

TSMC (2330 TT, BUY, TP: TWD875.00)

BUY

HOLD

SELL

An all-round tech/capacity provider

Target Price: TWD875.00 **Price: TWD614.00**

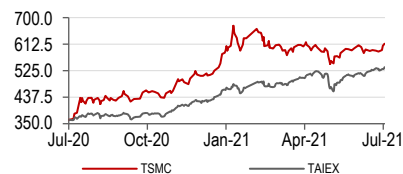
Potential up/downside to TP +/-%	+43%
52-Week High/Low (TWD)	679.00/353.50
Market Cap (US\$m)	568,687
Shares Outstanding (mn)	25,930
3-mth ADTV (US\$m)	666
Free Float (%)	90
Major Shareholder (%)	
ADR TSM	21
National Devel. Fund	6
Capital Group	5

 Price as of close on July 15, 2021
 Source: FactSet

Key Changes

	New	Old	Diff
Rating	BUY	BUY	N/A
Target Price (TWD)	875.00	875.00	0%
2021E EPS (TWD)	22.00	22.13	-1%
2022E EPS (TWD)	24.67	24.12	2%
2023E EPS (TWD)	29.32	29.51	-1%

Price Performance



Source: FactSet

China Renaissance vs Consensus (% Diff)

	2021E	2022E
Rev (TWDmn)	1,573,037 (-1%)	1,821,172 (-3%)
EPS (TWD)	22.76 (-3%)	26.20 (-6%)

Note: Consensus estimates displayed, sourced from Bloomberg. Positive % diff = CR estimate above consensus; negative = CR estimate below consensus.

- **TSMC's EUV productivity gains traction: largest EUV installed base + mastery in related-tech (pellicle/photomask) suggest competitive risk a non-issue.**
- **Higher specialty tech focus helps it de-risk supply bottleneck and understand clients' system design in post-SP age. HPC only 3% below SP in 2Q sales mix.**
- **Reiterate BUY, TP TWD875.00 (1-yr disc. 40x 2022E P/E).**

A stronger 2021 sales outlook. 2Q21 reported EPS of TWD5.18 was 1% below our/BBG consensus estimates: GPM/OPM were within guidance, but missed our estimates on FX headwind (0.5% impact), N5 dilution and the slower cost reduction. Its 3Q21 mid-point sales outlook (TWD: +11% QoQ) is largely in line with our estimate; it also upped its 2021E growth view again for the semis (ex-memory) market, foundry and itself. TSMC reassured its structural margin/ROE intact; despite some sceptics, it saw the CAPEX surge may be inevitable for TSMC to be at the forefront of the world's rising computing power needs.

Non-SP demand drives N5 as a bigger node than its prior FinFET nodes. TSMC's plan to grow its 2023E N5 capacity 4x vs 2020 conveys that: 1) N5, upon full buildout, will likely be TSMC's largest FinFET-based node by capacity; and 2) its faith on stronger future N5 demand after Apple's smartphone (SP)-driven first wave, changing the conventional notion of a node's falling volume agility after the first wave of adoption in the SP-centric era. The data-driven world has more drivers (eg, HPC hit a new high in sales mix in 2Q; 3% below SP) requiring computing power. TSMC's c.50% global EUV installed base + mastery of related-tech (EUV mask lifetime close to DUV's, and inhouse pellicle capacity) are clear pluses. N3 will be an even bigger node fueled by Intel's outsourcing, which just announced a six-month delay of its own 7nm launch (less dense than TSMC's N3) to mid-2022E.

TSMC not making mature nodes an Achilles' heel. TSMC's increased focus on specialty tech (mature nodes) expansion reflects not only the volume prospect of peripheral chips, but also the risk of such supply shortage backfiring on advanced node demand, in our view. It pledges to be a **trusted tech/capacity partner to cover the entire node spectrum and better understand the system architecture complexity/BOM** (bill of materials) of client applications in the post-SP era. Despite N22/28 having its largest capacity by node, TSMC plans to expand outside Taiwan for overseas IDMs, as China foundry start-ups have not been production-proven on this finest node in the 2D/planar era. SMIC's 'Entity List' status limiting its N28 SPE access also drives TSMC to be more aggressive on N28 expansion.

BUY; TP TWD875.00 (1-year discounted 40x 2022E P/E). Patience should pay off for TSMC; near-term volatility reflects the market's valuation appetite, while we see its intact fundamentals offering support. Our rerating thesis is based on: 1) TSMC's faster long-term sales CAGR – high end of +10-15% (in the past at +5-10%, its P/E was capped at 20-25x); 2) better clarity on its foray into CPU outsourcing; and 3) more attention and active inflows from ESG (Environmental, Social and Governance)/TMT-focused funds switching out of China's ecommerce sector. **Risks:** worse demand, industry rivalry, pace of tech progress.

Summary Financial Data

FY to Dec 31	2019A	2020A	2021E	2022E	2023E
Revenue (TWDmn)	1,069,985	1,339,255	1,554,794	1,759,842	2,039,337
EPS (TWD)	13.32	19.97	22.00	24.67	29.32
P/E (x)	19.5	19.0	27.9	24.9	20.9
P/BV (x)	4.2	5.3	7.4	6.5	5.6
ROE (%)	21.3	28.0	26.6	26.0	26.7

Note: Historical valuation ratios calculated on yearly average price.

Research Team

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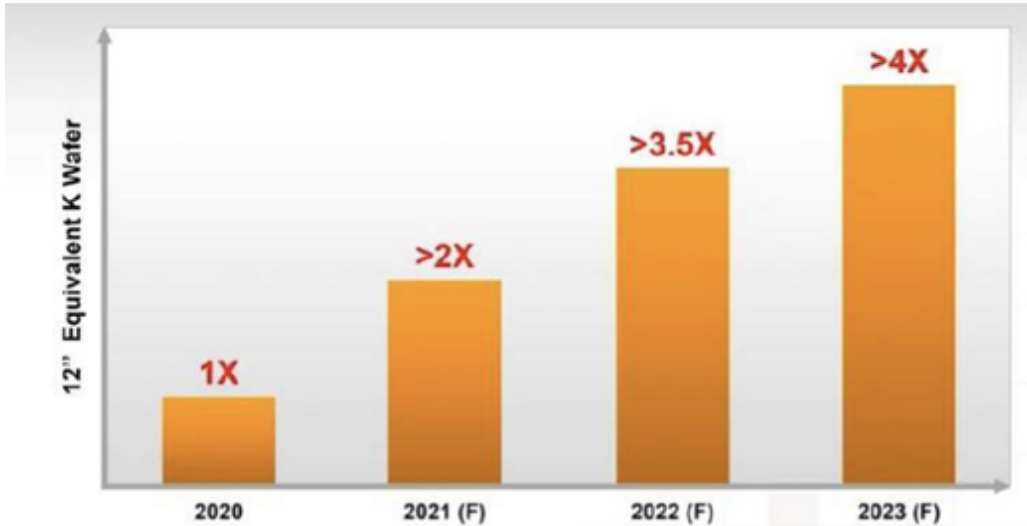
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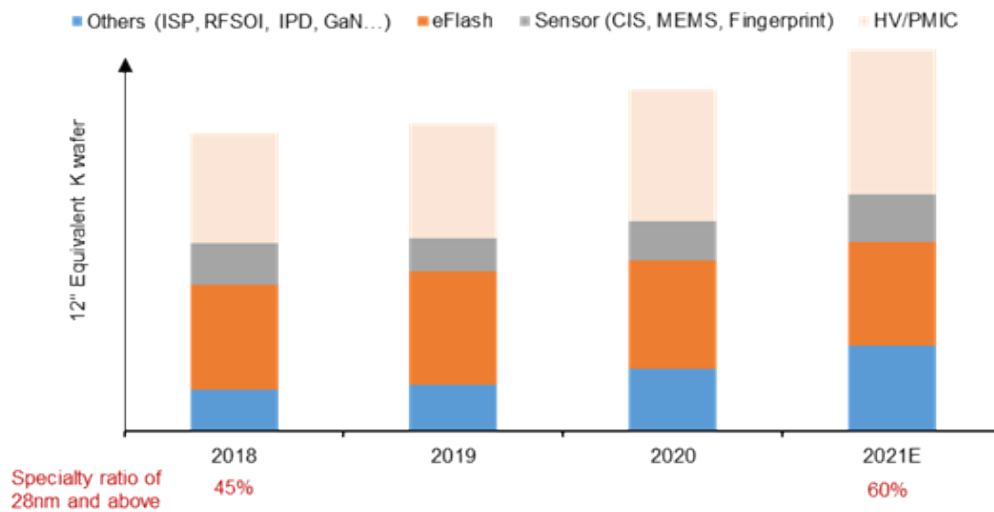
Focused charts

Exhibit 1: TSMC – N5 family capacity plan



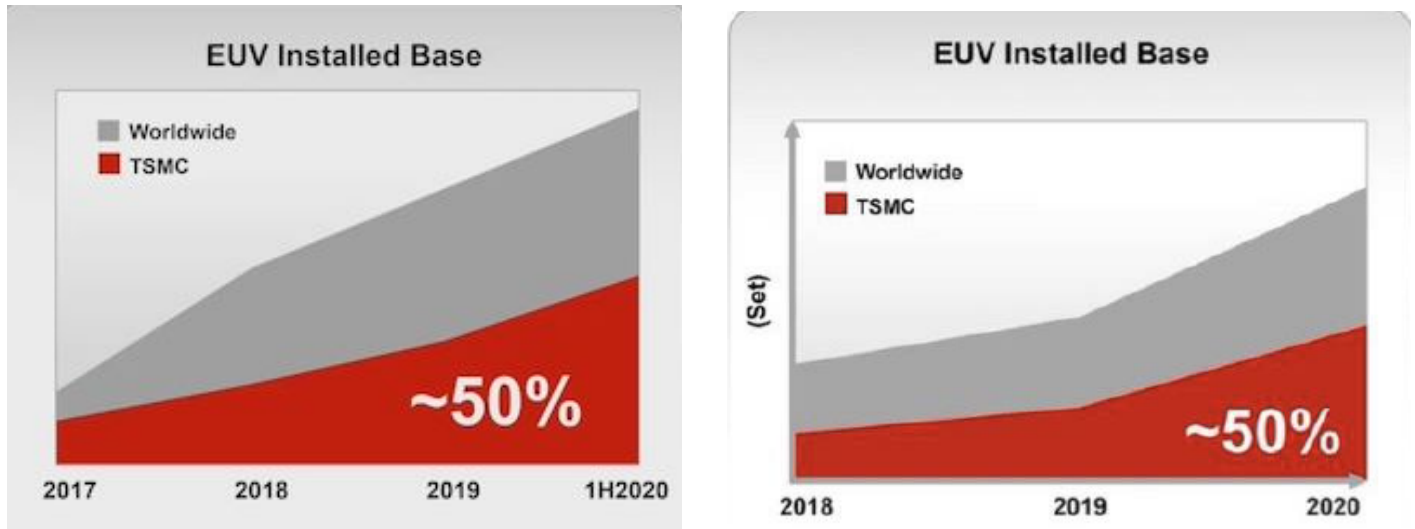
Source: Company reports

Exhibit 2: TSMC – specialty technology capacity growth



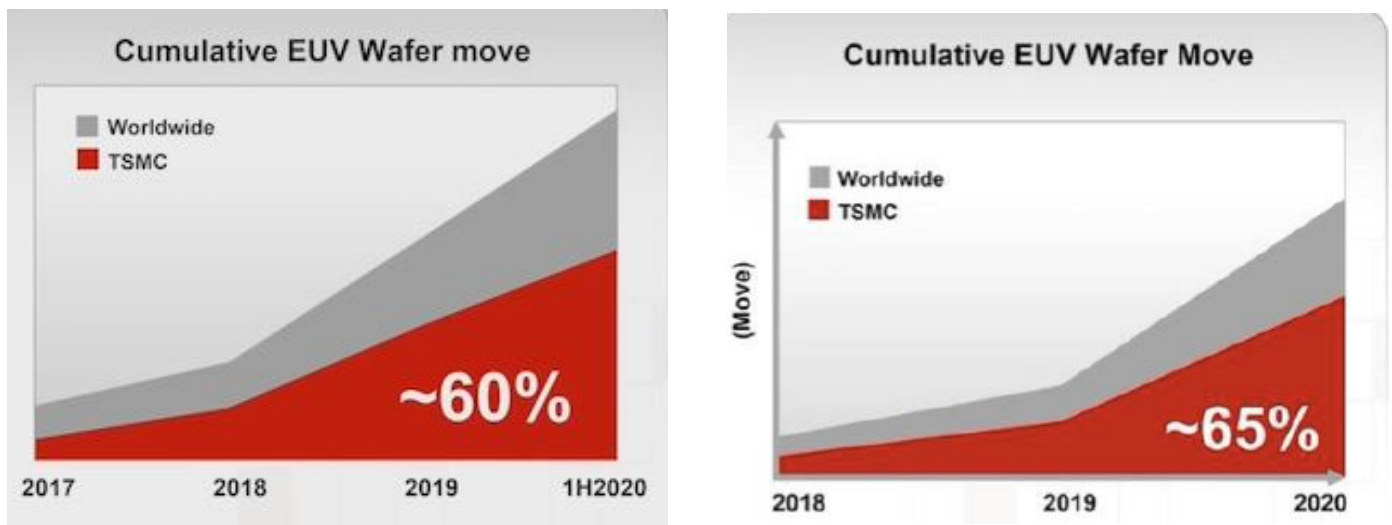
Source: Company estimates, CRSHK

Exhibit 3: TSMC – EUV installed base share (till 1H20 vs. till 2020)



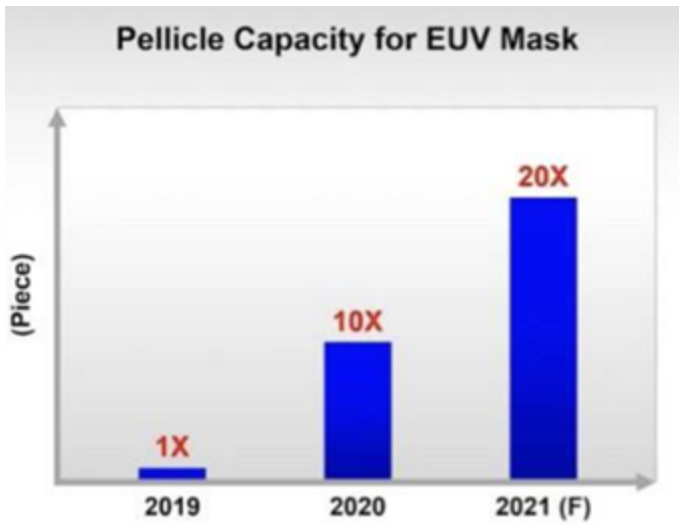
Source: Company reports

Exhibit 4: TSMC – cumulative EUV wafer moves (till 1H20 vs. till 2020)



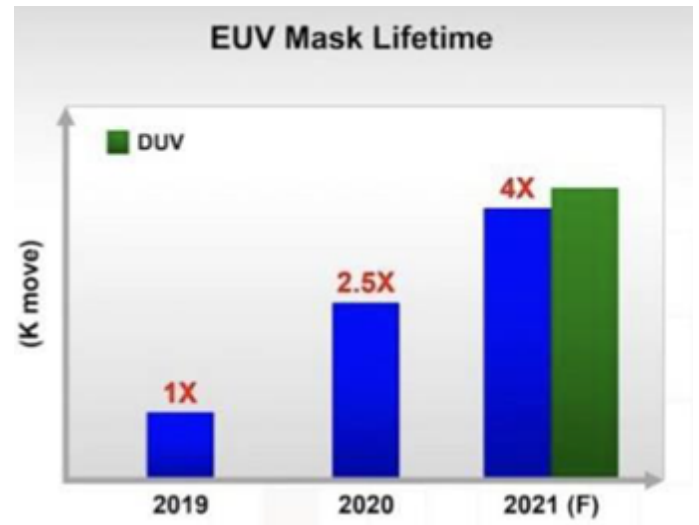
Source: Company reports

Exhibit 5: TSMC – pellicle capacity for EUV mask



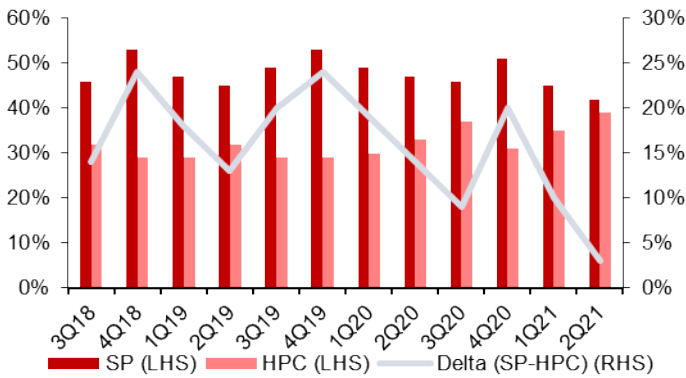
Source: Company reports

Exhibit 6: TSMC – mask lifetime (EUV vs. DUV)



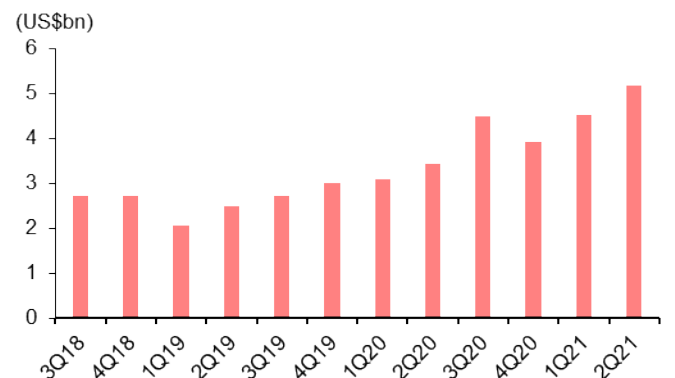
Source: Company reports

Exhibit 7: TSMC – SP/HPC sales contribution comparison



Source: Company data, CRSHK

Exhibit 8: TSMC – HPC quarterly sales



Source: Company data, CRSHK estimates

Estimate revisions
Exhibit 9: TSMC – 2Q21 results comparison

	2Q21 (TWDbn)	CRSHK 2Q21E (TWDbn)	Variance (%)	1Q21 (TWDbn)	QoQ Change (%)	2Q20 (TWDbn)	YoY Change (%)	BBG 2Q21E (TWDbn)	Variance (%)	2Q21 guidance
Sales	372.1	367.1	1	362.4	3	310.7	20	371.7	0	- Sales: US\$12.9-13.2bn based on TWD28.4/US\$ (TWD366.36-374.88bn) (actual: TWD372.1bn)
Gross profit	186.2	188.0	(1)	189.8	(2)	164.6	13	189.8	(2)	- Gross margin: 49.5-51.5% (actual: 50.0%)
Margin (%)	50.0	51.2		52.4		53.0		51.1		
Operating profit	145.7	148.2	(2)	150.5	(3)	131.1	11	150.0	(3)	- Operating margin: 38.5-40.5% (actual: 39.1%)
Margin (%)	39.1	40.4		41.5		42.2		40.3		
Pre-tax income	149.4	152.7	(2)	155.1	(4)	136.4	10	153.2	(2)	
Margin (%)	40.1	41.6		42.8		43.9		41.2		
Net income	134.4	135.1	(1)	139.7	(4)	120.8	11	136.1	(1)	
Margin (%)	36.1	36.8		38.5		38.9		36.6		
EPS (TWD)	5.18	5.21	(1)	5.39	(4)	4.66	11	5.23	(1)	- 1H21 capex: US\$14.81bn

Source: Company data, CRSHK estimates, Bloomberg consensus estimates

Exhibit 10: TSMC – CRSHK 3Q21E estimates vs. Bloomberg consensus

TWDbn	3Q21E		Changes		BBG 3Q21E	Variance	2Q21	QoQ Change	3Q21 guidance
	CRSHK est. (New)	CRSHK est. (Old)	(%)	(TWDbn)	(TWDbn)	(%)	(TWDbn)	(%)	
Sales	412.9	412.9	(0)	(0.0)	411.8	0	372.1	11	- Sales: US\$14.6-14.9bn based on TWD27.9/US\$ (TWD407.34-415.71bn)
Gross profit	210.5	217.2	(3)	(6.7)	214.7	(2)	186.2	13	- Gross margin: 49.5-51.5%
Margin (%)	51.0	52.6			52.1		50.0		
Operating profit	166.6	172.9	(4)	(6.4)	171.1	(3)	145.7	14	- Operating margin: 38.5-40.5%
Margin (%)	40.3	41.9			41.5		39.1		
Pre-tax income	171.0	177.5	(4)	(6.5)	174.7	(2)	149.4	14	
Margin (%)	41.4	43.0			42.4		40.1		
Net income	151.2	157.0	(4)	(5.8)	154.9	(2)	134.4	13	
Margin (%)	36.6	38.0			37.6		36.1		
EPS (TWD)	5.83	6.06	(4)		5.97		5.18		- 2021 capex guidance: US\$30bn (unchanged); 80% for advanced process technologies – N3/N5/N7; 10% for advanced packaging and mask making; 10% for specialty technologies - Capex for the next 3 years: US\$100bn (starting from 2021) - The overall 2021 semis market (excl. memory) is expected to grow by 17% (prior: 12%), while the foundry segment should grow by about 20% (prior: 16%). TSMC's 2021 sales growth on US\$ basis is expected to be above 20% (prior: 20%) - TSMC's long-term CAGR should be at the high-end of the previous guidance of 10-15% in 2020-25 in US\$ terms

Source: Company data, CRSHK estimates, Bloomberg consensus estimates

Following TSMC's 2Q21 results announced on July 15, 2021, we fine-tune our financial estimates for TSMC, as below.

Exhibit 11: TSMC – Forecast revisions

	Revised						Prior						Change					
	2Q21	3Q21E	4Q21E	2021E	2022E	2023E	2Q21E	3Q21E	4Q21E	2021E	2022E	2023E	2Q21E	3Q21E	4Q21E	2021E	2022E	2023E
	(TWDbn)	(TWDbn)	(TWDbn)	(TWDbn)	(TWDbn)	(TWDbn)	(TWDbn)	(TWDbn)	(TWDbn)	(TWDbn)	(TWDbn)	(TWDbn)	(%)	(%)	(%)	(%)	(%)	(%)
Sales	372.1	412.9	407.4	1,554.8	1,759.8	2,039.3	367.1	412.9	397.4	1,539.8	1,710.1	2,003.6	1	(0)	3	1	3	2
Gross profit	186.2	210.5	203.5	790.0	892.2	1,057.6	188.0	217.2	198.4	793.5	869.6	1,058.8	(1)	(3)	3	(0)	3	(0)
Margin (%)	50.0	51.0	49.9	50.8	50.7	51.9	51.2	52.6	49.9	51.5	50.9	52.8						
Operating profit	145.7	166.6	160.2	623.0	706.3	840.9	148.2	172.9	156.2	627.9	688.7	844.8	(2)	(4)	3	(1)	3	(0)
Margin (%)	39.1	40.3	39.3	40.1	40.1	41.2	40.4	41.9	39.3	40.8	40.3	42.2						
Pre-tax income	149.4	171.0	164.2	639.7	723.3	859.4	152.7	177.5	160.5	645.8	706.9	864.9	(2)	(4)	2	(1)	2	(1)
Margin (%)	40.1	41.4	40.3	41.1	41.1	42.1	41.6	43.0	40.4	41.9	41.3	43.2						
Net income	134.4	151.2	145.3	570.6	639.8	760.2	135.1	157.0	142.0	573.8	625.3	765.2	(1)	(4)	2	(1)	2	(1)
Margin (%)	36.1	36.6	35.7	36.7	36.4	37.3	36.8	38.0	35.7	37.3	36.6	38.2						
EPS (TWD)	5.18	5.83	5.60	22.00	24.67	29.32	5.21	6.06	5.48	22.13	24.12	29.51	(1)	(4)	2	(1)	2	(1)

Source: Company data, CRSHK estimates

Valuation

We reiterate BUY on TSMC and TP of TWD875.00. Patience should pay off for TSMC; near-term volatility reflects the market's valuation appetite, while we see its intact fundamentals offering support. Our rerating thesis is based on: 1) TSMC's faster long-term sales CAGR – high end of +10-15% (in the past at +5-10%, its P/E was capped at 20-25x); 2) better clarity on its foray into CPU outsourcing; and 3) more attention and active inflows from ESG (Environmental, Social and Governance)/TMT-focused funds switching out of China's ecommerce sector.

We note TSMC's 12-month forward peak P/E has been rising since the onset of Sino-US political tensions in 2018 (Sep 2018: 18x; Dec 2019: 21x; Dec 2020: 25.5x; current: 25x).

Exhibit 12: TSMC focuses on ESG through six verticals

<h4>Ethical Management</h4> <p>With foundations built on the core value of Integrity, TSMC is a company that has always governed itself with the highest standards. The ethical culture of TSMC employees is continuously strengthened through comprehensive education and training. At the same time, TSMC works hand in hand with its customers and supply chain to serve the mutual benefit of the industry, and serves as a trustworthy partner to its stakeholders.</p>	<h4>Innovation and Service</h4> <p>As the leader in dedicated IC foundry industry, TSMC has driven continued progress in global technology through innovation. TSMC cares about customer's feedback and have been expanding R&D scale over the years. TSMC insists on producing sustainable products with high quality and low energy consumption, and has also established a mechanism to protect customer's proprietary information. TSMC hopes to provide customers next generation innovations and designs through leading technology and manufacturing excellence.</p>
<h4>Green Manufacturing</h4> <p>TSMC's goal is to facilitate coexistence and mutual prosperity between business and environment. Aiming to become a practitioner of green power, TSMC assimilates green management into business and implement continuous improvement projects in the areas of climate change, energy management, water management, waste management, and air pollution control. TSMC hopes to protect environment while increasing the Company's value.</p>	<h4>Responsible Supply Chain</h4> <p>As the world's largest dedicated IC foundry, TSMC is committed to remaining a responsible purchaser by encouraging upstream and downstream suppliers to seek advancements in technology, quality, delivery, environmental protection, human rights, health and safety. TSMC will strive vigorously to support the development of a sustainable supply chain.</p>
<h4>Inclusive Workplace</h4> <p>Employees are the most important asset of TSMC. TSMC deeply instills a people-oriented culture and value the mutual commitment between the Company and employees, building a friendly workplace exceeding domestic and international standards in safety, health, regulations, and human rights. TSMC aims to build a challenging work environment where learning never stops, and pursues the goal of becoming an employer that all employees can be truly proud of.</p>	<h4>Common Good</h4> <p>To pursue the goal of building a better society, the TSMC Education and Culture Foundation and TSMC Charity Foundation serve as focal points for funds, materials, and people from inside and outside TSMC to devote resources towards cultivation of youths, culture and arts, environmental awareness, caring for the disadvantaged and rural education. TSMC hopes to drive the development of society with kindness, passing on the power of love and prospect.</p>

Source: Company data, CRSHK

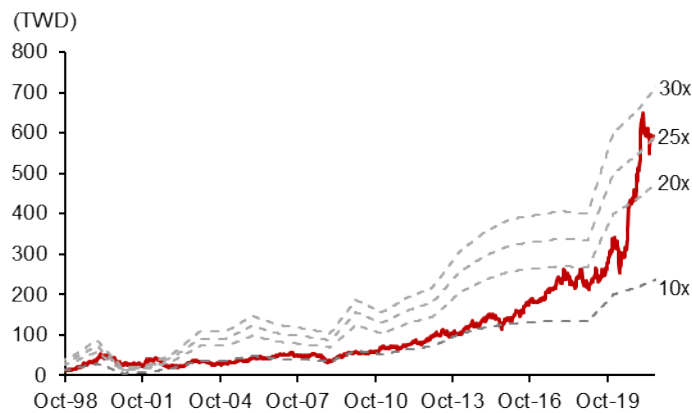
Exhibit 13: TSMC – Consensus comparison

How we differ from consensus		Market RECS	
Target Price (%)	17	BUY	34
2021E EPS (%)	(3)	HOLD	3
2022E EPS (%)	(6)	SELL	0
2023E EPS (%)	(5)		

Note: Data from Bloomberg consensus on 7/15/2021.

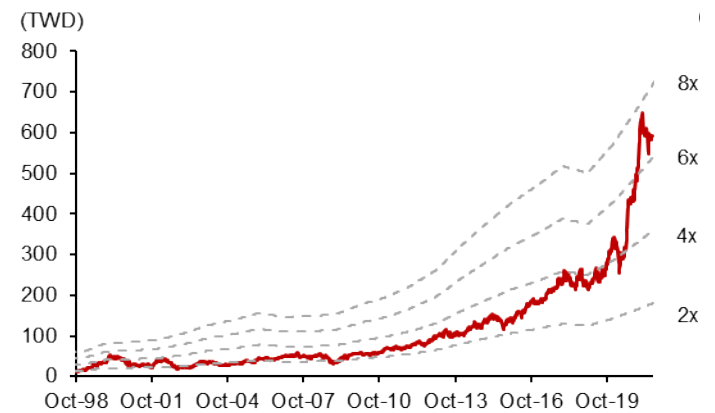
Source: Bloomberg consensus estimates, CRSHK estimates

Exhibit 14: TSMC – 12-month forward P/E



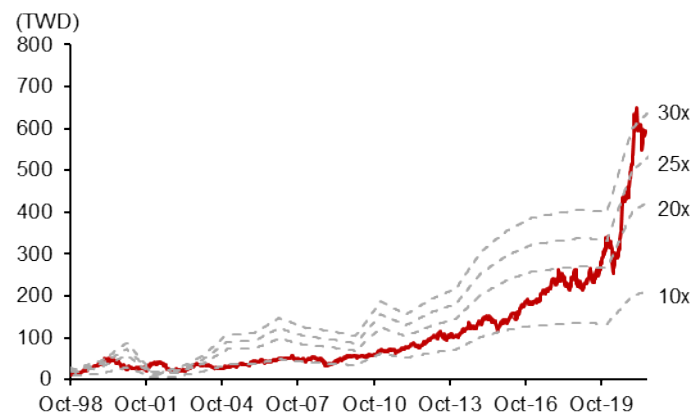
Source: Company data, Bloomberg, CRSHK estimates

Exhibit 15: TSMC – 12-month forward P/BV



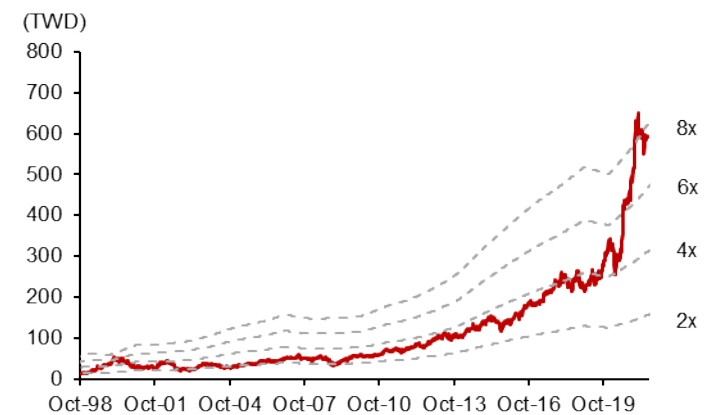
Source: Company data, Bloomberg, CRSHK estimates

Exhibit 16: TSMC – 12-month trailing P/E



Source: Company data, Bloomberg, CRSHK estimates

Exhibit 17: TSMC – 12-month trailing P/BV



Source: Company data, Bloomberg, CRSHK estimates

Exhibit 18: Semiconductor comparable companies

Company Name	Ticker	Rating	Price	Target price	Mkt Cap (US\$mn)	P/E (x)		P/B (x)		ROE (%)		Dividend Yield (%)		EPS Growth (%)	
						2021E	2022E	2021E	2022E	2021E	2022E	2021E	2022E	2021E	2022E
Foundry															
TSMC*	2330 TT	BUY	TWD 614.00	TWD 875.00	571,002	27.9	24.9	7.4	6.5	28.5	27.7	1.7	2.0	10.2	12.1
SMIC-H*	981 HK	BUY	HK\$ 22.60	HK\$ 40.00	33,904	24.7	41.5	1.4	1.4	6.0	3.4	0.0	0.0	3.1	(40.4)
SMIC-A*	688981 CH	BUY	RMB 55.17	RMB 66.00	33,860	72.5	121.8	4.2	4.0	6.0	3.4	0.0	0.0	3.1	(40.4)
UMC*	2303 TT	BUY	TWD 55.10	TWD 65.00	24,550	16.8	17.4	2.6	2.5	16.1	14.2	2.9	4.2	36.8	(3.5)
Vanguard*	5347 TT	SELL	TWD 120.00	TWD 93.00	7,054	21.2	21.3	6.2	6.1	30.4	29.0	2.9	3.8	47.4	(0.7)
Hua Hong*	1347 HK	HOLD	HK\$ 41.75	HK\$ 46.00	6,990	47.7	42.7	2.7	2.6	5.8	6.2	0.4	0.6	49.1	11.8
China Re. Micro	688396 CH	NC	RMB 81.80		16,692	71.1	60.1	10.6	9.2	7.1	8.1	0.3	0.4	47.4	18.3
OSAT															
ASEH*	3711 TT	BUY	TWD 120.00	TWD 168.00	18,848	12.2	10.8	2.1	2.0	16.3	17.0	3.5	5.2	54.6	12.9
JCET Group*	600584 CH	HOLD	RMB 38.16	RMB 41.00	10,497	26.8	26.7	3.3	2.9	14.6	11.6	0.1	0.3	75.2	0.4
TSHT*	002185 CH	HOLD	RMB 14.27	RMB 16.00	6,044	33.3	32.0	4.0	3.6	12.9	11.9	0.2	0.4	67.4	3.9
TFME*	002156 CH	SELL	RMB 22.10	RMB 20.00	4,540	37.7	34.7	2.8	2.7	7.8	8.0	0.1	0.7	107.0	8.8
PTI	6239 TT	NC	TWD 111.50		3,116	10.3	9.2	1.7	1.6	17.2	18.5	5.4	6.2	25.6	12.9
USI	601231 CH	NC	RMB 14.61		4,990	15.3	12.9	2.4	2.1	16.7	17.4	2.9	4.2	25.0	18.3
Fabless															
Silergy*	6415 TT	BUY	TWD 3,855.00	TWD 4,230.00	12,931	70.4	52.8	15.8	12.9	24.8	26.9	0.3	0.4	53.7	33.5
SG Micro*	300661 CH	SELL	RMB 243.16	RMB 134.00	8,823	100.2	84.5	21.1	17.7	23.0	22.8	0.2	0.3	31.0	18.6
Montage*	688008 CH	SELL	RMB 62.86	RMB 56.00	10,990	52.4	46.3	8.0	7.2	16.1	16.0	0.5	0.8	19.6	13.2
Willsemi	603501 CH	NC	RMB 320.38		43,016	60.8	47.3	17.5	13.3	30.7	29.2	0.2	0.2	72.3	28.5
Goodix	603160 CH	NC	RMB 108.80		7,701	38.5	29.8	5.6	4.8	15.4	17.3	0.5	0.5	(14.4)	29.5
GigaDevice	603986 CH	NC	RMB 173.83		17,850	74.5	55.9	9.3	8.0	12.6	14.7	0.4	0.5	55.3	33.3
Unigroup Guoxin	002049 CH	NC	RMB 160.08		15,016	71.3	50.6	15.6	12.1	22.2	24.0	0.1	0.1	61.2	40.8
Espressif	688018 CH	NC	RMB 244.47		3,027	73.1	51.3	10.3	8.6	14.1	17.4	nm	nm	65.6	42.6
Chipown	688508 CH	NC	RMB 91.60		1,597	85.6	53.6	7.5	6.6	8.7	12.4	nm	nm	25.9	59.8

NC = Not Covered. "nm" = not meaningful. *Covered by CRSHK. Bloomberg/Wind consensus estimates for NC companies.

FX: US\$/TWD = 27.883, US\$/HK\$ = 7.7665, US\$/RMB = 6.4692. Prices as of close on July 15, 2021.

Source: Company data, Bloomberg consensus estimates, CRSHK estimates

Risks

Risks to our target price include the following:

- **End-market demand downside.** TSMC's product portfolio and customer base are extremely diversified; however, the impact from any weakness in the overall smartphone end-market could negatively impact the company's profitability in the short term.
- **Intense industry rivalry.** Any increase in the competition between TSMC and its peers caused by pressures from the US-China trade war could pose a risk to the company's revenues. Also, Intel's entry into the foundry space may bring more rivalry in advanced nodes.
- **Slower-than-expected technology ramp-up.** Competition in advanced nodes is becoming increasingly intense and any missteps in technology ramp-up could result in market share loss for TSMC, to the benefit of its competitors.
- **Slower-than-expected 5G/HPC ramp-up.** Since 5G and HPC ramp-up are the key catalysts we see in 2021 for TSMC, any slower ramp-up could pose a risk to the company's revenues.
- **More severe COVID-19 outbreak.** A more severe/prolonged COVID-19 outbreak may bring negative impacts to end-market demand, thus hurting TSMC's revenue/profit.

Exhibit 19: TSMC – Income statement and key assumptions

TWDbn	1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21E	4Q21E	2020	2021E	2022E	2023E
Revenue	310.6	310.7	356.4	361.5	362.4	372.1	412.9	407.4	1,339.3	1,554.8	1,759.8	2,039.3
COGS	(149.8)	(146.1)	(165.9)	(166.3)	(172.6)	(185.9)	(202.3)	(203.9)	(628.1)	(764.8)	(867.6)	(981.8)
Gross Profit	160.8	164.6	190.5	195.2	189.8	186.2	210.5	203.5	711.1	790.0	892.2	1,057.6
Operating Expense	(32.3)	(33.5)	(40.4)	(38.1)	(39.3)	(40.5)	(44.0)	(43.2)	(144.3)	(167.0)	(186.0)	(216.7)
EBIT	128.5	131.1	150.0	157.1	150.5	145.7	166.6	160.2	566.8	623.0	706.3	840.9
Net Interest Income	2.5	2.1	1.5	0.9	0.7	0.3	0.5	0.4	6.9	1.9	1.1	0.7
Net Other Income	1.2	3.2	3.6	3.1	3.8	3.4	3.9	3.6	11.1	14.8	15.9	17.8
Pre-Tax Profit	132.1	136.4	155.1	161.1	155.1	149.4	171.0	164.2	584.8	639.7	723.3	859.4
Tax Expense /(Credit)	15.1	15.5	17.7	18.3	15.3	14.9	19.7	18.9	66.6	68.8	83.2	98.8
Net Profit	117.0	120.8	137.3	142.8	139.7	134.4	151.2	145.3	517.9	570.6	639.8	760.2
EPS (TWD)	4.51	4.66	5.30	5.51	5.39	5.18	5.83	5.60	19.97	22.00	24.67	29.32
Key Drivers ('000)												
Capacity (8"-equiv)	6,790	6,981	7,239	7,472	7,533	7,644	7,678	7,691	28,482	30,546	31,947	34,141
Shipment (8"-equiv)	6,581	6,717	7,290	7,304	7,558	7,760	7,678	7,653	27,892	30,649	31,405	33,052
Margins (%)												
Gross Margin	51.8	53.0	53.4	54.0	52.4	50.0	51.0	49.9	53.1	50.8	50.7	51.9
Operating Margin	41.4	42.2	42.1	43.5	41.5	39.1	40.3	39.3	42.3	40.1	40.1	41.2
EBITDA Margin	61.9	63.4	66.8	68.6	67.4	65.1	65.3	65.6	65.4	65.8	67.9	70.0
Net Margin	37.7	38.9	38.5	39.5	38.6	36.1	36.7	35.7	38.7	36.7	36.4	37.3
Sequential growth (%)												
Revenue	(2.1)	0.0	14.7	1.4	0.2	2.7	10.9	(1.3)	25.2	16.1	13.2	15.9
Gross Profit	1.0	2.4	15.7	2.5	(2.8)	(1.9)	13.1	(3.4)	25.2	16.1	13.2	15.9
EBIT	3.4	2.0	14.5	4.7	(4.2)	(3.2)	14.3	(3.8)	44.3	11.1	12.9	18.5
Net Profit	0.8	3.3	13.6	4.0	(2.2)	(3.8)	12.5	(4.0)	52.1	9.9	13.4	19.1
EPS	0.8	3.3	13.6	4.0	(2.2)	(3.8)	12.6	(4.0)	50.0	10.2	12.1	18.8

Source: Company data, CRSHK estimates

Financials

Year to Dec 31
Income Statement

(TWDmn)	2020A	2021E	2022E	2023E
Group sales	1,339,255	1,554,794	1,759,842	2,039,337
Sales	1,339,255	1,554,794	1,759,842	2,039,337
Cost of Goods Sold	(628,125)	(764,777)	(867,593)	(981,772)
Gross Profit	711,130	790,017	892,249	1,057,565
SG&A (incl. R&D)	(145,057)	(145,518)	(140,031)	(162,022)
thereof R&D	(109,486)	(106,537)	(96,071)	(110,815)
thereof Sales & Marketing expense	(35,570)	(38,981)	(43,960)	(51,208)
EBIT	566,784	622,973	706,258	840,863
EBITDA	875,288	1,023,542	1,194,268	1,427,300
Net interest income	9,018	4,998	4,027	4,058
Net interest expense	(2,081)	(3,120)	(2,903)	(3,366)
Pretax profit	584,777	639,663	723,286	859,386
Income Tax	(66,619)	(68,785)	(83,178)	(98,829)
Reported net income	517,885	570,558	639,780	760,230
EPS (reported) (TWD)	19.97	22.00	24.67	29.32

Balance Sheet

(TWDmn)	2020A	2021E	2022E	2023E
Current assets	1,092,185	1,104,460	1,099,269	1,242,267
Cash & equivalents	791,477	731,093	647,881	725,728
Account receivables	146,038	182,853	221,762	254,016
Inventories	137,353	168,793	203,419	232,569
Other current assets	17,317	21,720	26,207	29,953
Non-current assets	1,668,526	2,071,031	2,499,050	2,900,135
PPE	1,555,589	1,937,171	2,355,561	2,746,624
Intangible assets	0	0	0	0
Goodwill	0	0	0	0
Other non-current assets	85,209	99,969	99,969	99,969
Total assets	2,760,711	3,175,491	3,598,319	4,142,402
Total Current Liabilities	617,151	744,098	866,414	988,663
ST interest bearing debt	91,159	168,162	193,598	225,553
Unearned revenue	0	0	0	0
Accounts Payable	41,095	48,388	49,651	52,319
LT interest bearing debt	254,105	242,900	227,762	265,356
Other Liabilities	38,833	40,631	40,631	40,631
Total Liabilities	910,089	1,027,629	1,134,807	1,294,651
Common Stock/Ordinary Capital	259,304	259,304	259,304	259,304
Share Premium	0	0	0	0
Retained Earnings	1,277,539	1,569,067	1,884,717	2,268,956
Shareholders Equity	1,849,657	2,145,678	2,461,328	2,845,567
Minority Interest	965	2,184	2,184	2,184
Total Liabilities & Sh. Equity	2,760,711	3,175,491	3,598,319	4,142,402

Note: Historical valuation ratios calculated on yearly average price.

Source: Company data, CRSHK estimates

Cash Flow

(TWDmn)	2020A	2021E	2022E	2023E
Reported net income	517,885	570,558	639,780	760,230
Depreciation & amortization	(308,504)	(400,569)	(488,010)	(586,437)
Net interest (income) / expenses	6,937	1,879	1,124	691
Other non-cash items (+/-)	273	320	328	327
Others (+/-)	(6,937)	(1,879)	(1,124)	(691)
Change in Working Capital	24,035	(22,713)	18,857	25,145
Cash Flow from operations	850,698	948,734	1,146,975	1,372,138
Capex	(511,716)	(782,151)	(906,400)	(977,500)
Acquisitions & Investments	0	0	0	0
Disposal of Fixed Assets & Invst	(23,123)	(20,923)	(9,629)	(10,021)
Other Investing Activities	0	0	0	0
Net Cash Flow from Investments	(534,839)	(803,074)	(916,029)	(987,521)
Dividends paid	(259,304)	(272,269)	(324,130)	(375,991)
Change in Debt	169,842	65,797	10,299	69,549
Equity raised / (purchased)	(26,825)	5,712	0	0
Other Financial Activities	8,456	(5,284)	(328)	(327)
Net Cash Flow from Financing	(107,830)	(206,044)	(314,159)	(306,769)
Net Cash Flow	208,028	(60,383)	(83,213)	77,848
Free Cash Flow	315,858	145,660	230,947	384,617

Key Assumptions

	2020A	2021E	2022E	2023E
Capacity (k 8" equiv)	28,482	30,546	31,947	34,141
Shipment (k 8" equiv)	27,892	30,649	31,405	33,052

Financial Ratios

	2020A	2021E	2022E	2023E
YoY (%)				
Revenue	25.2	16.1	13.2	15.9
EBITDA	36.9	16.9	16.7	19.5
Net Profit	50.0	10.2	12.1	18.8
EPS	50.0	10.2	12.1	18.8
Profitability (%)				
EBITDA Margin	65.4	65.8	67.9	70.0
EBIT Margin	42.3	40.1	40.1	41.2
Net Margin	38.7	36.7	36.4	37.3
ROE	28.0	26.6	26.0	26.7
ROA	18.8	18.0	17.8	18.4
Liquidity (x)				
Current ratio	1.8	1.5	1.3	1.3
Quick ratio	1.5	1.3	1.0	1.0
Valuation Ratios (x)				
P/E	19.0	27.9	24.9	20.9
P/B	5.3	7.4	6.5	5.6
P/S	11.9	10.2	9.0	7.8

Appendix A

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Hold	40	24%	1	3%
Sell	9	5%	0	0%

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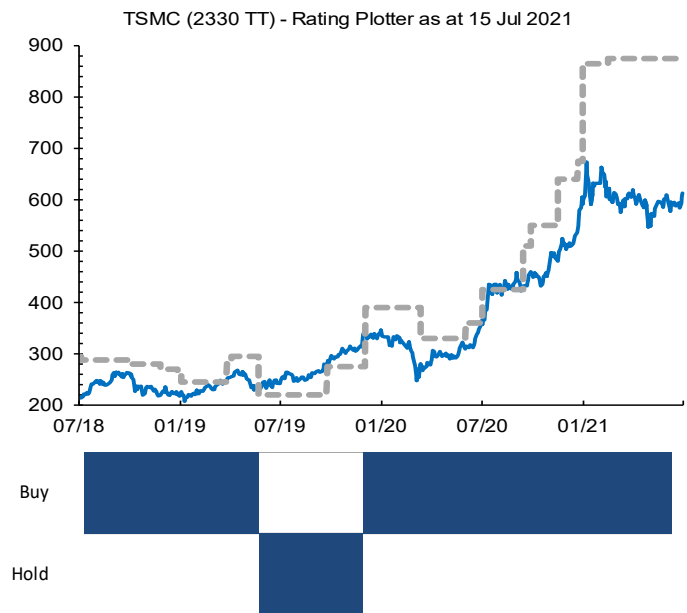
Overweight – Expect sector to outperform the relevant market. **Neutral** – Expect sector to perform in line with the relevant market. **Underweight** – Expect sector to underperform the relevant market.

Stocks Mentioned (Stock Code / Date / Price / Rating)

TSMC (2330 TT, Jul 15, 2021, TWD614.00, BUY)

History of investment rating and target price – TSMC

Date	CP (TWD)	TP (TWD)	Rating
01-Mar-21	606.00	875.00	Buy
14-Jan-21	592.00	865.00	Buy
06-Jan-21	549.00	675.00	Buy
30-Nov-20	480.50	640.00	Buy
12-Oct-20	460.00	550.00	Buy
28-Sep-20	431.50	510.00	Buy
16-Jul-20	357.50	425.00	Buy
16-Jun-20	309.50	360.00	Buy
26-Mar-20	280.00	330.00	Buy
17-Dec-19	345.00	390.00	Buy
09-Oct-19	278.00	275.00	Hold
06-Jun-19	235.50	220.00	Hold
18-Apr-19	255.50	295.00	Buy
10-Apr-19	246.50	285.00	Buy
17-Jan-19	225.50	245.00	Buy
10-Jan-19	223.50	265.00	Buy
10-Dec-18	219.00	270.00	Buy
18-Oct-18	260.00	280.00	Buy
19-Jul-18	216.00	288.00	Buy



Valuation and Risks - TSMC (2330 TT)

Valuation: Our target price of TWD875.00 for TSMC is based on 1-year discounted 40x 2022E P/E.

Risks: 1) Weakness in the overall smartphone end-market demand could impact short-term profitability; 2) intense industry rivalry from US-China trade war; 3) slower-than-expected technology ramp-up could result in market share loss for TSMC; 4) slower-than-expected 5G/HPC ramp-up; 5) more severe COVID-19 outbreak.

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