



Cognizant Technology Solutions

NYSE - CTSH | Target Price - \$90.60 | Current Price - ▲\$73.58 (+0.18%) | Recommendation: **Buy**



Andre
Sealy



Fang
Shen



Fei Fei
Xing



Jethro
Widjaja



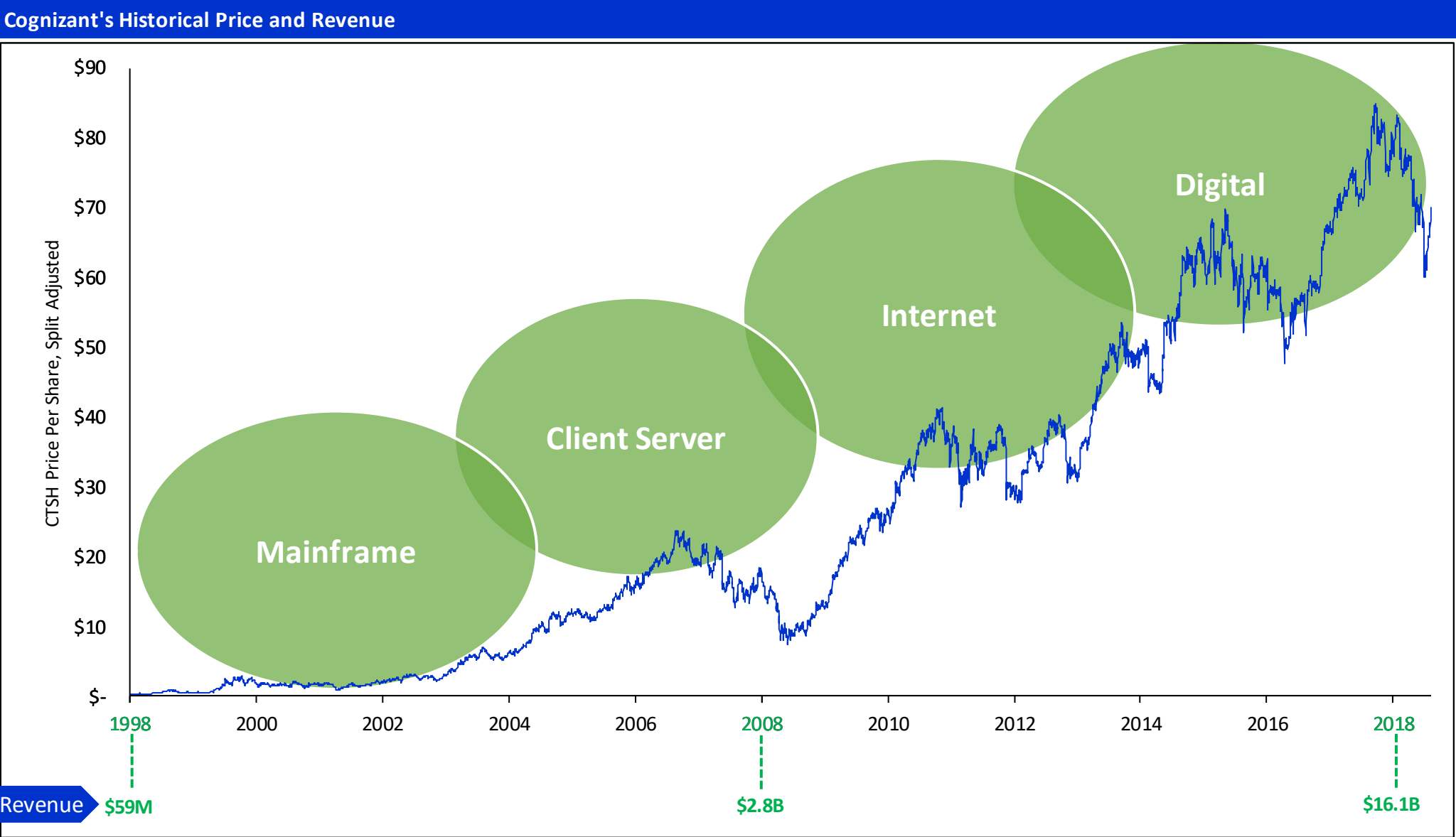
Stefon
Distant

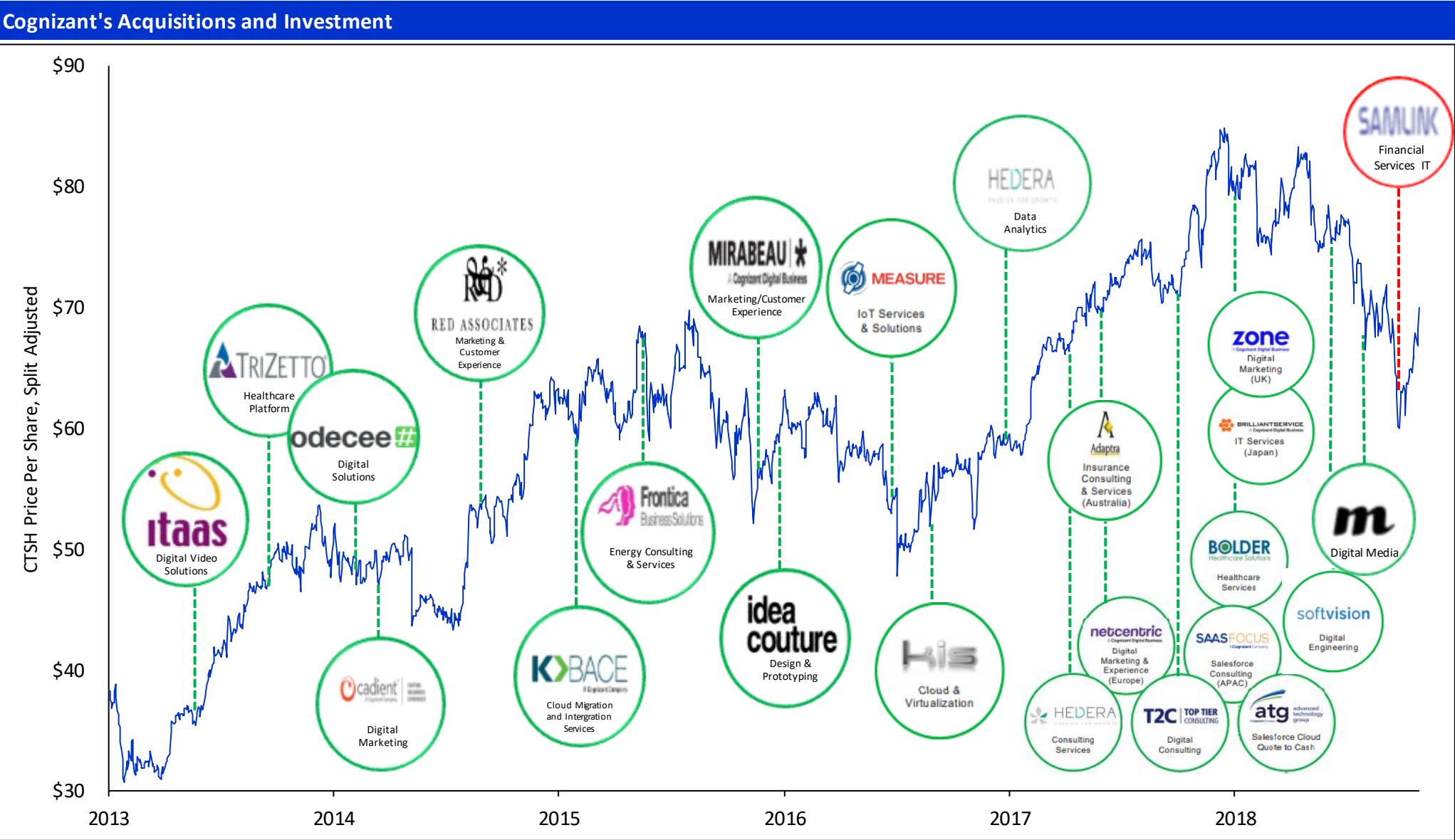
Outline

1. Background
2. Industry Overview
3. Competitive Analysis
4. Valuation
5. Risk Factors
6. Recommendation



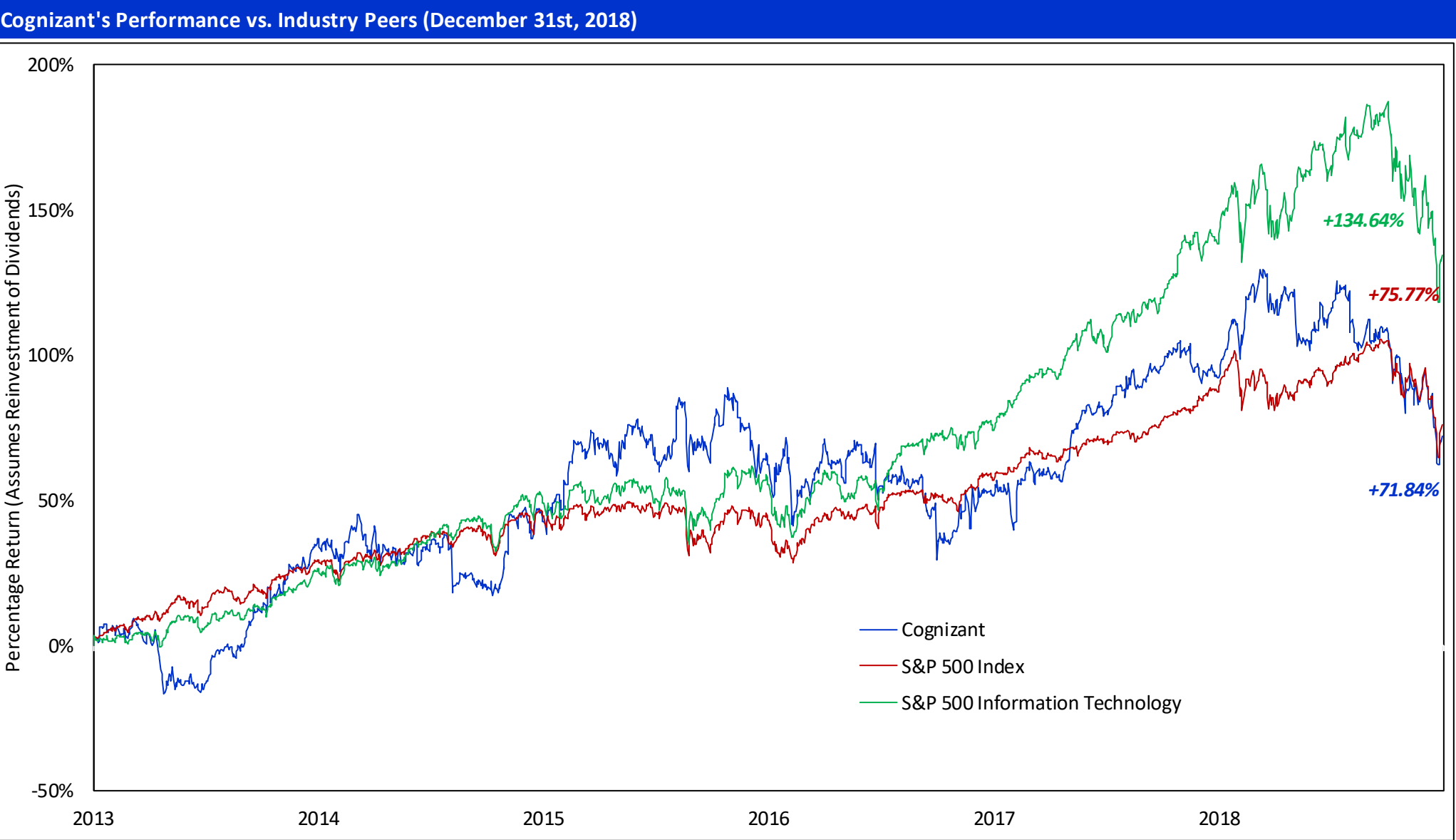
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Note: Acquisitions Are Not Plotted To Scale

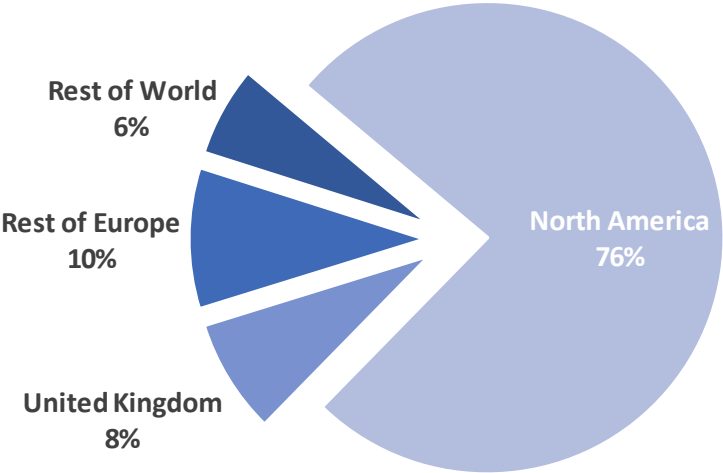
Source: S&P Capital IQ; Bloomberg



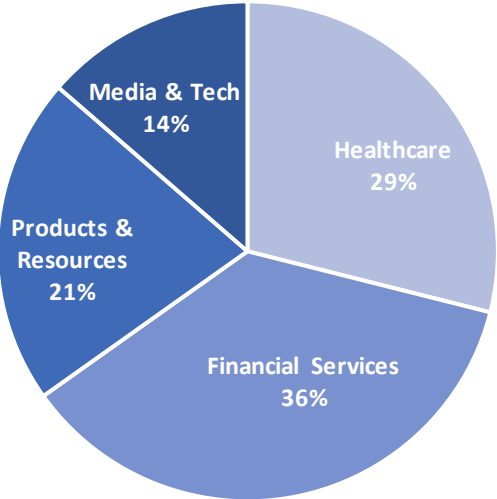
Investment Thesis

Investment Thesis Involves Sustaining Traditional Segments and Entering Growth Markets

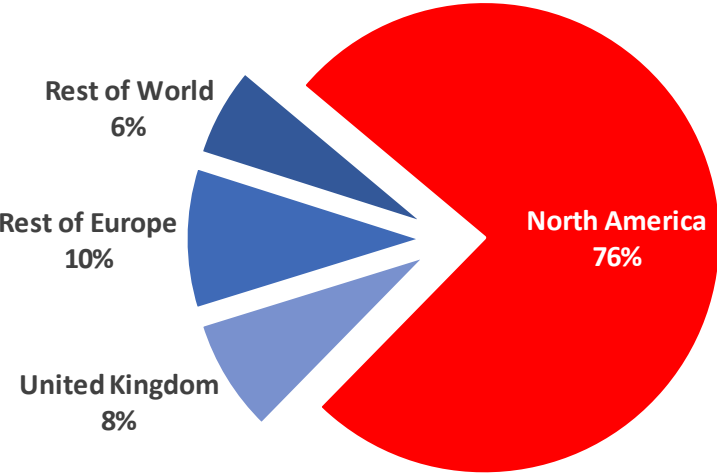
Revenue by Region



Revenue by Vertical Segment



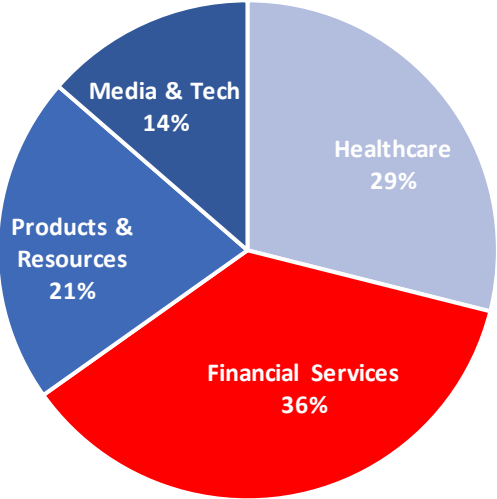
Revenue by Region



Traditional

North America
Financial Services Segment

Revenue by Vertical Segment

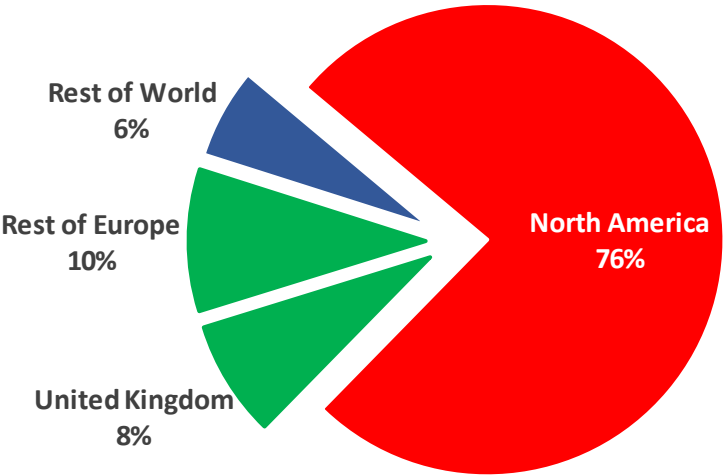


Investment Thesis

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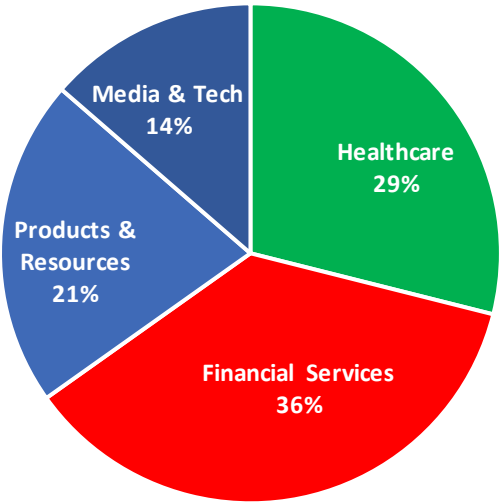
Revenue by Region

Revenue by Vertical Segment



Traditional

North America
Financial Services Segment



Growth

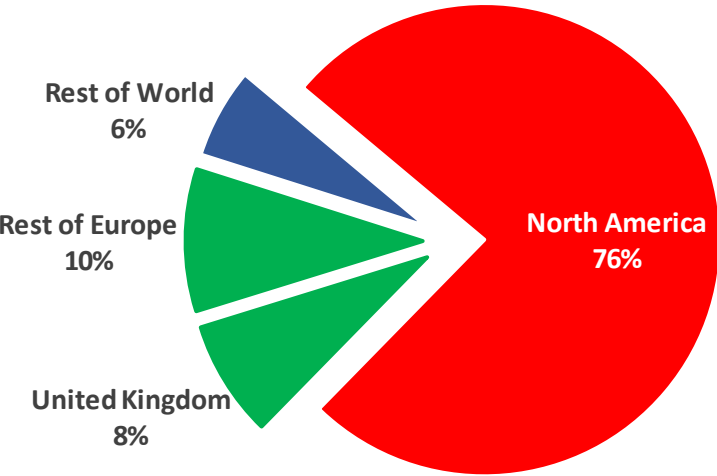
Europe
Healthcare

Investment Thesis

Investment Thesis Involves Sustaining Traditional Segments and Entering Growth Markets

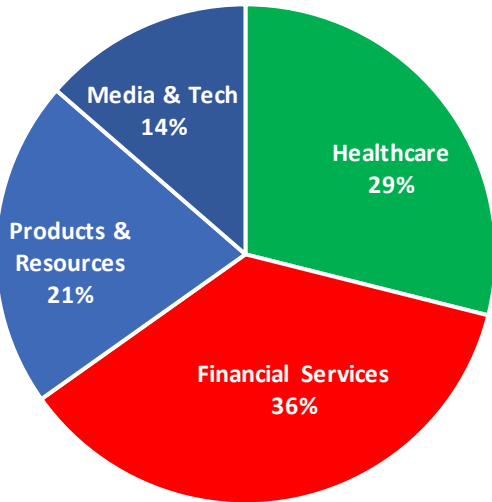
Revenue by Region

Revenue by Vertical Segment



Traditional

North America
Financial Services Segment

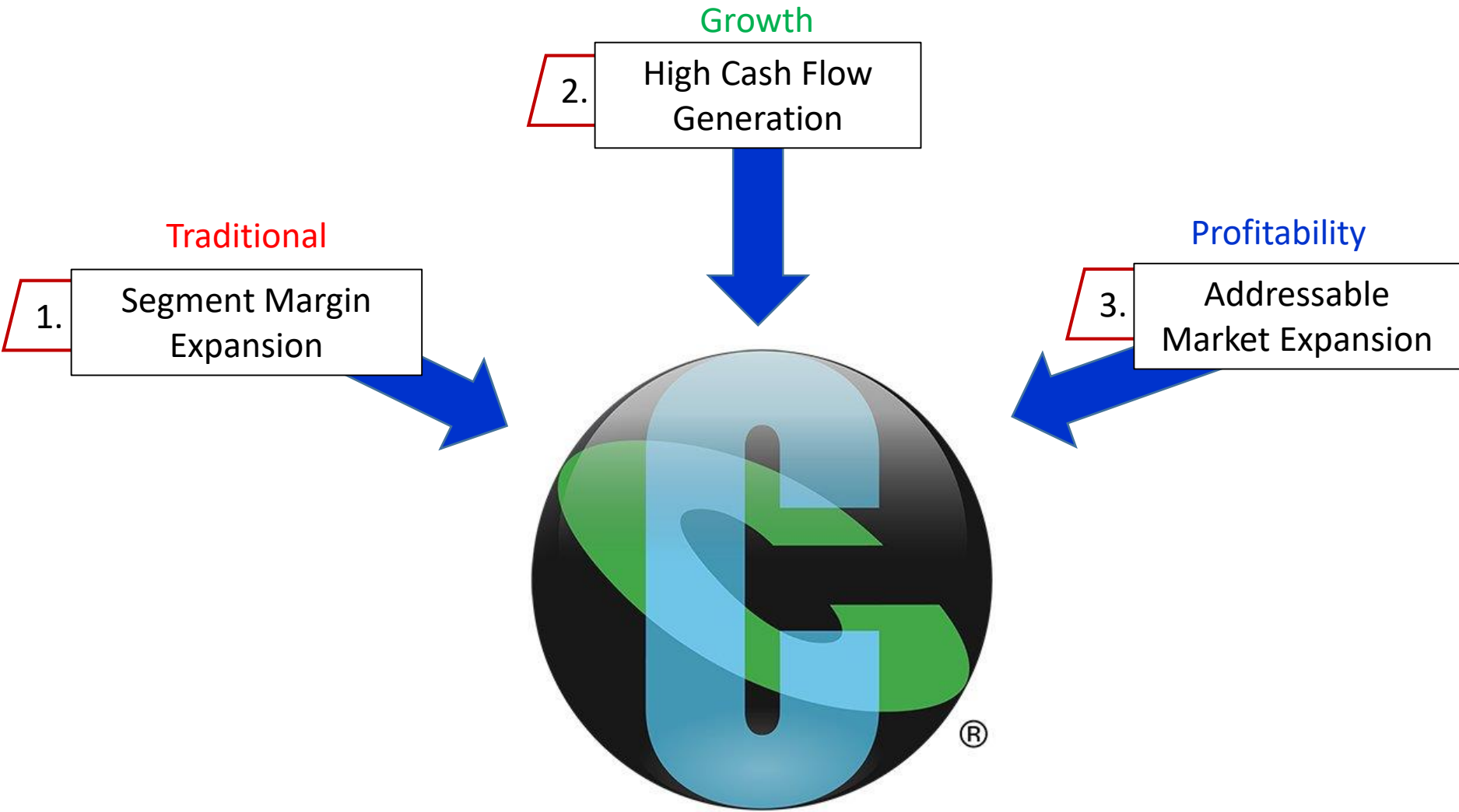


Growth

Europe
Healthcare

Profitability

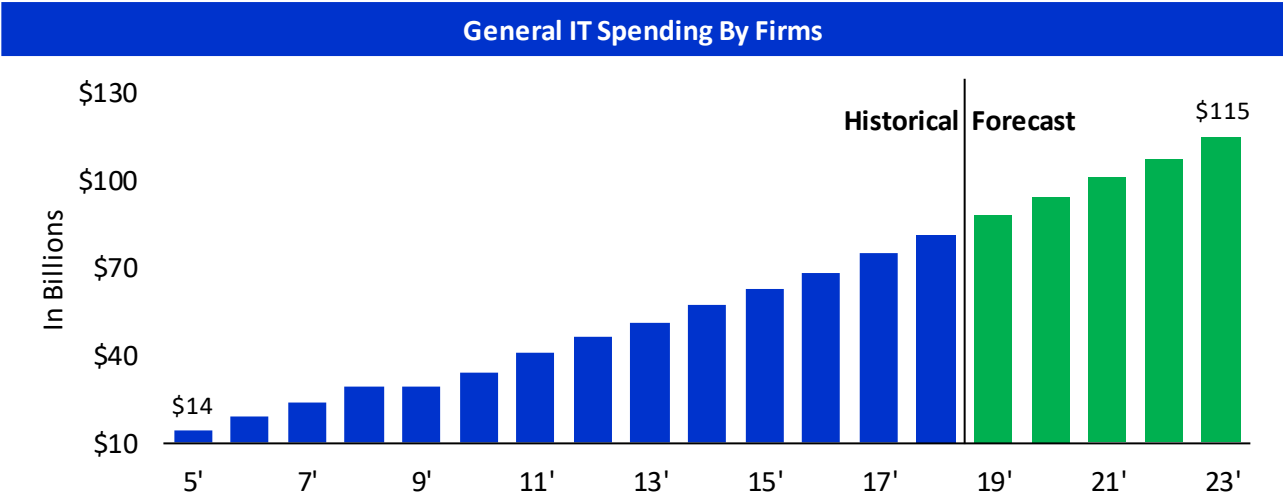
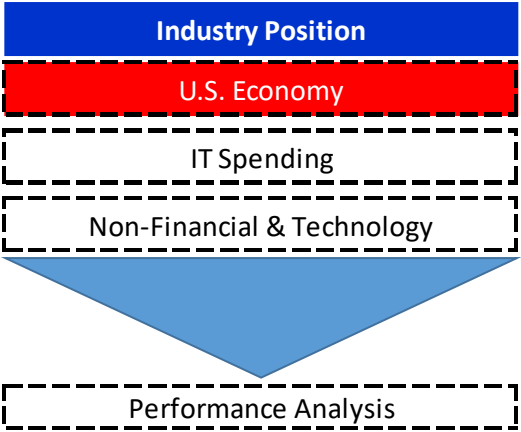
Rest of World
All Other Segments



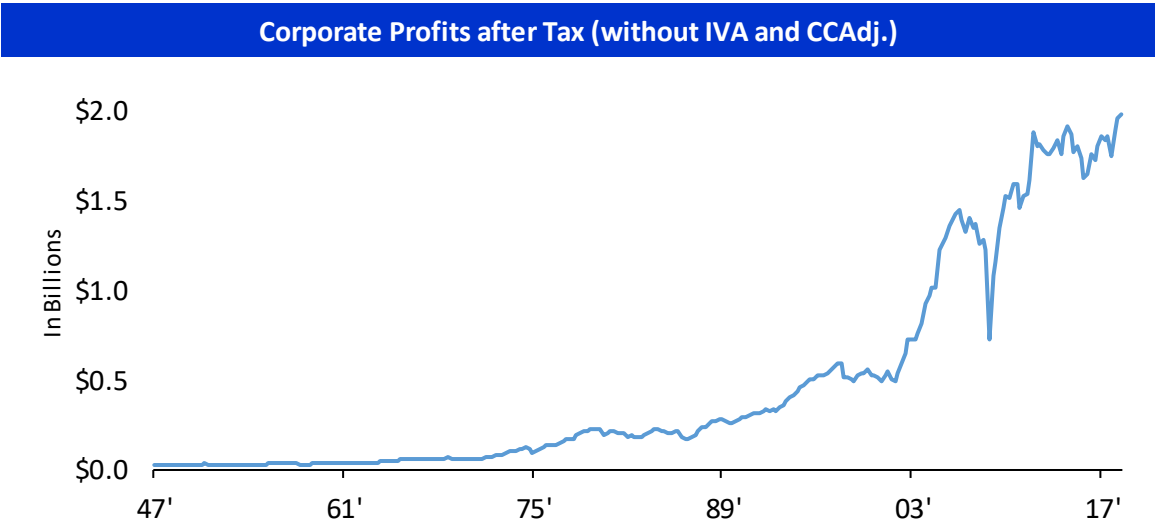


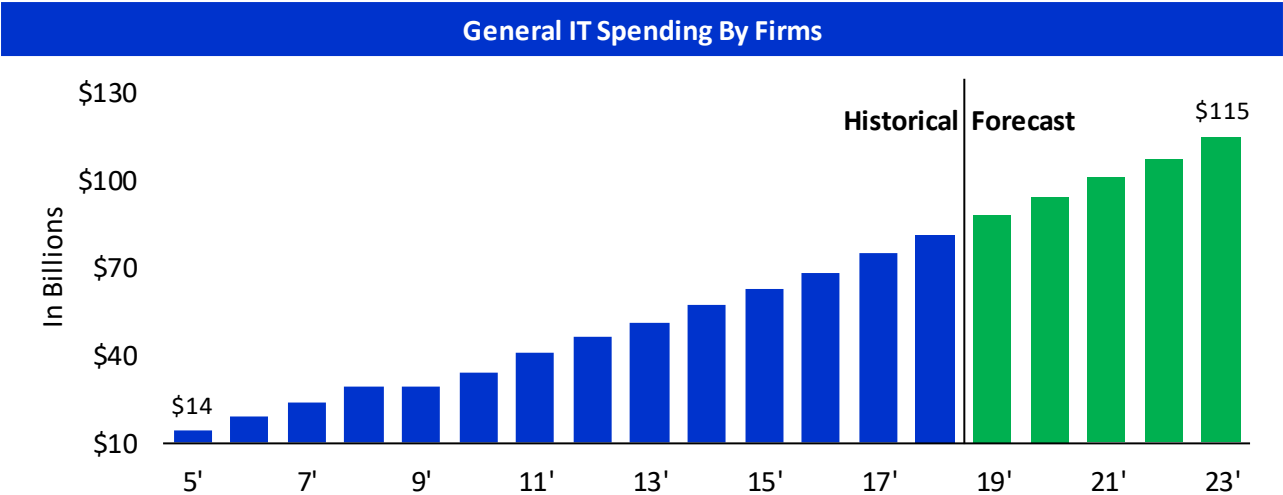
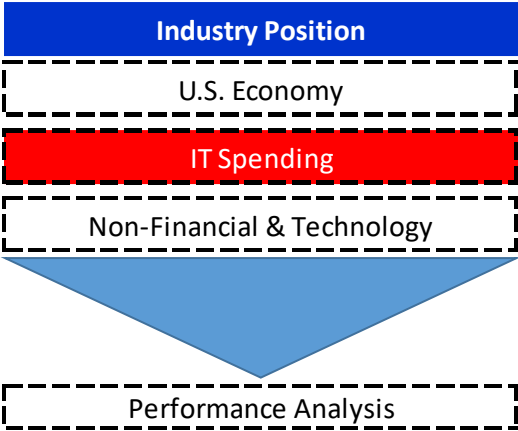
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Industry Overview



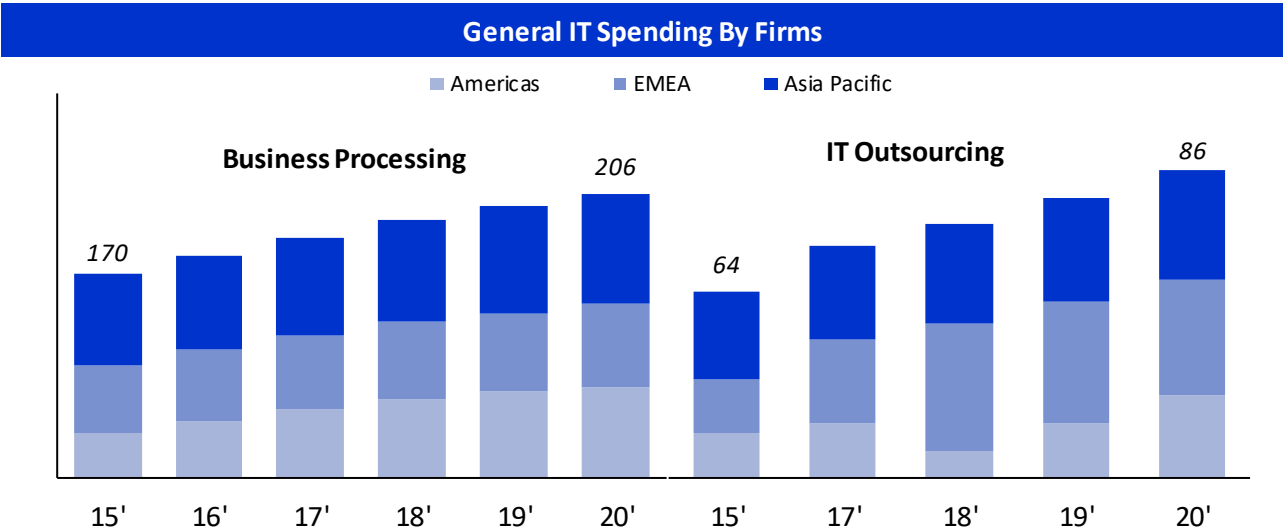
- U.S. Economic Performance**
- 1 US GDP Growth:** The United States economy grew at a rate of 3.4% during Q3 2018.
 - 2 Corporate Profits:** Earnings for U.S. based firms grew at its highest level of 6.38% YoY in Q2 2018.
 - 3 US Employment:** The economy added 220k jobs on average during FY 2018.

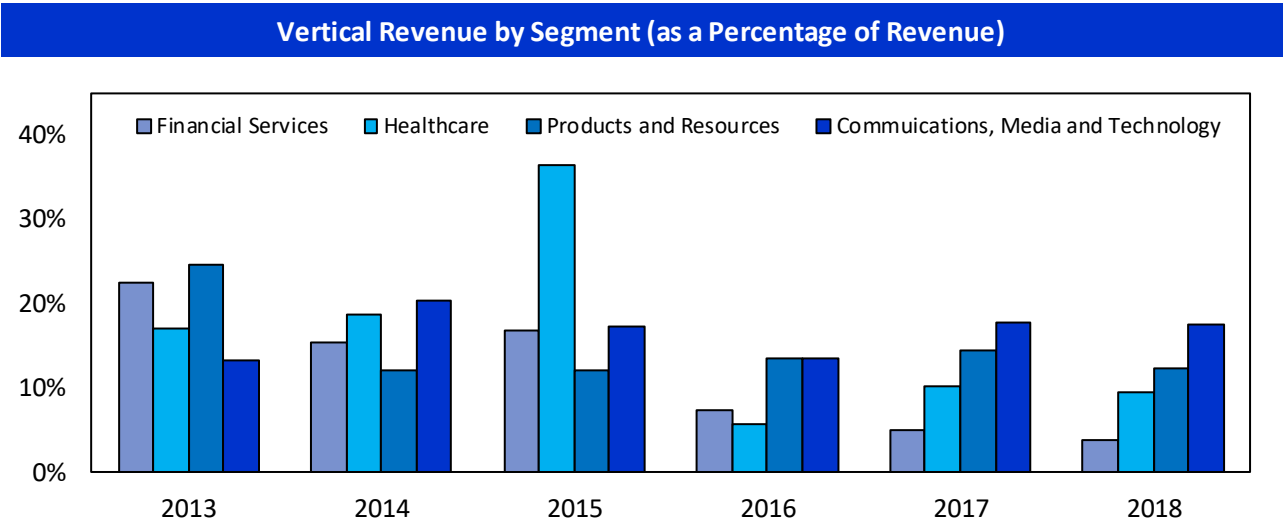
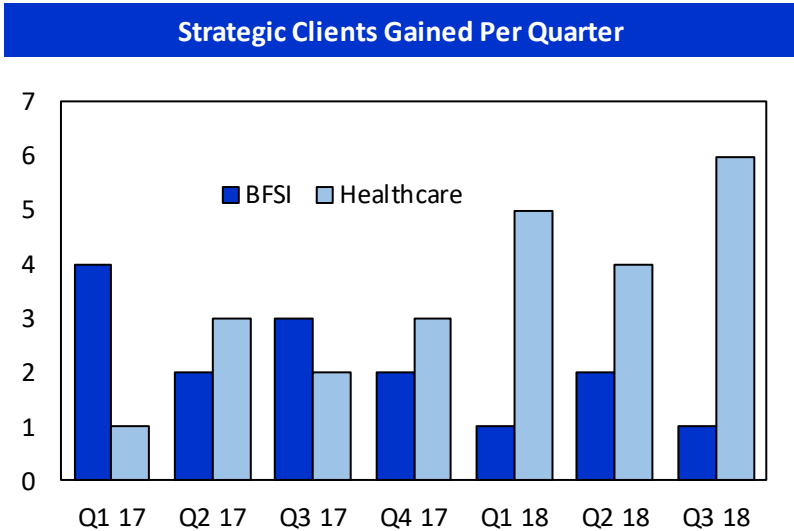
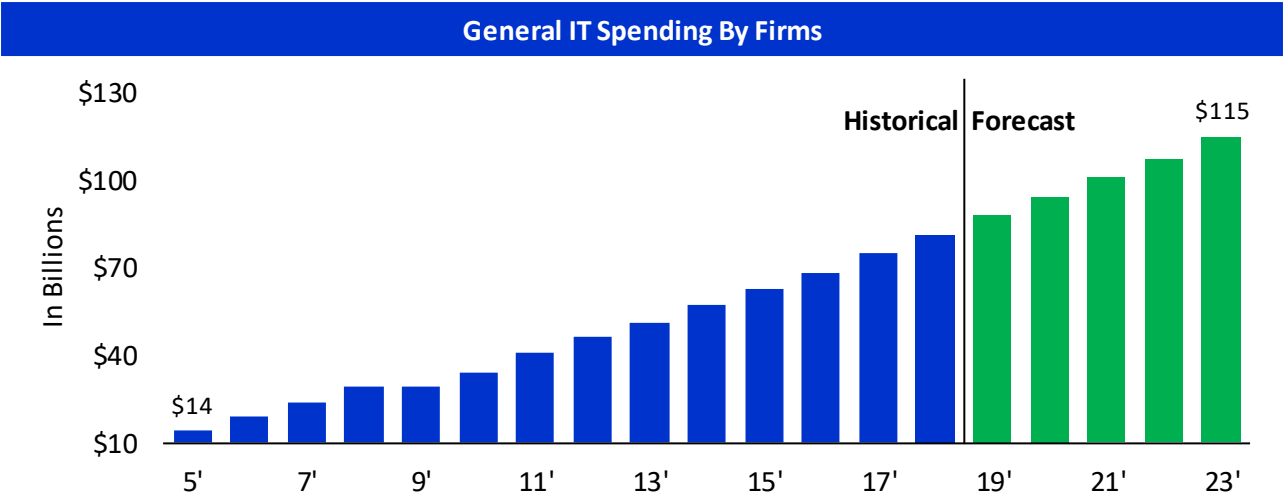
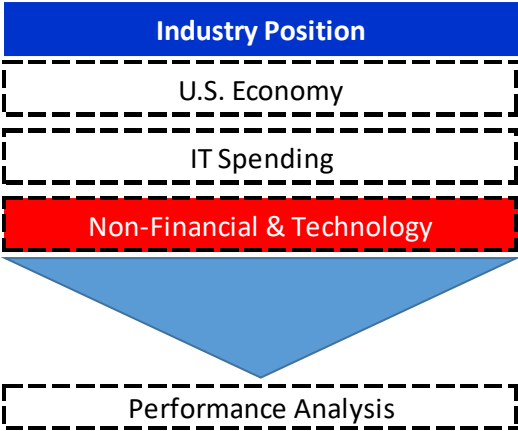


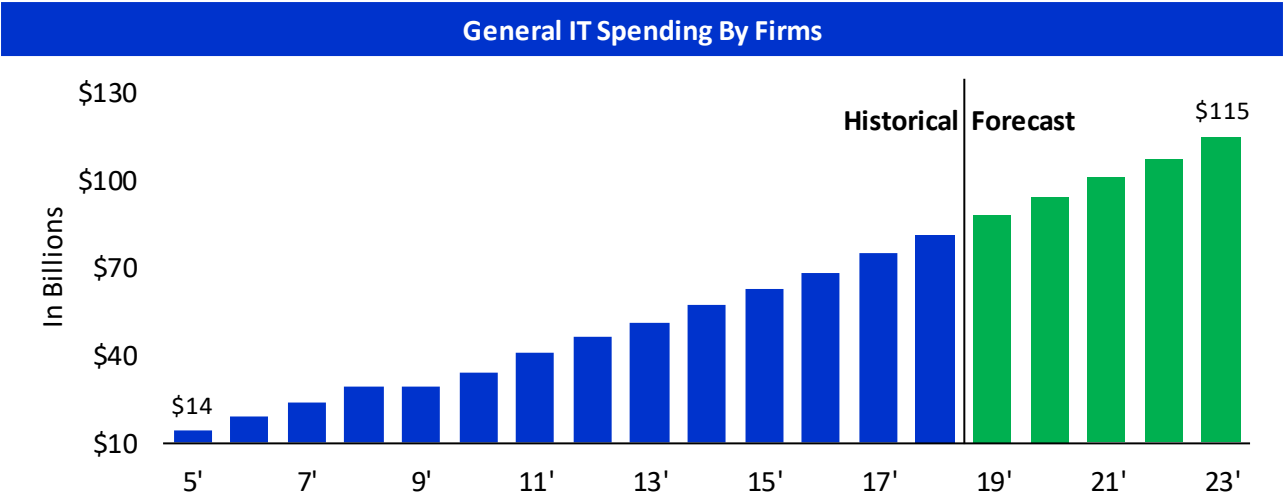
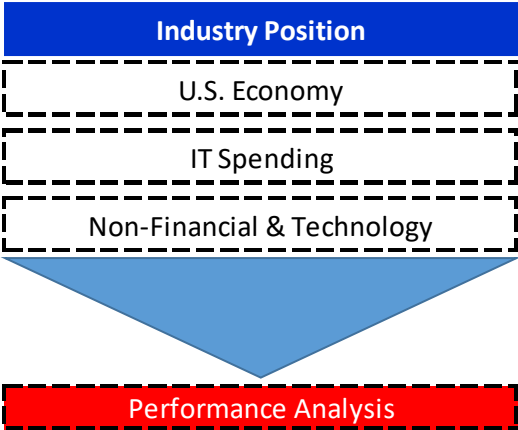


Information Technology Spending

- 1 **IT Outsourcing:** Industry is approximately \$75B. By 2023, the subsector to grow 7.5% CAGR
- 2 **Business Processing:** Within the next 5 years the Business Processing segment is expected to grow at a CAGR of 5.27%

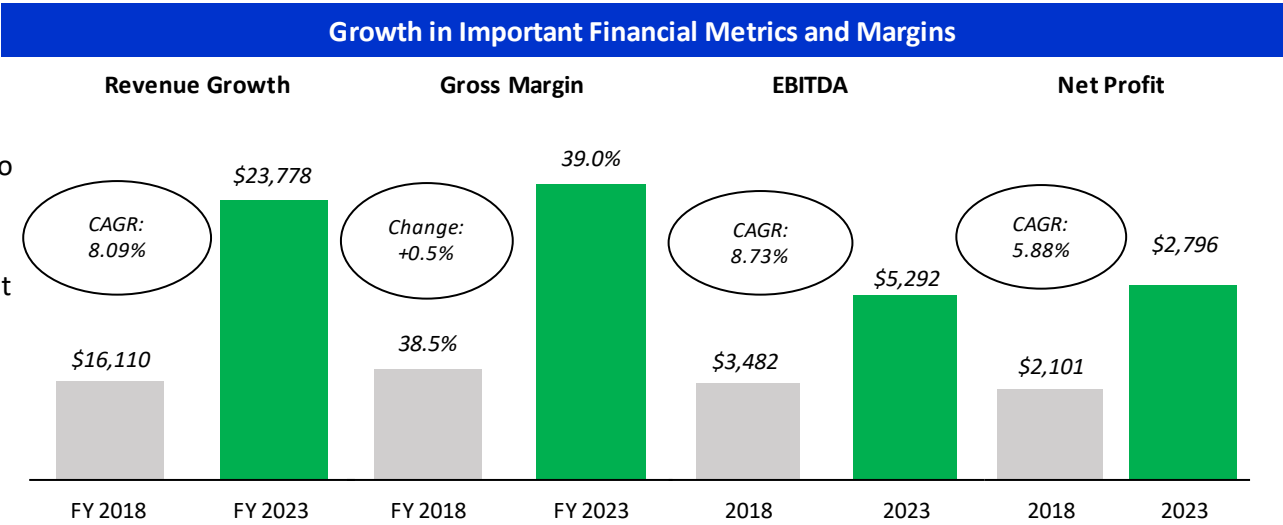






Cognizant's Future Profitability

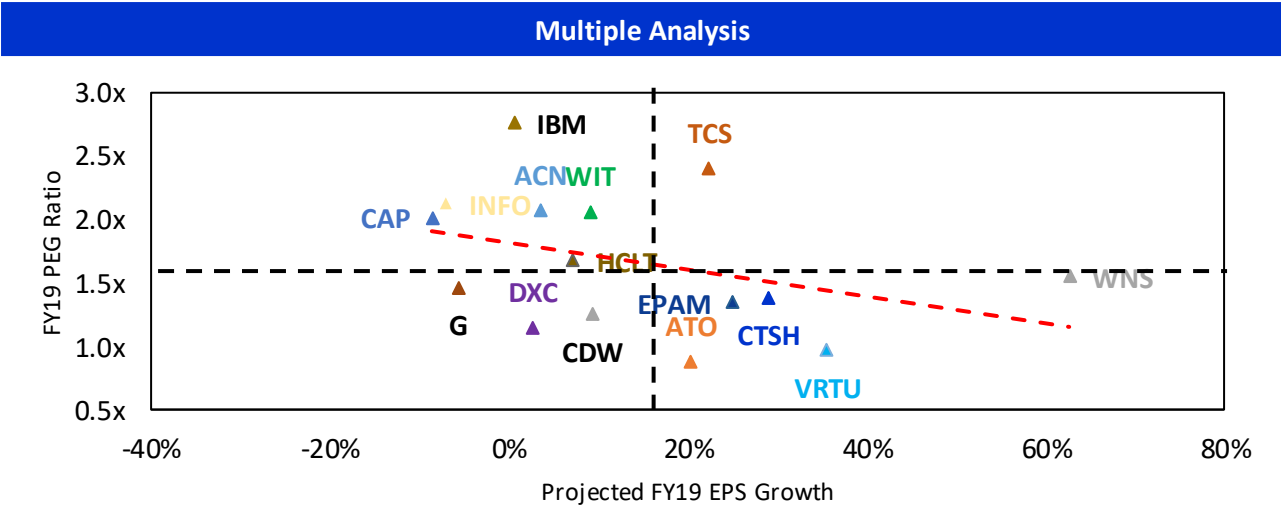
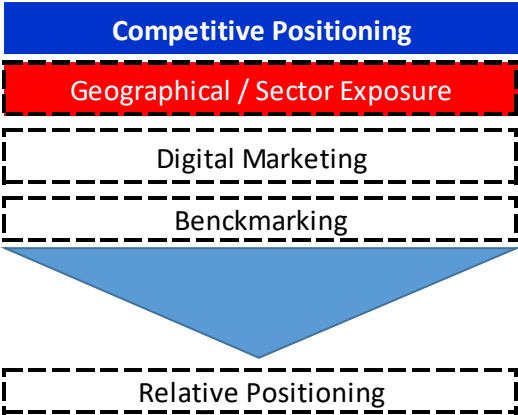
- 1 We expect Cognizant's profitability metrics to increase as the company develops it digital business, expand into the healthcare business and enter new markets
- 2 As the company becomes more profitable, management will return a greater percentage of FCF back to investors.



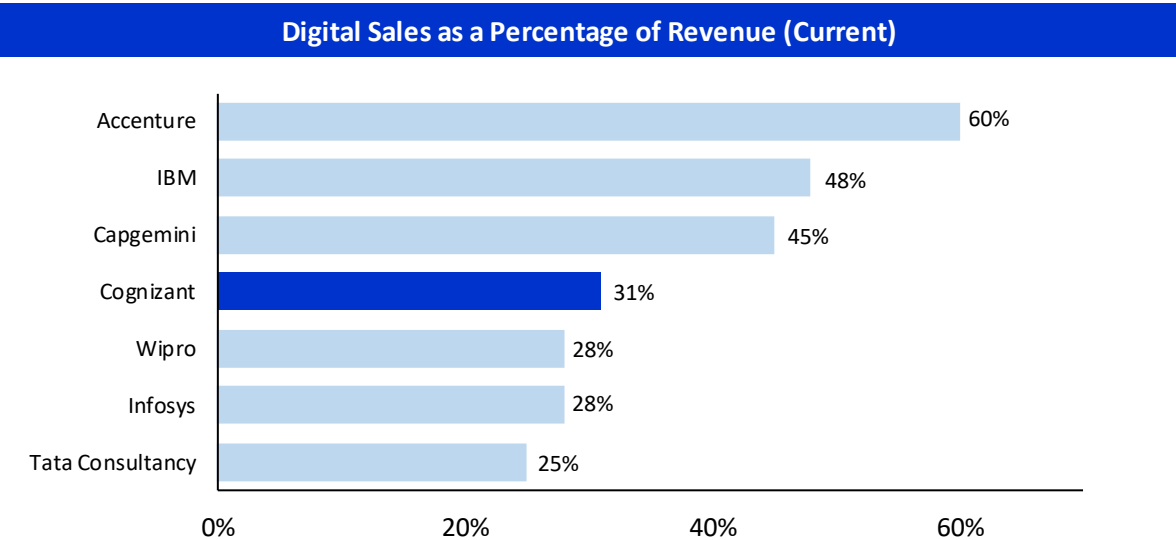
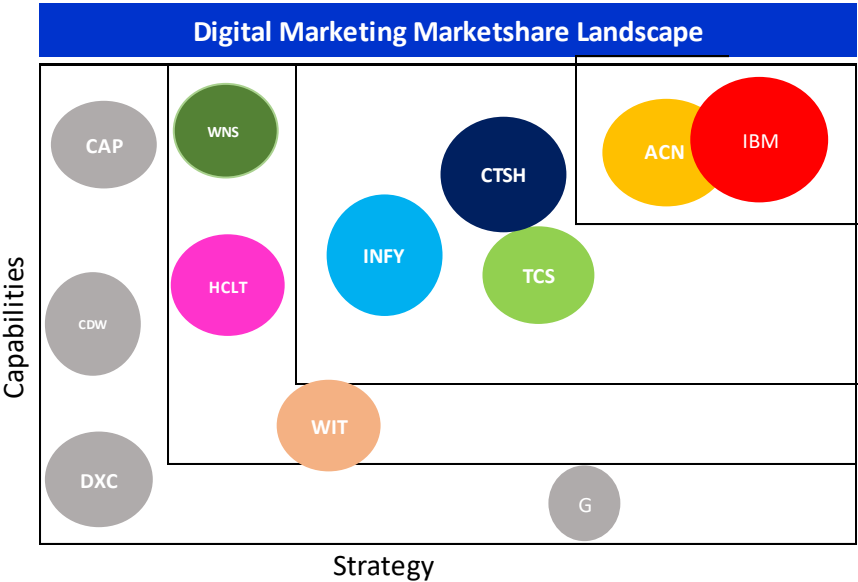
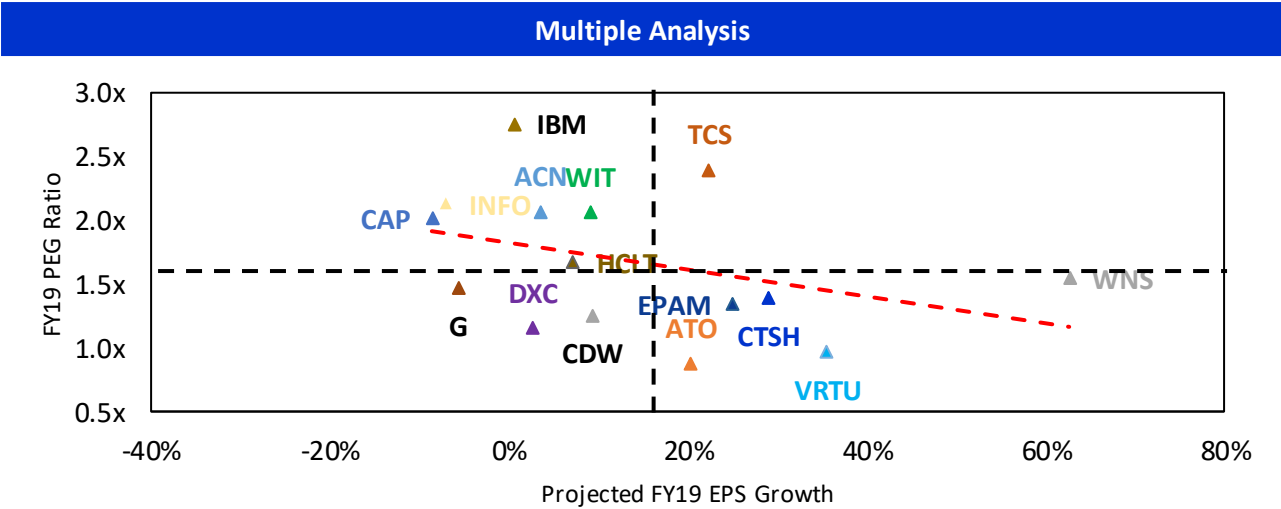
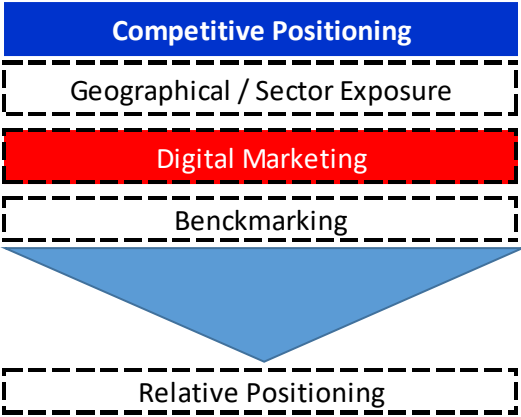


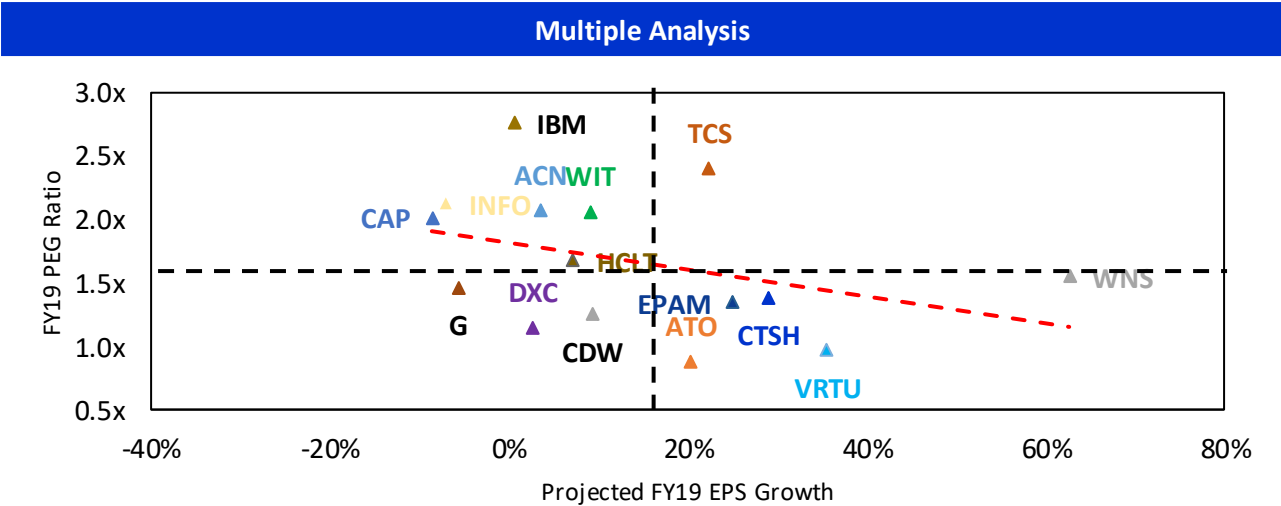
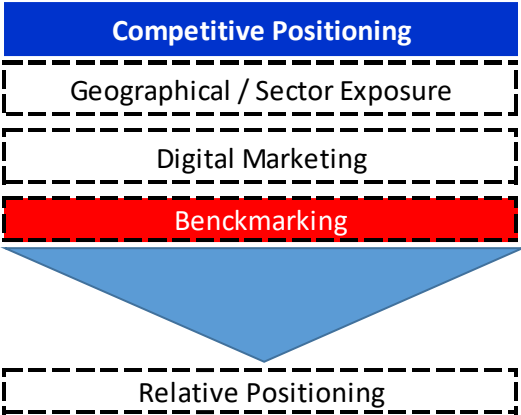
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Competitive Analysis



Vertical / Geographical Segments Compared To Industry Peers											
	CTSH	ACN	ATO	CAP	EPAM	G	HCLT	INFY	TCS	WIT	Avg.
Banking, Financial Services & Insurance	36.2%	19.9%	17.9%	27.0%	23.4%	40.0%	24.9%	33.2%	32.3%	27.1%	28.2%
Communications, Media & Technology	13.6%	20.8%	16.0%	15.0%	37.5%	11.5%	7.7%	7.2%	15.4%	29.1%	17.4%
Life Science & Healthcare	38.9%	16.1%	N/A	21.0%	8.3%	11.5%	11.6%	6.6%	7.2%	13.6%	15.0%
North America	76.2%	45.1%	17.6%	30.7%	58.0%	16.6%*	58.3%	60.4%	53.7%	50.1%	46.7%
Europe	17.6%	35.7%	53.3%	56.2%	35.3%	10.3%	27.4%	23.7%	27.7%	24.5%	31.2%
Rest of World	6.2%	19.2%	29.1%	13.1%	6.7%	73.1%	14.3%	15.9%	18.6%	25.4%	22.2%

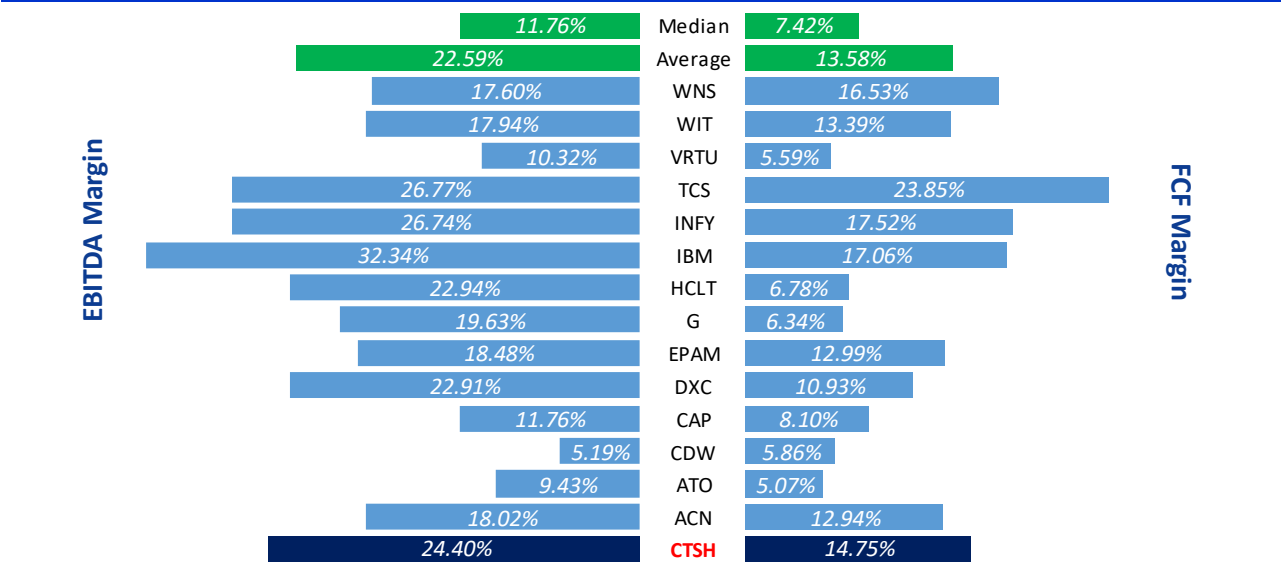


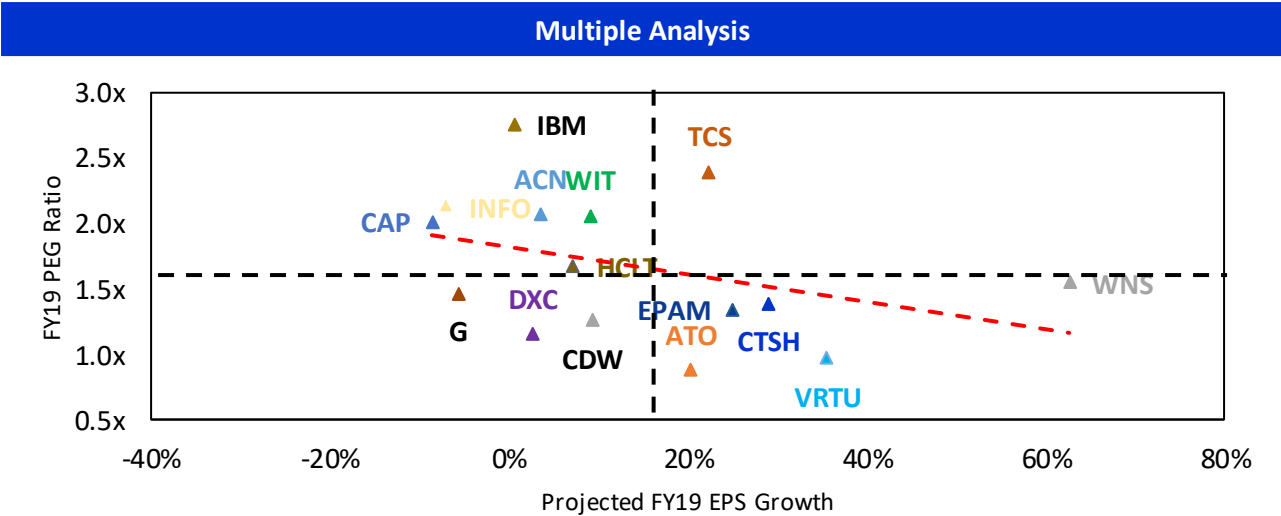
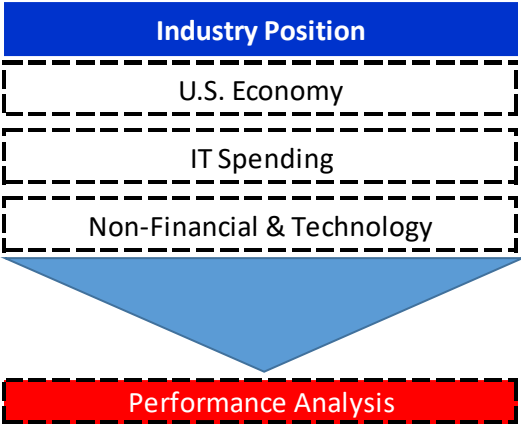


Earnings Margins

- 1 EBITDA / FCF margins for Cognizant for the last twelve months were 24.40% and 14.75% respectively
- 2 Margins are outperform the average and median of the peer group

LTM EBITDA / FCF Margin vs. Peers

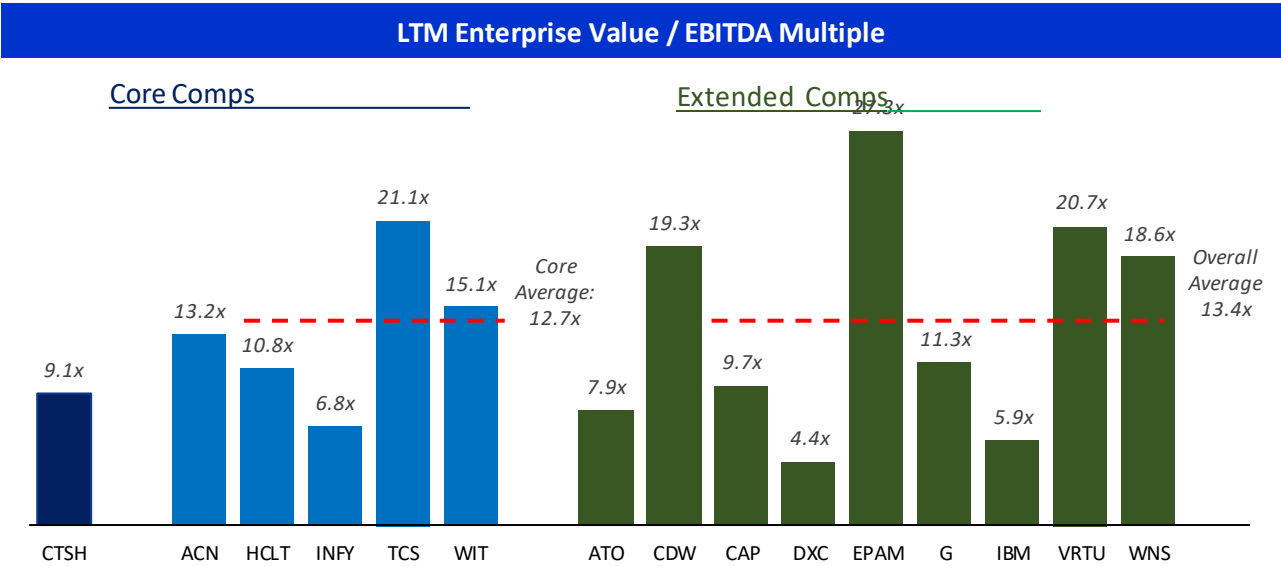


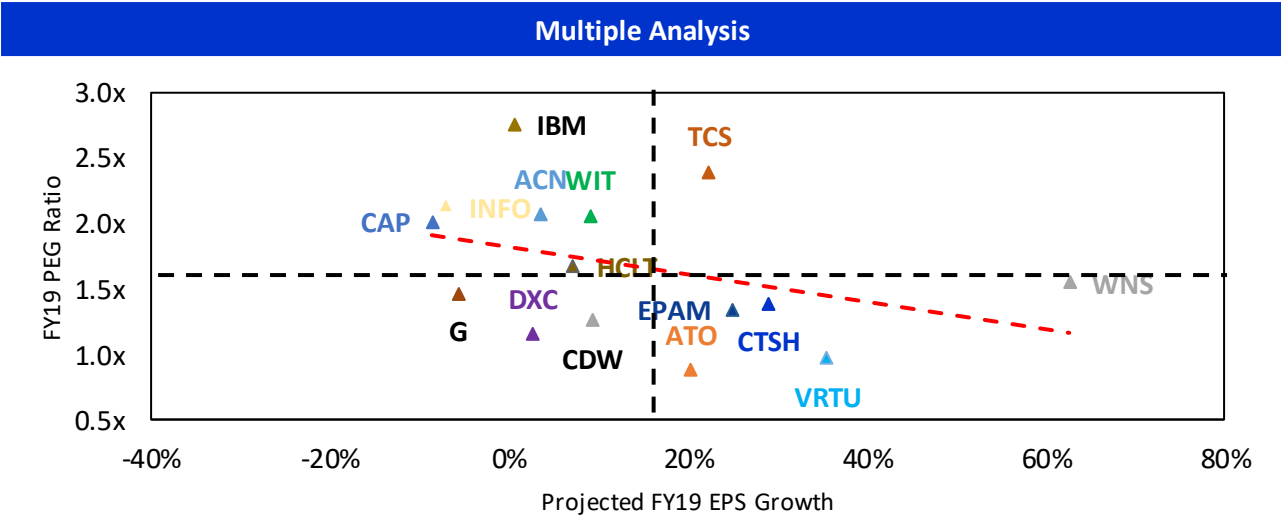
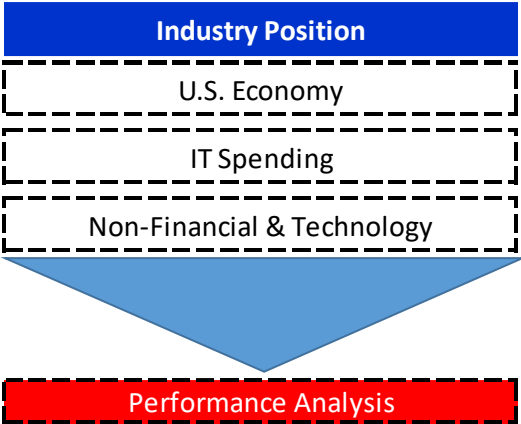


Cognizant's Relative Position

1

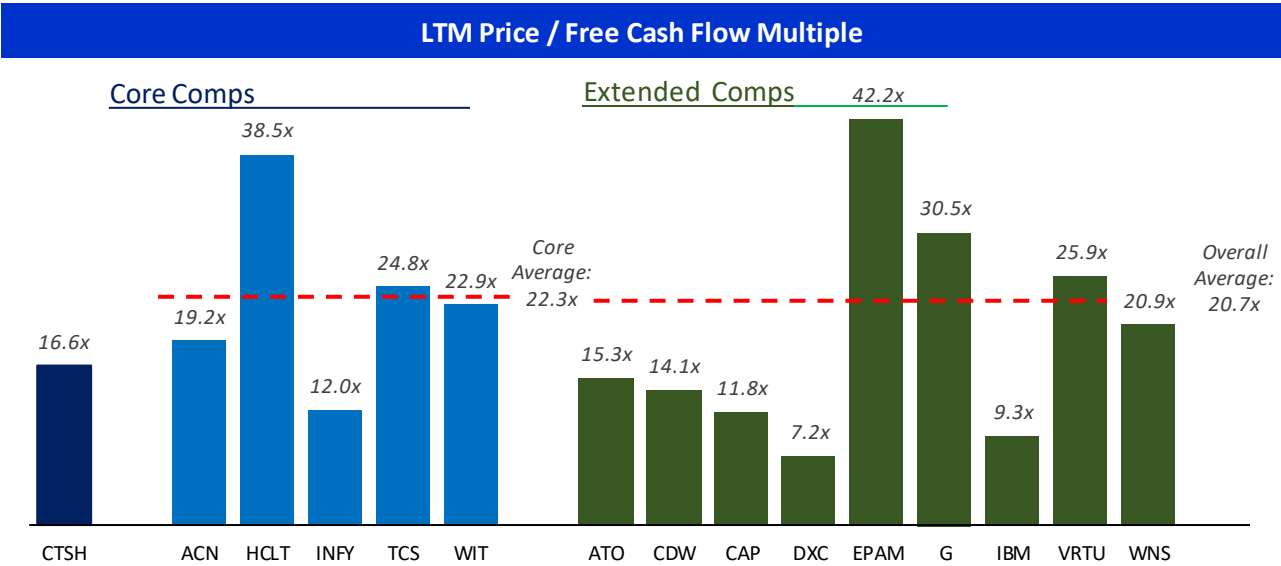
Looking at the company from a EV/EBITDA basis, we can see that the company is undervalued





Cognizant's Relative Position

- 1 Looking at the company from a EV/EBITDA basis, we can see that the company is undervalued
- 2 Also looking at the company from a P/FCF basis, the company still appears to be undervalued





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Valuation

Relative Value Analysis

Relevant Multiples for Peer Group											
		EV/EBITDA			Price/Free Cash Flow			Price/Earnings			PEG Ratio
		LTM	18' Forecast	19' Forecast	LTM	18' Forecast	19' Forecast	LTM	18' Forecast	19' Forecast	18' Forecast
Core Peers	Accenture PLC	13.18x	13.63x	12.62x	19.18x	20.09x	18.26x	19.18x	21.24x	19.48x	2.07x
	HCL Technologies Ltd	10.85x	9.31x	8.39x	38.53x	20.19x	16.31x	15.30x	13.60x	12.50x	1.68x
	Infosys Ltd	6.82x	6.34x	5.94x	12.03x	11.68x	11.54x	19.36x	19.62x	18.21x	2.13x
	Tata Consultancy Services Ltd	21.07x	17.12x	15.45x	24.83x	27.03x	24.00x	28.80x	22.95x	20.74x	2.40x
	Wipro Ltd	15.09x	12.77x	12.82x	22.88x	31.31x	N/A	22.88x	18.88x	18.09x	2.06x
	Core Peer Average	12.69x	11.59x	10.79x	22.34x	21.04x	16.96x	19.87x	18.69x	17.33x	1.95x
Extended Peers	Atos SE	7.94x	6.88x	6.16x	15.32x	13.03x	11.78x	10.27x	8.68x	8.12x	0.89x
	CDW Corp/DE	19.27x	12.43x	N/A	14.11x	15.69x	N/A	14.23x	16.38x	15.20x	1.26x
	Capgemini SE	9.68x	9.77x	9.27x	11.78x	11.91x	10.91x	15.82x	15.18x	14.16x	2.02x
	DXC Technology Co	4.43x	4.92x	4.66x	7.25x	8.30x	7.40x	8.23x	7.50x	6.71x	1.16x
	EPAM Systems Inc	27.32x	18.27x	15.11x	42.16x	33.34x	28.24x	40.43x	28.93x	24.16x	1.35x
	Genpact Ltd	11.25x	13.47x	12.14x	30.48x	19.62x	N/A	13.94x	16.38x	14.58x	1.47x
	International Business Machine	5.88x	8.09x	7.78x	9.34x	9.94x	9.62x	10.36x	9.89x	9.72x	2.76x
	Virtusa Corp	20.73x	18.31x	13.90x	25.91x	23.83x	17.83x	23.05x	19.42x	15.72x	0.97x
	WNS Holdings Ltd	18.56x	11.91x	11.01x	20.85x	22.88x	21.07x	31.30x	19.11x	17.58x	1.55x
	Peer Average Excluding Cognizant	13.72x	11.66x	10.40x	21.05x	19.20x	16.09x	19.51x	16.98x	15.35x	1.70x
Target Company	Cognizant Technology Solutions	9.14x	10.34x	9.52x	16.57x	15.92x	14.68x	13.68x	15.86x	14.99x	1.39x
Overall Peer Group Average		13.41x	11.57x	10.34x	20.75x	18.98x	15.97x	19.12x	16.91x	15.33x	1.68x

Relevant Multiples for Peer Group											
		EV/EBITDA			Price/Free Cash Flow			Price/Earnings			PEG Ratio
		LTM	18' Forecast	19' Forecast	LTM	18' Forecast	9' Forecast	LTM	18' Forecast	19' Forecast	18' Forecast
Core Peers	Accenture PLC	13.18x	13.63x	12.62x	19.18x	20.09x	18.26x	19.18x	21.24x	19.48x	2.07x
	HCL Technologies Ltd	10.85x	9.31x	8.39x	38.53x	20.19x	16.31x	15.30x	13.60x	12.50x	1.68x
	Infosys Ltd	6.82x	6.34x	5.94x	12.03x	11.68x	11.54x	19.36x	19.62x	18.21x	2.13x
	Tata Consultancy Services Ltd	21.07x	17.12x	15.45x	24.83x	27.03x	24.00x	28.80x	22.95x	20.74x	2.40x
	Wipro Ltd	15.09x	12.77x	12.82x	22.88x	31.31x	N/A	22.88x	18.88x	18.09x	2.06x
	Core Peer Average	12.69x	11.59x	10.79x	22.34x	21.04x	16.96x	19.87x	18.69x	17.33x	1.95x
Extended Peers	Atos SE	7.94x	6.88x	6.16x	15.32x	13.03x	11.78x	10.27x	8.68x	8.12x	0.89x
	CDW Corp/DE	19.27x	12.43x	N/A	14.11x	15.69x	N/A	14.23x	16.38x	15.20x	1.26x
	Capgemini SE	9.68x	9.77x	9.27x	11.78x	11.91x	10.91x	15.82x	15.18x	14.16x	2.02x
	DXC Technology Co	4.43x	4.92x	4.66x	7.25x	8.30x	7.40x	8.23x	7.50x	6.71x	1.16x
	EPAM Systems Inc	27.32x	18.27x	15.11x	42.16x	33.34x	28.24x	40.43x	28.93x	24.16x	1.35x
	Genpact Ltd	11.25x	13.47x	12.14x	30.48x	19.62x	N/A	13.94x	16.38x	14.58x	1.47x
	International Business Machine	5.88x	8.09x	7.78x	9.34x	9.94x	9.62x	10.36x	9.89x	9.72x	2.76x
	Virtusa Corp	20.73x	18.31x	13.90x	25.91x	23.83x	17.83x	23.05x	19.42x	15.72x	0.97x
	WNS Holdings Ltd	18.56x	11.91x	11.01x	20.85x	22.88x	21.07x	31.30x	19.11x	17.58x	1.55x
	Peer Average Excluding Cognizant	13.72x	11.66x	10.40x	21.05x	19.20x	16.09x	19.51x	16.98x	15.35x	1.70x
Target Company	Cognizant Technology Solutions	9.14x	10.34x	9.52x	16.57x	15.92x	14.68x	13.68x	15.86x	14.99x	1.39x
Overall Peer Group Average		13.41x	11.57x	10.34x	20.75x	18.98x	15.97x	19.12x	16.91x	15.33x	1.68x

Relative Value Analysis

- EV/EBITDA:
- Overall Peer Group: 11.57x
 - Overall Excluding Cognizant: 11.66x
 - Core Peers: 11.59x
 - Cognizant: 10.34x
- P/FCF:
- Overall Peer Group: 18.98x
 - Overall Excluding Cognizant: 19.20x
 - Core Peers: 21.04x
 - Cognizant: 15.92x

Relative Value Analysis

- We’ve measured CTSH’s implied share price based on multiples of each industry peer.

Cognizant's Implied Share Price by Peer Multiple											
		EV/EBITDA			Price/Free Cash Flow			Price/Earnings			PEG Ratio
		LTM	18' Forecast	19' Forecast	LTM	18' Forecast	19' Forecast	LTM	18' Forecast	19' Forecast	18' Forecast
Core Peers	Accenture PLC	\$103.25	\$94.95	\$95.44	\$91.64	\$99.37	\$98.06	\$103.16	\$98.55	\$95.67	\$109.42
	HCL Technologies Ltd	\$86.14	\$66.95	\$65.59	\$177.58	\$99.83	\$88.27	\$82.32	\$63.09	\$61.39	\$88.79
	Infosys Ltd	\$56.56	\$47.67	\$48.32	\$59.92	\$60.48	\$64.33	\$104.16	\$91.04	\$89.41	\$112.51
	Tata Consultancy Services Ltd	\$161.21	\$117.61	\$115.39	\$116.74	\$131.47	\$126.83	\$154.93	\$106.47	\$101.81	\$126.87
	Wipro Ltd	\$117.27	\$89.38	\$96.83	\$108.08	\$151.27	N/A	\$123.08	\$87.60	\$88.83	\$109.14
	Implied Value Based On Core	\$104.90	\$83.03	\$83.49	\$110.93	\$105.09	\$90.55	\$111.75	\$87.54	\$85.40	\$105.90
Extended Peers	Atos SE	\$64.80	\$51.13	\$49.91	\$74.50	\$66.75	\$65.55	\$55.26	\$40.30	\$39.85	\$46.88
	CDW Corp/DE	\$66.05	\$44.56	N/A	\$36.51	\$39.51	N/A	\$76.52	\$76.00	\$74.62	\$66.65
	Capgemini SE	\$77.60	\$69.91	\$71.82	\$58.81	\$61.58	\$61.20	\$85.09	\$70.43	\$69.53	\$106.78
	DXC Technology Co	\$39.03	\$38.46	\$39.33	\$38.67	\$44.87	\$43.60	\$44.26	\$34.82	\$32.97	\$61.10
	EPAM Systems Inc	\$207.12	\$125.04	\$112.95	\$193.71	\$160.62	\$148.08	\$217.47	\$134.25	\$118.65	\$71.31
	Genpact Ltd	\$127.79	\$127.79	\$127.79	\$127.79	\$127.79	\$127.79	\$127.79	\$127.79	\$127.79	\$127.79
	International Business Machine	\$49.87	\$49.87	\$49.87	\$49.87	\$49.87	\$49.87	\$49.87	\$49.87	\$49.87	\$49.87
	Virtusa Corp	\$112.59	\$112.59	\$112.59	\$112.59	\$112.59	\$112.59	\$112.59	\$112.59	\$112.59	\$112.59
	WNS Holdings Ltd	\$164.21	\$164.21	\$164.21	\$164.21	\$164.21	\$164.21	\$164.21	\$164.21	\$164.21	\$164.21
	Mean Excluding Cognizant	\$102.39	\$85.72	\$88.47	\$100.76	\$97.87	\$95.87	\$107.19	\$89.79	\$87.66	\$96.71
Average Multiples For Peer Group		13.41x	11.57x	10.34x	20.75x	18.98x	15.97x	19.12x	16.91x	15.33x	1.68x
Cognizant Implied Price Per Share		\$104.99	\$81.59	\$79.36	\$111.60	88.09x	75.27x	\$102.86	\$78.46	\$75.27	\$88.66

Cognizant's Implied Share Price by Peer Multiple											
		EV/EBITDA			Price/Free Cash Flow			Price/Earnings			PEG Ratio
		LTM	18' Forecast	19' Forecast	LTM	18' Forecast	19' Forecast	LTM	18' Forecast	19' Forecast	18' Forecast
Core Peers	Accenture PLC	\$103.25	\$94.95	\$95.44	\$91.64	\$99.37	\$98.06	\$103.16	\$98.55	\$95.67	\$104.13
	HCL Technologies Ltd	\$86.14	\$66.95	\$65.59	\$177.58	\$99.83	\$88.27	\$82.32	\$63.09	\$61.39	\$94.10
	Infosys Ltd	\$56.56	\$47.67	\$48.32	\$59.92	\$60.48	\$64.33	\$104.16	\$91.04	\$89.41	\$108.53
	Tata Consultancy Services Ltd	\$161.21	\$117.61	\$115.39	\$116.74	\$131.47	\$126.83	\$154.93	\$106.47	\$101.81	\$122.30
	Wipro Ltd	\$117.27	\$89.38	\$96.83	\$108.08	\$151.27	N/A	\$123.08	\$87.60	\$88.83	\$102.69
	Implied Value Based On Core	\$104.90	\$83.03	\$83.49	\$110.93	\$105.09	\$90.55	\$111.75	\$87.54	\$85.40	\$105.90
Extended Peers	Atos SE	\$64.80	\$51.13	\$49.91	\$74.50	\$66.75	\$65.55	\$55.26	\$40.30	\$39.85	\$46.88
	CDW Corp/DE	\$66.05	\$44.56	N/A	\$36.51	\$39.51	N/A	\$76.52	\$76.00	\$74.62	\$66.65
	Capgemini SE	\$77.60	\$69.91	\$71.82	\$58.81	\$61.58	\$61.20	\$85.09	\$70.43	\$69.53	\$106.78
	DXC Technology Co	\$39.03	\$38.46	\$39.33	\$38.67	\$44.87	\$43.60	\$44.26	\$34.82	\$32.97	\$61.10
	EPAM Systems Inc	\$207.12	\$125.04	\$112.95	\$193.71	\$160.62	\$148.08	\$217.47	\$134.25	\$118.65	\$71.31
	Genpact Ltd	\$127.79	\$127.79	\$127.79	\$127.79	\$127.79	\$127.79	\$127.79	\$127.79	\$127.79	\$127.79
	International Business Machine	\$49.87	\$49.87	\$49.87	\$49.87	\$49.87	\$49.87	\$49.87	\$49.87	\$49.87	\$49.87
	Virtusa Corp	\$112.59	\$112.59	\$112.59	\$112.59	\$112.59	\$112.59	\$112.59	\$112.59	\$112.59	\$112.59
	WNS Holdings Ltd	\$164.21	\$164.21	\$164.21	\$164.21	\$164.21	\$164.21	\$164.21	\$164.21	\$164.21	\$164.21
	Mean Excluding Cogizant	\$102.39	\$85.72	\$88.47	\$100.76	\$97.87	\$95.87	\$107.19	\$89.79	\$87.66	\$96.71
Average Multiples For Peer Group		13.41x	11.57x	10.34x	20.75x	18.98x	15.97x	19.12x	16.91x	15.33x	1.68x
Cognizant Implied Price Per Share		\$104.99	\$81.59	\$79.36	\$111.60	88.09x	75.27x	\$102.86	\$78.46	\$75.27	\$88.66

Relative Value Analysis

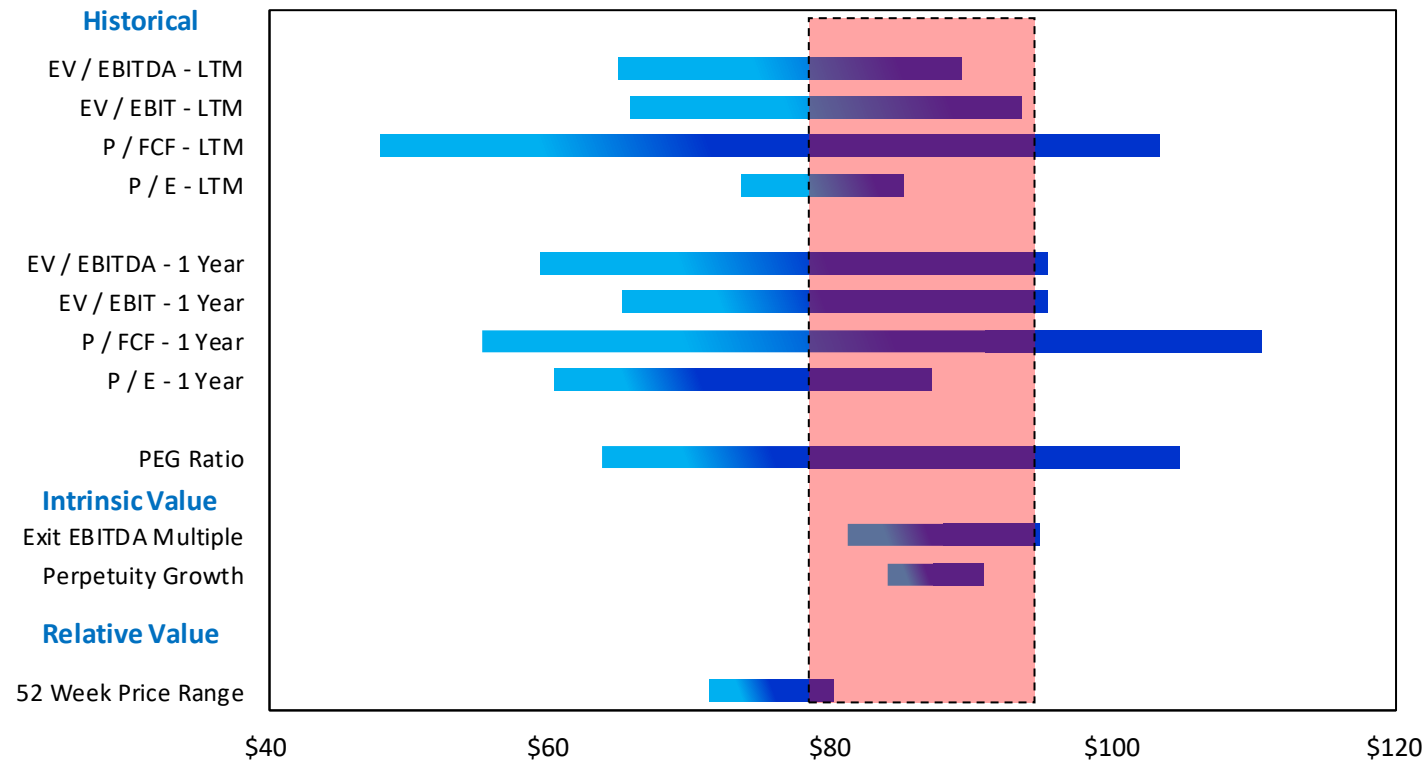
- We've measured CTSH's implied share price based on multiples of each industry peer.
- When measured against our core and extended peers, Cognizant should be trading higher than the current price
- Our analysis shows that Cognizant should be worth at least \$81.59, based on our preferred peer multiple

Free Cash Flow Schedule									
Fiscal year	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fiscal year end date	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
EBITDA	2,664	2,912	3,253	3,520	3,878	4,196	4,524	4,936	5,292
EBIT	2,142	2,316	2,589	2,801	3,131	3,397	3,639	3,960	4,280
Tax Rate	24.95%	34.14%	43.39%	24.94%	26.00%	27.00%	28.00%	29.00%	30.00%
EBIAT (NOPAT)	1,607	1,525	1,466	2,103	2,317	2,480	2,620	2,812	2,996
Add: Depreciation & Amortization	330	379	443	460	475	504	570	632	642
Add: Stock-based compensation	192	217	221	259	271	294	315	343	370
Less: Net Working Capital	(67)	(546)	99	370	(43)	(62)	(56)	(75)	(74)
Unlevered Cash Flow From Operations	2,063	1,576	2,229	3,192	3,021	3,217	3,449	3,712	3,934
Less: Capital Expenditures	(273)	(404)	(284)	(377)	(400)	(415)	(465)	(506)	(547)
Less: Purchases of Intangible Assets	(122)	(135)	(148)	(242)	(261)	(283)	(303)	(330)	(357)
Unlevered Free Cash Flows	1,668	1,037	1,796	2,573	2,360	2,518	2,681	2,876	3,030
% Growth		(37.8%)	73.2%	43.2%	(8.3%)	6.7%	6.4%	7.3%	5.4%
Present Value of Unlevered Free Cash Flows					2,024	2,019	2,009	2,016	1,987

Intrinsic Value Analysis

- Our assumptions are based on current market trends, as well as forecast from industry analyst.
- We project that unlevered Free Cash Flows will obtain a CAGR of ~4%.

Valuation Overview



Fair Value for the Following Methods:

- Trading Comps Analysis: \$81.59
- Perpetuity Growth Method: \$88.99
- Exit EBITDA Multiple: \$107.92

Target Price

- Our target price is \$90.60, based on our Selective methodology blend

Target Price Valuation Weights

Valuation Metrics	Weight	Price	Comments
Relative Valuation (EV / EBITDA)	55%	\$81.59	Trading Comps valuation are based on how they are trading on the market. Not manipulated by assumptions or synergies.
Perpetuity Growth Rate Method	15%	\$88.99	Overall, intrinsic valuation methods tend to lead to higher valuations due to sensitivity in modeling assumptions.
Exit Multiple Method	30%	\$107.92	While still sensitive to modeling assumptions, this method removes the ambiguity with long-term growth forecasting
Cognizant's Target Price		\$90.60	

NYSE



Cognizant Technology Solutions

Investment Risk

Fair Value Risk

Strategic Risk

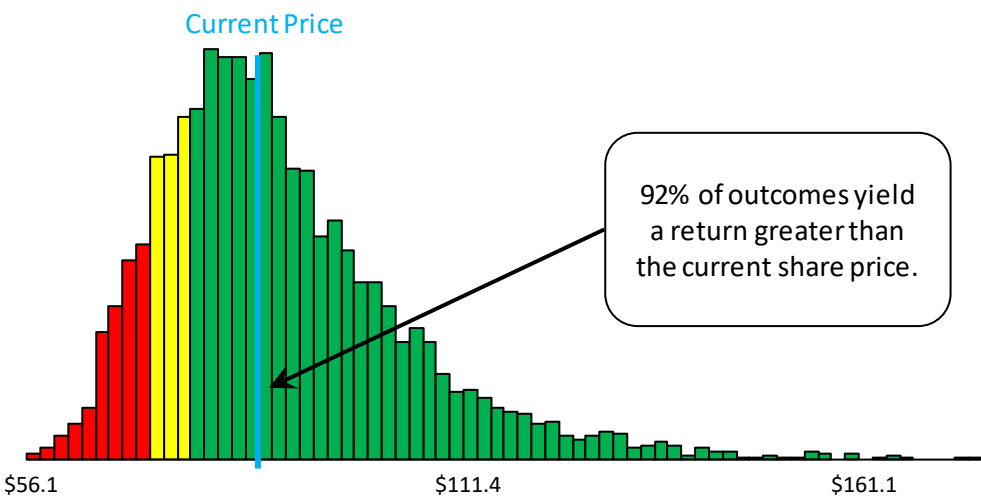
Upside
Downside

Scenario Analysis

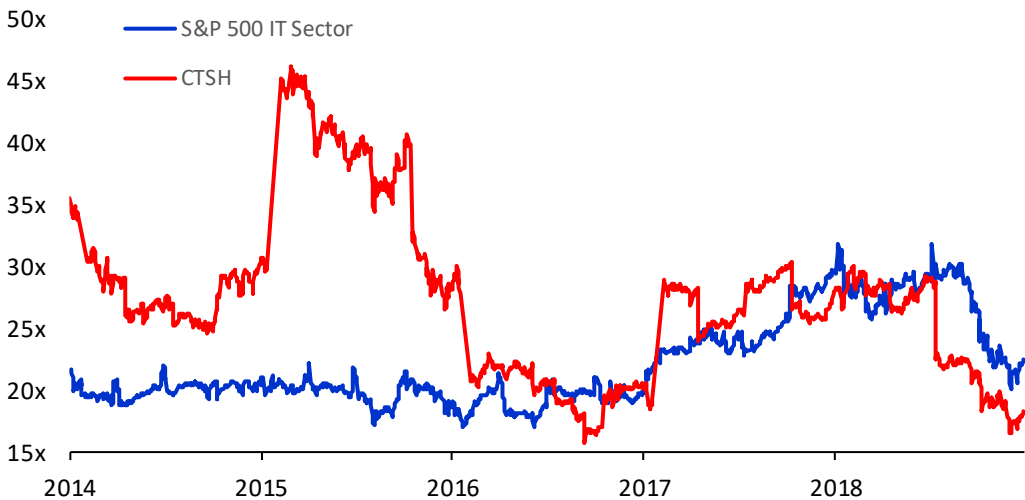
Assumptions

- 1 Despite the changes in stock market volatility, we don't expect adverse changes in Cognizant's share price
- 2 We also expect the technology sector to remain priced at a premium, compared to the market

Monte Carlo Simulation For Historical Price



Price / Free Cash Flow Comparison



Fair Value Risk

Strategic Risk

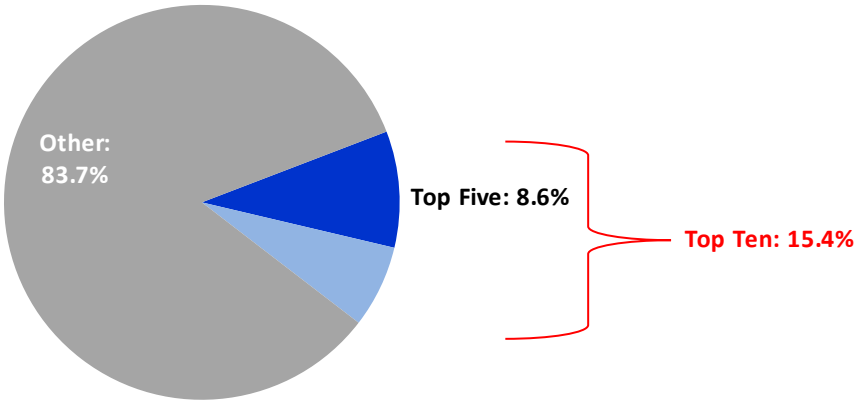
Upside
Downside

Scenario Analysis

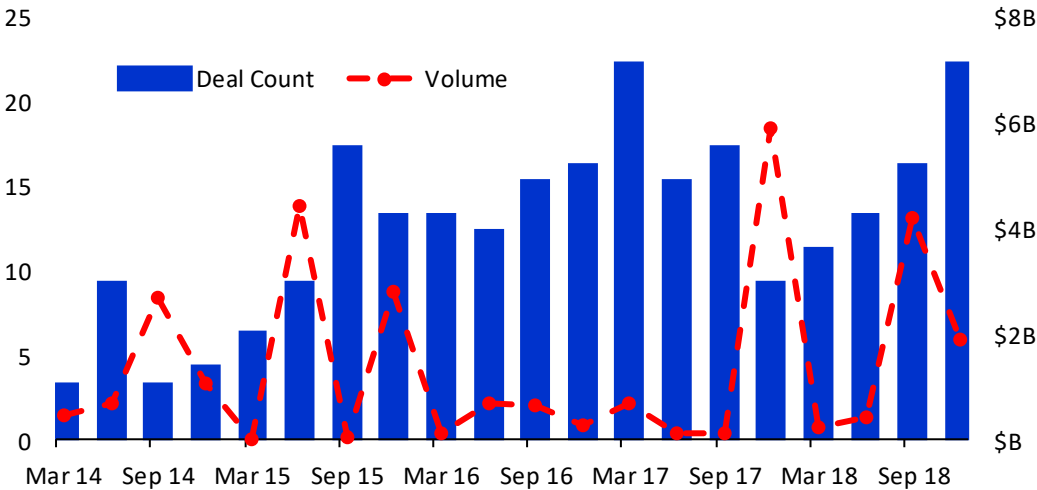
Assumptions

- 1 Despite the changes in stock market volatility, we don't expect adverse changes in Cognizant's share price
- 2 We also expect the technology sector to remain priced at a premium, compared to the market
- 3 We expect Cognizant to reduce it's customer concentration
- 4 Congizant will continue to improve it's financial position via the use of bolt-on acquisitions

Revenue Concentration



Information Technology M&A Activity



Fair Value Risk

Strategic Risk

Upside
Downside

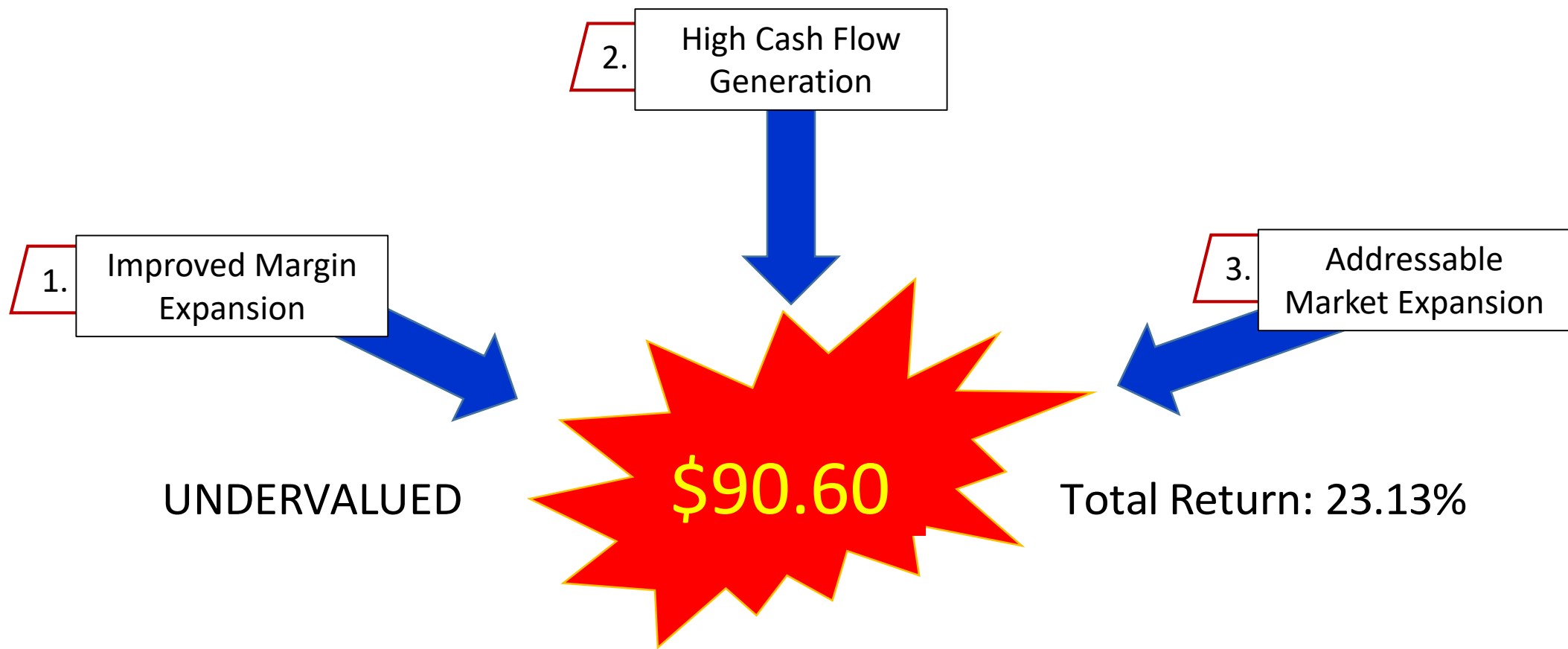
Scenario Analysis

Assumptions

- 1 Despite the changes in stock market volatility, we don't expect adverse changes in Cognizant's share price
- 2 We also expect the technology sector to remain priced at a premium, compared to the market
- 3 We expect Cognizant to reduce it's customer concentration
- 4 Congizant will continue to improve it's financial position via the use of bolt-on acquisitions
- 5 Intrinsic Value Analysis ranges from an upside of \$102.98 and a downside of \$65.32
- 6 Upside / Downside analysis gives Cognizant a range from \$68.30 to \$104.98

Upside / Downside Metrics

	Downside	Base Case	Upside
FY19 - 23 Revenue CAGR	6.6%	8.1%	9.6%
FY19 - 23 Revenue CAGR	4.3%	8.5%	13.0%
FY19 Gross Margin	37.5%	39.0%	40.5%
FY19 OpEx % of Sales	22.5%	21.0%	19.5%
FY19 Tax Rate	28%	26%	24%
FY19 - 23 Cum. Dividends	\$2.0 Billion	\$2.9 Billion	\$3.3 Billion
FY19 - 23 Cum. Repurchases	\$9.5 Billion	\$9.5 Billion	\$9.5 Billion
FCF Returned to Shareholders	\$11.5 Billion	\$12.4 Billion	\$12.8 Billion
FY19 Diluted EPS	\$3.25	\$3.60	\$4.99
Perpetuity Method (2.75% Growth Rate)	\$65.32	\$88.99	\$102.98
Multiple Method (13.41x EBITDA Multiple)	\$86.47	\$107.92	\$123.76
Relative Value (1 Year EV/EBITDA Forward)	\$59.20	\$81.59	\$95.28
FY19 Value Target (Dec. 21, 2019)	\$68.30	\$90.60	\$104.98
% Gain to Current Price	(7.01%)	23.35%	42.93%





**Jethro
Widjaja**



Stefon Distant



Fang Shen

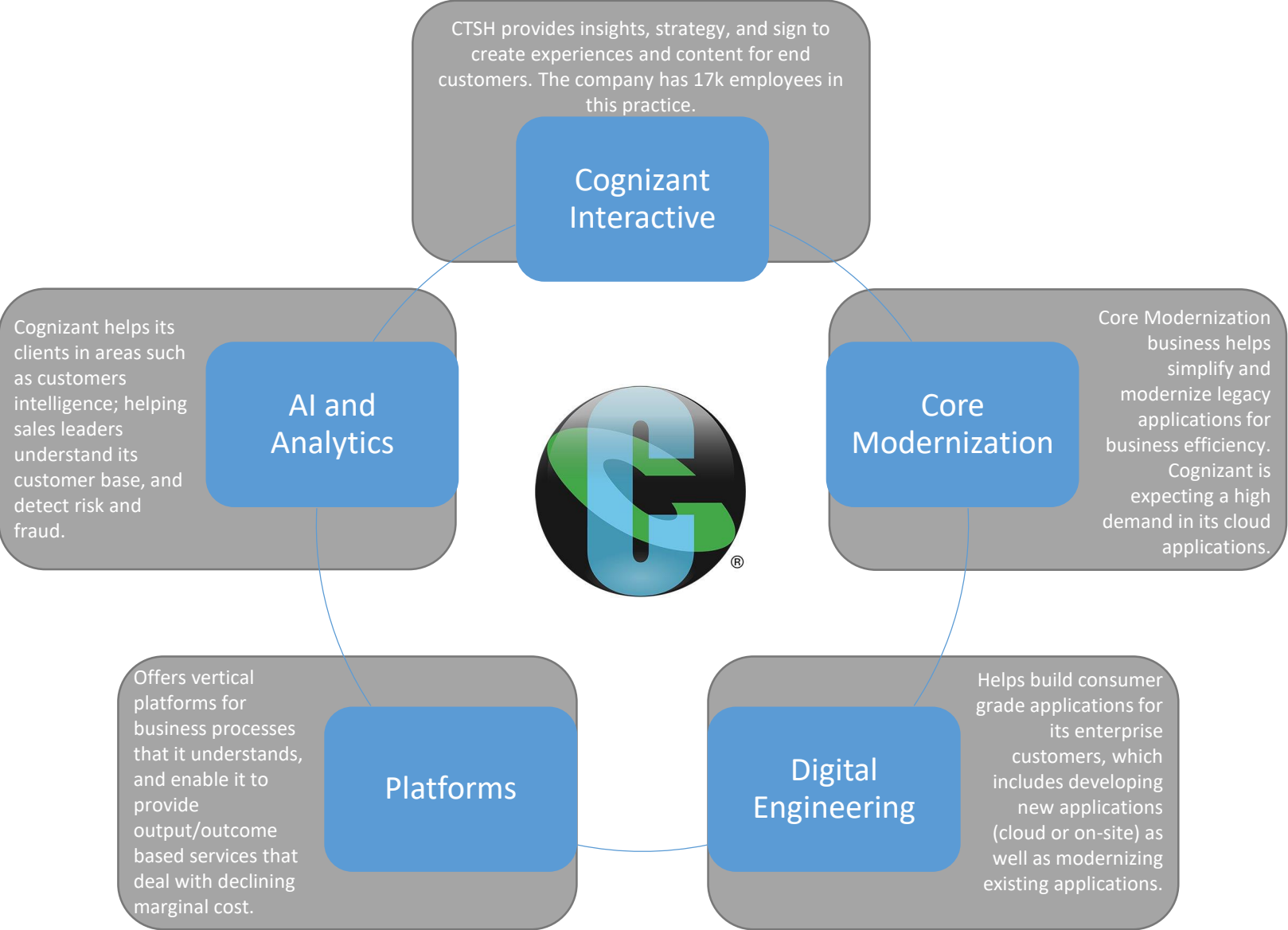


**Fei Fei
Xing**



Andre Sealy

Business Initiatives	
Cognizant Digital Business	<ul style="list-style-type: none">• Cognizant's digital business practice works with customers to envision and build human-centric digital solutions, fusing strategy, intelligence, experience and software to drive industry-aligned transformative growth.• The approach combines data science, design thinking, and deep industry and process knowledge with solid technology capabilities to unite the physical and virtual aspects of a company’s offerings seamlessly across every channel.• Cognizant helps customers identify insights, develop business models and go-to-market strategies, and design, prototype and scale meaningful experiences.
Cognizant Digital Operatons	<ul style="list-style-type: none">• Cognizant's digital operations practice helps customers re-engineer, digitize, manage and operate their most essential business processes to lower operating costs, improve user experiences and deliver better outcomes and top-line growth.• Across the practice, Congizant is creating automated, data-driven platforms and industry utilities.
Cognizant Digital Technology & Solutions	<ul style="list-style-type: none">• The company's digital systems and technology practice helps clients create and evolve applications, platforms and infrastructure that meet the needs of modern enterprises.• Congizant works with customers to simplify, modernize and secure IT infrastructure and applications by leveraging automation, analytics and agile development, allowing our customers to unlock the value in their legacy technology environments, adapt to change and maintain the integrity of their core IT infrastructure.• Cognizant helps customers create and evolve systems that meet their needs in the modern enterprise by delivering industry-leading standards of performance, cost and flexibility.



Appendix 3

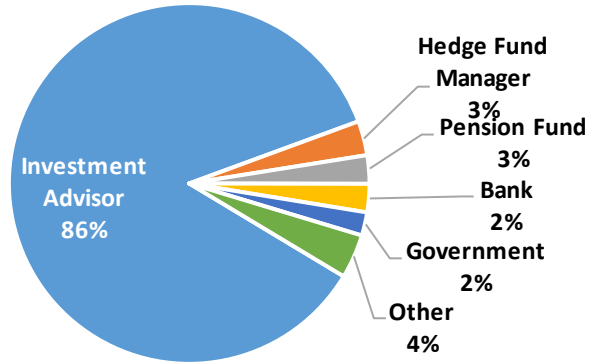
Cognizant's Top 50 Customers (Publicly Traded Companies)

Top 10: 16.27%

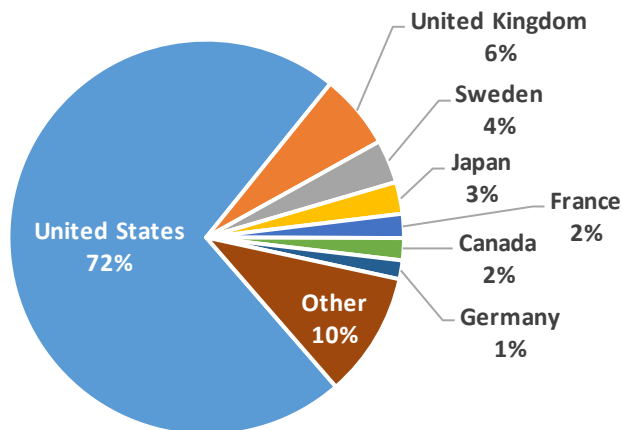
Top 5: 9.53%

Cognizant's Largest Customers by Relationship Value (USD In Millions)						
Company	Industry	Market Capitalization	FY 2017 Revenue	FY 2017 Net Income	Sales Contribution	Relationship Value
JPMorgan Chase & Co	Financial Services	319,784	131,412	30,709	2.44%	98
Wells Fargo & Co	Financial Services	211,104	101,060	20,689	2.13%	86
Bank of America Corp	Financial Services	238,251	110,584	26,696	1.69%	82
UnitedHealth Group Inc	Healthcare	239,662	226,247	11,986	1.64%	68
Citigroup Inc	Financial Services	123,304	97,120	16,672	1.63%	62
AmerisourceBergen Corp	Healthcare	19,663	167,940	1,658	1.61%	62
CVS Health Corp	Healthcare	80,216	184,765	6,622	1.45%	61
McKesson Corp	Healthcare	25,867	208,357	67	1.41%	60
Johnson & Johnson	Healthcare	370,732	81,581	15,297	1.23%	59
Cardinal Health Inc	Healthcare	16,200	136,809	256	1.04%	58
HSBC Holdings PLC	Financial Services	174,080	67,306	9,683	1.02%	58
Sanofi	Financial Services	90,089	36,204	8,434	1.01%	57
BNP Paribas SA	Financial Services	65,835	67,949	7,537	1.00%	56
Deutsche Bank AG	Financial Services	20,162	41,599	(1,049)	0.98%	55
Express Scripts Holding Co	Healthcare	53,548	100,065	4,517	0.96%	54
Barclays PLC	Financial Services	29,416	26,799	(1,922)	0.94%	54
UBS Group AG	Financial Services	45,137	42,153	4,792	0.92%	53
American Express Co	Financial Services	80,736	43,281	6,787	0.90%	52
Anthem Inc	Healthcare	70,960	90,039	3,843	0.88%	51
AT&T Inc	Telecommunications	244,136	160,546	29,463	0.86%	50
Royal Bank of Canada	Financial Services	138,032	57,406	12,115	0.84%	50
TD Bank	Financial Services	133,674	53,017	11,048	0.82%	49

Top Ownership by Institution Type



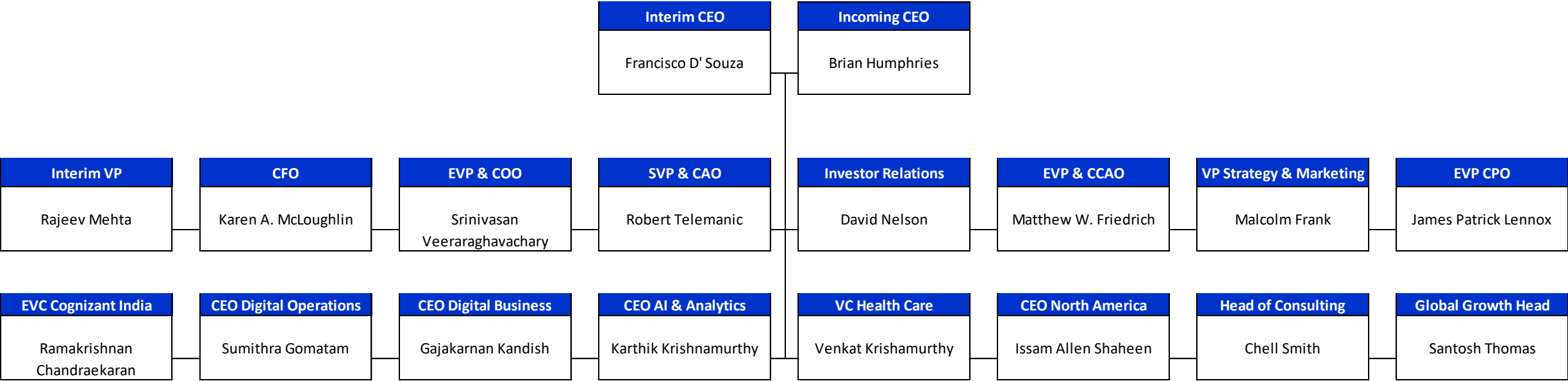
Top Ownership by Geography



Top Institutional Holders

Holders	Position	% Outstanding	Latest Change
BlackRock Inc	45,040,179	7.81%	0
Vanguard Group Inc/The	44,130,631	7.65%	559243
Sun Life Financial Inc	25,411,850	4.40%	1116990
State Street Corp	22,428,790	3.89%	-872055
Edgewood Management LLC/USA	18,390,315	3.19%	252411
BANK OF NEW YORK MELLON CORP/THE	17,671,905	3.06%	-1308875
Invesco Ltd	16,161,442	2.80%	-256247
Franklin Resources Inc	12,964,914	2.25%	1503294
Nordea Bank Abp	10,778,213	1.87%	983036
Government Pension Investment Fund	9,829,762	1.70%	0
FMR LLC	9,307,323	1.61%	-5219948
Comgest Global Investor SAS	8,096,614	1.40%	677297
Pzena Investment Management LLC	7,607,129	1.32%	849544
Northern Trust Corp	7,403,117	1.28%	307134
Geode Capital Management LLC	6,734,427	1.17%	86294
UBS AG	6,322,963	1.10%	-317968
Comgest SA	5,437,093	0.94%	-88001
Norges Bank	5,282,483	0.92%	211897
Wells Fargo & Co	5,230,462	0.91%	139217
Credit Agricole Group	5,077,194	0.88%	-942217
AllianceBernstein LP	4,545,619	0.79%	-355583
APG Asset Management NV	4,526,208	0.78%	80800
FIL Ltd	4,107,204	0.71%	960047
AQR Capital Management LLC	4,069,542	0.71%	128528
Genesis Asset Managers LLP	3,978,520	0.69%	394365
State of California	3,844,389	0.67%	700932
Goldman Sachs Group Inc/The	3,654,121	0.63%	-1300419
Prudential Financial Inc	3,603,111	0.62%	206464

Cognizant's Corporate Structure



Profile



Francisco D' Souza

Intriem Chief Executive Officer (2007 - 2019)
Vice President

Francisco D’Souza is the Chief Executive Officer of Cognizant and the Vice Chair of our Board of Directors. Cognizant is a leading professional services company and our mission is to help clients around the world transform their business, operating and technology models in tandem to achieve the promise of digital technology at scale.

In 2017, Fortune named Cognizant to its Fortune Future 50 list, a ranking of companies best positioned for breakout growth. And in 2018, Cognizant was named to the first-ever Barron’s 100 Most Sustainable Companies list, a ranking of the environmental, social and governance practices of large U.S. publicly traded companies.

Experience



Education



Profile

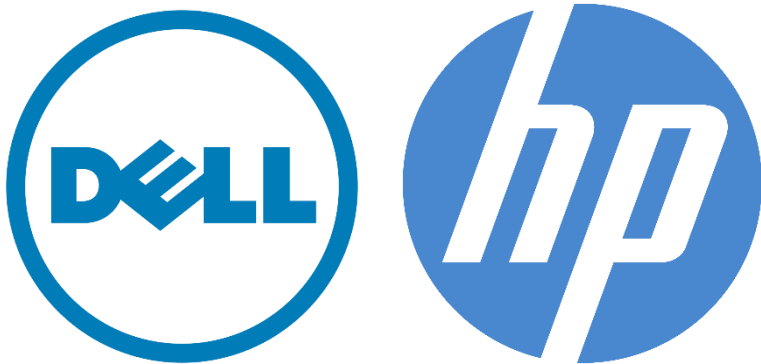


Brian Humphries

Incoming Chief Executive Officer
Current CEO of Vodafone Business

Brian Humphries joined Vodafone and the Executive Committee in February 2017 as Group Enterprise Director, now CEO Vodafone Business. He is responsible for Vodafone’s enterprise business globally, which consists of all business-to-business fixed and mobile customers, as well as enterprise’s Internet of Things, Cloud-Hosting, Carrier Services and Security businesses.

Experience



Education



Profile



Karen McLoughlin

Chief Financial Officer (2003 - Present)

Karen McLoughlin is Cognizant’s Chief Financial Officer. She oversees the company’s worldwide financial planning and analysis, accounting and controllership, tax, treasury and internal audit functions. Other areas under her purview include investor relations, enterprise risk management, procurement and real estate functions.

During her tenure Karen has developed a deep understanding of Cognizant from both a financial and a business operations perspective. Outside of Cognizant she serves on the Board of Directors of Best Buy Co. Inc.

Experience



Education



Profile



Rajeev Mehta (Raj)

President
President

Rajeev Mehta is the President of Cognizant. Raj is responsible for the overall profit and loss of Cognizant’s operations, leading the global industry and geographic business units, as well as consulting, digital talent, utilization, performance and ongoing operational excellence. Additionally, he manages the company’s emerging business accelerator unit and other special initiatives dedicated to building new solutions for Cognizant’s clients.

Experience



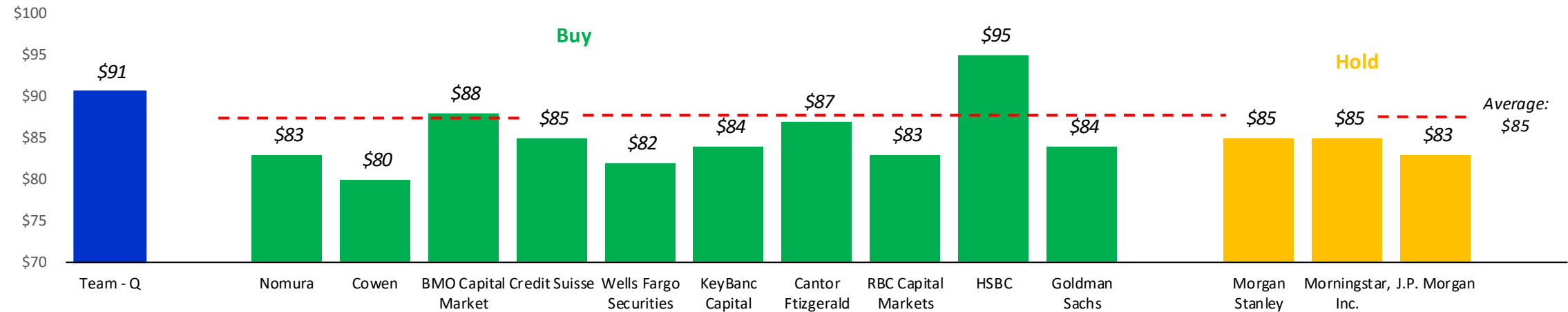
Cognizant

Education

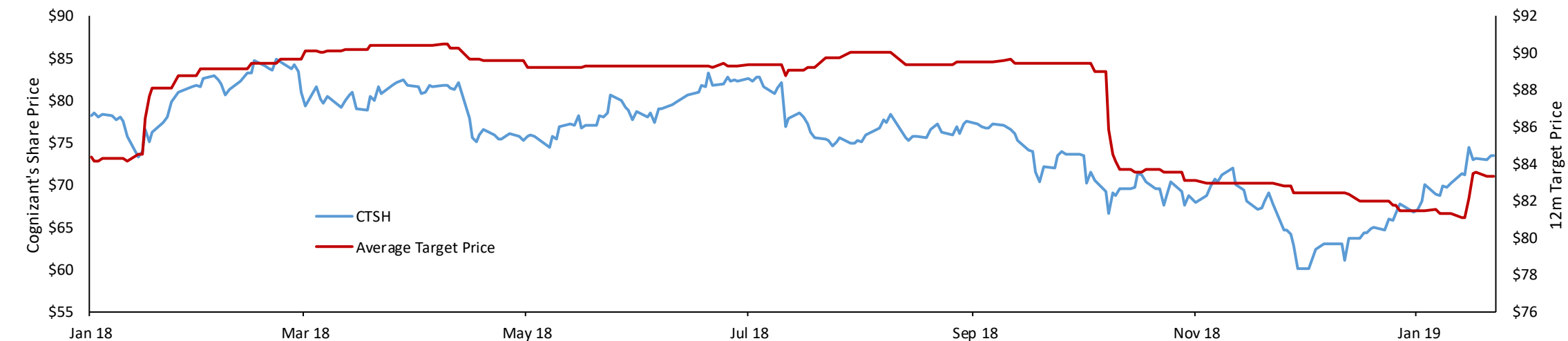


Annual Total Executive Compensation					
	Corporate Rank	FY 2014	FY 2015	FY 2016	FY 2017
D'Souza, Francisco	Vice Chair & CEO	1,154,962	1,467,983	1,237,969	1,484,550
Friedrich, Matthew W.	Executive VP, General Counsel, Chief Corporate Affairs Officer & Secretary	-	-	-	1,474,498
Mehta, Rajeev	President	924,749	1,189,795	969,134	1,300,852
McLoughlin, Karen A.	Chief Financial Officer	683,880	903,860	723,576	995,915
Chintamaneni, Ramakrishna Prasad	Executive VP and President of Global Industries & Consulting	-	-	991,252	946,524
Klein, John E.	Member of Board Of Directors	174,000	230,486	285,000	265,500
Breakiron-Evans, Maureen A.	Independent Director	71,500	104,849	140,500	133,000
Patsalos-Fox, Michael	Chairman	52,000	78,041	103,500	123,000
Fox, John N.	Independent Director	52,000	78,041	103,500	118,500
Dineen, John M.	Independent Director	-	-	-	112,993
Atkins, Betsy S. (Prior)	Former Independent Director	-	-	-	112,993
Abdalla, Zein	Independent Director	-	30,884	114,000	108,000
Chadwick, Jonathan C.	Independent Director	-	-	118,315	102,000
Mackay, Leo S.	Independent Director	52,000	79,541	106,500	100,500
Weissman, Robert E. (Prior)	Former Independent Director	55,500	88,849	118,500	100,500
Velli, Joseph Mark	Director	-	-	-	43,397
Wendel, Thomas M. (Prior)	Former Independent Director	53,500	84,041	115,500	7,500
Average Executive Package		327,409	394,215	394,404	442,954

Equity Research Target Price by Investment Bank



Stock Price Historical and Average Equity Research Target Price



10 Year Treasury Yield



Considering a large portion of our fair value is based comps derived, we decided to use a comps derived Beta

Comps Derived Beta (USD in Millions)								
Company Name	Observed β	Share Price	Dil. Shares	Market Cap	Cash	Debt	Tax Rate	Delev. β
Accenture PLC	1.082	\$158.03	655	103,556	5,065	25	27.44%	1.122
Atos SE	1.227	\$71.97	105	7,590	2,004	1,732	18.33%	1.264
CDW Corp/DE	1.114	\$92.71	154	14,240	206	3,209	23.50%	0.959
Capgemini SE	1.160	\$87.97	172	15,137	1,912	2,990	27.27%	1.103
DXC Technology Co	1.114	\$67.20	290	19,473	2,593	8,010	0	0.872
EPAM Systems Inc	1.348	\$149.58	55	8,225	583	25	58.26%	1.388
Genpact Ltd	0.983	\$32.44	194	6,293	368	1,304	22.31%	0.881
HCL Technologies Ltd	0.725	\$15.11	1,402	21,196	900	70	20.88%	0.748
International Business Machine	1.006	\$137.52	916	126,010	11,997	45,812	23.09%	0.834
Infosys Ltd	0.890	\$10.66	4,515	48,141	3,704	-	20.92%	0.948
Tata Consultancy Services Ltd	0.912	\$2065.40	3,849	112,286	6,023	2,470	24.09%	0.934
Virtusa Corp	1.035	\$51.97	29	1,528	241	300	78.61%	1.027
Wipro Ltd	0.767	\$5.74	4,524	25,967	4,153	1,953	21.85%	0.822
WNS Holdings Ltd	0.801	\$52.57	53	2,782	221	50	27.33%	0.838
Target Company	Observed β	Share Price	Dil. Shares	Market Cap	Cash	Debt	Tax Rate	Delev. β
Cognizant Technology Solutions	0.9553	\$73.58	579	42,639	4,856	724	24.94%	1.030
Industry Average Beta:								0.9846
Cognizant Technology Solutions Beta								0.9130

Unlevered Beta

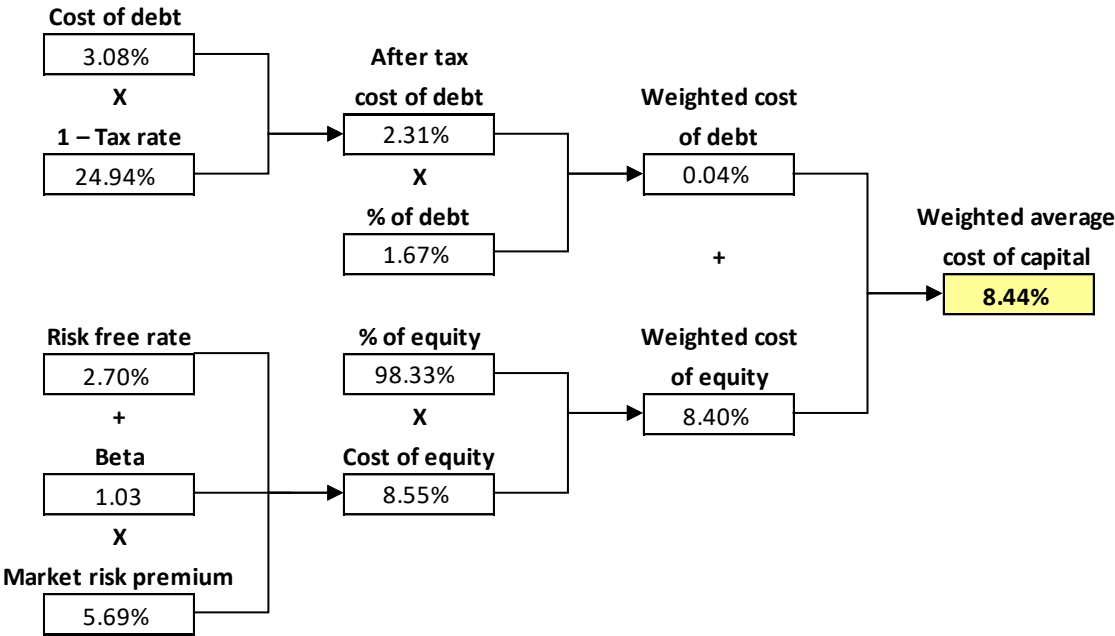
$$\beta_{a_u} = \frac{\beta_{a_L}}{[1 + (1 - T_m)(D/E)]}$$

Levered Beta

$$\beta_{a_L} = \beta_{a_u}(1 + (1 - T_m)(D/E))$$

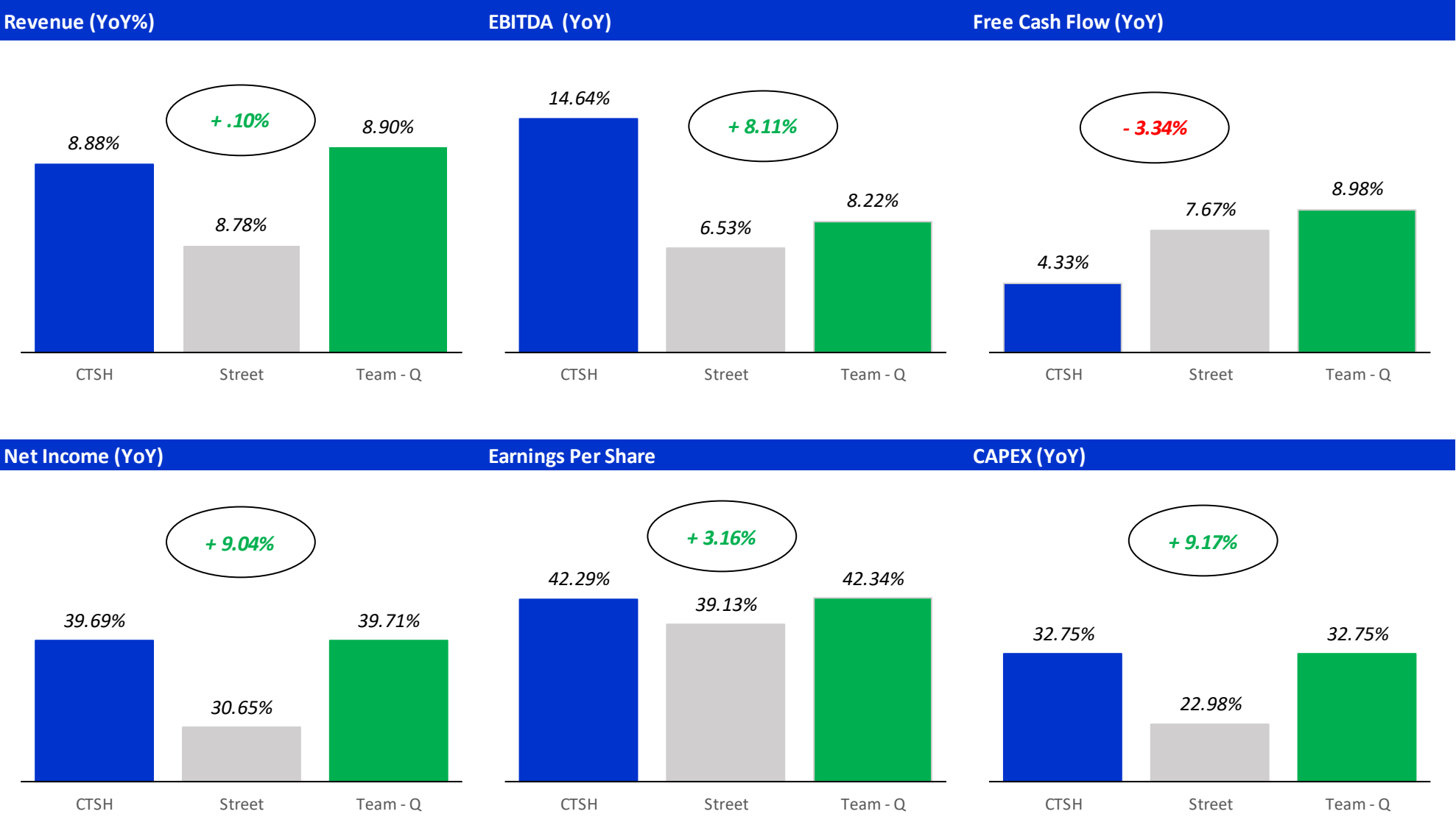
The process involves deleveraging the beta for all of our peers, calculating its average, and releveraging the beta, based on Cognizant’s Capital Structure.

Cognizant's Weighted Average Cost of Capital



WACC Summary:

- Cost of Debt is based on borrowing cost for FY 2018
- Beta was adjusted for cash in the capital structure, just changing from .913 to 1.03
- Weighted Average Cost of Capital: 8.44%



In Million USD	2014 A	2015 A	2016 A	2017 A	2018 P	2019 P	2020 P	2021 P	2022 P	2023 P
Revenue	\$10,263	\$12,416	\$13,487	\$14,810	\$16,125	\$17,397	\$18,875	\$20,217	\$22,002	\$23,778
Cost of sales	(6,141)	(7,440)	(8,108)	(9,152)	(9,838)	(10,612)	(11,513)	(12,333)	(13,421)	(14,505)
Gross Profit	\$4,122	\$4,976	\$5,379	\$5,658	\$6,287	\$6,785	\$7,361	\$7,885	\$8,581	\$9,274
Selling, general and administrative	(2,237)	(2,834)	(3,063)	(3,069)	(3,486)	(3,653)	(3,964)	(4,246)	(4,620)	(4,993)
Operating profit (EBIT)	\$1,885	\$2,142	\$2,316	\$2,589	\$2,801	\$3,131	\$3,397	\$3,639	\$3,960	\$4,280
Interest Income	\$62	\$84	\$115	\$133	\$177	\$116	\$116	\$118	\$123	\$132
Interest expense	(3)	(18)	(19)	(23)	(27)	(14)	(15)	(12)	(11)	(10)
Other expense / income	(21)	(44)	(54)	(42)	(152)	(152)	(152)	(152)	(152)	(152)
Pretax profit	\$1,862	\$2,164	\$2,358	\$2,657	\$2,799	\$3,081	\$3,347	\$3,594	\$3,921	\$4,251
Taxes	(485)	(540)	(805)	(1,153)	(698)	(801)	(904)	(1,006)	(1,137)	(1,275)
Net income	\$1,377	\$1,624	\$1,553	\$1,504	\$2,101	\$2,280	\$2,443	\$2,588	\$2,784	\$2,976
Basic shares outstanding	608	609	607	593	582	555	539	524	510	496
Impact of dilutive securities	4	4	3	2	2	2	2	2	2	2
Diluted shares outstanding	613	613	610	595	584	557	541	526	512	498
Basic EPS	\$2.26	\$2.67	\$2.56	\$2.54	\$3.61	\$4.10	\$4.53	\$4.94	\$5.46	\$6.00
Diluted EPS	\$2.25	\$2.65	\$2.55	\$2.53	\$3.60	\$4.09	\$4.52	\$4.92	\$5.44	\$5.98

In Million USD	2016 A	2017 A	2018 A	2019 A	2020 A	2021 A	2022 A	2023 A
Cash & equivalents ST & LT market. securities	\$5,231	\$5,291	\$4,591	\$4,556	\$4,650	\$4,720	\$5,019	\$5,437
Accounts receivable	2,905	3,222	3,257	3,514	3,812	4,084	4,444	4,803
Inventory	-	-	-	-	-	-	-	-
Prepaid expenses	-	-	-	-	-	-	-	-
Other current assets	526	833	909	909	909	909	909	909
Property, plant & equipment	1,311	1,324	1,394	1,434	1,455	1,455	1,429	1,429
Acquired intangible assets (inc. Goodwill)	3,505	3,685	4,631	4,777	4,950	5,148	5,377	5,639
Deferred Tax Asset	425	418	442	477	517	554	603	652
Other long-term assets	359	448	689	689	689	689	689	689
Total assets	\$14,262	\$15,221	\$15,913	\$16,356	\$16,983	\$17,559	\$18,471	\$19,558
Accounts payable	\$175	\$210	\$215	\$244	\$264	\$283	\$308	\$333
Short-Term Debt	81	175	9	54	143	111	189	267
Other liabilities	319	330	-	-	-	-	-	-
Revolver	-	-	-	-	-	-	-	-
Deferred Tax Liabilities	16	194	183	197	214	229	250	270
Long-term debt	797	698	736	674	611	548	485	422
Accrued Expenses & Deferred revenue	1,984	2,180	2,615	2,821	3,061	3,279	3,568	3,856
Other long-term liabilities	162	765	731	731	731	731	731	731
Total liabilities	\$3,534	\$4,552	\$4,489	\$4,721	\$5,024	\$5,181	\$5,531	\$5,879
Common stock / additional paid in capital	364	55	53	324	618	933	1,276	1,646
Retained earnings / accumulated deficit	10,478	10,544	11,485	13,260	15,163	17,178	19,346	21,663
Treasury Stock	-	-	-	(1,836)	(3,709)	(5,619)	(7,567)	(9,516)
Other comprehensive income / (loss)	(114)	70	(114)	(114)	(114)	(114)	(114)	(114)
Total equity	\$10,728	\$10,669	\$11,424	\$11,634	\$11,958	\$12,378	\$12,940	\$13,679

In Million USD	2015 A	2016 A	2017 A	2018 A	2019 A	2020 A	2021 A	2022 A	2023 A
Net income	\$1,624	\$1,553	\$1,504	\$2,101	\$2,280	\$2,443	\$2,588	\$2,784	\$2,976
Depreciation and amortization	330	379	443	460	475	504	570	632	642
Stock based compensation	192	217	221	259	271	294	315	343	370
Accounts receivable	(328)	(283)	(317)	(35)	(257)	(299)	(271)	(361)	(359)
Inventory	-	-	-	-	-	-	-	-	-
Accounts payable	20	10	35	5	29	21	19	25	25
Accrued expenses & def revenues	364	(207)	196	435	206	240	218	289	288
Prepaid expenses and other assets	-	-	-	-	-	-	-	-	-
Deferred tax assets (DTAs)	(114)	(77)	7	(24)	(35)	(41)	(37)	(49)	(49)
Deferred tax liabilities (DTLs)	(9)	\$13	\$178	(11)	\$14	\$17	\$15	\$20	\$20
Other assets	-	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-
Other long-term assets	-	-	-	-	-	-	-	-	-
Other non current liabilities	-	-	-	-	-	-	-	-	-
Non-cash (PIK) interest	-	-	-	-	-	-	-	-	-
Cash from operating activities	\$2,079	\$1,603	\$2,267	\$3,190	\$2,983	\$3,180	\$3,416	\$3,684	\$3,914
Capital expenditures	(273)	(404)	(284)	(377)	(400)	(415)	(465)	(506)	(547)
Purchases of intangible assets	(122)	(135)	(148)	(242)	(261)	(283)	(303)	(330)	(357)
Cash from investing activities	(395)	(538)	(432)	(619)	(661)	(698)	(768)	(836)	(904)
Short term debt	(294)	(325)	94	106	45	89	(32)	78	78
Long term debt	(56)	(84)	(99)	(93)	(62)	(63)	(63)	(63)	(63)
Common dividends	-	-	(265)	(465)	(505)	(541)	(573)	(616)	(658)
New share issuances	-	-	-	-	-	-	-	-	-
Share repurchases	(451)	(751)	(1,100)	(1,800)	(1,836)	(1,873)	(1,910)	(1,948)	(1,948)
Other comprehensive income / (loss)	17	(8)	184	(184)	-	-	-	-	-
Revolver	-	-	-	-	-	-	-	-	-
Cash from financing activities	(784)	(1,168)	(1,186)	(2,436)	(2,358)	(2,387)	(2,578)	(2,549)	(2,592)
Net change in cash during period	900	(103)	649	135	(35)	94	70	299	418

In Million USD	2015 A	2016 A	2017 A	2018 P	2019 P	2020 P	2021 P	2022 P	2023 P
Revenue By Segment									
Consulting	7,152	7,755	8,605	9,309	9,658	10,522	11,400	12,645	13,943
% growth	31.98%	8.44%	10.96%	8.19%	3.75%	8.95%	8.35%	10.92%	10.27%
Outsourcing	5,265	5,732	6,205	6,816	7,739	8,353	8,817	9,357	9,835
% growth	8.68%	8.88%	8.26%	9.84%	13.54%	7.93%	5.56%	6.12%	5.11%
Total Segment Operating Profit:	\$12,416	13,487	14,810	16,125	17,396	18,874	20,217	22,002	23,778
% growth	20.98%	8.63%	9.81%	8.88%	7.88%	8.50%	7.11%	8.83%	8.07%
IT Industry Consulting and Outsourcing Spending									
Project Oriented									
Application Development	40,216	41,567	43,607	45,962	48,536	51,545	55,256	59,566	63,974
% growth	(2.28%)	3.36%	4.91%	5.40%	5.60%	6.20%	7.20%	7.80%	7.40%
Business Consulting	98,066	104,540	113,352	124,914	139,279	159,892	185,315	215,892	250,003
IT Consulting	33,910	34,733	36,367	38,476	40,785	43,721	47,307	51,470	55,639
% growth	(4.62%)	2.43%	4.70%	0.00%	6.00%	7.20%	8.20%	8.80%	8.10%
Systems Integration	121,197	122,979	127,142	132,101	137,913	144,947	154,223	164,710	174,099
% growth	(5.01%)	1.47%	3.39%	0.00%	4.40%	5.10%	6.40%	6.80%	5.70%
Network Consulting	38,455	39,476	41,246	43,597	46,213	49,540	53,553	58,158	62,520
% growth	(3.22%)	2.66%	4.48%	0.00%	6.00%	7.20%	8.10%	8.60%	7.50%
Total Addressable Market	\$341,308	\$331,844	\$343,295	\$361,714	\$385,050	\$412,725	\$449,645	\$495,654	\$549,796
% growth	(2.77%)	3.45%	5.37%	6.45%	7.19%	8.95%	10.23%	10.92%	10.27%
Cognizant Technology Solutions Market Share	1.59%	2.16%	2.26%	2.38%	2.42%	2.34%	2.34%	2.30%	2.30%
Outsourcing									
Business Processes	176,169	180,931	189,786	199,275	207,246	218,334	231,871	247,406	261,756
% growth	(1.75%)	2.70%	4.89%	0.00%	4.00%	5.35%	6.20%	6.70%	5.80%
Technology	258,842	263,151	271,947	281,465	292,020	303,701	319,190	337,383	352,903
% growth	(5.48%)	1.66%	3.34%	0.00%	3.75%	4.00%	5.10%	5.70%	4.60%
Total Addressable Market	\$435,011	\$444,082	\$461,733	\$480,740	\$499,266	\$522,035	\$551,060	\$584,789	\$614,659
Cognizant Technology Solutions Market Share	1.21%	1.29%	1.34%	1.50%	1.55%	1.60%	1.60%	1.60%	1.60%

Growth Rates	2015 A	2016 A	2017 A	2018 P	2019 P	2020 P	2021 P	2022 P	2023 P
Revenue	12,416	13,487	14,810	16,125	17,397	18,875	20,217	22,002	23,778
Gross Profit	4,122	4,976	5,379	5,658	6,287	6,785	7,361	7,885	8,581
EBITDA	2,664	2,912	3,253	3,520	3,878	4,196	4,524	4,936	5,292
EBIT	2,142	2,316	2,589	2,801	3,131	3,397	3,639	3,960	4,280
Net Income	1,624	1,553	1,504	2,101	2,280	2,443	2,588	2,784	2,976
Earnings Per Share	\$2.67	\$2.56	\$2.54	\$3.61	\$4.10	\$4.53	\$4.94	\$5.46	\$6.00
Unlevered Free Cash Flows	1,678	1,678	1,678	2,573	2,360	2,518	2,681	2,876	3,030
Levered Free Cash Flows	1,690	1,690	1,690	2,742	2,530	2,689	2,855	3,059	3,030
Growth Over Prior Period									
Revenue	20.98%	8.63%	9.81%	8.88%	7.88%	8.50%	7.11%	8.83%	8.07%
Gross Profit	(0.01%)	20.73%	8.10%	5.19%	11.12%	7.91%	8.50%	7.11%	8.83%
EBITDA	27.28%	9.31%	11.71%	8.22%	10.15%	8.21%	7.82%	9.09%	7.23%
EBIT	27.66%	22.87%	11.79%	8.20%	11.79%	8.50%	7.11%	8.83%	8.07%
Net Income	32.18%	12.79%	(3.16%)	39.71%	8.50%	7.17%	5.91%	7.58%	6.89%
Earnings Per Share	32.01%	12.99%	(0.87%)	42.35%	13.69%	10.44%	8.96%	10.52%	9.90%
Unlevered Free Cash Flows	62.45%	0.00%	0.00%	53.30%	(8.28%)	6.72%	6.44%	7.29%	5.36%
Levered Free Cash Flows	63.55%	0.00%	0.00%	62.31%	(7.74%)	6.29%	6.16%	7.15%	(0.93%)
2 Year Compound Growth Rate									
Revenue	18.49%	14.64%	9.22%	9.34%	8.38%	8.19%	7.80%	7.97%	8.45%
Gross Profit	7.33%	9.87%	14.24%	6.63%	8.11%	9.51%	8.20%	7.80%	7.97%
EBITDA	19.75%	17.95%	10.50%	9.95%	9.18%	9.18%	8.02%	8.46%	8.16%
EBIT	5.99%	17.49%	17.20%	9.98%	9.98%	10.13%	7.80%	7.97%	8.45%
Net Income	5.86%	12.43%	4.51%	16.32%	23.12%	7.83%	6.54%	6.74%	7.23%
Earnings Per Share	5.87%	12.54%	5.84%	18.79%	27.22%	12.05%	9.70%	9.74%	10.21%
Unlevered Free Cash Flows	27.46%	27.46%	0.00%	23.82%	18.58%	(1.06%)	6.58%	6.87%	6.32%
Levered Free Cash Flows	27.89%	27.89%	0.00%	27.40%	22.37%	(0.97%)	6.22%	6.65%	3.03%

Growth Rates	2015 A	2016 A	2017 A	2018 P	2019 P	2020 P	2021 P	2022 P	2023 P
3 Year Compound Growth Rate									
Revenue	19.12%	15.11%	13.00%	9.10%	8.86%	8.42%	7.83%	8.14%	8.00%
Gross Profit	10.34%	11.62%	9.28%	11.14%	8.11%	8.05%	9.17%	7.84%	8.14%
EBITDA	20.62%	16.16%	15.83%	9.74%	10.02%	8.86%	8.72%	8.37%	8.05%
EBIT	23.52%	19.37%	15.55%	14.12%	13.49%	13.62%	12.02%	12.24%	10.98%
Net Income	22.49%	13.89%	6.97%	15.13%	11.97%	16.31%	19.83%	9.83%	9.28%
Earnings Per Share	23.09%	14.15%	7.88%	16.83%	15.46%	21.01%	24.88%	14.78%	13.49%
Unlevered Free Cash Flows	44.69%	37.14%	17.56%	15.31%	12.03%	14.49%	16.89%	3.78%	8.70%
Levered Free Cash Flows	45.01%	37.45%	17.82%	17.52%	14.41%	16.76%	19.11%	3.71%	6.20%
5 Year Compound Growth Rate									
Revenue	22.01%	17.12%	15.05%	12.77%	11.13%	8.74%	8.43%	8.24%	8.08%
Gross Profit	16.29%	14.02%	11.88%	9.60%	8.81%	10.48%	8.15%	7.95%	8.69%
EBITDA	22.34%	18.23%	16.47%	13.64%	13.12%	9.51%	9.21%	8.70%	8.50%
EBIT	28.20%	21.86%	17.90%	15.52%	13.29%	12.51%	11.18%	11.33%	10.58%
Net Income	24.87%	16.19%	11.22%	14.86%	13.16%	12.15%	9.77%	12.38%	14.62%
Earnings Per Share	24.54%	16.54%	12.14%	15.99%	15.24%	14.89%	13.12%	16.37%	18.79%
Unlevered Free Cash Flows	27.38%	31.87%	24.81%	31.65%	17.96%	8.46%	9.82%	11.38%	12.55%
Levered Free Cash Flows	27.55%	32.05%	24.98%	33.34%	19.62%	9.74%	11.06%	12.61%	12.39%

Appendix 19

Sensitivity Analysis

Terminal FCF Growth Rate vs Discount Rate for Implied Share Price

		Terminal FCF Growth Rate								
WACC:	\$88.99	3.00%	3.10%	3.20%	3.30%	3.40%	3.50%	3.60%	3.70%	3.80%
	9.5%	\$78.16	\$79.04	\$79.96	\$80.90	\$81.87	\$82.87	\$83.91	\$84.99	\$86.10
	9.4%	\$79.28	\$80.19	\$81.14	\$82.11	\$83.12	\$84.16	\$85.24	\$86.36	\$87.51
	9.3%	\$80.43	\$81.38	\$82.36	\$83.37	\$84.42	\$85.50	\$86.62	\$87.78	\$88.98
	9.2%	\$81.63	\$82.61	\$83.62	\$84.67	\$85.76	\$86.88	\$88.05	\$89.25	\$90.50
	9.1%	\$82.86	\$83.88	\$84.93	\$86.02	\$87.15	\$88.31	\$89.52	\$90.78	\$92.08
	9.0%	\$84.13	\$85.19	\$86.28	\$87.41	\$88.58	\$89.80	\$91.06	\$92.37	\$93.72
	8.9%	\$85.44	\$86.54	\$87.68	\$88.85	\$90.07	\$91.34	\$92.65	\$94.01	\$95.43
	8.8%	\$86.80	\$87.94	\$89.13	\$90.35	\$91.62	\$92.93	\$94.30	\$95.72	\$97.20
	8.7%	\$88.21	\$89.40	\$90.63	\$91.90	\$93.22	\$94.59	\$96.02	\$97.50	\$99.05

Terminal EBITDA Multiple vs Discount Rate for Implied Share

		Terminal EBITDA Rate								
WACC:	\$107.92	8.5x	9.0x	9.5x	10.0x	10.5x	11.0x	11.5x	12.0x	12.5x
	9.5%	\$74.80	\$77.73	\$80.66	\$83.59	\$86.52	\$89.45	\$92.39	\$95.32	\$98.25
	9.4%	\$75.07	\$78.01	\$80.96	\$83.90	\$86.84	\$89.79	\$92.73	\$95.68	\$98.62
	9.3%	\$75.34	\$78.29	\$81.25	\$84.21	\$87.17	\$90.13	\$93.08	\$96.04	\$99.00
	9.2%	\$75.61	\$78.58	\$81.55	\$84.52	\$87.49	\$90.46	\$93.44	\$96.41	\$99.38
	9.1%	\$75.88	\$78.87	\$81.85	\$84.83	\$87.82	\$90.80	\$93.79	\$96.77	\$99.76
	9.0%	\$76.16	\$79.15	\$82.15	\$85.15	\$88.15	\$91.15	\$94.14	\$97.14	\$100.14
	8.9%	\$76.43	\$79.44	\$82.45	\$85.47	\$88.48	\$91.49	\$94.50	\$97.51	\$100.52
	8.8%	\$76.71	\$79.73	\$82.76	\$85.78	\$88.81	\$91.83	\$94.86	\$97.88	\$100.91
	8.7%	\$76.99	\$80.03	\$83.07	\$86.10	\$89.14	\$92.18	\$95.22	\$98.26	\$101.30

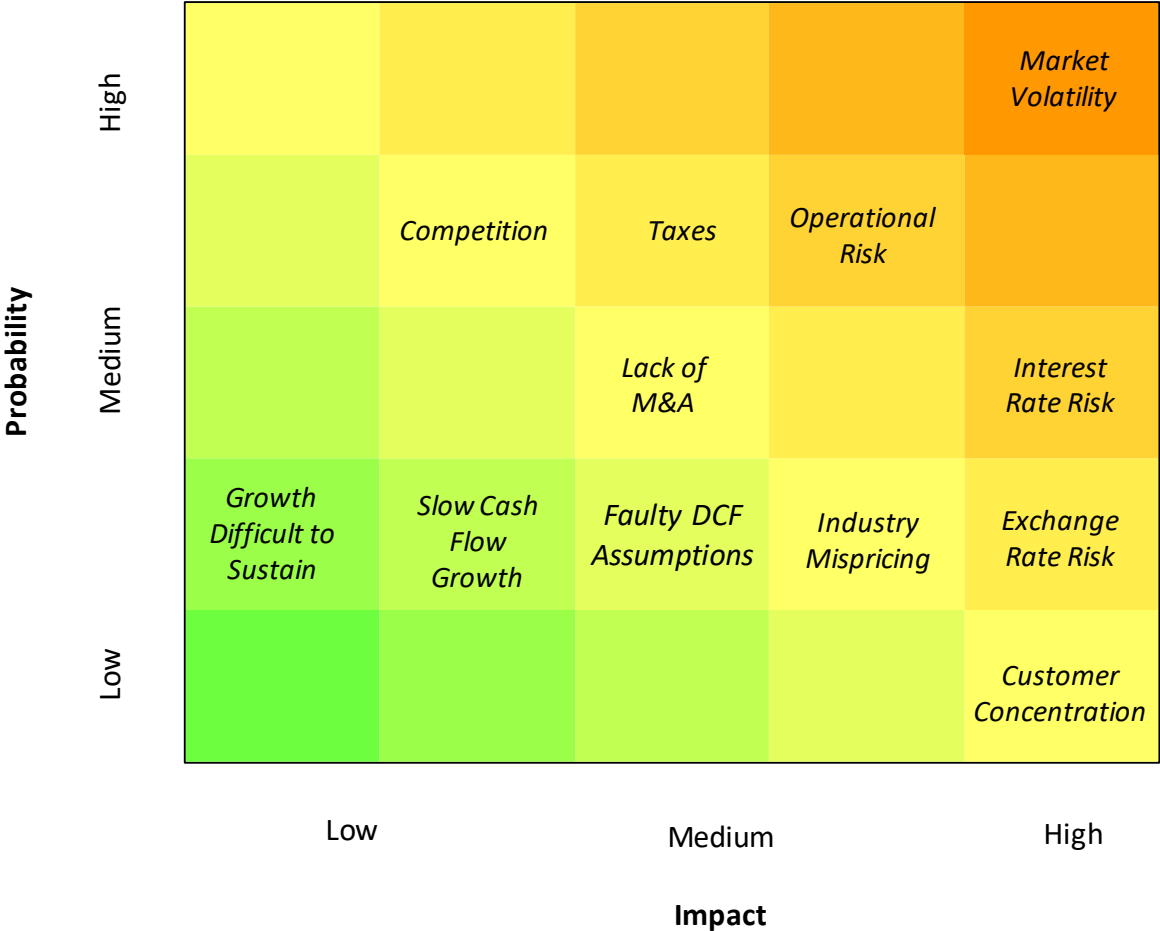
Terminal FCF Growth Rate vs EBITDA and Implied Share Price

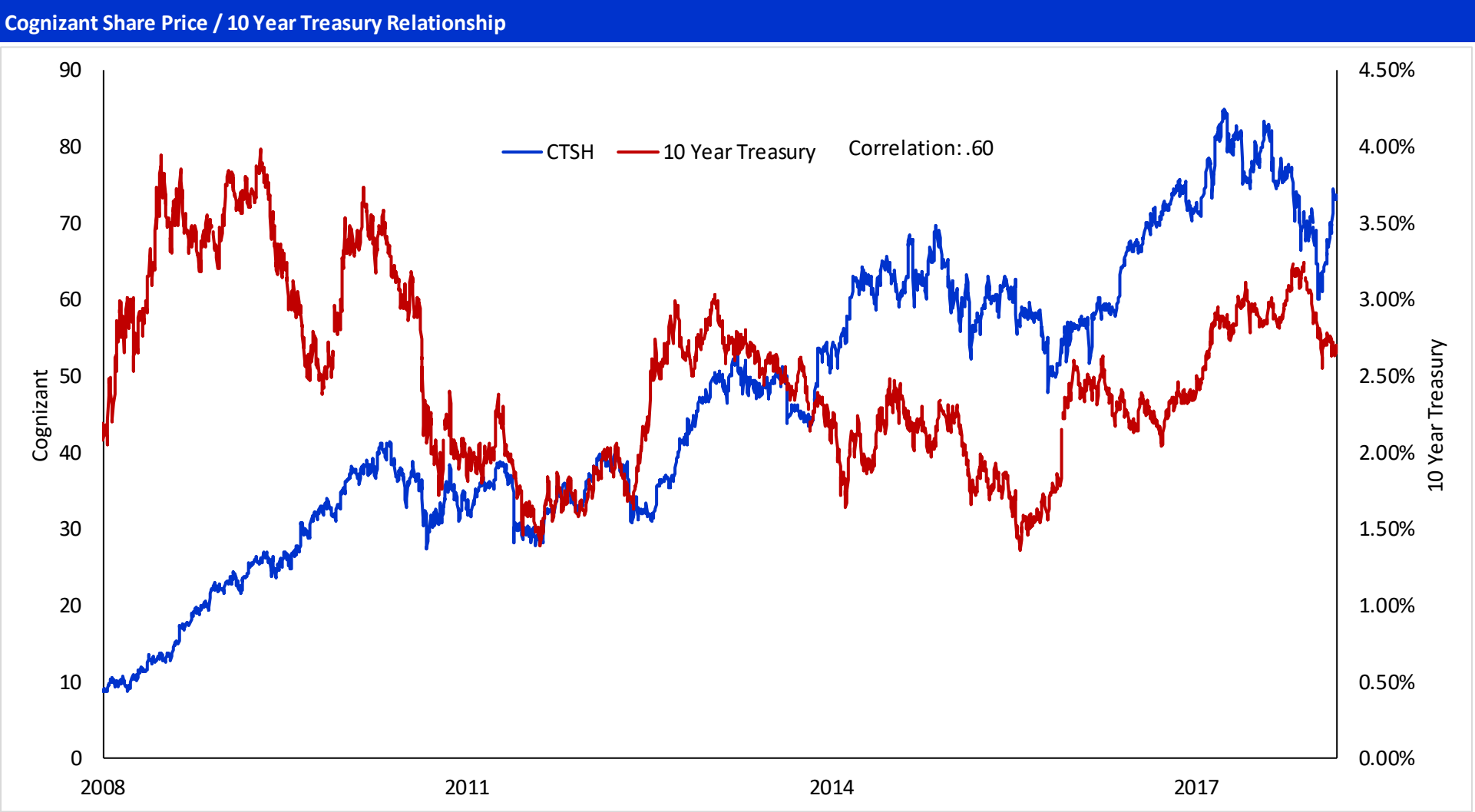
		Terminal FCF Growth Rate								
EBITDA:	\$107.92	8.5x	9.0x	9.5x	10.0x	10.5x	11.0x	11.5x	12.0x	12.5x
	4,234	\$8.50	\$9.00	\$9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
	4,499	\$74.80	\$77.73	\$80.66	\$83.59	\$86.52	\$89.45	\$92.39	\$95.32	\$98.25
	4,763	\$75.07	\$78.01	\$80.96	\$83.90	\$86.84	\$89.79	\$92.73	\$95.68	\$98.62
	5,028	\$75.34	\$78.29	\$81.25	\$84.21	\$87.17	\$90.13	\$93.08	\$96.04	\$99.00
	5,292	\$75.61	\$78.58	\$81.55	\$84.52	\$87.49	\$90.46	\$93.44	\$96.41	\$99.38
	5,557	\$75.88	\$78.87	\$81.85	\$84.83	\$87.82	\$90.80	\$93.79	\$96.77	\$99.76
	5,822	\$76.16	\$79.15	\$82.15	\$85.15	\$88.15	\$91.15	\$94.14	\$97.14	\$100.14
	6,086	\$76.43	\$79.44	\$82.45	\$85.47	\$88.48	\$91.49	\$94.50	\$97.51	\$100.52
	6,351	\$76.71	\$79.73	\$82.76	\$85.78	\$88.81	\$91.83	\$94.86	\$97.88	\$100.91

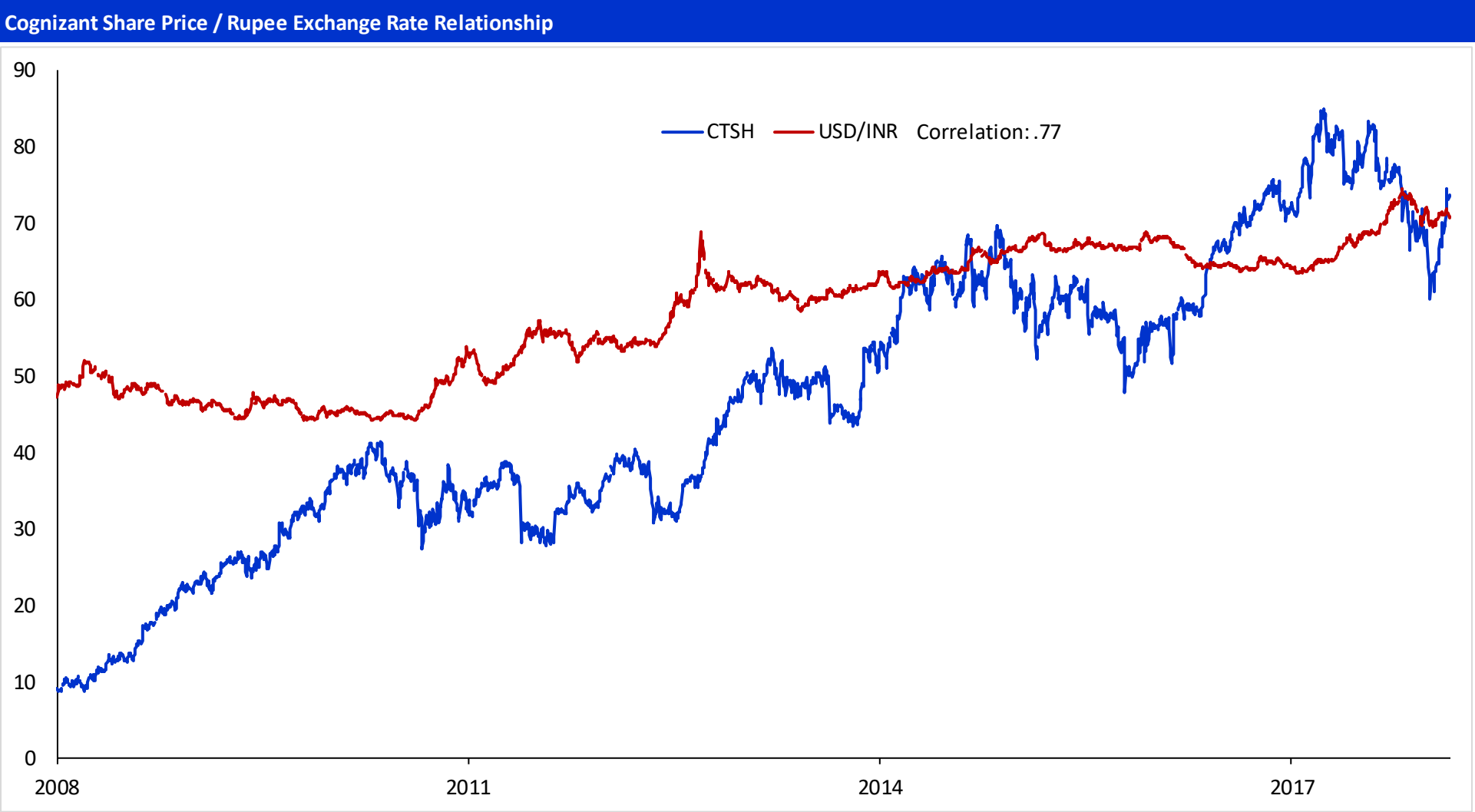
Market Risk Premium vs Beta for WACC

		Market Risk Premium								
BETA:	8.44%	4.00%	4.50%	5.00%	5.50%	6.00%	6.50%	7.00%	7.50%	8.00%
	1.020	6.75%	7.26%	7.77%	8.28%	8.79%	9.29%	9.80%	10.31%	10.82%
	1.050	6.76%	7.27%	7.78%	8.29%	8.80%	9.31%	9.82%	10.33%	10.83%
	1.080	6.77%	7.28%	7.79%	8.30%	8.81%	9.32%	9.83%	10.34%	10.85%
	1.110	6.78%	7.29%	7.80%	8.31%	8.83%	9.34%	9.85%	10.36%	10.87%
	1.140	6.79%	7.30%	7.81%	8.33%	8.84%	9.35%	9.86%	10.38%	10.89%
	1.170	6.80%	7.31%	7.82%	8.34%	8.85%	9.37%	9.88%	10.39%	10.91%
	1.200	6.81%	7.32%	7.84%	8.35%	8.87%	9.38%	9.89%	10.41%	10.92%
	1.230	6.82%	7.33%	7.85%	8.36%	8.88%	9.39%	9.91%	10.43%	10.94%
	1.260	6.82%	7.34%	7.86%	8.37%	8.89%	9.41%	9.93%	10.44%	10.96%

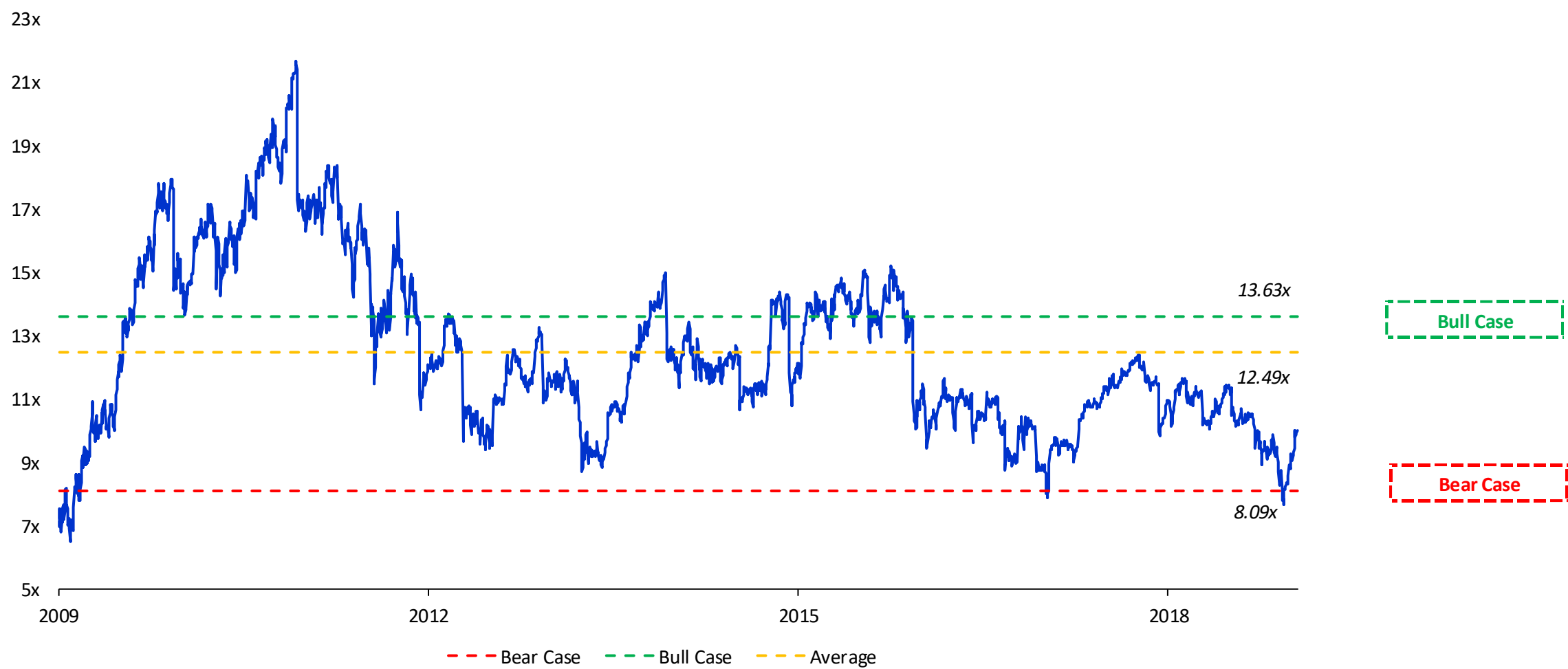
Cognizant's Risk Profile







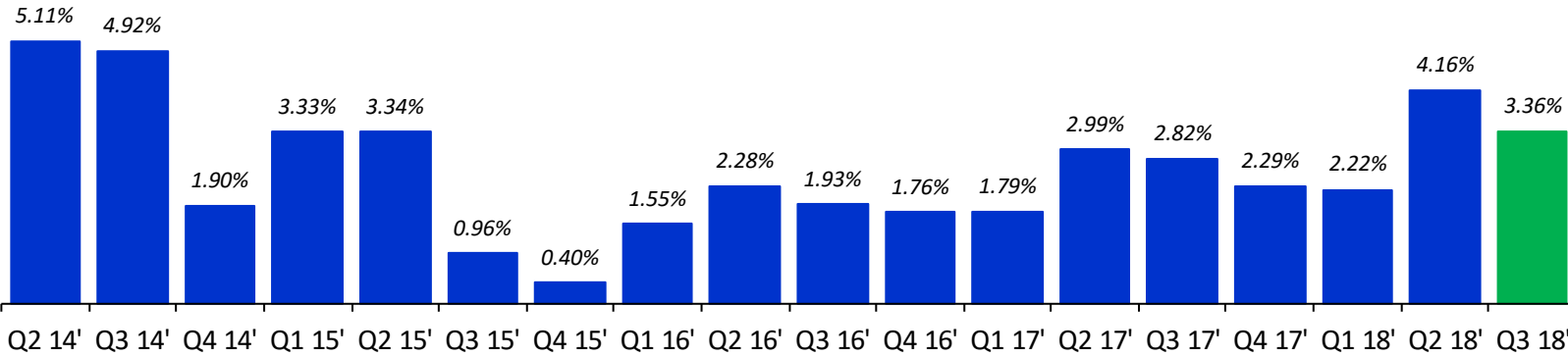
Trading Multiple Analysis: Enterprise Value / EBITDA



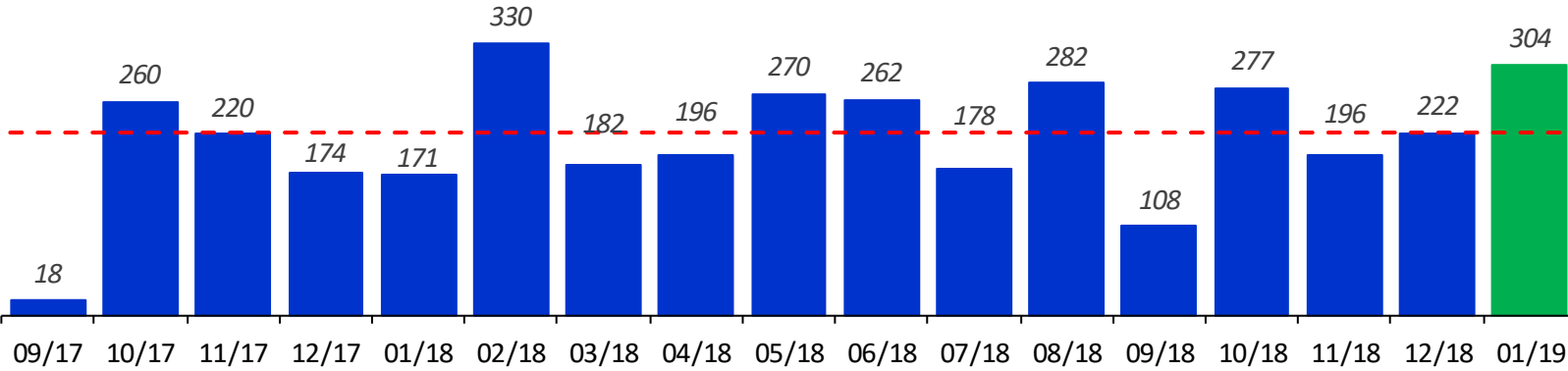
Trading Multiple Analysis: Price / Free Cash Flow



U.S. Quarterly GDP Growth



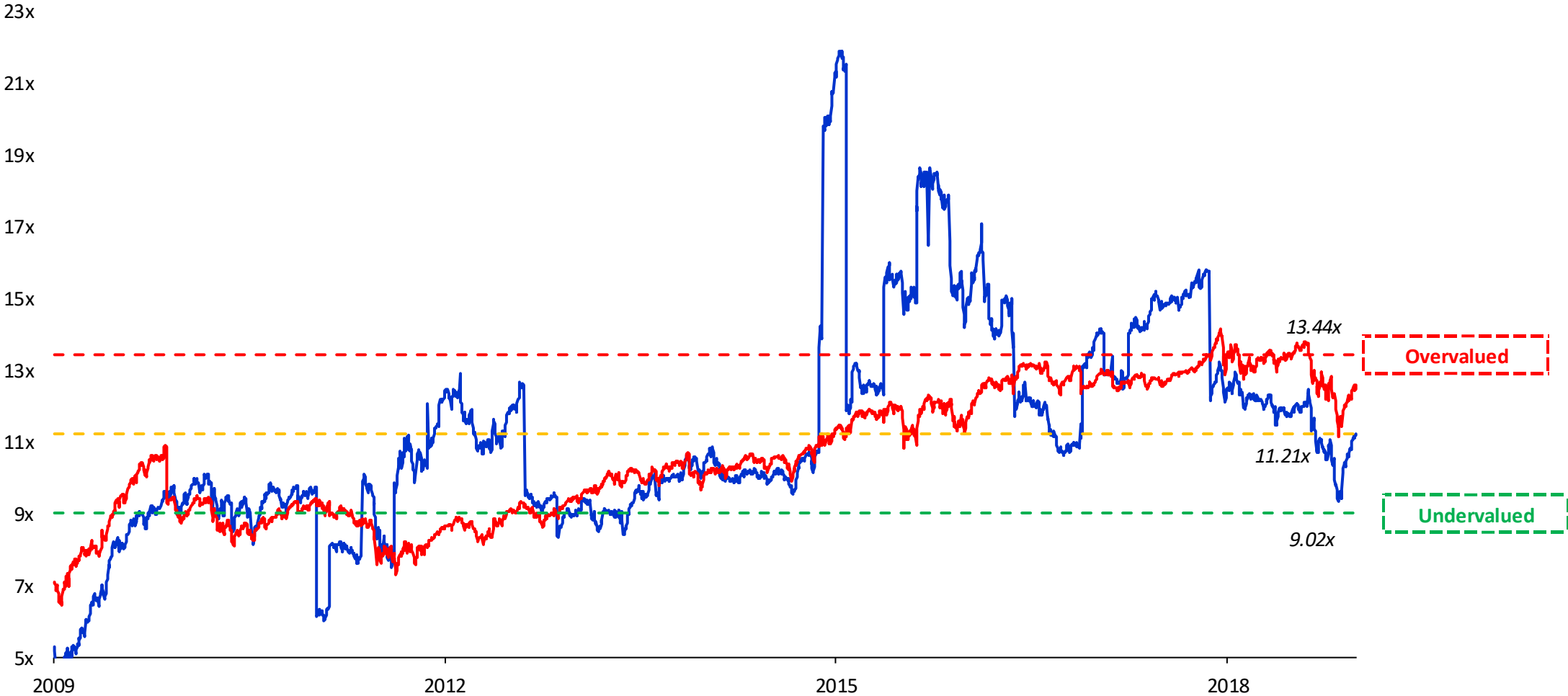
U.S. Non-Farm Payrolls



Source: Bureau of Economic Analysis; Bureau of Labor Statistics

Economic Projections of Federal Reserve Board members										
Variable	Median					Median				
	2018	2019	2020	2021	Long Run	2018	2019	2020	2021	Long Run
Change in Real GDP	3.0%	2.5%	2.3%	2.0%	2.2%	3.0% - 3.1%	2.3% - 2.5%	1.8% - 2.0%	1.5% - 2.0%	1.8% - 2.4%
September Projection	3.1%	2.5%	2.0%	1.8%	1.9%	3.0% - 3.2%	2.4% - 2.7%	1.8% - 2.1%	1.6% - 2.0%	1.8% - 2.2%
Unemployment Rate	3.7%	3.5%	3.6%	3.8%	4.4%	3.7%	3.5% - 3.7%	3.5% - 3.8%	3.6% - 3.9%	4.2% - 4.5%
September Projection	3.7%	3.5%	3.5%	3.7%	4.5%	3.7%	3.4% - 3.6%	3.4% - 3.8%	3.5% - 4.0%	4.3% - 4.6%
PCE Inflation	1.9%	1.9%	2.1%	2.1%	2.0%	1.8% - 1.9%	1.8% - 2.1%	2.0% - 2.1%	2.0% - 2.1%	2.0%
September Projection	2.1%	2.0%	2.1%	2.1%	2.0%	2.0% - 2.1%	2.0% - 2.1%	2.1% - 2.2%	2.0% - 2.2%	2.0%
Core PCE Inflation	1.9%	2.0%	2.0%	2.0%		1.8% - 1.9%	2.0% - 2.1%	2.0% - 2.1%	2.0% - 2.1%	
September Projection	2.0%	2.1%	2.1%	2.1%		1.9% - 2.0%	2.0% - 2.1%	2.1% - 2.2%	2.0% - 2.1%	
Federal Funds Rate	2.4%	2.9%	3.1%	3.1%	2.8%	2.4%	2.6% - 3.1%	2.9% - 3.4%	2.6% - 3.1%	2.5% - 3.0%
September Projection	2.4%	3.1%	3.4%	3.4%	3.0%	2.1% - 2.4%	2.9% - 3.4%	3.1% - 3.6%	2.9% - 3.6%	2.8% - 3.0%

Valuation Analysis: Enterprise Value / EBITDA



Trading Multiple Analysis: Price / Free Cash Flow

