

SO WHAT? THE BNP PARIBAS ANGLE

INDUSTRY OUTLOOK: ← →

- Our 1Q09 revenue forecast is down 18% q-q, and our 1Q09 utilization rate is 57%.
- We are the first on the Street to make the point that 2Q09 is still quite slow (flat from 1Q09) with 57% utilization rate.

**Net Profit 09..... TWD60.8b**  
..... (From TWD76.6b)

**Diff from Consensus(22.6%)**  
Consensus (mean) .....TWD78.6b  
Consensus (momentum) ..... ↓

**Target Price ..... TWD42.00**  
.....(From TWD45.00)

**Diff from Consensus(19.2%)**  
Consensus (median) ... TWD51.97  
Consensus (momentum)..... ↓

**Current Price..... TWD38.50**  
Upside/(Downside)..... 9.1%

**HOLD**  
(Unchanged)

**Recs in the Market**

Positive.....	18
Neutral.....	10
Negative.....	0
Consensus (momentum) .....	↔

Sources: Thomson One Analytics; Bloomberg; BNP Paribas estimates

- **HOLD on TSMC: short-term caution due to global demand decline.**
- **Weak 1Q09 outlook and global semiconductor makers' de-rating negatively affecting share price.**
- **Our target price of TWD42 is based on 1.8x P/BV.**

## No sign of bottoming-out yet

### Maintain HOLD; TP lowered to TWD42

We maintain our HOLD rating on TSMC, which is reflected in our cautious near-term view of the global decline in the semiconductor industry in 4Q08-1Q09. We have noticed that TSMC is dealing with order cuts from time to time. So far we do not see any sign of bottoming-out yet. We maintain HOLD rating. We have lowered our TP on TSMC to TWD42 (45 earlier), based on a 1.8x (2x earlier) P/BV.

### We expect a 18% q-q decline in 1Q09 revenue

We lowered our 1Q09 revenue forecast for TSMC to 18% q-q (10% q-q down on Oct 30 report) to reflect the continuous order cuts at TSMC (until now, TSMC's 1Q09 wafer orders indicated 15% q-q down).

### Low utilization rate is expected in 1H09

Our utilization rate forecast for TSMC is 57% in 1Q09 (down from 71% in 4Q08) and 57% expected in 2Q09, mixed by weak order/market sentiment, short cycle movement (efficient supply-chain), and inventory build-up for 2H09. Our utilization rate forecast for TSMC is 72% in 2009, down from 80% in 2008. That means its gross margin in 2009 will reach 35.6%, down from 43.3% in 2008.

### 20% y-y decrease in our 2009 TSMC revenue estimates

We expect the foundry industry (TSMC same) will underperform the semiconductor industry. Our 2009 revenue forecast for TSMC is a 20% y-y decrease. Our 2009 EPS forecast for TSMC is TWD2.37 (down from TWD3.99), indicating a decline of 40.5% y-y, reflected by a lower utilization rate. We believe TSMC's share price is negatively impacted by weak 1H09 market sentiment in the near term.

### Threat from AMD will be talked a while

We believe AMD (Foundry company) will use its Dresden fab for chipset manufacturing and its coming 12-inch fab (in New York) for CPU and GPU manufacturing by using 32nm process (until 2011). We believe the long-term threat from new AMD (Foundry company) will be there, as AMD has solid commitments from an Abu Dhabi investment company (with USD6b), from IBM (with high-K 32nm process), and from the New York government (on employees recruitment and tax).

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### BNP Paribas Technology Research Team

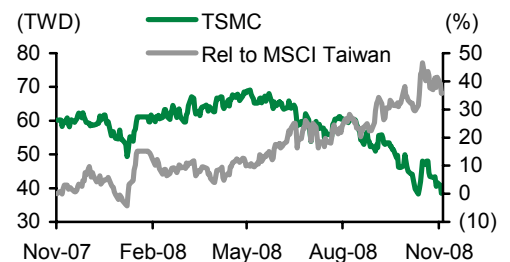
(Team list inside)

### Earnings Estimates And Valuation Ratios

YE Dec (TWD m)	2007	2008E	2009E	2010E
Revenue	322,630	337,747	269,688	296,657
Reported net profit	109,177	102,124	60,803	65,956
Recurring net profit	109,177	102,124	60,803	65,956
Previous rec net profit	109,177	102,497	76,628	82,960
Chg from previous (%)	—	(0.4)	(20.7)	(20.5)
Recurring EPS (TWD)	4.15	3.99	2.37	2.55
Prev rec EPS (TWD)	4.15	3.96	2.96	3.17
Rec EPS growth (%)	(16.3)	(4.1)	(40.5)	7.4
Recurring P/E (x)	9.3	9.7	16.2	15.1
Dividend yield (%)	7.6	7.8	7.8	7.9
EV/EBITDA (x)	4.7	4.8	6.3	5.8
Price/book (x)	2.1	1.8	1.9	1.8
ROE (%)	21.8	19.7	11.3	12.3
Net debt/equity (%)	(16.8)	(19.7)	(18.9)	(15.0)

Sources: TSMC; BNP Paribas estimates

### Share Price Daily vs MSCI



Next results/event	January 2009
Market cap (USD m)	30,006
12m avg daily turnover (USD m)	122.2
Free float (%)	86
Major shareholder	National development fund (6%)
12m high/low (TWD)	69.05/38.30
ADR (USD)	Nil
Avg daily turnover (USD m)	Nil
Discount/premium (%)	Nil
Disc/premium vs 52-wk avg (%)	Nil

Source: Datastream

### 18% q-q down expected in 1Q09 revenue

Our updated 1Q09 revenue forecast for TSMC is 18% q-q down (10% q-q down on Oct 30 report) to reflect the continuous order cuts in TSMC (until now TSMC's 1Q09 wafer orders indicated a 15% q-q decrease). Our gross margin forecast for TSMC is 27.4% (the first time to lower 30% level since 1Q03) and our operating margin forecast is 13.1%. We notice its 2009 EPS will drop by 40.5% y-y to follow the decline in utilization rate.

#### Exhibit 1: TSMC's 3Q08 Results Review And 4Q08 Estimates

Year-end 31 Dec (TWD m)	3Q08	4Q08E	1Q09E	2Q09E	3Q09E	4Q09E
Net sales	92,979	69,151	56,395	56,993	70,014	86,285
Gross profit	43,094	24,551	15,459	16,342	26,446	37,797
<i>Gross margin (%)</i>	46.3	35.5	27.4	28.7	37.8	43.8
Operating profit	32,917	15,306	7,399	8,422	17,286	27,907
<i>Operating margin (%)</i>	35.4	22.1	13.1	14.8	24.7	32.3
Pre-tax profit	34,430	17,140	8,673	10,179	19,163	29,544
Net profit	30,574	15,426	7,805	9,161	17,246	26,590
EPS (TWD)	1.18	0.60	0.30	0.36	0.67	1.04

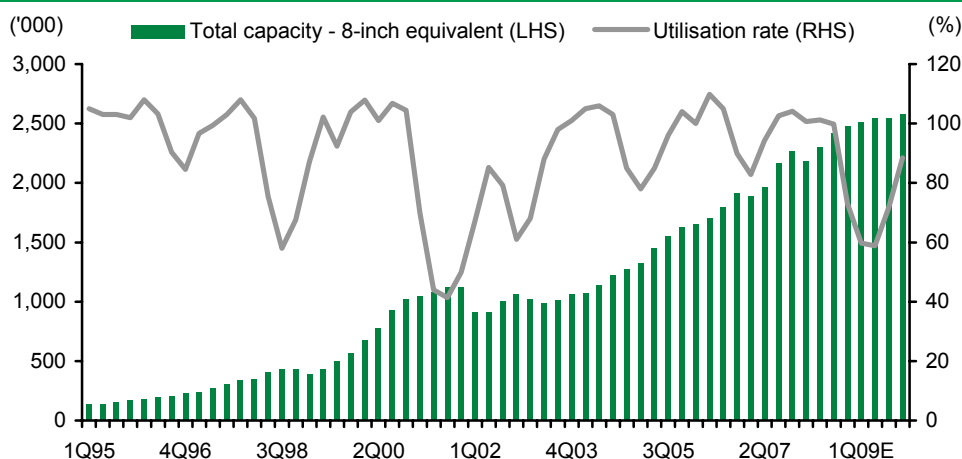
Sources: TSMC; BNP Paribas estimates

### Low utilization rate expected in 1H09

Our utilization rate forecast for TSMC is 57% in 1Q09 (down from 71% in 4Q08). We expect the utilization rate of 2Q09 to remain flat at 57% in 2Q09, mixed by weak order/market sentiment, short cycle movement (efficient supply-chain), and inventory build-up for 2H09. The 57% utilization rate is the lowest since 1Q02 (compared to TSMC's historic trough utilization rate is at 41% in 3Q01, which its PBR is traded at 1.68x). Our EPS forecast for TSMC is TWD0.30 in 1Q09 and TWD0.36 in 2Q09 (we estimated its break-even utilization rate is 49% now).

Our utilization rate forecast for TSMC is 72% in 2009; down from 80% in 2008 (our 2009 revenue forecast for TSMC is down 20% y-y down). That means its gross margin in 2009 will reach 35.6%, down from 43.3% in 2008.

#### Exhibit 2: TSMC's Trough Utilization Rate Is In 2H01



Source: BNP Paribas estimates

### 20% y-y decrease in our 2009 TSMC revenue estimates

We expect the foundry industry (TSMC same) will underperform the semiconductor industry due to decline in outsourcing in a bear market. Our 2009 revenue forecast for TSMC is 20% y-y down (which is lower than high single digits expected for semiconductor industry by TSMC's CEO). Our 2009 EPS forecast for TSMC is TWD2.37 (down from TWD3.99), indicating a decline of 40.5% y-y, reflected by lower

utilization rate. We believe TSMC's share price reflects the weak 1H09 market sentiment in the near term.

### Exhibit 3: Global Top 4 Foundry Makers Capacity And Capacity

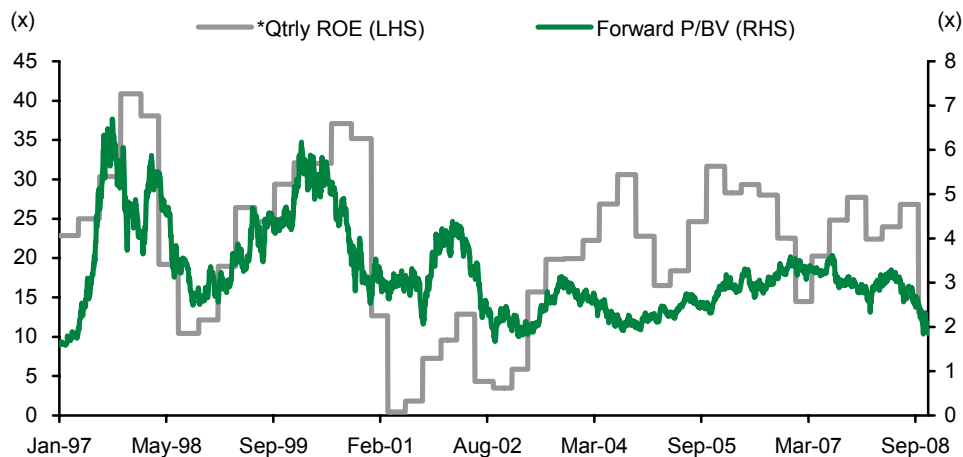
	2000	2001	2002	2003	2004	2005	2006	2007	2008E	2009E
<b>Apex (USD)</b>										
<b>TSMC</b>	<b>3,800</b>	<b>2,200</b>	<b>1,860</b>	<b>1,190</b>	<b>2,408</b>	<b>2,485</b>	<b>2,457</b>	<b>2557</b>	<b>1,820</b>	<b>1,456</b>
UMC	2,800	1,100	800	234	910	720	1,000	900	500	375
SMIC	0	460	762	453	1,839	873	1,000	860	790	200
CHRT	1,500	400	420	221	686	628	650	758	630	500
Top 4 players	8,100	4,160	3,842	2,098	5,843	4,706	5,107	5,075	3,740	2,531
Change (y-y %)	73.0	(48.6)	(7.6)	(45.4)	178.5	(19.5)	8.5	(0.6)	(26.3)	(32.3)
<b>Capacity ('000 8-inch equivalent wafers)</b>										
<b>TSMC</b>	<b>3,409</b>	<b>4,379</b>	<b>3,891</b>	<b>4,014</b>	<b>4,788</b>	<b>5,955</b>	<b>7,062</b>	<b>8,290</b>	<b>9,377</b>	<b>10,193</b>
UMC	2,329	2,885	2,578	2,646	3,158	3,855	4,017	4,308	4,507	4,636
SMIC	na	na	117	505	966	1,506	1,806	2,036	1,892	1,785
CHRT	986	1,152	1,193	1,250	1,289	1,501	1,784	1,960	2,513	2,895
Top 4 players	na	na	7,779	8,415	10,201	12,817	14,669	16,594	18,289	19,509
Change (y-y %)	na	na	na	8.2	21.2	25.6	14.4	13.1	10.2	6.7

Source: BNP Paribas

### Threat from AMD will be talked about in the market for a while

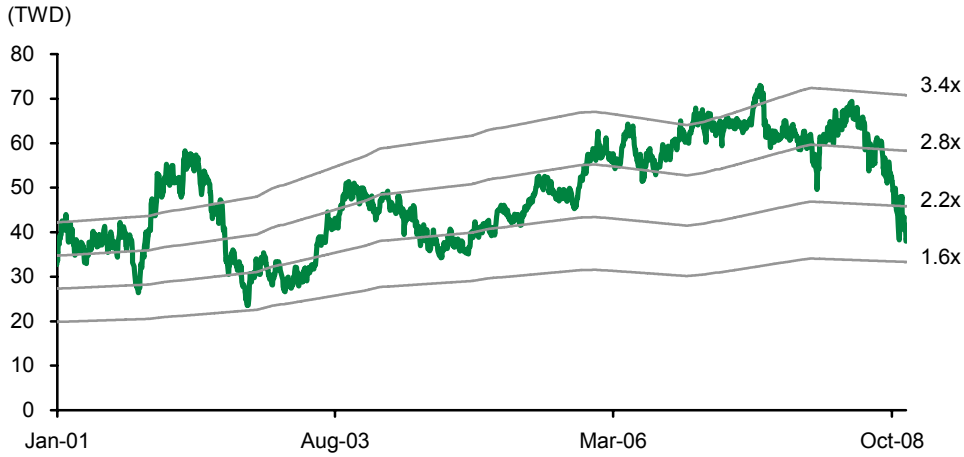
We believe AMD (Foundry company) will use its Dresden fab for chipset manufacturing, and its coming 12-inch fab (in New York) for CPU and GPU manufacturing by using 32nm process (until 2011). In other words, TSMC will keep its GPU business for AMD until 40nm process. However we believe the long-term threat from new AMD (Foundry company) will be there, as AMD has solid commitments from an Abu Dhabi investment company (with USD6b), from IBM (with high-K 32nm process), and from the New York government (on employees recruitment and tax).

### Exhibit 4: TSMC's Trough ROE Is In 3Q01



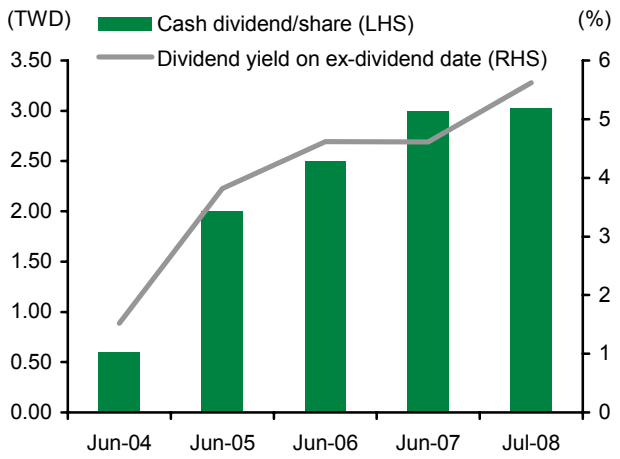
\* Quarterly ROE is annualized.  
Sources: Bloomberg; BNP Paribas estimates

**Exhibit 5 : TSMC's Trough P/BV Is At 1.68x In 3Q01**



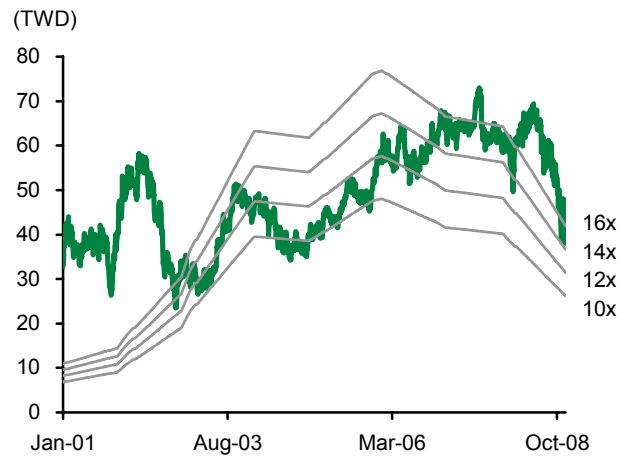
Sources: TSMC; BNP Paribas estimates

**Exhibit 6: Dividend Yield Rate Chart**



Sources: TSMC; BNP Paribas estimates

**Exhibit 7: P/E Band Chart**



Sources: TSMC; BNP Paribas estimates

## FINANCIAL STATEMENTS

## TSMC

<b>Profit and Loss (TWD m)</b>					
<b>Year Ending December</b>	<b>2006A</b>	<b>2007A</b>	<b>2008E</b>	<b>2009E</b>	<b>2010E</b>
Revenue	317,407	322,630	337,747	269,688	296,657
Cost of sales ex depreciation	(91,832)	(102,003)	(111,237)	(98,100)	(107,434)
<b>Gross profit ex depreciation</b>	<b>225,575</b>	<b>220,627</b>	<b>226,510</b>	<b>171,588</b>	<b>189,223</b>
Other operating income	-	-	-	-	-
Operating costs	(28,546)	(30,628)	(38,386)	(35,030)	(38,463)
<b>Operating EBITDA</b>	<b>197,029</b>	<b>189,999</b>	<b>188,124</b>	<b>136,558</b>	<b>150,760</b>
Depreciation	(69,765)	(78,277)	(80,405)	(75,544)	(83,098)
Goodwill amortisation	-	-	-	-	-
<b>Operating EBIT</b>	<b>127,264</b>	<b>111,722</b>	<b>107,719</b>	<b>61,015</b>	<b>67,662</b>
Net financing costs	1,219	6,142	4,941	3,544	3,898
Associates	2,347	2,508	1,691	2,200	2,420
Recurring non operating income	2,532	1,270	378	800	880
Non recurring items	-	-	-	-	-
<b>Profit before tax</b>	<b>133,362</b>	<b>121,642</b>	<b>114,729</b>	<b>67,558</b>	<b>74,860</b>
Tax	(7,876)	(11,709)	(12,211)	(6,756)	(8,905)
<b>Profit after tax</b>	<b>125,486</b>	<b>109,933</b>	<b>102,518</b>	<b>60,803</b>	<b>65,956</b>
Minority interests	-	(756)	(394)	-	-
Preferred dividends	-	-	-	-	-
Other items	1,607	-	-	-	-
<b>Reported net profit</b>	<b>127,093</b>	<b>109,177</b>	<b>102,124</b>	<b>60,803</b>	<b>65,956</b>
Non recurring items & goodwill (net)	-	-	-	-	-
<b>Recurring net profit</b>	<b>127,093</b>	<b>109,177</b>	<b>102,124</b>	<b>60,803</b>	<b>65,956</b>
<b>Per share (TWD)</b>					
Recurring EPS *	4.96	4.15	3.99	2.37	2.55
Reported EPS	4.96	4.15	3.99	2.37	2.55
DPS	2.39	2.93	3.00	3.00	3.03
<b>Growth</b>					
Revenue (%)	20.0	1.6	4.7	(20.2)	10.0
Operating EBITDA (%)	22.4	(3.6)	(1.0)	(27.4)	10.4
Operating EBIT (%)	36.8	(12.2)	(3.6)	(43.4)	10.9
Recurring EPS (%)	29.2	(16.3)	(4.1)	(40.5)	7.4
Reported EPS (%)	29.2	(16.3)	(4.1)	(40.5)	7.4
<b>Operating performance</b>					
Gross margin inc depreciation (%)	49.1	44.1	43.3	35.6	35.8
Operating EBITDA margin (%)	62.1	58.9	55.7	50.6	50.8
Operating EBIT margin (%)	40.1	34.6	31.9	22.6	22.8
Net margin (%)	40.0	33.8	30.2	22.5	22.2
Effective tax rate (%)	5.9	9.6	10.6	10.0	11.9
Dividend payout on recurring profit (%)	48.3	70.6	75.2	126.4	118.9
Interest cover (x)	na	na	na	na	na
Inventory days	74.9	81.0	67.7	81.7	93.1
Debtor days	39.1	41.9	40.5	49.6	51.8
Creditor days	41.9	40.9	40.5	45.7	45.7
Operating ROIC (%)	39.1	30.9	28.4	15.8	17.2
Operating ROIC - WACC (%)	30.5	22.3	19.8	7.2	8.6
ROIC (%)	32.2	26.9	24.8	14.1	15.3
ROIC - WACC (%)	23.6	18.4	16.2	5.5	6.7
ROE (%)	26.6	21.8	19.7	11.3	12.3
ROA (%)	23.0	17.9	16.3	9.1	9.7
<i>* Pre exceptional, pre-goodwill and fully diluted</i>					

We have factored in 15% earnings dilution from employee bonuses on its 2008 P&L

Sources: TSMC; BNP Paribas estimates

<b>Cash Flow (TWD m)</b>					
<b>Year Ending December</b>	<b>2006A</b>	<b>2007A</b>	<b>2008E</b>	<b>2009E</b>	<b>2010E</b>
Recurring net profit	127,093	109,177	102,124	60,803	65,956
Depreciation	69,765	78,277	80,405	75,544	83,098
Associates & minorities	1,710	755	778	-	-
Other non-cash items	(391)	(785)	212	11,817	8,630
<b>Recurring cash flow</b>	<b>198,177</b>	<b>187,424</b>	<b>183,518</b>	<b>148,163</b>	<b>157,684</b>
Change in working capital	8,427	(3,658)	17,183	(8,558)	(975)
Capex - maintenance	-	-	-	-	-
Capex - new investment	(84,500)	(83,103)	(58,500)	(64,350)	(70,785)
<b>Free cash flow to equity</b>	<b>122,104</b>	<b>100,664</b>	<b>142,201</b>	<b>75,254</b>	<b>85,923</b>
Net acquisitions & disposals	(1)	-	-	-	-
Dividends paid	(61,743)	(77,387)	(76,779)	(76,876)	(77,645)
Non recurring cash flows	(35,223)	12,413	(5,214)	(2,200)	(1,975)
<b>Net cash flow</b>	<b>25,137</b>	<b>35,690</b>	<b>60,208</b>	<b>(3,822)</b>	<b>6,304</b>
Equity finance	0	-	(30,427)	-	-
Debt finance	(2,040)	(12,610)	(4,127)	11,039	(22,930)
<b>Movement in cash</b>	<b>23,097</b>	<b>23,080</b>	<b>25,654</b>	<b>7,218</b>	<b>(16,626)</b>

Capex cut ensures gross margin and reflects better industry discipline

<b>Per share (TWD)</b>					
Recurring cash flow per share	7.74	7.13	7.16	5.78	6.09
FCF to equity per share	4.77	3.83	5.55	2.94	3.32

<b>Balance Sheet (TWD m)</b>					
<b>Year Ending December</b>	<b>2006A</b>	<b>2007A</b>	<b>2008E</b>	<b>2009E</b>	<b>2010E</b>
Working capital assets	142,480	154,836	212,837	293,804	309,975
Working capital liabilities	(39,857)	(48,425)	(46,168)	(56,102)	(60,309)
<b>Net working capital</b>	<b>102,623</b>	<b>106,411</b>	<b>166,669</b>	<b>237,703</b>	<b>249,666</b>
Tangible fixed assets	254,094	260,252	225,475	143,928	155,442
<b>Operating invested capital</b>	<b>356,717</b>	<b>366,663</b>	<b>392,144</b>	<b>381,631</b>	<b>405,108</b>
Goodwill	-	-	-	-	-
Other intangible assets	-	-	-	-	-
Investments	53,895	36,461	24,131	26,331	28,306
Other assets	19,179	24,330	41,874	41,874	45,015
<b>Invested capital</b>	<b>429,791</b>	<b>427,454</b>	<b>458,149</b>	<b>449,836</b>	<b>478,429</b>
Cash & equivalents	(117,837)	(94,986)	(120,640)	(127,857)	(110,577)
Short term debt	7,004	281	8,123	4,601	4,947
Long term debt *	12,500	12,500	4,500	23,000	24,725
<b>Net debt</b>	<b>(98,333)</b>	<b>(82,205)</b>	<b>(108,016)</b>	<b>(100,256)</b>	<b>(80,905)</b>
Deferred tax	-	-	-	-	-
Other liabilities	18,986	18,973	18,943	18,943	20,364
Total equity	509,138	490,686	547,222	531,149	538,970
Minority interests	-	-	-	-	-
<b>Invested capital</b>	<b>429,791</b>	<b>427,455</b>	<b>458,149</b>	<b>449,836</b>	<b>478,429</b>

\* Includes convertibles and preferred stock which is being treated as debt

<b>Per share (TWD)</b>					
Book value per share	19.72	18.57	21.35	20.73	21.03
Tangible book value per share	19.72	18.57	21.35	20.73	21.03

<b>Financial strength</b>					
Net debt/equity (%)	(19.3)	(16.8)	(19.7)	(18.9)	(15.0)
Net debt/total assets (%)	(16.7)	(14.4)	(17.3)	(15.8)	(12.5)
Current ratio (x)	5.6	5.1	6.1	6.9	6.4
CF interest cover (x)	na	na	na	na	na

<b>Valuation</b>					
	<b>2006A</b>	<b>2007A</b>	<b>2008E</b>	<b>2009E</b>	<b>2010E</b>
Recurring P/E (x) *	7.8	9.3	9.7	16.2	15.1
Recurring P/E @ target price (x) *	8.5	10.1	10.5	17.7	16.5
Reported P/E (x)	7.8	9.3	9.7	16.2	15.1
Dividend yield (%)	6.2	7.6	7.8	7.8	7.9
P/CF (x)	5.0	5.4	5.4	6.7	6.3
P/FCF (x)	8.1	10.1	6.9	13.1	11.6
Price/book (x)	2.0	2.1	1.8	1.9	1.8
Price/tangible book (x)	2.0	2.1	1.8	1.9	1.8
EV/EBITDA (x) **	4.4	4.7	4.8	6.3	5.8
EV/EBITDA @ target price (x) **	4.9	5.2	5.2	7.0	6.4
EV/invested capital (x)	2.1	2.2	1.9	2.0	1.9

\* Pre exceptional, pre-goodwill and fully diluted

\*\* EBITDA includes associate income and recurring non-operating income

Sources: TSMC; BNP Paribas estimates

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Unless otherwise specified, these recommendations are set with a 12-month horizon. Thus, it is possible that future price volatility may cause a temporary mismatch between upside/downside for a stock based on market price and the formal recommendation.

\*In most cases, the target price will equal the analyst's assessment of the current fair value of the stock. However, if the analyst doesn't think the market will reassess the stock over the specified time horizon due to a lack of events or catalysts, then the target price may differ from fair value. In most cases, therefore, our recommendation is an assessment of the mismatch between current market price and our assessment of current fair value.

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