

Cadence

High-quality biz model and execution, but valuation elevated

Reiterate Rating: UNDERPERFORM | PO: 140.00 USD | Price: 139.20 USD

Solid Q4 but valuation elevated as semis markets rebound

Q4 sales/EPS of \$760mn/\$0.83 finished \$30mn/9c ahead of Street though benefitted from collections. Adjusting for the extra week in FY20, CDNS guided FY21 sales up +10% YoY, with solid OpMs (35.3% at mdpt) enabling mgmt. to maintain an adjusted 'Rule of 40' metric of 45%+. While we acknowledge CDNS' impressive ability to expand OpMs in recent years (Q4 OpMs reach record 37%, +630bps YoY) and believe in management's ability to execute long-term, we remain cautious surrounding investor sentiment/preference shifting towards semiconductor vendors with direct exposure to recovering cyclical and secular markets (autos, industrial, 5G, etc.). Notably, even assuming FY21 sales reach CDNS bull case scenario (+11% YoY adjusted), topline growth is well short of +14% YoY growth we model for semiconductor vendors (on average). Trading at a 41x CY22E P/E (high-end of 17x-42x range), we believe other names feature better risk-reward profiles. Reiterate Underperform. Overall, we slightly raise FY21E/22E ests and our PO to \$140 on 40x CY22E EV/FCF (vs 36x prior) given its solidified margin profile, still in line with peers trading 27x-63x.

Likes: Conservative guide, OpM growth, Systems revenue

(1) Given concerns around upfront revenues originating from China, mgmt. remained cautious in guiding 2H revenues, with sustained strength potentially enabling upside later in the year; (2) Q4 OpMs of 37.1% (+120bps QoQ) finished 230bps above Street, with FY20 OpMs reaching a record 35% for the year (up nearly 1000bps since FY16); (3) System companies now account for ~45% of sales (vs 40% a few years prior), which could be underappreciated, given that it brings CDNS much closer to the end customer and highlights increasing in-house silicon activity.

Risks: China strength, FY21 expense growth, valuation

(1) China sales increased +135% YoY which could signal pull-ins, particularly with mgmt. noting an elevated mix of upfront revenues in Q4 and likely 1H21; (2) FY21E EPS guide of \$3 at mdpt 4%/12c ahead of Street, but further upside limited by ramp in expenses (+8% YoY unadjusted) as headcount increases and COVID-19 restrictions ease; (3) CDNS trading at 41x P/E is 10-15 turns above CDNS's five-year average, and we continue to believe investors will prefer higher growth semiconductor stocks.

Estimates (Dec) (US\$)	2019A	2020A	2021E	2022E	2023E
EPS	2.20	2.80	3.01	3.43	3.84
GAAP EPS	3.53	2.11	2.12	2.52	2.87
EPS Change (YoY)	17.6%	27.3%	7.5%	14.0%	12.0%
Consensus EPS (Bloomberg)			2.70	2.88	3.18
DPS	0	0	0	0	0
Valuation (Dec)					
P/E	63.3x	49.7x	46.2x	40.6x	36.3x
GAAP P/E	39.4x	66.0x	65.7x	55.2x	48.5x
Dividend Yield	0%	0%	0%	0%	0%
EV / EBITDA*	46.6x	37.2x	34.6x	30.5x	27.4x
Free Cash Flow Yield*	1.7%	2.1%	2.1%	2.5%	2.8%

* For full definitions of *IQmethod*SM measures, see page 13.

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Refer to important disclosures on page 14 to 17. Analyst Certification on page 11. Price

Objective Basis/Risk on page 11. This document is being provided for the exclusive use of SHIBIN XIE at ALLIANZ GLOBAL INVESTORS US

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Timestamp: 23 February 2021 12:14AM EST

23 February 2021

Equity

Key Changes

(US\$)	Previous	Current
Price Obj.	130.00	140.00
2021E Rev (m)	2,863.0	2,890.0
2022E Rev (m)	3,091.3	3,151.2
2023E Rev (m)	NA	3,435.5
2021E EPS	3.00	3.01
2022E EPS	3.32	3.43
2023E EPS	NA	3.84

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Stock Data

Price	139.20 USD
Price Objective	140.00 USD
Date Established	23-Feb-2021
Investment Opinion	B-3-9
52-Week Range	51.39 USD - 149.08 USD
Mrkt Val (mn) / Shares Out (mn)	38,848 USD / 279.1
Average Daily Value (mn)	199.84 USD
BofA Ticker / Exchange	CDNS / NAS
Bloomberg / Reuters	CDNS US / CDNS.OQ
ROE (2021E)	31.2%
Net Dbt to Eqty (Dec-2020A)	-23.3%

ESGMeter™

High

ESGMeter is a proprietary metric based on quantitative analysis and fundamental analyst inputs that reflects our assessment of a company's ESG-related attributes. It is intended to indicate a company's likelihood of experiencing stronger financial stability (higher ROE and lower earnings and price volatility) over the next three years relative to its peer group. There are three ESGMeter levels – Low, Medium, and High. Refer to "BofA ESGMeter Methodology". ESGMeter is not intended to be indicative of a company's future stock price performance and is independent of the BofA Global Research fundamental equity analyst's investment rating, volatility risk rating, income rating or price objective for that company.

iQprofileSM Cadence

iQmethodSM – Bus Performance*

(US\$ Millions)	2019A	2020A	2021E	2022E	2023E
Return on Capital Employed	30.4%	29.1%	26.1%	26.2%	25.5%
Return on Equity	36.4%	34.0%	31.2%	30.4%	29.0%
Operating Margin	32.1%	35.2%	35.3%	36.9%	37.8%
Free Cash Flow	655	810	824	973	1,072

iQmethodSM – Quality of Earnings*

(US\$ Millions)	2019A	2020A	2021E	2022E	2023E
Cash Realization Ratio	1.2x	1.2x	1.1x	1.1x	1.1x
Asset Replacement Ratio	0.6x	0.7x	0.8x	0.9x	0.9x
Tax Rate	NM	6.7%	14.0%	14.0%	14.0%
Net Debt-to-Equity Ratio	-17.1%	-23.3%	-34.1%	-44.5%	-52.4%
Interest Cover	NM	NM	NA	NA	NA

Income Statement Data (Dec)

(US\$ Millions)	2019A	2020A	2021E	2022E	2023E
Sales	2,336	2,683	2,890	3,151	3,436
% Change	9.3%	14.8%	7.7%	9.0%	9.0%
Gross Profit	2,117	2,430	2,656	2,848	3,068
% Change	10.0%	14.8%	9.3%	7.2%	7.8%
EBITDA	819	1,026	1,102	1,252	1,395
% Change	15.0%	25.2%	7.4%	13.6%	11.4%
Net Interest & Other Income	(14)	(13)	(17)	(17)	(17)
Net Income (Adjusted)	618	782	843	962	1,076
% Change	17.5%	26.6%	7.8%	14.2%	11.8%

Free Cash Flow Data (Dec)

(US\$ Millions)	2019A	2020A	2021E	2022E	2023E
Net Income from Cont Operations (GAAP)	989	591	594	707	803
Depreciation & Amortization	123	146	133	123	132
Change in Working Capital	6	(15)	(34)	1	(17)
Deferred Taxation Charge	(577)	(26)	0	0	0
Other Adjustments, Net	188	210	231	252	275
Capital Expenditure	(75)	(95)	(101)	(110)	(120)
Free Cash Flow	655	810	824	973	1,072
% Change	20.6%	23.7%	1.7%	18.1%	10.2%

Balance Sheet Data (Dec)

(US\$ Millions)	2019A	2020A	2021E	2022E	2023E
Cash & Equivalents	705	928	1,337	1,870	2,442
Trade Receivables	305	338	361	430	458
Other Current Assets	160	212	204	237	238
Property, Plant & Equipment	276	311	331	352	375
Other Non-Current Assets	1,912	2,161	2,109	2,075	2,040
Total Assets	3,357	3,951	4,342	4,963	5,553
Short-Term Debt	0	0	0	0	0
Other Current Liabilities	672	797	777	880	891
Long-Term Debt	346	347	347	347	347
Other Non-Current Liabilities	236	314	314	314	314
Total Liabilities	1,254	1,458	1,438	1,541	1,552
Total Equity	2,103	2,493	2,904	3,423	4,001
Total Equity & Liabilities	3,357	3,951	4,342	4,963	5,553

* For full definitions of iQmethodSM measures, see page 13.

Company Sector

Technical & Design Software

Company Description

Cadence is the second largest provider of electronic design automation (EDA) software and tools used to design, verify, and lay out semiconductor chips and electronics system. Its core competency lies in analog/custom chip design. Cadence is also the 3rd largest supplier of semiconductor intellectual property, and has aspirations to expand its TAM into the adjacent system analysis market.

Investment Rationale

We rate CDNS Underperform. We like its leading position in an EDA industry that is levered to the same secular trends as semis but with much more muted cyclicality. While we think CDNS has defensiveness/scarcity value, we believe the stock could struggle to outperform in the near term as it trades at a rich premium relative to peers and as relatively fewer opportunities to derive operating leverage.

Stock Data

Average Daily Volume 1,435,628

Quarterly Earnings Estimates

	2020	2021
Q1	0.60A	0.74E
Q2	0.66A	0.76E
Q3	0.70A	0.73E
Q4	0.83A	0.78E

Summary of model changes

Table 1: Summary of sales and EPS changes

We raise FY21E/FY22E sales by 1%/2% to \$2,890mn/\$3,151mn and raise Non-GAAP EPS by 1c/11c to \$3.01/\$3.43

	Sales (\$mn)			Non-GAAP EPS		
	OLD	NEW	Delta	OLD	NEW	Delta
1Q21E	\$685	\$720	\$35	\$0.68	\$0.74	\$0.06
2Q21E	\$700	\$725	\$26	\$0.72	\$0.76	\$0.04
3Q21E	\$728	\$715	(\$14)	\$0.78	\$0.73	(\$0.05)
4Q21E	\$750	\$730	(\$20)	\$0.82	\$0.78	(\$0.04)
FY21E	\$2,863	\$2,890	\$27	\$3.00	\$3.01	\$0.01
YoY%	7.9%	7.7%	1%	11.2%	7.5%	0%
1Q22E	\$757	\$751	(\$6)	\$0.81	\$0.79	(\$0.02)
2Q22E	\$760	\$772	\$12	\$0.82	\$0.83	\$0.02
3Q22E	\$777	\$795	\$19	\$0.84	\$0.87	\$0.03
4Q22E	\$798	\$833	\$35	\$0.86	\$0.94	\$0.08
FY22E	\$3,091	\$3,151	\$60	\$3.32	\$3.43	\$0.11
YoY%	8.0%	9.0%	2%	10.9%	14.2%	3%

Source: BofA Global Research estimates, company report

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Q4 reported vs. expectations

Table 2: Summary of DecQ results

CDNS reported Q4 sales 4% ahead of Street. EPS beat by 9c

A v E	Dec-19	Sep-20	Dec-20						
			Guidance	Street	BofA	New BofA	Delta	QoQ	YoY
Revenue	\$599.6	\$666.6	\$630 - \$650	\$730.0	\$730.0	\$759.9	4.1%	14.0%	26.7%
QoQ%					9.5%	14.0%			
EDA	\$521.6	\$566.6		\$640.1	\$624.0	\$661.1	5.9%	16.7%	26.7%
IP	\$77.9	\$100.0		\$95.4	\$106.0	\$98.8	-6.8%	-1.2%	26.7%
Gross Margin (GAAP)	87.8%	87.7%			86.6%	90.3%		267	255
Gross Margin (Non-GAAP)	89.7%	89.6%		89.3%	88.3%	92.2%	395	262	254
Opex (GAAP)	417.3	415.1			460.8	501.4		20.8%	20.1%
Opex (Non-GAAP)	353.3	358.3		398.2	392.4	418.8	6.7%	16.9%	18.5%
Operating Income (GAAP)	108.9	169.3			171.7	185.0		9.3%	69.9%
Operating Margin (GAAP)	18.2%	25.4%			23.5%	24.3%		(105)	618
Operating Income (Non-GAAP)	184.4	239.0		254.0	252.0	282.1	11.9%	18.0%	53.0%
Operating Margin (Non-GAAP)	30.8%	35.9%	~33%	34.8%	34.5%	37.1%	259	126	636
Other income, net (GAAP)	(3.5)	(3.6)			(7.7)	1.2		-134.0%	-134.8%
Other income, net (Non-GAAP)	(4.0)	(4.4)			(7.0)	(3.7)		-17.7%	-8.5%
Pretax Income (GAAP)	105.4	165.7			164.0	186.2		12.4%	76.6%
Pretax Income (Non-GAAP)	180.4	234.6			245.0	278.4		18.7%	54.3%
Tax rate (GAAP)	-525.7%	2.5%			15.0%	6.7%		422	53242
Tax rate (Non-GAAP)	16.0%	16.0%			16.0%	16.0%		0	0
Net Income (GAAP)	659.7	161.6			139.4	173.7		7.5%	-73.7%
Net Income (Non-GAAP)	151.6	197.1			205.8	233.9		18.7%	54.3%
Diluted EPS (GAAP)	\$2.36	\$0.58	\$0.49 - \$0.51		\$0.50	\$0.62		7.4%	-73.7%
Diluted EPS (Non-GAAP)	\$0.54	\$0.70	\$0.59 - \$0.61	\$0.74	\$0.74	\$0.83	13.6%	18.6%	54.0%
Diluted Shares (Non-GAAP)	279.6	280.0			280.0	280.2		0.1%	0.2%
Operating Cash Flow	159.3	206.6			86.3	135.5		-34.4%	-14.9%
Free Cash Flow	132.2	186.3			55.0	104.5		-43.9%	-21.0%
Free Cash Flow margin	22.1%	28.0%			7.5%	13.7%		(1421)	(831)

Source: BofA Global Research estimates, company report, Bloomberg

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Q1 guidance vs. expectations

Table 3: Summary of MarQ guide

CDNS guided Q1 \$23mn above Street. EPS guided 5c ahead at the midpoint

	Dec-20			Mar-21E	
		BofA	Street	Guidance	New BofA
Revenue	\$759.9	\$685.1	\$696.6	\$710-\$730	\$720.0
QoQ%	14.0%	-6.1%			-5.3%
EDA	\$661.1	\$586.6	\$611.3		\$628.1
IP	\$98.8	\$98.6	\$94.2		\$91.9
Gross Margin (GAAP)	90.3%	88.8%			91.0%
Gross Margin (Non-GAAP)	92.2%	90.3%	89.9%		92.5%
Opex (GAAP)	501.4	443.6			476.9
Opex (Non-GAAP)	418.8	387.2	385.5		413.9
Operating Income (GAAP)	185.0	164.9			178.6
Operating Margin (GAAP)	24.3%	24.1%		25.0%	24.8%
Operating Income (Non-GAAP)	282.1	231.6	240.8		252.5
Operating Margin (Non-GAAP)	37.1%	33.8%	34.6%	35.0%	35.1%
Other income, net (GAAP)	1.2	(6.0)			(4.3)
Other income, net (Non-GAAP)	(3.7)	(4.5)			(4.3)
Pretax Income (GAAP)	186.2	158.9			174.4
Pretax Income (Non-GAAP)	278.4	227.1			248.2
Tax rate (GAAP)	6.7%	14.0%			14.0%
Tax rate (Non-GAAP)	16.0%	16.0%			16.0%
Net Income (GAAP)	173.7	136.7			150.0
Net Income (Non-GAAP)	233.9	190.8			208.5
Diluted EPS (GAAP)	\$0.62	\$0.49		\$0.55-\$0.59	\$0.54
Diluted EPS (Non-GAAP)	\$0.83	\$0.68	\$0.69	\$0.72-\$0.76	\$0.74
Diluted Shares (Non-GAAP)	280.2	280.1			280.1
Operating Cash Flow	135.5	158.7			193.0
Free Cash Flow	104.5	138.2			167.8
Free Cash Flow margin	13.7%	20.2%			23.3%

Source: BofA Global Research estimates, company report, Bloomberg

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Balance sheet, cash flow snapshot

Table 4: Summary of cash and inventory positions

Net cash per share decreased 29% QoQ. Both operating cash and free cash flow decreased YoY

	4Q19	1Q20	2Q20	3Q20	4Q20	QoQ%	YoY%
Total Cash	705.2	946.3	1189.2	1306.6	928.4	-28.9%	31.7%
ST Debt	0.0	350.0	350.0	350.0	0.0	-100.0%	
LT Debt	346.0	346.2	346.4	346.6	346.8	0.1%	0.2%
Total Debt	346.0	696.2	696.4	696.6	346.8	-50.2%	0.2%
Net Cash	359.2	250.1	492.8	610.0	581.6	-4.6%	61.9%
Net Cash/Share	\$1.28	\$0.90	\$1.77	\$2.18	\$2.08	-4.7%	61.6%
DSO	46.2	41.8	44.6	41.0	40.5	-1.2%	-12.3%
DPO	393.3	289.4	371.4	321.7	433.1	34.6%	10.1%
Inventory \$	55.8	60.6	43.9	48.0	76.0	58.3%	36.1%
Inventory Turns	3.0	3.3	2.3	2.3	4.1	77.1%	35.7%
Inventory Days	119.9	112.2	156.3	156.5	88.3	-43.5%	-26.3%
Cash Flow from Ops	159.3	217.7	345.1	206.6	135.5	-34.4%	-14.9%
Capex	27.1	22.2	21.4	20.2	31.1	53.7%	14.7%
Free cash flow	132.2	195.5	323.8	186.3	104.5	-43.9%	-21.0%
Buybacks	75.0	100.0	75.0	75.0	130.0	73.3%	73.3%

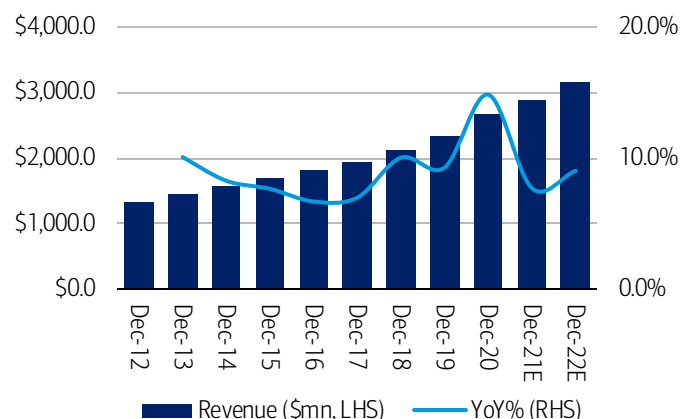
Source: BofA Global Research estimates, company report

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Key charts

Chart 1: CDNS annual revenue and YoY growth

We model high-single digit adjusted growth annually through FY22

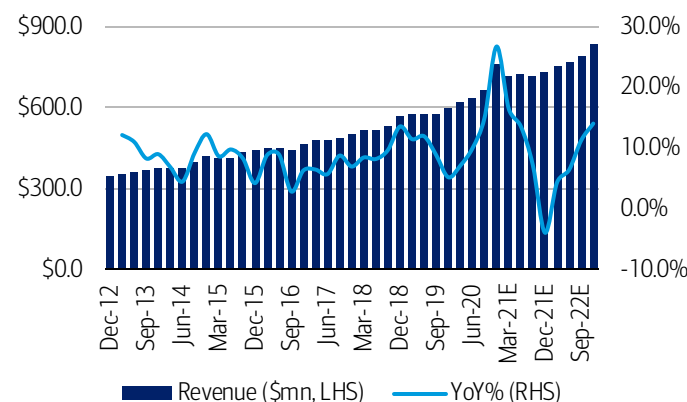


Source: BofA Global Research estimates, company report

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Chart 2: CDNS quarterly revenue and YoY growth

We expect 1H21 strength with more muted 2H21 growth

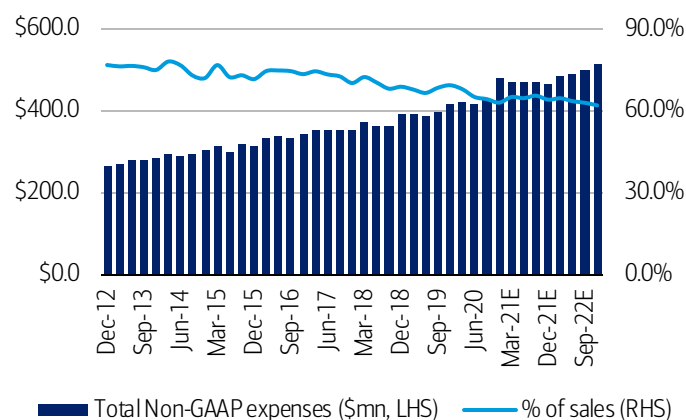


Source: BofA Global Research estimates, company report

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Chart 3: CDNS qtrly Non-GAAP expenses and opex to sales ratio

CDNS total expenses are 65%-70% of sales

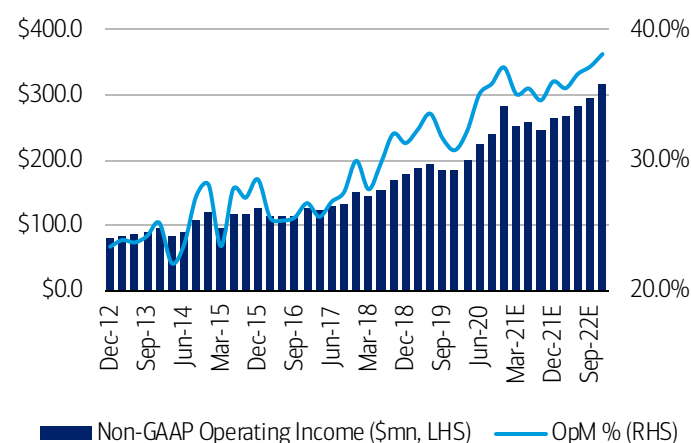


Source: BofA Global Research estimates, company report

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Chart 4: CDNS quarterly operating income and operating margin

We expect operating margins to expand slightly beyond 35% in 1-2 yrs

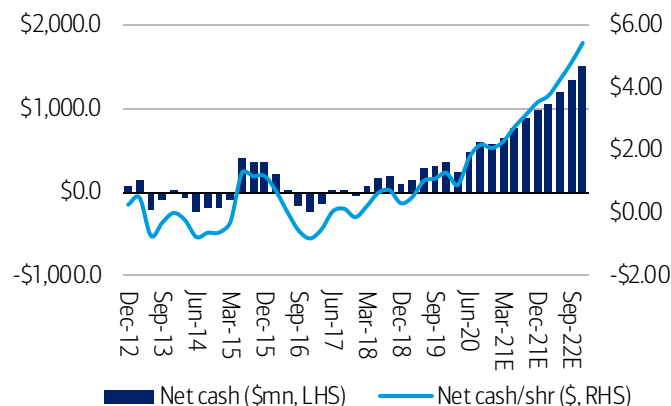


Source: BofA Global Research estimates, company report

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Chart 5: CDNS net cash and net cash per share

We believe CDNS can grow its net cash position above \$4

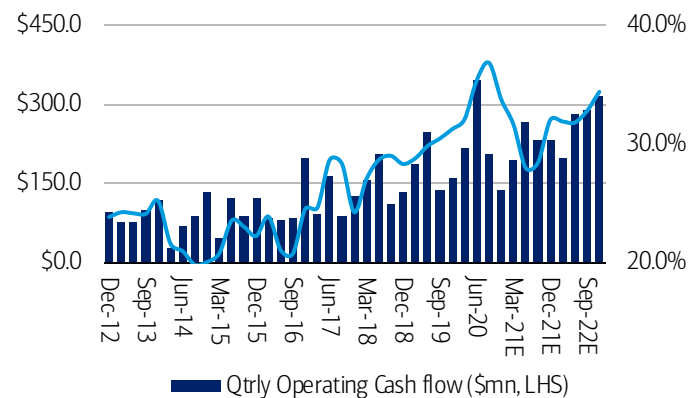


Source: BofA Global Research estimates, company report

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Chart 6: CDNS operating cash flow and operating cash flow margin

CDNS CFO margin should expand beyond 30%

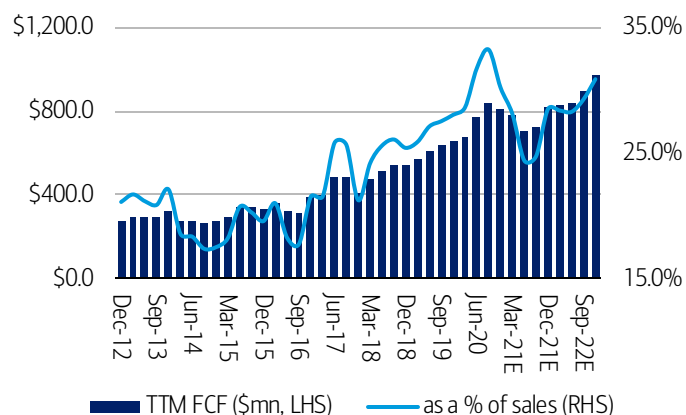


Source: BofA Global Research estimates, company report

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Chart 7: CDNS TTM FCF and FCF margin

CDNS could grow FCF at a high-single digit to low-double digit CAGR



Source: BofA Global Research estimates, company report

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**Exhibit 1: Income Statement (\$mn)**

We model 9% revenue growth in FY22/23E respectively

FY ends Dec	1Q20	2Q20	3Q20	4Q20	1Q21E	2Q21E	3Q21E	4Q21E	1Q22E	2Q22E	3Q22E	4Q22E	FY19	FY20	FY21E	FY22E	FY23E
P&L Model (\$mn)	Mar-20	Jun-20	Sep-20	Dec-20	Mar-21E	Jun-21E	Sep-21E	Dec-21E	Mar-22E	Jun-22E	Sep-22E	Dec-22E	Dec-19	Dec-20	Dec-21E	Dec-22E	Dec-23E
Product and maintenance	\$581.7	\$601.4	\$630.3	\$723.2	\$685.2	\$690.3	\$680.0	\$694.9	\$708.8	\$715.9	\$723.1	\$730.3	\$2,204.6	\$2,536.6	\$2,750.5	\$2,878.0	\$3,024.5
Services	\$36.3	\$37.1	\$36.3	\$36.7	\$34.7	\$35.0	\$34.5	\$35.2	\$42.5	\$56.1	\$72.1	\$102.5	\$131.7	\$146.3	\$139.5	\$273.2	\$411.0
Total Revenue	\$618.0	\$638.4	\$666.6	\$759.9	\$720.0	\$725.3	\$714.5	\$730.1	\$751.3	\$772.0	\$795.2	\$832.8	\$2,336.3	\$2,682.9	\$2,890.0	\$3,151.2	\$3,435.5
QoQ%	3.1%	3.3%	4.4%	14.0%	-5.3%	0.7%	-1.5%	2.2%	2.0%	1.0%	1.0%	1.0%					
YoY%	7.1%	10.0%	15.0%	26.7%	16.5%	13.6%	7.2%	-3.9%	4.4%	6.4%	11.3%	14.1%	9.3%	14.8%	7.7%	9.0%	9.0%
Total cost of goods sold (GAAP)	74.5	75.2	82.3	73.5	64.4	72.0	71.2	69.4	70.7	78.7	86.3	97.8	266.4	305.5	277.0	333.5	397.8
Total cost of goods sold (Non-GAAP)	62.2	62.1	69.3	59.0	53.7	61.2	60.4	58.6	63.3	71.3	78.9	90.2	219.0	252.5	233.9	303.7	367.3
Gross Profit (GAAP)	543.5	563.2	584.3	686.4	655.5	653.4	643.4	660.7	680.7	693.2	708.8	735.0	2,070.0	2,377.4	2,613.0	2,817.8	3,037.7
Gross Profit (Non-GAAP)	555.8	576.3	597.3	700.9	666.3	664.2	654.1	671.5	688.0	700.6	716.3	742.6	2,117.3	2,430.4	2,656.1	2,847.5	3,068.3
Marketing and sales (GAAP)	125.7	120.5	123.7	146.5	151.9	149.2	147.7	152.0	155.1	154.8	153.8	155.8	481.7	516.5	600.8	619.4	636.2
Marketing and sales (Non-GAAP)	116.5	109.8	113.7	133.5	137.5	134.7	133.4	137.4	140.1	139.4	138.0	139.4	442.0	473.5	543.0	557.1	568.8
Research and development (GAAP)	241.7	250.8	250.9	290.3	280.2	275.7	277.5	273.5	286.1	284.7	290.6	296.1	935.9	1,033.7	1,106.9	1,157.4	1,253.4
Research and development (Non-GAAP)	211.5	213.9	216.2	245.6	238.2	233.5	235.8	231.1	242.6	240.2	245.0	248.7	812.1	887.2	938.5	976.5	1,058.9
General and administrative (GAAP)	33.6	35.6	35.9	49.3	48.5	49.0	48.1	50.5	49.1	49.3	48.8	48.5	139.8	154.4	196.0	195.8	190.9
General and administrative (Non-GAAP)	28.6	28.8	28.3	39.7	38.2	38.5	37.8	40.0	38.4	38.4	37.6	36.8	113.8	125.5	154.4	151.1	142.9
Total Opex (GAAP)	404.1	411.3	415.1	501.4	476.9	474.2	475.6	478.3	491.8	490.3	494.7	501.9	1,578.2	1,731.8	1,905.0	1,978.7	2,086.6
Total Opex (Non-GAAP)	356.7	352.5	358.3	418.8	413.9	406.7	406.9	408.4	421.1	418.0	420.6	424.9	1,367.9	1,486.3	1,636.0	1,684.7	1,770.6
Operating Income (GAAP)	139.4	152.0	169.3	185.0	178.6	179.2	167.8	182.5	188.9	203.0	214.1	233.1	491.8	645.6	708.1	839.1	951.1
Operating Income (Non-GAAP)	199.1	223.9	239.0	282.1	252.5	257.4	247.2	263.1	266.9	282.6	295.6	317.6	749.4	944.1	1,020.2	1,162.8	1,297.6
GAAP Other income & Expense	(9.2)	(1.3)	(3.6)	1.2	(4.3)	(4.3)	(4.3)	(4.3)	(4.3)	(4.3)	(4.3)	(4.3)	(12.8)	(12.8)	(17.0)	(17.0)	(17.0)
Non-GAAP Other income & Expense	(1.2)	(4.1)	(4.4)	(3.7)	(4.3)	(4.3)	(4.3)	(4.3)	(4.3)	(4.3)	(4.3)	(4.3)	(14.1)	(13.3)	(17.0)	(17.0)	(17.0)
Pretax income (GAAP)	130.2	150.7	165.7	186.2	174.4	174.9	163.5	178.2	184.6	198.7	209.9	228.9	479.0	632.7	691.1	822.1	934.1
Pretax income (Non-GAAP)	198.0	219.8	234.6	278.4	248.2	253.2	242.9	258.9	262.6	278.4	291.4	313.4	735.3	930.8	1,003.2	1,145.8	1,280.6
Net Income (GAAP)	124.0	131.3	161.6	173.7	150.0	150.5	140.6	153.3	158.8	170.9	180.5	196.8	989.0	590.6	594.3	707.0	803.4
Net Income (Non-GAAP, ex. SBC)	166.3	184.6	197.1	233.9	208.5	212.7	204.0	217.4	220.6	233.9	244.8	263.3	617.6	781.8	842.7	962.5	1,075.7
GAAP Basic EPS	\$0.45	\$0.48	\$0.59	\$0.63	\$0.55	\$0.55	\$0.51	\$0.56	\$0.58	\$0.62	\$0.66	\$0.72	\$3.62	\$2.16	\$2.17	\$2.58	\$2.93
GAAP Diluted EPS	\$0.44	\$0.47	\$0.58	\$0.62	\$0.54	\$0.54	\$0.50	\$0.55	\$0.57	\$0.61	\$0.64	\$0.70	\$3.53	\$2.11	\$2.12	\$2.52	\$2.87
Non-GAAP Diluted EPS, ex. SBC	\$0.60	\$0.66	\$0.70	\$0.83	\$0.74	\$0.76	\$0.73	\$0.78	\$0.79	\$0.83	\$0.87	\$0.94	\$2.20	\$2.80	\$3.01	\$3.43	\$3.84
Basic shares (GAAP)	273.5	273.4	274.0	274.0	274.0	274.1	274.2	274.3	274.3	274.2	274.2	274.2	273.2	273.7	274.1	274.2	273.8
Diluted shares (GAAP)	279.3	279.1	280.0	280.2	280.1	280.3	280.4	280.5	280.4	280.4	280.4	280.4	280.5	279.6	280.3	280.4	279.9
Diluted shares (Non-GAAP)	279.3	279.1	280.0	280.2	280.1	280.3	280.4	280.5	280.4	280.4	280.4	280.4	280.5	279.6	280.3	280.4	279.9
Margin Analysis (Non-GAAP)																	
Gross Margin	89.9%	90.3%	89.6%	92.2%	92.5%	91.6%	91.5%	92.0%	91.6%	90.8%	90.1%	89.2%	90.6%	90.6%	91.9%	90.4%	89.3%
R&D	34.2%	33.5%	32.4%	32.3%	33.1%	32.2%	33.0%	31.6%	32.3%	31.1%	30.8%	29.9%	34.8%	33.1%	32.5%	31.0%	30.8%
M&S	18.9%	17.2%	17.1%	17.6%	19.1%	18.6%	18.7%	18.8%	18.7%	18.1%	17.4%	16.7%	18.9%	17.6%	18.8%	17.7%	16.6%
G&A	4.6%	4.5%	4.3%	5.2%	5.3%	5.3%	5.3%	5.5%	5.1%	5.0%	4.7%	4.4%	4.9%	4.7%	5.3%	4.8%	4.2%
Opex	57.7%	55.2%	53.8%	55.1%	57.5%	56.1%	57.0%	55.9%	56.1%	54.1%	52.9%	51.0%	58.5%	55.4%	56.6%	53.5%	51.5%
Operating Margin	32.2%	35.1%	35.9%	37.1%	35.1%	35.5%	34.6%	36.0%	35.5%	36.6%	37.2%	38.1%	32.1%	35.2%	35.3%	36.9%	37.8%
Tax rate	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%	16.0%
Net income	26.9%	28.9%	29.6%	30.8%	29.0%	29.3%	28.6%	29.8%	29.4%	30.3%	30.8%	31.6%	26.4%	29.1%	29.2%	30.5%	31.3%

Source: BofA Global research, company reports

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Exhibit 2: Segment Model (\$mn)

We expect EDA growth to remain solid for the next several years

FY ends Dec	1Q20	2Q20	3Q20	4Q20	1Q21E	2Q21E	3Q21E	4Q21E	1Q22E	2Q22E	3Q22E	4Q22E	FY19	FY20	FY21E	FY22E	FY23E
Segment Model (\$mn)	Mar-20	Jun-20	Sep-20	Dec-20	Mar-21E	Jun-21E	Sep-21E	Dec-21E	Mar-22E	Jun-22E	Sep-22E	Dec-22E	Dec-19	Dec-20	Dec-21E	Dec-22E	Dec-23E
EDA	\$531.4	\$549.0	\$566.6	\$661.1	\$628.1	\$634.3	\$615.3	\$630.0	\$655.2	\$674.8	\$688.3	\$722.7	\$2,038.4	\$2,308.2	\$2,507.7	\$2,741.0	\$2,997.0
Functional Verification	\$142.1	\$153.2	\$153.3	\$197.6									\$525.9	\$646.2			
Digital IC Design and Signoff	\$179.2	\$178.8	\$180.0	\$235.6									\$700.7	\$773.5			
Custom IC Design and Simulation	\$154.5	\$153.2	\$160.0	\$144.4									\$595.7	\$612.1			
System Interconnect and Analysis	\$55.6	\$63.8	\$73.3	\$83.6									\$216.1	\$276.4			
IP	\$86.5	\$89.4	\$100.0	\$98.8	\$91.9	\$91.0	\$99.2	\$100.2	\$96.2	\$97.1	\$106.9	\$110.1	\$297.9	\$374.7	\$382.3	\$410.2	\$438.5
Total	\$618.0	\$638.4	\$666.6	\$759.9	\$720.0	\$725.3	\$714.5	\$730.1	\$751.3	\$772.0	\$795.2	\$832.8	\$2,336.3	\$2,682.9	\$2,890.0	\$3,151.2	\$3,435.5
% of sales																	
EDA	86%	86%	85%	87%	87%	87%	86%	86%	87%	87%	87%	87%	87%	86%	87%	87%	87%
Functional Verification	23%	24%	23%	26%									23%	24%			
Digital IC Design and Signoff	29%	28%	27%	31%									30%	29%			
Custom IC Design and Simulation	25%	24%	24%	19%									25%	23%			
System Interconnect and Analysis	9%	10%	11%	11%									9%	10%			
IP	14%	14%	15%	13%	13%	13%	14%	14%	13%	13%	13%	13%	13%	14%	13%	13%	13%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
QoQ%																	
EDA	2%	3%	3%	17%	-5%	1%	-3%	2%	4%	3%	2%	5%					
Functional Verification	-1%	8%	0%	29%													
Digital IC Design and Signoff	3%	0%	1%	31%													
Custom IC Design and Simulation	3%	-1%	4%	-10%													
System Interconnect and Analysis	3%	15%	15%	14%													
IP	11%	3%	12%	-1%	-7%	-1%	9%	1%	-4%	1%	10%	3%					
Total	3%	3%	4%	14%	-5%	1%	-1%	2%	3%	3%	3%	5%					
YoY%																	
EDA	5%	6%	15%	27%	18%	16%	9%	-5%	4%	6%	12%	15%	8%	13%	9%	9%	9%
Functional Verification	3%	20%	32%	37%									2%	23%			
Digital IC Design and Signoff	4%	-1%	4%	35%									11%	10%			
Custom IC Design and Simulation	7%	2%	6%	-4%									8%	3%			
System Interconnect and Analysis	7%	10%	41%	55%									12%	28%			
IP	25%	40%	15%	27%	6%	2%	-1%	1%	5%	7%	8%	10%	18%	26%	2%	7%	7%
Total	7%	10%	15%	27%	17%	14%	7%	-4%	4%	6%	11%	14%	9%	15%	8%	9%	9%

Source: BofA Global research, company reports

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**Exhibit 3: Balance Sheet (\$mn)**

We believe CDNS could end the year with more than \$3.50 net cash/shr

FY ends Dec	1Q20	2Q20	3Q20	4Q20	1Q21E	2Q21E	3Q21E	4Q21E	1Q22E	2Q22E	3Q22E	4Q22E	FY19	FY20	FY21E	FY22E	FY23E
Balance Sheet (\$mn)	Mar-20	Jun-20	Sep-20	Dec-20	Mar-21E	Jun-21E	Sep-21E	Dec-21E	Mar-22E	Jun-22E	Sep-22E	Dec-22E	Dec-19	Dec-20	Dec-21E	Dec-22E	Dec-23E
Cash and cash equivalents	946.3	1,189.2	1,306.6	928.4	986.2	1,118.5	1,226.7	1,337.1	1,400.1	1,542.7	1,694.0	1,869.9	705.2	928.4	1,337.1	1,869.9	2,441.9
Short-term investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Receivables, net	284.1	312.8	300.4	338.5	356.0	358.7	353.3	361.1	388.1	398.7	410.7	430.1	304.5	338.5	361.1	430.1	457.6
Inventories	60.6	43.9	48.0	76.0	63.0	70.3	69.6	67.9	73.0	81.3	89.2	101.0	55.8	76.0	67.9	101.0	102.4
Prepaid expenses and other	108.6	93.9	81.5	135.7	135.7	135.7	135.7	135.7	135.7	135.7	135.7	135.7	103.8	135.7	135.7	135.7	135.7
Total current assets	1,399.5	1,639.8	1,736.5	1,478.6	1,540.9	1,683.2	1,785.3	1,901.7	1,996.8	2,158.5	2,329.6	2,536.7	1,169.3	1,478.6	1,901.7	2,536.7	3,137.7
Property, plant and equipment, net	281.2	282.7	288.2	311.1	316.0	320.9	325.7	330.6	335.7	340.9	346.3	351.9	275.9	311.1	330.6	351.9	375.1
Goodwill	779.0	778.9	780.8	782.1	782.1	782.1	782.1	782.1	782.1	782.1	782.1	782.1	661.9	782.1	782.1	782.1	782.1
Acquired intangibles, net	258.6	242.5	227.8	210.6	197.7	184.7	171.8	158.9	150.2	141.6	133.0	124.4	172.4	210.6	158.9	124.4	90.0
Long-term receivables	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0
Other assets	1,048.4	1,055.6	1,106.9	1,168.4	1,168.4	1,168.4	1,168.4	1,168.4	1,168.4	1,168.4	1,168.4	1,168.4	1,076.6	1,168.4	1,168.4	1,168.4	1,168.4
Total assets	3,768.0	3,999.5	4,140.2	3,950.8	4,005.1	4,139.3	4,233.3	4,341.7	4,433.3	4,591.5	4,759.4	4,963.5	3,357.2	3,950.8	4,341.7	4,963.5	5,553.2
Revolving credit facility	350.0	350.0	350.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current portion of long-term debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Accounts payable and accrued liabilities	236.8	306.9	290.9	350.0	306.7	342.4	338.6	330.3	313.0	348.6	382.4	433.0	316.9	350.0	330.3	433.0	444.5
Current portion of deferred revenue	425.6	494.9	477.0	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9	355.5	446.9	446.9	446.9	446.9
Total current liabilities	1,012.4	1,151.9	1,117.9	796.8	753.5	789.3	785.5	777.2	759.9	795.5	829.3	879.9	672.4	796.8	777.2	879.9	891.4
Long-term portion of deferred revenue	95.5	87.4	84.6	107.1	107.1	107.1	107.1	107.1	107.1	107.1	107.1	107.1	73.4	107.1	107.1	107.1	107.1
Convertible notes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Long-term debt	346.2	346.4	346.6	346.8	346.8	346.8	346.8	346.8	346.8	346.8	346.8	346.8	346.0	346.8	346.8	346.8	346.8
Other long-term liabilities	155.8	157.1	195.3	207.1	207.1	207.1	207.1	207.1	207.1	207.1	207.1	207.1	162.5	207.1	207.1	207.1	207.1
Total liabilities	1,610.0	1,742.9	1,744.4	1,457.8	1,414.5	1,450.3	1,446.5	1,438.1	1,420.9	1,456.4	1,490.2	1,540.8	1,254.3	1,457.8	1,438.1	1,540.8	1,552.4
Total stockholders' equity	2,158.0	2,256.6	2,395.7	2,493.0	2,590.6	2,689.1	2,786.9	2,903.5	3,012.4	3,135.1	3,269.2	3,422.6	2,102.9	2,493.0	2,903.5	3,422.6	4,000.8
Total liabilities and stockholders' equity	3,768.0	3,999.5	4,140.2	3,950.8	4,005.1	4,139.3	4,233.3	4,341.7	4,433.3	4,591.5	4,759.4	4,963.5	3,357.2	3,950.8	4,341.7	4,963.5	5,553.2
Cash and liquidity ratios																	
Total cash (incl. restricted cash)	946.3	1,189.2	1,306.6	928.4	986.2	1,118.5	1,226.7	1,337.1	1,400.1	1,542.7	1,694.0	1,869.9	705.2	928.4	1,337.1	1,869.9	2,441.9
Short-term debt	350.0	350.0	350.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Long-term debt	346.2	346.4	346.6	346.8	346.8	346.8	346.8	346.8	346.8	346.8	346.8	346.8	346.0	346.8	346.8	346.8	346.8
Total debt	696.2	696.4	696.6	346.8	346.8	346.8	346.8	346.8	346.8	346.8	346.8	346.8	346.0	346.8	346.8	346.8	346.8
Net cash	250.1	492.8	610.0	581.6	639.4	771.7	879.9	990.3	1,053.3	1,196.0	1,347.2	1,523.1	359.2	581.6	990.3	1,523.1	2,095.1
Net cash per share	\$0.90	\$1.77	\$2.18	\$2.08	\$2.28	\$2.75	\$3.14	\$3.53	\$3.76	\$4.26	\$4.80	\$5.43	\$1.28	\$2.08	\$3.53	\$5.43	\$7.48

Source: BofA Global research, company reports

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Exhibit 4: Statement of Cash Flows

We expect FCF margins to remain to increase to 30%+ next fiscal year

FY ends Dec	1Q20	2Q20	3Q20	4Q20	1Q21E	2Q21E	3Q21E	4Q21E	1Q22E	2Q22E	3Q22E	4Q22E	FY19	FY20	FY21E	FY22E	FY23E
Cash flow statement (\$mn)	Mar-20	Jun-20	Sep-20	Dec-20	Mar-21E	Jun-21E	Sep-21E	Dec-21E	Mar-22E	Jun-22E	Sep-22E	Dec-22E	Dec-19	Dec-20	Dec-21E	Dec-22E	Dec-23E
Net income	124.0	131.3	161.6	173.7	150.0	150.5	140.6	153.3	158.8	170.9	180.5	196.8	989.0	590.6	594.3	707.0	803.4
Depreciation and amortization	33.3	36.6	37.1	38.6	33.3	33.4	33.1	33.6	29.8	30.4	31.1	32.1	122.8	145.7	133.4	123.5	131.5
Amortization of debt discount and fees	0.3	0.3	0.3	0.3									1.0	1.1			
Stock-based compensation	46.5	46.9	45.3	58.5	57.6	58.0	57.2	58.4	60.1	61.8	63.6	66.6	181.5	197.3	231.2	252.1	274.8
(Gain) loss on investments, net	3.2	0.8	1.1	(0.2)									4.1	5.0			
Deferred income taxes	3.9	(5.5)	(17.4)	(7.2)									(576.7)	(26.1)			
Provisions (recoveries) for losses (gains) on receivables, net	(0.1)	1.0	0.2	0.5									0.6	1.6			
Other non-cash items	0.9	0.9	0.7	2.8									1.0	5.3			
Receivables	26.5	(29.0)	12.4	(35.9)	(17.6)	(2.7)	5.4	(7.7)	(27.0)	(10.6)	(12.0)	(19.4)	(4.7)	(25.9)	(22.6)	(69.1)	(27.5)
Inventories	(5.3)	16.3	(4.6)	(32.1)	13.0	(7.3)	0.8	1.7	(5.1)	(8.3)	(7.9)	(11.8)	(33.0)	(25.7)	8.1	(33.1)	(1.4)
Prepaid expenses and other	(5.0)	14.9	12.9	(53.9)									(11.0)	(31.2)			
Other assets	(8.3)	(9.3)	(3.6)	(50.3)									(8.0)	(71.6)			
Accounts payable and accrued liabilities	(84.8)	73.7	(19.3)	48.8	(43.3)	35.8	(3.8)	(8.3)	(17.3)	35.6	33.8	50.6	33.9	18.4	(19.6)	102.7	11.5
Deferred revenue	86.9	61.6	(24.0)	(14.3)									27.5	110.2			
Other long-term liabilities	(4.2)	4.7	3.9	6.0									1.7	10.4			
Net cash provided by operating activities	217.7	345.1	206.6	135.5	193.0	267.7	233.2	230.9	199.3	279.7	289.1	315.0	729.6	904.9	924.8	1,083.1	1,192.3
Purchases of non-marketable investments													(33.7)				
Proceeds from the sale of non-marketable investments													3.0				
Purchases of property, plant and equipment	(22.2)	(21.4)	(20.2)	(31.1)	(25.2)	(25.4)	(25.0)	(25.6)	(26.3)	(27.0)	(27.8)	(29.1)	(74.6)	(94.8)	(101.1)	(110.3)	(120.2)
Cash paid in business combinations and asset acquisitions, net of cash acquired	(193.8)	(1.3)	(2.4)										(0.3)	(197.6)			
Net cash used for investing activities	(216.0)	(22.7)	(22.7)	(30.9)	(25.2)	(25.4)	(25.0)	(25.6)	(26.3)	(27.0)	(27.8)	(29.1)	(105.7)	(292.2)	(101.1)	(110.3)	(120.2)
Proceeds from revolving credit facility	350.0												150.0	350.0			
Payment on revolving credit facility				(350.0)									(250.0)	(350.0)			
Principal payments on term loan																	
Proceeds from issuance of common stock	33.3	10.4	27.8	3.4									52.8	74.8			
Stock received for payment of employee taxes on vesting of restricted stock	(37.5)	(16.1)	(31.9)	(24.5)									(90.6)	(110.0)			
Payments for repurchases of common stock	(100.0)	(75.0)	(75.0)	(130.0)	(110.0)	(110.0)	(100.0)	(95.0)	(110.0)	(110.0)	(110.0)	(110.0)	(306.1)	(380.1)	(415.0)	(440.0)	(500.0)
Change in book overdraft																	
Net cash provided by (used for) financing activities	245.8	(80.8)	(79.1)	(501.2)	(110.0)	(110.0)	(100.0)	(95.0)	(110.0)	(110.0)	(110.0)	(110.0)	(443.9)	(415.3)	(415.0)	(440.0)	(500.0)
Effect of exchange rate changes on cash and cash equivalents	(6.4)	1.2	12.6	18.4									(8.1)	25.7			
Increase (decrease) in cash and cash equivalents	241.1	242.9	117.4	(378.1)	57.8	132.3	108.2	110.3	63.0	142.7	151.3	175.8	171.9	223.2	408.6	532.8	572.0
Free Cash Flow (FCF)																	
FCF as a % of sales	32%	51%	28%	14%	23%	33%	29%	28%	23%	33%	33%	34%	28%	30%	28%	31%	31%
FCF/share	\$0.70	\$1.16	\$0.67	\$0.37	\$0.60	\$0.86	\$0.74	\$0.73	\$0.62	\$0.90	\$0.93	\$1.02	\$2.34	\$2.90	\$2.94	\$3.47	\$3.83
TTM FCF as a % of sales	29%	32%	33%	30%	28%	24%	25%	28%	28%	28%	29%	31%					
TTM FCF/Share	\$2.44	\$2.77	\$2.99	\$2.89	\$2.79	\$2.50	\$2.58	\$2.94	\$2.96	\$2.99	\$3.18	\$3.47					

Source: BofA Global research, company reports

BofA GLOBAL RESEARCH

Price objective basis & risk

Cadence (CDNS)

Our \$140 PO is based on 40x FY22E EV/FCF within peer range (27x-63x) and justified given predictability of EPS/FCF/EBITDA streams and growing strategic importance of EDA in increasingly fragmented global electronics supply chain. We like CDNS leverage to all of the top secular drivers (Artificial intelligence, 5G, autonomous cars) in semis/electronics/technology, especially with much more predictable/recurring revenues. Still, limited operating leverage and highly recurring revenues that could cap growth potential as well as price appreciation.

Downside risks are: (1) Share loss in existing markets to primary competitors, (2) a broader economic downturn dampens semis R&D spending and corresponding spend on EDA tools and services, (3) escalation of US-China trade war limits CDNS' ability to sell to key customers, (4) semiconductor industry consolidation accelerates which could diminish customer spending power, (5) venture into adjacent system analysis market fails to meaningfully accelerate revenue growth and incremental investments suppress margin expansion.

Analyst Certification

I, Vivek Arya, 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.



US - Semiconductors and Semiconductor Capital Equipment Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Advanced Micro Devices, Inc	AMD	AMD US	Vivek Anya
	Analog Devices Inc.	ADI	ADI US	Vivek Anya
	Applied Materials, Inc.	AMAT	AMAT US	Vivek Anya
	Broadcom Inc	AVGO	AVGO US	Vivek Anya
	Cirrus Logic	CRUS	CRUS US	Vivek Anya
	KLA Corporation	KLAC	KLAC US	Vivek Anya
	Lam Research Corp.	LRCX	LRCX US	Vivek Anya
	M/A-Com	MTSI	MTSI US	Vivek Anya
	Marvell Technology Group Ltd.	MRVL	MRVL US	Vivek Anya

US - Semiconductors and Semiconductor Capital Equipment Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Microchip	MCHP	MCHP US	Vivek Anya
	NVIDIA Corporation	NVDA	NVDA US	Vivek Anya
	NXP Semiconductors NV	NXPI	NXPI US	Vivek Anya
	Qorvo Inc.	QRVO	QRVO US	Vivek Anya
	Teradyne	TER	TER US	Vivek Anya
	Texas Instruments Inc.	TXN	TXN US	Vivek Anya
NEUTRAL				
	Skyworks Solutions, Inc.	SWKS	SWKS US	Vivek Anya
	Synopsys	SNPS	SNPS US	Vivek Anya
UNDERPERFORM				
	Ambarella	AMBA	AMBA US	Vivek Anya
	Cadence	CDNS	CDNS US	Vivek Anya
	Intel	INTC	INTC US	Vivek Anya
	ON Semiconductor	ON	ON US	Vivek Anya
RSTR				
	II-VI	IIVI	IIVI US	Vivek Anya
	Maxim Integrated Products Inc.	MXIM	MXIM US	Vivek Anya
	Xilinx Inc.	XLNX	XLNX US	Vivek Anya

iQmethodSM Measures Definitions

Business Performance	Numerator	Denominator
Return On Capital Employed	$\text{NOPAT} = (\text{EBIT} + \text{Interest Income}) * (1 - \text{Tax Rate}) + \text{Goodwill Amortization}$	Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill Amortization
Return On Equity	Net Income	Shareholders' Equity
Operating Margin	Operating Profit	Sales
Earnings Growth	Expected 5-Year CAGR From Latest Actual	N/A
Free Cash Flow	Cash Flow From Operations – Total Capex	N/A
Quality of Earnings		
Cash Realization Ratio	Cash Flow From Operations	Net Income
Asset Replacement Ratio	Capex	Depreciation
Tax Rate	Tax Charge	Pre-Tax Income
Net Debt-To-Equity Ratio	Net Debt = Total Debt, Less Cash & Equivalents	Total Equity
Interest Cover	EBIT	Interest Expense
Valuation Toolkit		
Price / Earnings Ratio	Current Share Price	Diluted Earnings Per Share (Basis As Specified)
Price / Book Value	Current Share Price	Shareholders' Equity / Current Basic Shares
Dividend Yield	Annualised Declared Cash Dividend	Current Share Price
Free Cash Flow Yield	Cash Flow From Operations – Total Capex	Market Cap. = Current Share Price * Current Basic Shares
Enterprise Value / Sales	$\text{EV} = \text{Current Share Price} * \text{Current Shares} + \text{Minority Equity} + \text{Net Debt} + \text{Other LT Liabilities}$	Sales
EV / EBITDA	Enterprise Value	Basic EBIT + Depreciation + Amortization

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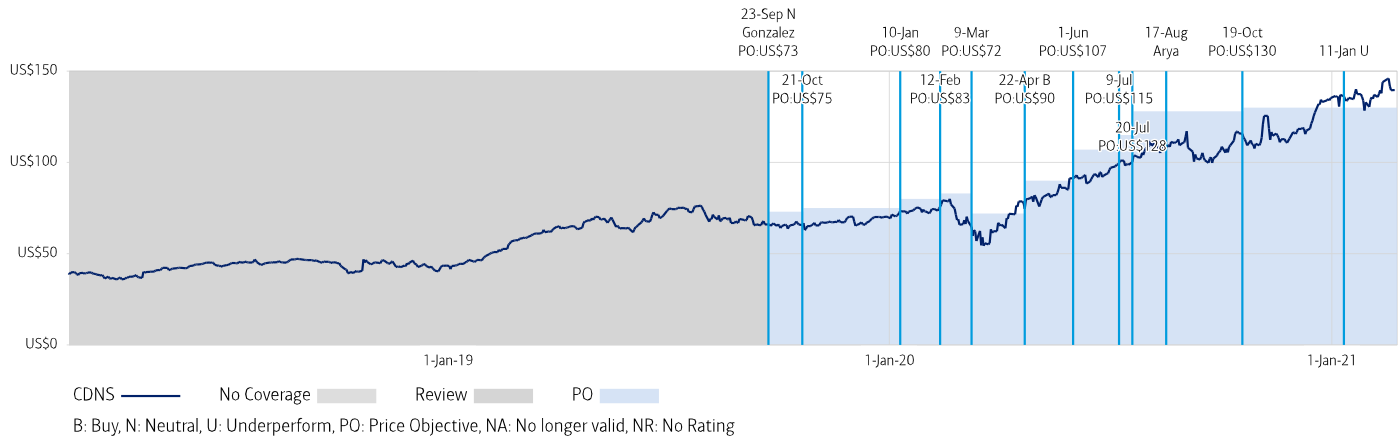
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Cadence (CDNS) Price Chart



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Equity Investment Rating Distribution: Technology Group (as of 31 Dec 2020)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	169	60.79%	Buy	109	64.50%
Hold	61	21.94%	Hold	34	55.74%
Sell	48	17.27%	Sell	21	43.75%

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2020)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	1863	56.90%	Buy	1185	63.61%
Hold	686	20.95%	Hold	426	62.10%
Sell	725	22.14%	Sell	358	49.38%

* Issues 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*
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

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