



TSMC (2330.TW/2330 TT)

Demand stabilizing; healthy recovery in 2024F

FTSE4Good TIP Taiwan ESG Index stock

Outperform · Maintained

Price as of October 19 (NT\$)	546
12M target price (NT\$)	703
Previous target price (NT\$)	703
Unchanged (%)	0.0
Upside (%)	28.8

Key message

The firm highlighted that end demand for smartphones and PCs has stabilized, echoing our view that restocking demand has returned, and could continue into 1Q24F. The company also noted that edge AI development will drive significant silicon content growth, echoing our view that growing adoption of AI in both PC and mobile devices will boost TSMC's wafer revenue.

Trading data

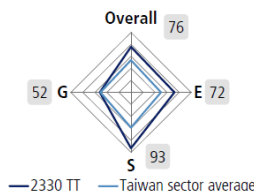
Mkt cap (NT\$/bn/US\$/mn)	14,159/438,041
Outstanding shares (mn)	25,932
Foreign ownership (mn)	18,700
3M avg. daily trading (mn)	16.72
52-week trading range (NT\$)	371.0 - 593

Performance	3M	6M	12M
Absolute (%)	-6	7.1	38.1
Relative (%)	-2.1	2.8	11.3

Quarterly EPS

NT\$	1Q	2Q	3Q	4Q
2022	7.82A	9.14A	10.83A	11.41A
2023	7.98A	7.01A	8.14F	8.16F
2024	7.23F	8.30F	10.52F	13.01F

ESG score card



Source: Refinitiv

Event

TSMC guides 4Q23F sales to reach US\$18.8-19.6bn, implying that 2023F sales will decline less than 10% YoY, which is slightly better than the firm's previous guidance. The firm also said that 2023F capex guidance is US\$32bn, allaying recent market concerns of a downward revision for both sales and capex. In addition, the firm highlighted that end demand for smartphones and PCs has stabilized, echoing our view that restocking demand has returned, and could continue into 1Q24F.

Impact

2023F sales outlook slightly better on stronger N3 demand and FX tailwinds. TSMC guides 4Q23F sales of US\$18.8-19.6bn (up 11.1% QoQ at midpoint), slightly better than our forecast and consensus on stronger N3 demand. The company's 4Q23F gross margin guidance of 51.5-53.5% is in line with our estimate and consensus of a respective 52.0% and 52.3%. We thus revise up 4Q23 sales and EPS by 2.1% and 5.2% to NT\$613.0bn and NT\$8.16, 4.3% and 2.2% ahead of consensus, with gross margin of 52.0%, versus consensus of 52.3%.

Solid 2024F sales growth of 26.1% YoY on multiple drivers. As management believes inventory will return to a healthy level exiting 4Q23F, we reiterate our view that TSMC will capture a meaningful cyclical recovery in 2024F, driven by: (1) smartphone and PC restocking demand and end demand recovery; (2) ongoing silicon content growth in both HPC and 5G applications for some products, such as MediaTek's (2454 TT, NT\$830, OP) Dimensity 7200, 8000, 9000 and 9200, AMD's (US) Genoa server CPU, as well as Apple's (US) new MacBook, iPad and iPhone models, and (3) market share gains from Samsung (KR), as well as outsourcing orders from Intel's (US) CPUs. The company also noted that edge AI development will drive significant silicon content growth, echoing our view that growing adoption of AI in both PC and mobile devices will boost TSMC's wafer revenue. As such, we expect TSMC's 2024F sales and EPS to grow 26.1% and 24.8% YoY to NT\$2,710bn and NT\$39.06, 5.6% and 6.1% ahead of consensus of NT\$2,567bn and NT\$36.83, respectively.

3Q23 results slightly ahead of our estimates & consensus. 3Q23 gross margin came in at 54.3%, above our forecast and consensus of respective 53.2% and 52.9%, mainly due to stronger N3 demand and forex tailwinds. EPS was NT\$8.14, also higher than our estimate and consensus of NT\$7.24 and NT\$7.36, on non-operating income.

Valuation & Action

To factor in better-than-expected 3Q23 results and 4Q23F guidance, we slightly adjust 2023F sales and EPS to NT\$2,149bn (down 5.1% YoY) and NT\$31.29 (down 20.2% YoY), versus consensus of NT\$2,112bn and NT\$30.27, and maintain our 2024F forecasts largely unchanged. We believe that downward earnings revisions have run their course, and expect upward earnings revisions in the coming months. Shares are trading at respective 2023-24F PE of 17x and 14x, versus a five-year average of 16-17x. We keep our target price of NT\$703 (based on 18x 2024F EPS) unchanged. Maintain Outperform.

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	2,149,194	2,709,617
Gross profit (NT\$mn)	711,130	819,537	1,348,355	1,162,059	1,486,667
Operating profit (NT\$mn)	566,784	649,981	1,121,279	908,257	1,171,777
Net profit (NT\$mn)	517,885	596,540	1,016,530	811,382	1,012,896
EPS (NT\$)	19.97	23.01	39.20	31.29	39.06
Cash DPS (NT\$)	10.00	11.00	11.00	12.00	13.00
EPS growth (%)	50.0	15.2	70.4	(20.2)	24.8
PE (x)	27.3	23.7	13.9	17.4	14.0
PB (x)	7.7	6.5	4.8	4.1	3.4
EV/EBITDA (x)	15.2	12.7	8.6	9.1	7.2
Net debt to equity (%)	Net cash	Net cash	Net cash	Net cash	Net cash
Dividend yield (%)	1.8	2.0	2.0	2.2	2.4
Return on average equity (%)	29.8	29.7	39.8	25.3	26.5

Source: Company data, KGI Research estimates

Figure 1: Breakdown of 3Q23 results & 4Q23 forecast revisions vs. consensus

NT\$m	3Q23										4Q23F					
	Actual	KGI forecast	Diff. (%)	QoQ (%)	YoY (%)	Guidance (Mid-point)	Diff. (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	QoQ (%)	YoY (%)	Consensus	Diff. (%)
Revenue	546,733	546,303	0.1	13.7	(10.8)	526,680	3.8	537,341	1.7	612,987	600,662	2.1	12.1	(2.0)	587,871	4.3
Gross profit	296,643	290,817	2.0	14.0	(19.9)	276,507	7.3	284,103	4.4	318,716	312,093	2.1	7.4	(18.1)	307,480	3.7
Operating profit	228,065	218,979	4.1	12.9	(26.5)	205,405	11.0	216,606	5.3	246,996	234,908	5.1	8.3	(24.0)	235,838	4.7
Net profit	211,000	187,659	12.4	16.1	(24.9)			190,401	10.8	211,597	201,199	5.2	0.3	(28.5)	206,581	2.4
EPS (NT\$)	8.14	7.24	12.4	16.1	(24.9)			7.36	10.6	8.16	7.76	5.2	0.3	(28.5)	7.99	2.2
Gross margin (%)	54.3	53.2	1.0 ppts	0.1 ppts	(6.2)ppts	52.5	1.8 ppts	52.9	1.4 ppts	52.0	52.0	0.0 ppts	(2.3)ppts	(10.2)ppts	52.3	(0.3)ppts
OP margin (%)	41.7	40.1	1.6 ppts	(0.3)ppts	(8.9)ppts	39.0	2.7 ppts	40.3	1.4 ppts	40.3	39.1	1.2 ppts	(1.4)ppts	(11.7)ppts	40.1	0.2 ppts
Net margin (%)	38.6	34.4	4.2 ppts	0.8 ppts	(7.2)ppts			35.4	3.2 ppts	34.5	33.5	1.0 ppts	(4.1)ppts	(12.8)ppts	35.1	(0.6)ppts

Source: Company data, 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	2,149,194	2,136,439	0.6	(5.1)	2,111,542	1.8	2,709,617	2,699,401	0.4	26.1	2,566,763	5.6		
Gross profit	1,162,059	1,149,610	1.1	(13.8)	1,135,820	2.3	1,486,667	1,481,651	0.3	27.9	1,373,500	8.2		
Operating profit	908,257	887,082	2.4	(19.0)	884,930	2.6	1,171,777	1,167,978	0.3	29.0	1,088,504	7.7		
Net profit	811,382	777,643	4.3	(20.2)	783,787	3.5	1,012,896	1,012,830	0.0	24.8	951,822	6.4		
EPS (NT\$)	31.29	29.99	4.3	(20.2)	30.27	3.4	39.06	39.06	0.0	24.8	36.83	6.1		
Gross margin (%)	54.1	53.8	0.3 ppts	(5.5)ppts	53.8	0.3 ppts	54.9	54.9	(0.0)ppts	0.8 ppts	53.5	1.4 ppts		
OP margin (%)	42.3	41.5	0.7 ppts	(7.3)ppts	41.9	0.4 ppts	43.2	43.3	(0.0)ppts	1.0 ppts	42.4	0.8 ppts		
Net margin (%)	37.8	36.4	1.4 ppts	(7.1)ppts	37.1	0.6 ppts	37.4	37.5	(0.1)ppts	(0.4)ppts	37.1	0.3 ppts		

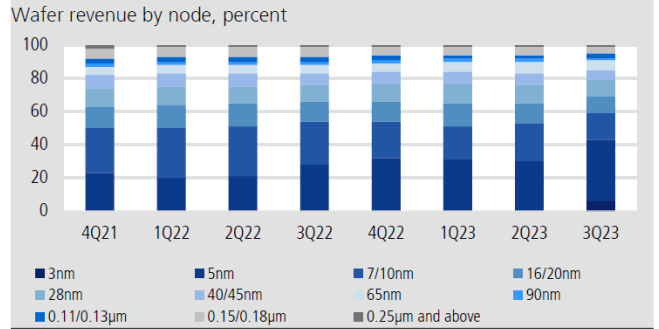
Source: Bloomberg, KGI Research estimates

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.

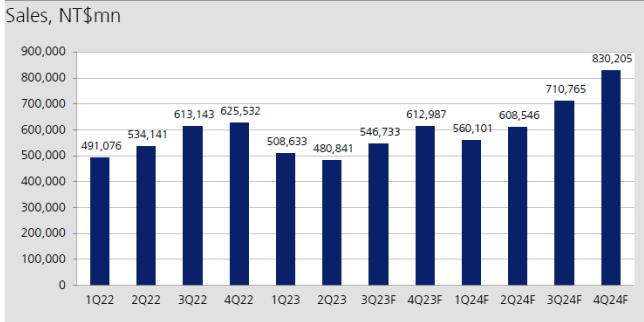
Source: Company data, KGI Research

Figure 4: TSMC's wafer revenue by node



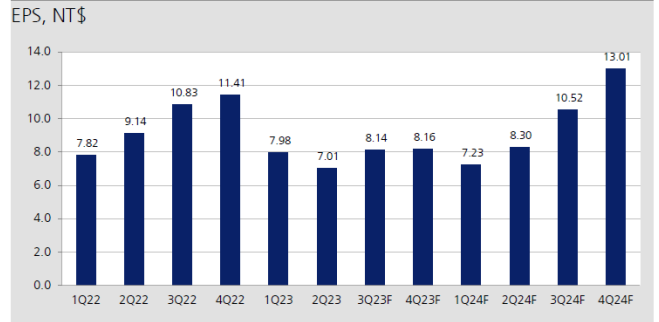
Source: Company data, KGI Research

Figure 5: Sales



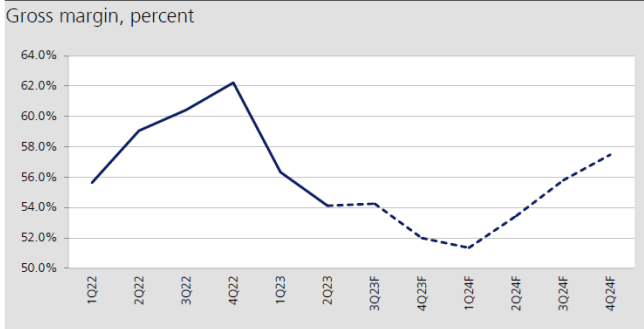
Source: KGI Research

Figure 6: EPS



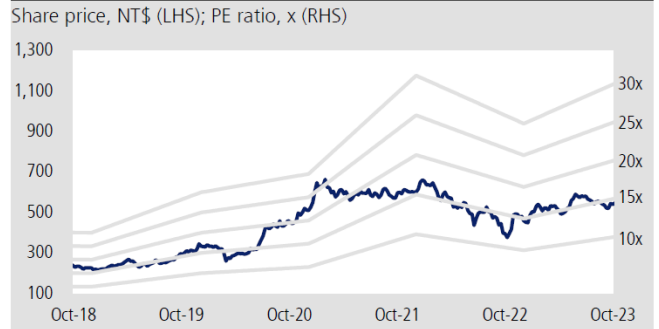
Source: KGI Research

Figure 7: Gross Margin



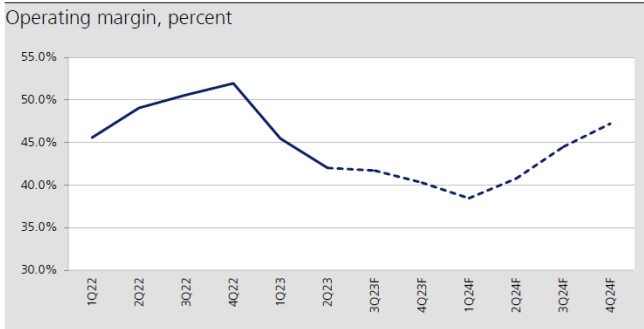
Source: KGI Research

Figure 8: 12M forward PE band



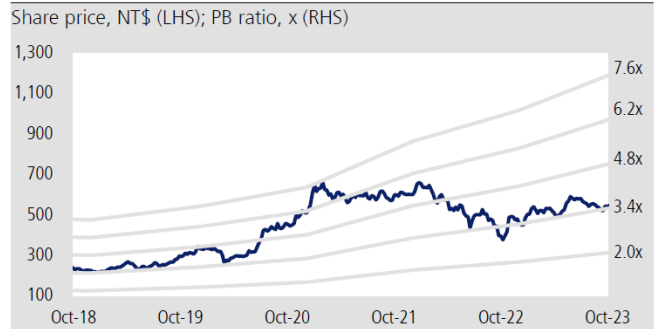
Source: TEJ, KGI Research estimates

Figure 9: Operating Margin



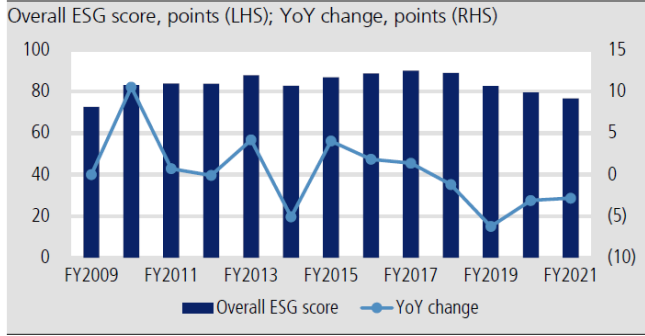
Source: KGI Research

Figure 10: 12M forward PB band



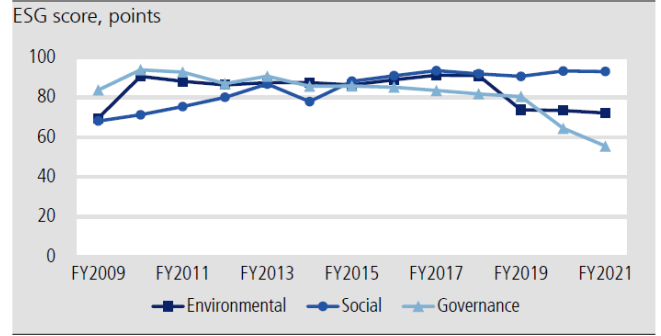
Source: TEJ, KGI Research estimates

Figure 11: Overall ESG score



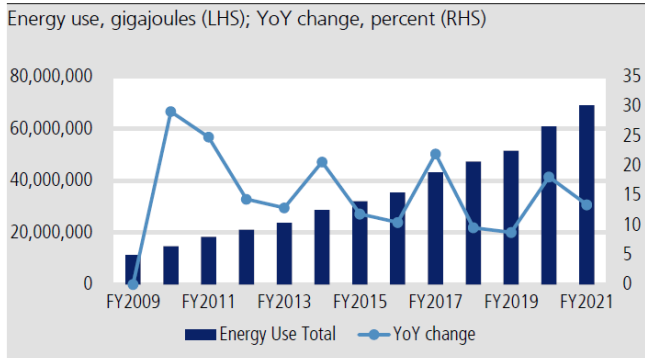
Source: Refinitiv, Company data

Figure 12: ESG score by category



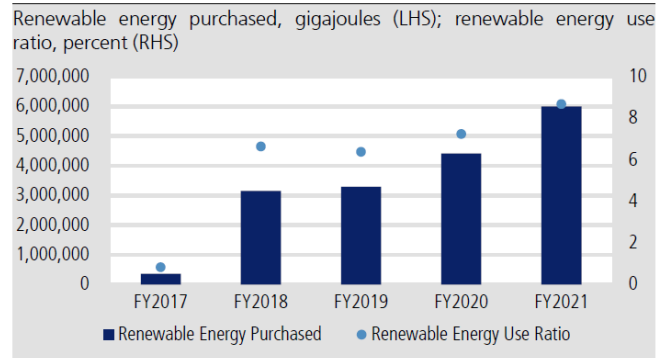
Source: Refinitiv, Company data

Figure 13: Energy use



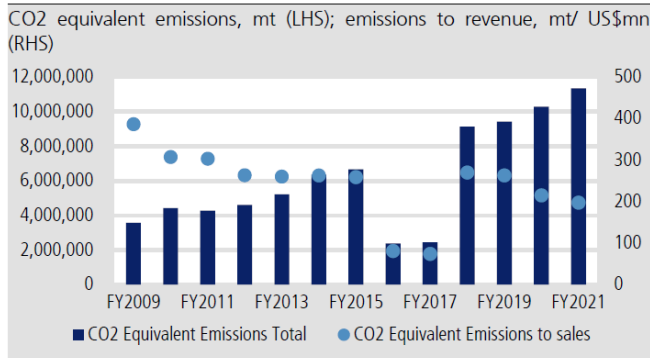
Source: Refinitiv, Company data

Figure 14: Renewable energy



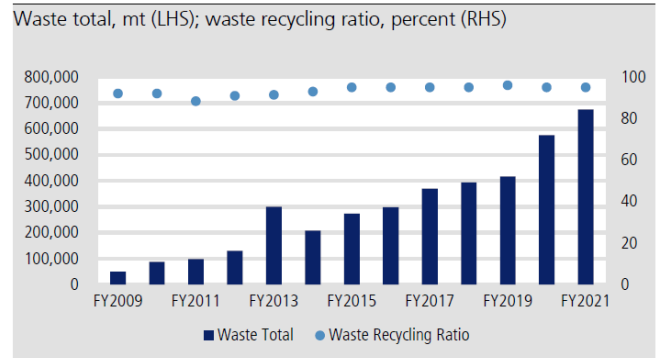
Source: Refinitiv, Company data

Figure 15: CO2 equivalent emissions



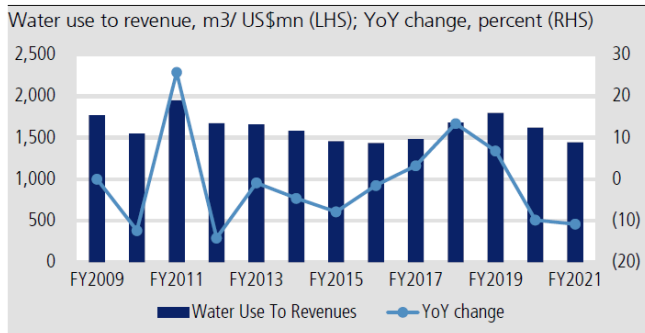
Source: Refinitiv, Company data

Figure 16: Waste total



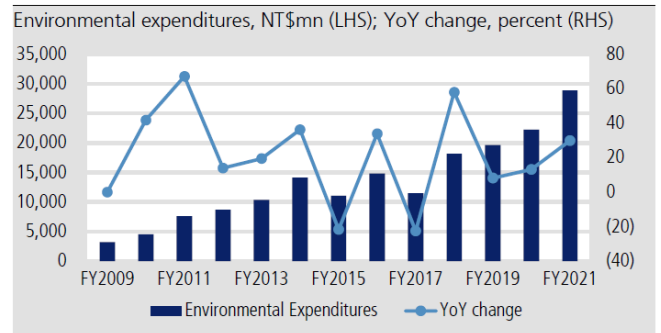
Source: Refinitiv, Company data

Figure 17: Water use to revenue



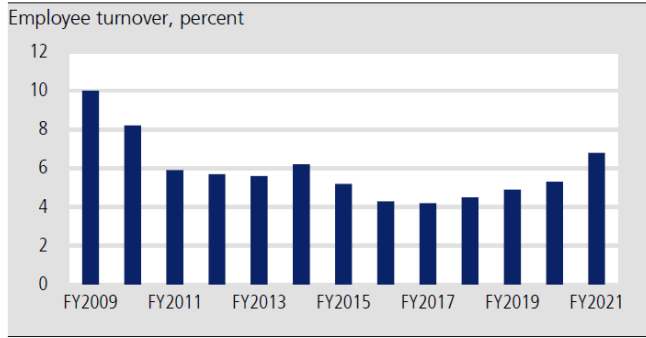
Source: Refinitiv, Company data

Figure 18: Environmental expenditures



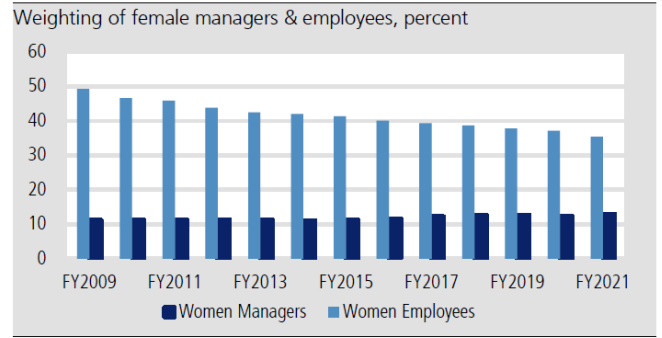
Source: Refinitiv, Company data

Figure 19: Employee turnover



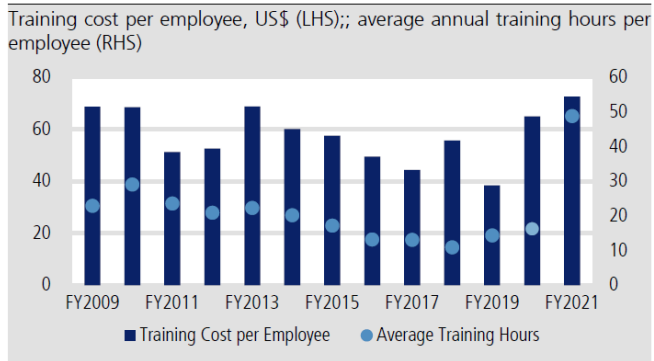
Source: Refinitiv, Company data

Figure 20: Gender diversification



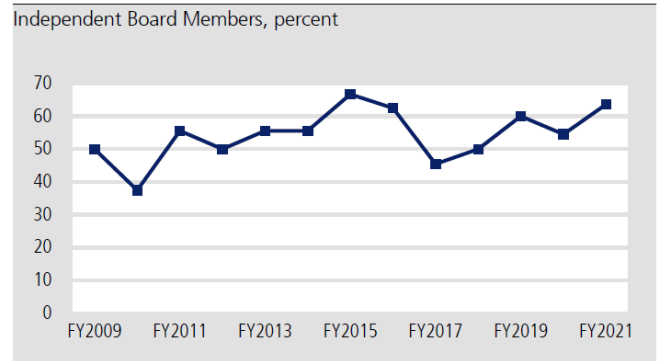
Source: Refinitiv, Company data

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	<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\$mn)</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; Company data, KGI Research

Income statement

	Quarterly								Annually		
	Mar-23A	Jun-23A	Sep-23F	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	612,987	560,101	608,546	710,765	830,205	2,263,891	2,149,194	2,709,617
Cost of goods sold	(222,133)	(220,641)	(250,090)	(294,271)	(272,497)	(283,284)	(314,175)	(352,994)	(915,536)	(987,135)	(1,222,950)
Gross profit	286,500	260,200	296,643	318,716	287,604	325,262	396,590	477,211	1,348,355	1,162,059	1,486,667
Operating expenses	(55,262)	(58,147)	(68,578)	(71,720)	(72,253)	(77,224)	(80,316)	(85,096)	(227,076)	(253,802)	(314,890)
Operating profit	231,238	202,053	228,065	246,996	215,351	248,037	316,273	392,115	1,121,279	908,257	1,171,777
Depreciation of fixed assets	(108,083)	(121,644)	(175,485)	(146,780)	(152,388)	(156,488)	(160,618)	(155,042)	(428,498)	(551,993)	(624,536)
Amortisation of intangible assets	(2,239)	(2,296)	(3,740)	(2,803)	(3,033)	(3,078)	(3,423)	(2,961)	(8,756)	(11,078)	(12,494)
EBITDA	341,561	325,992	407,290	396,580	370,772	407,603	480,315	550,118	1,558,533	1,471,328	1,808,808
Interest income	13,618	13,672	13,283	1,000	3,800	3,800	3,300	3,200	22,422	41,573	14,100
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	225	-	-	-	-	-	681	551	-
Non-operating income	14,745	15,044	14,675	2,500	5,800	5,800	5,300	5,200	31,168	46,963	22,100
Interest expense	(2,964)	(3,005)	(800)	(800)	(800)	(800)	(800)	(800)	(11,750)	(7,569)	(3,200)
Investment loss	-	-	-	-	-	-	-	-	-	-	-
Other non-op expenses	1,256	678	-	-	-	-	-	-	3,494	1,934	-
Non-operating expenses	(1,708)	(2,327)	(800)	(800)	(800)	(800)	(800)	(800)	(8,256)	(5,635)	(3,200)
Pre-tax profit	244,275	214,769	241,940	248,696	220,351	253,037	320,773	396,515	1,144,191	949,586	1,190,677
Current taxation	(37,326)	(32,958)	(31,145)	(37,304)	(33,053)	(37,956)	(48,116)	(59,477)	(127,290)	(138,733)	(178,602)
Minorities	38	82	205	205	205	205	205	205	(370)	530	820
Normalised net profit	206,986	181,894	211,000	211,597	187,504	215,287	272,862	337,243	1,016,530	811,382	1,012,896
Extraordinary items	0	(94)	-	-	-	-	-	-	-	-	-
Net profit	206,987	181,799	211,000	211,597	187,504	215,287	272,862	337,243	1,016,530	811,382	1,012,896
EPS (NT\$)	7.98	7.01	8.14	8.16	7.23	8.30	10.52	13.01	39.20	31.29	39.06
Margins (%)											
Gross profit margin	56.3	54.1	54.3	52.0	51.3	53.4	55.8	57.5	59.6	54.1	54.9
Operating margin	45.5	42.0	41.7	40.3	38.4	40.8	44.5	47.2	49.5	42.3	43.2
EBITDA margin	67.2	67.8	74.5	64.7	66.2	67.0	67.6	66.3	68.8	68.5	66.8
Pretax profit margin	48.0	44.7	44.3	40.6	39.3	41.6	45.1	47.8	50.5	44.2	43.9
Net profit margin	40.7	37.8	38.6	34.5	33.5	35.4	38.4	40.6	44.9	37.8	37.4
Sequential growth (%)											
Revenue growth	(18.7)	(5.5)	13.7	12.1	(8.6)	8.6	16.8	16.8			
Gross profit growth	(26.4)	(9.2)	14.0	7.4	(9.8)	13.1	21.9	20.3			
Operating profit growth	(28.9)	(12.6)	12.9	8.3	(12.8)	15.2	27.5	24.0			
EBITDA growth	(21.0)	(4.6)	24.9	(2.6)	(6.5)	9.9	17.8	14.5			
Pretax profit growth	(27.0)	(12.1)	12.7	2.8	(11.4)	14.8	26.8	23.6			
Net profit growth	(30.0)	(12.2)	16.1	0.3	(11.4)	14.8	26.7	23.6			
YoY growth (%)											
Revenue growth	3.6	(10.0)	(10.8)	(2.0)	10.1	26.6	30.0	35.4	42.6	(5.1)	26.1
Gross profit growth	4.9	(17.5)	(19.9)	(18.1)	0.4	25.0	33.7	49.7	64.5	(13.8)	27.9
Operating profit growth	3.3	(22.9)	(26.5)	(24.0)	(6.9)	22.8	38.7	58.8	72.5	(19.0)	29.0
EBITDA growth	2.0	(13.1)	(2.0)	(8.3)	8.6	25.0	17.9	38.7	45.3	(5.6)	22.9
Pretax profit growth	7.7	(19.3)	(23.6)	(25.7)	(9.8)	17.8	32.6	59.4	72.5	(17.0)	25.4
Net profit growth	2.1	(23.3)	(24.9)	(28.5)	(9.4)	18.4	29.3	59.4	70.4	(20.2)	24.8

Source: Company data, KGI Research estimates

Balance sheet

NTSmn	Dec-20A	Dec-21A	Dec-22A	Dec-23F	Dec-24F
Total assets	2,760,711	3,725,503	4,964,779	5,430,794	6,162,172
Current assets	1,092,185	1,607,073	2,052,897	2,110,407	2,632,727
Cash & ST securities	791,477	1,188,456	1,561,486	1,561,157	1,945,460
Inventory	137,353	193,102	221,149	263,523	316,110
Accounts receivable	146,038	198,301	231,340	241,080	326,509
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	3,320,386	3,529,445
LT investments	27,728	29,385	68,928	97,277	105,277
Net fixed assets	1,555,589	1,975,119	2,693,837	2,822,055	3,023,114
Other assets	85,209	113,927	149,117	401,054	401,054
Total liabilities	910,089	1,554,770	2,004,290	1,945,335	1,974,967
Current liabilities	617,151	739,503	944,227	812,167	841,800
Accounts payable	41,095	48,723	56,522	73,880	88,623
Interest bearing ST liabilities	91,159	119,488	19,314	8,126	8,126
Other current liabilities	484,897	571,293	868,391	730,162	745,051
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 LT liabilities	16,305	181,123	191,203	225,846	225,846
Total equity	1,850,622	2,170,733	2,960,489	3,485,459	4,187,204
Share capital	259,304	259,304	259,304	259,321	259,321
Retained earnings reserve	1,235,280	1,536,379	2,323,223	3,139,525	3,841,270
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%	(5.1%)	26.1%
Operating profit growth	52.1%	14.7%	72.5%	(19.0%)	29.0%
EBITDA growth	36.2%	19.4%	45.3%	(5.6%)	22.9%
Net profit growth	50.0%	15.2%	70.4%	(20.2%)	24.8%
EPS growth	50.0%	15.2%	70.4%	(20.2%)	24.8%
Profitability					
Gross profit margin	53.1%	51.6%	59.6%	54.1%	54.9%
Operating margin	42.3%	40.9%	49.5%	42.3%	43.2%
EBITDA margin	67.1%	67.6%	68.8%	68.5%	66.8%
Net profit margin	38.7%	37.6%	44.9%	37.8%	37.4%
Return on average assets	20.6%	18.4%	23.4%	15.6%	17.5%
Return on average equity	29.8%	29.7%	39.8%	25.3%	26.5%
Stability					
Gross debt to equity	18.8%	33.8%	29.0%	26.1%	21.7%
Net debt to equity	Net cash	Net cash	Net cash	Net cash	Net cash
Interest coverage (x)	281.9	123.5	98.4	126.5	373.1
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	161.6	479.2
Cash flow/int. & ST debt (x)	8.8	8.9	51.8	77.9	135.4
Current ratio (x)	1.8	2.2	2.2	2.6	3.1
Quick ratio (x)	1.5	1.9	1.9	2.3	2.8
Net debt (NT\$mn)	(312,939)	(332,122)	(484,404)	(439,913)	(824,217)
Per share data					
EPS (NT\$)	19.97	23.01	39.20	31.29	39.06
CFPS (NT\$)	31.73	42.89	62.12	47.18	59.14
BVPS (NT\$)	71.33	83.62	113.60	133.78	160.84
Adj BVPS (NT\$)	71.33	83.62	113.60	133.78	160.84
SPS (NT\$)	51.65	61.22	87.31	82.89	104.50
EBITDA/share (NT\$)	34.65	41.36	60.11	56.74	69.76
Cash DPS (NT\$)	10.00	11.00	11.00	12.00	13.00
Activity					
Sales / avg assets	0.53	0.49	0.52	0.41	0.47
Days receivable	39.9	45.6	37.3	40.9	44.1
Days inventory	80.0	91.8	88.2	97.4	94.6
Days payable	23.9	23.2	22.5	27.3	26.5
Cash cycle	96.0	114.2	102.9	111.1	112.2

Source: Company data, KGI Research estimates

Profit & loss

NTSmn	Dec-20A	Dec-21A	Dec-22A	Dec-23F	Dec-24F
Revenue	1,339,255	1,587,415	2,263,891	2,149,194	2,709,617
Cost of goods sold	(628,125)	(767,878)	(915,536)	(987,135)	(1,222,950)
Gross profit	711,130	819,537	1,348,355	1,162,059	1,486,667
Operating expenses	(144,346)	(169,556)	(227,076)	(253,802)	(314,890)
Operating profit	566,784	649,981	1,121,279	908,257	1,171,777
Non-operating income	13,272	12,285	31,168	46,963	22,100
Interest income	9,018	5,709	22,422	41,573	14,100
Investment income	4,230	5,965	8,065	4,840	8,000
Other non-op income	23	611	681	551	-
Non-operating expenses	4,722	860	(8,256)	(5,635)	(3,200)
Interest expense	(2,081)	(5,414)	(11,750)	(7,569)	(3,200)
Investment loss	-	-	-	-	-
Other non-op expenses	6,803	6,275	3,494	1,934	-
Pre-tax profit	584,777	663,126	1,144,191	949,586	1,190,677
Current taxation	(66,619)	(66,053)	(127,290)	(138,733)	(178,602)
Minorities	(273)	(533)	(370)	530	820
Extraordinary items	-	0	0	-	-
Net profit	517,885	596,540	1,016,530	811,382	1,012,896
EBITDA	898,508	1,072,376	1,558,533	1,471,328	1,808,808
EPS (NT\$)	19.97	23.01	39.20	31.29	39.06

Cash flow

NTSmn	Dec-20A	Dec-21A	Dec-22A	Dec-23F	Dec-24F
Operations cash flow	822,666	1,112,161	1,610,599	1,223,326	1,533,543
Net profit	517,885	596,540	1,016,530	811,382	1,012,896
Depreciation & amortisation	331,725	422,395	437,254	563,071	637,031
Decrease in working capital	(61,074)	(100,384)	(53,286)	(34,757)	(123,273)
Other operating cash flow	34,130	193,610	210,100	(116,371)	6,890
Investing cash flow	(505,782)	(836,366)	(1,190,928)	(988,585)	(838,090)
Sale of ST investment	49	4,676	(128,838)	(13,567)	-
New investments	-	-	-	-	-
Capital expenditure	(507,239)	(839,196)	(1,082,672)	(1,010,060)	(838,090)
Others investing cashflow	1,408	(1,846)	20,582	35,042	-
Free cash flow	258,441	59,845	289,078	282,738	659,184
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	5,110	384,304

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%	11.6%
= Operating margin	42.3%	40.9%	49.5%	42.3%	43.2%
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	0.1
= Capital turnover	1.0	0.9	1.0	0.7	0.8
Operating margin	42.3%	40.9%	49.5%	42.3%	43.2%
x Capital turnover	1.0	0.9	1.0	0.7	0.8
x (1 - tax rate)	88.6%	90.0%	88.9%	85.4%	85.0%
= After-tax ROIC	37.6%	32.9%	43.9%	26.1%	30.4%

Source: Company data, KGI Research estimates

TSMC – Recommendation & target price history


Date	Rating	Target	Price
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
2022-07-14	Outperform	600	475

Source: TEJ, KGI Research

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