AU Optronics Corp.

Rating Change BUY

Equity | Taiwan | Electronics
06 February 2009

Bank of America Merrill Lynch

RESEARCH

Jeffrey Su >> +886 2 2376 3731
Research Analyst
Merrill Lynch (Taiwan)
jeffrey_su@ml.com

Jasmine Wei >> +886 2 2376-3801
Research Analyst
Merrill Lynch (Taiwan)
jasmine_wei@ml.com

Daniel Kim, CFA >> +852 2536 3443
Research Analyst
Merrill Lynch (Hong Kong)
daniel_kim@ml.com

Bottoming out, upgrade to BUY

The worst is over, upgrade to BUY - NT$30.2 PO (1x PBV)

We are upgrading AUO from Neutral to BUY (NT$30.2 PO, 1.0x 09E PBV) as we think the worst is behind the company. No V-shaped recovery, 09E LCD oversupply (BAS-ML 7%), big 09E losses (BAS-ML NT$38.6bn versus NT$27.6bn previously) and negative ROE are widely expected at this point, but at 0.8x 09E PBV, long-term risk/reward is turning favorable in our view as a) sharp supply-side cuts are under way, b) 1Q loss for AUO should not be worse than 4Q, and c) 2Q blended ASP likely to stabilize and losses to narrow in 2H09 as industry awaits demand catalyst return.

Supply-side cuts under way, awaiting end demand recovery

Supply side steps taken by panel makers (lowered inventory and utilization, 09E capacity scale-back and capex slashed 45% YoY) are all positive, and the worse 1H09 is, the better for 10E supply as 09E capex will be further hand-cuffed in our view. While 09E macro overhang persists (area demand only 10% YoY), LCD TV affordability is rising (expect US$299 retail for 32-inch by 2H09) while longer-term, LCD TV installed base penetration is only ~30%, implying one more leg up.

Three-stage U-shaped industry recovery likely

AUO was among the worst-performing stocks in 08, and we think the stock is likely to remain volatile in 1H09. However, we see a three-stage recovery this cycle: 1) inventory re-stocking (already under way in 1H09), 2) utilization rise leading to narrowing of losses (expect AUO to see in 2H09), and 3) end demand elasticity returning to drive ASP/profitability (expect to see by 10E).

Estimates (Dec)

(NT$)	2006A	2007A	2008E	2009E	2010E
Net Income (mn) Taiwan GAAP	9,103	56,418	21,267	(38,593)	12,941
EPS (Pre Bonus)	1.33	6.91	2.94	(5.25)	1.76
EPS (Post Bonus)	0.92	4.80	2.54	-4.54	1.52
EPS Change (YoY)	-48.8%	422.0%	-47.0%	NM	NM
Dividend / Share	0.190	2.38	0.875	0	0.533
Free Cash Flow / Share	(2.69)	11.27	4.05	(0.689)	2.97
ADR EPS (US$) (Pre Bonus)	0.41	2.10	0.87	(1.56)	0.52
ADR EPS (US$) (Post Bonus)	0.28	1.46	0.76	(1.35)	0.45

* Taiwan GAAP changed from Pre Bonus to Post Bonus earnings from 2008.

Valuation (Dec)

	2006A	2007A	2008E	2009E	2010E
P/E (Post Bonus)	27.34x	5.24x	9.89x	NM	16.53x
Dividend Yield	0.757%	9.47%	3.48%	0%	2.12%
Free Cash Flow Yield*	-8.62%	42.97%	15.84%	-2.74%	11.80%

* For full definitions of *iQmethod* SM measures, see page 16.

Stock Data

Price (Common / ADR)	NT$25.15 / US$7.71
Price Objective	NT$28.00 to NT$30.20 / US$8.44 to US$8.96
Date Established	6-Feb-2009 / 6-Feb-2009
Investment Opinion (Common)	C-2-8 to C-1-8
Investment Opinion (ADR)	C-2-8 to C-1-8
Volatility Risk	HIGH / HIGH
52-Week Range	NT$17.80-NT$60.48
Market Value (mn)	US$6,351
Shares Outstanding (mn)	8,505.7 / 850.6
Average Daily Volume	58,747,880
ML Symbol / Exchange	AUOPF / TWO
ML Symbol / Exchange	AUO / NYS
Bloomberg / Reuters	2409 TT / 2409.TW
ROE (2008E)	7.1%
Net Dbt to Eqty (Dec-2007A)	28.7%
Est. 5-Yr EPS / DPS Growth	10.0% / 10.0%
Free Float	85.0%

Refer to important disclosures on page 17 to 19. Analyst Certification on Page 14. Price Objective Basis/Risk on page 14.

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iQprofile℠ AU Optronics Corp.

Key Income Statement Data (Dec)	2006A	2007A	2008E	2009E	2010E
(NT$ Millions)					
Sales	293,107	480,184	423,928	241,451	294,969
Gross Profit	29,850	86,178	55,324	(16,254)	33,851
Sell General & Admin Expense	(10,871)	(17,033)	(19,872)	(18,849)	(13,544)
Operating Profit	14,216	63,275	30,592	(38,554)	16,177
Net Interest & Other Income	(4,016)	(4,711)	(4,320)	(1,600)	(1,798)
Associates	NA	NA	NA	NA	NA
Pretax Income	10,200	58,564	26,272	(40,154)	14,379
Tax (expense) / Benefit	(1,068)	(2,088)	(4,630)	1,561	(1,438)
Net Income (Adjusted)	9,103	56,418	21,267	(38,593)	12,941
Average Fully Diluted Shares Outstanding	6,866	8,160	8,363	8,506	8,506
Key Cash Flow Statement Data					
Net Income	9,103	56,418	21,267	(38,593)	12,941
Depreciation & Amortization	52,760	81,706	81,488	89,822	89,865
Change in Working Capital	(14,206)	10,654	30,843	(7,090)	(2,565)
Deferred Taxation Charge	NA	NA	NA	NA	NA
Other Adjustments, Net	20,870	8,149	(1,513)	0	0
Cash Flow from Operations	68,527	156,927	132,085	44,139	100,242
Capital Expenditure	(86,967)	(64,999)	(98,205)	(50,000)	(75,000)
(Acquisition) / Disposal of Investments	NA	NA	NA	NA	NA
Other Cash Inflow / (Outflow)	(10,733)	(2,728)	(3,860)	9,389	(6,633)
Cash Flow from Investing	(97,700)	(67,727)	(102,065)	(40,611)	(81,633)
Shares Issue / (Repurchase)	0	0	0	0	0
Cost of Dividends Paid	(1,749)	(1,791)	(20,377)	(7,443)	0
Cash Flow from Financing	32,551	(44,817)	(36,350)	(32,443)	(10,000)
Free Cash Flow	(18,440)	91,928	33,880	(5,861)	25,242
Net Debt	179,234	86,332	76,689	80,604	61,996
Change in Net Debt	87,194	(82,545)	(9,643)	3,916	(18,608)
Key Balance Sheet Data					
Property, Plant & Equipment	381,551	363,835	380,552	340,730	325,865
Other Non-Current Assets	43,833	35,746	39,605	30,217	36,850
Trade Receivables	57,458	75,911	23,899	13,892	16,971
Cash & Equivalents	45,774	91,406	85,076	56,160	64,769
Other Current Assets	49,510	50,562	40,255	34,295	34,529
Total Assets	578,126	617,459	569,387	475,293	478,983
Long-Term Debt	179,389	142,016	113,324	95,268	88,045
Other Non-Current Liabilities	344	103	103	103	103
Short-Term Debt	45,619	35,722	48,441	41,497	38,719
Other Current Liabilities	121,698	138,799	105,810	82,753	83,501
Total Liabilities	347,050	316,639	267,677	219,620	210,368
Total Equity	231,076	300,820	301,710	255,674	268,615
Total Equity & Liabilities	578,126	617,459	569,387	475,294	478,983
iQmethod*℠ - Bus Performance					
Return On Capital Employed	3.9%	12.5%	5.9%	-7.5%	4.1%
Return On Equity	4.7%	21.2%	7.1%	-13.8%	4.9%
Operating Margin	4.9%	13.2%	7.2%	-16.0%	5.5%
EBITDA Margin	22.9%	30.2%	26.4%	21.2%	36.0%
iQmethod*℠ - Quality of Earnings					
Cash Realization Ratio	7.5x	2.8x	6.2x	NM	7.7x
Asset Replacement Ratio	1.6x	0.8x	1.2x	0.6x	0.8x
Tax Rate (Reported)	10.5%	3.6%	17.6%	3.9%	10.0%
Net Debt-to-Equity Ratio	77.6%	28.7%	25.4%	31.5%	23.1%
Interest Cover	4.2x	10.3x	5.1x	-7.4x	3.5x
Key Metrics					
Bonus Adjusted Net Income	6,315	39,178	21,267	-38,593	12,941
Bonus Adjusted EPS	0.92	4.80	2.54	-4.54	1.52
Bonus Adjusted P/E	27.3x	5.2x	9.9x	NM	16.5x
Bonus Adjusted ROE	3.3%	14.7%	7.1%	-13.8%	4.9%

* For full definitions of *iQmethod*℠ measures, see page 16.

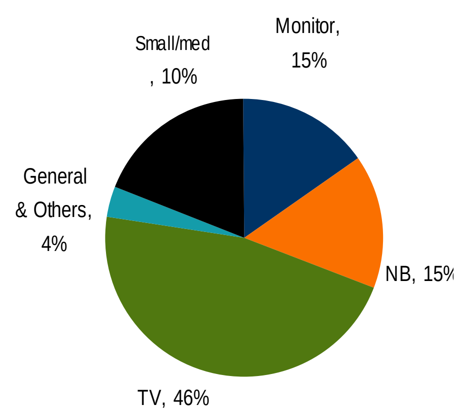
Company Description

AU Optronics is Taiwan's leading manufacturer of TFT-LCD flat panel displays. Well-timed capex and a smooth ramp-up in new generation fabs should allow AUO to remain one of Taiwan's leading TFT-LCD companies. This status provides it with key competitive edges on component sourcing, cost advantages, and better client mix. Risks: Significant capex, yield issues, or component shortages. 10 shares = 1 ADR.

Investment Thesis

We are BUY on AUO as long-term risk/reward is turning favorable in our view. 09E oversupply is well-known at this point, but supply side steps taken by panel makers (lowered inventory and utilization, capacity scale down and 09E capex slashed) are all positive. Longer-term, TV affordability is rising while LCD TV installed base penetration remains low. 1Q losses for AUO will not be worse than 4Q, and 2Q blended ASP likely to stabilize and losses to narrow in 2H09 as utilization recovers.

Chart 1: 09E sales breakdown



Source: Banc of America Securities-Merrill Lynch estimates

Stock Data

Shares / ADR	10.00
Price to Book Value	0.7x
Market Cap.	214344

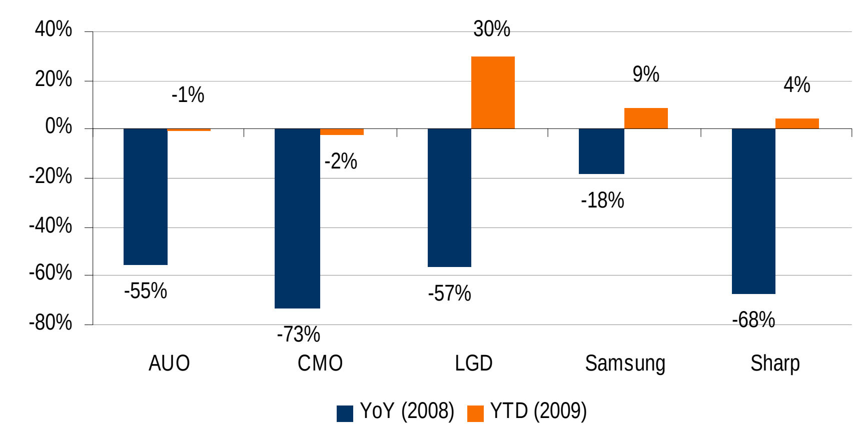
Bottoming out, upgrade to BUY

We upgrade AUO from Neutral to BUY (NT$30.2 PO, 1.0x 09E PBV) as we believe the worst is behind the company. No V-shaped recovery, 09E LCD oversupply (BAS-ML 7%), big 09E losses (BAS-ML NT$38.6bn versus NT$27.6bn previously) and negative ROE are widely expected at this point, but at 0.8x 09E PBV, long-term risk/reward is turning favorable in our view as a) sharp industry supply-side cuts are under way, b) 1Q losses for AUO will not be worse than 4Q, and c) 2Q blended ASP likely to stabilize and losses to narrow in 2H09 as industry awaits demand catalyst to return.

AUO was one of the worst-performing stocks in 08, and the stock is likely to remain volatile in 1H09 given big losses and the short-term nature of 1Q panel ASP bounce (supply-driven, not real demand). However, AUO currently trades at ~0.8x 09E PBV (0.7x trailing PBV) compared to its historical range of 0.47-2.7x P/BV since its IPO, and a three-year average ROE of 11% and five-year average of 14%.

We believe industry fundamentals are bottoming and while 1H likely will remain tough, 1Q losses should not be worse than 4Q. We believe losses will narrow in 2H as operating leverage returns. AUO has underperformed LGD by 29% YTD.

Chart 2: panel makers' YTD stock performance comparison

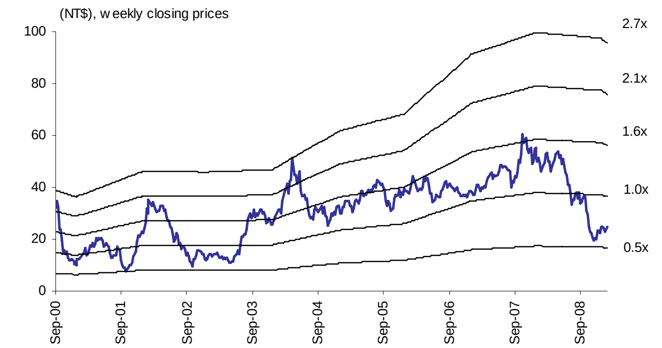


Source: Bloomberg, Banc of America Securities-Merrill Lynch

LCD cycle recovery is under way in our view and typically occurs over three stages in our view: 1) inventory re-stocking (already under way in 1H09), 2) utilization rates increase leading to operating leverage and narrowing of losses (we expect AUO to see in 2H09), and 3) end demand elasticity returning to drive ASP/profitability (we expect to see by 10E). While it likely will be a prolonged U-shaped industry recovery, we believe the worst has passed and risk/reward is turning more favorable. We are upgrading to BUY.

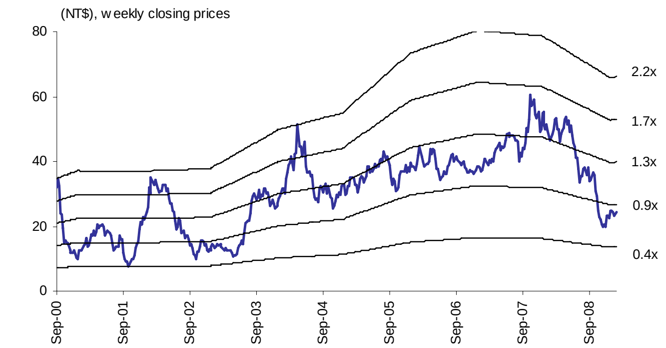
Further downside risks come from a) short-term ASP bounce in 1H09 leading to volatility, b) lack of supply side discipline, and c) market share strategy of competitors. Upside risks come from a) reversal of KRW currency depreciation, b) earlier than expected recovery of end demand, c) penetration into China TV market, and d) meaningful industry consolidation.

Chart 3: AUO's historical PB bands



Source: TEJ, Banc of America Securities-Merrill Lynch estimates

Chart 4: AUO's 1-year forward PB bands

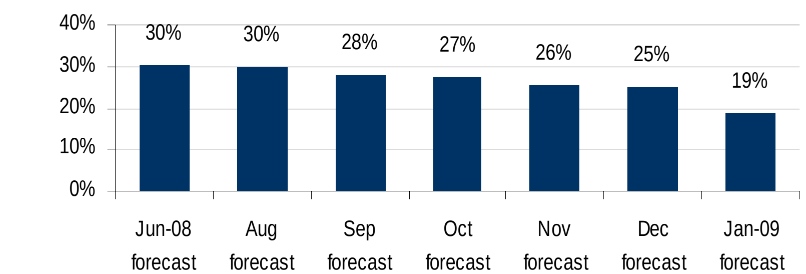


Source: TEJ, Banc of America Securities-Merrill Lynch estimates

Supply side cuts under way, awaiting return of end demand

1H09 fundamentals are unlikely to see any major improvement and likely will remain volatile, with near-term risks from rising utilization rates and/or Korean market share strategy. But over the long term, supply side steps taken by panel makers (lowered inventory and utilization rate, capacity scale-down and 09E industry capex slashed 45% YoY) are all positive (19% YoY area supply growth in 09E now versus 30% YoY growth six months ago).

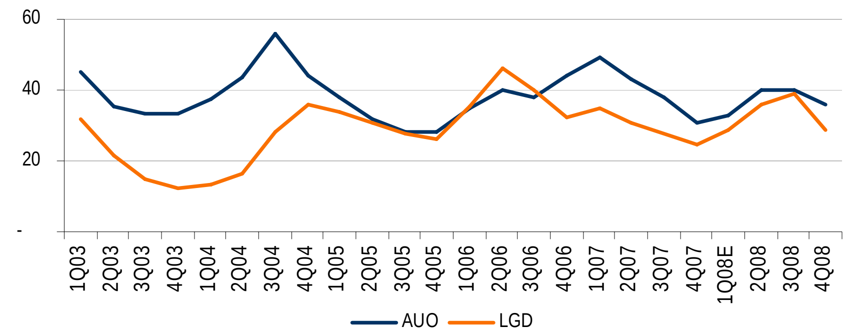
Chart 5: 09E area supply YoY growth has been scaled down as losses pile up



Source: Banc of America Securities-Merrill Lynch estimates

As conditions have deteriorated, panel makers have taken concrete steps to control the supply-side. In the near-term, they have all lowered inventory levels and cut utilization rates down to manage supply. For example, AUO will operate at only ~50-55% utilization in 1Q09, similar to the 4Q08 level, we expect LGD to be at 80-90% (versus 80% in 4Q) and for CMO to be below 50% in 1Q09. Inventory days level at panel makers have also come down in 1Q09 as suppliers realize there is no point to building excess inventory given the precipitous collapse in panel prices in 2H08, and therefore it is more advantageous to keep inventory levels as lean and healthy as possible.

Chart 6: AUO and LGD inventory days comparison



Source: company data

In addition, panel makers have also scaled back or delayed ramps of new fab capacity in 09E. For example, AUO has pushed back its 7.5G-B fab capacity expansion of 60k/month to at least next year and scaled down its 8.5G fab to 20k (from 40k originally), while CMO has also cut back its 8.5G capacity target to <10k from 30k previously. This is all helping to drive down area supply growth from 30% YoY six months ago to 19% currently.

Table 1: New capacity ramping schedule (k glass/month)

	Fab	Gen	4Q08	1Q09E	2Q09E	3Q09E	4Q09E	1Q10E	2Q10E	3Q10E	4Q10E
Samsung	L8-2	8				10	30	45	60	60	60
LGD	P6	6	170	170	180	215	230	235	237	240	240
LGD	P8	8	0	5	15	25	45	60	70	83	83
AUO	L7A+B	7.5	75	75	75	75	75	85	100	135	135
AUO	L8	8.5	0	0	0	5	15	20	30	45	60
CMO	Fab 8	8.5	0	0	0	0	5	10	15	20	30
Innolux	Fab 3	6	0	0	0	25	50	60	75	90	90
Sharp	No 3	10	0	0	0	0	0	10	25	45	50
IPS Alpha	No 2	8	0	0	0	0	0	10	20	55	75
Century	Fab 1	5	0	0	0	20	30	50	60	85	90

Source: Company data, Banc of America Securities-Merrill Lynch estimates

Lastly, as the losses begin to pile up and the demand recovery remains out of sight, panel makers will be forced to lower utilization, scale back 09E capacity, and slash 09 capex in our view. We have seen AUO lower 09E capex by 50% YoY and expect even sharper cuts from CMO given its stressed balance sheet. We look for overall industry capex to decline 45% YoY in 09E, which, given the 1-1.5 year lead time for a new fab, we think bodes well for 10E supply control. In addition, the worse 1H09 is, the better for 10E supply discipline as panel makers' 09E capex will be further hand-cuffed and constrained, in our view.

Table 2: 09E capex to slow down significantly

	2007	YoY	2008	YoY	2009E	YoY	2010E	YoY
SEC (KRWbn)	2,255	-19%	4,108	82%	2,378	-42%	3,203	35%
LGD (KRWbn)	1,598	-48%	2,874	80%	2,170	-24%	2,590	19%
AUO (NT$bn)	65	-44%	98	51%	50	-49%	75	50%
CMO (NT$bn)	103	-32%	100	-3%	35	-65%	40	14%
Innolux (NT$bn)	4	-53%	28	n.a	25	-11%	30	20%
Total (US$m)	9,793	-32%	12,457	27%	6,859	-45%	8,794	28%

Source: Banc of America Securities-Merrill Lynch estimates

Not expecting a V-shaped recovery in 09E

No V-shaped industry recovery, 09E LCD oversupply and large losses for panel makers are the consensus at this stage, given 19% YoY area growth set against a macro-dampened 10% YoY area demand growth. BAS-ML global supply/demand model looks for 7% oversupply for 09E, and for it to be particularly severe (double-digit levels) in 1H09, but we believe this is largely known at this point and factored into expectations.

Table 3: Panel area supply growth

	1Q08	2Q08	3Q08	4Q08	1Q09E	2Q09E	3Q09E	4Q09E	1Q10E	2Q10E	3Q10E	4Q10E	2008	2009E	2010E
Km^2	14.8	15.8	17.2	18.2	18.5	18.9	20.0	21.1	22.1	23.2	24.9	25.7	66.0	78.5	96.0
QoQ/YoY	1.8%	7.0%	8.6%	5.9%	1.4%	2.4%	5.6%	5.7%	4.7%	5.1%	7.4%	3.2%	34.0%	18.9%	22.3%

Source: Banc of America Securities-Merrill Lynch estimates

We assume 09E area demand to increase 10.2% YoY on the back of an LCD monitor YoY unit drop of -4% and LCD TV unit growth of 10% YoY versus market expectations of 15-20%. The downside risks to our demand assumptions are a shift towards smaller screen size TVs and monitors as consumer spending is impacted by macro issues. However, the recent Chinese stimulus policy to introduce LCD TV to 2nd/3rd tier cities could provide an upside surprise as the LCD TVs sold in China had an average screen size of 35.5-inches in 3Q08 vs. the global average of 32.8-inch per DisplaySearch.

Table 4: LCD TV unit YoY growth assumption

BAS-ML	9.7%
DisplaySearch	17.3%
AUO	12-20%
LGD	16%
Samsung	10%

Source: Company data, Banc of America Securities-Merrill Lynch estimates

Table 5: Global technology growth forecasts

Units (% YoY)	2008E	2009E	2010E
Handset	1.0%	-9.0%	4.0%
LCD TV	28.6%	9.8%	21.4%
LCD monitor	13.8%	-3.8%	6.7%
Notebook / Netbook	33.3%	7.4%	11.9%
Desktop PC	-4.9%	-18.3%	-8.7%
Total PC	10.8%	-5.6%	2.9%

Source: Banc of America Securities-Merrill Lynch estimates

Table 6: LCD TV Unit Sales

(% YoY)	Japan	China	Europe
January	36%	41%	48%
February	32%	11%	33%
March	36%	87%	36%
April	21%	71%	43%
May	32%	27%	31%
June	32%	62%	40%
July	22%	67%	24%
August	42%	71%	23%
September	15%	103%	27%
October	11%	-2%	29%
November	28%	63%	27%
December	17%	30%	NM
2008	26%	43%	33% *

*2008 YTD

Source: NPD, GFK, BCN, CMM & Corning analysis

Table 7: Average LCD TV size by region

inch	1Q07	2Q07	3Q07	4Q07	1Q08	2Q08	3Q08
Japan	28.5	28.4	29.3	30.0	28.7	30.6	30.7
North America	31.2	31.0	31.6	32.5	33.3	32.5	33.0
Western Europe	29.8	30.5	30.8	31.3	31.1	31.6	31.9
Eastern Europe	27.9	28.9	30.6	31.3	30.7	31.3	31.7
China	33.8	34.4	34.5	34.8	35.7	34.9	35.5
Asia Pacific	32.9	33.1	33.0	33.5	33.9	34.0	33.4
Latin America	30.2	30.5	30.8	31.4	31.4	32.3	32.3
Middle East and Africa	32.5	32.6	33.1	33.5	34.0	34.2	33.8
Total	30.7	31.0	31.6	32.1	32.3	32.4	32.8

Source: DisplaySearch

Table 8: Size mix assumption

Monitor	2000	2001	2002	2003	2004	2005	2006	2007	2008E	2009E	2010E
15"	78%	74%	59%	38%	24%	11%	7%	5%	5%	5%	4%
17"	14%	15%	26%	43%	53%	56%	44%	29%	20%	12%	9%
19"	0%	0%	3%	7%	15%	26%	38%	42%	40%	39%	39%
Others	8%	11%	12%	11%	8%	7%	11%	24%	35%	44%	47%

Table 8: Size mix assumption

Monitor	2000	2001	2002	2003	2004	2005	2006	2007	2008E	2009E	2010E
NB											
12.1"	10%	12%	6%	7%	6%	6%	4%	4%	3%	3%	2%
13.3"	56%	10%	2%	1%	1%	1%	3%	4%	5%	5%	4%
14.1"	0%	58%	54%	34%	29%	21%	25%	25%	24%	19%	16%
15.0"	5%	16%	34%	48%	42%	32%	15%	4%	1%	0%	0%
15.4"	0%	0%	0%	6%	16%	29%	42%	53%	55%	59%	61%
Others	29%	4%	4%	5%	6%	11%	10%	10%	12%	14%	17%
TV											
19" and below	84%	58%	49%	31%	17%	9%	4%	1%	3%	3%	2%
20"-31"	16%	42%	48%	55%	56%	44%	33%	13%	10%	8%	6%
32"	0%	0%	0%	6%	17%	34%	29%	32%	35%	32%	25%
32"-39"	0%	0%	2%	5%	5%	10%	14%	13%	11%	6%	0%
40"/42"	0%	0%	1%	1%	3%	3%	16%	27%	26%	31%	36%
46"/47"	0%	0%	0%	0%	0%	0%	4%	11%	11%	13%	14%
50" and above	0%	0%	0%	0%	0%	0%	1%	4%	5%	8%	15%

Source: DisplaySearch, Banc of America Securities-Merrill Lynch estimates

Sensitivity analysis – the tougher things get, the more supply will be cut back

As mentioned above, our base case scenario assumes 19% area supply growth driven by the new fab ramp schedule assumptions in table 8 set against 10% YoY area demand growth, resulting in 7% oversupply.

We also try to run two scenario analyses to gauge the sensitivity of supply/demand. In scenario 1, we assume that no new fab capacity is added at all in 09E, and that whatever capacity existed as of Dec 31, 2008 remains the same in 09E. This scenario, although not as realistic, yields an outcome where supply/demand rebalances in 2H09.

In scenario 2, we assume all new fabs are pushed back (i.e., Samsung's 8G-2, LGD's 8G, AUO's 8.5G, CMO's 8.5G, Innolux's 6G, Sharp's 10G, and Century Display's 5G) and only existing fabs will continue to ramp (including Samsung's 5G-1, 5G-2, 7G-1, 7G-2, 8G-1, and LGD's 6G and 7G, and CMO's 6G). This results in a tightness/shortage situation appearing by 4Q09. The reality lies somewhere between the base case and scenario 2 in our view, as the tougher things get, the more likely new capacity and capex will be further slashed or pushed out.

Table 9: Supply/demand scenario analysis

	09E Demand	09E Supply	YoY Supply Growth	S/D 2009E	S/D 1Q09E	S/D 2Q09E	S/D 3Q09E	S/D 4Q09E
Base case	73.4	78.5	18.9%	107%	114%	111%	103%	102%
1st scenario	73.4	74.0	12.0%	101%	114%	108%	96%	89%
2nd scenario	73.4	76.5	15.8%	104%	114%	110%	101%	95%

Source: Banc of America Securities-Merrill Lynch estimates

Our LCD supply/demand global model, which is built on a bottom-up basis and of course in glass area (NOT unit) terms. Our area demand forecast is based on a three-step process 1) forecasting end demand for NB, monitor and TVs in unit terms, 2) assuming a panel size mix within each end application, then 3) converting into square meter area terms.

On the flip side, area supply is determined by 1) forecasting for each panel maker by each fab, the average monthly glass substrate input (i.e., a 7.5G fab for AUO with 60k in 1Q08, 60k in 2Q, 75k in 3Q and 75k in 4Q08), and 2) for new fabs, factoring in yield and wasted glass area considerations.

The supply model does not account for utilization rates (we assume full utilization to get a realistic picture of the total potential supply) and excludes any fab 4G or below (as we assume it gets converted to small/medium production). Our experience tells us that the supply/demand model is never an exact indicator of industry trends, but can serve as a useful general directional gauge and logic check for the industry.

TV affordability rising while low installed base penetration offers long-term promise

The industry supply side discipline is under way, and what we now await is the return of end demand. While the 09E macro overhang persists on end demand and we expect to see area demand growth of only 10% YoY in 09E, TV affordability is rising given the sharp collapse of TV panel ASPs in 2H08 (we expect to see US$299 retail for 32-inch by 2H09) while longer-term, LCD TV installed base penetration is only ~30%, implying one more leg up over the next three years in our view.

Table 10: ~30% global LCD TV installed base implies one more LCD TV replacement leg up

Region	08 population (m)	# ppl per household	# TV per household	LCD TV % of installed base				
				2007	2008E	2009E	2010E	2011E
Japan	127	2.8	2.4	16%	24%	32%	41%	49%
North America	339	2.6	2.8	13%	20%	29%	38%	48%
Europe	731	3.0	2.5	8%	15%	22%	30%	38%
China	1,322	3.7	1.0	4%	8%	14%	21%	29%
Global	6,742	5.0	1.1	11%	17%	26%	36%	47%

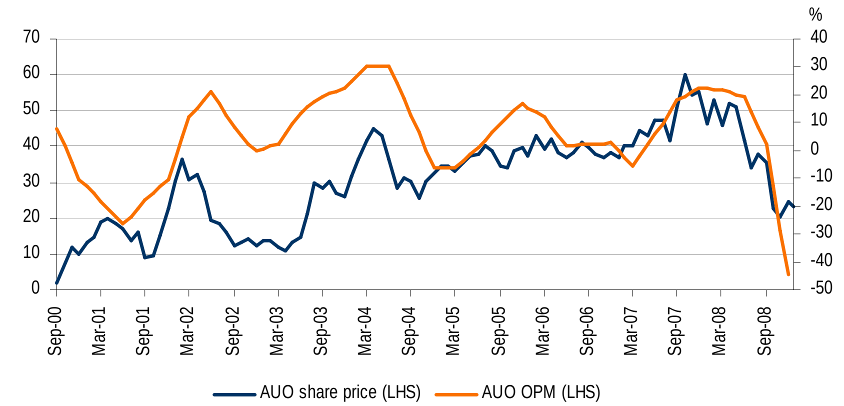
Source: Banc of America Securities-Merrill Lynch estimates

Earnings bottoming out

AUO posted a record 4Q08 loss of NT$26.6bn due to weak demand, collapsing ASP and inventory writedowns ahead of Article 10 implementation. While we do not foresee a V-shaped recovery in 09E and expect 1H09 conditions to remain difficult, we do expect earnings to have reached a bottom given that many panel prices are at or below cash cost levels, implying limited further room to fall. In addition, panel makers are carefully managing inventory levels and controlling utilization in 1H09 as there is still an absence of real end demand recovery.

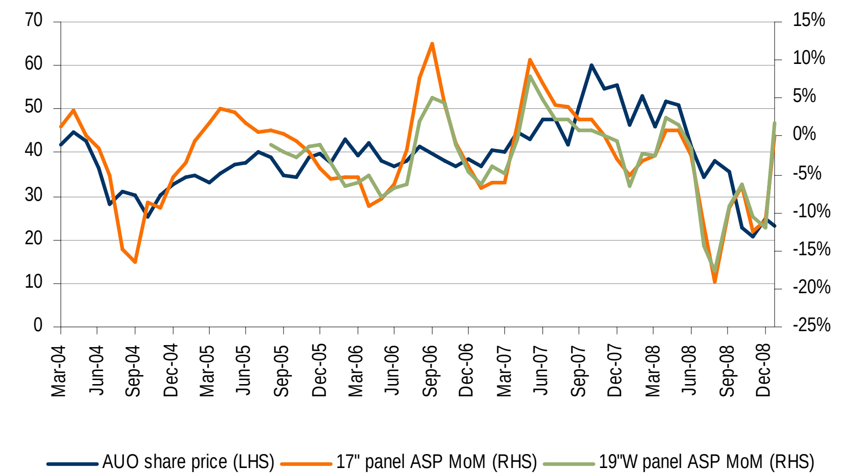
Thus we expect 1H09 conditions to remain challenging, and foresee AUO’s losses to continue (1Q NT$17bn, 2Q NT$14bn). But in looking at quarterly average ASPs, we believe 1Q losses for AUO will not be worse than 4Q, and 2Q blended ASP is likely to stabilize and losses to narrow in 2H09 as utilization rates increase and operating leverage kicks in We believe share price will lead the fundamental recovery by 1-2 quarters.

Chart 7: AUO's share price vs. AUO's OP margin



Source: Banc of America Securities-Merrill Lynch estimates

Chart 8: AUO share price vs. IT panel ASP MoM



Source: Witsview, DisplaySearch, Banc of America Securities-Merrill Lynch estimates

1Q loss should not be worse than 4Q

Our recent channel checks show panel prices are stabilizing in Jan 09 and we are likely to see monitor ASP rise US$1-2 across the board in February 09. Overall, we see the chance for a 10-15% bounce from the bottom (below cash cost levels) in 1Q09. With a) low utilization rates, b) healthy inventory and re-stocking, and c) panel ASP at very low levels (below cost), panel makers (even Koreans) are seeking to push ASP back to cash cost levels.

Table 11: Monthly panel ASP (US$) - IT ASPs stabilizing in Jan 09

		Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09
NB	15.4"W	103	98	98	100	99	92	79	71	70	61	54	52	52
	14.1"W	100	97	95	97	96	89	78	70	69	60	53	51	51
	13.3"W	112	112	112	113	112	104	95	92	91	83	76	75	75
Monitor	22"W	160	157	158	162	161	145	121	107	105	95	87	84	86
	20"W	138	138	141	144	143	129	105	92	89	79	71	68	70
	19"	142	138	141	144	143	126	103	92	90	81	74	72	72
	19"W	125	122	125	127	126	111	90	80	78	69	61	60	62
	17"	123	120	121	122	121	108	88	77	75	65	58	56	57
	15"	104	104	107	107	104	88	74	68	66	58	52	50	50
TV	46"	780	768	753	733	721	708	670	650	635	593	525	505	505
	42"	540	534	552	540	520	508	475	450	435	405	348	330	330
	37"	439	437	433	423	413	395	368	355	343	319	275	265	265
	32"	330	330	328	317	309	292	273	258	240	215	175	165	165
	26"	236	236	236	233	224	215	193	180	169	157	133	130	130

Source: DisplaySearch

However, we see the ASP bounce only as short-term as it is driven by supply side cutbacks rather than any real end demand recovery. Additional risks arise from a) utilization rate hikes and b) panel makers' market share strategy. Despite a short-term bounce, 1Q quarterly avg ASPs will likely still see QoQ declines.

We expect 1Q sales for AUO to drop 21% QoQ on the back of a 16% QoQ decline in large size panel shipments and a 25% decline in small/medium shipments along with a 5% blended ASP decline. We forecast GPM/OPM of -25%/-36% and a net loss of NT$17bn compared to NT$27bn in 4Q08.

But looking ahead to 2Q09, even assuming monitor panel prices drop straight back down to where they started from in Jan 09, we believe the quarterly average blended ASP will be flat to down low single digits, which implies that panel pricing has also reached a bottom. Thus, we expect 2Q not to be worse than 4Q08 either, albeit at still loss-making, and we expect losses to narrow in 2H09 as the utilization rate recovers. Remember that a 10% shift in utilization typically has a 2-3% impact on margins, according to our checks.

Table 12: AUO's quarterly forecast

P&L (NT$m)	1Q08A	2Q08A	3Q08A	4Q08A	1Q09E	2Q09E	3Q09E	4Q09E	2007A	2008A	2009E
Sales	136,630	123,476	104,072	59,750	47,080	52,642	66,160	75,570	480,184	423,928	241,451
QoQ/YoY	*-12.1%*	*-9.6%*	*-15.7%*	*-42.6%*	*-21.2%*	*11.8%*	*25.7%*	*14.2%*	*63.8%*	*-11.7%*	*-43.0%*
Gross profit	37,084	30,815	8,360	(20,935)	(11,721)	(8,930)	-1,706	6,103	86,178	55,324	(16,254)
Gross margin	*27.1%*	*25.0%*	*8.0%*	*-35.0%*	*-24.9%*	*-17.0%*	*-2.6%*	*8.1%*	*17.9%*	*13.1%*	*-6.7%*
Operating profit	30,309	24,062	2,683	(26,462)	(16,712)	(14,457)	(7,594)	209	63,275	30,592	(38,554)
Operating margin	*22.2%*	*19.5%*	*2.6%*	*-44.3%*	*-35.5%*	*-27.5%*	*-11.5%*	*0.3%*	*13.2%*	*7.2%*	*-16.0%*
Pretax income	28,854	23,618	1,444	(27,645)	(17,112)	(14,857)	(7,994)	(191)	58,564	26,272	(40,154)
Pretax margin	*21.1%*	*19.1%*	*1.4%*	*-46.3%*	*-36.3%*	*-28.2%*	*-12.1%*	*-0.3%*	*12.2%*	*6.2%*	*-16.6%*
Net income	26,861	20,165	806	(26,565)	(17,112)	(14,114)	(7,195)	(172)	56,418	21,267	(38,593)
QoQ/YoY	-18.6%	-24.9%	-96.0%	n.a.	35.6%	17.5%	49.0%	97.6%	*n.a.*	-62.3%	n.a.
Net margin	*19.7%*	*16.3%*	*0.8%*	*-44.5%*	*-36.3%*	*-26.8%*	*-10.9%*	*-0.2%*	*11.7%*	*5.0%*	*-16.0%*
EPS (NT$)	3.21	2.41	0.10	(3.18)	(2.01)	(1.66)	(0.85)	(0.02)	6.91	2.54	(4.54)

Source: Company data, Banc of America Securities-Merrill Lynch estimates

AUO mgmt was very cautiously optimistic regarding 1Q guidance, acknowledging the weak current conditions, but also mindful that 09E is starting from a very low base with more upside than downside potential, and AUO hopes to still outperform the industry in 09E.

Mgmt guided 1Q for a) units to fall 15-20% QoQ (TV flat partially due to China, PC down 20% and s/m down 30%+), b) qtr end to qtr end ASP to be flat for TV and up slightly for PCs (Unlike previously, AUO did not provide a blended ASP outlook), and c) utilization rate of mid-50% in 1Q, similar to 4Q (and not up like LGD). AUO expects cost to decline 5% via procurement (for example, our checks indicate glass ASP pressure appears to be much higher in 1Q) and process redesign.

Table 13: Panel makers' 1Q09 guidance comparison

	AUO	LGD	Samsung (TFT BU)
Shipment	* Large-size shipment to decrease 15-20% QoQ - TV flat QoQ - IT down 20% QoQ * Small/med size shipment to decline 30% QoQ	* Area shipment to decrease low-single digit % - TV down mid-single digit - IT up low-single digit	* Shipment to decline high-single digit - TV down 10% QoQ - IT down mid-teens % QoQ
ASP	* Quarter-end TV ASP to be flat QoQ * Quarter-end IT ASP to be up slightly	* limited possibility for further price decline compared to end-2008 * Price rebound is expected in some product categories	* Quarter-end TV ASP to be flat QoQ * Quarter-end Monitor ASP to be up slightly * Quarter-end NB ASP to drop mid-single digit
Margin	* 5% QoQ decline	* COGS to decline by low-teens %	* No specific guidance
Utilization Rate	* mid-50%	* 90%+	* 90%+

Source: Company data

Mgmt sees rush orders and inventory restocking due to low inv levels in the near term, as well as benefits from CNY sell through after a good US Christmas season. It sees limited inventory loss impact in 1Q as compared to 4Q as long as ASPs remain stable. Our checks show the sell through from Chinese New Year demand has been quite healthy for both LCD monitors and TVs, further bolstering the near-term momentum.

Record net loss in 4Q08

AUO reported 4Q GPM/OPM of -35%/-44.3%, EBITDA of -8.4% and a record net loss of NT$26.6bn. This was below BAS-ML expectations (NT$14bn loss) and worse than LGD's recent results (-1%/-7% GPM/OPM and 6% EBITDA).

Table 14: 4Q08 actual vs. BAS-ML estimates

(NT$m)	4Q08A	QoQ %	YoY %	4Q08 BAS-ML	Diff (%)
Revenue	59,750	(42.6)	(61.6)	60,918	(1.9)
Gross profit	(20,935)	n.a.	n.a.	(8,329)	(151.3)
Gross margin (%)	-35.0%			-13.7%	
Operating Income	(26,462)	n.a.	n.a.	(13,020)	(103.2)
Operating margin (%)	-44.3%			-21.4%	
Pre-Tax Income	(27,645)	n.a.	n.a.	(14,074)	(96.4)
pre tax margin (%)	-46.3%			-23.1%	
Net Income	(26,565)	n.a.	n.a.	(14,074)	(88.8)
Net margin (%)	-44.5%			-23.1%	
EPS (NT$)	(3.12)			(1.68)	

Source: Company data, Banc of America Securities-Merrill Lynch estimates

The main reasons given by mgmt were a) weak demand (units down 27% QoQ and ASP decline of 28% QoQ), b) some products being -ive margin and below cash costs (monitors the worst), and c) inventory provisioning (recognized in COGS, but amt not quantified). We believe AUO is losing share in monitor panels as it chooses to lower utilization in the face of declining ASP and lower profitability. Inventory value dropped 41% QoQ and inventory days fell to 25 days, which is at a healthy level. OCF was positive but FCF was negative and net debt/equity rose to 26.5% in 4Q (19% in 3Q) as the company drew down NT$11.2bn loans.

Table 15: AUO's balance sheet highlights

(NT$ m)	Cash	total debt	net debt	net debt/ equity	Inventory	Inventory days
3Q08	89,484	150,880	61,396	19.0%	39,889	40
4Q08	83,905	162,785	78,880	26.5%	23,611	36

Source: Company data, Banc of America Securities-Merrill Lynch estimates

Overall we lower our 09E net loss forecast for AUO from NT$27.6bn previously to NT$38.6bn given lower 4Q base and 1Q09 guidance. We also adjust our 10E forecast from NT$14.4bn net profit by 12% down to NT$12.9bn.

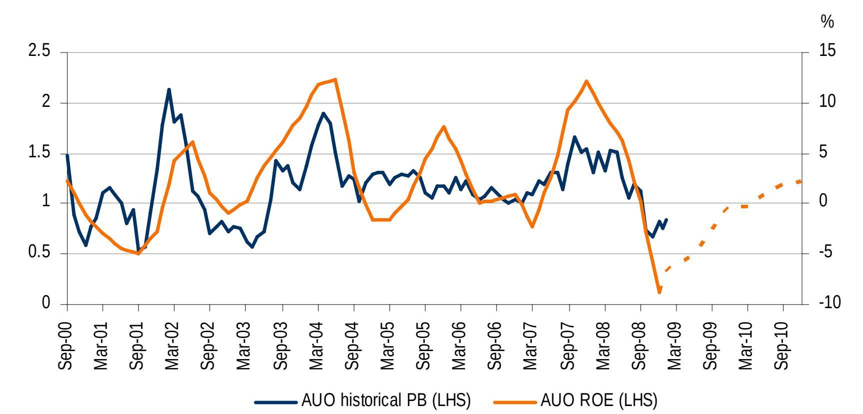
Table 16: New vs. old forecast

(NT$ m)	BAS-ML 09(E)			BAS-ML 10(E)		
	New	Old	Diff (%)	New	Old	Diff (%)
Total sales	241,451	259,537	(7.0)	294,969	315,024	(6.4)
Gross Profit	-16,254	-5,237	n.a.	33,851	38,021	(11.0)
Gross margin	*-6.7%*	*-2.0%*		*11.5%*	*12.1%*	
Operating income	-38,554	-23,841	(61.7)	16,177	19,145	(15.5)
Operating margin	*-16.0%*	*-9.2%*		*5.5%*	*6.1%*	
Pretax income	-40,154	-27,704	(44.9)	14,379	15,986	(10.1)
Pretax margin	*-16.6%*	*-10.7%*		*4.9%*	*5.1%*	
Net income	-38,593	-27,573	(40.0)	12,941	14,387	(10.1)
Net margin	*-16.0%*	*-10.6%*		*4.4%*	*4.6%*	
EPS (NT$)	-4.54	-3.30	(37.6)	1.52	1.72	(11.6)

Source: Banc of America Securities-Merrill Lynch estimates

AUO was one of the worst-performing stocks in 08. We think the stock is likely to remain volatile in 1H09 given big losses and the short-term nature of 1Q panel ASP bounce (supply-driven, not real demand). However, AUO currently trades at ~0.8x 09E PBV (0.7x trailing PBV) compared to its historical range of 0.47-2.7x P/BV since its IPO, and three-year average ROE of 11% and five-year average of 14%. QFII holding of AUO dropped from 50%+ in early 08E to low-40% currently as the LCD industry entered a deep down cycle starting 2H08.

Chart 9: AUO P/B vs. ROE



Source: Banc of America Securities-Merrill Lynch estimates

We believe industry fundamentals are bottoming and while 1H likely will remain tough, 1Q losses should not be worse than 4Q and losses will narrow in 2H as operating leverage returns. AUO has underperformed LGD by 29% YTD

Chart 10: AUO's QFII holding fell sharply in 2008

Source: TEJ

Table 17: TFT-LCD makers' valuation comparison

	BAS-ML Symbol	BAS-ML Rating	Price 3-Feb-09	Mkt Cap (US$m)	EPS growth (%) 2008E	EPS growth (%) 2009E	PER(x) 2008E	PER(x) 2009E	PBR(x) 2008E	PBR(x) 2009E	Perform YTD
AUO	AUOPF	C-1-8 Buy	25.2	6,354	(63.7)	n.a.	9.9	n.a.	0.7	0.9	-1%
CMO	CMEOF	C-3-8 Underperform	10.5	2,298	(72.7)	n.a.	7.5	n.a.	0.4	0.5	-2%
Coretronic	CCOCF	C-1-7 Buy	17.6	377	(14.9)	(31.8)	4.2	6.2	0.6	0.6	3%
Innolux	INXDF	C-3-8 Underperform	27.8	2,570	(68.5)	(72.3)	14.9	53.8	0.9	0.9	16%
LGD	LPHLF	C-1-8 Buy	KRW 28,000	7,267	(18.2)	n.a.	9.1	n.a.	0.9	0.9	30%
Novatek	NVKMF	C-3-7 Underperform	35.7	620	(51.3)	(43.7)	5.2	9.3	1.0	1.1	14%
Radiant	ROPTF	C-3-8 Underperform	24.5	292	(23.4)	(9.9)	6.5	7.2	0.7	0.7	22%
Samsung	SSNLF	C-3-7 Underperform	KRW 521,000	55,667	(25.6)	(73.7)	16.0	61.1	1.5	1.5	9%
Sharp	SHCAF	B-3-8 Underperform	JPY 710	8,791	n.a.	18.0	n.a.	n.a.	0.6	0.7	4%
Sony	SNEJF	B-2-8 Neutral	JPY 1,825	20,437	n.a.	41.7	n.a.	n.a.	0.5	0.6	-9%
TPV	TPVTF	C-1-8 Buy	HKD 1.75	476	(27.5)	(23.4)	3.4	4.4	0.4	0.4	-25%
Wellypower	XTTWF	C-3-8 Underperform	17.6	84	(51.4)	(29.8)	7.0	9.9	0.6	0.6	18%
Average							8.4	21.7	0.8	0.8	

Source: Banc of America Securities-Merrill Lynch estimates

Price objective basis & risk

AU Optronics (AUOPF / AUO)

Our PO of NT$30.2 (ADR US$8.96) is based on 1.0x 09E P/BV compared to its historical range of 0.47-2.7x P/BV since IPO. LCD cycle recovery typically occurs over three stages: 1) inventory re-stocking (already under way in 1H09), 2) utilization rate increase leading to operating leverage and narrowing of losses (we expect AUO to see in 2H09), and 3) end demand elasticity returning to drive ASP/profitability (we expect to see by 10E).

09E oversupply is well-known at this point, but supply side steps taken by panel makers (lowered inventory and utilization rates, capacity scale-down and 09E industry capex slashed) are all positive, and we await return of demand elasticity. Longer-term, TV affordability is rising while LCD TV installed base penetration remains low. 1Q losses for AUO will not be worse than 4Q, in our view, and 2Q blended ASP is likely to stabilize and losses to narrow in 2H09 as utilization recovers.

Historically the stock has troughed at 1.0-1.2x PBV since 2004, but this down cycle could be deeper, in our view, and the all time historical trough was 0.47x in 01. Downside risks comes from a) short-term ASP bounce in 1H09 leading to volatility, b) lack of supply side discipline, and c) market share strategy of competitors. Upside risks come from a) reversal of KRW currency depreciation, b) earlier than expected recovery of end demand, c) penetration into China TV market, and d) meaningful industry consolidation.

Analyst Certification

I, Jeffrey Su, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

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APR - Technology Hardware Coverage Cluster

Investment rating	Company	ML ticker	Bloomberg symbol	Analyst
BUY				
	Acer, Inc	ASIYF	2353 TT	Tony Tseng, CFA
	AU Optronics	AUO	AUO US	Jeffrey Su
	AU Optronics	AUOPF	2409 TT	Jeffrey Su
	BYD	BYDDF	1211 HK	Daniel Kim, CFA
	Cheil Industries	CLFUF	001300 KS	Simon Dong-je Woo, CFA
	Compal Electron	CMPLF	2324 TT	Tina Chang, CFA
	Coretronic	CCOCF	5371 TT	Jeffrey Su
	Delta Elect	DLTEF	2308 TT	Jeffrey Su
	Ju Teng Intl	JUTGF	3336 HK	Ronnie Ho
	LG Display Co., Ltd.	LPHLF	034220 KS	Jeffrey Su
	LG Display Co., Ltd.-A	LPL	LPL US	Jeffrey Su
	LG Electronics	LGEAF	066570 KS	Daniel Kim, CFA
	Samsung Techwin	SGTWF	012450 KS	Simon Dong-je Woo, CFA
	Simplo Tech	SPLOF	6121 TT	Tina Chang, CFA
	TPV	TPVTF	903 HK	Daniel Kim, CFA
	Venture Corp.	VEMLF	VMS SP	Ronnie Ho
NEUTRAL				
	Alpha Networks I	AHNWF	3380 TT	Laura Chen
	Foxconn Tech	FXTCF	2354 TT	Tony Tseng, CFA
	Kingboard	KBDCF	148 HK	Ronnie Ho
	Lenovo Group	LNVGF	992 HK	Daniel Kim, CFA
	Lenovo Group	LNVGY	LNVGY US	Daniel Kim, CFA
	Lite-On Tech	LOTZF	2301 TT	Jeffrey Su
	Merry Electron	MMECF	2439 TT	Laura Chen
	Qisda Corp	BNQCF	2352 TT	Jeffrey Su
	Shin Zu Shing	SZUSF	3376 TT	Tina Chang, CFA
	Silitech	SLKCF	3311 TT	Laura Chen
	Wistron	WICOF	3231 TT	Tony Tseng, CFA
	Yageo Corp	YGEQF	2327 TT	Ronnie Ho
UNDERPERFORM				
	Asustek	AKCPF	2357 TT	Tony Tseng, CFA
	Catcher Tech	CHERF	2474 TT	Tony Tseng, CFA
	Chi Mei Opto	CMEOF	3009 TT	Jeffrey Su
	Chicony Elect	CCNYF	2385 TT	Tina Chang, CFA
	Compal Comm	CPCMF	8078 TT	Laura Chen
	Epistar Corp	EPIPF	2448 TT	Jeffrey Su
	Everlight Elec	EVLEF	2393 TT	Jeffrey Su
	Foxconn Intl Hld	FXCNF	2038 HK	Tony Tseng, CFA
	Gemtek Technolog	GTKTF	4906 TT	Laura Chen
	Hon Hai Prec.	HNHAF	2317 TT	Tony Tseng, CFA
	HTC Corp.	HTCCF	2498 TT	Tony Tseng, CFA
	InnoLux	INXDF	3481 TT	Jeffrey Su
	Inventec	IVCJF	2356 TT	Tina Chang, CFA
	Inventec Applian	IVAPF	3367 TT	Tina Chang, CFA
	Largan Precision	LGANF	3008 TT	Laura Chen
	Mitac Intl	MTCXF	2315 TT	Tina Chang, CFA
	Quanta Computer	QUCPF	2382 TT	Tony Tseng, CFA
	Radiant	ROPTF	6176 TT	Jeffrey Su
	Samsung Elec M	SSEMF	009150 KS	Daniel Kim, CFA
	Samsung SDI	SSDIF	006400 KS	Daniel Kim, CFA
	Seoul Semicon	SLSOF	046890 KS	Simon Dong-je Woo, CFA
	Wellypower	XTTWF	3080 TT	Jeffrey Su
	ZTE Corp - H	ZTCOF	763 HK	Ronnie Ho

iQmethod SM Measures Definitions

Business Performance	Numerator	Denominator
Return On Capital Employed	NOPAT = (EBIT + Interest Income) * (1 - Tax Rate) + Goodwill Amortization	Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill Amortization
Return On Equity	Net Income	Shareholders' Equity
Operating Margin	Operating Profit	Sales
Earnings Growth	Expected 5-Year CAGR From Latest Actual	N/A
Free Cash Flow	Cash Flow From Operations – Total Capex	N/A
Quality of Earnings		
Cash Realization Ratio	Cash Flow From Operations	Net Income
Asset Replacement Ratio	Capex	Depreciation
Tax Rate	Tax Charge	Pre-Tax Income
Net Debt-To-Equity Ratio	Net Debt = Total Debt, Less Cash & Equivalents	Total Equity
Interest Cover	EBIT	Interest Expense
Valuation Toolkit		
Price / Earnings Ratio	Current Share Price	Diluted Earnings Per Share (Basis As Specified)
Price / Book Value	Current Share Price	Shareholders' Equity / Current Basic Shares
Dividend Yield	Annualised Declared Cash Dividend	Current Share Price
Free Cash Flow Yield	Cash Flow From Operations – Total Capex	Market Cap. = Current Share Price * Current Basic Shares
Enterprise Value / Sales	EV = Current Share Price * Current Shares + Minority Equity + Net Debt + Other LT Liabilities	Sales
EV / EBITDA	Enterprise Value	Basic EBIT + Depreciation + Amortization

iQmethod SM is the set of Banc of America Securities-Merrill Lynch standard measures that serve to maintain global consistency under three broad headings: Business Performance, Quality of Earnings, and validations. The key features of iQmethod are: A consistently structured, detailed, and transparent methodology. Guidelines to maximize the effectiveness of the comparative valuation process, and to identify some common pitfalls.

iQdatabase ® is our real-time global research database that is sourced directly from our equity analysts' earnings models and includes forecasted as well as historical data for income statements, balance sheets, and cash flow statements for companies covered by Banc of America Securities-Merrill Lynch.

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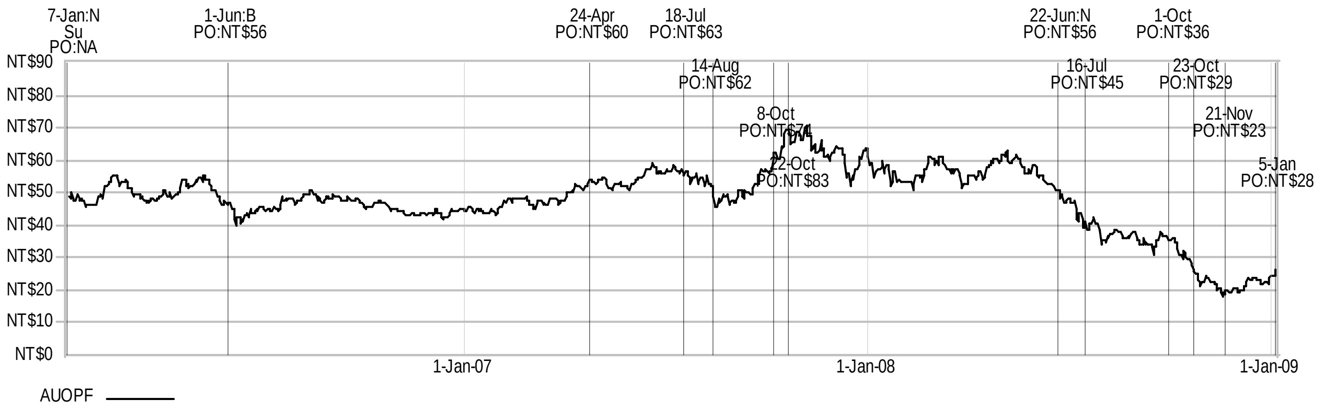
AUOPF Price Chart



B : Buy, N : Neutral, S : Sell, U : Underperform, PO : Price objective, NA : No longer valid

"Prior to May 31, 2008, the investment opinion system included Buy, Neutral and Sell. As of May 31, 2008, the investment opinion system includes Buy, Neutral and Underperform. Dark Grey shading indicates that a security is restricted with the opinion suspended. Light grey shading indicates that a security is under review with the opinion withdrawn. The current investment opinion key is contained at the end of the report. Chart is current as of December 31, 2008 or such later date as indicated.

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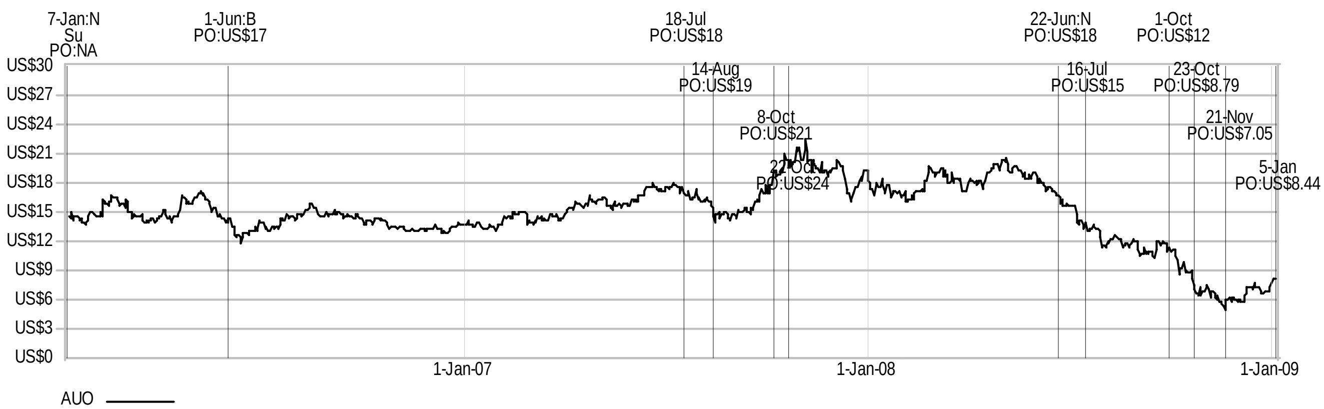
AUO Price Chart



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Investment Rating Distribution: Electronics Group (as of 01 Jan 2009)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	26	24.76%	Buy	6	24.00%
Neutral	33	31.43%	Neutral	4	14.29%
Sell	46	43.81%	Sell	3	7.32%

Investment Rating Distribution: Global Group (as of 01 Jan 2009)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	1297	38.46%	Buy	314	26.81%
Neutral	859	25.47%	Neutral	210	28.23%
Sell	1216	36.06%	Sell	229	20.71%

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster*
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

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