

Would you place a bet on **China-backed SMIC** to win the **semiconductor race?**



Valuation Master Class

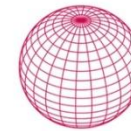


What's interesting
about SMIC is that it's
the **5th largest**
chipmaker in the
world



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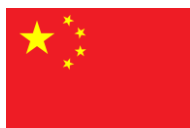
Would you place a bet on China-backed SMIC to win the semiconductor race?



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Sector: Info. Tech.



China's largest pure-play semiconductor foundry, which is partially state-owned

Our estimate:

HKD14

(Downside 14%)

SELL



3 things to know about this company

- ★ Semiconductors are the next battleground of US-China tech war
- ★ Backed by Chinese gov't, but facing tough competition
- ★ Aggressive expansion requires heavy investments

Key statistics

Analyst consensus (26)

HKD24

(Upside 50%)

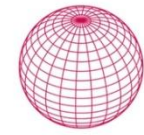
BUY

PE ratio (21A)

110x

Dividend yield

0%



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Risks

Revenue breakdown by applications

Smartphone 32%



Consumer Electronics 24%



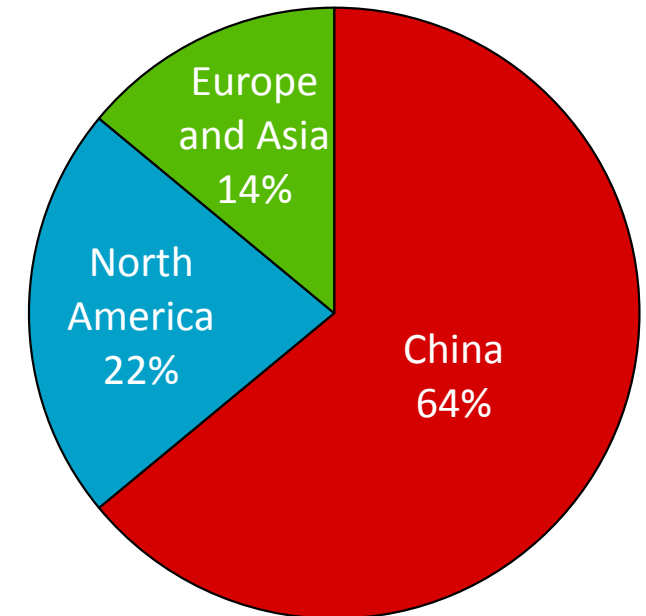
Smart Home 13%



Others 32%



Breakdown by region



Share price dropped over the past few months



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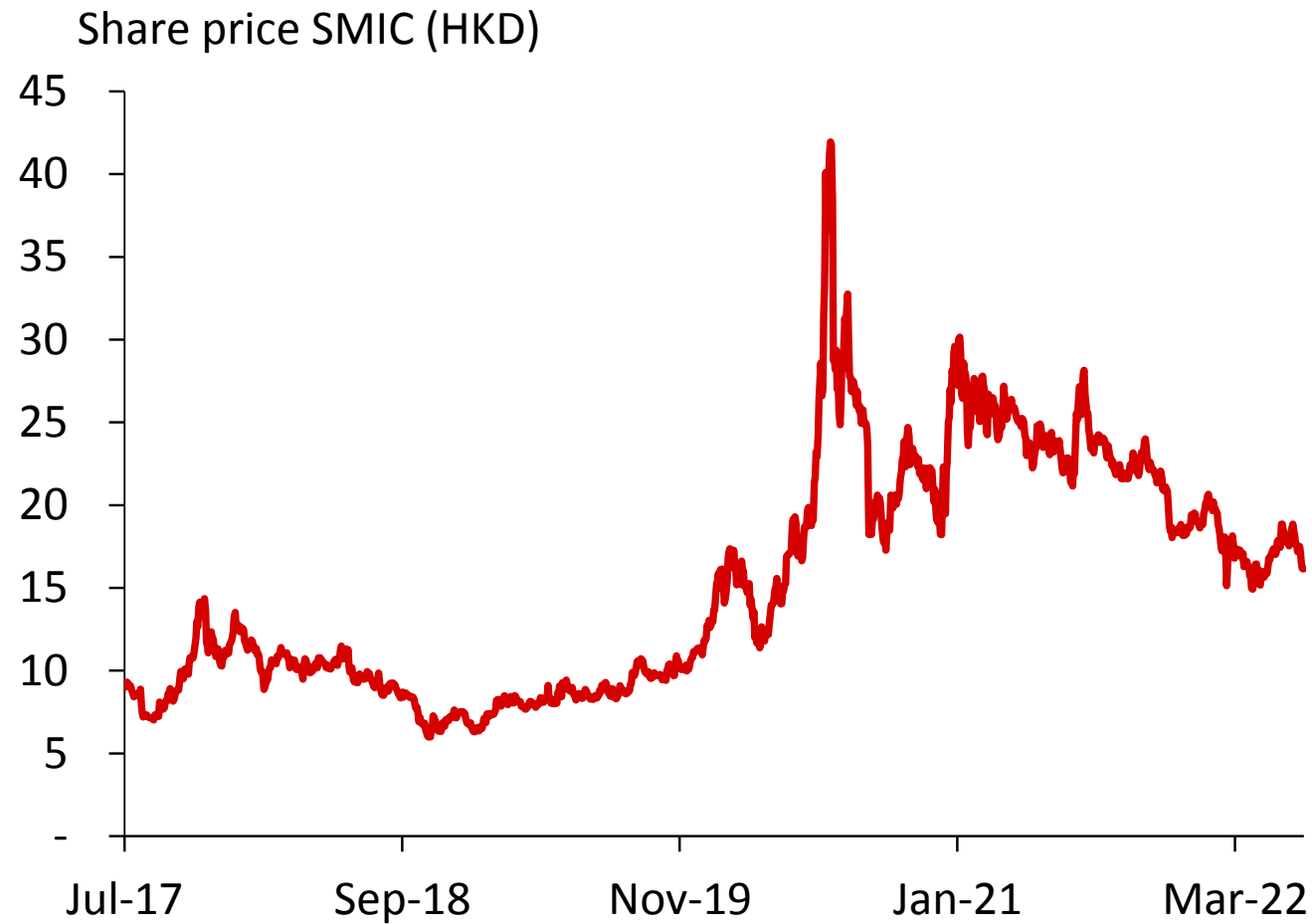
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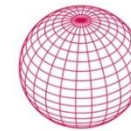
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Risks



- ★ The steady fall in the price has caught analyst's off guard leading to their 50% upside
 - **Analysts might adjust their target prices**

1 Semiconductors are the next battleground of US-China tech war



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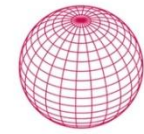
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Risks

Sanctions	Event
2019	Dutch government declined to renew a license for ASML to ship tools to SMIC
2020	SMIC included in US Department of Commerce's entity list
2021	Executive order restricting Americans from investing in 'Chinese Military-Industrial Complex Companies'
2022	US secretary of commerce could take action against Chinese companies dealing US sanctions on Russia.

- ★ In 2020, the US gov't placed SMIC on the Entity List, which bans the export of US technology to the companies on the list
- ★ Former US Secretary of Commerce Wilbur Ross said
 - **"We will not allow advanced US technology to help build the military of an increasingly belligerent adversary"**

Domestic market provides ample growth opportunities



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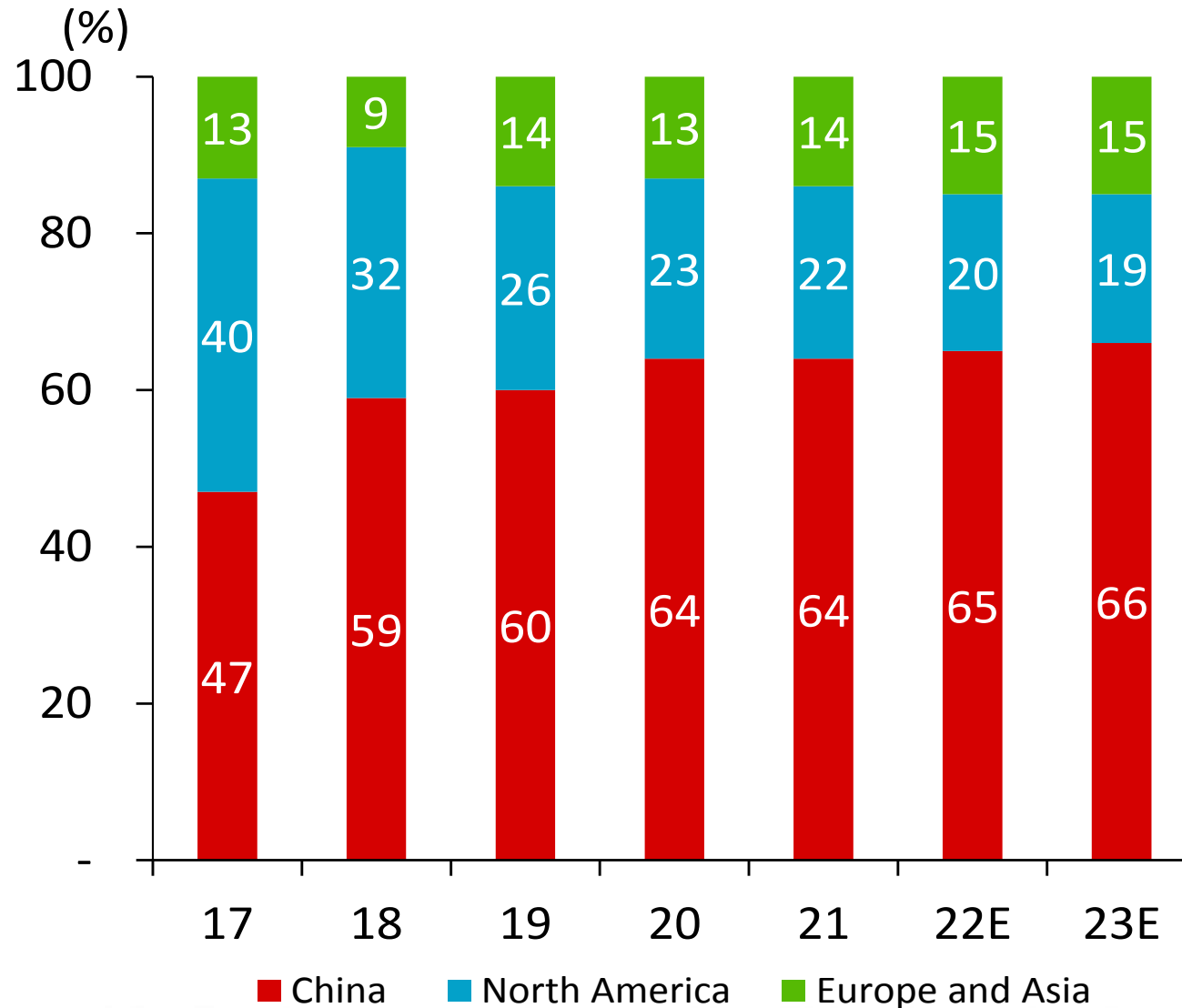
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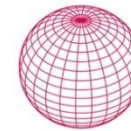
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Risks



- ★ Between 2017 and 2021, the share of revenue from North America has halved
- ★ However, that doesn't hamper the growth prospects of SMIC as the Chinese demand for chips is rising at an enormous speed
 - **Given the supply shortages, we expect SMIC to continue delivering high double-digit growth**



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Risks

- ★ China attempts to become self-sufficient in semiconductors for domestic consumption
 - It aims to ramp up self-sufficiency rate to **70% within the next 5 years (currently 20%)**
- ★ To reach that goal, SMIC secured several fundings from the gov't to accelerate the rollout of new factories
 - **On top of that, China granted a corporate income tax break for 10 years**



In 2021, the Chinese gov't supported the development of a new factory in Shenzhen, worth US\$2.3bn

Long way to go to close the gap to the Taiwanese leader TSMC



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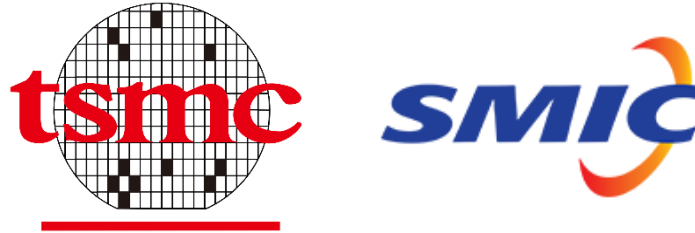
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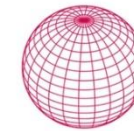
Risks



5-yr average

Revenue CAGR	10.9	13.3
Gross margin	49.9	24.2
EBIT margin	39.0	6.1
Net margin	35.5	13.4
Asset turnover	50.5	21.3
Assets/equity	1.6	2.6
ROE	28.9	6.5
ROIC	36.2	9.9

- ★ With a market share of around 57%, TSMC dominates the foundry market
 - Also, having top US companies as customers (e.g., Apple, AMD, Nvidia) secures its #1 rank
- ★ Despite the massive ramp-up of SMIC, it might take very long to converge to the profitability level of TSMC



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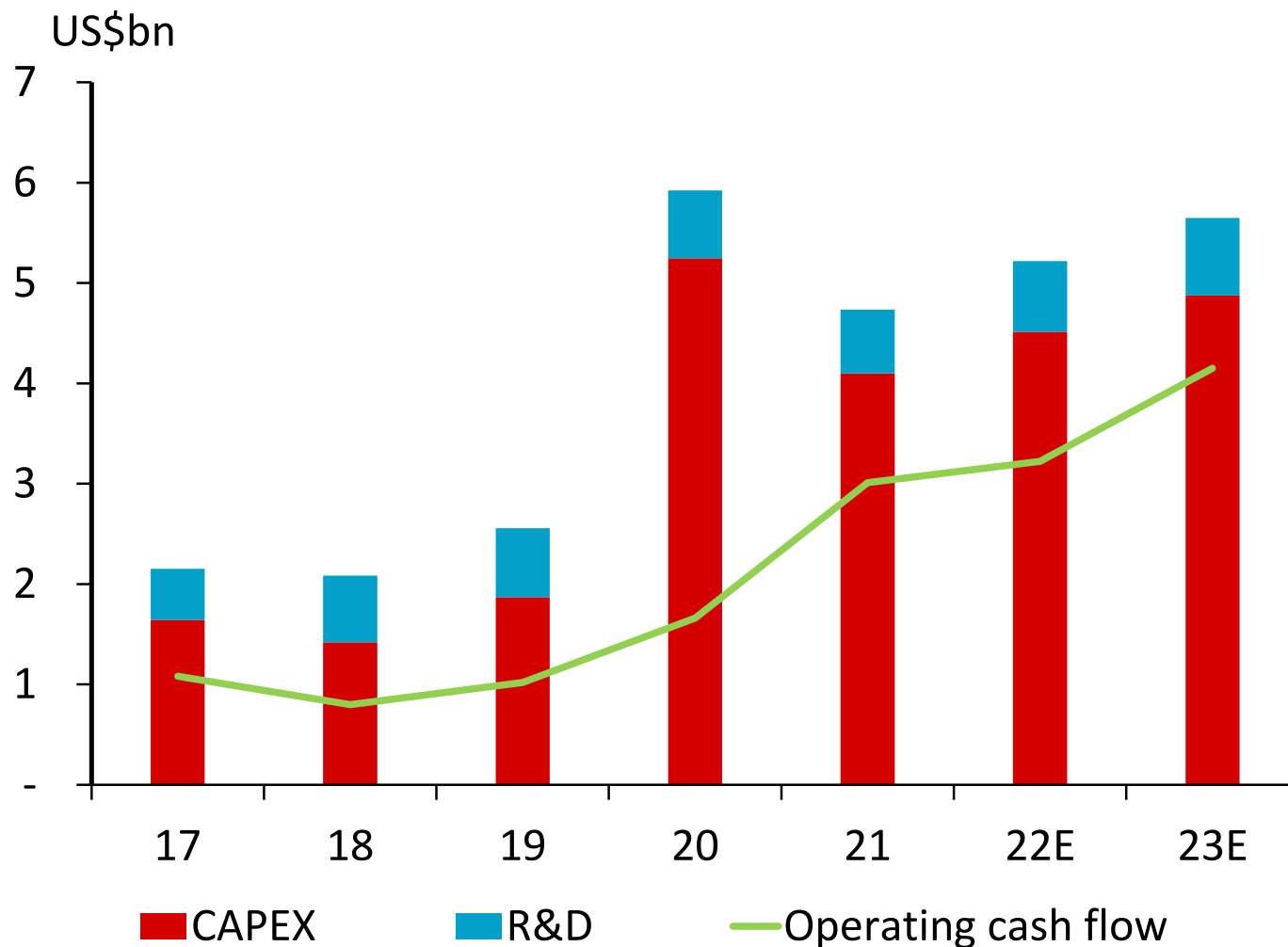
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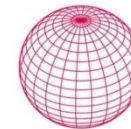
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Risks



- ★ I expect the company to continue spending massively on the rollout of its production capacity
 - Therefore, it might take a while until SMIC generates enough cash flow to internally cover its investments
- ★ FCFF likely to stay negative in the short run

Consensus is divided



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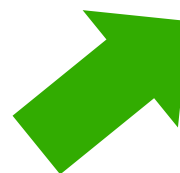
Risks

Analyst consensus valuation

Recommendation	Apr-22	May-22	Jun-22	Current
Strong buy	7	7	7	6
Buy	7	7	8	7
Hold	10	10	10	10
Sell	2	2	2	2
Strong sell	1	1	1	1
Average score	2.4	2.4	2.4	2.4

Price target	Mar-22	Apr-22	May-22	Current
Median	27	27	25	24
Mean	28	28	25	24

26
analysts



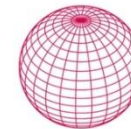
Upside: 50%

Analyst consensus 3-year forecast

(%)	19	20	21	22E	23E	24E
Revenue growth	2.5	25.4	39.3	36.6	9.3	15.3
Gross margin	20.6	23.6	30.8	34.4	30.8	31.3
EBIT margin	(1.1)	7.9	20.4	22.1	17.3	17.5
Net margin	7.5	18.3	31.3	23.9	19.5	18.6

- ★ While 13 analysts have issued a BUY recommendation, many analysts stay cautious on HOLD
- ★ Analysts predict stronger gross margin but a decline in net margin
 - This is in line with our forecast due to increasing R&D expenses which are captured in SG&A

Profit & loss statement



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Risks

(YE Dec, US\$ m)	2020A	2021A	2022E	2023E
Revenue	3,907	5,443	7,348	8,303
Cost of goods & services	(2,986)	(3,767)	(4,923)	(5,812)
Gross profit	921	1,676	2,425	2,491
SG&A	(973)	(941)	(1,176)	(1,412)
Other operating (exp)/inc	362	378	393	409
EBIT	310	1,113	1,643	1,489
Interest expense (net)	98	113	113	87
Other non-operating inc/(exp)	(188)	(204)	(222)	(242)
Earnings before taxes (EBT)	220	1,022	1,534	1,334
Income tax	(68)	(65)	(107)	(93)
Earnings after taxes (EAT)	151	957	1,426	1,241
Equity income/Minority interest	234	179	363	449
Earnings from cont. operations	385	1,136	1,789	1,689
Forex/Exceptionals before tax	331	566	-	-
Net profit	716	1,702	1,789	1,689
Earnings per share adjustments				
Net profit	716	1,702	1,789	1,689

- ★ Despite strong revenue growth, we are likely to see stagnant net profit due to an increase in R&D and SG&A



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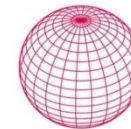
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Risks

(YE Dec, US\$ m)	2020A	2021A	2022E	2023E
Cash & short-term investments	12,745	12,498	11,757	10,983
Accounts receivable	976	1,120	1,531	1,730
Inventories	799	1,194	1,573	1,857
Other current assets	652	406	551	623
Total current assets	15,171	15,218	15,412	15,192
Long-term investments	1,472	1,877	2,365	2,940
Net fixed assets	12,629	14,815	16,710	18,796
Intangible assets	82	68	65	62
Goodwill	-	-	-	-
Other long-term assets	1,966	4,134	4,341	4,558
Total assets	31,321	36,111	38,892	41,549

- ★ Net fixed assets continue to grow at a rapid pace as SMIC expands aggressively

Balance sheet - liabilities



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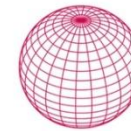
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Risks

(YE Dec, US\$ m)	2020A	2021A	2022E	2023E
Overdrafts & short-term loans	1,355	1,128	1,500	1,198
Accounts payable	1,727	763	1,231	1,615
Other current liabilities	811	2,563	2,204	2,491
Total current liabilities	3,893	4,454	4,935	5,304
Long-term debt	5,018	5,645	6,173	6,791
Other long-term liabilities	21	35	42	47
Total liabilities	8,932	10,134	11,151	12,141
Minority interest	6,507	8,288	8,264	8,240
Paid-up capital - Common shares	13,596	13,981	13,981	13,981
Paid-up capital - Preferred shares	-	-	-	-
Retained earnings	1,258	2,960	4,749	6,438
Revaluation/Forex/Others	1,028	748	748	748
Total equity	15,882	17,689	19,477	21,167
Total liab & shareholders' equity	31,321	36,111	38,892	41,549

- ★ SMIC has moderately low leverage and being backed by the Chinese gov't means financial risk is low



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Risks

(YE Dec)	2020A	2021A	2022E	2023E
General growth (YoY, %)				
Revenue	25.4	39.3	35.0	13.0
Assets	90.5	15.3	7.7	6.8
Gross profit	43.3	82.0	44.7	2.7
Operating profit	nm	259.1	47.6	(9.4)
Attributable profit	204.9	137.8	5.1	(5.5)
EPS	141.3	94.4	3.8	(5.5)
Recurring EPS	114.8	130.7	52.3	(5.5)
Du Pont analysis (%)				
Net profit margin	18.3	31.3	24.3	20.3
Revenue per HK\$100 of assets	16.4	16.1	19.6	20.6
Assets/equity (x)	2.4	2.8	2.7	2.0
Return on equity	7.1	14.3	12.9	8.3
Others (%)				
Effective tax rate	12.4	4.1	7.0	7.0
Dividend payout ratio	-	-	-	-

- ★ The effective tax rate continues to stay low as the company was granted tax exemptions in the context of China's race for self-sufficiency



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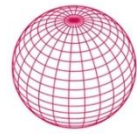
Risks

(YE Dec)	2020A	2021A	2022E	2023E
Internal liquidity (x)				
Current ratio	3.9	3.4	3.1	2.9
Quick, or acid test ratio	3.7	3.1	2.8	2.5
Working cap. mgmt (Days)				
Inventory conversion period	86	95	101	106
Receivables collection period	83	69	65	71
Days from raw mat to coll	170	165	166	177
Payables deferral period	167	119	73	88
Cash conversion cycle	2	46	93	89
Profitability ratios (%)				
Gross profit margin	23.6	30.8	33.0	30.0
EBIT margin	7.9	20.4	22.4	17.9
EBIT return on avg assets	1.3	3.3	4.4	3.7
Return on average assets	3.0	5.0	4.8	4.2
Financial risk (x)				
Liabilities-to-assets (%)	29.5	28.1	28.7	29.2
Debt-to-equity	0.4	0.8	0.4	0.4
Net debt-to-equity	(0.4)	(0.7)	(0.2)	(0.1)
Times-interest-earned	22.2	27.1	42.9	38.1
Effective interest rate (%)	1.4	1.7	1.4	1.4

- ★ The company holds 1/3 of its assets in cash, making the net debt-to-equity ratio negative

Stock Picking Checklist

Can this company be a ten bagger?



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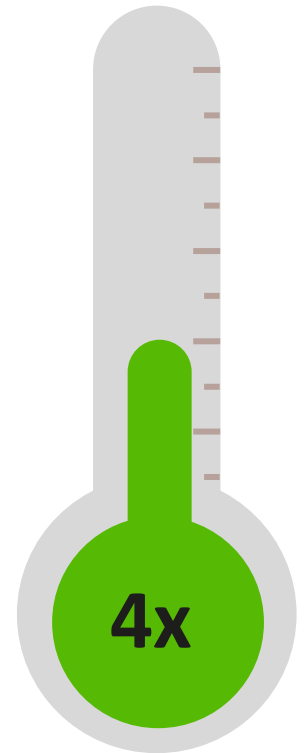
Ratios

Value

Risks

Checklist	Potential	Comment
1. Management is committed to growth	Good	Over the past 10 years, revenue grew at a CAGR of 15%
2. Growth can hit double-digits	Good	Given the supply shortages of chips, there is still plenty of excess demand
3. Gross Margin can remain high	Good	Strong potential to converge gross margin closer to its peers
4. Earnings are predictable	Moderate	Fluctuating exceptional items
5. Efficient at deploying assets	Weak	Asset turnover is 21%, which is much weaker than its peers
6. Cash Conversion cycle is low	Moderate	Cash conversion cycle is 22 days, comparable to the sector average
7. Cash Flow is consistently positive	Weak	SMIC's operating CF is far lower than its investing CF as it expands aggressively
8. Capital is readily available	Good	The company is net cash
9. Valuation is reasonable	Weak	Trades high on both PE and PB

10x Bagger Potential





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(YE Dec, US\$ m)	2020A	2021A	2022E	2023E
EBIT	310	1,113	1,643	1,489
Est tax rate (%)	12	4	7	7
NOPAT	271	1,067	1,528	1,384
Add: Depre & amort	1,313	1,869	2,623	2,794
Less: CAPEX	(5,236)	(4,088)	(4,499)	(4,860)
Chg in A/R	(140)	(144)	(411)	(199)
Chg in inventory	(170)	(395)	(379)	(284)
Chg in oth curr assets	198	246	(145)	(72)
Chg in A/P	681	(964)	468	384
Chg in oth curr liabs	212	1,752	(359)	287
Less: Chg in working cap	782	495	(826)	116
Less: Chg in invest cap				
Free cash flow to firm	(2,871)	(656)	(1,174)	(566)

- ★ Heavy CAPEX requirements means that the company is likely to continue seeing negative FCFF
 - However, I think that the company can deliver a positive FCFF in 2024 for the first time



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Forecast assumptions

3-year average	Consensus	My assumptions
Revenue growth (CAGR)	19.8	19.5
Gross margin	32.2	31.3
EBIT margin	19.0	19.5
Net margin	20.7	21.5

My valuation method

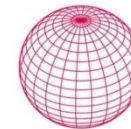
Market: Hong Kong

Market risk-free rate	1.7
Market equity risk premium	6.0
Market return	7.7
Company beta (x)	1.0
COE	7.7

Valuation Method:
FCFF

WACC	7.1
Terminal growth rate	4.0

- ★ Similar to consensus, I expect that SMIC can realize its growth potential
- ★ Plus, I assume that SMIC can increase its ROIC to 20% from 7% over the next decade



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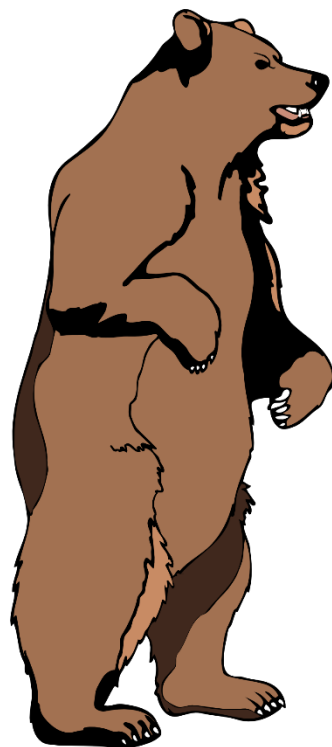
Value

Risks

Bear

HK12

(Downside 23%)



Base

HKD14

(Downside 14%)



Bull

HKD16

(Downside 0%)





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Risks

- ★ Geopolitical situation may put the company's access to raw materials and equipment at risk
- ★ Change in preferential tax policy could adversely affect the company's bottom-line
- ★ Failure to keep up with technological changes and falling behind competitors

CONCLUSION

- Double-digit growth and backing from the Chinese gov't
- Aggressive expansion plans could lead to ongoing negative FCFF
- Placing a bet on SMIC might turn out fruitful but it's risky

