

TSMC (2330.TW/2330 TT)

Management echoes our view of healthy 2024F recovery

FTSE4Good TIP Taiwan ESG Index stock

Outperform · Maintained

Price as of January 18 (NT\$)	588
12M target price (NT\$)	688
Previous target price (NT\$)	688
Unchanged (%)	0.0
Upside (%)	17.0

Key message

- The firm guides that 2024 sales to grow by low- to mid-20s percent YoY, outperforming global semiconductor and foundry industries.
- The firm's 2024 capex guidance of US\$28bn to US\$32bn is also in line with our forecast of US\$28-30bn and consensus.

Trading data

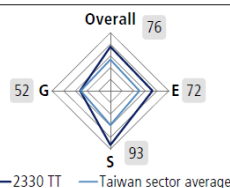
Mkt cap (NT\$bn/US\$mn)	15,248 / 483,342
Outstanding shares (mn)	25,932
Foreign ownership (mn)	18,934
3M avg. daily trading (mn)	20.44
52-week trading range (NT\$)	491.5 -593

Performance	3M	6M	12M
Absolute (%)	8.9	1.2	16.9
Relative (%)	4.1	1.2	1.5

Quarterly EPS

NT\$	1Q	2Q	3Q	4Q
2022	7.82A	9.14A	10.83A	11.41A
2023	7.98A	7.01A	8.14A	9.21F
2024	8.13F	8.82F	9.87F	11.33F

ESG score card



Source: Refinitiv

Event

TSMC believes that inventory has returned to a healthier level, and the business has bottomed out. Furthermore, TSMC guides the global semiconductor industry, excluding memory, will grow more than 10% YoY in 2024F, and expects the global foundry industry to grow around 20% YoY in 2024F, higher than our forecast of low- to mid-teens global foundry industry growth in 2024.

Impact

The firm affirms our view of the outlook for 2024F. TSMC guides the global semiconductor industry, excluding memory, will grow more than 10% YoY in 2024F, and expects the global foundry industry to grow around 20% YoY in 2024F, higher than our forecast of low- to mid-teens global foundry industry growth in 2024. Furthermore, the firm also guides 2024 sales to grow by low- to mid-20s percent YoY, outperforming the global semiconductor and foundry industries, which echoes our view that TSMC's sales growth will outpace the overall foundry sector by several percentage points in 2024F. The firm's 2024 capex guidance of US\$28bn to US\$32bn is also in line with our forecast of US\$28-30bn and consensus. In addition, TSMC thinks that current CoWoS capacity is still insufficient, even though the firm will double its CoWoS capacity in 2024F, and the firm expects to continue expanding its CoWoS capacity in 2025F.

1Q24F gross margin guidance higher than consensus. TSMC guides 1Q24 sales of NT\$559.8bn to NT\$584.7bn, a decline of 8.5% QoQ at the mid-point, based on a NT\$/US\$ exchange rate assumption of NT\$31.1 per US\$1, largely in line with consensus of NT\$574.3bn, but slightly missing our previous forecast of NT\$585.3bn, which we attribute to typical smartphone seasonality and a less favorable forex environment, despite strong high performance computing (HPC) demand. The firm's 1Q24F gross margin guidance of 52.0-54.0%, flattish QoQ at the mid-point, is higher than our previous forecast of 50.9% and consensus of 51.4%, as one-off costs associated with tool conversion from N5 to N3 will be recognized in 2H24F.

Strong N3 ramp-up to contribute 14-16% of sales in 2024F. TSMC expects N3 sales to grow more than triple in 2024F, to a sales weighting of 14-16%, which echoes our view that 2024 N3 wafer shipments will be 3-4x the 2023 total. However, the firm also highlighted that a strong N3 ramp-up will dilute gross margin by around 3-4ppts in 2H24F, along with 2H24 recognition of one-off costs associated with tool conversion, which is expected to dilute gross margin by around 1-2ppts. These factors imply limited upside for 2H24F gross margin, which will likely be slightly lower HoH. However, TSMC reiterates that the firm's long-term gross margin target of 53% and higher is achievable.

Valuation & Action

We keep our 2024 forecasts largely unchanged, and maintain our target price of NT\$688, based on 18x 2024F EPS. Shares are trading at 2024F PE of 15x, which we consider to be very attractive. We reiterate Outperform and recommend investors accumulate shares.

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\$mn)	1,339,255	1,587,415	2,263,891	2,161,736	2,663,632
Gross profit (NT\$mn)	711,130	819,537	1,348,355	1,175,111	1,410,919
Operating profit (NT\$mn)	566,784	649,981	1,121,279	921,466	1,125,089
Net profit (NT\$mn)	517,885	596,540	1,016,530	838,498	989,226
EPS (NT\$)	19.97	23.01	39.20	32.34	38.15
Cash DPS (NT\$)	10.00	11.00	11.00	11.25	13.50
EPS growth (%)	50.0	15.2	70.4	(17.5)	18.0
PE (x)	29.4	25.6	15.0	18.2	15.4
PB (x)	8.2	7.0	5.2	4.3	3.6
EV/EBITDA (x)	16.4	13.7	9.3	10.3	7.8
Net debt to equity (%)	Net cash	Net cash	Net cash	Net cash	Net cash
Dividend yield (%)	1.7	1.9	1.9	1.9	2.3
Return on average equity (%)	29.8	29.7	39.8	26.0	25.6

Source: Company data, KGI Research estimates

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

NT\$m	4Q23							1Q24F						
	Actual	KGI forecast	Diff. (%)	QoQ (%)	YoY (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	QoQ (%)	YoY (%)	Consensus	Diff. (%)
Revenue	625,529	625,529	0.0	14.4	(0.0)	618,263	1.2	576,072	585,331	(1.6)	(7.9)	13.3	574,313	0.3
Gross profit	331,768	328,018	1.1	11.8	(14.8)	327,148	1.4	306,139	297,767	2.8	(7.7)	6.9	295,030	3.8
Operating profit	260,205	254,832	2.1	14.2	(19.9)	253,381	2.7	238,451	228,113	4.5	(8.4)	3.1	227,492	4.8
Net profit	238,712	218,257	9.4	13.1	(19.3)	223,948	6.6	210,908	199,371	5.8	(11.6)	1.9	202,062	4.4
EPS (NT\$)	9.21	8.42	9.4	13.1	(19.3)	8.66	6.3	8.13	7.69	5.8	(11.6)	1.9	7.80	4.3
Gross margin (%)	53.0	52.4	0.6 ppts	(1.2)ppts	(9.2)ppts	52.9	0.1 ppts	53.1	50.9	2.3 ppts	0.1 ppts	(3.2)ppts	51.4	1.8 ppts
OP margin (%)	41.6	40.7	0.9 ppts	(0.1)ppts	(10.4)ppts	41.0	0.6 ppts	41.4	39.0	2.4 ppts	(0.2)ppts	(4.1)ppts	39.6	1.8 ppts
Net margin (%)	38.2	34.9	3.3 ppts	(0.4)ppts	(9.1)ppts	36.2	1.9 ppts	36.6	34.1	2.6 ppts	(1.6)ppts	(4.1)ppts	35.2	1.4 ppts

Source: Company data, Bloomberg, KGI Research estimates

Figure 2: Breakdown of 2023 results & 2024 forecast revisions vs. consensus

NT\$m	2023							2024F						
	Actual	KGI forecast	Diff. (%)	YoY (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	YoY (%)	Consensus	Diff. (%)		
Revenue	2,161,736	2,161,736	(0.0)	(4.5)	2,155,559	0.3	2,663,632	2,668,682	(0.2)	23.2	2,620,716	1.6		
Gross profit	1,175,111	1,171,362	0.3	(12.8)	1,170,943	0.4	1,410,919	1,432,524	(1.5)	20.1	1,392,203	1.3		
Operating profit	921,466	916,093	0.6	(17.8)	915,725	0.6	1,125,089	1,140,114	(1.3)	22.1	1,100,114	2.3		
Net profit	838,498	818,043	2.5	(17.5)	823,636	1.8	989,226	991,422	(0.2)	18.0	971,678	1.8		
EPS (NT\$)	32.34	31.55	2.5	(17.5)	31.75	1.8	38.15	38.24	(0.2)	18.0	37.51	1.7		
Gross margin (%)	54.4	54.2	0.2 ppts	(5.2)ppts	54.3	0.0 ppts	53.0	53.7	(0.7)ppts	(1.4)ppts	53.1	(0.2)ppts		
OP margin (%)	42.6	42.4	0.2 ppts	(6.9)ppts	42.5	0.1 ppts	42.2	42.7	(0.5)ppts	(0.4)ppts	42.0	0.3 ppts		
Net margin (%)	38.8	37.8	0.9 ppts	(6.1)ppts	38.2	0.6 ppts	37.1	37.2	(0.0)ppts	(1.6)ppts	37.1	0.1 ppts		

Source: Company data, Bloomberg, KGI Research estimates

4Q23 – Analyst meeting takeaways

1Q24F guidance

- Revenue: US\$18.0-18.8bn, down 6.2% QoQ at the midpoint
 - Impacted by smartphone seasonality, partially offset by strong HPC demand
- Forex = NT\$31.1 per US\$1
- Gross margin: 52.0-54.0%
 - Due to less favorable exchange rate assumption, offset by product mix changes
- Operating margin: 40.0-42.0%

2024F guidance

- Expects 2024F revenue to grow in the low to mid-20s percent YoY, in US dollar terms
- Expects global semiconductor sales, excluding memory, to be up by more than 10% YoY in 2024
- Expects global foundry sales to be up by around 20% YoY in 2024
- Capex: US\$28-32bn
 - 70-80% for advanced process technologies
 - 10-20% for specialty technologies
 - 10% for APT, testing, mask making, and others
- Depreciation is expected to be up close to 30% YoY in 2024
 - Due to N3 ramp-up

Key takeaways

Global manufacturing footprint

- ◆ Germany (specialty technology fab)
 - Mainly for automotive & industrial applications
 - Continues to be in close communication with German federal, state, and city governments
 - 28, 22, 16, 12nm
 - Fab construction is scheduled to begin in 4Q24, and production is targeted to begin in late 2027
- ◆ Arizona
 - In close communication with US government on incentive and tax credit support
 - On track for start of mass production, and targets volume production of N4 process technology in 1H25
 - Will be able to deliver the same level of manufacturing quality and reliability in AZ as in Taiwan
- ◆ Japan
 - 28, 22, 16, 12nm, specialty technology
 - Will hold an opening ceremony for this fab on February 2024
 - Volume production is on track for late 2024
- ◆ Taiwan
 - Continues to invest and expand its advanced technologies capacities
 - Expanding N3 capacity in Tainan science park
 - Plans to build multiple fabs for the N2 process
 - Taichung Science park is in an evaluation process, and on track
- ◆ N3, N3E, N3P, N3X
 - All the smartphone and HPC vendors are working with TSMC for the N3 process node
 - Thinks N3 will be another large and long-lasting node

- Expects N3 sales to more than triple, and account for a mid-teens percent of total sales in 2024
- ◆ N2
 - On track for volume production in 2025
 - ✓ Best suited for HPC applications
 - Backside power rail to be available in 2H25, for customers with production in 2026
 - ✓ Suited for specific HPC applications

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

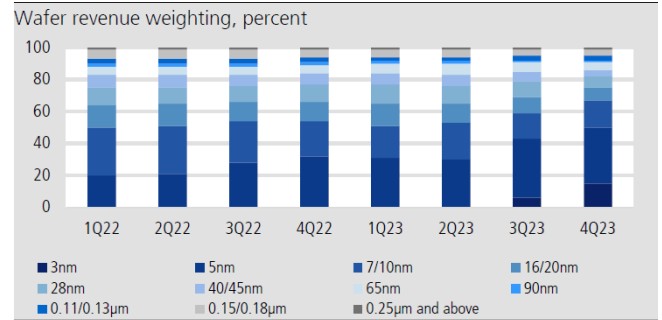
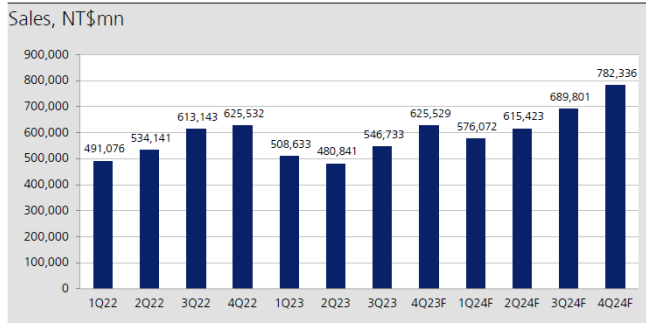
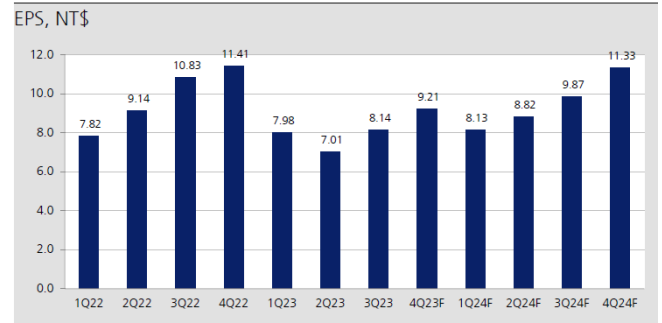
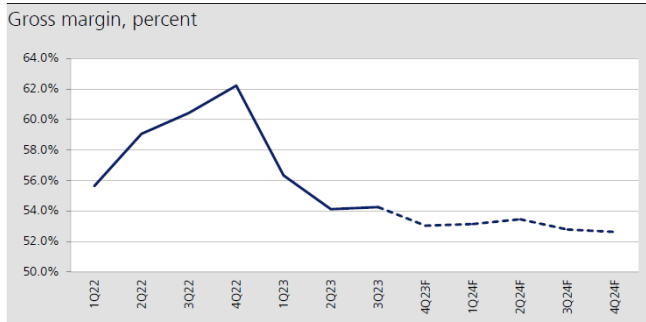
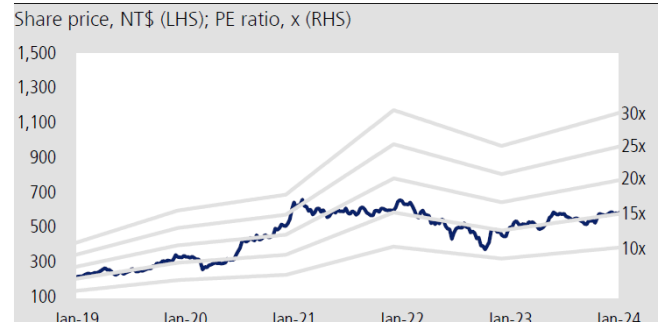
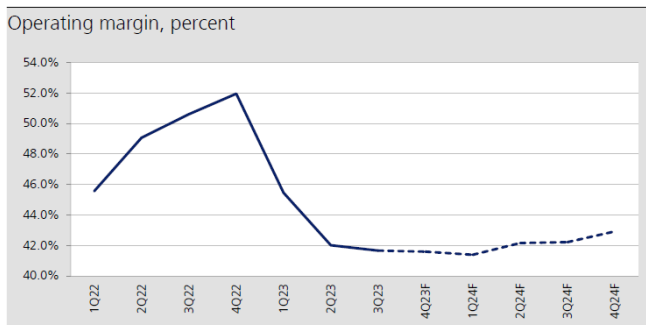
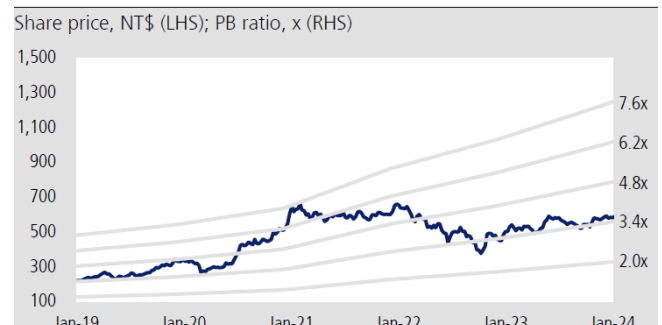
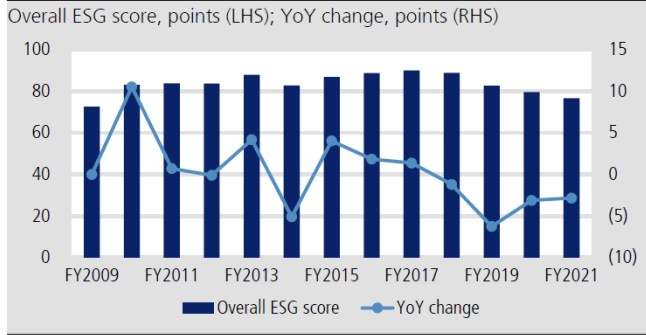
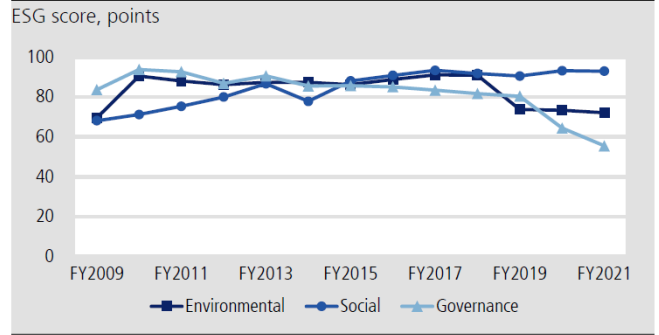
Figure 4: TSMC's wafer revenue by node

Figure 5: Sales

Figure 6: EPS

Figure 7: Gross Margin

Figure 8: 12M forward PE band

Figure 9: Operating Margin

Figure 10: 12M forward PB band


Figure 11: Overall ESG score



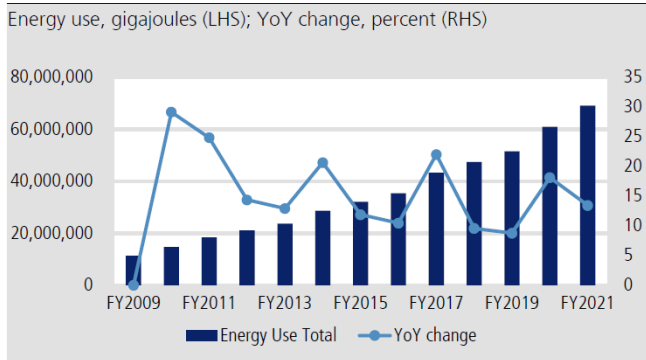
Source: Refinitiv, Company data

Figure 12: ESG score by category



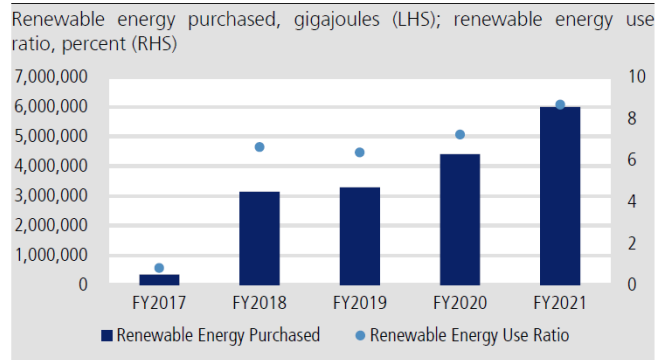
Source: Refinitiv, Company data

Figure 13: Energy use



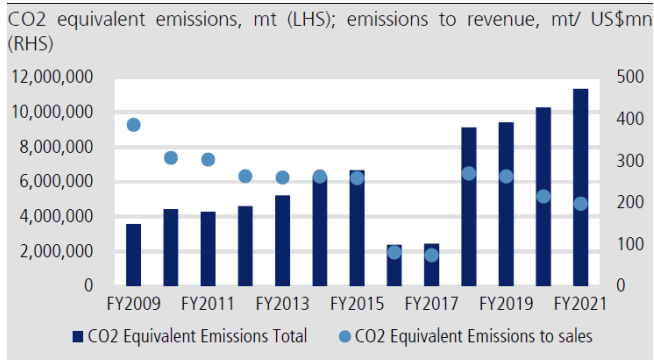
Source: Refinitiv, Company data

Figure 14: Renewable energy



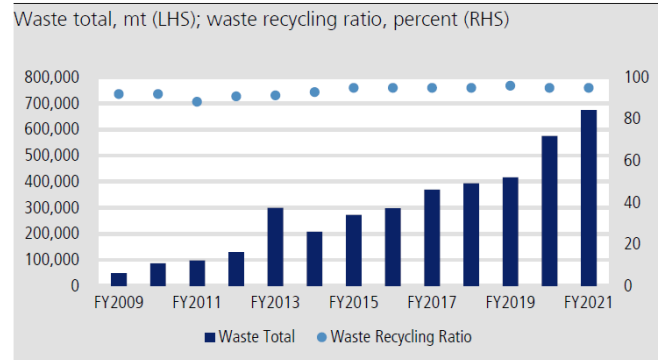
Source: Refinitiv, Company data

Figure 15: CO2 equivalent emissions



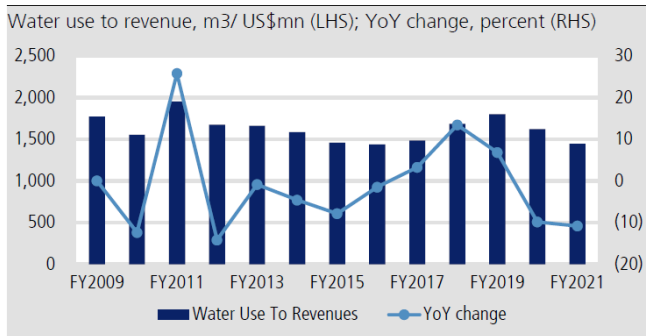
Source: Refinitiv, Company data

Figure 16: Waste total



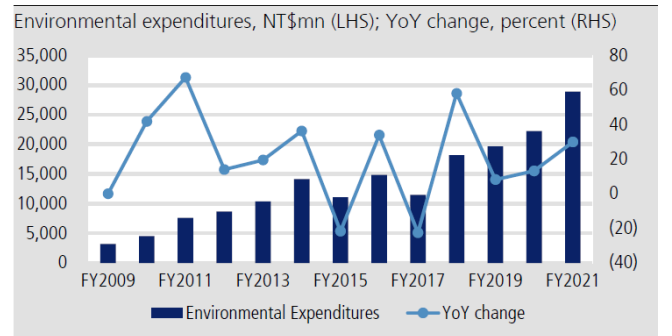
Source: Refinitiv, Company data

Figure 17: Water use to revenue



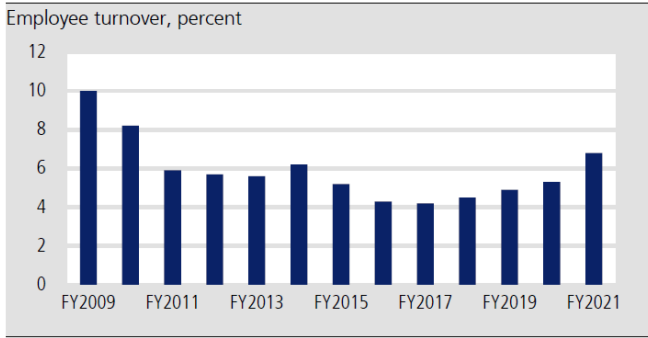
Source: Refinitiv, Company data

Figure 18: Environmental expenditures



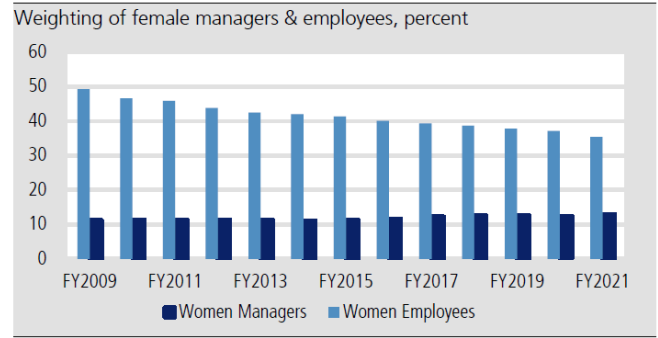
Source: Refinitiv, Company data

Figure 19: Employee turnover



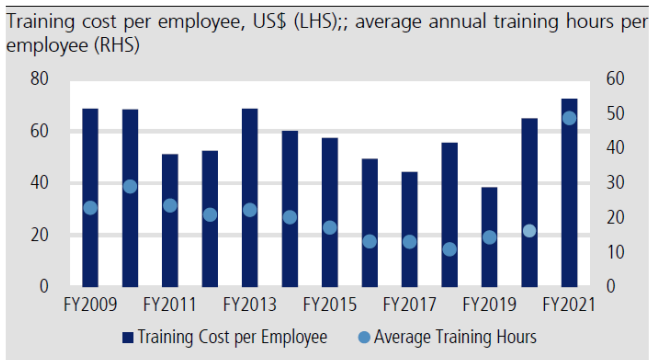
Source: Refinitiv, Company data

Figure 20: Gender diversification



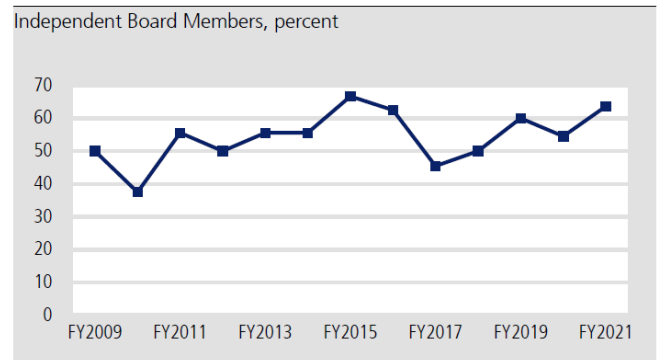
Source: Refinitiv, Company data

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	<p>Total direct and indirect energy consumption in gigajoules.</p> <ul style="list-style-type: none"> - 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	<p>Total primary renewable energy purchased in gigajoules.</p> <ul style="list-style-type: none"> - 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	<p>Direct CO2 and CO2 equivalent emissions in metric tons.</p> <ul style="list-style-type: none"> - 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	<p>Direct CO2 and CO2 equivalent emissions (metric tons) to sales (NT\$m)</p> <ul style="list-style-type: none"> - 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	<p>Total amount of waste produced in metric tons.</p> <ul style="list-style-type: none"> - 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	<p>The waste recycling ratio as reported by the company.</p> <ul style="list-style-type: none"> - 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	<p>Total water withdrawal in cubic meters.</p> <ul style="list-style-type: none"> - 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	<p>Total amount of environmental expenditures.</p> <ul style="list-style-type: none"> - 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	<p>Percentage of employee turnover.</p> <ul style="list-style-type: none"> - 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	<p>Percentage of women managers.</p> <ul style="list-style-type: none"> - 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	<p>Percentage of women employees.</p> <ul style="list-style-type: none"> - 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	<p>Total training hours performed by all employees.</p> <ul style="list-style-type: none"> - 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\$m)											
Revenue	508,633	480,841	546,733	625,529	576,072	615,423	689,801	782,336	2,263,891	2,161,736	2,663,632
Cost of goods sold	(222,133)	(220,641)	(250,090)	(293,761)	(269,933)	(286,425)	(325,745)	(370,610)	(915,536)	(986,625)	(1,252,713)
Gross profit	286,500	260,200	296,642	331,768	306,139	328,997	364,056	411,726	1,348,355	1,175,111	1,410,919
Operating expenses	(55,262)	(58,147)	(68,840)	(71,563)	(67,688)	(69,481)	(72,774)	(75,887)	(227,076)	(253,645)	(285,830)
Operating profit	231,238	202,053	227,802	260,205	238,451	259,516	291,282	335,840	1,121,279	921,466	1,125,089
Depreciation of fixed assets	(108,083)	(121,644)	(144,927)	(85,389)	(141,619)	(162,237)	(182,869)	(163,758)	(428,498)	(460,043)	(650,483)
Amortisation of intangible assets	(2,239)	(2,296)	(2,353)	(1,631)	(2,818)	(3,191)	(3,898)	(3,127)	(8,756)	(8,519)	(13,034)
EBITDA	341,561	325,992	375,083	347,224	382,889	424,943	478,049	502,725	1,558,533	1,390,028	1,788,606
Interest income	13,618	13,672	15,595	15,290	8,000	8,000	8,000	8,000	22,422	58,175	32,000
Investment income	1,111	1,062	1,167	1,315	2,000	2,000	2,000	2,000	8,065	4,655	8,000
Other non-op income	16	310	78	2,271	-	-	-	-	681	2,675	-
Non-operating income	14,745	15,044	16,840	18,876	10,000	10,000	10,000	10,000	31,168	65,505	40,000
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	278,281	247,651	268,716	300,482	345,040	1,144,191	979,171	1,161,889
Current taxation	(37,326)	(32,958)	(31,145)	(39,974)	(37,148)	(40,307)	(45,072)	(51,756)	(127,290)	(141,403)	(174,283)
Minorities	38	82	205	405	405	405	405	405	(370)	729	1,620
Normalised net profit	206,986	181,894	210,737	238,712	210,908	228,814	255,815	293,689	1,016,530	838,498	989,226
Extraordinary items	0	(94)	262	-	-	-	-	-	-	-	-
Net profit	206,987	181,799	211,000	238,712	210,908	228,814	255,815	293,689	1,016,530	838,498	989,226
EPS (NT\$)	7.98	7.01	8.14	9.21	8.13	8.82	9.87	11.33	39.20	32.34	38.15
Margins (%)											
Gross profit margin	56.3	54.1	54.3	53.0	53.1	53.5	52.8	52.6	59.6	54.4	53.0
Operating margin	45.5	42.0	41.7	41.6	41.4	42.2	42.2	42.9	49.5	42.6	42.2
EBITDA margin	67.2	67.8	68.6	55.5	66.5	69.0	69.3	64.3	68.8	64.3	67.1
Pretax profit margin	48.0	44.7	44.2	44.5	43.0	43.7	43.6	44.1	50.5	45.3	43.6
Net profit margin	40.7	37.8	38.6	38.2	36.6	37.2	37.1	37.5	44.9	38.8	37.1
Sequential growth (%)											
Revenue growth	(18.7)	(5.5)	13.7	14.4	(7.9)	6.8	12.1	13.4			
Gross profit growth	(26.4)	(9.2)	14.0	11.8	(7.7)	7.5	10.7	13.1			
Operating profit growth	(28.9)	(12.6)	12.7	14.2	(8.4)	8.8	12.2	15.3			
EBITDA growth	(21.0)	(4.6)	15.1	(7.4)	10.3	11.0	12.5	5.2			
Pretax profit growth	(27.0)	(12.1)	12.5	15.1	(11.0)	8.5	11.8	14.8			
Net profit growth	(30.0)	(12.2)	16.1	13.1	(11.6)	8.5	11.8	14.8			
YoY growth (%)											
Revenue growth	3.6	(10.0)	(10.8)	(0.0)	13.3	28.0	26.2	25.1	42.6	(4.5)	23.2
Gross profit growth	4.9	(17.5)	(19.9)	(14.8)	6.9	26.4	22.7	24.1	64.5	(12.8)	20.1
Operating profit growth	3.3	(22.9)	(26.6)	(19.9)	3.1	28.4	27.9	29.1	72.5	(17.8)	22.1
EBITDA growth	2.0	(13.1)	(9.8)	(19.7)	12.1	30.4	27.5	44.8	45.3	(10.8)	28.7
Pretax profit growth	7.7	(19.3)	(23.7)	(16.8)	1.4	25.1	24.3	24.0	72.5	(14.4)	18.7
Net profit growth	2.1	(23.3)	(24.9)	(19.3)	1.9	25.9	21.2	23.0	70.4	(17.5)	18.0

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	5,648,251	6,384,553
Current assets	1,092,185	1,607,073	2,052,897	2,200,721	2,684,721
Cash & ST securities	791,477	1,188,456	1,561,486	1,645,401	1,998,912
Inventory	137,353	193,102	221,149	263,066	331,885
Accounts receivable	146,038	198,301	231,340	246,013	307,683
Other current assets	17,317	27,214	38,922	46,242	46,242
Non-current assets	1,668,526	2,118,431	2,911,882	3,447,530	3,699,832
LT investments	27,728	29,385	68,928	117,662	125,662
Net fixed assets	1,555,589	1,975,119	2,693,837	2,737,974	2,982,275
Other assets	85,209	113,927	149,117	591,895	591,895
Total liabilities	910,089	1,554,770	2,004,290	2,108,019	2,146,799
Current liabilities	617,151	739,503	944,227	966,316	1,005,095
Accounts payable	41,095	48,723	56,522	73,752	93,045
Interest bearing ST liabilities	91,159	119,488	19,314	7,420	7,420
Other current liabilities	484,897	571,293	868,391	885,144	904,630
Non-current liabilities	292,938	815,267	1,060,063	1,141,703	1,141,703
Long-term debt	256,073	613,380	839,096	909,923	909,923
Other L-T liabilities	16,305	181,123	191,203	204,211	204,211
Total equity	1,850,622	2,170,733	2,960,489	3,540,232	4,237,755
Share capital	259,304	259,304	259,304	259,321	259,321
Retained earnings reserve	1,235,280	1,536,379	2,323,223	3,186,564	3,884,086
Minority interests	965	2,447	14,836	24,468	24,468
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%)	23.2%
Operating profit growth	52.1%	14.7%	72.5%	(17.8%)	22.1%
EBITDA growth	36.2%	19.4%	45.3%	(10.8%)	28.7%
Net profit growth	50.0%	15.2%	70.4%	(17.5%)	18.0%
EPS growth	50.0%	15.2%	70.4%	(17.5%)	18.0%
Profitability					
Gross profit margin	53.1%	51.6%	59.6%	54.4%	53.0%
Operating margin	42.3%	40.9%	49.5%	42.6%	42.2%
EBITDA margin	67.1%	67.6%	68.8%	64.3%	67.1%
Net profit margin	38.7%	37.6%	44.9%	38.8%	37.1%
Return on average assets	20.6%	18.4%	23.4%	15.8%	16.4%
Return on average equity	29.8%	29.7%	39.8%	26.0%	25.6%
Stability					
Gross debt to equity	18.8%	33.8%	29.0%	25.9%	21.6%
Net debt to equity	Net cash	Net cash	Net cash	Net cash	Net cash
Interest coverage (x)	281.9	123.5	98.4	100.1	364.1
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	115.7	485.3
Cash flow/int. & ST debt (x)	8.8	8.9	51.8	66.1	146.2
Current ratio (x)	1.8	2.2	2.2	2.3	2.7
Quick ratio (x)	1.5	1.9	1.9	2.0	2.3
Net debt (NT\$m)	(312,939)	(332,122)	(484,404)	(488,543)	(842,053)
Per share data					
EPS (NT\$)	19.97	23.01	39.20	32.34	38.15
CFPS (NT\$)	31.73	42.89	62.12	44.11	59.90
BVPS (NT\$)	71.33	83.62	113.60	135.59	162.49
Adj BVPS (NT\$)	71.33	83.62	113.60	135.59	162.49
SPS (NT\$)	51.65	61.22	87.31	83.37	102.73
EBITDA/share (NT\$)	34.65	41.36	60.11	53.61	68.98
Cash DPS (NT\$)	10.00	11.00	11.00	11.25	13.50
Activity					
Sales / avg assets	0.53	0.49	0.52	0.41	0.44
Days receivable	39.9	45.6	37.3	41.5	42.3
Days inventory	80.0	91.8	88.2	97.3	97.0
Days payable	23.9	23.2	22.5	27.3	27.2
Cash cycle	96.0	114.2	102.9	111.6	112.1

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	2,663,632
Cost of goods sold	(628,125)	(767,878)	(915,536)	(986,625)	(1,252,713)
Gross profit	711,130	819,537	1,348,355	1,175,111	1,410,919
Operating expenses	(144,346)	(169,556)	(227,076)	(253,645)	(285,830)
Operating profit	566,784	649,981	1,121,279	921,466	1,125,089
Non-operating income	13,272	12,285	31,168	65,505	40,000
Interest income	9,018	5,709	22,422	58,175	32,000
Investment income	4,230	5,965	8,065	4,655	8,000
Other non-op income	23	611	681	2,675	-
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	979,171	1,161,889
Current taxation	(66,619)	(66,053)	(127,290)	(141,403)	(174,283)
Minorities	(273)	(533)	(370)	729	1,620
Extraordinary items	-	0	0	-	-
Net profit	517,885	596,540	1,016,530	838,498	989,226
EBITDA	898,508	1,072,376	1,558,533	1,390,028	1,788,606
EPS (NT\$)	19.97	23.01	39.20	32.34	38.15

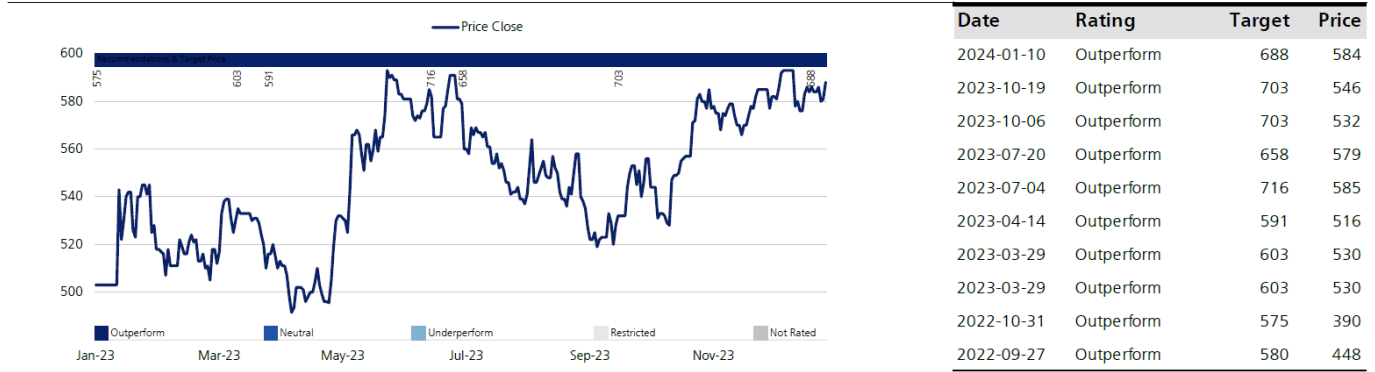
Cash flow

NT\$m	Dec-20A	Dec-21A	Dec-22A	Dec-23F	Dec-24F
Operations cash flow	822,666	1,112,161	1,610,599	1,143,671	1,553,032
Net profit	517,885	596,540	1,016,530	838,498	989,226
Depreciation & amortisation	331,725	422,395	437,254	468,562	663,517
Decrease in working capital	(61,074)	(100,384)	(53,286)	(39,360)	(111,196)
Other operating cash flow	34,130	193,610	210,100	(124,028)	11,486
Investing cash flow	(505,782)	(836,366)	(1,190,928)	(904,957)	(907,819)
Sale of ST investment	49	4,676	(128,838)	(26,234)	-
New investments	-	-	-	-	-
Capital expenditure	(507,239)	(839,196)	(1,082,672)	(910,813)	(907,819)
Others investing cashflow	1,408	(1,846)	20,582	32,089	-
Free cash flow	258,441	59,845	289,078	298,267	587,794
Financing cash flow	(88,615)	136,608	(200,244)	(200,825)	(291,703)
Increase in short term debt	(31,572)	35,668	(111,960)	-	-
Increase in long term loans	206,535	362,765	195,983	58,933	-
New ordinary shares issued	-	-	-	-	-
Ordinary dividends paid	(259,304)	(265,786)	(285,234)	(285,223)	(291,703)
Other financing cashflow	(4,275)	3,961	1,839	25,466	-
Forex effects	(23,498)	(7,584)	58,397	25,183	-
Total cash generated	204,771	404,820	277,824	63,072	353,511

ROIC

	Dec-20A	Dec-21A	Dec-22A	Dec-23F	Dec-24F
1 - COGS/revenue					
- Operating exp./revenue	10.8%	10.7%	10.0%	11.7%	10.7%
= Operating margin	42.3%	40.9%	49.5%	42.6%	42.2%
1 / (Working capital/revenue	(0.2)	(0.1)	(0.2)	(0.2)	(0.1)
+ Net PPE/revenue	1.2	1.2	1.2	1.3	1.1
+ Other assets/revenue)	0.0	0.0	0.0	0.3	0.2
= Capital turnover	1.0	0.9	1.0	0.7	0.8
Operating margin	42.3%	40.9%	49.5%	42.6%	42.2%
x Capital turnover	1.0	0.9	1.0	0.7	0.8
x (1 - tax rate)	88.6%	90.0%	88.9%	85.6%	85.0%
= After-tax ROIC	37.6%	32.9%	43.9%	26.9%	29.3%

Source: Company data, KGI Research estimates

TSMC – Recommendation & target price history


Source: TEJ, KGI Research

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