Macquarie Research
Equities

TAIWAN

TSMC

19 January 2009

2330 TT		**Underperform**
Stock price as of 16 Jan 09	NT$	41.00
12-month target	NT$	35.00
Upside/downside	%	-14.6
Valuation	NT$	33.00-37.00
- Price To Book		
GICS sector		semiconductors & semiconductor equipment
Market cap	NT$bn	1,051
30-day avg turnover	NT$m	1,862.1
Market cap	US$m	31,499
Number shares on issue	m	25,625

Investment fundamentals

Year end 31 Dec		2007A	2008E	2009E	2010E
Total revenue	bn	322.6	333.2	200.1	332.0
Reported profit	bn	81.8	99.7	13.5	86.9
Profit bonus exp	bn	61.1	99.7	13.5	86.9
Bon exp/rep prof	%	25.4	0.0	0.0	0.0
Adjusted profit	bn	81.8	99.7	13.5	86.9
EPS rep	NT$	3.08	3.91	0.54	3.56
EPS rep growth	%	-34.9	27.0	-86.1	554.9
EPS bonus exp	NT$	2.30	3.91	0.54	3.56
EPS bonus growth	%	-35.3	70.1	-86.1	554.9
PE rep	x	13.3	10.5	75.4	11.5
PE bonus exp	x	17.9	10.5	75.4	11.5
Total DPS	NT$	2.89	3.07	0.48	3.13
Total div yield	%	7.1	7.5	1.2	7.6
ROA	%	14.6	18.2	2.5	18.5
ROE	%	16.4	20.3	3.0	20.0
EV/EBITDA	x	6.1	5.1	10.3	5.2
Net debt/equity	%	-13.6	-30.2	-25.8	-34.0
Price/book	x	2.2	2.1	2.5	2.2

2330 TT rel Taiex performance, & rec history

Source: FactSet, Macquarie Research, January 2009 (all figures in NT$ unless noted)

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Nothing much to look forward to

Event

- We preview the 4Q08 results and 1Q09 outlook, which are scheduled to be released on 22 January after market close. The TWSE will shut for the for Lunar New Year period from 21 January to 2 February. But ADR shares will continue to be traded in the US markets throughout this period.

Impact

- **We expect TSMC to miss our conservative 1Q09 forecast materially.** We now expect 1Q09 revenue to decline by ±45% QoQ or ±55% YoY to NT$36–38bn. This is compared to our current forecast of NT$40–42bn and the street's NT$45bn. As the utilisation rate is likely to hover at around mid-30%, we see an operating loss as inevitable. We now expect a negative mid-to-high single-digit OPM vs our current forecast of -3%. While TSMC has adopted a series of aggressive cost-cutting measures and lower its breakeven utilisation to slightly below 40% (from the previous of mid-40%), we believe these would not be sufficient to prevent a first-ever operating loss. Given the limited visibility, we expect TSMC to guide conservatively.
- **Recovery vs profitability.** The street has been eager to look through the trough and position ahead of the expected cyclical recovery beginning 2Q09. 1Q09 may mark the bottom and thus represent a much lower base, so 2Q09 may not bring much sequential profitability improvement. As a result, TSMC may not deliver earnings in 1H09 (our 1H09 EPS is -NT$0.07) and we believe the street will have to trim estimates materially. Importantly, we think a sustainable cyclical recovery will take time because of the worsening demand outlook. Since the 2001 tech wreck, it had taken TSMC nine quarters to bring its utilisation rate back to 100% from 41% in 3Q01 (Figure 1). The latest US monthly electronics retail sales data shows the worse-ever QoQ and YoY declines since 2000 (Figures 2–3), and this trend is likely to continue.
- **4Q08 results less of a concern.** We forecast 4Q08 net profit to come in at NT$12bn (EPS: NT$0.47), down 60% QoQ and 55% YoY. Our estimate is about 3% higher than consensus of NT$17bn. We look for GM and OPM to come in at 32% and 18%, respectively. Both are at the mid-point of revised guidance. We estimate utilisation at about 60%, vs 97% in 3Q08.

Earnings revision

- No change, but we expect TSMC to miss our 1H09 forecast.

Price catalyst

- 12-month price target: NT$35.00 based on a Price to Book methodology.
- Catalyst: Worse-than-expected 1Q09 outlook on the 22 January.

Action and recommendation

- While we take notice of the recent sharp downward earnings revision, the current consensus of NT$1.11 may prove to be too optimistic vs our NT$0.54. We look for street numbers to be reduced to closer to ours following the results meeting. For us to turn positive, we would need to see: 1) sustainable recovery with meaningful profitability (we are not interested in rush orders or a profitless pickup in utilisation); 2) resolution of the potential shortfall in 2009E cash dividend, and/or 3) reasonable valuation with respect to ROE.

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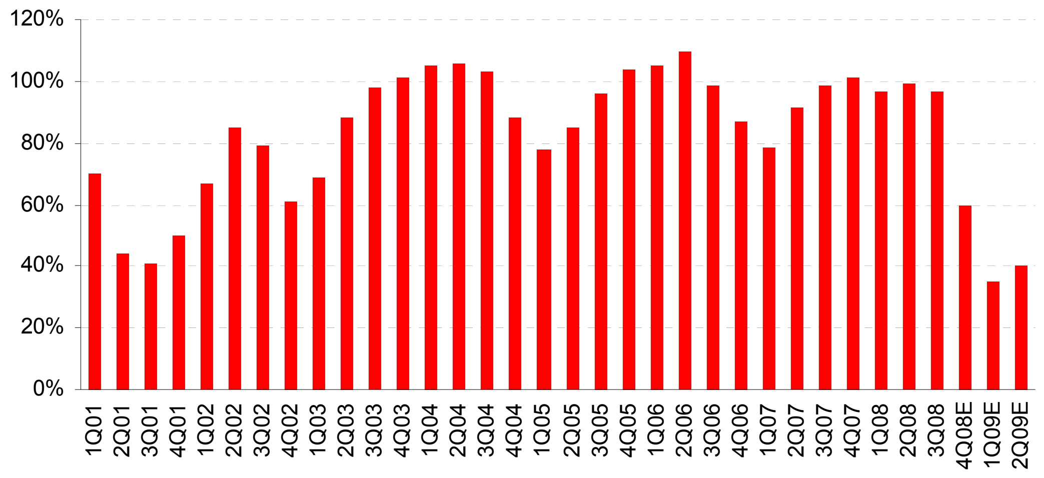
Fig 1 TSMC capacity utilisation

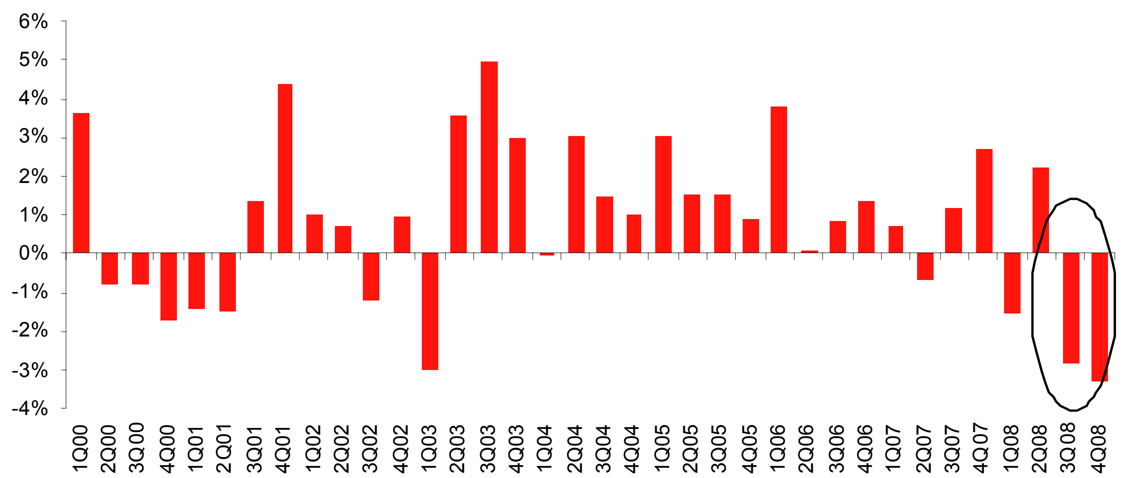


Source: Company data, Macquarie Research estimates, January 2009

Fig 2 US monthly retail sales data for electronics goods (YoY)

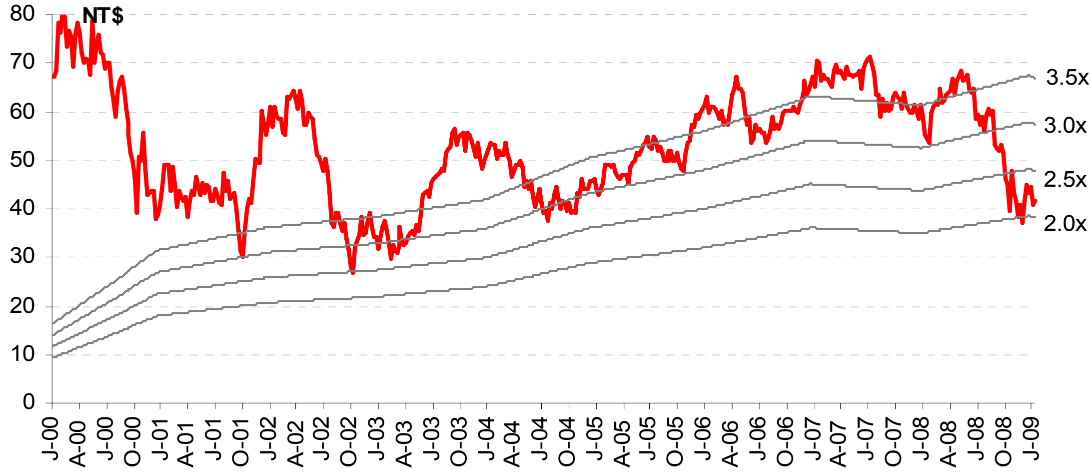
Source: US Commerce Dept., Macquarie Research, January 2009

Fig 3 US monthly retail sales for electronics goods (QoQ)



Source: US Commerce Dept., Macquarie Research, January 2009

Fig 4 TSMC 12-monthe forward P/B bands



Source: Macquarie Research, January 2009

TSMC (2330 TT, Underperform, Target price: NT$35.00)

Quarterly Results		**3Q/08A**	**4Q/08E**	**1Q/09E**	**2Q/09E**
Revenue	**m**	**92,979**	**64,609**	**41,581**	**41,195**
Gross Profit	**m**	**43,126**	**20,690**	**6,786**	**6,972**
Operating Expenses	m	-10,177	-9,150	-8,125	-8,450
Operating Income	**m**	**32,949**	**11,540**	**-1,339**	**-1,478**
Net Non-operating income	m	1,513	1,828	500	500
Pre-Tax Income	**m**	**34,462**	**13,368**	**-839**	**-978**
Tax Expense	m	-3,658	-1,471	0	0
Exceptionals	m	0	0	0	0
Minority Interests	m	0	0	0	0
Reported Earnings	**m**	**30,804**	**11,898**	**-839**	**-978**
Reported Earnings (bonus exp)	m	30,804	11,898	-839	-978
Bonus exp / Reported Earnings	%	0.0	0.0	0.0	0.0
Adjusted Earnings	**m**	**30,804**	**11,898**	**-839**	**-978**
EBITDA	**m**	**52,014**	**31,629**	**18,066**	**17,368**
EPS (rep)	NT$	1.21	0.47	-0.03	-0.04
EPS pcp growth (rep)	%	42.7	-52.2	nmf	nmf
EPS (rep bonus exp)	NT$	1.21	0.47	-0.03	-0.04
EPS pcp growth (rep bonus exp)	%	91.2	-36.0	nmf	nmf
EPS (adj)	NT$	1.21	0.47	-0.03	-0.04
EPS pcp growth (adj)	%	42.7	-52.2	nmf	nmf
Revenue pcp growth	%	4.5	-31.2	-52.5	-53.3
Operating Income pcp growth	%	34.2	-59.3	nmf	nmf
Reported Earnings pcp growth	%	36.5	-54.3	nmf	nmf
Gross Profit Margin	%	46.4	32.0	16.3	16.9
Operating Income Margin	%	35.4	17.9	-3.2	-3.6
Reported Earnings Margin	%	33.1	18.4	-2.0	-2.4
EBITDA Margin	%	55.9	49.0	43.4	42.2

Profit and Loss Ratios		**2007A**	**2008E**	**2009E**	**2010E**
Revenue Growth	%	1.6	3.3	-40.0	65.9
Gross Profit Growth	%	-17.6	10.8	-65.2	176.5
Operating Income Growth	%	-33.7	23.3	-87.3	626.1
Reported Earnings Growth	%	-35.6	21.9	-86.4	541.8
EBITDA Growth	%	-19.2	13.7	-50.5	90.8
Gross Profit Margin	%	39.8	42.7	24.7	41.2
Operating Income Margin	%	26.1	31.2	6.6	28.9
Reported Earnings Margin	%	25.4	29.9	6.8	26.2
EBITDA Margin	%	48.8	53.7	44.3	51.0
Payout Ratio	%	94.1	78.7	88.0	88.0
EV/EBITDA	x	6.1	5.1	10.3	5.2
EV/EBIT	x	11.1	8.5	66.2	9.0
Balance Sheet Ratios					
ROE	%	16.4	20.3	3.0	20.0
ROA	%	14.6	18.2	2.5	18.5
ROIC	%	18.1	21.9	3.3	27.0
Net Debt/Equity	%	-13.6	-30.2	-25.8	-34.0
Interest Cover	x	nmf	nmf	nmf	nmf
Price/Book	x	2.2	2.1	2.5	2.2
Book Value per Share	NT$	18.5	19.3	16.4	18.8

Profit & Loss		**2007A**	**2008E**	**2009E**	**2010E**
Revenue	**m**	**322,630**	**333,205**	**200,079**	**331,999**
Gross Profit	**m**	**128,392**	**142,281**	**49,486**	**136,845**
Operating Expenses	m	-44,044	-38,294	-36,275	-40,925
Operating Income	**m**	**84,348**	**103,987**	**13,211**	**95,920**
Net Non-operating income	m	9,919	7,794	2,700	5,700
Pre-Tax Income	**m**	**94,267**	**111,781**	**15,911**	**101,620**
Tax Expense	m	-12,464	-12,061	-2,370	-14,720
Exceptionals	m	0	0	0	0
Minority Interests	m	0	0	0	0
Reported Earnings	**m**	**81,803**	**99,720**	**13,541**	**86,900**
Reported Earnings (bonus exp)	m	61,055	99,720	13,541	86,900
Bonus exp / Reported Earnings	%	25.4	0.0	0.0	0.0
Adjusted Earnings	**m**	**81,803**	**99,720**	**13,541**	**86,900**
EBITDA	**m**	**157,447**	**179,022**	**88,673**	**169,230**
EPS (rep)	NT$	3.08	3.91	0.54	3.56
EPS growth (rep)	%	-34.9	27.0	-86.1	554.9
EPS (rep bonus exp)	NT$	2.30	3.91	0.54	3.56
EPS growth (rep bonus exp)	%	-35.3	70.1	-86.1	554.9
EPS (adj)	NT$	3.08	3.90	0.54	3.56
EPS growth (adj)	%	-34.9	26.8	-86.1	554.9
PE (rep)	x	13.3	10.5	75.4	11.5
PE (rep bonus adj)	x	17.9	10.5	75.4	11.5
PE (adj)	x	13.3	10.5	75.4	11.5
Total DPS	NT$	2.89	3.07	0.48	3.13
Total Div Yield	%	7.1	7.5	1.2	7.6
Weighted Average Shares	m	26,593	25,531	24,904	24,404
Period End Shares	m	26,560	25,404	24,904	24,404

Cashflow Analysis		**2007A**	**2008E**	**2009E**	**2010E**
Reported Earnings	**m**	**81,803**	**99,720**	**13,541**	**86,900**
Depreciation & Amortisation	m	73,100	75,035	75,462	73,310
Chgs in Working Cap	m	8,172	-22,021	181	21,153
Other	m	20,151	56,355	5,091	-34,807
Operating Cashflow	**m**	**183,226**	**209,089**	**94,275**	**146,556**
Acquisitions	m	-5,425	1,975	0	0
Capex	m	-84,002	-56,118	-39,000	-52,000
Asset Sales	m	23,512	19,806	0	0
Other	m	-4,774	99	0	0
Investing Cashflow	**m**	**-70,689**	**-34,238**	**-39,000**	**-52,000**
Dividend (Ordinary)	m	-77,387	-76,779	-76,258	-11,916
Equity Raised	m	-45,413	-30,000	-20,000	-25,000
Debt Movements	m	-6,812	3,983	0	0
Other	m	-6,342	-8,819	-1,425	-7,080
Financing Cashflow	**m**	**-135,954**	**-111,615**	**-97,683**	**-43,996**
Net Chg in Cash/Debt	**m**	**-23,417**	**63,236**	**-42,408**	**50,560**
Free Cashflow	m	99,224	152,971	55,275	94,556
FCF per Share	NT$	3.73	5.99	2.22	3.87
P/FCF	x	11.0	6.8	18.5	10.6

Balance Sheet		**2007A**	**2008E**	**2009E**	**2010E**
Cash	m	94,986	160,705	118,297	168,857
Receivables	m	42,668	31,501	31,885	50,677
Inventories	m	23,862	18,919	18,553	22,795
Investments	m	140,639	111,079	111,079	111,079
Fixed Assets	m	260,252	243,505	205,443	183,640
Intangibles	m	0	0	0	0
Other Assets	m	8,458	7,029	7,029	7,029
Total Assets	**m**	**570,865**	**572,738**	**492,287**	**544,076**
Payables	m	13,078	8,387	8,224	10,104
Short Term Debt	m	3,954	8,258	8,258	8,258
Long Term Debt	m	24,284	4,500	4,500	4,500
Provisions	m	11,126	8,082	8,082	8,082
Other Liabilities	m	27,738	53,665	53,665	53,665
Total Liabilities	**m**	**80,180**	**82,892**	**82,729**	**84,609**
Total S/H Equity	**m**	**490,685**	**489,846**	**409,558**	**459,467**
Total Liab & S/H Funds	**m**	**570,865**	**572,737**	**492,288**	**544,077**

All figures in NT$ unless noted.
Source: Company data, Macquarie Research, January 2009

Important disclosures:

Recommendation definitions

Macquarie - Australia/New Zealand
Outperform – return >5% in excess of benchmark return
Neutral – return within 5% of benchmark return
Underperform – return >5% below benchmark return

Macquarie – Asia/Europe
Outperform – expected return >+10%
Neutral – expected return from -10% to +10%
Underperform – expected return <-10%

Macquarie First South – South Africa
Outperform – expected return >+10%
Neutral – expected return from -10% to +10%
Underperform – expected return <-10%

Macquarie – Canada
Outperform – return >5% in excess of benchmark return
Neutral – return within 5% of benchmark return
Underperform – return >5% below benchmark return

Macquarie –- USA
Outperform (Buy) – return >5% in excess of benchmark return
Neutral (Hold) – return within 5% of benchmark return
Underperform (Sell)– return >5% below benchmark return

Recommendations – 12 months

Note: Quant recommendations may differ from Fundamental Analyst recommendations

Volatility index definition*

This is calculated from the volatility of historical price movements.

Very high–highest risk – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative.

High – stock should be expected to move up or down at least 40–60% in a year – investors should be aware this stock could be speculative.

Medium – stock should be expected to move up or down at least 30–40% in a year.

Low–medium – stock should be expected to move up or down at least 25–30% in a year.

Low – stock should be expected to move up or down at least 15–25% in a year.
* Applicable to Australian/NZ/Canada stocks only

Financial definitions

All "Adjusted" data items have had the following adjustments made:
Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense
Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests

EPS = adjusted net profit / efpowa*
ROA = adjusted ebit / average total assets
ROA Banks/Insurance = adjusted net profit /average total assets
ROE = adjusted net profit / average shareholders funds
Gross cashflow = adjusted net profit + depreciation
*equivalent fully paid ordinary weighted average number of shares

All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

Recommendation proportions – For quarter ending 31 December 2008

	AU/NZ	Asia	RSA	USA	CA	EUR
Outperform	38.55%	50.61%	64.52%	53.13%	65.55%	43.00%
Neutral	41.82%	15.92%	25.81%	40.63%	27.73%	48.00%
Underperform	19.64%	33.47%	9.68%	6.25%	6.72%	9.00%

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Structured Products - Andrew Terlich	(852) 2249 3225