think margins will remain firm in FY3/12 for two reasons. First, demand for downstream petrochemicals like polyester fiber and PET plastic is expected to rise, particularly in developing markets. In addition, we do not expect any major capacity upgrades for products like paraxylene in FY3/12. Based on this, we revise our price assumptions (see Figure 16).

Figure 9. Gasoline demand (weekly): Recently flat YoY



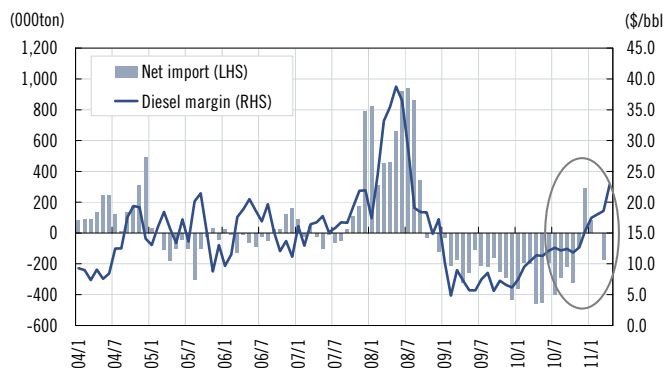
Source: Petroleum Association of Japan, Citi Investment Research and Analysis

Figure 10. Diesel demand (weekly): Recently slightly up YoY



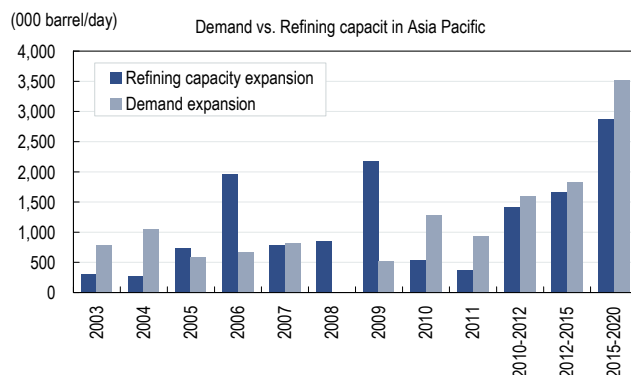
Source: Petroleum Association of Japan, Citi Investment Research and Analysis

Figure 11. China diesel exports/imports and the Singapore diesel margin



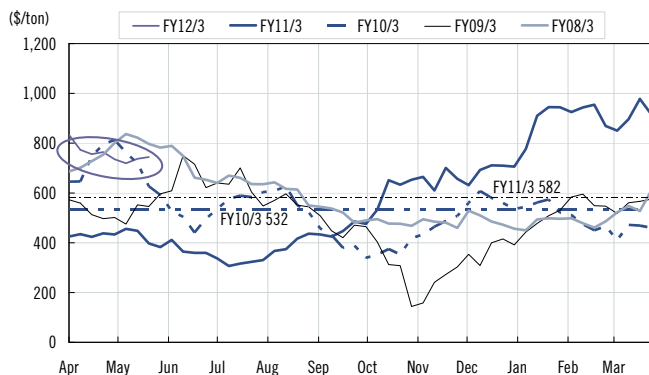
Source: Bloomberg, Citi Investment Research and Analysis.

Figure 12. Expecting demand growth to outstrip refining capacity expansion in Asia in 2011, too



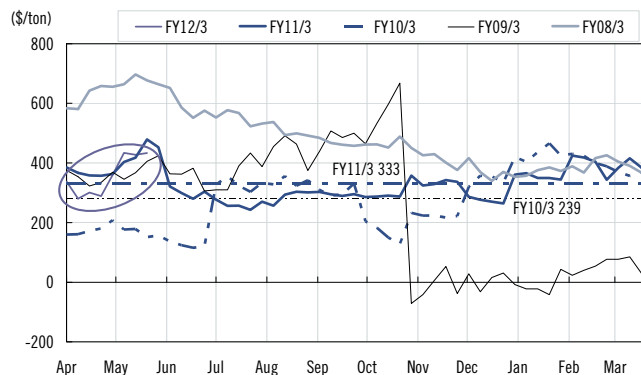
Source: Facts Global Energy, Citi Investment Research and Analysis.

Figure 13. Paraxylene versus Dubai crude spread: Below level at end of last FY but running above last FY's average



Source: Datastream, Citi Investment Research and Analysis.

Figure 14. Benzene versus Dubai crude spread: Virtually unchanged YoY



Source: Datastream, Citi Investment Research and Analysis.

Figure 15. Company datasheet

Capacity	JX	Showa Shell	Cosmo	Tonen	AOC	Idemitsu
#Refinery capacity [000barrel/day]	1,392	485	555	661	140	640
-> for METI direct	1,528	515	635	661	140	640
#Upstream production [000barrel/day]	140.0	-	25.7	-	0.2	28.6
Full-year assumption						
Oil [\$]/bbl	100.0	100.0	100.0	109.0	105.0	105.0
Forex [¥/\$]	85.0	84.0	82.5	82.0	83.0	85.0
Spread assumption [\$]/ton	vs. Dubai			vs. Naphtha		
Paraxylene	720	-	-	-	NM	586
Benzene	395	-	-	-	NM	-
Styrene Monomer	-	-	-	-	-	559
Propylene	515	-	-	-	-	NM
Sensitivity [¥mn]						
#To \$1/bbl Oil up						
Inventory valuation	7,300	1,900	2,100	1,800	250	2,400
In-house fuel cost	-2,100	-600	-600	-500	-150	-600
Petrochemical	-600	-	-	-	NM	-
Upstream	1,300	-	800	-	10	600
Total	5,900	1,300	2,300	1,300	110	2,400
#To ¥1/\$ yen depreciation						
Inventory valuation	6,000	1,300	2,700	2,400	240	2,500
In-house fuel cost	-2,000	-800	-600	-300	-80	-700
Petrochemical	2,000	-	-	-	-	-
Upstream	1,000	-	900	-	0	700
Metal business	1,200	-	-	-	-	-
Total	8,200	500	3,000	2,100	160	2,500
#Copper \$0.1/lb up						
Resource	1,500	-	-	-	-	-
Smelting	500	-	-	-	-	-
Total	2,000	-	-	-	-	-

Note: JX propylene spread not versus Dubai but naphtha.
Source: Company data, Citi Investment Research and Analysis.

Figure 16. Our assumptions

March year end		3/10	3/11	3/12RE	3/13RE	3/14E	3/12E	3/13E
Dubai oil	[\$/barrel]	69.6	84.1	100	100	100	95	95
JPY	[¥/\$]	94	86.7	85.0	85.0	85.0	85.0	85.0
Paraxylene	[\$/ton]	1,000	1,162	1,470	1,470	1,490	1,100	1,100
Benzene	[\$/ton]	792	949	1,150	1,150	1,150	930	930
Styrene monomer	[\$/ton]	1,077	1,228	1,450	1,450	1,450	1,190	1,190
Propylene	[\$/ton]	1,004	1,176	1,400	1,400	1,400	1,120	1,150
Naphtha	[\$/ton]	614	774	950	950	950	730	730
December year end		12/09	12/10	12/11RE	12/12RE	12/13E	12/11E	12/12E
Dubai oil	[\$/barrel]	62.0	78.1	100.0	100.0	100.0	80.0	80.0
Brent	[\$/barrel]	61.5	79.5	105.0	105.0	105.0	80.0	80.0
Thermal coal	[\$/ton]	76	97	130	130	130	105	105
JPY	[¥/\$]	95	87.7	85.0	85.0	85.0	85.0	85.0
Paraxylene	[\$/ton]	1,000	1,055	1,500	1,470	1,470	1,030	1030
Benzene	[\$/ton]	790	912	1,150	1,150	1,150	930	930
Naphtha	[\$/ton]	617	726	950	950	950	700	700
Copper	[c/lb]	234	369	400	400	400	380	380
USD/AUD	[US\$/AU\$]	0.76	0.87	1.05	1.05	1.05	0.90	0.90
JPY/AUD	[¥/AU\$]	74.0	80.6	87.0	87.0	87.0	80.0	80.0
JPY/NOK	[¥/NOK]	15.0	14.5	14.7	14.7	14.7	15.0	15.0
NOK/USD	[NOK/US\$]	6.3	6.0	5.5	5.5	5.5	6.1	6.1

Source: Bloomberg, Citi Investment Research and Analysis.

Figure 17. Valuation comparison

		Rating		Price	Mkt	FY1E=	EPS		PER (x)		PBR (x)	OPM	DY	EV/EBITDA (x)	RoE		
Code	Company				Cap		FY1E	FY2E	FY1E	FY2E	FY1E	FY2E	FY2E	FY1E	FY2E	FY1E	FY2E
Oil					(\$ bn)												
5002.T	Showa Shell	2M	JPY	770.00	3.6	12/11	90.3	82.3	8.5	9.4	1.1	1.9%	2.3%	4.1	4.1	13.4%	11.1%
5007.T	Cosmo Oil	2H	JPY	235.00	2.5	3/12	14.0	12.5	16.7	18.8	0.6	2.2%	3.4%	5.7	5.9	3.6%	3.1%
5012.T	TonenGeneral	2M	JPY	973.00	6.8	12/11	260.4	62.4	3.7	15.6	1.9	1.8%	4.1%	2.2	7.5	53.7%	11.7%
5017.T	AOC	1H	JPY	488.00	0.5	3/12	84.2	120.4	5.8	4.1	0.4	2.2%	2.0%	8.6	6.5	6.8%	9.0%
5019.T	Idemitsu	1H	JPY	8,710.00	4.3	3/12	1,250.3	1,450.4	7.0	6.0	0.6	3.3%	1.7%	3.9	3.3	9.3%	10.0%
5020.T	JX Holdings	1H	JPY	515.00	15.8	3/12	85.7	76.4	6.0	6.7	0.7	3.1%	3.1%	4.3	4.6	12.4%	10.1%
Downstream oil (overseas)																	
VLO.N	Valero	2H	USD	26.92	15.4	12/11	5.4	4.3	5.0	6.3	0.8	4.3%	0.7%	3.0	3.5	16.5%	12.8%
SUN.N	Sunoco	2H	USD	40.18	4.9	12/11	1.4	3.5	27.9	11.6	1.5	1.7%	1.5%	8.6	5.3	5.6%	12.6%
096770.KS	SK Innovation	2L	KRW	225,000.00	19.3	12/11	35,694.5	23,719.9	6.3	9.5	1.5	4.6%	0.9%	6.4	6.3	27.1%	15.1%
010950.KS	S Oil	1L	KRW	149,500.00	15.6	12/11	14,638.5	15,946.5	10.2	9.4	3.0	8.0%	6.0%	7.9	6.9	32.3%	29.3%
078930.KS	GS Holdings	1L	KRW	90,500.00	7.8	12/11	10,143.0	10,224.5	8.9	8.9	1.5	94.6%	2.5%	3.1	2.3	17.8%	15.5%
0857.HK	PetroChina	2L	CNY	10.94	257.4	12/10	0.8	0.9	11.9	10.0	1.8	18.1%	4.5%	6.0	5.2	15.7%	17.0%
0386.HK	Sinopec	3L	CNY	7.61	84.8	12/11	0.8	1.1	7.9	5.8	1.2	3.9%	4.4%	4.7	3.8	15.8%	19.0%
0883.HK	CNOOC	1L	CNY	19.10	109.7	12/11	1.7	1.5	9.6	10.7	2.7	40.0%	3.4%	5.1	5.1	31.2%	23.6%
0135.HK	Kunlun Energy	1H	HKD	13.44	8.6	12/11	0.8	1.1	16.2	12.5	2.1	34.2%	2.0%	12.2	9.9	19.7%	16.4%
RELI.BO	Reliance Industries	1L	INR	939.70	68.2	3/12	75.5	78.7	12.4	11.9	1.8	9.7%	1.1%	7.1	6.8	15.2%	14.0%
6505.TW	Formosa Petro	3L	TWD	98.40	32.5	12/11	5.3	6.2	18.6	15.8	3.6	6.8%	5.7%	12.4	11.5	20.1%	22.4%
MORr.AT	Motor Oil	1H	EUR	8.77	1.4	12/10	0.7	1.1	12.4	8.0	2.6	3.6%	6.3%	8.5	6.8	22.9%	29.3%
TUPRS.IS	Tupras	2M	TRY	41.30	6.4	12/11	3.7	3.8	11.0	10.9	2.5	3.5%	7.8%	6.1	7.0	23.2%	22.0%

Note: Share prices as of the May 30th close.

Source: Citi Investment Research and Analysis.

Company Focus

- Company Update
- Target Price Change
- Estimate Change

Buy/High Risk	1H
Price (30 May 11)	¥515
Target price	¥650
from ¥640	
Expected share price return	26.2%
Expected dividend yield	3.1%
Expected total return	29.3%
Market Cap	¥1,280,724M
	US\$15,820M

Price Performance (RIC: 5020.T, BB: 5020 JP)



JX Holdings (5020)

Buy before copper growth at double-digit RoE and 7.6x PER

- **Stays top pick** — We fine-tune our target price to ¥650 (no change to our FY3/12E PBR of 0.9x) and maintain our Buy. 1) We believe the shares are strongly undervalued at an adjusted PBR of 0.7x and PER of 7.6x. 2) Although affected by the March 11 disaster, JX hiked the dividend, giving us confidence in the current management and the feeling that they are conscious of the equity market. 3) JX is conservatively budgeting for disaster-related extraordinary losses and we think there is a good chance of reversal gains leading to upward revisions. 4) We envisage the start of production at the Chilean copper mine Caserones, which we estimate is worth as much as ¥60/share, in 2013 (long-term copper price of \$3/lb).
- **Valuations** — We use PBR as our main valuation but also think adjusted PER of 10x is a yardstick when RoE and profit are improving. We derive theoretical share prices of ¥680 and ¥760 on adjusted EPS forecasts of ¥68 for FY3/12 and ¥76 for FY3/13, underlining the undervaluation.
- **FY3/12** — We model adjusted RP of ¥357bn, virtually flat YoY. By segment: we model -¥26bn YoY for oil refining, +¥31bn for petrochemicals, +¥11.4bn for upstream oil, and +¥3.3bn for metals. In refining we expect negatives to beat positives: +¥13bn for cost cuts on synergies outweighed by -¥9bn for volume declines, -¥21bn on lower margins, and -¥19bn on higher crude costs at refineries. In upstream oil, we expect higher oil prices to be the main driver of higher profit. In petrochemicals, we anticipate substantial profit growth from a rebound in depressed paraxylene volumes and margins.
- **Company plan** — JX sees margins in refining falling just under ¥2/l YoY, which looks conservative. Its assumptions in smelting and copper resources also look a little conservative. It assumes \$3.80/lb for copper, \$100/bbl for crude, and ¥85/\$. Our adjusted profit estimate is ¥57bn ahead of plan. We think the main differences are ¥45bn in refining, on a ¥1/l margin difference, ¥6bn in metals on copper price assumption differences, etc., and ¥8bn in petrochemicals.
- **FY3/13** — We forecast adjusted RP of ¥391bn (+9.5% YoY): +¥26bn in refining, +¥4bn in petrochemicals, +¥1bn in upstream oil, and +¥4bn in metals. In refining, we see the main factors lifting profit as lower costs on synergies, in line with the medium-term plan, and slightly higher margins.
- **Copper resources** — Production is due to start at Caserones in Chile in 2013 and at Quechua in Peru in 2014. On long-term assumptions of copper at \$3/lb and ¥90/\$, we think copper resource RP could exceed ¥110bn in FY3/16. We put the present values of Caserones and Quechua at ¥60/share and ¥26/share, respectively. We think they will be priced in up ahead.

Consol.	Sales		OP			RP		NP		EPS	PE
	¥M	YOY (%)	¥M	YOY (%)	OPM(%)	¥M	YOY (%)	¥M	YOY (%)	¥	X
3/10A	9,008,017	-21.4	130,474	nm	1.4	187,269	nm	73,106	nm	31	16.8
3/11A	9,634,396	7.0	334,402	156.3	3.5	413,666	120.9	311,735	326.4	125	4.1
3/12CE	10,300,000	6.9	310,000	-7.3	3.0	380,000	-8.1	200,000	-35.8	80	6.4
3/12E	8,836,000	-8.3	266,000	-20.5	3.0	335,000	-19.0	181,000	-41.9	73	7.1
3/12RE	10,360,000	7.5	358,000	7.1	3.5	430,000	3.9	213,000	-31.7	86	6.0
3/13E	8,601,000	-2.7	296,000	11.3	3.4	366,000	9.3	199,000	9.9	80	6.4
3/13RE	10,125,000	-2.3	318,000	-11.2	3.1	391,000	-9.1	190,000	-10.8	76	6.7
3/14E	9,978,000	-1.5	359,000	12.9	3.6	432,000	10.5	208,000	9.5	84	6.2

A: Actuals, E: CIRA Ests, CE: Company Ests, RE: CIRA Revised Ests, CRE: Company Revised Ests, NA: Not Available, NM: Not Meaningful

	3/10	3/11	3/12E	3/13E	3/14E
Valuation Ratios					
PER(X)	16.8	4.1	6.0	6.7	6.2
EV/EBITDA	5.5	4.4	4.3	4.6	4.1
P/BVPS	0.8	0.8	0.7	0.7	0.6
Dividend yield	2.9	3.0	3.1	3.1	3.1
Per Share Data (¥)					
EPS adjusted	31	125	86	76	84
Reported EPS - diluted	31	125	86	76	84
EPS*	29	125	86	76	84
BPS	654	655	725	785	852
DPS	15	16	16	16	16
Profit & Loss (¥M)					
Net sales	9,008,017	9,634,396	10,360,000	10,125,000	9,978,000
Operating expenses	-8,877,543	-9,299,994	-10,002,000	-9,807,000	-9,619,000
EBIT	130,474	334,402	358,000	318,000	359,000
Net interest income/expense	-4,914	-3,466	-2,000	-2,000	-1,000
Total other non-operating items	61,709	82,730	74,000	75,000	74,000
Recurring profit	187,269	413,666	430,000	391,000	432,000
Extraord./Min.Int./Pref.div.	-52,871	-32,431	-65,000	-65,000	-71,000
Taxation	-61,292	-69,500	-152,000	-136,000	-153,000
Reported net income	73,106	311,735	213,000	190,000	208,000
Analyst adjusted EBITDA	380,330	540,955	565,000	525,000	581,000
Growth Rates (%)					
Net sales	-21.4	7.0	7.5	-2.3	-1.5
EBITDA adjusted	nm	42.2	4.4	-7.1	10.7
EPS adjusted	nm	309.0	-31.7	-10.8	9.5
Cash Flow (¥M)					
Cash from operations	44,901	211,407	543,000	458,000	493,000
Depreciation and amortization	249,856	206,553	207,000	207,000	222,000
Net change in working capital	-344,042	-343,731	98,000	36,000	27,000
Cash from investing activities	-241,339	-170,908	-400,000	-391,000	-340,000
Capital expenditure	-266,109	-199,400	-400,000	-391,000	-340,000
Net acquisitions/disposals	0	0	0	0	0
Cash from financing activities	113,610	-71,228	-147,000	-67,000	-153,000
Changes in borrowings	407,334	-17,837	-108,000	-27,000	-113,000
Dividends paid	-41,714	-30,352	-39,000	-40,000	-40,000
Change in cash	-73,747	-34,595	-4,000	0	0
Balance Sheet (¥M)					
Total assets	6,196,734	6,259,958	6,477,000	6,608,000	6,682,000
Cash	271,001	233,471	230,000	230,000	230,000
Accounts receivable	1,055,975	1,065,973	1,219,000	1,191,000	1,174,000
Net tangible fixed assets	2,149,297	2,106,438	2,299,000	2,483,000	2,601,000
Total liabilities	4,431,085	4,373,717	4,392,000	4,348,000	4,218,000
Accounts payable	749,548	739,855	866,000	849,000	832,000
Total Debt	2,282,361	2,264,524	2,157,000	2,130,000	2,017,000
Shareholders' funds	1,765,651	1,886,241	2,085,000	2,260,000	2,464,000
Profitability/Solvency Ratios (%)					
Analyst Adjusted EBITDA Margin	4.2	5.6	5.5	5.2	5.8
Operating ROE	4.8	19.6	12.4	10.1	10.2
Operating ROIC	2.5	8.6	6.4	5.4	5.9
Net debt to equity	113.9	107.7	92.4	84.1	72.5
Debt to total capital	56.4	54.6	50.8	48.5	45.0

Note: Consolidated data. * EPS: NP/Est Shares OS.

For further data queries on Citi's full coverage universe please contact CIRA Data Services Japan at CIRADataServicesJapan@citi.com or +81-3-6270-4720



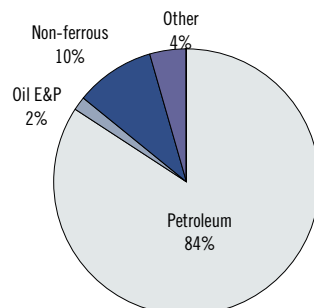
Investment Dashboard

Reasons to Buy

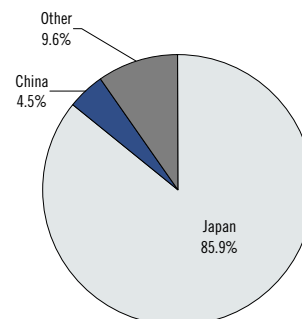
- Although affected by the March 11 disaster, JX hiked the dividend, giving us confidence in current management
- Longer-run profit growth expected on contribution from copper resource rights
- Very undervalued on FY3/12E adjusted PBR of 0.7x and adjusted PBR of 7.6x

Sales breakdown (FY3/11)

By product



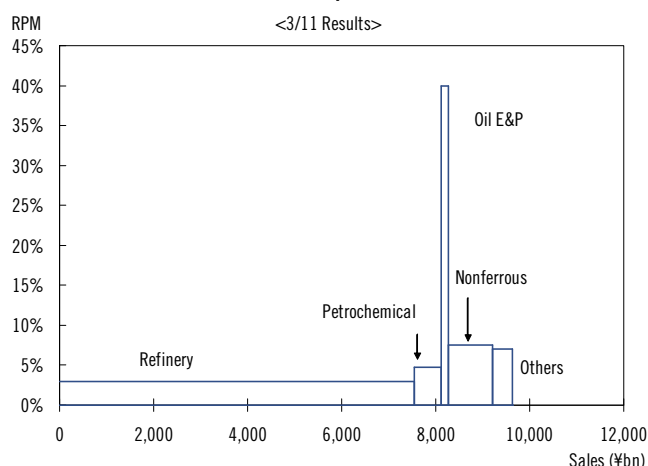
By region



Source: Company data.

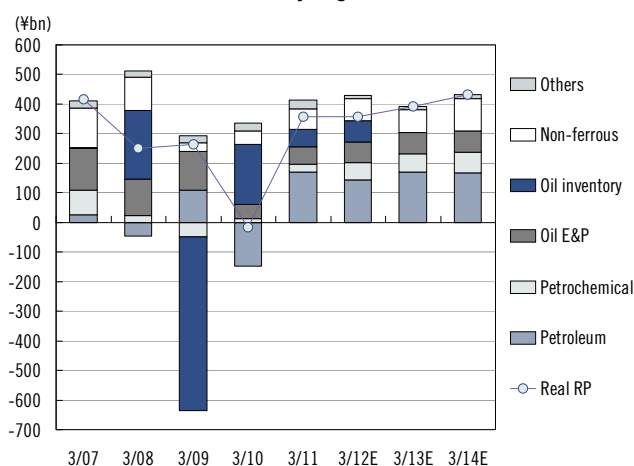
Business portfolio

<3/11 Results>



Source: Company data.

RP by segment

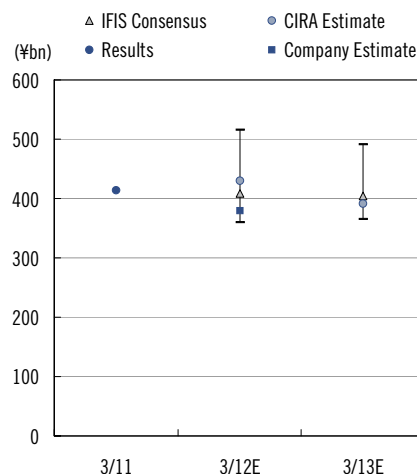


Source: Company data, Citi Investment Research and Analysis.

Alternate scenario: What would make it a Hold

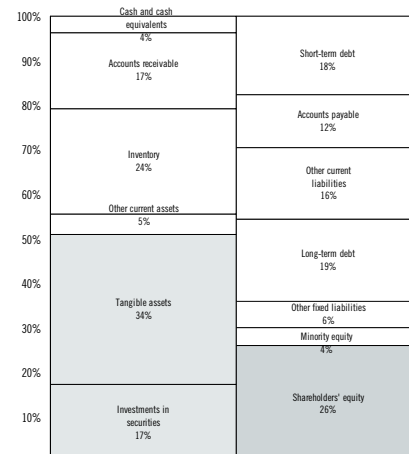
- Sluggish refining margin: Rapid demand contraction and worsening overseas market reducing exports and resulting in easing of domestic supply/demand balance and slump in refining margin beyond expectations
- Lower copper price: Copper falls below \$2.50/lb and stays there
- In this case, we would set our target price at an FY3/12E PBR of 0.8x applied to BPS of ¥700 for a theoretical share price of ¥560

RP forecast comparison



Source: Company data, IFIS (May 25), Citi Investment Research and Analysis.

Balance sheet (end-FY3/11)



Source: Company data.

Figure 18. JX Holdings: Segment earnings trends (¥bn)

RP							3/11			3/12		3/13	3/14	3/12	3/13	3/14
	Q1	Q2	Q3	Q4	H1	H2	FY	H1CE	H2CE	FYCE	FYRE	FYRE	FYRE	FYE	FYE	FYE
Petroleum business	16.1	26.7	77.1	133.8	42.8	210.9	253.7	140.0	87.0	227.0	274.0	231.0	236.0	187.0	210.0	213.0
#Refinery	16.1	60.9	47.6	44.6	77.0	92.2	169.2	39.0	58.0	97.0	143.0	169.0	167.0	177.0	194.0	193.0
#Petrochemical	1.1	-0.1	9.6	16.7	1.0	26.3	27.3	31.0	19.0	50.0	58.0	62.0	69.0	10.0	16.0	20.0
#Inventory Effect	-1.1	-34.1	19.9	72.5	-35.2	92.4	57.2	70.0	10.0	80.0	73.0	0.0	0.0	0.0	0.0	0.0
E&P	17.4	14.8	11.1	16.2	32.1	27.3	59.5	36.0	39.0	75.0	71.0	72.0	72.0	49.0	53.0	53.0
Non-ferrous business	17.4	13.0	23.5	16.8	30.5	40.3	70.7	27.0	41.0	68.0	74.0	78.0	111.0	77.0	80.0	90.0
#Resources	10.3	6.2	15.7	11.9	16.5	27.6	44.1	NA	NA	42.7	46.0	47.0	79.0	43.0	44.0	56.0
#Smelting	3.6	2.1	6.4	0.7	5.7	7.1	12.8	NA	NA	10.3	13.0	14.0	14.0	13.0	13.0	10.0
#Downstream	2.7	5.9	1.5	3.3	8.6	4.8	13.4	NA	NA	15.0	15.0	17.0	18.0	21.0	23.0	24.0
##Environment & Recycle	-0.2	2.6	-0.3	1.9	2.4	1.6	4.0	NA	NA	6.5	7.0	8.0	9.0	8.0	9.0	9.0
##Electronic Materials & Metal Fabrication	2.9	3.3	1.8	1.4	6.2	3.2	9.4	NA	NA	8.5	8.0	9.0	9.0	11.0	12.0	13.0
Others	8.2	1.5	6.2	13.9	9.7	20.1	29.8	2.0	8.0	10.0	11.0	10.0	13.0	22.0	23.0	23.0
Total	59.1	56.0	117.9	180.7	115.1	298.5	413.7	205.0	175.0	380.0	430.0	391.0	432.0	335.0	366.0	379.0
RP w/o inventory effect	59.5	91.2	98.2	107.2	150.6	205.4	356.1	135.0	165.0	300.0	357.0	391.0	432.0	335.0	366.0	379.0

Source: Company data, Citi Investment Research and Analysis.

Figure 19. JX Holdings: Factor variance analysis (¥bn)

	3/11	3/12CE	3/12RE	3/13RE	3/14RE	3/12E	3/13E	3/14E
Refinery								
Inventory effect	-145.0	23.0	16.0	-73.0	0.0	5.0	0.0	0.0
Volume effect	1.3	-9.0	-9.0	-5.0	-5.0	-3.0	-3.0	-3.0
Margin	270.0	-69.2	-21.0	10.0	0.0	11.2	0.0	0.0
#Margin	267.0	0.0	-21.0	10.0	0.0	11.2	0.0	0.0
#Others	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
In-house fuel cost	-15.0	-20.0	-19.0	5.0	3.0	3.0	3.0	2.0
Cost	59.7	17.0	13.0	15.8	0.0	25.0	17.0	0.0
#Maintenance	31.2	12.0	9.0	15.8	0.0	25.0	17.0	0.0
#Depreciation	18.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0
Total	171.0	-48.2	-10.0	-47.0	-2.0	41.0	17.0	-1.0
Petrochemical								
Volume effect	-2.0	7.0	8.0	4.0	3.0	1.0	2.0	2.0
Margin	2.9	11.7	30.0	0.0	4.0	-1.0	4.0	2.0
Cost	19.1	4.0	4.0	0.0	0.0	1.0	0.0	0.0
Total	15.3	22.7	30.4	4.0	7.0	1.7	6.0	4.0
Oil Resources								
Volume or Mix effect	-8.0	-6.0	-4.7	2.0	-0.5	-0.1	4.0	0.0
Price effect	25.5	24.5	17.1	-1.5	0.0	2.1	0.2	0.0
Forex	-4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cost	11.0	-1.0	-1.0	0.0	0.0	-1.0	0.0	0.0
Non operating items	-12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	16.5	17.5	11.4	0.5	-0.5	1.0	4.2	0.0
Metal Resources								
Volume or Mix effect	3.3	1.4	1.4	1.0	32.0	0.0	1.0	32.0
Price effect	18.8	10.1	11.2	0.0	0.0	6.5	0.0	-19.7
Forex	-3.0	-1.7	-2.0	0.0	0.0	0.0	0.0	0.0
Cost	-5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	16.1	-1.5	2.2	1.0	32.0	6.5	1.0	12.3
Smelting								
Copper price	3.0	2.2	2.2	0.0	0.0	1.6	-1.0	-3.0
Forex	-2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TC/RC	0.0	-4.5	-3.1	1.7	0.0	0.0	1.4	0.0
Sulfuric acid price	3.3	0.0	2.5	-0.5	0.0	0.0	0.0	0.0
Cost	2.9	0.0	-1.6	0.0	0.0	0.0	0.0	0.0
Total	6.8	-2.3	0.0	1.2	0.0	1.6	0.4	-3.0
Metal Downstream								
Environmental Recycle	-0.9	2.5	2.5	1.2	1.0	1.7	1.0	0.0
Margin	4.0	-0.9	-1.4	1.0	0.4	0.7	0.9	0.7
Total	1.1	1.6	1.1	2.2	1.4	2.4	1.9	0.7
Others								
Total	4.9	-19.8	-18.8	-1.0	0.0	-1.0	1.0	0.0

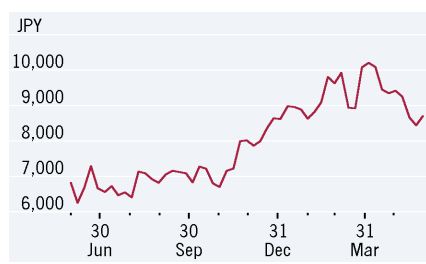
Source: Company data, Citi Investment Research and Analysis.

Company Focus

- Company Update
- Rating Change
- Target Price Change
- Estimate Change

Buy/High Risk	1H
<i>from Hold/High Risk</i>	
Price (30 May 11)	¥8,710
Target price	¥10,500
<i>from ¥9,100</i>	
Expected share price return	20.6%
Expected dividend yield	1.7%
Expected total return	22.3%
Market Cap	¥348,313M
	US\$4,303M

Price Performance (RIC: 5019.T, BB: 5019 JP)



Idemitsu Kosan (5019)

Up to Buy: Undervalued on 8.4x PER, room for upward revisions

- **Upgrading to Buy** — We raise our target price to ¥10,500 (FY3/12E 0.85x adjusted BPS from c0.7x) from ¥9,100, as 1) we believe the shares are very undervalued on an FY3/12E adjusted PBR of 0.7x and an adjusted PER of 8.4x, 2) the segment mix is improving at the NP level on profitability improvement in oil refining, where the tax rate is relatively low, and 3) the company plan looks conservative in margin assumptions, etc., and visibility on upward revisions is good.
- **Future developments** — The risk is the final investment decision on the Vietnam refinery project, which we envision coming in June. We think it can be funded from cash flow but the market may be concerned about a capital increase as the company has not clearly ruled one out. We see good visibility on upward revisions up ahead, as the margin assumption, which is for a ¥1.5/l decline YoY, is conservative, and as last year Idemitsu is budgeting fairly generously for exploration expenses at period-start, and we rate the shares Buy.
- **FY3/12** — We see earnings growth, with adjusted OP of ¥114bn (+20% YoY). By segment, we model refining +¥2.8bn YoY, petrochemicals +¥3.0bn, upstream oil +¥10.5bn, and coal +¥1.9bn. In refining, we expect small margin contraction and an increase in crude costs for refineries but foresee a ¥12bn decline in depreciation on the switch to straight-line from declining-balance outweighing this. Rising oil prices are the main factor lifting earnings in upstream oil. We think the plan is conservative.
- **FY3/13** — We anticipate c20% earnings growth for the second straight year, with adjusted OP rising 21% YoY to ¥138bn. By segment, we model refining +¥15bn YoY, coal +¥5bn, upstream oil +¥10.5bn, and petrochemicals +¥1.9bn. In refining, we expect a slight improvement in margins (+¥5bn) and rationalization in line with the medium-term plan (+¥3bn), while in coal we see the main factor lifting profit as being a rebound from 2011, when production is being hit by heavy rains.
- **Coal production volumes** — FY3/11 volume fell 7.4% YoY to 9.03mn MT due to torrential rains. We pencil in 9.1mn MT for FY3/12, 10.9mn MT for FY3/13, and 10.95mn MT for FY3/14, as we foresee production volumes recovering to previous levels as the impact of torrential rain on the Ensham mine drops out and volumes then growing on expansion investment in line with the medium-term plan at the Boggabri mine.

Consol.	Sales		OP			RP		NP		EPS	PE
	¥M	YOY (%)	¥M	YOY (%)	OPM(%)	¥M	YOY (%)	¥M	YOY (%)	¥	X
3/10A	3,112,305	-18.1	44,463	-56.6	1.4	30,388	-66.0	5,979	79.7	150	58.3
3/11A	3,659,301	17.6	128,771	189.6	3.5	128,015	321.3	60,684	915.0	1,517	5.7
3/12CE	4,270,000	16.7	115,000	-10.7	2.7	112,000	-12.5	57,000	-6.1	1,425	6.1
3/12E	3,206,000	-12.4	116,000	-9.9	3.6	114,000	-10.9	55,000	-9.4	1,375	6.3
3/12RE	4,132,000	12.9	128,000	-0.6	3.1	125,000	-2.4	50,000	-17.6	1,250	7.0
3/13E	3,225,000	0.6	138,000	19.0	4.3	137,000	20.2	69,000	25.5	1,725	5.0
3/13RE	4,155,000	0.6	138,000	7.8	3.3	135,000	8.0	58,000	16.0	1,450	6.0
3/14E	4,158,000	0.1	143,000	3.6	3.4	140,000	3.7	61,000	5.2	1,525	5.7

A: Actuals, E: CIRA Ests, CE: Company Ests, RE: CIRA Revised Ests, CRE: Company Revised Ests, NA: Not Available, NM: Not Meaningful

	3/10	3/11	3/12E	3/13E	3/14E
Valuation Ratios					
PER(X)	58.3	5.7	7.0	6.0	5.7
EV/EBITDA	6.4	4.3	3.9	3.3	3.2
P/BVPS	0.7	0.7	0.6	0.6	0.5
Dividend yield	1.7	2.3	1.7	1.7	1.7
Per Share Data (¥)					
EPS adjusted	150	1,517	1,250	1,450	1,525
Reported EPS - diluted	150	1,517	1,250	1,450	1,525
EPS*	150	1,517	1,250	1,450	1,525
BPS	11,742	12,862	13,926	15,226	16,602
DPS	150	200	150	150	150
Profit & Loss (¥M)					
Net sales	3,112,305	3,659,301	4,132,000	4,155,000	4,158,000
Operating expenses	-3,067,842	-3,530,530	-4,004,000	-4,017,000	-4,015,000
EBIT	44,463	128,771	128,000	138,000	143,000
Net interest income/expense	-12,963	-6,262	-8,000	-8,000	-8,000
Total other non-operating items	-1,112	5,506	5,000	5,000	5,000
Recurring profit	30,388	128,015	125,000	135,000	140,000
Extraord./Min.Int./Pref.div.	-12,061	-29,425	-23,000	-23,000	-23,000
Taxation	-12,348	-37,906	-52,000	-54,000	-56,000
Reported net income	5,979	60,684	50,000	58,000	61,000
Analyst adjusted EBITDA	127,260	207,968	204,000	214,000	219,000
Growth Rates (%)					
Net sales	-18.1	17.6	12.9	0.6	0.1
EBITDA adjusted	-30.9	63.4	-1.9	4.9	2.3
EPS adjusted	79.7	914.7	-17.6	16.0	5.2
Cash Flow (¥M)					
Cash from operations	-62,846	86,996	234,900	132,000	137,000
Depreciation and amortization	82,797	79,197	76,000	76,000	76,000
Net change in working capital	-139,800	-120,200	108,900	-2,000	0
Cash from investing activities	-136,627	-93,939	-108,400	-125,000	-125,000
Capital expenditure	-122,431	-47,831	-108,000	-125,000	-125,000
Net acquisitions/disposals	0	0	0	0	0
Cash from financing activities	46,263	9,904	-157,900	-7,000	-12,000
Changes in borrowings	17,300	-5,800	-152,100	-4,000	-9,000
Dividends paid	-5,998	-5,998	-8,000	-6,000	-6,000
Change in cash	-143,978	-1,052	-31,400	0	0
Balance Sheet (¥M)					
Total assets	2,476,141	2,517,847	2,411,000	2,463,000	2,512,000
Cash	133,858	154,949	120,000	120,000	120,000
Accounts receivable	362,278	371,157	318,000	320,000	320,000
Net tangible fixed assets	1,041,630	991,173	1,023,000	1,072,000	1,121,000
Total liabilities	1,978,855	1,976,968	1,825,000	1,822,000	1,813,000
Accounts payable	326,251	301,464	302,000	303,000	303,000
Total Debt	936,954	931,111	779,000	775,000	766,000
Shareholders' funds	497,286	540,880	585,900	640,900	698,900
Profitability/Solvency Ratios (%)					
Analyst Adjusted EBITDA Margin	4.1	5.7	4.9	5.2	5.3
Operating ROE	1.3	12.3	9.3	10.0	9.6
Operating ROIC	2.6	6.7	5.7	6.3	6.3
Net debt to equity	161.5	143.5	112.5	102.2	92.4
Debt to total capital	65.3	63.3	57.1	54.7	52.3

Note: Consolidated data. * EPS: NP/Est Shares OS.

For further data queries on Citi's full coverage universe please contact CIRA Data Services Japan at CIRADataServicesJapan@citi.com or +81-3-6270-4720

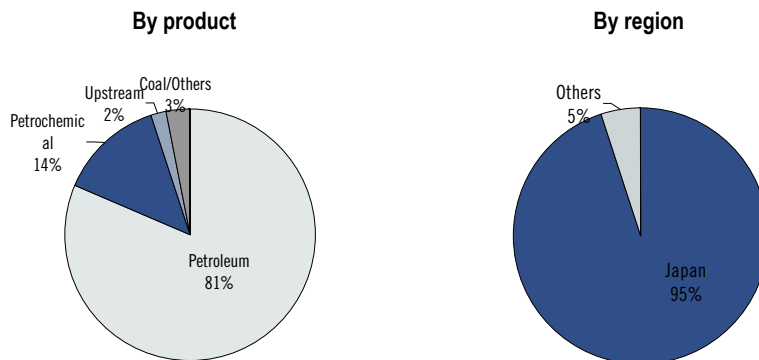


Investment Dashboard

Reasons to Buy

- Oil refining: The company plan looks conservative, with the margin assumption for a ¥1.5/l fall YoY, and we expect upward revisions
- Coal: We expect a rebound from torrential rain and medium-term volume growth on expansion of the Boggabri mine
- Valuations: Shares look very undervalued on an FY3/12E adjusted PBR of 0.7x and adjusted PER of 8.4x

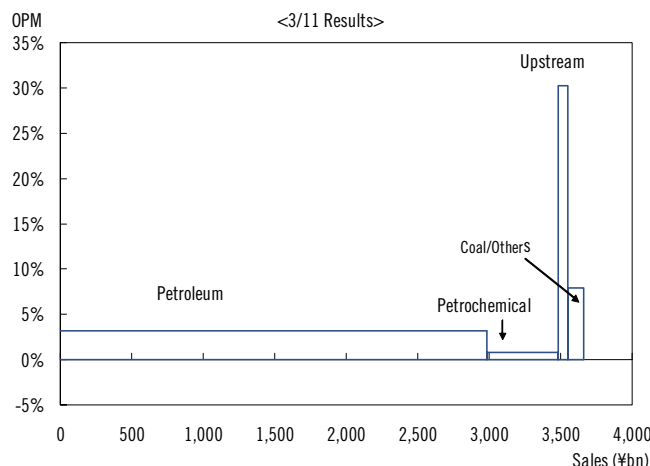
Sales breakdown (FY3/2010)



Source: Company data.

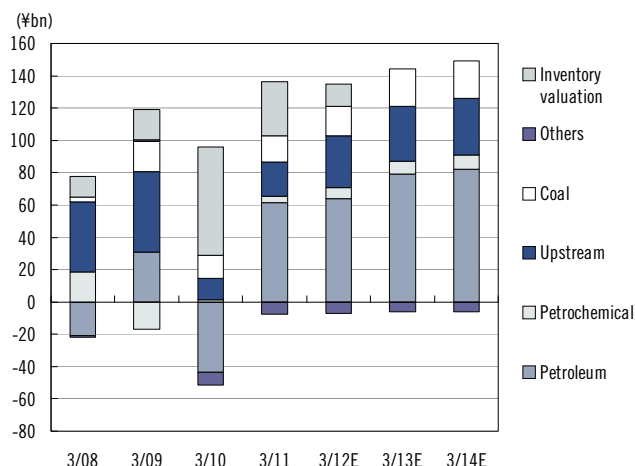
Business portfolio

<3/11 Results>



Source: Company data.

OP by segment

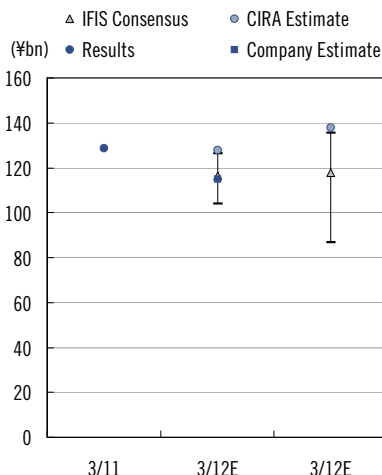


Source: Company data, Citi Investment Research and Analysis.

Alternate scenario: What would make it a Hold

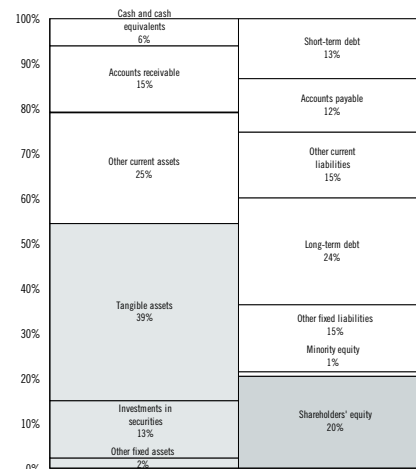
- If the refining margin fell by ¥1 or more YoY, in line with the company plan
- In this case, we would derive a theoretical share price of ¥9,700 using FY3/12E adjusted BPS of ¥12,116 and a PBR of c0.8x (discount of around 10%)

OP forecast comparison



Source: Company data, IFIS (May 25), Citi Investment Research and Analysis.

Balance sheet (end-FY3/11)



Source: Company data.

Figure 20. Idemitsu: Segment earnings trends (¥bn)

OP							3/11				3/12	3/13	3/14	3/12	3/12
	Q1	Q2	Q3	Q4	H1	H2	FY	H1CE	H2CE	FYCE	FYRE	FYRE	FYE	FYE	FYE
Petroleum	20.8	10.2	26.2	37.4	31.0	63.6	94.6	48.5	21.5	70.0	78.0	79.0	82.0	66.0	86.0
Petrochemical	2.8	1.0	-0.2	0.6	3.8	0.4	4.2	5.5	10.5	16.0	7.0	8.0	9.0	5.0	5.0
Resource	9.2	12.3	7.3	8.7	21.5	16.0	37.5	16.0	20.0	36.0	50.0	57.0	58.0	50.0	50.0
#Upstream	6.5	7.2	2.5	5.3	13.7	7.8	21.5	11.0	11.0	22.0	32.0	34.0	35.0	34.0	34.0
#Coal	2.7	5.1	4.9	3.4	7.8	8.3	16.1	5.0	9.0	14.0	18.0	23.0	23.0	16.0	16.0
Others	-1.7	-1.5	-1.8	-2.5	-3.2	-4.3	-7.5	-4.0	-3.0	-7.0	-7.0	-6.0	-6.0	-6.0	-6.0
Total	31.2	21.9	31.6	44.1	53.1	75.7	128.8	66.0	49.0	115.0	128.0	138.0	143.0	115.0	135.0
Inventory effect	6.3	-15.9	8.7	34.5	-9.6	43.2	33.6	33.5	-5.5	28.0	14.0	0.0	0.0	14.0	14.0
Petroleum w/o inventory valuation	15.0	25.1	18.1	3.0	40.1	21.1	61.2	15.0	27.0	42.0	64.0	79.0	82.0	52.0	72.0
Petrochemical w/o inventory valuation	2.3	2.0	-0.7	0.4	4.3	-0.3	4.0	5.5	10.5	16.0	7.0	8.0	9.0	5.0	5.0
Total w/o special effect	24.9	37.8	23.0	9.5	62.7	32.5	95.2	32.5	54.5	87.0	114.0	138.0	143.0	101.0	121.0

Note: FY3/12E Pess and FY3/12E Base are equivalent to the pessimistic case and the base-case in our April 6 scenario analysis.
Source: Company data, Citi Investment Research and Analysis.

Figure 21. Idemitsu: Factor variance analysis (¥bn)

	3/12CE	3/12RE	3/13RE	3/14E	3/12E	3/12E
Petroleum						
Volume effect	-4.5	-3.0	-1.0	-1.0	-3.0	-3.0
Margin effect	-23.0	-4.2	6.0	1.0	-17.2	3.5
# Domestic margin	-30.0	-10.2	5.0	0.0	-20.2	2.5
# Export	2.0	1.0	1.0	1.0	2.0	0.0
In-house fuel cost	-7.7	-6.0	0.0	0.0	-11.0	-11.0
Depreciation law change	0.0	0.0	7.0	0.0	0.0	0.0
Inventory effect or cost cut	10.4	-4.0	-11.0	3.0	-1.0	-1.0
#Inventory	-5.6	-19.6	-14.0	0.0	-7.0	-7.0
#Cost	4.0	4.0	3.0	3.0	6.0	6.0
Total	-25.0	-17.0	1.0	3.0	-32.0	-12.0
Petrochemical						
Margin effect	4.7	-4.0	0.0	1.0	1.0	1.0
#Margin effect for PX/SM	10.7	3.0	0.0	1.0	4.0	4.0
#Naphtha price	-6.0	-7.0	0.0	0.0	-3.0	-3.0
Volume effect	1.9	2.0	0.0	0.0	-3.0	-3.0
Time lag	-0.6	-0.6	1.0	0.0	1.0	1.0
Inventory effect	-0.2	-0.2	0.0	0.0	0.0	0.0
Cost change	6.0	6.0	0.0	0.0	0.0	0.0
Total	11.8	3.2	1.0	1.0	2.0	2.0
Upstream						
Price effect	15.5	17.0	0.0	0.0	15.0	15.0
Forex	-7.0	-5.5	0.0	0.0	15.0	15.0
Volume effect	4.0	5.0	2.0	1.0	8.0	8.0
Exploration cost change	-12.0	-6.0	0.0	0.0	-5.0	-5.0
Others	0.0	-0.5	-0.1	-0.1	-3.6	-3.6
Total	0.5	10.0	1.9	0.9	13.2	13.2
Coal/Others						
Coal volume effect	-5.5	-3.3	10.0	0.6	-5.5	-5.5
Coal price effect	19.0	24.7	0.0	0.0	17.5	17.5
Coal cost change	-6.1	-10.0	-5.0	-1.0	-3.0	-3.0
FX change and others	-9.0	-9.2	0.0	0.0	-8.2	-8.2
Others	0.0	-0.5	0.0	0.0	-0.5	-0.5
Total	-1.6	1.7	5.0	-0.4	0.3	0.3

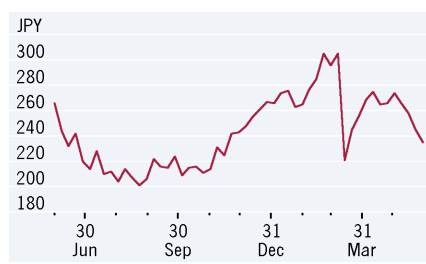
Source: Company data, Citi Investment Research and Analysis.

Company Focus

- Company Update
- Rating Change
- Target Price Change
- Estimate Change

Hold/High Risk	2H
<i>from Sell/High Risk</i>	
Price (30 May 11)	¥235
Target price	¥240
<i>from ¥210</i>	
Expected share price return	2.1%
Expected dividend yield	3.4%
Expected total return	5.5%
Market Cap	¥199,062M
	US\$2,459M

Price Performance (RIC: 5007.T, BB: 5007 JP)



Cosmo Oil (5007)

RoE improvement needed, but upgrading to Hold as risk of capital impairment from DTA reversals has diminished

- **Upgrading to Hold** — We raise our target price for Cosmo Oil to ¥240 from ¥210 as we adjust our end-FY3/12E valuation PBR to 0.65x from just under 0.6x, and upgrade the shares to Hold from Sell. Our revisions mainly reflect significantly diminished concerns regarding DTA reversals as the company posted earnings in FY3/11 via inventory valuation gains and improved refining margins. Furthermore, the company has been able to renew its oil concession in Abu Dhabi, which was set to expire in 2012, and has secured other new interests, which is also positive.
- **Guidance and prospects** — Company guidance anticipates 1) further refining margin improvement (+¥0.75/L) and 2) an estimated ¥7.5bn in costs of alternative supplies arising from suspended operations at the Chiba refinery (the cost was about ¥2.5bn in FY3/11 for around 20 days). These assumptions seem a bit optimistic, and we think the company could thus fall short of plan. The full-year RP target is ¥84bn; only ¥24bn is expected in H1, so we think downward revisions during H1 are unlikely, but if the share price rises we think investors need to be wary of the risk of results falling short of guidance.
- **FY3/12** — We expect adjusted RP to fall 17% YoY to ¥61bn. While we expect earnings from upstream operations to increase ¥21bn due to higher crude prices, we anticipate negative profit effects amounting to about ¥35bn from a narrower refining margin (-¥9bn), costs of alternative supplies (-¥12.5bn), reduced sales volume (-¥4bn), higher depreciation (-¥4.5bn), and increased internal fuel costs accompanying the higher crude prices.
- **FY3/13** — We look for a modest increase of about 3% YoY in FY3/13 adjusted RP, to ¥63bn. We expect a slight improvement in the refining margin and cost reductions as per the company's medium-term plan.
- **Issues** — While we think Cosmo Oil can sustain adjusted RP levels of more than ¥60bn, the company's profit gearing to upstream business, where tax rates are high, is greater than peers. As a result, RoE does not compare favorably, and high valuations are less likely. We expect RoE of 2.1% in FY3/12 and 3.1% in FY3/13, well below our FY3/13 assumptions for JX and Idemitsu of around 10%.

Consol.	Sales			OP			RP		NP		EPS	PE
	¥M	YOY (%)		¥M	YOY (%)	OPM(%)	¥M	YOY (%)	¥M	YOY (%)	¥	X
3/10A	2,612,141	-23.8		34,208	nm	1.3	36,412	nm	-10,738	nm	-13	nm
3/11A	2,771,523	6.1		104,098	204.3	3.8	96,096	163.9	28,936	nm	34	6.9
3/12CE	2,920,000	5.4		90,000	-13.5	3.1	84,000	-12.6	28,000	-3.2	33	7.1
3/12E	2,788,000	0.6		80,000	-23.1	2.9	76,000	-20.9	16,000	-44.7	19	12.5
3/12RE	2,964,000	6.9		69,000	-33.7	2.3	68,300	-28.9	11,900	-58.9	14	16.7
3/13E	2,772,000	-0.6		68,000	-15.0	2.5	64,000	-15.8	18,000	12.5	21	11.1
3/13RE	2,928,000	-1.2		64,000	-7.2	2.2	63,000	-7.8	10,600	-10.9	13	18.8
3/14E	2,897,000	-1.1		66,000	3.1	2.3	67,000	6.3	13,600	28.3	16	14.6

A: Actuals, E: CIRA Ests, CE: Company Ests, RE: CIRA Revised Ests, CRE: Company Revised Ests, NA: Not Available, NM: Not Meaningful

	3/10	3/11	3/12E	3/13E	3/14E
Valuation Ratios					
PER(X)	-18.6	6.9	16.7	18.8	14.6
EV/EBITDA	7.1	4.1	5.7	5.9	5.9
P/BVPS	0.6	0.6	0.6	0.6	0.6
Dividend yield	3.4	3.4	3.4	3.4	3.4
Per Share Data (¥)					
EPS adjusted	-13	34	14	13	16
Reported EPS - diluted	-13	34	14	13	16
EPS*	-13	34	14	13	16
BPS	372	393	398	402	411
DPS	8	8	8	8	8
Profit & Loss (¥M)					
Net sales	2,612,141	2,771,523	2,964,000	2,928,000	2,897,000
Operating expenses	-2,577,933	-2,667,425	-2,895,000	-2,864,000	-2,831,000
EBIT	34,208	104,098	69,000	64,000	66,000
Net interest income/expense	-8,445	-10,921	-9,700	-10,000	-10,000
Total other non-operating items	10,649	2,919	9,000	9,000	11,000
Recurring profit	36,412	96,096	68,300	63,000	67,000
Extraord./Min.Int./Pref.div.	-3,662	-25,027	-7,400	-6,400	-6,400
Taxation	-43,488	-42,133	-49,000	-46,000	-47,000
Reported net income	-10,738	28,936	11,900	10,600	13,600
Analyst adjusted EBITDA	72,202	148,316	113,280	108,300	110,300
Growth Rates (%)					
Net sales	-23.8	6.1	6.9	-1.2	-1.1
EBITDA adjusted	nm	105.4	-23.6	-4.4	1.8
EPS adjusted	nm	nm	-58.9	-10.9	28.3
Cash Flow (¥M)					
Cash from operations	-71,726	7,780	85,580	62,300	65,300
Depreciation and amortization	37,994	44,218	44,280	44,300	44,300
Net change in working capital	-129,000	-89,000	25,000	4,000	4,000
Cash from investing activities	-89,078	-56,820	-61,000	-60,000	-60,000
Capital expenditure	-89,265	-76,600	-60,000	-60,000	-60,000
Net acquisitions/disposals	0	0	0	0	0
Cash from financing activities	185,362	-121,835	-19,100	-2,000	-5,000
Changes in borrowings	179,000	-78,000	-12,100	5,000	2,000
Dividends paid	-10,978	-7,905	-7,000	-7,000	-7,000
Change in cash	25,287	-172,549	5,480	300	300
Balance Sheet (¥M)					
Total assets	1,644,904	1,579,098	1,601,000	1,610,000	1,619,000
Cash	226,608	94,343	100,000	100,000	100,000
Accounts receivable	206,168	229,618	258,000	255,000	252,000
Net tangible fixed assets	597,693	603,639	619,000	635,000	651,000
Total liabilities	1,313,467	1,229,184	1,242,000	1,244,000	1,243,000
Accounts payable	216,111	243,914	269,000	266,000	263,000
Total Debt	759,739	700,131	688,000	693,000	695,000
Shareholders' funds	331,580	350,239	359,000	366,000	376,000
Profitability/Solvency Ratios (%)					
Analyst Adjusted EBITDA Margin	2.8	5.4	3.8	3.7	3.8
Operating ROE	-3.3	8.9	3.6	3.1	3.9
Operating ROIC	-1.3	7.6	2.3	2.1	2.2
Net debt to equity	160.8	173.0	163.8	162.0	158.2
Debt to total capital	69.6	66.7	65.7	65.4	64.9

Note: Consolidated data. * EPS: NP/Est Shares OS.

For further data queries on Citi's full coverage universe please contact CIRA Data Services Japan at CIRADataServicesJapan@citi.com or +81-3-6270-4720



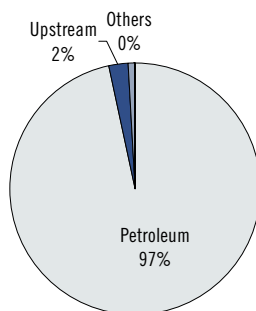
Investment Dashboard

Reasons to Hold

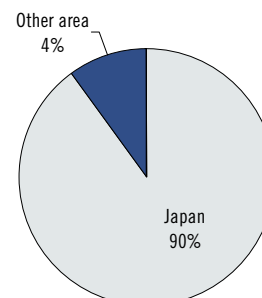
- Deferred tax assets: With margin growth and inventory valuations gains, earnings improved in FY3/11, causing concerns regarding DTA reversals to recede
- PBR: Shares do not look overvalued on adjusted multiple of just under 0.7x
- RoE looks relatively low

Sales breakdown (FY3/11)

By product



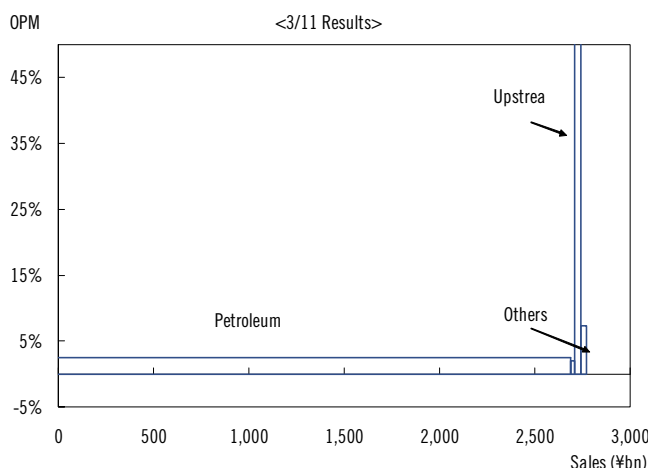
By region



Source: Company data.

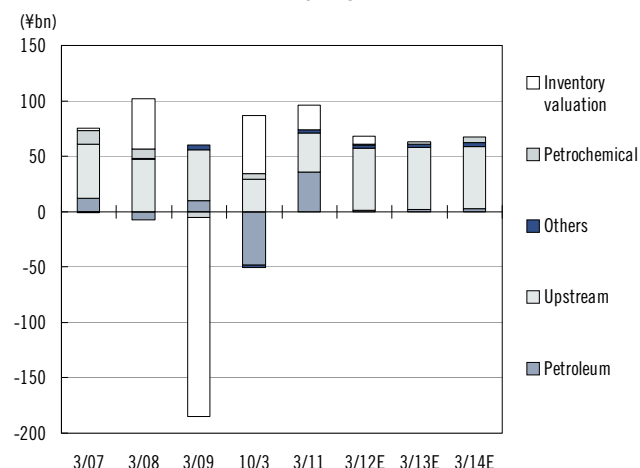
Business portfolio

<3/11 Results>



Source: Company data.

RP by segment

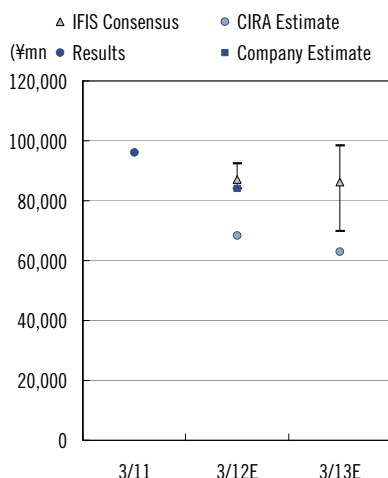


Source: Company data, Citi Investment Research and Analysis.

Alternate scenario: What would make it a Sell

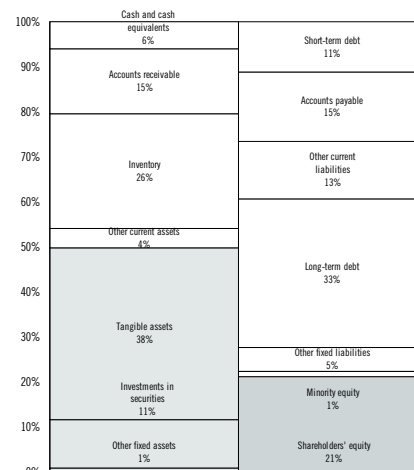
- Refining margin improvement and alternative supply costs arising from suspension of operations at Chiba refinery could be worse than the company assumptions (+¥0.75/L and ¥7.5bn, respectively)
- In that case, applying a multiple of 0.55x (20% discount to our target multiple) to end-FY3/12E BPS of ¥398 would suggest a theoretical share price of ¥220

RP forecast comparison



Source: Company data, IFIS (May 25), Citi Investment Research and Analysis.

Balance sheet (end-FY3/11)



Source: Company data.

Figure 22. Cosmo Oil: Segment earnings trends (¥mn)

Recurring profit	3/10					3/11			FYCE	3/12	3/13	3/14	12/E	3/12
	FY	Q1	Q2	Q3	Q4	FY	H1CE	H2CE		FYRE	FYRE	FYE	FYE Pess	FYE Base
Petroleum	9.3	9.4	-2.6	16.3	35.0	58.1	4.0	22.5	26.5	9.0	4.0	8.0	40.5	15.5
#petroleum	-48.2	6.9	13.8	7.2	8.2	36.1	0.0	21.5	21.5	1.0	2.0	3.0	30.0	5.0
#inventory valuation	52.6	2.3	-15.2	9.1	26.1	22.3	4.0	0.0	4.0	7.0	0.0	0.0	10.0	10.0
#petrochemical	4.9	0.2	-1.2	0.0	0.7	-0.3	0.0	1.0	1.0	1.0	2.0	5.0	0.5	0.5
Upstream	29.4	8.8	10.4	8.6	6.9	34.7	25.5	29.5	55.0	56.0	56.0	56.0	56.0	56.0
Others	-2.3	-3.0	3.7	-0.3	3.0	3.4	-5.5	8.0	2.5	3.0	3.0	3.0	1.0	1.0
Total	36.4	15.2	11.5	24.6	44.8	96.1	24.0	60.0	84.0	68.3	63.0	67.0	98.0	73.0
Total excl. inventory	-16.2	12.9	26.7	15.5	18.7	73.8	20.0	60.0	80.0	61.3	63.0	67.0	88.0	63.0

Note: FY3/12E Pess and FY3/12E Base are equivalent to the pessimistic case and the base-case in our April 6 scenario analysis.
Source: Company data, Citi Investment Research and Analysis.

Figure 23. Cosmo Oil: Factor variance analysis (¥bn)

	3/11	3/12CE	3/12RE	3/13RE	3/14RE
Petroleum					
Margin effect	77.8	3.0	-9.0	3.0	0.0
Export	3.5	5.5	2.5	1.0	1.0
In-house fuel cost	0.0	-4.5	-3.0	-3.6	0.7
Volume effect	-11.8	-6.0	-4.0	-1.0	-1.0
Cost cut	15.0	0.9	0.0	2.0	0.0
Purchase cost	-2.5	-5.0	-12.5	0.0	0.0
Others	2.5	-8.7	-8.7	0.0	0.0
Inventory valuation	-30.3	-18.3	-15.3	-7.0	0.0
Total excl. inventory	84.3	-14.7	-34.7	1.0	1.0
Total	54.0	-33.0	-50.0	-6.0	1.0
Petrochemical					
Total	-5.2	1.3	1.3	1.0	3.0
Upstream					
Price effect	11.5	13.1	14.1	0.0	0.0
Volume effect	-1.1	3.3	2.7	-0.4	0.0
Cost	-6.2	3.9	4.0	0.0	0.0
Total	4.2	20.3	21.0	0.0	0.0
Others					
Total	5.7	0.0	-0.4	0.0	0.0

Source: Company data, Citi Investment Research and Analysis.

Company Focus

- Company Update
- Target Price Change
- Estimate Change

Hold/Medium Risk	2M
Price (30 May 11)	¥770
Target price	¥760
from ¥720	
Expected share price return	-1.3%
Expected dividend yield	2.3%
Expected total return	1.0%
Market Cap	¥290,001M
	US\$3,582M

Price Performance (RIC: 5002.T, BB: 5002 JP)



Showa Shell Sekiyu (5002)

Possibility of large solar losses a concern, but valuations not demanding, maintaining Hold

- **Maintaining Hold** — We tweak our target price to ¥760 (FY12/11E PBR raised to just over 1x from 1x) and maintain our Hold rating. While we think solar business losses could be larger than the company's forecasts, we do not view valuations as particularly stretched.
- **Outlook** — If the government announces aggressive measures to promote renewable energy we would expect Showa Shell's solar business to benefit and the share price to rise. However, to expand the use of renewables we think the government would have to 1) pay subsidies to share initial cost burdens; and 2) significantly increase the price at which solar generated electricity is purchased so that providers can reduce their investment recovery time to a reasonable length. This would raise electricity costs for ordinary consumers. We think the likelihood of these decisions being made is low. Also, (3) we cannot see profits improving in FY12/11 as the start of operations at the third solar plant will result in a large increase in depreciation. For these reasons, if the share price did rise, we see a risk of expanding solar business loss leading to a subsequent sell off.
- **PER-based theoretical share price** — Showa Shell has attracted interest because of its solar business. Using a PER based valuation, we calculate fair value using FY12/11, FY12/12, and FY12/13 forecasts of ¥420, ¥810, and ¥700 respectively. (Figure 5). We expect panel prices to gradually decline and if capacity is not increased through the construction of a new plant we would expect the solar business EPS to gradually decline. If the company does announce plans for construction of a fourth plant we think this would increase concerns about a capital increase given that the dividend was reduced after the announcement of plans for the third plant.
- **FY12/11** — We lower our adjusted RP forecast to ¥35bn (+2% YoY) from ¥48bn. This is mainly because we factor in a larger decline in solar panel prices than the company expects, resulting in a solar business recurring loss of ¥12bn (our previous forecast was for breakeven). We expect oil refining and solar business profits to be about flat YoY.
- **FY12/12** — We forecast adjusted RP will climb to ¥56bn (+60% YoY). We expect the petroleum refining margin to improve slightly (+¥0.25/l, +¥5.5bn) and factor in a saving of ¥4bn on the closure of the Kawasaki (Ogimachi) refinery. We look for solar business earnings to improve, mainly because of an increase in marginal profit on the start of operations at the third plant.

Consol.	Sales		OP			RP		NP		EPS	PE
	¥M	YOY (%)	¥M	YOY (%)	OPM(%)	¥M	YOY (%)	¥M	YOY (%)	¥	X
12/09A	2,022,520	-38.2	-57,141	nm	nm	-56,454	nm	-57,618	nm	-153	nm
12/10A	2,346,081	16.0	36,702	nm	1.6	42,148	nm	15,959	nm	42	18.2
12/11CE	2,638,000	12.4	61,000	66.2	2.3	60,000	42.4	34,000	113.0	90	8.5
12/11E	2,453,000	4.6	45,000	22.6	1.8	48,000	13.9	26,000	62.9	69	11.2
12/11RE	2,831,000	20.7	63,000	71.7	2.2	64,000	51.8	34,000	113.0	90	8.5
12/12E	2,501,000	2.0	55,000	22.2	2.2	60,000	25.0	33,000	26.9	88	8.8
12/12RE	2,915,000	3.0	55,000	-12.7	1.9	56,000	-12.5	31,000	-8.8	82	9.4
12/13E	2,913,000	-0.1	51,000	-7.3	1.8	52,000	-7.1	28,000	-9.7	74	10.4

A: Actuals, E: CIRA Ests, CE: Company Ests, RE: CIRA Revised Ests, CRE: Company Revised Ests, NA: Not Available, NM: Not Meaningful

	12/09	12/10	12/11E	12/12E	12/13E
Valuation Ratios					
PER(X)	-5.0	18.2	8.5	9.4	10.4
EV/EBITDA	-19.5	6.2	4.1	4.1	4.1
P/BVPS	1.2	1.2	1.1	1.0	0.9
Dividend yield	4.7	2.3	2.3	2.3	2.3
Per Share Data (¥)					
EPS adjusted	-153	42	90	82	74
Reported EPS - diluted	-153	42	90	82	74
EPS*	-153	42	90	82	74
BPS	625	638	709	773	829
DPS	36	18	18	18	18
Profit & Loss (¥M)					
Net sales	2,022,520	2,346,081	2,831,000	2,915,000	2,913,000
Operating expenses	-2,079,661	-2,309,379	-2,768,000	-2,860,000	-2,862,000
EBIT	-57,141	36,702	63,000	55,000	51,000
Net interest income/expense	18	1,652	1,000	1,000	1,000
Total other non-operating items	669	3,794	0	0	0
Recurring profit	-56,454	42,148	64,000	56,000	52,000
Extraord./Min.Int./Pref.div.	-28,175	-7,148	-6,000	-4,000	-4,000
Taxation	27,011	-19,041	-24,000	-21,000	-20,000
Reported net income	-57,618	15,959	34,000	31,000	28,000
Analyst adjusted EBITDA	-21,864	70,651	107,000	103,000	99,000
Growth Rates (%)					
Net sales	-38.2	16.0	20.7	3.0	-0.1
EBITDA adjusted	nm	nm	51.4	-3.7	-3.9
EPS adjusted	nm	nm	113.0	-8.8	-9.7
Cash Flow (¥M)					
Cash from operations	-26,771	74,701	-1,500	70,000	76,000
Depreciation and amortization	35,277	33,949	44,000	48,000	48,000
Net change in working capital	9,700	7,200	-79,000	-9,000	0
Cash from investing activities	-47,759	-82,508	-50,900	-46,000	-40,900
Capital expenditure	-41,179	-75,300	-51,000	-46,000	-41,000
Net acquisitions/disposals	0	0	0	0	0
Cash from financing activities	4,371	-8,671	51,800	-23,900	-34,500
Changes in borrowings	-13,400	-8,000	59,100	-17,200	-27,800
Dividends paid	-13,561	-10,170	-6,800	-6,800	-6,800
Change in cash	-70,159	-16,478	-600	100	600
Balance Sheet (¥M)					
Total assets	1,172,738	1,193,147	1,357,100	1,377,100	1,370,000
Cash	22,235	20,943	20,000	20,000	20,000
Accounts receivable	287,749	291,104	355,000	365,000	365,000
Net tangible fixed assets	443,691	486,555	493,500	491,500	484,500
Total liabilities	915,015	930,143	1,067,200	1,063,000	1,035,200
Accounts payable	263,382	273,531	352,000	365,000	365,000
Total Debt	194,072	186,051	245,200	228,000	200,200
Shareholders' funds	257,722	263,005	290,000	314,100	335,200
Profitability/Solvency Ratios (%)					
Analyst Adjusted EBITDA Margin	-1.1	3.0	3.8	3.5	3.4
Operating ROE	-21.2	6.7	13.4	11.1	9.3
Operating ROIC	-6.7	4.1	8.1	6.4	5.8
Net debt to equity	66.7	62.8	77.7	66.2	53.8
Debt to total capital	43.0	41.4	45.8	42.1	37.4

Note: Consolidated data. * EPS: NP/Est Shares OS.

For further data queries on Citi's full coverage universe please contact CIRA Data Services Japan at CIRADataServicesJapan@citi.com or +81-3-6270-4720

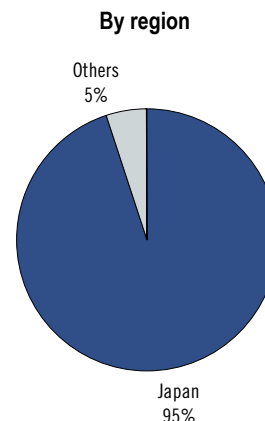
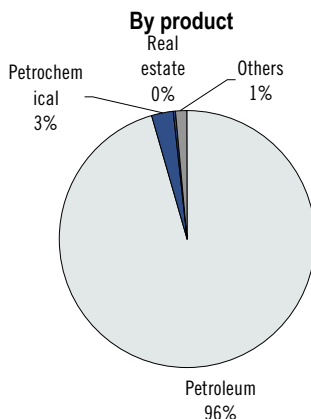


Investment Dashboard

Reasons to Hold

- Does not look overvalued on a PBR of just over 1x
- Solar business losses could exceed company forecast
- We believe petroleum profits are likely to beat plan

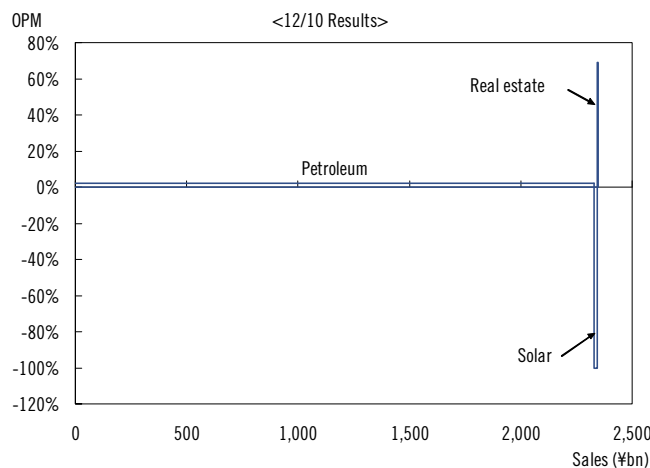
Sales breakdown (FY12/10)



Source: Company data.

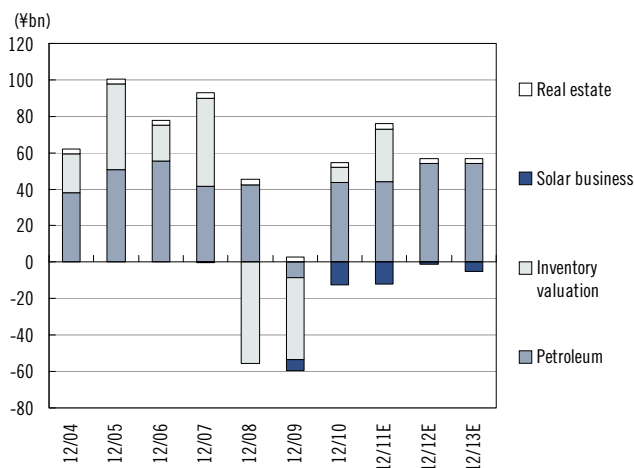
Business portfolio

<12/10 Results>



Source: Company data.

RP by segment

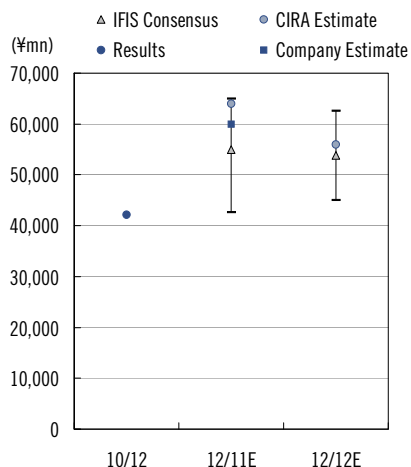


Source: Company data, Citi Investment Research and Analysis.

Alternate scenario: What would make it a Sell

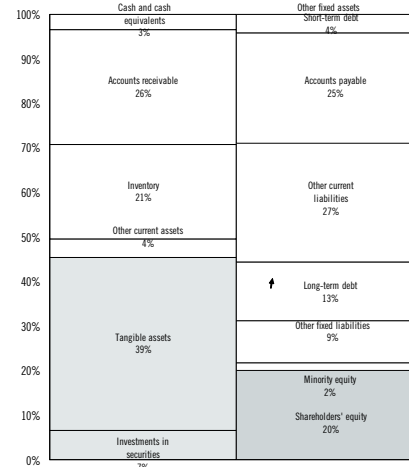
- Fading prospects for the elimination of solar business losses
- In that case we would calculate a theoretical share price of around ¥700 based on our FY12/13 forecasts: solar business EPS of -¥8 x PER of 15x, petroleum EPS of ¥82 x PER of 10x

RP forecast comparison



Source: Company data, IFIS (May 25), Citi Investment Research and Analysis.

Balance sheet (end-FY3/11)



Source: Company data.

Figure 24. Showa Shell: Segment earnings trends (¥bn)

Recurring profit					12/10							12/11	12/12	12/13	12/11	12/12
	Q1	Q2	Q3	Q4	FY	Q1	H1CRE	H2CRE	FYCRE	FYCE	FYRE	FYRE	FYRE	FYRE	FYE	FYE
Petroleum etc	15.0	12.0	4.6	23.1	54.7	44.4	69.0	0.5	69.5	40.5	76.0	57.0	57.0	48.0	53.0	53.0
- adjusted base	8.5	8.1	15.5	14.8	46.9	24.0	30.0	10.5	40.5	40.5	47.0	57.0	57.0	48.0	53.0	53.0
- inventory effect	6.5	3.9	-10.9	8.4	7.9	20.4	39.0	-10.0	29.0	0.0	29.0	0.0	0.0	0.0	0.0	0.0
Solar business	-1.2	-4.2	-2.8	-4.4	-12.6	-6.0	-10.0	0.5	-9.5	-9.5	-12.0	-1.0	-5.0	0.0	7.0	7.0
Total	13.8	7.8	1.8	18.8	42.1	38.4	59.0	1.0	60.0	31.0	64.0	56.0	52.0	48.0	60.0	60.0
Total w/o inventory effect	7.3	3.9	12.7	10.4	34.3	18.0	20.0	11.0	31.0	31.0	35.0	56.0	52.0	48.0	60.0	60.0

Note: Some segment breakdowns are our estimates.
Source: Company data, Citi Investment Research and Analysis.

Figure 25. Showa Shell: Factor variance analysis

Recurring profit	12/11RE	12/12RE	12/13E	12/11E	12/12E
Petroleum business	-1.0	5.5	0.0	5.8	-1.0
- product margin	2.8	5.5	0.0	5.6	-1.0
- export effect	0.2	0.0	0.0	0.0	0.0
- own fuel cost	-4.0	0.0	0.0	0.2	0.0
Petrochemical margin	4.6	0.0	0.0	-1.8	0.0
Refinery cost	1.0	4.0	0.0	2.0	4.0
Sales administrative cost	0.0	0.0	0.0	0.0	0.0
Solar/Subsidiaries	0.6	11.0	-4.0	13.0	7.0
Others	0.0	0.0	0.0	0.0	0.0
Sub total	1.2	20.5	-4.0	19.0	10.0
inventory effect	21.0	-29.0	0.0	-1.0	0.0
Total	22.2	-8.5	-4.0	18.0	10.0

Source: Company data, Citi Investment Research and Analysis.

Figure 26. Showa Shell: Solar business factor variance analysis

Earnings factor analysis	12/10	12/11E	12/12E	12/13E
Capacity [MW]	80	620	980	980
- Utilization	96%	90%	90%	90%
- Process Yield	96%	90%	90%	93%
Production volume [MW]	74	502	794	816
Sales volume [MW]	70	490	776	808
Volume effect	10,600	75,600	47,300	5,000
Marginal profit	2,100	15,100	18,900	2,000
Price [¥/MW]	180	166	158	150
Price [Euro/MW]	1.55	1.44	1.37	1.30
- Forex [JPY/Euro]	116.3	115.0	115.0	115.0
Price effect	-1,200	-1,000	-3,900	-6,200
Others	-2,300	-3,000	-200	0
Sales [gross]	12,600	81,200	122,200	120,800
Gross profit effect	-1,400	11,100	14,800	-4,200
Fixed cost impact	-5,800	-10,000	-4,000	0
Profit change	-7,200	1,000	11,000	-4,000
Cost and marginal profit	12/10	12/11E	12/12E	12/13E
Total cost	26,000	93,000	123,000	126,000
Labor cost	5,500	8,000	8,000	8,000
Depreciation	3,500	14,000	18,000	18,000
Other costs	6,000	6,000	7,000	7,000
Except variable costs	15,000	28,000	33,000	33,000
Variable costs	11,000	65,000	90,000	93,000
Variable costs per unit [¥/W]	150	130	110	110
Marginal profit	17%	21%	30%	26%

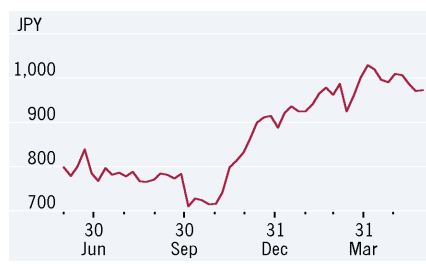
Source: Bloomberg, Citi Investment Research and Analysis.

Company Focus

- Company Update
- Estimate Change

Hold/Medium Risk	2M
Price (30 May 11)	¥973
Target price	¥1,000
Expected share price return	2.8%
Expected dividend yield	4.0%
Expected total return	6.8%
Market Cap	¥549,161M
	US\$6,784M

Price Performance (RIC: 5012.T, BB: 5012 JP)



TonenGeneral Sekiyu (5012)

No major change to investment opinion, maintaining Hold

- **Maintaining Hold** — We maintain our ¥1,000 target price (assuming an FY12/11 dividend yield of 4%) and maintain our Hold rating. We believe the likelihood of share buybacks financed out of healthy FCF has largely been priced in and we cannot see profit expanding strongly enough to lift market expectations of shareholders' returns.
- **Share buyback** — There is no real change to our view. We believe management recognizes that FCF is sufficiently strong that it should be returning some to shareholders. We think a buyback announcement could be made as early as the end of July and expect one by mid August.
- **FY12/11** — We raise our OP forecast to ¥235bn (+c7x YoY) from ¥213bn: petroleum -¥6bn, petrochemicals +¥2bn, inventory valuation gain +¥26bn. The main reasons for the downward revision to petroleum are a lower refining margin assumption and higher crude oil costs for refineries, which reflects a higher crude price assumption. However, the higher crude price assumption also increases the inventory valuation gain and petrochemicals profits (margin improvement).
- **FY12/12** — We lower our OP forecast to ¥51bn from ¥53bn. We forecast adjusted profit will increase 4% (+¥2bn) YoY because of a slight improvement in the refining margin.

Consol.	Sales		OP			RP		NP		EPS	PE
	¥M	YOY (%)	¥M	YOY (%)	OPM(%)	¥M	YOY (%)	¥M	YOY (%)	¥	X
12/09A	2,111,753	-35.5	-34,559	nm	nm	-34,545	nm	-21,718	nm	-38	nm
12/10A	2,398,718	13.6	33,529	nm	1.4	37,011	nm	42,875	nm	76	12.8
12/11CE	2,600,000	8.4	200,000	496.5	7.7	202,000	445.8	121,000	182.2	214	4.5
12/11CRE	2,800,000	16.7	240,000	615.8	8.6	242,000	553.9	145,000	238.2	257	3.8
12/11E	2,607,000	8.7	213,000	535.3	8.2	218,000	489.0	131,000	205.5	237	4.1
12/11RE	2,788,000	16.2	235,000	600.9	8.4	240,000	548.5	144,000	235.9	260	3.7
12/12E	2,609,000	0.1	53,000	-75.1	2.0	58,000	-73.4	35,000	-73.3	64	15.2
12/12RE	2,788,000	0.0	51,000	-78.3	1.8	56,000	-76.7	34,000	-76.4	62	15.6
12/13E	2,609,000	0.0	54,000	1.9	2.1	59,000	1.7	35,000	0.0	64	15.2
12/13RE	2,788,000	0.0	52,000	2.0	1.9	57,000	1.8	34,000	0.0	62	15.6

A: Actuals, E: CIRA Ests, CE: Company Ests, RE: CIRA Revised Ests, CRE: Company Revised Ests, NA: Not Available, NM: Not Meaningful

	12/09	12/10	12/11E	12/12E	12/13E
Valuation Ratios					
PER(X)	nm	12.8	3.7	15.6	15.6
EV/EBITDA	nm	9.6	2.2	7.5	7.5
P/BVPS	2.4	2.2	1.9	1.8	1.8
Dividend yield	3.9	3.9	4.0	4.1	4.1
Per Share Data (¥)					
EPS adjusted	-38	76	260	62	62
Reported EPS - diluted	-38	76	260	62	62
EPS*	-39	78	260	61	61
BPS	403	440	521	538	545
DPS	38	38	39	40	40
Profit & Loss (¥M)					
Net sales	2,111,753	2,398,718	2,788,000	2,788,000	2,788,000
Operating expenses	-2,146,312	-2,365,189	-2,553,000	-2,737,000	-2,736,000
EBIT	-34,559	33,529	235,000	51,000	52,000
Net interest income/expense	-175	-166	-100	-100	-100
Total other non-operating items	189	3,648	5,100	5,100	5,100
Recurring profit	-34,545	37,011	240,000	56,000	57,000
Extraord./Min.Int./Pref.div.	-1,575	19,390	0	0	0
Taxation	14,402	-13,526	-96,000	-22,000	-23,000
Reported net income	-21,718	42,875	144,000	34,000	34,000
Analyst adjusted EBITDA	-3,980	61,663	262,000	77,000	77,000
Growth Rates (%)					
Net sales	-35.5	13.6	16.2	0.0	0.0
EBITDA adjusted	nm	nm	324.9	-70.6	0.0
EPS adjusted	nm	nm	242.8	-76.0	0.0
Cash Flow (¥M)					
Cash from operations	5,419	83,306	13,000	46,000	50,000
Depreciation and amortization	30,579	28,134	27,000	26,000	25,000
Net change in working capital	52,600	-11,400	-53,000	-5,000	0
Cash from investing activities	-27,584	-35,636	-19,500	-19,500	-19,500
Capital expenditure	-26,221	-19,693	-19,500	-19,500	-19,500
Net acquisitions/disposals	0	0	0	0	0
Cash from financing activities	18,691	-66,382	6,000	-26,000	-30,000
Changes in borrowings	14,000	-35,500	53,000	3,000	0
Dividends paid	-21,462	-21,452	-21,000	-21,000	-21,000
Change in cash	-3,219	-18,723	-500	500	500
Balance Sheet (¥M)					
Total assets	875,176	906,845	1,090,000	1,121,000	1,125,000
Cash	789	278	1,000	1,000	1,000
Accounts receivable	397,307	414,435	489,000	507,000	507,000
Net tangible fixed assets	220,844	192,262	184,000	178,000	173,000
Total liabilities	647,818	658,550	802,000	828,000	828,000
Accounts payable	267,188	280,210	315,000	338,000	338,000
Total Debt	88,562	53,014	106,000	109,000	109,000
Shareholders' funds	227,359	248,295	288,000	293,000	297,000
Profitability/Solvency Ratios (%)					
Analyst Adjusted EBITDA Margin	-0.2	2.6	9.4	2.8	2.8
Operating ROE	-8.7	18.0	53.7	11.7	11.5
Operating ROIC	-6.0	6.7	39.2	6.7	6.6
Net debt to equity	38.6	21.2	36.5	36.9	36.4
Debt to total capital	28.0	17.6	26.9	27.1	26.8

Note: Consolidated data. * EPS: NP/Est Shares OS.

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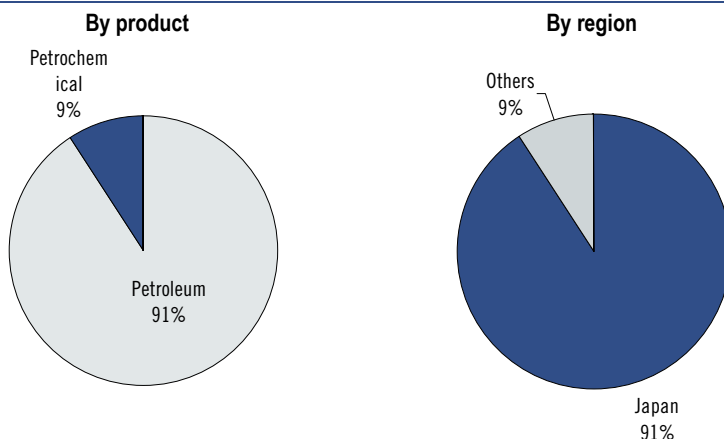


Investment Dashboard

Reasons to Hold

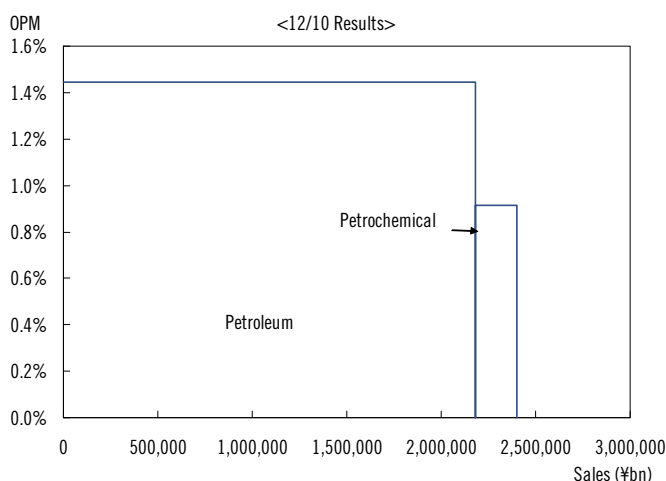
- With the shares on a dividend yield of 4%, we expect Tonen General to use abundant FCF to increase shareholders' returns (share buyback = effective dividend increase). However, we believe an announcement has already been priced in
- Profit margins are healthy and it is difficult to see them increasing further

Sales breakdown (FY12/10)



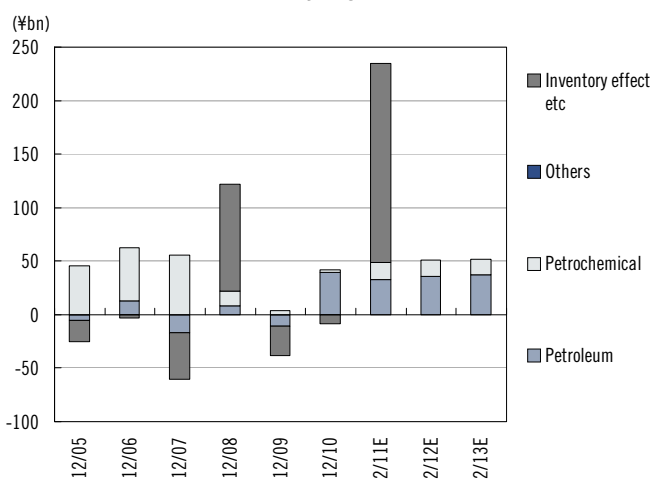
Source: Company data.

Business portfolio



Source: Company data.

OP by segment

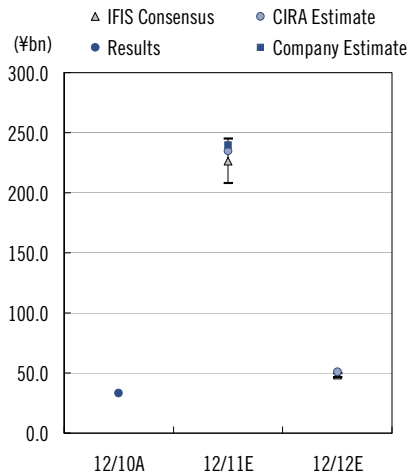


Source: Company data, Citi Investment Research and Analysis.

Alternate scenario: What would make it a Buy

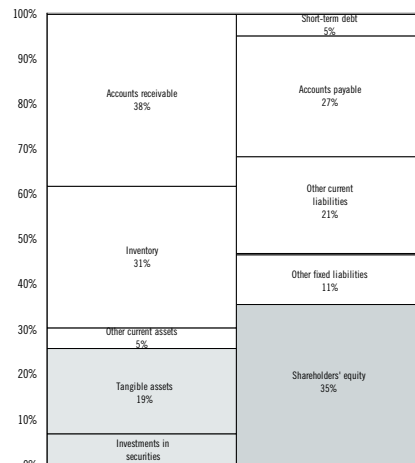
- A clear standard for increasing shareholders' returns, putting a dividend of ¥40 within sight
- In this case we calculate a theoretical share price of ¥1,150, based on a dividend yield of around 3.5% (historical valuation high) and a dividend of ¥40

OP forecast comparison



Source: Company data, IFIS (May 25), Citi Investment Research and Analysis.

Balance sheet (end-FY3/11)



Source: Company data.

Figure 27. TonenGeneral: Segment earnings trends (¥bn)

Operating Profit	12/10				FY	12/11				FYCE	FYRE	12/12		12/13	FYRE	12/11E		12/12E	12/13E
	Q1	Q2	Q3	Q4		Q1	H1CRE	H2CRE	FYCRE			FYRE	FYRE			FYE	FYE		
Petroleum adjusted	-4.8	2.3	24.1	18.1	39.7	10.7	15.0	15.0	30.0	30.0	33.0	36.0	37.0	39.0	38.0	39.0	39.0	38.0	39.0
Petrochemical adjusted	6.4	1.3	-5.5	-0.3	2.0	7.2	10.0	5.0	15.0	10.0	16.0	15.0	15.0	14.0	15.0	15.0	14.0	15.0	15.0
Subtotal	1.7	3.7	18.6	17.8	41.7	17.9	25.0	20.0	45.0	40.0	49.0	51.0	52.0	53.0	53.0	54.0	53.0	53.0	54.0
# Inventory valuation	18.7	-9.4	4.0	-13.5	-0.2	173.2	193.0	2.0	195.0	160.0	186.0	0.0	0.0	160.0	0.0	0.0	0.0	0.0	0.0
# time lag	-2.0	1.0	5.0	-12.0	-8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	18.4	-4.7	27.6	-7.7	33.5	191.1	218.0	22.0	240.0	200.0	235.0	51.0	52.0	213.0	53.0	54.0	213.0	53.0	54.0

Source: Company data, Citi Investment Research and Analysis.

Figure 28. TonenGeneral: Factor variance analysis (¥bn)

	12/11RE	12/12RE	12/13RE	12/11E	12/12E	12/13E
Petroleum						
Volume	-1.5	-1.0	0.0	-1.5	-1.0	0.0
Margin	1.7	4.0	1.0	7.7	0.0	1.0
# time lag	8.0	0.0	0.0	8.0	0.0	0.0
# margins	2.0	4.0	0.0	4.0	0.0	0.0
# own fuel cost	-9.0	-1.0	0.0	-5.0	-1.0	0.0
Cost	1.0	0.0	0.0	1.0	0.0	0.0
Inventory effect last year	0.2	-186.0	0.0	0.2	-160.0	0.0
Inventory effect current year	186.0	0.0	0.0	160.0	0.0	0.0
Subtotal	187.4	-183.0	1.0	167.4	-161.0	1.0
Petrochemical						
Margin	13.0	-1.0	0.0	12.0	1.0	0.0
Cost	1.0	0.0	0.0	0.0	0.0	0.0
Subtotal	14.0	-1.0	0.0	12.0	1.0	0.0
Total	201.4	-184.0	1.0	179.4	-160.0	1.0

Source: Company data, Citi Investment Research and Analysis.

Company Focus

- Company Update
- Estimate Change

Buy/High Risk	1H
Price (30 May 11)	¥488
Target price	¥750
Expected share price return	53.7%
Expected dividend yield	2.0%
Expected total return	55.7%
Market Cap	¥37,682M
	US\$465M

Price Performance (RIC: 5017.T, BB: 5017 JP)



AOC Holdings (5017)

No reason for a sub-0.4x PBR, expectations of a production start in the North Sea could be the next catalyst

- **Reiterating Buy** — We maintain our ¥750 target price (FY3/12 PBR of 0.6x) and reiterate our Buy rating. We see no reason why the shares should be trading on a PBR below 0.4x. We believe the next upside catalyst will be the start of production at the Ome oil field in the North Sea.
- **Recent trends** — AOC Holdings returned to profitability in FY3/11 and resumed dividends, paying ¥6. The company guides for profit growth in FY3/12 and plans to raise the dividend to ¥10. However, the share price continues to languish because of profit taking and concerns that TEPCO will offload its shares in AOC Holdings.
- **Outlook** — We think the share price will rise if the start of oil production at the Ome field raises expectation of the upstream business returning to profitability. Even if TEPCO sells shares in AOC Holdings, we think it will do so in such a way as to minimize the impact on the market. The outlook for AOC Holdings interest in Egypt is likely to remain unclear near term, although we believe the risk is already priced into the shares.
- **FY3/12** — We forecast OP will increase around 2x YoY to ¥9bn: upstream business +¥2.8bn, downstream business +¥800mn, inventory valuation gain +¥1bn. We see the main growth factors as higher crude price and the volume growth on the start of production in the North Sea for the upstream business and better petrochemical margins and low depreciation for the downstream profit
- **FY3/13** — We raise our OP forecast to ¥15.1bn (+68% YoY) from ¥10.8bn. The ¥4.3bn upward revision breaks down to +¥3.1bn for the upstream business, reflecting a higher crude price assumption (raised to \$100/bbl from \$95/bbl and a higher forecast for production volume in the North Sea, and +¥1.2bn for the downstream business, reflecting such factors as a high oil pitch margin.

Consol.	Sales		OP			RP		NP		EPS	PE
	¥M	YOY (%)	¥M	YOY (%)	OPM(%)	¥M	YOY (%)	¥M	YOY (%)	¥	X
3/10A	594,784	-35.9	-4,985	nm	nm	-7,288	nm	-16,159	nm	-209	nm
3/11A	571,149	-4.0	4,365	nm	0.8	1,522	nm	4,021	nm	52	9.4
3/12CE	674,000	18.0	7,400	69.5	1.1	4,500	195.7	3,800	-5.5	49	9.9
3/12E	560,000	-2.0	6,600	51.2	1.2	6,100	300.8	3,700	-8.0	48	10.2
3/12RE	680,000	19.1	9,000	106.2	1.3	6,500	327.1	6,500	61.7	84	5.8
3/13E	569,000	1.6	10,800	63.6	1.9	10,400	70.5	6,300	70.3	82	6.0
3/13RE	695,000	2.2	15,100	67.8	2.2	12,700	95.4	9,300	43.1	120	4.1
3/14E	632,000	-9.1	14,400	-4.6	2.3	12,300	-3.1	5,400	-41.9	70	7.0

A: Actuals, E: CIRA Ests, CE: Company Ests, RE: CIRA Revised Ests, CRE: Company Revised Ests, NA: Not Available, NM: Not Meaningful

	3/10	3/11	3/12E	3/13E	3/14E
Valuation Ratios					
PER(X)	-2.3	9.4	5.8	4.1	7.0
EV/EBITDA	22.7	10.7	8.6	6.5	6.7
P/BVPS	0.4	0.4	0.4	0.4	0.3
Dividend yield	0.0	1.2	2.0	2.0	2.0
Per Share Data (¥)					
EPS adjusted	-209	52	84	120	70
Reported EPS - diluted	-209	52	84	120	70
EPS*	-209	52	84	120	70
BPS	1,180	1,204	1,282	1,392	1,452
DPS	0	6	10	10	10
Profit & Loss (¥M)					
Net sales	594,784	571,149	680,000	695,000	632,000
Operating expenses	-599,769	-566,784	-671,000	-679,900	-617,600
EBIT	-4,985	4,365	9,000	15,100	14,400
Net interest income/expense	-1,899	-1,921	-2,200	-2,100	-1,800
Total other non-operating items	-404	-922	-300	-300	-300
Recurring profit	-7,288	1,522	6,500	12,700	12,300
Extraord./Min.Int./Pref.div.	-804	-217	0	0	0
Taxation	-8,068	2,716	0	-3,400	-6,900
Reported net income	-16,160	4,021	6,500	9,300	5,400
Analyst adjusted EBITDA	7,915	17,828	21,000	27,600	24,400
Growth Rates (%)					
Net sales	-35.9	-4.0	19.1	2.2	-9.1
EBITDA adjusted	nm	125.2	17.8	31.4	-11.6
EPS adjusted	nm	nm	61.7	43.1	-41.9
Cash Flow (¥M)					
Cash from operations	-49,484	29,835	10,200	19,900	26,800
Depreciation and amortization	12,900	13,463	12,000	12,500	10,000
Net change in working capital	-37,304	7,337	-8,300	-1,900	11,400
Cash from investing activities	-16,923	8,471	-9,500	-3,900	-8,200
Capital expenditure	-27,900	-7,400	-8,300	-8,000	-8,000
Net acquisitions/disposals	0	0	0	0	0
Cash from financing activities	47,898	-28,979	-3,400	-16,000	-18,600
Changes in borrowings	45,553	-29,904	-2,900	-15,300	-17,900
Dividends paid	-1,158	-3	-500	-800	-800
Change in cash	-18,509	9,327	-2,700	0	0
Balance Sheet (¥M)					
Total assets	376,232	370,538	363,900	358,200	340,700
Cash	17,695	22,702	20,000	20,000	20,000
Accounts receivable	82,913	67,138	74,800	76,500	69,500
Net tangible fixed assets	135,762	127,273	123,600	119,100	117,100
Total liabilities	284,893	277,474	264,800	250,500	228,300
Accounts payable	28,770	55,542	45,800	46,800	42,500
Total Debt	188,077	156,867	169,900	154,600	136,700
Shareholders' funds	91,344	93,067	99,100	107,700	112,400
Profitability/Solvency Ratios (%)					
Analyst Adjusted EBITDA Margin	1.3	3.1	3.1	4.0	3.9
Operating ROE	-16.2	4.4	6.8	9.0	4.9
Operating ROIC	-5.0	2.7	3.5	4.4	2.9
Net debt to equity	186.5	144.2	151.3	125.0	103.8
Debt to total capital	67.3	62.8	63.2	58.9	54.9

Note: Consolidated data. * EPS: NP/Est Shares OS.

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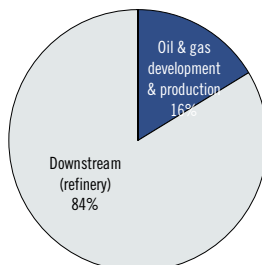
Investment Dashboard

Reasons to Buy

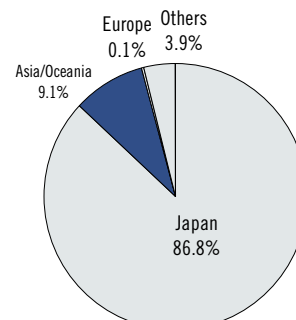
- Gap between the heavy/light oil price differential and PBR: The heavy/light oil price differential, which is closely correlated to PBR, is rising
- PBR of 0.4x: Looks significantly undervalued given that the company returned to profitability in FY3/11 and we expect profit to increase in FY3/12.
- Upstream business: We expect output to increase from FY3/12

Sales breakdown (FY3/11)

By product



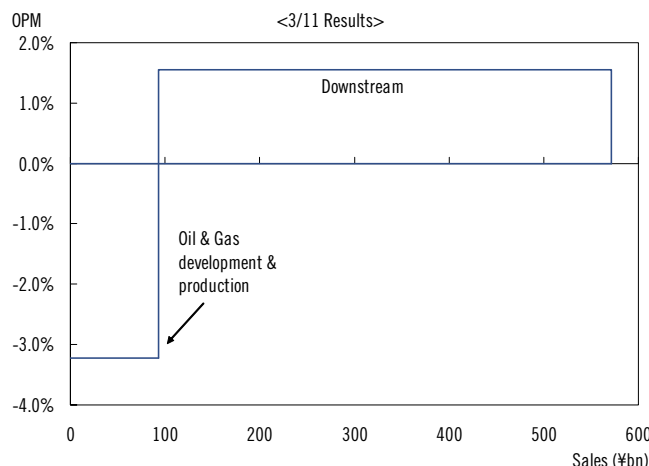
By region



Source: Company data.

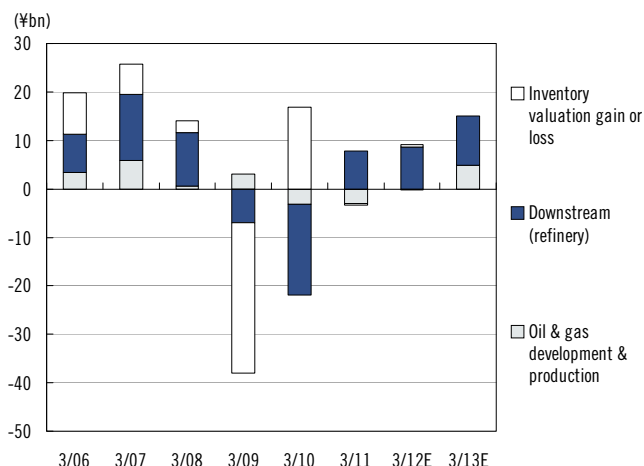
Business portfolio

<3/11 Results>



Source: Company data.

OP by segment

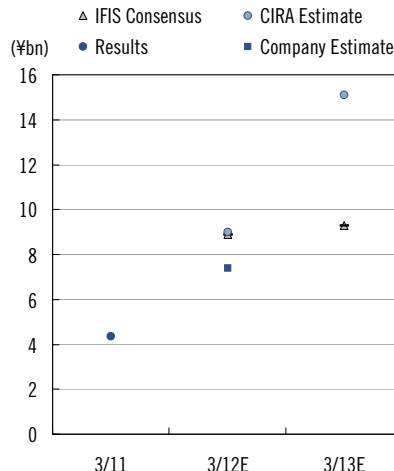


Source: Company data, Citi Investment Research and Analysis.

Alternate scenario: What would make it a Hold

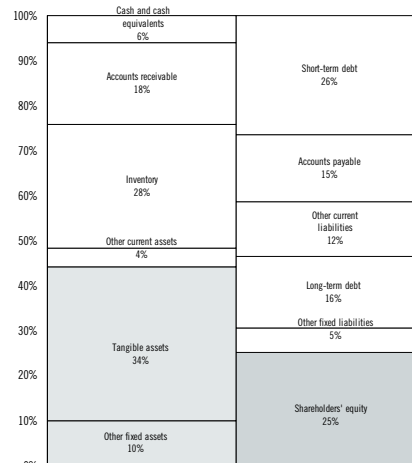
- Heavy/light oil price difference contraction: As a result of a decline in emerging market demand for light oil and supply/demand tightening due to a decline in crude production by oil producing countries. This would be negative for AOC Holdings, whose strength is processing relatively cheap heavy oil.
- Upstream business: Delays to the acquisition and start of production at new oil fields.
- In this case we calculate a theoretical share price of ¥510: FY3/12E BPS of ¥1,282 x 0.4x (30% reduction to our target PBR)

OP forecast comparison



Source: Company data, IFIS (May 25), Citi Investment Research and Analysis.

Balance sheet (end-FY3/11)



Source: Company data.

Figure 29. AOC: Segment earnings trends (¥bn)

	FY3/10 FY	Q1	Q2	Q3	Q4	FY3/11 FY	FYCE	FYRE	FY3/12 FYE	FYRE	FY3/13 FYE	FY3/14 FYE
Sales												
Oil & gas development & production	190	21	25	28	19	93	128	126	115	134	118	134
Downstream (refinery)	405	119	119	112	129	478	546	554	445	561	451	498
Total	595	139	144	140	149	571	674	680	560	695	569	632
OP												
Oil & gas development & production	-3.1	-0.7	-1.4	-0.6	-0.3	-3.0	0.0	-0.2	0.1	4.9	1.8	4.9
Downstream (refinery)	-18.8	0.5	2.9	2.0	2.4	7.8	5.8	8.6	6.5	10.2	9.0	9.5
Subtotal	-21.9	-0.2	1.5	1.4	2.1	4.8	5.8	8.4	6.6	15.1	10.8	14.4
Inventory valuation gain or loss	16.9	-0.5	-4.3	1.0	3.4	-0.4	1.6	0.6	0.0	0.0	0.0	0.0
Total	-5.0	-0.7	-2.8	2.4	5.5	4.4	7.4	9.0	6.6	15.1	10.8	14.4
Assumption												
Dubai Crude assumption [\$]/bbl	70	78	74	84	101	84	105	100	95	100	95	100
Foreign Exchange[¥/\$]	93	92	86	83	83	86	83	85	85	85	85	85

Source: Company data, Citi Investment Research and Analysis.

Figure 30. AOC: Factor variance analysis (¥bn)

OP changing Factor	3/11	3/12E	3/13E	3/14E
A year earlier OP	-5.0	4.4	9.0	15.1
Oil development & production	0.1	2.8	5.1	0.0
- volume effect	-0.6	2.1	5.6	0.0
- price effect	0.0	0.3	0.0	0.0
- exploration and maintenance cost	0.4	0.8	0.0	0.0
- depreciation	0.2	-0.5	-0.5	0.0
Subtotal on upstream change	0.1	2.8	5.1	0.0
Petroleum product	25.7	-2.1	2.0	-1.5
- oil pitch	-0.4	-0.1	0.0	0.0
Petrochemical	2.4	2.2	0.0	-1.3
- volume effect	3.0	-1.1	0.0	-1.3
Raw material cut	0.0	0.0	0.0	0.0
In-house fuel cost	-1.1	-2.0	0.0	0.0
Depreciation	-0.7	1.9	0.0	2.5
Inventory valuation	-17.3	1.0	-0.6	0.0
Others	0.2	0.8	-0.4	-0.4
Subtotal on downstream change	9.2	1.8	1.0	-0.7
Total on change	9.3	4.6	6.1	-0.7
Period end OP	4.4	9.0	15.1	14.4
[YoY]	NA	106%	68%	-5%

Source: Company data, Citi Investment Research and Analysis.

Investment strategy, Valuation, Risks

JX Holdings

Investment strategy

We rate JX Holdings Buy/High Risk (1H) with a target price of ¥650. JX Holdings is the product of the April 2010 merger of Nippon Oil and Nippon Mining Holdings. Its oil business dominates the Japanese market, accounting for more than a third of domestic sales and an even higher share for downstream products. The firm operates in three main areas: domestic oil refining, upstream oil, and copper. Short term, we expect profit growth due to rises in refining margins. Medium term, we think the merger will produce synergies, also boosting profits. Long term, we think copper mine earnings expansion will drive profit growth. In FY3/11, adjusted RoE reached double-digits, and we are upbeat about profit increases over the longer run. We see the FY3/12 plan for a dividend hike of ¥1 versus the initial FY3/11 plan as a manifestation of management team confidence. We rate the shares Buy in light of these factors.

Valuation

We use PBR to value JX. Although the refining business is mature and domestic oil demand is falling, we think overseas demand for petroleum products, including petrochemicals, will rise (we expect continued double-digit YoY growth in oil refining in China, and global demand for paraxylene is expected to rise 7%-8% annually going forward). In addition, we think JX will be able to mitigate inventory impact. Accordingly, we think it appropriate to estimate shareholder value based on net assets. Our target price is set at an FY3/12E PBR of 0.9x, a roughly 10% discount to the TOPIX PBR. We think this appropriate in light of trends in TOPIX-relative PBR and the relationship between PBR and RoE. Moreover, there are high expectations that the creation of JX Holdings will reduce capacity and costs, while the profitability of the firm's oil refining business is improving. Historically, Nippon Oil's TOPIX-relative PBR has been 10%-50% below the TOPIX PBR. Our target price equates to an EV/EBITDA multiple (including equity-method earnings in the copper business, excluding inventory) of 6.6x on our FY3/12 estimates and 6.1x for FY3/13. With EV/EBITDA at primary oil distributors ranging between 6x and 9x, we think our target price is set conservatively.

Risks

Downside risks to our target price include 1) a dividend cut, 2) a decline in the refining margin due to easing domestic petroleum product supply-demand, 3) a large decline in petrochemical prices, 4) expectations that costs will rise, due to factors like a significant tightening of environmental regulations, and 5) trouble in countries holding upstream resource rights. Upside risks include 1) the rise of expectations for unexpectedly fast industry restructuring (e.g., a sudden pullout by peers), 2) a sharp rise in the refining margin and/or petrochemical prices, and 3) policy/legal changes that increase oil demand. If the impact of any of these factors varies from our expectations, the share price may diverge from our target price.

We estimate that the impact of a \$1/bbl change in the crude price is about ¥6.0bn in RP, while the impact of a \$0.10/pound change in the copper price is about ¥2.0bn and the impact of a ¥1/\$ change is about ¥8.2bn. If the impact of any of these factors varies from our expectations, the share price may diverge from our target price.

We rate the shares High Risk (H). We do not have sufficient data to assess the stock's volatility, so we use the same risk level as we did for Nippon Oil and Nippon Mining Holdings pre-merger.

Idemitsu Kosan

Investment strategy

We rate the shares of Idemitsu Kosan Buy/High Risk (1H), with a target price of ¥10,500.

The company is a primary oil distributor that ranks third in the industry in terms of petroleum product sales volume and refining capacity. We think the company holds longer-term investment appeal because of its forward looking business strategies, including 1) the 2002 suspension of certain refinery operations and the expected implementation of further capacity reductions in FY13; 2) a good balance between oil refinery, petrochemicals, and resource development operations; and 3) business development in Vietnam, where there is greater potential for demand expansion, rather than in the contracting domestic market. Refining margins have been improving recently with production cutbacks and refinery closure plans announced by various companies and revisions to the wholesale pricing formula. While companies' refining operations had been in the red for some time, they moved into the black/saw earnings surge in FY3/11. Idemitsu's effective tax rate is falling, thanks to improvement in the segment mix, and EPS is improving more than OP levels. We do not think those factors have been fully priced in, and we rate the shares Buy.

Valuation

We use PBR as our valuation metric for Idemitsu Kosan as we believe that using net assets as a measure of shareholder value is appropriate given that 1) oil refining is a mature capital-intensive industry where domestic demand for petroleum is declining, but overseas demand, including petrochemicals, is likely to expand (we expect continued double-digit YoY growth in Chinese refining and assume global paraxylene demand will rise 7%-8% per annum), and 2) inventory effects are likely to diminish.

Our target price references historical PBRs, TOPIX-relative PBRs, and RoE. Taking particular account of improving refining profitability and the potential upside to conservative upstream oil assumptions, for Idemitsu we use a target FY3/12E PBR of around 0.85x, a discount of just under 20% to the TOPIX PBR (and a slight discount to JX Holdings). Applying this to our adjusted FY3/12 BPS estimate yields a target price of ¥10,500.

We calculate adjusted BPS by subtracting from FY3/12 forecast BPS ¥66.5bn, or ¥1,660 per share, an amount equivalent to the overbooking of land revaluation differences in capital (calculated by subtracting the tax burden from the balance sheet difference of ¥135.4bn). The overbooking of land revaluation differences is a result of the company revaluing its landholdings in March 2002. Falling land prices subsequently led to disparities between properties' book and market values that will have to be booked as impairment charges when service stations or refineries are scrapped or halt operations. We thus conservatively leave them out of our BPS calculation. Our target price equates to an EV/EBITDA multiple of 5.4x on our FY3/12 estimates and 5.2x on our FY3/13 estimates. We think our target price is

likely to be achieved given the EV/EBITDA range of around 6x-9x for primary oil distributors.

Risks

We see the following risks that could keep the share price below our target price. First, the petroleum segment could produce a set of results inferior to those of other companies' equivalent segments. Second, Idemitsu could significantly revise down its proven and probable reserve numbers for its oil and gas fields, coalfields, and uranium mine holding or there could be outbreaks of civil disorder in the countries where they are located. Third, expectations that prices for these commodities will fall markedly could emerge. Fourth, a rise in interest rates could hit the share price, as Idemitsu's debt/equity ratio is relatively poor for the sector.

We see the following risks that the share price could rise above our target price. First, Idemitsu could significantly revise up its proven and probable reserve numbers for its oil and gas fields, coalfields, and uranium mine holding. Second, expectations that prices for these commodities will rise markedly could emerge. Third, Idemitsu could make revolutionary discoveries or come up with mold-breaking inventions in the fields of high-performance chemicals and plastics.

Based on the last three years of volatility we would assign a Medium Risk (M) rating, but we assign a High Risk (H) rating, as the information from the company needed to calculate the value of upstream concessions is limited and we think the shares are likely to be influenced by volatility in the price of crude.

Cosmo Oil

Investment strategy

We rate the shares of Cosmo Oil Hold/High Risk (2H) with a ¥240 target price.

Cosmo Oil is a majority Japanese-owned primary distributor that ranks fourth in the industry in terms of refining capacity. Its weighting of petroleum refining and upstream business is high, while the weighting of petrochemical operations is low. It also invested to upgrade the Sakai refinery (building heavy oil cracking equipment (cokers) and diesel oil desulfurizing equipment) with the aim of increasing the earnings potential of the oil refining business. We think it will be able to attain a certain level of profits by increasing the use of heavy crude, which is relatively cheap, and expanding exports of diesel oil, kerosene, and other middle distillates. That formal agreement has been reached on extending the Abu Dhabi Oil contract, which was due to expire in 2012, is good news. However, FY3/12 operating rates are difficult to read because of the fire at the Chiba refinery caused by the eastern Japan earthquake and the inferior RoE and other measures of profitability versus peers because of the high tax rates on overseas operations are negatives. In light of this, we rate the shares Hold. Causes for concern in the FY3/12 plan are Cosmo Oil's bullish take on the outlook for refining margins and the impact of the damage at the Chiba refinery. If the likelihood of downward revisions in H2 mounts, the shares could slide.

Valuation

We adopt PBR as our valuation metric for Cosmo Oil as we believe using net assets as a measure of shareholder value is appropriate given that 1) oil refining is a mature capital-intensive industry where domestic demand for petroleum and petrochemical products is stable at a certain level, 2) we expect overseas demand

to grow (we expect continued double-digit YoY growth in Chinese oil refining, and we assume that paraxylene demand will rise 7%-8% p.a.), and 3) inventory valuation gains/losses have a significant impact on earnings.

Our target price references historical PBRs, TOPIX-relative PBRs, and RoE. Taking particular account of RoE that lags peers and concerns regarding a medium-term plan that highlights exports as an earnings driver, in Cosmo Oil's case, we adopt a target PBR of 0.65x, a 35% discount to the TOPIX PBR (and a discount to other primary oil distributors), which we apply to FY3/12E adjusted BPS. We calculate adjusted FY3/12E BPS by subtracting ¥28.7bn, or ¥34 per share, an amount equivalent to the overbooking of land revaluation differences in capital, from our nominal BPS forecast (¥28.7bn is calculated by subtracting the tax burden from the balance sheet difference of ¥96.1bn). The overbooking of land revaluation differences is a result of the company revaluing its landholdings in March 2002. Falling land prices subsequently led to disparities between properties' book and market values that will have to be booked as impairment charges when service stations or refineries are scrapped or halt operations. We thus conservatively leave them out of our BPS calculation.

Our ¥240 target price equates to an EV/EBITDA of 7.2x on our FY3/12 forecasts and 7.6x on our FY3/13 forecasts. We think this looks reasonable given the EV/EBITDA range of 6x-9x for primary oil distributors.

Risks

We see the following downside risks to our target price: 1) prices could deteriorate sharply, especially overseas prices (particularly for diesel oil); and 2) cutting capacity as per the METI order could prompt expectations that the firm will post large extraordinary losses. On the other hand, risks that could push the shares well above our target price include: 1) demand for petroleum products like gasoline could improve significantly if the economy shows increasing signs of improving; 2) the difference in the price of heavy and light crude could widen considerably moving forward; and 3) it looks increasingly as if margins will remain firm for gasoline and light oil. If these factors manifest themselves differently than we have anticipated, the share price may diverge from our target price.

Based on three-year historical share price volatility the shares would be rated Medium Risk (M), but we rate them High Risk (H) given that the shares are likely to be influenced by volatility in the price of crude and other factors.

Showa Shell Sekiyu

Investment strategy

We rate the shares of Showa Shell Hold/Medium Risk (2M) with a ¥760 target price. The company is a foreign-affiliated primary oil dealer, with Royal Dutch Shell as its parent. It has low exposure to petrochemicals and its mainstay business is domestic oil refining, and it has strong ties to Seibu Oil and the AOC Holdings group company Fuji Oil. We think management flexibility has improved with Saudi Aramco's arrival as a major shareholder, pushing Shell's stake below 50%. With it becoming increasingly difficult to boost profits by expanding domestic market share for gasoline and other products, we are impressed by Showa Shell's strategy of expanding exports and diversifying into solar cells. The firm is in the process of building a large factory for the solar business, which is expected to expand production capacity 13-fold from mid-2011. Right now, it is unclear whether the firm

can secure sales channels appropriate for its expanded production capacity, a major concern. At the very least we expect earnings to improve in FY12/11 and out but we do not expect solar business earnings to reach the level the company expects. With the sell-off in the shares, we feel that overvaluation has been eliminated and we rate Showa Shell Hold. We feel we need to see improved information disclosure that would lead to expectations of future earnings in the solar business for the shares to rally.

Valuation

We adopt PBR as our valuation metric for Showa Shell as we believe net assets are an appropriate measure of shareholder value given that 1) oil refining is a mature capital-intensive industry; 2) while domestic demand for oil products is declining, we expect overseas demand for oil and petrochemical products to expand (we expect double-digit YoY growth in Chinese oil refining to continue, and assume that global paraxylene demand will rise 7%-8% p.a.); and 3) inventory effects have a significant impact on earnings.

Our target price references historical PBRs, TOPIX-relative PBRs, and RoE. With a gradual slackening in the domestic supply/demand balance appearing unavoidable, oil refiners have moved quickly to scrap refining facilities, and although petrochemicals margins continue to struggle the environment for oil refining margins has improved, which should be positive for Showa Shell given the high weighting of its oil refining business. In light of these and other factors, we adopt a target PBR of just over 1x, a 10% or so discount to the TOPIX PBR, which we apply to our FY12/11 BPS forecast. Our ¥760 target price equates to an EV/EBITDA (excluding inventory) of 6.9x on our FY12/11 forecasts and 5.0x on our FY12/12 forecasts. We think this is broadly appropriate given an EV/EBITDA range of 6x-9x for primary oil distributors.

Risks

Downside risks to our target price include 1) a decline in oil business profit levels due to domestic price competition to increase market share; 2) an upswing in refinery costs due to crude oil price increases; 3) a fall in margins in the solar business Showa Shell is developing. On the other hand, risks that the share price could go well above our target price include 1) a rise in domestic and overseas product demand and strong improvement in petroleum prices, 2) a decline in crude oil costs due to a decline in price of crude oil, or 3) a surge in the profitability of the solar business. If any of these factors manifest themselves differently than we have anticipated, the share price may diverge from our target price.

We rate the shares Medium Risk (M) based on their three-year historical volatility, which places them in the sixth through ninth deciles in terms of share price risk compared with our coverage universe.

TonenGeneral Sekiyu

Investment strategy

We rate the shares of TonenGeneral Hold/Medium Risk (2M) with a target price of ¥1,000. For some time the company has focused on cash flow and a financial strategy that is conscious of the need to optimize WACC. We think TonenGeneral will continue to retire shares with spare cash while maintaining its dividend pool (c¥22bn), without rushing to reduce interest-bearing debt. We rate the shares Hold

for two reasons: 1) share price gains at the end of 2010 have reduced the appeal of valuations (dividend yield is around 4%); and 2) despite strong cashflow, TonenGeneral has not implemented additional measures (share buybacks, etc) to increase shareholders' returns.

Our thoughts on shareholder returns are as follows. TonenGeneral's policy is to maintain a balance between FCF and shareholder returns (dividends and share buybacks). However, from FY12/01 to FY12/10, accumulated FCF exceeded shareholder returns by around ¥50bn. Last October, TonenGeneral submitted a response to a METI ministerial order. The measures it proposed, which included shifting from LIFO to gross average inventory accounting from FY12/11, reduce uncertainty about future earnings and strategy and we think TonenGeneral is likely to return surplus cash to shareholders in FY12/11.

Valuation

We employ a dividend discount model as our main valuation measure in view of the ability to exclude inventory valuation gains/losses stemming from fluctuations in the price of crude and the high level and stability of dividend payout ratios versus cash flow at foreign-capitalized firms, and considering that growth in cash flow can be factored into the share price. We calculate a target price of ¥1,000, setting our FY12/10 DPS forecast at ¥39 and assuming a discount rate of around 4%.

The company's dividend yield has trended between 2.7% and 5.0% since 2005, when the earnings of the petrochemical segment stabilized. Since the latter half of 2007, the discount rate has risen because margins in both oil refining and petrochemicals have worsened. Profits have improved since last year and we think share buybacks (effectively a dividend hike) in 2011 are likely, so we think a discount rate as high as 4% is reasonable.

Our target price equates to an FY12/11E PBR of 1.9x, which is low versus the average of 2.7x for the past five years, but considering shareholders' equity has been boosted by inventory valuation gains accompanying accounting changes, we think it is appropriate.

Risks

Risks to our target price include the following. We think the shares could surpass our target price if 1) the trend in falling interest rates gains strength (because TonenGeneral is generally considered an income stock); 2) the prices of oil and petrochemical products improve substantially, boosting expectations of dividend increases; or 3) the anticipation of industry restructuring supports sector share prices. On the other hand, we think the share price could fail to reach our target price if investors start to worry about dividend cuts; specifically 1) if the company has to make substantial investments in safety and environmental protection measures; 2) if the margins on gasoline and other petroleum products deteriorate even further; or 3) if prices of paraxylene and other petrochemical products, which have become a key profit source, fall sharply. If these factors manifest themselves to a greater extent than we have anticipated, the share price may vary from our target price.

We would assign a Low Risk (L) rating based on share price volatility over the last three years, but instead rate them Medium Risk (M), as volatility in the price of crude and forex, which have substantial impact on the fundamentals, have increased.

AOC Holdings

Investment strategy

We rate the shares of AOC Holdings Buy/High Risk (1H), with a target price of ¥750.

AOC has been developing its operations in line with its medium-term plan, although it has been slightly tardy, and moving forward we expect earnings growth on the following two points: 1) crude production from the oilfield in the Gulf of Suez in Egypt that is being developed and in which AOC has a stake; and 2) strong cost competitiveness from the use of relatively inexpensive heavy crude as an input, which we believe underpins earnings. That said, the recoup of the Egypt investment is not exactly progressing smoothly, not least because work is lagging behind the initial schedule.

However, with the share price having been soft, we assign the shares a Buy rating due to 1) the rising heavy/light spread; 2) the refining margin having bottomed in FY3/10, due to a lot of routine maintenance then; and 3) prospects for narrower losses in upstream earnings off a bottom in FY3/12, on contributions from the Yme field in the North Sea.

Valuation

We use PBR to value the Japanese-affiliated primary distributors. We consider it appropriate to calculate shareholder value based on book value as we take into account that 1) the refining business is a mature capital intensive industry, with domestic demand stable at a certain scale, 2) there are also prospects for an expansion in overseas demand, and 3) the impact of inventory valuation gains/losses can be softened.

In setting our target price, we use a PBR of 0.6x, a discount of around 35% to the TOPIX PBR, referencing historical PBRs, PBRs relative to TOPIX, RoE, and the fact that historically, the PBR has been at a 30%-50% discount to TOPIX. We also take into account the small scale of the upstream business and low profit levels while we foresee profit growth in FY3/12 and the widening price spread between heavy crude and lighter crude, which more easily yields gasoline and other high-value-added products. We apply our target PBR to FY3/12E BPS.

Our ¥750 target price equates to EV/EBITDA multiples of 9.9x based on our FY3/12 estimates and 7.0x based on FY3/13 estimates. The primary distributors trade on an EV/EBITDA range of 6x-9x, so we think this level is reasonable.

Risks

Risks that the shares may substantially fall short of our target price include the following: 1) refining costs at AOC could rise relative to costs at other producers if the spread between light crude and heavy crude oil prices shrinks; 2) profitability at AOC could decline if terms of contracts between the company and Showa Shell, its partner and an important buyer of AOC products, deteriorate; 3) earnings at AOC could be hit if there is a decline in petrochemical product prices; and 4) import costs could rise if the situation in oil-producing countries worsens. On the other hand, the share price may exceed our target price if 1) petrochemical prices significantly improve, boosting the company's earnings, or 2) a major oil strike results from exploration in Norwegian fields where the company holds interests.

We rate the shares High Risk (H) based on their three-year historical volatility, which places them in the second through fifth deciles in terms of share price risk compared with our coverage universe.

Appendix A-1

Analyst Certification

The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

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