

Taiwan Semiconductor Manufacturing Co.

Embracing stronger 2024 recovery with AI demand and tech leadership

Reiterate Rating: BUY | PO: 760.00 TWD | Price: 588.00 TWD

Stronger 2024 outlook; solid 4Q earnings/1Q guidance

We reiterate Buy on TSMC, eyeing the stronger AI demand and client engagements on N3/N2, reflected by the solid capex budget of US\$28-32bn in 2024. We think its valuation is attractive at 15x/12x 2024/25E P/E, vs historical 10-26x. In our view, the stock is set to re-rate with foundry recovery and TSMC's share increase. 4Q results and 1Q/2024 outlook are solid, despite the short-lived GPM drag in 2H24 caused by N5-to-N3 capacity conversion. TSMC reaffirmed its tech leadership despite market concerns. We lift 23E by 1% factoring in 4Q results.

Expects to outperform industry and grow 20%+ in 2024

TSMC expects the foundry industry to recover 20% YoY, above our 14% estimates, with a healthier inventory and the low base of 2023. TSMC guides to outperform the industry with revenue rising in the low-to-mid 20s % YoY in 2024. N3 revenue accounted for 6% in 2023 and TSMC expects it to more than triple in 2024. TSMC reaffirms its technology leadership with N2 on track for volume production and BPD technology ready in 2H25, with wide client engagement. Despite no comments on IDM opportunities, we believe the comment above and the robust capex budget in 2024, for N3 and N2 expansion, could bode well. As for mature nodes, TSMC expects the GPM to be around corporate average despite an industry oversupply, with its differentiated offerings and long-term partnerships. TSMC reaffirms its L-T target of 15-20% revenue CAGR with 53%+ GPM.

More robust AI and advanced packaging demand

Management lifts the server AI contribution guidance to reach high-teens % or higher in 2027, vs previous low-teens %, as the forecasts have upgraded over the past few months by clients, which request TSMC to increase capacity for both front- and back-end. Advanced packaging capacity likely remains tight with continuous demand increase. We expect CoWoS capacity to increase to 30-35k/40-45k in late-2024/25. Besides, thanks to NPU additions, TSMC sees increasing semi content for smartphones and PCs.

Estimates (Dec) (NT\$)	2021A	2022A	2023E	2024E	2025E
Net Income (Adjusted - mn)	596,540	1,016,530	838,498	1,012,777	1,251,331
EPS	23.0	39.2	32.3	39.1	48.3
EPS Change (YoY)	15.2%	70.4%	-17.5%	20.8%	23.6%
Dividend / Share	11.00	11.00	13.00	14.25	15.50
Free Cash Flow / Share	10.5	20.4	11.3	29.8	38.1
ADR EPS (US\$)	4.12	6.58	5.11	6.18	7.63
ADR Dividend / Share (US\$)	1.97	1.85	2.06	2.25	2.45
Valuation (Dec)					
P/E	25.6x	15.0x	18.2x	15.1x	12.2x
Dividend Yield	1.9%	1.9%	2.2%	2.4%	2.6%
EV / EBITDA*	13.7x	9.5x	10.1x	8.1x	6.6x
Free Cash Flow Yield*	1.8%	3.5%	1.9%	5.1%	6.5%

* For full definitions of *IQmethod*SM measures, see page 15.

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Refer to important disclosures on page 16 to 19. Analyst Certification on page 13. Price Objective Basis/Risk on page 13.

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Timestamp: 18 January 2024 08:36AM EST

18 January 2024

Equity

Key Changes

(NT\$)	Previous	Current
2023E EPS	31.99	32.33
2023E EBITDA (m)	1,448,162	1,453,656
2024E EBITDA (m)	1,796,303	1,815,748
2025E EBITDA (m)	2,200,640	2,222,376

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Stock Data

Price (Common / ADR)	588.00 TWD / 102.95 USD
Price Objective	760.00 TWD / 130.00 USD
Date Established	3-Oct-2023 / 15-Jan-2024
Investment Opinion	B-1-7 / B-1-7
52-Week Range	489.00 TWD-594.00 TWD
Market Value (mn)	482,274 USD
Market Value (mn)	15,248,058 TWD
Shares Outstanding (mn)	25,932.1 / 5,186.4
Average Daily Value (mn)	515.09 USD
Free Float	92.0%
BofA Ticker / Exchange	TSMWF / TAI
BofA Ticker / Exchange	TSM / NYS
Bloomberg / Reuters	2330 TT / 2330.TW
ROE (2023E)	26.2%
Net Dbt to Eqty (Dec-2022A)	-23.7%

Global Semis: TSMC 4Q results readacross for Global semis 18 Jan 2024

Exhibit 1: Acronyms

Acronyms and the corresponding full names

Acronym	Full name
AI	Artificial Intelligence
BPD	Backside Power Delivery
CoWoS	Chip-on-Wafer-on-Substrate
GPM	Gross Profit Margin
IDM	Integrated Device Manufacturer
L-T	Long Term
N2/N3/N5	2/3/5-nanometer
NPU	Neural Processing Unit

Source: BofA Global Research

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iQprofileSM Taiwan Semiconductor Manufacturing Co.

Key Income Statement Data (Dec)

(NT\$ Millions)

	2021A	2022A	2023E	2024E	2025E
Sales	1,587,415	2,263,891	2,161,736	2,664,058	3,211,612
Gross Profit	819,537	1,348,355	1,175,111	1,416,741	1,757,467
Sell General & Admin Expense	(44,488)	(63,445)	(71,464)	(71,471)	(88,075)
Operating Profit	649,981	1,121,279	921,466	1,139,030	1,421,088
Net Interest & Other Income	13,145	22,912	57,705	53,649	52,397
Associates	NA	NA	NA	NA	NA
Pretax Income	663,126	1,144,191	979,171	1,192,679	1,473,485
Tax (expense) / Benefit	(66,053)	(127,290)	(141,403)	(180,820)	(223,118)
Net Income (Adjusted)	596,540	1,016,530	838,498	1,012,777	1,251,331
Average Fully Diluted Shares Outstanding	25,930	25,931	25,932	25,932	25,932

Key Cash Flow Statement Data

Net Income	596,540	1,016,530	838,498	1,012,777	1,251,331
Depreciation & Amortization	422,395	437,254	532,190	676,719	801,287
Change in Working Capital	(110,281)	(64,994)	(37,713)	(16,116)	(56,612)
Deferred Taxation Charge	NA	NA	NA	NA	NA
Other Adjustments, Net	203,507	221,809	(91,009)	34,299	(9,494)
Cash Flow from Operations	1,112,161	1,610,599	1,241,967	1,707,679	1,986,512
Capital Expenditure	(839,196)	(1,082,672)	(949,817)	(935,430)	(999,421)
(Acquisition) / Disposal of Investments	4,400	(130,522)	(108,194)	(1,313)	(82)
Other Cash Inflow / (Outflow)	(1,570)	22,266	151,890	(2,051)	316
Cash Flow from Investing	(836,366)	(1,190,928)	(906,120)	(938,794)	(999,187)
Shares Issue / (Repurchase)	0	0	0	0	0
Cost of Dividends Paid	(259,304)	(285,238)	(285,248)	(337,117)	(369,532)
Cash Flow from Financing	136,608	(200,244)	(204,894)	(341,980)	(369,263)
Free Cash Flow	272,965	527,927	292,150	772,249	987,091
Net Debt	(455,588)	(703,075)	(759,439)	(1,196,612)	(1,814,743)
Change in Net Debt	(13,970)	(135,238)	(60,981)	(431,768)	(617,793)

Key Balance Sheet Data

Property, Plant & Equipment	1,975,119	2,693,837	3,064,475	3,423,802	3,622,964
Other Non-Current Assets	143,312	218,045	273,863	272,633	272,897
Trade Receivables	198,301	231,340	201,938	208,388	224,037
Cash & Equivalents	1,188,456	1,561,486	1,687,645	2,119,956	2,738,355
Other Current Assets	220,316	260,071	304,450	322,296	372,589
Total Assets	3,725,503	4,964,779	5,532,371	6,347,075	7,230,843
Long-Term Debt	613,380	839,096	918,913	914,824	915,219
Other Non-Current Liabilities	201,887	220,967	216,612	431,449	489,950
Short-Term Debt	119,488	19,314	9,293	8,519	8,393
Other Current Liabilities	620,015	924,913	904,290	920,940	938,824
Total Liabilities	1,554,770	2,004,290	2,049,108	2,275,733	2,352,386
Total Equity	2,170,733	2,960,489	3,483,263	4,071,342	4,878,457
Total Equity & Liabilities	3,725,503	4,964,779	5,532,371	6,347,075	7,230,843

iQmethodSM - Bus Performance*

Return On Capital Employed	22.1%	28.5%	19.4%	20.2%	21.5%
Return On Equity	29.7%	39.8%	26.2%	27.0%	28.1%
Operating Margin	40.9%	49.5%	42.6%	42.8%	44.2%
EBITDA Margin	67.6%	68.8%	67.2%	68.2%	69.2%

iQmethodSM - Quality of Earnings*

Cash Realization Ratio	1.9x	1.6x	1.5x	1.7x	1.6x
Asset Replacement Ratio	2.0x	2.5x	1.8x	1.4x	1.2x
Tax Rate (Reported)	10.0%	11.1%	14.4%	15.2%	15.1%
Net Debt-to-Equity Ratio	-21.0%	-23.7%	-21.8%	-29.4%	-37.2%
Interest Cover	NM	NM	NM	NM	NM

Key Metrics

* For full definitions of iQmethodSM measures, see page 15.

Company Sector

Semiconductors

Company Description

TSMC was founded in 1987 and is listed in Taiwan (2330TT) and the US (TSM/NYS). TSMC is the largest and global leader in integrated circuit (IC) manufacturing. As a build-to-order foundry, it provides a wide range of value-add activities: IC manufacturing, mask-making, IC design services, turnkey solutions, and process development. We attribute its success to its proven, winning business model, unparalleled scale advantage, optimized execution, and technology scope and depth. 5 shares = 1 ADR.

Investment Rationale

The ongoing semi content growth in mobile, rise of artificial intelligence (AI), and proliferation of Internet of Things (IoT) should result in sustainable upside in aggregate computing power globally. TSMC, as the leading contract manufacturer of semiconductor chips, is in a good position to capitalize. We are structurally positive on TSMC and expect it to sustain over 15% growth with rising FCF and dividends during 2021-25E.

Stock Data

Shares / ADR	5.00
Price to Book Value	4.4x

Key Changes

(US\$)	Previous	Current
2023E EPS	5.06	5.11

Embracing stronger 2024 recovery with AI demand and tech leadership

Solid 4Q23 earnings with better OPM

4Q23 net income of NT\$239bn (EPS 9.21) was 4%/6% ahead of BofAe/consensus estimate, thanks to a better OPM (operating profit margin) and higher interest income. The 4Q gross margin of 53% contracted 120bp/920bp QoQ/YoY, mainly due to the dilution on N3 ramp. Its operating margin of 41.6% beat its previous guidance of 39.5-41.5%, benefiting from operating leverage on higher revenue.

In 4Q, advanced nodes (N7 and below) accounted for 67% of wafer revenue in 4Q23, reflecting TSMC's strong technology leadership. On a full-year basis, advanced technologies accounted for 58% in 2023 (N3: 6%), up from 53% in 2022. By platform, HPC (high-performance computing), smartphone and automotive grew 17%/27%/13% QoQ, while IoT (internet of things)/DCE (digital consumer electronics) were down by 29%/35% QoQ.

Exhibit 2: 4Q23 results review

4Q EPS beat by 4%/6% vs BofA/consensus estimates with better OPM and higher interest income

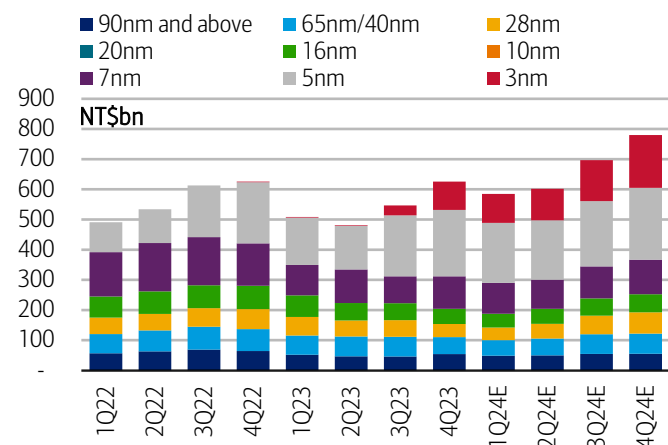
NT\$bn	4Q22	3Q23	4Q23	QoQ %	YoY %	BofAe	Diff	Consensus	Diff
Revenue	626	547	626	14.4%	0.0%	626	0.0%	619	1.0%
Gross profit	389	297	332	11.8%	-14.8%	333	-0.3%	329	0.9%
Gross margin	62.2%	54.3%	53.0%	-1.2 ppt	-9.2 ppt	53.2%	-0.2 ppt	53.1%	-0.1 ppt
Opt income	325	228	260	14.1%	-19.9%	258	0.7%	255	2.0%
Opt margin	52.0%	41.7%	41.6%	-0.1 ppt	-10.4 ppt	41.3%	+0.3 ppt	41.2%	+0.4 ppt
Pretax income	335	242	278	15.0%	-16.8%	270	3.0%	265	4.9%
Pretax margin	53.5%	44.3%	44.5%	+0.2 ppt	-9 ppt	43.2%	+1.3 ppt	42.9%	+1.6 ppt
Net income	296	211	239	13.1%	-19.3%	230	3.9%	225	6.0%
EPS (NT\$)	11.41	8.14	9.21	13.1%	-19.3%	8.86	3.9%	8.68	6.0%

Source: BofA Global Research estimates, company data, Bloomberg

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Exhibit 3: Revenue by technology node

3nm to be a key driver throughout 2024

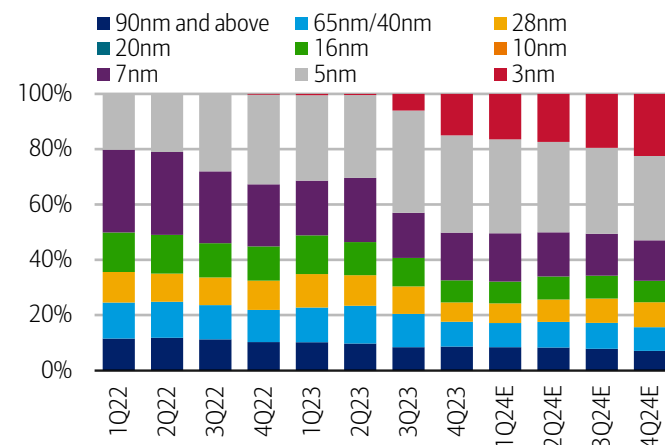


Source: BofA Global Research estimates, company data

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Exhibit 4: Revenue % by technology node

We expect expanding 3nm mix into 2024

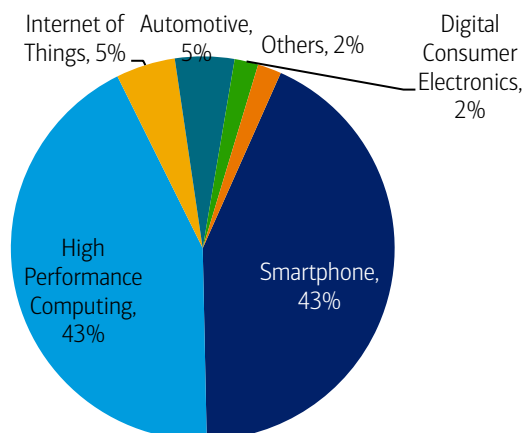


Source: BofA Global Research estimates, company data

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Exhibit 5: TSMC's revenue mix by platform - 4Q23

Smartphone, HPC and automotive were stronger areas with 27%, 17% and 13% QoQ revenue growth, respectively



Source: Company data

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1Q guidance: revenue in-line, GPM ahead

TSMC guided 1Q24 revenue to be in the range of US\$18.0-18.8bn, implying a 6% QoQ decrease at the mid-point of guidance. Assuming the USD/NTD FX (foreign exchange rate) at 31.1, it expects gross/operating margin in the range of 52-54%/40-42%. The margins are relatively flat QoQ, as management expects the less favorable FX to be offset by a product mix change (lower smartphone mix) in 2024.

Exhibit 6: 1Q24 guidance vs prior BofAe/consensus

1Q revenue guidance in-line, while margin guidance is better than expected

	1Q24 guidance	QoQ	Prior BofAe	Consensus
Sales	US\$18.0-18.8bn	Down 4-8% QoQ	Down 6%	Down 7%
GPM	52-54%	Down 1 to up 1 ppt	51.5%	51.2%
OPM	40-42%	Down 1.6 to up 0.4 ppt	40.7%	40.0%
FX(USD/NTD)	31.1			

Source: BofA Global Research, company data, Bloomberg

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Strong 2024 outlook fueled by advanced node/HPC

Management guided 2024 company revenue to grow by low-20% to mid-20% YoY in US\$ terms off a low 2023 base, driven by N3 ramp, solid demand for N5, and robust AI demand. It is confident to outgrow the semi ex-memory and foundry industry, with growth rates at 10%+ and ~20% YoY in 2024, respectively. Quarterly revenue is guided to grow sequentially throughout the year. By platform, it expects HPC to see a much higher growth rate vs the corporate average level, while other platforms are expected to grow as well. On the gross margin side, TSMC indicated two negative factors in 2H24, including 1) 3-4ppt margin dilution due to a higher N3 volume; and 2) 1-2ppt one-off margin dilution due to N5-to-N3 tool conversion. Long-term targets remain unchanged, such as 1) 15-20% revenue CAGR in US\$ terms; 2) 53%+ GPM; and 3) steadily rising cash DPS policy (new minimum level of NT\$3.5 on a quarterly basis).

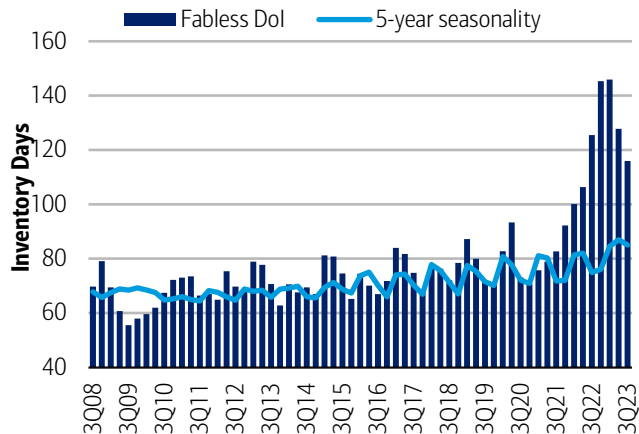
Inventory less of an issue

TSMC's DoI (days of inventory) dropped to 85, as of end-4Q, from 3Q's 96, thanks to the higher N3 wafer shipments. The company states that fabless DoI returned to a healthier

level exiting 2023 but stays cautious on future consumer sentiment and end demand, as macro weakness and geopolitical uncertainties persist.

Exhibit 7: Fabless DoI vs. 5-year seasonality, 3Q08-3Q23

Fabless DoI was 29 days above the seasonal level in 3Q23

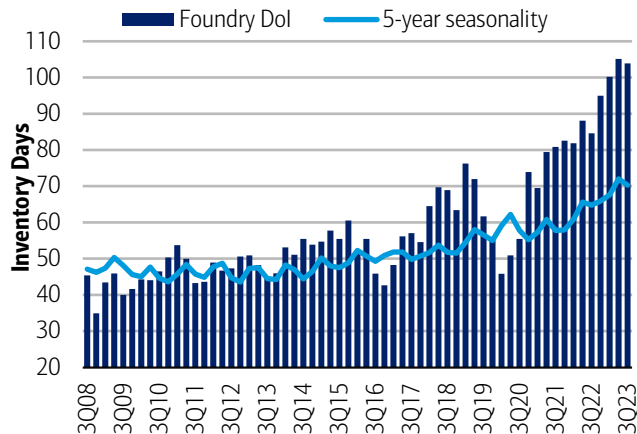


Source: BofA Global Research, company data, Bloomberg

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Exhibit 8: Foundry DoI vs. 5-year seasonality, 3Q08-3Q23

Foundry DoI was 34 days above the seasonal level in 3Q23

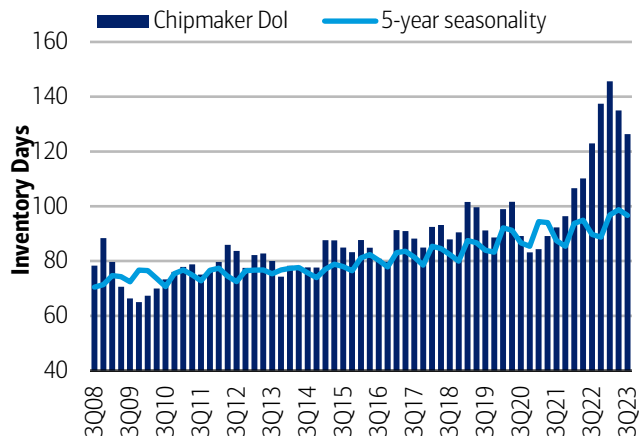


Source: BofA Global Research, company data, Bloomberg

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Exhibit 9: Chipmaker DoI vs. 5-year seasonality, 3Q08-3Q23

Chipmakers' DoI trended 29 days above the seasonal level in 3Q23

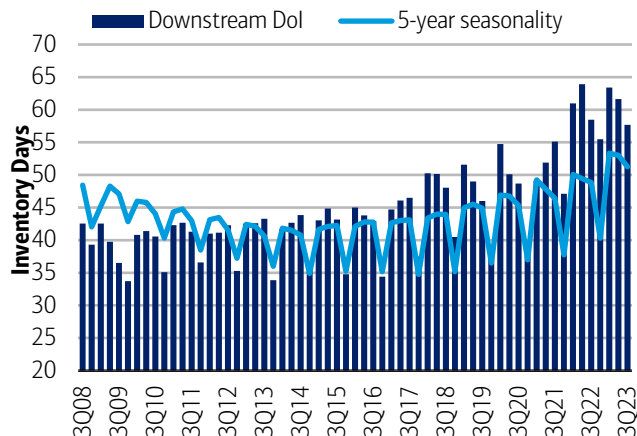


Source: BofA Global Research, company data, Bloomberg

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Exhibit 10: Downstream DoI vs. 5-year seasonality, 3Q08-3Q23

Downstream DoI was 6 days above the seasonal level in 3Q23



Source: BofA Global Research, company data, Bloomberg

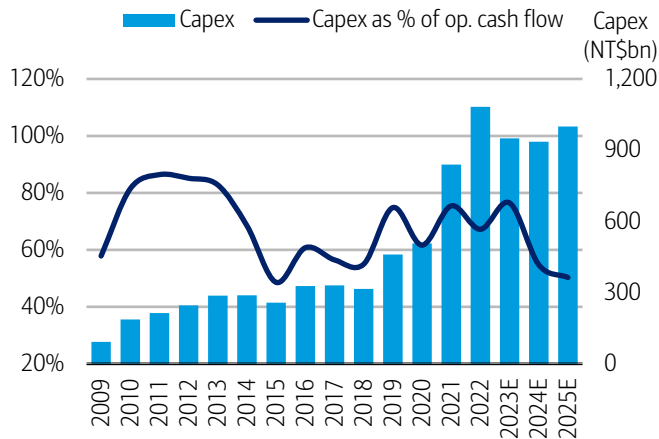
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2024 capex at US\$28-32bn, better than feared

TSMC's 2023 capex came in at US\$30.4bn, lower than previous guidance of US\$32bn, as it continued to tighten its spendings. Looking into 2024, its capex target is in the range of US\$28-32bn, flattish YoY at the mid-point, which we believe is better-than-feared vs the recent market speculations of the US\$25-26bn level. Further breakdown of the 2024 capex includes 70-80% for advanced process development, 10-20% for specialty technology and ~10% for advanced packaging, testing, mask making, and others. With the continuous ramp-up of N3 technology, depreciation amount is guided to go up by close to 30% in 2024, while the capital intensity is expected to remain at mid-30% levels in the next few years vs the implied ~35% in 2024.

Exhibit 11: Capex as % of operating cash flow

TSMC guided 2024 capex to be US\$28-32bn

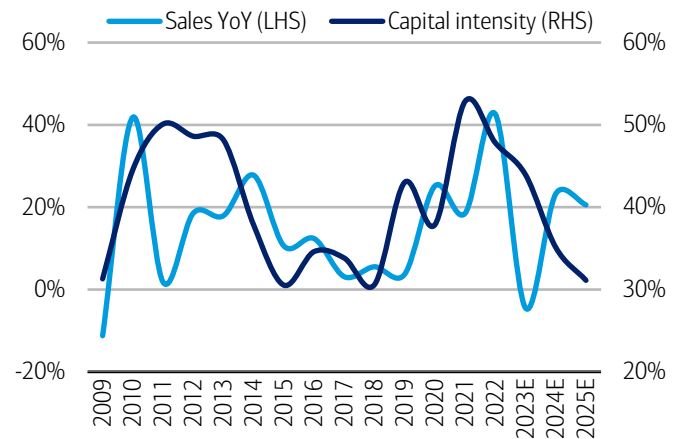


Source: BofA Global Research estimates, company data

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Exhibit 12: Capital intensity vs. sales YoY

We expect capital intensity to decrease to 30-35% levels in 2024-25

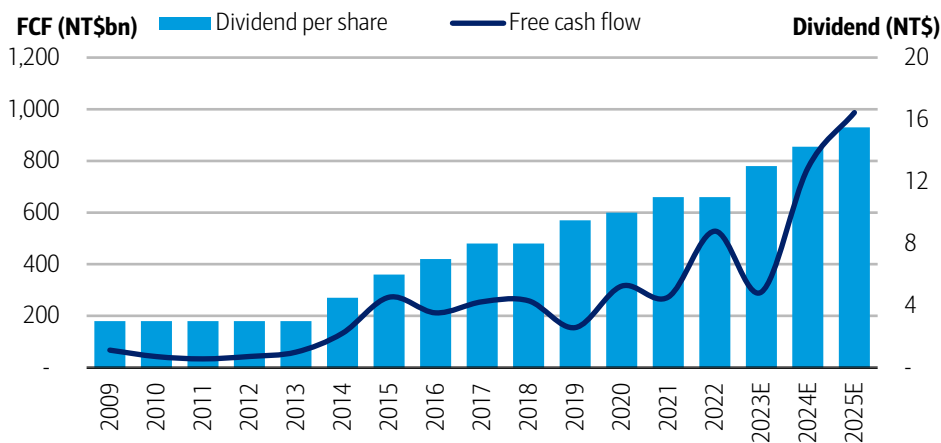


Source: BofA Global Research estimates, company data

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Exhibit 13: Free cash flow (FCF) and dividend trend, 2007-24E

DPS likely on an increasing trend over 2024-25E along with FCF increases



Source: BofA Global Research estimates, TEJ, company data

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Strong and reaffirmed confidence in technology leadership

While Intel reiterates its goal to achieve five nodes in four years to catch up with TSMC, TSMC reaffirmed its confidence in technology leadership of advanced nodes, citing its N3P (high-performance variant in the N3 family) process demonstrates comparable PPA (Power, Performance, Area) vs Intel's 18A process and that its N2 process without backside power is even more advanced than N3P/18A. Timing-wise, N3P is ahead of 18A, while N2 without/with backside power nodes are on track for volume production in 2025/26. TSMC also states that for N2 it has engaged with all the clients globally, except for one. TSMC expects the N3 family revenue contribution to more than triple YoY in 2024, vs a 6% mix of 2023 revenue. Net-net, TSMC remains extremely competitive in leading-edge foundry, and we do not expect to see any material share shift to Intel.

AI: higher than expected demand

Management raised guidance of the cloud AI contribution, and now expects it to reach high-teens (or higher) % of revenue in 2027, vs low-teens earlier, as the clients' demand forecasts have grown over the past few months. Clients, thus, request TSMC to raise capacity for both front and back-end.

Besides cloud AI chips (GPU [graphic processing unit], ASIC [application-specific integrated circuit]), TSMC shared its latest observations on the growing client activities on end-device AI. TSMC has seen clients add neural engines into their SoC (System-on-Chip) to enable AI functions in smartphones and PCs. Thus, the die size is likely to enlarge. We believe the neural engine size will get bigger over time to offer stronger AI functions. According to the firm, some projects on end-devices have already begun and TSMC expects more clients to follow suit.

Bright advanced packaging outlook with strong expansions

TSMC reaffirmed the robust advanced packaging demand momentum, with ongoing undersupply situation and continuously growing demand into 2025. During the call, management committed to further expanding the advanced packaging capacity in 2025. We now expect the CoWoS capacity to increase to 30-35k/month by end-2024, and to hit 40-45k in 2025. Its guidance on more than 50% CAGR for CoWoS, 3D IC, and SoIC (System-on-Integrated-Chip) businesses in the next few years seems brighter than expected. In addition, the firm indicates that it has been developing next-gen CoWoS technologies, which are welcome by its clients.

Continuous global footprint expansions

As for overseas expansion, TSMC is determined to expand its global footprint and gain customer trust. Thus, the global expansions will continue, supported by customer demand and government support. Its Japan site will focus on specialty technology of 12/16 and 22/28nm, and start mass production in 4Q24. On the US side, it will start N4 production in 1H25. The Germany fab, specialized in automotive and industrial, will start construction in 4Q24. On top of those, TSMC will continue to invest in leading-edge technology in Taiwan, with N2 fabs in Hsinchu and Kaohsiung along with its Taichung fab expansion on track.

Exhibit 14: BofAe vs. consensus, 2023-25E

Our 2024/25 EPS estimates are 4%/4% ahead of consensus on better revenue assumptions

NT\$bn	2023E			2024E			2025E		
	BofA	Consensus	Diff	BofA	Consensus	Diff	BofA	Consensus	Diff
Revenue	2,162	2,155	0.3%	2,664	2,625	1.5%	3,212	3,141	2.3%
Gross profit	1,175	1,172	0.3%	1,417	1,394	1.6%	1,757	1,709	2.9%
Gross margin	54.4%	54.4%	0.0ppt	53.2%	53.1%	0.1ppt	54.7%	54.4%	0.3ppt
Opt income	921	916	0.6%	1,139	1,104	3.2%	1,421	1,368	3.9%
Opt margin	42.6%	42.5%	0.1ppt	42.8%	42.0%	0.7ppt	44.2%	43.6%	0.7ppt
Pretax income	979	965	1.5%	1,193	1,142	4.4%	1,473	1,418	3.9%
Pretax margin	45.3%	44.8%	0.5ppt	44.8%	43.5%	1.3ppt	45.9%	45.2%	0.7ppt
Net income	838	824	1.7%	1,013	971	4.3%	1,251	1,208	3.6%
EPS (NT\$)	32.33	31.79	1.7%	39.05	37.44	4.3%	48.25	46.59	3.6%

Source: BofA Global Research estimates, Bloomberg

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Exhibit 15: Earnings estimate changes, 2023-25E

We lift our 2023E EPS slightly after factoring in 4Q actual numbers and keep 2024/25E estimates largely unchanged

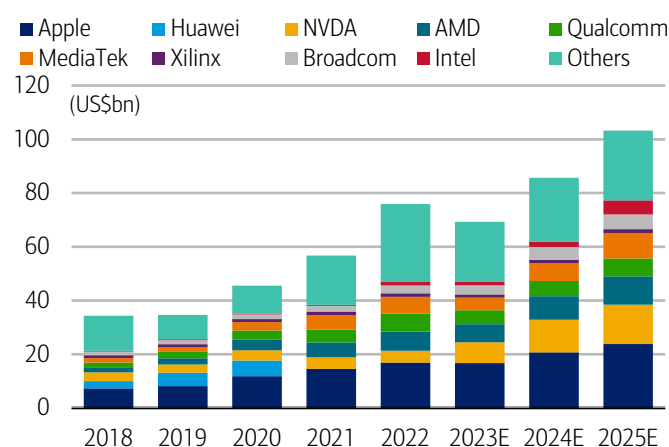
NT\$bn	2023E			2024E			2025E		
	New	Old	Diff	New	Old	Diff	New	Old	Diff
Revenue	2,162	2,162	0.0%	2,664	2,664	0.0%	3,212	3,210	0.0%
Gross profit	1,175	1,176	-0.1%	1,417	1,421	-0.3%	1,757	1,763	-0.3%
GPM	54.4%	54.4%	0.0ppt	53.2%	53.3%	-0.2ppt	54.7%	54.9%	-0.2ppt
Opt income	921	920	0.2%	1,139	1,144	-0.4%	1,421	1,426	-0.4%
Opt margin	42.6%	42.5%	0.1ppt	42.8%	43.0%	-0.2ppt	44.2%	44.4%	-0.2ppt
Pretax income	979	971	0.8%	1,193	1,194	-0.1%	1,473	1,474	-0.1%
Pretax margin	45.3%	44.9%	0.4ppt	44.8%	44.8%	0.0ppt	45.9%	45.9%	0.0ppt
Net income	838	829	1.1%	1,013	1,013	0.0%	1,251	1,251	0.0%
EPS (NT\$)	32.33	31.99	1.1%	39.05	39.05	0.0%	48.25	48.25	0.0%

Source: BofA Global Research estimates

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Exhibit 16: Revenue mix by customer

TSMC's 2024 sales to be mainly supported by major customers' growth

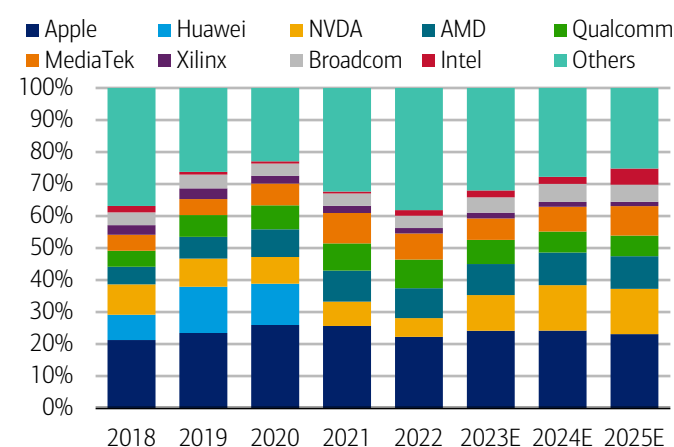


Source: BofA Global Research estimates, company data

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Exhibit 17: Revenue mix % by customer

Major customers contribute ~70% of total revenue for TSMC

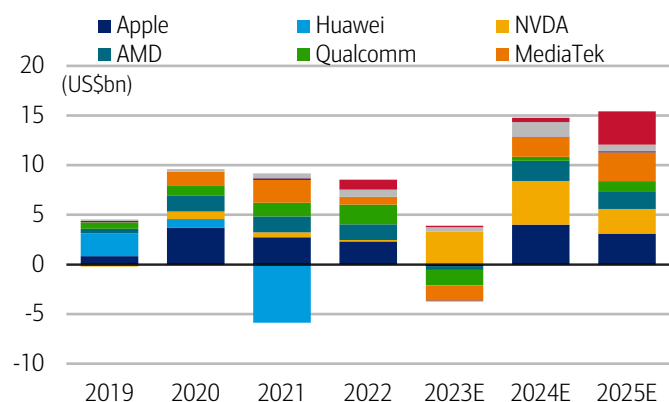


Source: BofA Global Research estimates, company data

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Exhibit 18: Incremental revenue from key customers

We expect incremental revenue across all key customers in 2024

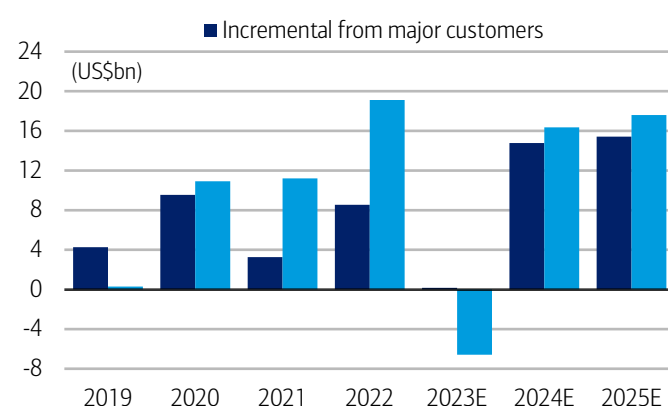


Source: BofA Global Research estimates, company data

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Exhibit 19: Incremental revenue - from key customers vs overall

Key clients' incremental revenue to be supportive to TSMC '24 sales rebound

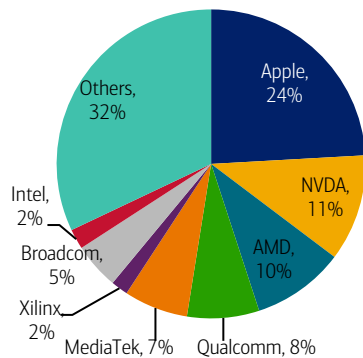


Source: BofA Global Research estimates, company data

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Exhibit 20: 2023E customer revenue mix

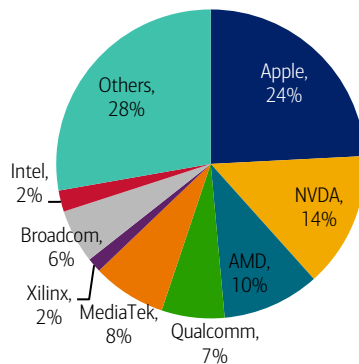
We expect NVDA/AMD and QCOM/MTK to contribute 10-11% and 7-8% revenue in 2023



Source: BofA Global Research estimates, company data
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Exhibit 21: 2024E customer revenue mix

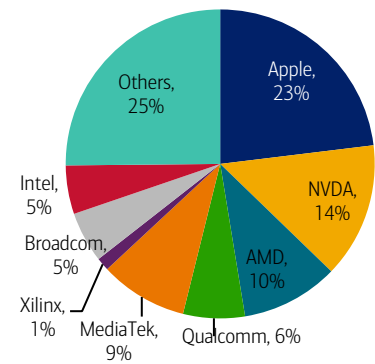
We expect NVDA's revenue contribution to expand to 14% in 2024



Source: BofA Global Research estimates, company data
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Exhibit 22: 2025E customer revenue mix

We expect Intel's revenue contribution to expand to 5% in 2025



Source: BofA Global Research estimates, company data
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Exhibit 23: Earnings model, 2022-25E

We now model 23% YoY revenue increase in 2024 in NT\$ terms (or 24% YoY in US\$ terms)

(NT\$bn, %)	1Q23	2Q23	3Q23	4Q23	1Q24E	2Q24E	3Q24E	4Q24E	2022	2023E	2024E	2025E
Revenues	509	481	547	626	585	602	697	780	2,264	2,162	2,664	3,212
Cost of Sales	-222	-221	-250	-294	-275	-286	-328	-359	-916	-987	-1,247	-1,454
Gross Profit	287	260	297	332	310	316	369	421	1,348	1,175	1,417	1,757
Operating Expenses	-55	-58	-69	-72	-68	-64	-70	-76	-227	-254	-278	-336
Operating Income	231	202	228	260	242	253	300	345	1,121	921	1,139	1,421
Non-operating Income (Exp)	13	13	14	18	13	13	14	14	23	58	54	52
Pretax Income	244	215	242	278	254	266	314	359	1,144	979	1,193	1,473
Net tax	-37	-33	-31	-40	-39	-41	-48	-53	-127	-141	-181	-223
Net Income	207	182	211	239	216	225	266	306	1,017	838	1,013	1,251
Fully Diluted EPS - Local (NT\$)	8.0	7.0	8.1	9.2	8.3	8.7	10.3	11.8	39.2	32.3	39.1	48.3
% of Revenue												
Gross Profit	56.3	54.1	54.3	53.0	53.0	52.5	53.0	54.0	59.6	54.4	53.2	54.7
Operating Expenses	-10.9	-12.1	-12.5	-11.4	-11.7	-10.6	-10.0	-9.8	-10.0	-11.7	-10.4	-10.5
Operating Income	45.5	42.0	41.7	41.6	41.3	42.0	43.0	44.3	49.5	42.6	42.8	44.2
Pretax Income	48.0	44.6	44.3	44.5	43.5	44.2	45.0	46.0	50.5	45.3	44.8	45.9
Net Income	40.7	37.8	38.6	38.2	36.9	37.4	38.2	39.2	44.9	38.8	38.0	39.0
QoQ Growth %												
Revenues	-18.7	-5.5	13.7	14.4	-6.5	2.9	15.8	11.9				
Gross Profit	-26.4	-9.2	14.0	11.8	-6.5	1.9	16.9	14.0				
Operating Income	-28.9	-12.7	12.9	14.1	-7.1	4.5	18.7	15.2				
Net Income	-30.0	-12.2	16.1	13.1	-9.7	4.5	18.2	14.9				
YoY Growth %												
Revenues	3.6	-10.0	-10.8	0.0	15.0	25.2	27.5	24.7	42.6	-4.5	23.2	20.6
Gross Profit	4.9	-17.5	-19.9	-14.8	8.2	21.5	24.5	27.0	64.5	-12.8	20.6	24.0
Operating Income	3.3	-23.0	-26.5	-19.9	4.5	25.0	31.4	32.7	72.5	-17.8	23.6	24.8
Net Income	2.1	-23.3	-24.9	-19.3	4.2	23.9	26.1	28.1	70.4	-17.5	20.8	23.6

Source: BofA Global Research estimates, company data

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Exhibit 24: Operation model, 2022-25E

TSMC mgmt. expects to see improvement in utilization rates in coming years

	1Q23	2Q23	3Q23	4Q23	1Q24E	2Q24E	3Q24E	4Q24E	2022	2023E	2024E	2025E
Utilization	83%	74%	73%	74%	71%	74%	85%	89%	101%	76%	80%	85%
Shipments (12-inch equivalent, '000s)	3,227	2,916	2,902	2,957	2,829	2,987	3,417	3,632	15,253	12,002	12,865	14,674
Total revenue (NT\$bn)	509	481	547	626	585	602	697	780	2,264	2,162	2,664	3,212
ASP (\$)	5,181	5,376	5,954	6,636	6,649	6,480	6,559	6,906	4,986	5,782	6,641	7,008
Sequential growth (%)												
Shipments	-13%	-10%	0%	2%	-4%	6%	14%	6%	8%	-21%	7%	14%
ASP (\$)	-4%	4%	11%	11%	0%	-3%	1%	5%	25%	16%	15%	6%
Revenue share by process technology												
0.11 micron and more matured nodes	8%	8%	7%	8%	7%	7%	7%	6%	10%	8%	7%	6%
90nm	2%	2%	1%	1%	1%	1%	1%	1%	2%	1%	1%	1%
65nm	6%	7%	6%	5%	5%	5%	5%	4%	5%	6%	5%	4%
40nm	7%	7%	6%	4%	4%	4%	4%	5%	8%	6%	4%	4%
28nm	12%	11%	10%	7%	7%	8%	9%	9%	10%	10%	8%	8%
16-20nm	14%	12%	10%	8%	8%	8%	8%	8%	13%	11%	8%	8%
2-10nm	51%	54%	59%	67%	68%	66%	66%	68%	53%	58%	67%	69%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Revenue percentage by platform												
Smartphone	34%	33%	39%	43%	38%	35%	37%	36%	39%	38%	36%	36%
High Performance Computing	44%	44%	42%	43%	48%	47%	46%	46%	41%	43%	47%	48%
Internet of Things	9%	8%	9%	5%	5%	7%	9%	7%	9%	8%	7%	7%
Automotive	7%	8%	5%	5%	5%	6%	6%	6%	5%	6%	6%	6%
Digital Consumer Electronics	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%
Others	4%	4%	3%	2%	3%	4%	1%	3%	3%	3%	3%	2%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Revenue percentage by region												
North America	63%	66%	69%	72%	65%	67%	70%	73%	68%	68%	69%	70%
Asia Pacific	8%	8%	8%	8%	9%	9%	9%	9%	11%	8%	9%	10%
China	15%	12%	12%	11%	13%	12%	12%	11%	11%	12%	12%	12%
Europe	7%	7%	5%	4%	7%	7%	5%	4%	6%	6%	5%	5%
Japan	7%	7%	6%	5%	7%	5%	5%	4%	5%	6%	5%	4%

Source: BofA Global Research estimates, company data

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Exhibit 25: Balance sheet, 2022-25E

Despite heavy capital investment, we expect TSMC's balance sheet to remain pretty solid

(NT\$bn)	1Q23	2Q23	3Q23	4Q23	1Q24E	2Q24E	3Q24E	4Q24E	2022	2023E	2024E	2025E
Cash	1,385	1,277	1,312	1,465	1,540	1,612	1,720	1,892	1,343	1,465	1,892	2,510
Short Term Investment	204	213	240	222	231	227	229	228	219	222	228	228
Accounts receivable	148	191	223	202	206	217	228	208	231	202	208	224
Inventory	216	234	262	251	245	262	272	275	221	251	275	325
Other current assets	42	45	46	53	45	46	47	48	39	53	48	47
Current Assets	1,996	1,960	2,082	2,194	2,266	2,364	2,496	2,651	2,053	2,194	2,651	3,335
Long Term Investments	70	95	116	129	123	126	125	125	69	129	125	125
Fixed Assets	2,833	2,947	3,133	3,064	3,227	3,300	3,366	3,424	2,694	3,064	3,424	3,623
Other Assets	147	148	153	144	148	148	148	147	149	144	147	148
Long-term Assets	3,050	3,190	3,402	3,338	3,498	3,575	3,639	3,696	2,912	3,338	3,696	3,896
Total Assets	5,046	5,149	5,485	5,532	5,765	5,939	6,136	6,347	4,965	5,532	6,347	7,231
Short term loans	-	-	-	-	-	-	-	-	-	-	-	-
Notes & Accounts Payable	47	49	54	57	66	69	72	65	57	57	65	75
Current portion of long term debt	8	8	7	9	8	8	8	9	19	9	9	8
Other current Liabilities	818	754	909	847	855	855	855	855	868	847	855	864
Current Liabilities	873	811	970	914	930	933	936	929	944	914	929	947
Long term debt	855	907	937	919	904	917	919	915	839	919	915	915
Other non-current liabilities	225	226	204	217	247	321	360	431	221	217	431	490
Long-term Liabilities	1,080	1,133	1,142	1,136	1,151	1,238	1,279	1,346	1,060	1,136	1,346	1,405
Total Liabilities	1,953	1,944	2,112	2,049	2,081	2,171	2,215	2,276	2,004	2,049	2,276	2,352
Total parent shareholders' equity	3,078	3,189	3,348	3,459	3,664	3,746	3,898	4,049	2,946	3,459	4,049	4,857
Minority Interest	15	17	24	24	20	21	23	22	15	24	22	22
Total Liabilities and Equity	5,046	5,149	5,485	5,532	5,765	5,939	6,136	6,347	4,965	5,532	6,347	7,231

Source: BofA Global Research estimates, company data

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Exhibit 26: Cash flow, 2021-24E

TSMC has committed to deliver a steady dividend payout policy

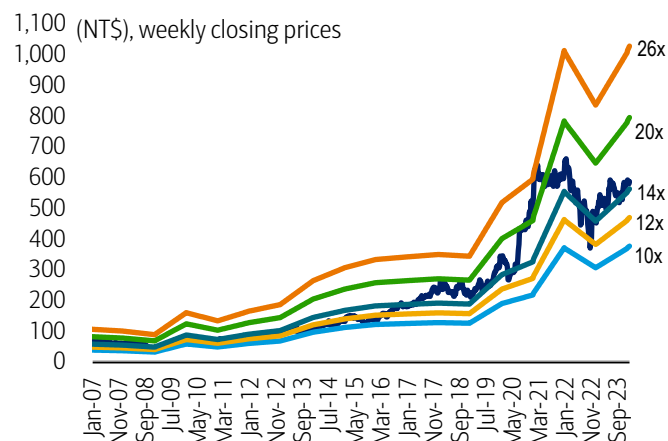
(NT\$bn)	1Q23	2Q23	3Q23	4Q23	1Q24E	2Q24E	3Q24E	4Q24E	2022	2023E	2024E	2025E
Net Profit	207	182	211	239	216	225	266	306	1,017	838	1,013	1,251
Depreciation & Amortization	110	124	147	151	156	162	176	183	437	532	677	801
Change in Working Capital	76	(62)	(56)	5	19	(26)	(19)	10	(65)	(38)	(16)	(57)
Other adjustment	(8)	(77)	(7)	1	17	9	8	1	222	(91)	34	(9)
Operating Cash Flow	385	167	295	395	407	371	430	500	1,611	1,242	1,708	1,987
Capital Expenditure	(302)	(251)	(227)	(170)	(234)	(234)	(234)	(234)	(1,083)	(950)	(935)	(999)
Proceeds from sale of non-current assets	0	0	0	0	0	0	0	0	1	1	1	1
Acquisitions/Disposals of investments	16	(29)	(40)	(55)	(2)	1	(1)	0	(131)	(108)	(1)	(0)
Other investment items	14	20	24	93	(4)	(0)	(0)	1	21	151	(3)	(1)
Investing Cash Flow	(272)	(259)	(242)	(132)	(239)	(233)	(234)	(232)	(1,191)	(906)	(939)	(999)
Net Share issue/repurchase	-	-	-	0	-	-	-	-	-	0	-	-
Dividends paid	(71)	(71)	(71)	(78)	(78)	(78)	(91)	(91)	(285)	(292)	(337)	(370)
Change in debt	10	41	10	10	(16)	13	3	(4)	84	70	(5)	0
Other financing cash flow	(3)	4	23	(7)	-	-	-	-	1	17	-	(0)
Financing Cash Flow	(64)	(27)	(38)	(75)	(94)	(65)	(88)	(95)	(200)	(205)	(342)	(369)
Net Change in Cash	49	(119)	14	187	74	73	108	172	219	131	427	618
Exchange effect	(6)	10	21	(34)	-	-	-	-	58	(8)	-	-
Cash, Beginning of Year	1,343	1,385	1,277	1,312	1,465	1,540	1,612	1,720	1,065	1,343	1,465	1,892
Cash, End of Year	1,385	1,277	1,312	1,465	1,540	1,612	1,720	1,892	1,343	1,465	1,892	2,510

Source: BofA Global Research estimates, company data

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Exhibit 27: 12-month forward P/E

The stock now trades at 15x 2024E P/E

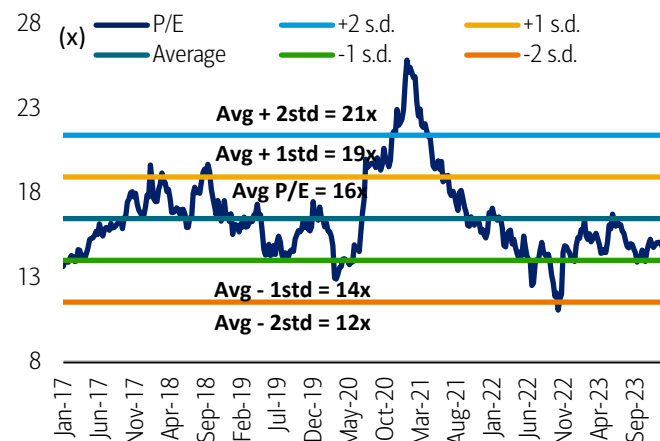


Source: BofA Global Research estimates, Bloomberg

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Exhibit 28: 12-month forward P/E with +2 to -2 standard deviation

Current P/E (15x) is below the average level since 2017

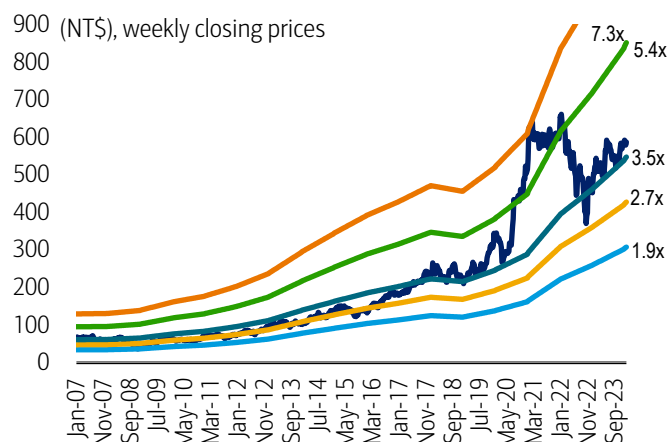


Source: BofA Global Research estimates, Bloomberg

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Exhibit 29: 12-month forward P/B

The stock now trades at 3.8x 2024E P/B

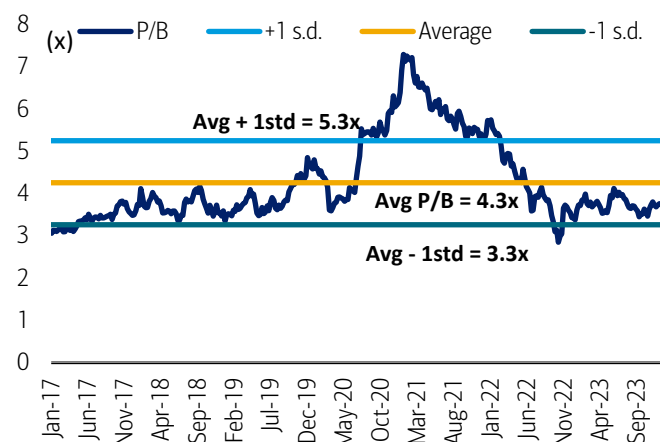


Source: BofA Global Research estimates, Bloomberg

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Exhibit 30: 12-month forward P/B with +1 to -1 standard deviation

Current P/B (3.8x) is below the average level since 2017



Source: BofA Global Research estimates, Bloomberg

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Exhibit 31: Valuation comparisons

TSMC currently trades at lower P/E level vs. foundry/IDM/fabless/equipment maker companies' average levels

Ticker	Company	Share		Mkt cap (US\$mn)	EPS (LC)		PER (X)		PBR (X)		Div. yield (%)		ROE (%)		EV/EBITDA		
		price (LC)	Rating		2024E	2025E	2024E	2025E	2024E	2025E	2024E	2025E	2024E	2025E	2024E	2025E	
Foundry																	
2330 TT	TSMC	588.0	BUY	482,870	39.05	48.25	15.1	12.2	3.8	3.1	2.4	2.6	27.0	28.1	8.1	6.6	
GFS US	GlobalFoundries	54.9	Neutral	30,354	2.12	2.70	25.9	20.3	2.6	2.4	0.0	0.0	10.1	12.3	11.9	10.4	
981 HK	SMIC	15.8	NC	24,613	0.10	0.15	20.2	13.7	0.7	0.7	0.0	0.0	3.6	4.9	10.1	8.6	
2303 TT	UMC	48.1	BUY	19,086	4.98	5.73	9.7	8.4	1.7	1.5	6.2	7.3	17.9	18.8	5.1	4.4	
5347 TT	Vanguard	72.7	Neutral	3,773	4.03	6.01	18.0	12.1	3.3	3.2	6.2	7.6	17.4	26.6	8.0	6.7	
1347 HK	Hua Hong	17.9	U/P	5,144	0.17	0.22	13.7	10.4	0.9	0.8	0.0	0.0	7.0	8.3	5.6	4.8	
6770 TT	PSMC	27.2	U/P	3,507	-0.43	-0.02	n.m.	n.m.	1.3	1.2	0.0	0.0	-2.0	-0.1	10.7	7.6	
3105 TT	Win Semi	145.5	U/P	1,953	4.26	8.44	34.2	17.2	1.7	1.6	1.8	3.6	5.2	9.7	11.3	8.3	
Foundry average							19.5	13.5	2.0	1.8	2.1	2.6	10.8	13.6	8.9	7.2	
IDM																	
005930 KS	Samsung	71,700.0	BUY	319,633	3967.48	6939.81	18.1	10.3	1.3	1.2	2.0	2.0	7.4	12.0	6.0	4.3	
INTC US	Intel	46.1	Neutral	194,189	1.45	2.00	31.8	23.0	1.5	1.5	1.1	1.1	4.9	6.6	11.2	9.1	
TXN US	Texas Instruments	162.4	Neutral	147,506	6.15	6.24	26.4	26.0	8.3	8.4	3.4	3.8	32.7	32.4	17.6	14.7	
IFX GY	Infineon	32.5	BUY	47,571	2.37	2.95	14.1	11.4	2.3	2.0	1.2	1.3	17.0	18.5	7.6	6.2	
IDM average							22.6	17.7	3.3	3.3	1.9	2.0	15.5	17.4	10.6	8.6	
Fabless																	
NVDA US	NVIDIA	560.5	BUY	1,384,509	12.28	20.46	45.6	27.4	33.9	17.7	0.0	0.0	97.3	85.6	38.0	23.3	
AVGO US	Broadcom	1,103.7	BUY	516,673	46.72	56.37	23.6	19.6	14.8	11.3	1.9	2.1	77.7	68.5	19.3	16.2	
QCOM US	Qualcomm	139.3	BUY	155,063	9.18	10.70	15.2	13.0	6.0	4.8	2.3	2.3	43.1	40.6	15.2	13.1	
AMD US	AMD	160.2	BUY	258,754	3.88	5.12	41.3	31.3	4.3	3.9	0.0	0.0	10.9	13.2	24.9	20.5	
Fabless average							31.4	22.8	14.7	9.4	1.1	1.1	57.3	52.0	24.3	18.3	
Semi equipment makers																	
ASML NA	ASML	649.6	BUY	287,854	19.93	27.97	33.2	23.7	20.6	18.4	1.1	1.2	62.0	81.0	26.6	19.6	
AMAT US	Applied Material	153.4	BUY	127,461	7.39	8.44	20.8	18.2	6.4	5.3	0.9	1.1	34.2	31.8	17.6	15.6	
LRCX US	Lam Research	752.9	BUY	99,226	27.68	31.62	27.2	23.8	12.6	12.4	1.1	1.2	45.0	49.9	21.7	19.7	
8035 JP	Tokyo Electron	26,625.0	BUY	84,898	691.28	913.46	38.5	29.1	7.5	6.5	1.3	1.7	19.8	24.0	25.0	19.1	
KLAC US	KLA Corp	562.5	BUY	76,462	23.30	25.88	24.1	21.7	20.4	17.1	1.0	1.2	94.9	84.2	18.3	17.2	
Semi equipment average							28.8	23.3	13.5	11.9	1.1	1.3	51.2	54.2	21.8	18.2	

Source: BofA Global Research estimates, company data, Bloomberg; "NC" = not covered

BofA GLOBAL RESEARCH

Price objective basis & risk

Taiwan Semiconductor Manufacturing Co. (TSMWF / TSM)

We value TSMC at NT\$760 per share (US\$130 per ADR), based on 18x 2H24-1H25E P/E, or slightly above its five-year average P/E and SOX index's ten-year average P/E, given the structural long-term opportunities. We expect the valuation to be underpinned by its stronger industry position especially in leading edge technology, improved earnings quality, and subsequently FCF/dividend upside.

Downside risks are (1) greater-than-expected slowdown in global smartphone/consumer electronics demand, (2) Intel's potential insourcing strategy and ambitions in foundry service, and (3) execution risks on advanced nodes.

Analyst Certification

I, Brad Lin, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

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APR - Semiconductor Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Alchip	ALCPF	3661 TT	Mike Yang
	ASE Technology Holding	XSRI	3711 TT	Brad Lin
	ASE Technology Holding -ADR	ASX	ASX US	Brad Lin
	ASMPT	ASMVF	522 HK	Simon Woo, CFA
	Crystal Clear	XPPTF	300655 CH	Dai Shen



APR - Semiconductor Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	eMemory	XYLWF	3529 TT	Mike Yang
	Faraday	FDYTF	3035 TT	Mike Yang
	Global Unichip Corp.	GBUHF	3443 TT	Mike Yang
	GlobalWafers	XWLFF	6488 TT	Brad Lin
	Hwatsing Technology	XSNIF	688120 CH	Dai Shen
	JCET Group Co Ltd	XJIEF	600584 CH	Mike Yang
	King Yuan Electronics Corp.	KYUFF	2449 TT	Angela Huang
	Kingsemi	XKSQF	688037 CH	Dai Shen
	LX Semicon	XLXSF	108320 KS	Simon Woo, CFA
	Maxscend	XMVSF	300782 CH	Daley Li, CFA
	MediaTek	MDTKF	2454 TT	Brad Lin
	Montage Technology	XRDF	688008 CH	Daley Li, CFA
	Nanya Technology	NNYAF	2408 TT	Simon Woo, CFA
	Novatek	NVKMF	3034 TT	Brad Lin
	Parade	PRDWF	4966 TT	Mike Yang
	Realtek	RLTKF	2379 TT	Brad Lin
	Samsung Elec -G	SSNHZ	SMSN LI	Simon Woo, CFA
	Samsung Electronics	SSNLF	005930 KS	Simon Woo, CFA
	Samsung Electronics Preferred	SSNPF	005935 KS	Simon Woo, CFA
	Silicon Motion	SIMO	SIMO US	Simon Woo, CFA
	SK Hynix	HXSCF	000660 KS	Simon Woo, CFA
	Taiwan Semiconductor Manufacturing Co.	TSM	TSM US	Brad Lin
	Taiwan Semiconductor Manufacturing Co.	TSMWF	2330 TT	Brad Lin
	United Microelectronics Corp.	XUMIF	2303 TT	Brad Lin
	United Microelectronics Corp.	UMC	UMC US	Brad Lin
	Will Semiconductor	XXHQF	603501 CH	Dai Shen
	Winbond Electronics	WBEKF	2344 TT	Dai Shen
	Wonik IPS	XRHQF	240810 KS	Simon Woo, CFA
NEUTRAL				
	Macronix International	MXICF	2337 TT	Dai Shen
	Powertech Technology	XPPZF	6239 TT	Simon Woo, CFA
	Soulbrain	XSBOF	357780 KS	Simon Woo, CFA
	Vanguard International Semiconductor Co	VGILF	5347 TT	Mike Yang
UNDERPERFORM				
	ASMedia Technology Inc.	XZSFF	5269 TT	Mike Yang
	Aspeed	XLKMF	5274 TT	Mike Yang
	GigaDevice	XGXIF	603986 CH	Daley Li, CFA
	Hangzhou Silan Microelectronics	XDFRF	600460 CH	Mike Yang
	Hua Hong Semi	HHUSF	1347 HK	Mike Yang
	Ingenic	XISCF	300223 CH	Dai Shen
	Lion Electronics	XDHFF	605358 CH	Dai Shen
	Phison Electronics	PISNF	8299 TT	Simon Woo, CFA
	Powerchip Semiconductor Manufacturing Co	XCHPF	6770 TT	Mike Yang
	Shenzhen Goodix	XQPLF	603160 CH	Mike Yang
	Silegy Corp.	SLEGF	6415 TT	Brad Lin
	VeriSilicon	XMLZF	688521 CH	Mike Yang
	Win Semiconductors	XWIF	3105 TT	Brad Lin

iQmethodSM Measures Definitions

Business Performance

Return On Capital Employed

Return On Equity

Operating Margin

Earnings Growth

Free Cash Flow

Numerator

NOPAT = (EBIT + Interest Income) × (1 – Tax Rate) + Goodwill Amortization

Net Income

Operating Profit

Expected 5 Year CAGR From Latest Actual

Cash Flow From Operations – Total Capex

Denominator

Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill

Amortization

Shareholders' Equity

Sales

N/A

N/A

Quality of Earnings

Cash Realization Ratio

Asset Replacement Ratio

Tax Rate

Net Debt-To-Equity Ratio

Interest Cover

Numerator

Cash Flow From Operations

Capex

Tax Charge

Net Debt = Total Debt – Cash & Equivalents

EBIT

Denominator

Net Income

Depreciation

Pre-Tax Income

Total Equity

Interest Expense

Valuation Toolkit

Price / Earnings Ratio

Price / Book Value

Dividend Yield

Free Cash Flow Yield

Enterprise Value / Sales

Numerator

Current Share Price

Current Share Price

Annualised Declared Cash Dividend

Cash Flow From Operations – Total Capex

EV = Current Share Price × Current Shares + Minority Equity + Net Debt +

Other LT Liabilities

Enterprise Value

Denominator

Diluted Earnings Per Share (Basis As Specified)

Shareholders' Equity / Current Basic Shares

Current Share Price

Market Cap = Current Share Price × Current Basic Shares

Sales

Basic EBIT + Depreciation + Amortization

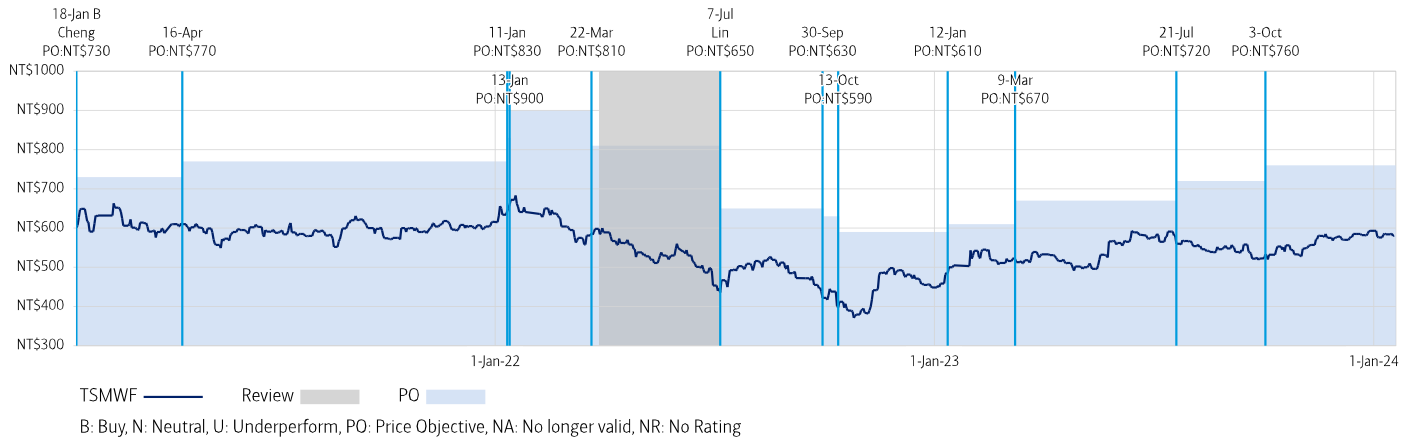
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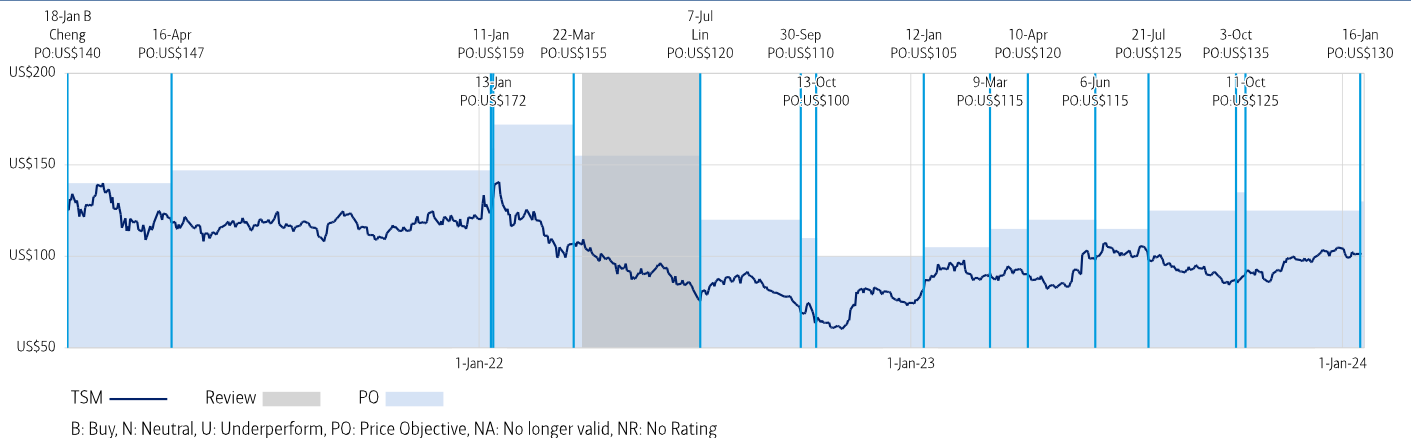
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Taiwan Semi Mfg Co (TSM) Price Chart


The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

Equity Investment Rating Distribution: Technology Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	215	53.09%	Buy	111	51.63%
Hold	97	23.95%	Hold	45	46.39%
Sell	93	22.96%	Sell	24	25.81%

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

^{R1} Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster ^{R2}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

^{R2}Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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