

TSMC (2330.TW/2330 TT)

2024 recovery looks promising

FTSE4Good TIP Taiwan ESG Index stock

Outperform · Maintained

Price as of January 10 (NT\$)	584
12M target price (NT\$)	688
Previous target price (NT\$)	703
Revised down (%)	2.1
Upside (%)	17.8

Key message

- We expect TSMC to guide low- to mid-teens global foundry industry growth in 2024, and that the company's growth will outperform this by several percentage points.
- Shares are trading at 2024F PE of 15x, which we deem to be very attractive, especially compared to current SOX forward PE of 25x.

Trading data

Mkt cap (NT\$bn/US\$m)	15,144 / 487,371
Outstanding shares (mn)	25,932
Foreign ownership (mn)	18,948
3M avg. daily trading (mn)	20.51
52-week trading range (NT\$)	484.5–593

Performance	3M	6M	12M
Absolute (%)	9.8	3.4	20.2
Relative (%)	4.1	-1.5	2.2

Quarterly EPS

NT\$	1Q	2Q	3Q	4Q
2022	7.82A	9.14A	10.83A	11.41A
2023	7.98A	7.01A	8.14A	8.42F
2024	7.69F	8.49F	10.13F	11.93F

Share price chart



Source: TEJ

Event

TSMC will host its 4Q23 earnings conference on January 18. We reiterate our view that a meaningful 2024 cyclical recovery for TSMC remains on track, and forecast the firm's sales growth will outpace the overall foundry industry by several percentage points in 2024.

Impact

2024 outlook intact. We reiterate our forecast of mid-20% top-line growth, in US dollar terms, for TSMC in 2024, attributable to: (1) restocking demand; (2) cyclical recovery; (3) silicon content growth driven by 5G and HPC; and (4) market share gains, mainly in Qualcomm (US) baseband and Intel (US) CPUs. Additionally, we expect TSMC to guide low- to mid-teens global foundry industry growth in 2024, and that the company's growth will outperform this by several percentage points.

1Q24F sales to outperform typical slow seasonality. We forecast 1Q24 sales will decline by low-single digits QoQ to US\$18.9bn (NT\$585.3bn), up 12.9% YoY (up 15.1% YoY in NT dollar terms), with upside risk, outperforming typical slow seasonality and consensus of a 8.7% QoQ decline. We attribute this strength to recovery of N5 UTR, largely driven by production ramp-up for Intel Meteor Lake and Android smartphone SoC, offsetting a seasonal decline in Apple (US) N3 production. We forecast 1Q24 gross margin of 50-52%, versus consensus of 51.5%, due to NT-dollar appreciation, which we estimate will reduce gross margin by around 1ppt QoQ.

Key points worth highlighting. We cut 2024F earnings by 2.1% from NT\$1,012.9bn to NT\$991.4bn, due to: (1) the aforementioned forex impact, as we lower our TWD/USD exchange rate assumption from NT\$32 to NT\$31 per US\$1, for 2024; and (2) one-off costs associated with tool conversion from N5 to N3, as well as one-off costs related to disassembly and reinstallation of N5 equipment during relocation from Taiwan to US. That said, we still expect TSMC to reiterate its gross margin guidance of 53%+ from 2024 forward. We forecast 2024 capex of US\$28-30bn, versus US\$32bn in 2023, as a portion of N7 and N5 capacity will be converted to N3. This is in line with management's expectation that capex and capex intensity will level off in the coming years.

Valuation & Action

We adjust our target price from NT\$703 to NT\$688, based on 18x 2024F EPS, and cut 2024F EPS from NT\$39.06 to NT\$38.24, factoring in a lower gross margin forecast for 2024 of 53.7%, versus our previous estimate of 54.9%, due to less favorable forex and one-off costs associated with equipment conversion and relocation. Shares are trading at 2024F PE of 15x, which we deem to be very attractive, especially compared to current SOX forward PE of 25x. We reiterate Outperform and recommend investors accumulate shares on price pullback.

Risks

Global macro and geopolitical uncertainties; prolonged inventory correction.

Key financials and valuations

	Dec-20A	Dec-21A	Dec-22A	Dec-23F	Dec-24F
Revenue (NT\$m)	1,339,255	1,587,415	2,263,891	2,161,736	2,668,682
Gross profit (NT\$m)	711,130	819,537	1,348,355	1,171,362	1,432,524
Operating profit (NT\$m)	566,784	649,981	1,121,279	916,093	1,140,114
Net profit (NT\$m)	517,885	596,540	1,016,530	818,043	991,422
EPS (NT\$)	19.97	23.01	39.20	31.55	38.24
Cash DPS (NT\$)	10.00	11.00	11.00	12.00	13.00
EPS growth (%)	50.0	15.2	70.4	(19.5)	21.2
PE (x)	29.2	25.4	14.9	18.5	15.3
PB (x)	8.2	7.0	5.1	4.4	3.6
EV/EBITDA (x)	16.3	13.6	9.2	9.7	7.9
Net debt to equity (%)	Net cash	Net cash	Net cash	Net cash	Net cash
Dividend yield (%)	1.7	1.9	1.9	2.1	2.2
Return on average equity (%)	29.8	29.7	39.8	25.5	26.0

Source: Company data, KGI Research estimates

Figure 1: Breakdown of 4Q23-1Q24 forecast revisions vs. consensus

NT\$m	4Q23F							1Q24F						
	Revision	Previous	Chg. (%)	QoQ (%)	YoY (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	QoQ (%)	YoY (%)	Consensus	Diff. (%)
Revenue	625,529	612,987	2.0	14.4	(0.0)	616,186	1.5	585,331	560,101	4.5	(6.4)	15.1	571,309	2.5
Gross profit	328,018	318,716	2.9	10.6	(15.7)	325,741	0.7	297,767	287,604	3.5	(9.2)	3.9	294,390	1.1
Operating profit	254,832	246,996	3.2	11.7	(21.6)	253,007	0.7	228,113	215,351	5.9	(10.5)	(1.4)	227,725	0.2
Net profit	218,257	211,597	3.1	3.4	(26.2)	223,769	(2.5)	199,371	187,504	6.3	(8.7)	(3.7)	202,483	(1.5)
EPS (NT\$)	8.42	8.16	3.1	3.4	(26.2)	8.64	(2.6)	7.69	7.23	6.3	(8.7)	(3.7)	7.79	(1.3)
Gross margin (%)	52.4	52.0	0.4 ppts	(1.8)ppts	(9.8)ppts	52.9	(0.4)ppts	50.9	51.3	(0.5)ppts	(1.6)ppts	(5.5)ppts	51.5	(0.7)ppts
OP margin (%)	40.7	40.3	0.4 ppts	(1.0)ppts	(11.2)ppts	41.1	(0.3)ppts	39.0	38.4	0.5 ppts	(1.8)ppts	(6.5)ppts	39.9	(0.9)ppts
Net margin (%)	34.9	34.5	0.4 ppts	(3.7)ppts	(12.4)ppts	36.3	(1.4)ppts	34.1	33.5	0.6 ppts	(0.8)ppts	(6.6)ppts	35.4	(1.4)ppts

Source: Bloomberg, KGI Research estimates

Figure 2: Breakdown of 2023-24 forecast revisions vs. consensus

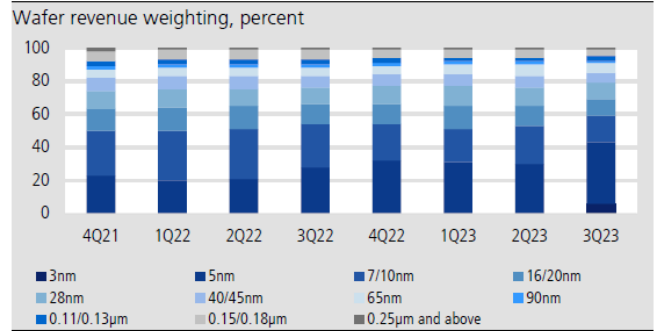
NT\$m	2023F						2024F					
	Revision	Previous	Chg. (%)	YoY (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	YoY (%)	Consensus	Diff. (%)
Revenue	2,161,736	2,149,194	0.6	(4.5)	2,152,936	0.4	2,668,682	2,709,617	(1.5)	23.5	2,617,296	2.0
Gross profit	1,171,362	1,162,058	0.8	(13.1)	1,169,238	0.2	1,432,524	1,486,667	(3.6)	22.3	1,391,669	2.9
Operating profit	916,093	908,257	0.9	(18.3)	914,958	0.1	1,140,114	1,171,777	(2.7)	24.5	1,099,755	3.7
Net profit	818,042	811,382	0.8	(19.5)	823,319	(0.6)	991,422	1,012,896	(2.1)	21.2	970,480	2.2
EPS (NT\$)	31.55	31.29	0.8	(19.5)	31.73	(0.6)	38.24	39.06	(2.1)	21.2	37.52	1.9
Gross margin (%)	54.2	54.1	0.1 ppts	(5.4)ppts	54.3	(0.1)ppts	53.7	54.9	(1.2)ppts	(0.5)ppts	53.2	0.5 ppts
OP margin (%)	42.4	42.3	0.1 ppts	(7.2)ppts	42.5	(0.1)ppts	42.7	43.2	(0.5)ppts	0.3 ppts	42.0	0.7 ppts
Net margin (%)	37.8	37.8	0.1 ppts	(7.1)ppts	38.2	(0.4)ppts	37.2	37.4	(0.2)ppts	(0.7)ppts	37.1	0.1 ppts

Source: Bloomberg, KGI Research estimates

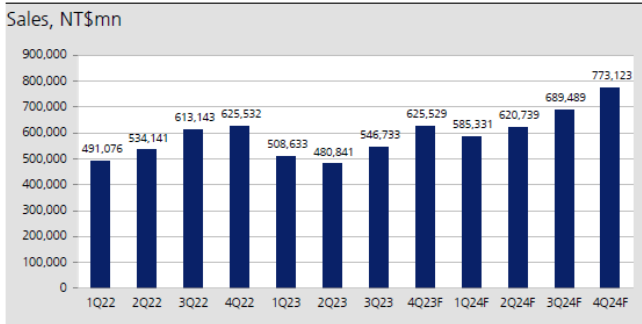
Figure 3: Company profile

Taiwan Semiconductor Manufacturing Company (TSMC), the world's largest dedicated semiconductor foundry, has increased its market share in recent years. Capacity exceeded 16mn 8-inch equivalent wafers in 2013. TSMC operates six advanced 300mm wafer fabs, six 8-inch wafer fabs and one 6-inch wafer fab, and is building a new 300mm wafer fab. The company provides the following services: wafer manufacturing, wafer probing, assembly and testing, mask production and design services.

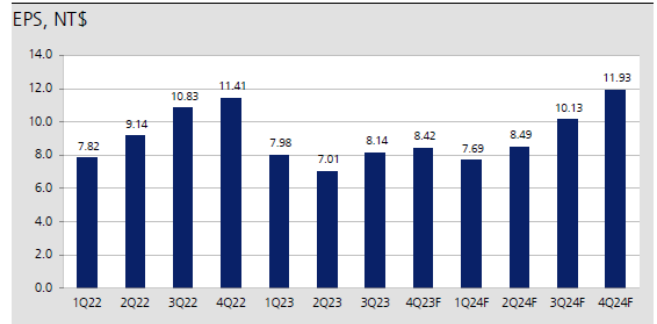
Source: Company data, KGI Research

Figure 4: TSMC's wafer revenue by node


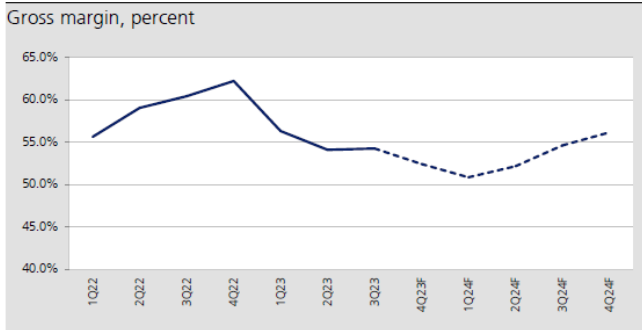
Source: Company data, KGI Research

Figure 5: Sales


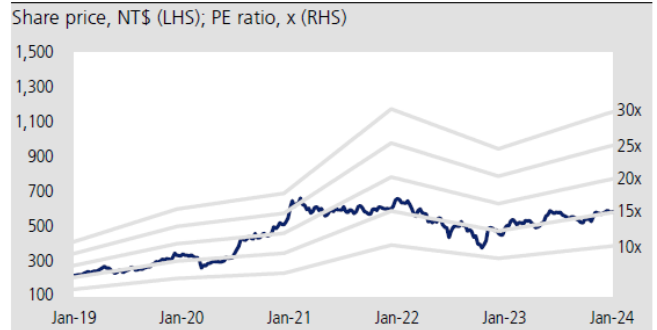
Source: KGI Research

Figure 6: EPS


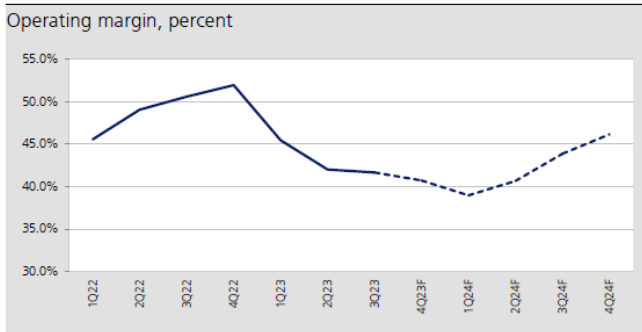
Source: KGI Research

Figure 7: Gross Margin


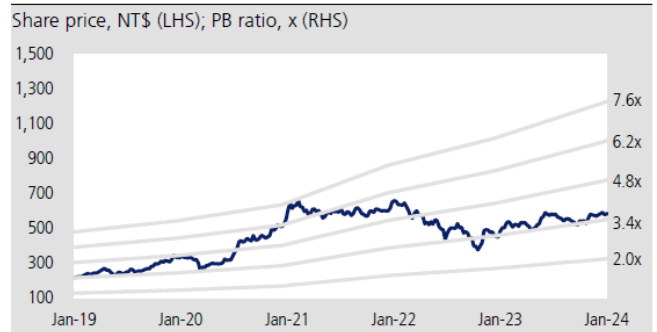
Source: KGI Research

Figure 8: 12M forward PE band


Source: TEJ, KGI Research estimates

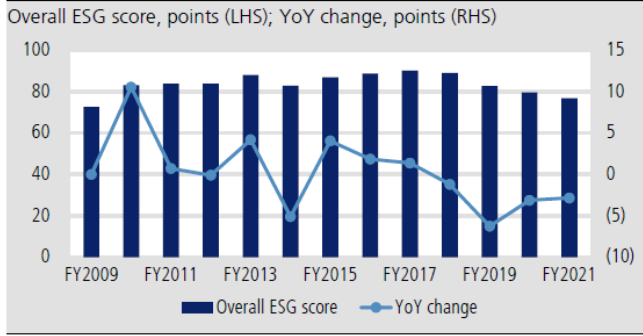
Figure 9: Operating Margin


Source: KGI Research

Figure 10: 12M forward PB band


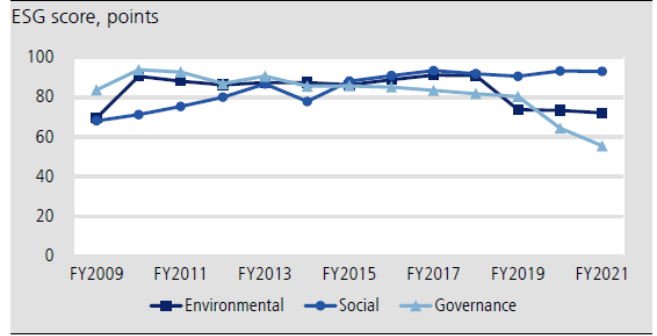
Source: TEJ, KGI Research estimates

Figure 11: Overall ESG score



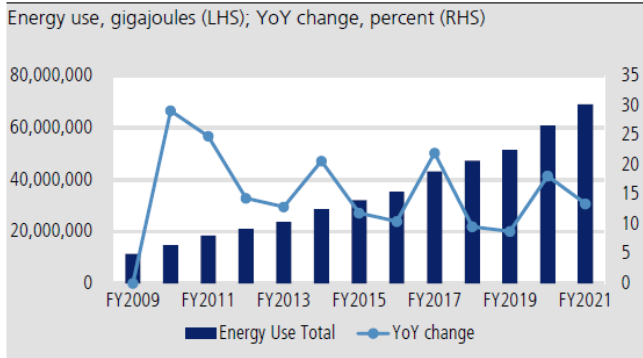
Source: Refinitiv, Company data

Figure 12: ESG score by category



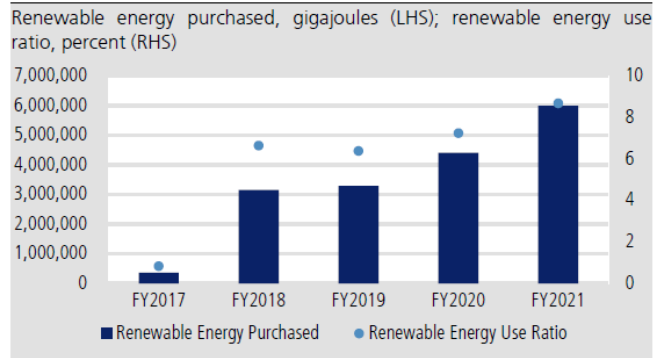
Source: Refinitiv, Company data

Figure 13: Energy use



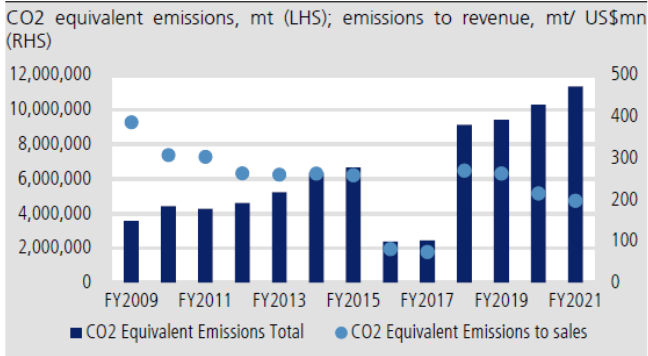
Source: Refinitiv, Company data

Figure 14: Renewable energy



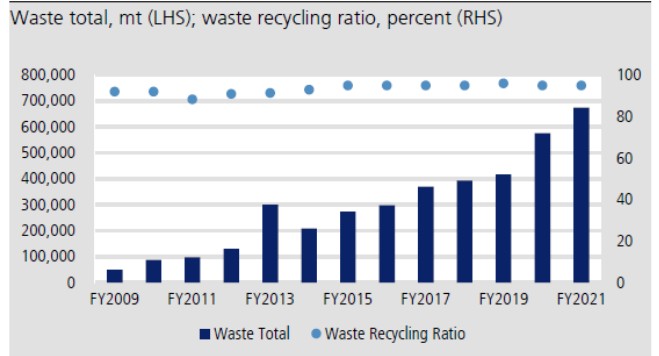
Source: Refinitiv, Company data

Figure 15: CO2 equivalent emissions



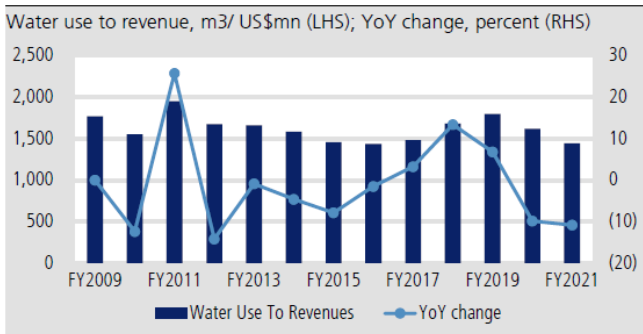
Source: Refinitiv, Company data

Figure 16: Waste total



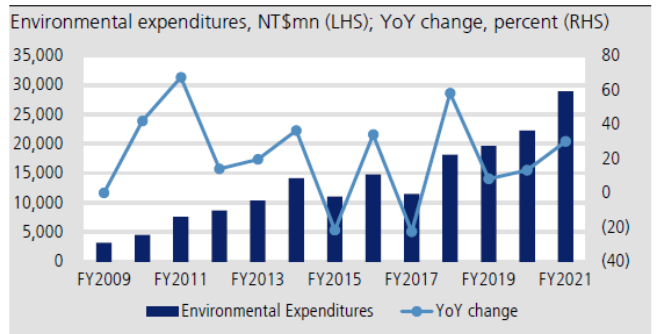
Source: Refinitiv, Company data

Figure 17: Water use to revenue



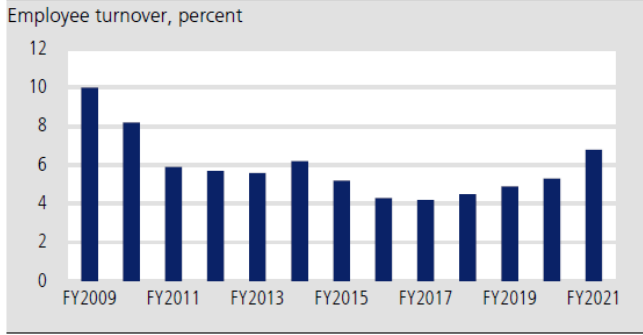
Source: Refinitiv, Company data

Figure 18: Environmental expenditures



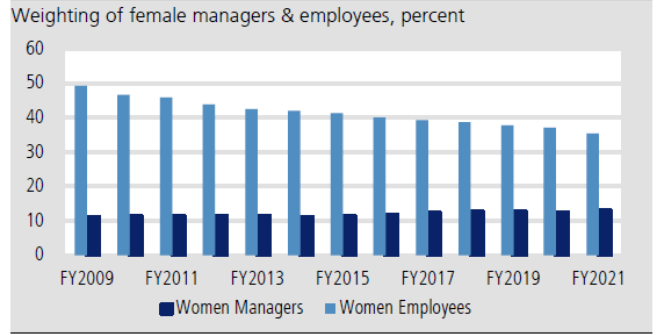
Source: Refinitiv, Company data

Figure 19: Employee turnover



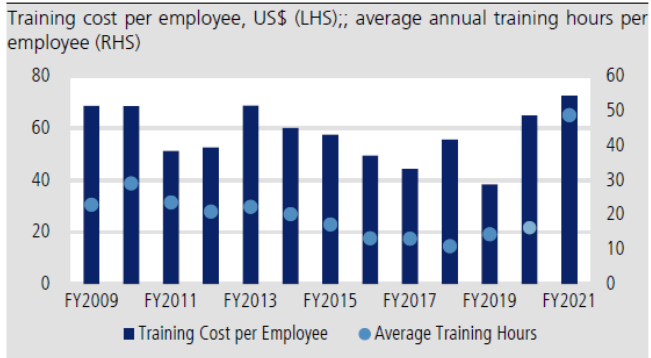
Source: Refinitiv, Company data

Figure 20: Gender diversification



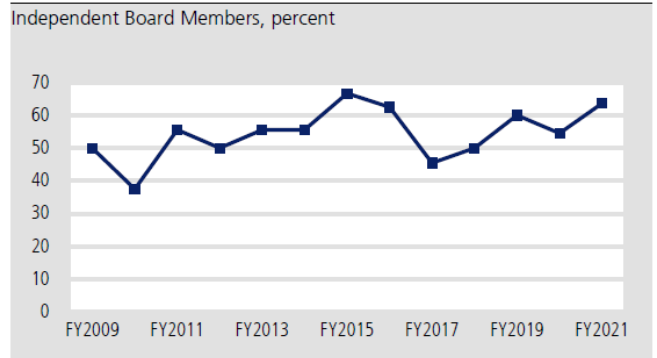
Source: Refinitiv, Company data

Figure 21: Employee training



Source: Refinitiv, Company data

Figure 22: Independent Board Members



Source: Refinitiv, Company data

ESG chart definition

Item	Definition	Remarks
Energy use	Total direct and indirect energy consumption in gigajoules. - the total amount of energy that has been consumed within the boundaries of the company's operations - total energy use = total direct energy consumption + indirect energy consumption - purchased energy and produced energy are included in total energy use - for utilities, transmission/ grid loss as part of its business activities is considered as total energy consumed and data does not consider electricity produced to answer energy use (utility company produces to sell) - for utilities, raw materials such as coal, gas or nuclear used in the production of energy are not considered under 'total energy use'	
Renewable energy purchased	Total primary renewable energy purchased in gigajoules. - energy consumed by the company from various sources and among the purchased energy, how much energy is renewable in nature (solar, wind, hydro, biomass, geothermal) are in scope - if there is no evidence that renewable energy is produced by the company, then we consider the reported energy figure as renewable energy purchased	
Renewable energy use ratio	Renewable energy to total energy used	
CO2 equivalent emissions	Direct CO2 and CO2 equivalent emissions in metric tons. - direct emissions from sources that are owned or controlled by the company (scope 1 emissions) - following gases are relevant: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorinated compound (PFCS), sulfur hexafluoride (SF6), nitrogen trifluoride (NF3)	
CO2 equivalent emissions to sales	Direct CO2 and CO2 equivalent emissions (metric tons) to sales (NT\$m) - direct emissions from sources that are owned or controlled by the company (scope 1 emissions) - following gases are relevant: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorinated compound (PFCS), sulfur hexafluoride (SF6), nitrogen trifluoride (NF3)	
Waste total	Total amount of waste produced in metric tons. - total waste = non-hazardous waste + hazardous waste - only solid waste is taken into consideration, exceptionally if liquid waste is reported in metric tons, then we do the summation to derive total including liquid waste - for sectors like mining, oil & gas, waste generation like tailings, waste rock, coal and fly ash are also considered	
Waste recycling ratio	The waste recycling ratio as reported by the company. - waste recycling ratio = waste recycled/total waste*100 - waste to energy or waste incinerated with energy recovery are considered as waste recycled - waste recovered via composting is considered as recycled waste	
Water withdrawal total	Total water withdrawal in cubic meters. - the total volume of water withdrawn from any water source that was either withdrawn directly by the reporting organization or through intermediaries such as water utilities - different sources of water like wells, town/utility/municipal water, river water, and surface water are considered	
Environmental expenditures	Total amount of environmental expenditures. - all environmental investment & expenditures for environmental protection or to prevent, reduce, control environmental aspects, impacts, and hazards. It also includes disposal, treatment, sanitation, and clean-up expenditures	
Turnover of employees	Percentage of employee turnover. - includes employees who left the company for any reason (voluntary or involuntary), such as resignations, retirement, natural departure/death, medical incapacitation, redundancy, layoffs, restructuring, dismissal, retrenchment or end of a fixed-term contract - employees turnover rate = (employees leaving/average number of employees)*100 - where the average number of employees = (employees at the end of the current year + employees at the end of the previous year)/2 - employees at the end of the current fiscal year = employees at the end of the previous fiscal year + new employees - employees leaving	
Women managers	Percentage of women managers. - percentage of women managers among total managers of the company - if there is a breakdown by category in percentage, such as top, senior, middle, and junior management, then we consider the percentage of middle women managers - percentage of women managers = number of women managers/total number of managers*100	
Women employees	Percentage of women employees. - percentage of women employees to the total number of employees of the company - percentage of women employees = number of women/total number of employees*100	
Training hours total	Total training hours performed by all employees. - consider only employee training hours - includes all types of training given to general employees (such as health & safety, environmental, emergency response, skills & career development training) - if the value is given in days, multiply by 8, assuming that 1 day = 8 hours worked	
Training hours per employee	Training hours per employee per year	

Source: Refinitiv, KGI Research

Income statement

	Quarterly								Annually		
	Mar-23A	Jun-23A	Sep-23A	Dec-23F	Mar-24F	Jun-24F	Sep-24F	Dec-24F	Dec-22A	Dec-23F	Dec-24F
Income statement (NT\$mn)											
Revenue	508,633	480,841	546,733	625,529	585,331	620,739	689,489	773,123	2,263,891	2,161,736	2,668,682
Cost of goods sold	(222,133)	(220,641)	(250,090)	(297,510)	(287,564)	(296,894)	(312,792)	(338,909)	(915,536)	(990,374)	(1,236,158)
Gross profit	286,500	260,200	296,642	328,018	297,767	323,846	376,697	434,214	1,348,355	1,171,362	1,432,524
Operating expenses	(55,262)	(58,147)	(68,840)	(73,187)	(69,654)	(71,323)	(74,120)	(77,312)	(227,076)	(255,269)	(292,410)
Operating profit	231,238	202,053	227,802	254,832	228,113	252,523	302,577	356,902	1,121,279	916,093	1,140,114
Depreciation of fixed assets	(108,083)	(121,644)	(144,927)	(177,350)	(152,171)	(156,065)	(159,990)	(154,531)	(428,498)	(552,004)	(622,757)
Amortisation of intangible assets	(2,239)	(2,296)	(2,353)	(4,190)	(3,028)	(3,069)	(3,410)	(2,951)	(8,756)	(11,079)	(12,459)
EBITDA	341,561	325,992	375,083	436,372	383,312	411,657	465,977	514,384	1,558,533	1,479,176	1,775,330
Interest income	13,618	13,672	15,595	1,000	5,000	5,000	5,000	5,500	22,422	43,885	20,500
Investment income	1,111	1,062	1,167	1,500	2,000	2,000	2,000	2,000	8,065	4,840	8,000
Other non-op income	16	310	78	-	-	-	-	-	681	404	-
Non-operating income	14,745	15,044	16,840	2,500	7,000	7,000	7,000	7,500	31,168	49,129	28,500
Interest expense	(2,964)	(3,005)	(3,112)	(800)	(800)	(800)	(800)	(800)	(11,750)	(9,881)	(3,200)
Investment loss	-	-	-	-	-	-	-	-	-	-	-
Other non-op expenses	1,256	678	147	-	-	-	-	-	3,494	2,081	-
Non-operating expenses	(1,708)	(2,327)	(2,965)	(800)	(800)	(800)	(800)	(800)	(8,256)	(7,800)	(3,200)
Pre-tax profit	244,275	214,769	241,678	256,532	234,313	258,723	308,777	363,602	1,144,191	957,422	1,165,414
Current taxation	(37,326)	(32,958)	(31,145)	(38,480)	(35,147)	(38,808)	(46,317)	(54,540)	(127,290)	(139,909)	(174,812)
Minorities	38	82	205	205	205	205	205	205	(370)	530	820
Normalised net profit	206,986	181,894	210,737	218,257	199,371	220,119	262,665	309,266	1,016,530	818,043	991,422
Extraordinary items	0	(94)	262	-	-	-	-	-	-	-	-
Net profit	206,987	181,799	211,000	218,257	199,371	220,119	262,665	309,266	1,016,530	818,043	991,422
EPS (NT\$)	7.98	7.01	8.14	8.42	7.69	8.49	10.13	11.93	39.20	31.55	38.24
Margins (%)											
Gross profit margin	56.3	54.1	54.3	52.4	50.9	52.2	54.6	56.2	59.6	54.2	53.7
Operating margin	45.5	42.0	41.7	40.7	39.0	40.7	43.9	46.2	49.5	42.4	42.7
EBITDA margin	67.2	67.8	68.6	69.8	65.5	66.3	67.6	66.5	68.8	68.4	66.5
Pretax profit margin	48.0	44.7	44.2	41.0	40.0	41.7	44.8	47.0	50.5	44.3	43.7
Net profit margin	40.7	37.8	38.6	34.9	34.1	35.5	38.1	40.0	44.9	37.8	37.2
Sequential growth (%)											
Revenue growth	(18.7)	(5.5)	13.7	14.4	(6.4)	6.0	11.1	12.1			
Gross profit growth	(26.4)	(9.2)	14.0	10.6	(9.2)	8.8	16.3	15.3			
Operating profit growth	(28.9)	(12.6)	12.7	11.9	(10.5)	10.7	19.8	18.0			
EBITDA growth	(21.0)	(4.6)	15.1	16.3	(12.2)	7.4	13.2	10.4			
Pretax profit growth	(27.0)	(12.1)	12.5	6.1	(8.7)	10.4	19.3	17.8			
Net profit growth	(30.0)	(12.2)	16.1	3.4	(8.7)	10.4	19.3	17.7			
YoY growth (%)											
Revenue growth	3.6	(10.0)	(10.8)	(0.0)	15.1	29.1	26.1	23.6	42.6	(4.5)	23.5
Gross profit growth	4.9	(17.5)	(19.9)	(15.7)	3.9	24.5	27.0	32.4	64.5	(13.1)	22.3
Operating profit growth	3.3	(22.9)	(26.6)	(21.6)	(1.4)	25.0	32.8	40.1	72.5	(18.3)	24.5
EBITDA growth	2.0	(13.1)	(9.8)	0.9	12.2	26.3	24.2	17.9	45.3	(5.1)	20.0
Pretax profit growth	7.7	(19.3)	(23.7)	(23.3)	(4.1)	20.5	27.8	41.7	72.5	(16.3)	21.7
Net profit growth	2.1	(23.3)	(24.9)	(26.2)	(3.7)	21.1	24.5	41.7	70.4	(19.5)	21.2

Source: Company data, KGI Research estimates

Balance sheet

NT\$m	Dec-20A	Dec-21A	Dec-22A	Dec-23F	Dec-24F
Total assets	2,760,711	3,725,503	4,964,779	5,439,088	6,140,251
Current assets	1,092,185	1,607,073	2,052,897	2,118,551	2,635,030
Cash & ST securities	791,477	1,188,456	1,561,486	1,561,467	1,982,826
Inventory	137,353	193,102	221,149	266,423	303,496
Accounts receivable	146,038	198,301	231,340	246,013	304,060
Other current assets	17,317	27,214	38,922	44,648	44,648
Non-current assets	1,668,526	2,118,431	2,911,882	3,320,537	3,505,221
LT investments	27,728	29,385	68,928	97,277	105,277
Net fixed assets	1,555,589	1,975,119	2,693,837	2,822,206	2,998,890
Other assets	85,209	113,927	149,117	401,054	401,054
Total liabilities	910,089	1,554,770	2,004,290	1,946,969	1,967,860
Current liabilities	617,151	739,503	944,227	813,802	834,692
Accounts payable	41,095	48,723	56,522	74,693	85,086
Interest bearing ST liabilities	91,159	119,488	19,314	8,126	8,126
Other current liabilities	484,897	571,293	868,391	730,983	741,480
Non-current liabilities	292,938	815,267	1,060,063	1,133,168	1,133,168
Long-term debt	256,073	613,380	839,096	899,886	899,886
Other L-T liabilities	16,305	181,123	191,203	225,846	225,846
Total equity	1,850,622	2,170,733	2,960,489	3,492,119	4,172,391
Share capital	259,304	259,304	259,304	259,321	259,321
Retained earnings reserve	1,235,280	1,536,379	2,323,223	3,146,185	3,826,457
Minority interests	965	2,447	14,836	16,718	16,718
Preferred shareholders funds	-	-	-	-	-

Key ratios

	Dec-20A	Dec-21A	Dec-22A	Dec-23F	Dec-24F
Growth					
Revenue growth	25.2%	18.5%	42.6%	(4.5%)	23.5%
Operating profit growth	52.1%	14.7%	72.5%	(18.3%)	24.5%
EBITDA growth	36.2%	19.4%	45.3%	(5.1%)	20.0%
Net profit growth	50.0%	15.2%	70.4%	(19.5%)	21.2%
EPS growth	50.0%	15.2%	70.4%	(19.5%)	21.2%
Profitability					
Gross profit margin	53.1%	51.6%	59.6%	54.2%	53.7%
Operating margin	42.3%	40.9%	49.5%	42.4%	42.7%
EBITDA margin	67.1%	67.6%	68.8%	68.4%	66.5%
Net profit margin	38.7%	37.6%	44.9%	37.8%	37.2%
Return on average assets	20.6%	18.4%	23.4%	15.7%	17.1%
Return on average equity	29.8%	29.7%	39.8%	25.5%	26.0%
Stability					
Gross debt to equity	18.8%	33.8%	29.0%	26.0%	21.8%
Net debt to equity	Net cash	Net cash	Net cash	Net cash	Net cash
Interest coverage (x)	281.9	123.5	98.4	97.9	365.2
Interest & ST debt coverage (x)	0.9	0.8	1.0	1.0	1.0
Cash flow interest coverage(x)	395.2	205.4	137.1	123.9	482.6
Cash flow/int. & ST debt (x)	8.8	8.9	51.8	68.0	136.4
Current ratio (x)	1.8	2.2	2.2	2.6	3.2
Quick ratio (x)	1.5	1.9	1.9	2.3	2.8
Net debt (NT\$m)	(312,939)	(332,122)	(484,404)	(440,224)	(861,582)
Per share data					
EPS (NT\$)	19.97	23.01	39.20	31.55	38.24
CFPS (NT\$)	31.73	42.89	62.12	47.20	59.56
BVPS (NT\$)	71.33	83.62	113.60	134.03	160.27
Adj BVPS (NT\$)	71.33	83.62	113.60	134.03	160.27
SPS (NT\$)	51.65	61.22	87.31	83.37	102.92
EBITDA/share (NT\$)	34.65	41.36	60.11	57.05	68.47
Cash DPS (NT\$)	10.00	11.00	11.00	12.00	13.00
Activity					
Sales / avg assets	0.53	0.49	0.52	0.42	0.46
Days receivable	39.9	45.6	37.3	41.5	41.7
Days inventory	80.0	91.8	88.2	98.2	89.9
Days payable	23.9	23.2	22.5	27.5	25.2
Cash cycle	96.0	114.2	102.9	112.2	106.4

Source: Company data, KGI Research estimates

Profit & loss

NT\$m	Dec-20A	Dec-21A	Dec-22A	Dec-23F	Dec-24F
Revenue	1,339,255	1,587,415	2,263,891	2,161,736	2,668,682
Cost of goods sold	(628,125)	(767,878)	(915,536)	(990,374)	(1,236,158)
Gross profit	711,130	819,537	1,348,355	1,171,362	1,432,524
Operating expenses	(144,346)	(169,556)	(227,076)	(255,269)	(292,410)
Operating profit	566,784	649,981	1,121,279	916,093	1,140,114
Non-operating income	13,272	12,285	31,168	49,129	28,500
Interest income	9,018	5,709	22,422	43,885	20,500
Investment income	4,230	5,965	8,065	4,840	8,000
Other non-op income	23	611	681	404	-
Non-operating expenses	4,722	860	(8,256)	(7,800)	(3,200)
Interest expense	(2,081)	(5,414)	(11,750)	(9,881)	(3,200)
Investment loss	-	-	-	-	-
Other non-op expenses	6,803	6,275	3,494	2,081	-
Pre-tax profit	584,777	663,126	1,144,191	957,422	1,165,414
Current taxation	(66,619)	(66,053)	(127,290)	(139,909)	(174,812)
Minorities	(273)	(533)	(370)	530	820
Extraordinary items	-	0	0	-	-
Net profit	517,885	596,540	1,016,530	818,043	991,422
EBITDA	898,508	1,072,376	1,558,533	1,479,176	1,775,330
EPS (NT\$)	19.97	23.01	39.20	31.55	38.24

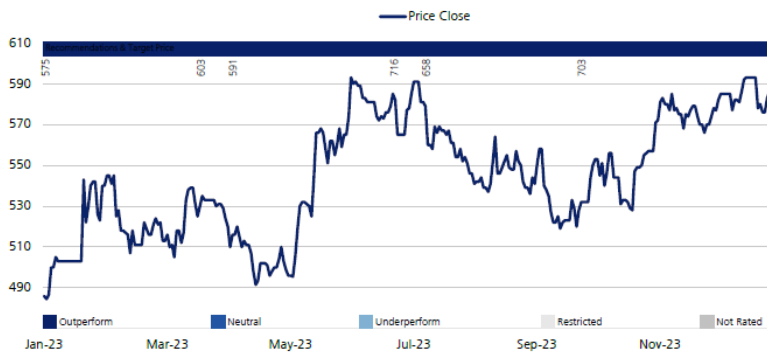
Cash flow

NT\$m	Dec-20A	Dec-21A	Dec-22A	Dec-23F	Dec-24F
Operations cash flow	822,666	1,112,161	1,610,599	1,223,799	1,544,408
Net profit	517,885	596,540	1,016,530	818,043	991,422
Depreciation & amortisation	331,725	422,395	437,254	563,083	635,216
Decrease in working capital	(61,074)	(100,384)	(53,286)	(41,776)	(84,726)
Other operating cash flow	34,130	193,610	210,100	(115,550)	2,497
Investing cash flow	(505,782)	(836,366)	(1,190,928)	(988,747)	(811,899)
Sale of ST investment	49	4,676	(128,838)	(13,567)	-
New investments	-	-	-	-	-
Capital expenditure	(507,239)	(839,196)	(1,082,672)	(1,010,222)	(811,899)
Others investing cashflow	1,408	(1,846)	20,582	35,042	-
Free cash flow	258,441	59,845	289,078	282,229	695,228
Financing cash flow	(88,615)	136,608	(200,244)	(233,682)	(311,150)
Increase in short term debt	(31,572)	35,668	(111,960)	-	-
Increase in long term loans	206,535	362,765	195,983	49,601	-
New ordinary shares issued	-	-	-	-	-
Ordinary dividends paid	(259,304)	(265,786)	(285,234)	(285,223)	(311,150)
Other financing cashflow	(4,275)	3,961	1,839	1,940	-
Forex effects	(23,498)	(7,584)	58,397	4,051	-
Total cash generated	204,771	404,820	277,824	5,421	421,359

ROIC

	Dec-20A	Dec-21A	Dec-22A	Dec-23F	Dec-24F
1 - COGS/revenue					
- Operating exp./revenue	10.8%	10.7%	10.0%	11.8%	11.0%
= Operating margin	42.3%	40.9%	49.5%	42.4%	42.7%
1 / (Working capital/revenue	(0.2)	(0.1)	(0.2)	(0.1)	(0.1)
+ Net PPE/revenue	1.2	1.2	1.2	1.3	1.1
+ Other assets/revenue)	0.0	0.0	0.0	0.2	0.2
= Capital turnover	1.0	0.9	1.0	0.7	0.8
Operating margin	42.3%	40.9%	49.5%	42.4%	42.7%
x Capital turnover	1.0	0.9	1.0	0.7	0.8
x (1 - tax rate)	88.6%	90.0%	88.9%	85.4%	85.0%
= After-tax ROIC	37.6%	32.9%	43.9%	26.3%	30.0%

Source: Company data, KGI Research estimates

TSMC – Recommendation & target price history


Date	Rating	Target	Price
2023-10-19	Outperform	703	546
2023-10-06	Outperform	703	532
2023-07-20	Outperform	658	579
2023-07-04	Outperform	716	585
2023-04-14	Outperform	591	516
2023-03-29	Outperform	603	530
2023-03-29	Outperform	603	530
2022-10-31	Outperform	575	390
2022-09-27	Outperform	580	448
2022-08-19	Outperform	598	519

Source: TEJ, KGI Research

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