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CFA Institute Research Challenge

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INVESTMENT SUMMARY

From our investment analysis of FactSet, we believe that its current share price of \$276.56 is overvalued. Our recommendation is a sell and our target price is \$248.02 (Fig 1, 2). We believe that top and bottom-line growth rates for FactSet are overestimated for this given market environment. A shift to passive investing, global growth slowdown, and market competition results in a less than flattering outlook for the sub-industry and FactSet itself for the coming year. Weary growth outlooks and risks coupled by expensive multiples warrant the sell rating of FactSet.

VALUATION

Through our Price-to-Earnings analysis, we see FactSet's multiple trading at about a 67% premium to the S&P 500. At first glance, we believed this was due to the valuable growth outlook that FactSet is portraying to the market. After our qualitative recommendation, however, we believe this premium is overstated and an earnings miss in 2020 can cause a re-pricing of the multiple. (Fig. 3)

Additionally, the historical PE analysis displayed worries of a multiple contraction story if earnings do fall within the coming year. Although a historical PE analysis shows an average of 26.60 times, we believe that the company will miss earnings by about 5% and that will result in a PE contraction of more than 5% to a value of about 24.88 times, which yields a valuation price of \$237.25. (Fig. 4)

Our discounted cash flow, using a long-term growth rate of 3.5% and a calculated WACC of 8.17% illustrates another overvaluation signal to FactSet's share price. A downside of 11% is viable within these inputs. Furthermore, the sensitivity analysis below utilizing the relationship between the growth rate and WACC display much more downside than upside with our modeled cash flows. Figures in red show downside to current market price and figures in green show upside to the current market price. We used a 3-year projected DCF to arrive at our intrinsic value. (Fig. 5)

Lastly, the historical EV/EBITDA valuation shows a bit more downside for FactSet's share price. Our modeled EBITDA estimate of \$539 million with the four-year historical average of EV/EBITDA at 18.83x demonstrates an intrinsic price of \$267.71. These three valuations, weighted equally, yield our 1-year target price of \$248 for FactSet, representing a decline of 10%. (Fig. 6)

SENSITIVITY ANALYSIS

Sensitivity Analysis		WACC (%)				
Growth Rate (%)		7	7.5	8	8.5	9
	2.5	261	234.22	212.31	194.06	178.62
	3	291.73	258.58	232.06	210.36	192.28
	3.5	331.24	289.02	256.19	229.92	208.44
	4	383.92	328.17	286.35	253.83	227.82
	4.5	457.68	380.36	325.14	283.72	251.51

Figure 5: Sensitivity analysis

RECOMMENDATION

SELL	
Current Price (01/31/2020)	\$276.56
Target Price	\$248.02 (- 10.33%)

Figure 1: Target Price

Valuation	Weighting	Target Price
DCF	0.33	\$ 246.33
PE	0.33	\$ 237.25
EV/EBITDA	0.33	\$ 267.71
Total	1	\$248.02

Figure 2: Target Price - Team assessment

Forward PE	21.88x
Market PE	18.59x
Relative PE	1.67
67% overvalued	

Figure 3: Price-to-Earning analysis

Appropriate P/E multiple	18.89x
Target Price (P/E based)	\$ 237.25
Current Price	\$ 276.56
Upside/downside	-14%

Figure 4: PE multiple

2020 EV/EBITDA Estimate	26.60x
Target Price (EV/EBITDA)	\$ 267.71
Current Price	\$ 276.56
Upside/downside	-3%

Figure 6: EV/ EBITDA

MONTE CARLO SIMULATION

We created our Monte Carlo Simulation based off a varying growth rate within our Discounted Cash Flow Valuation Model and ran the simulation 10,000 times. We based the rate on a mean of 3.5% and a standard deviation of 0.5%. In order to come to a growth rate of 3.5%, we took corporate revenues for all companies within the United States from 1992 until 2018. We then compared the revenue amounts and determined the average growth rate to be 3.97% annually. Since we are more bearish than neutral, we believed that a rate of 3.5% is on the higher end but realistic. Running the simulation provided us with a 95% confidence interval that the price of the stock would be within a range of \$199 and \$312. This represents a decrease of 28.09% and an increase of 12.73% respectively. The mode bin was \$241 - \$255. This represents a decrease of almost 13% on the lower end and a decrease of almost 8% on the higher end. This strengthened our belief that FactSet's stock is overvalued at the current point in time. (Fig. 7) (See Appendix E)

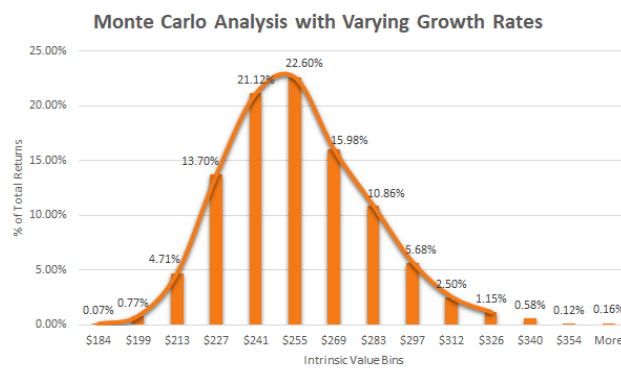


Figure 7: Monte Carlo Stimulation - Team assessment

BUSINESS DESCRIPTION

FactSet Research Systems Inc. is a financial service company that provides financial information, analytical applications, and industry services for the investment and corporate communities in the United States, Europe, and the Asia Pacific¹. FactSet operates in many diverse business segments like, Analytics and Trading, Research, Wealth, and Content & Technology Solutions. FactSet's client base includes investment research professionals, investment bankers, portfolio managers, and wealth advisors. Before its IPO on the U.S Stock Exchange in June of 1996, FactSet was privately held since its foundation in 1978. FactSet is currently headquartered in Norwalk, Connecticut and is run by its CEO of five years, Fredrick Phillip Snow.²

MARKET AND GEOGRAPHIC SEGMENTS

As previously mentioned, FactSet operates in many diverse business segments like, Analytics and Trading, Research, Wealth, and Content & Technology Solutions, but 100% of its revenues come from Annual Subscription Value (ASV). ASV's are derived from subscriptions to FactSet's services and products, like live data feeds, content, research management, live trading, and analytics. Investment management and other "buy-side" clients account for approximately 84% of the ASV and the other 16% of ASV comes from "Sell-Side" clients. Geographically speaking, The United States is the largest geographical market of FactSet (62.3%) followed by Europe (27.4%), Asia Pacific (9.2%), and Africa (1.0%) (Fig. 9)

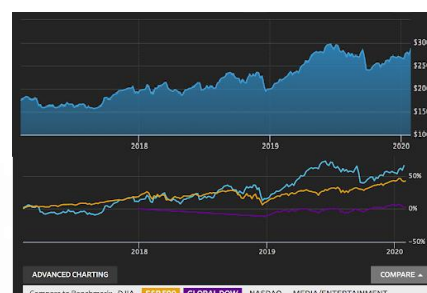


Figure 8: Price volatility and benchmarking

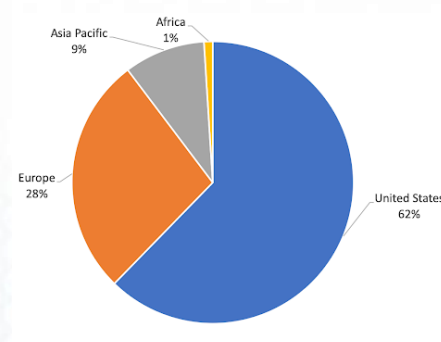


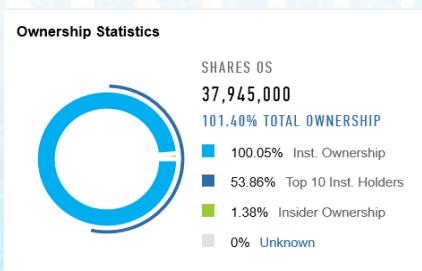
Figure 9: Revenue exposure by country
Source: FactSet

FACTSET PRODUCTS

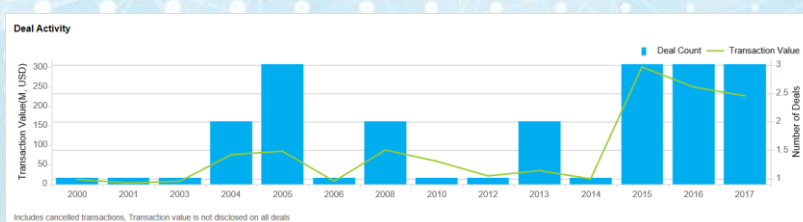
FactSet offers a wide variety of products that individuals or companies may sign up for. Upon signing up, the individual or company pays a setup cost, along with an annual subscription fee. Depending on which product is purchased, the installation cost, annual fee, and level of access to resources will vary. If you are to purchase the full package offered from FactSet, it would cost you about \$12,000 per year.

M&A HISTORY & OPPORTUNITIES

Since FactSet's inception in the early 2000's, M&A has played a vital role in the growth of this company. FactSet's deal count is consistently within the range of 1-3 deals per year up until 2017. The acquisitions mostly pool into the fintech/data rights bracket of acquisitions. We are skeptical on whether M&A will play a vital role in FactSet's growth in the future being that FactSet has not had a deal in the past 2 years in 2018 and 2019. Nevertheless, FactSet should put FCF to use and target upcoming opportunities to counteract any market saturation that yields further fee compression.



Source: FactSet



Source: FactSet

1 FactSet, Apps.FactSet.com
2 FactSet, Apps.FactSet.com

KEY FINANCIALS

With a current ratio of 2.67, FactSet has positively positioned itself to pay its liabilities in the short term. Additionally, with EBITDA margin hovering near 35% and net profit margin hovering around 25%, the company is efficiently converting revenues into profit. With a P/E Ratio of 31x, the company is priced high relative to the market yielding a relative P/E of 1.67. With ROE values at 52%, The company has a great return on equity (ROE). High ROE should be a positive sign; however, with the significant amount of share buybacks, the company is consolidating equity and inflating its numbers. We are concerned that while able to generate capital relative to equity, the company does not have opportunities to invest its money to generate profits further. (Fig. 10, 11)

ROA	23.68%	Current Ratio	2.67
ROE	58.89%	EPS Non-GAAP	\$10.00
ROIC	30.06%	EV/EBITDA	18.89x
Gross Profit Margin	68.73%	Relative P/E	1.67
EBITDA Margin	34.85%	Profit Margin	24.58%

Figure 10: Team Assessment

Annual Dividend	\$2.72
Dividend Yield	0.98%
52- week Low	\$302.05
52-week High	\$212.99
Average Daily Volume	343,590
Number of shares	37.9 Million
Market Cap	11.23 Billion
EV	\$ 11,034.60
EV/EBITDA	18.89x
P/E	24.88x
Beta	0.92

Figure 11: Team Assessment

GROWTH OPPORTUNITIES

Annual Subscription Value:

One of the major growth opportunities for FactSet is its ASV and the growth it continues to see. Since ASV is its only source of revenue, growth in this area is essential to continue the growth of the company. According to FactSet's Earnings call for the first quarter of the fiscal year 2020, its organic ASV grew 4% in the Americas and 5% Internationally during the previous 12 months. Furthermore, its client count with an ASV over \$10,000 has grown 5.8% since Q1 2019. Not only has growth been evident in ASV, but its ASV retention rate of 95% has not changed since Q1 2019. While collective growth in ASV is evident across all of FactSet's business segments, the private equity and corporate sectors have seen increased user and ASV growth, which is an area that FactSet has begun investing more into¹. As a group, we believe that FactSet's retention ratio will decrease as well as its ASV growth because of more and more individuals beginning to transition into Passive Investing. With this transition, individual's will not have much of a need for FactSet's constant data feeds and analytical tools, so they choose to discontinue their memberships.

Content Technology Solutions, Wealth Management Software, Analytics:

Content Technology Solutions (CTS) is an area that opens up a growth opportunity for FactSet. CTS is a technology solution that allows companies to link FactSet's data to its network and help provide data to help generate quantitative models, internal databases, and enterprise-wide applications at the company². CTS offers two main product packages, its core and premium data feeds. According to Mr. Snow, he views the data exploration platform within the CTS to be generating growth. Regarding the numbers, during the first quarter for 2020 CTS was a large driver of international revenue and was the main driver in the 10% of growth in the Asia Pacific region because of the volume of data feeds sold to local data providers.³

FactSet's Wealth Management Software is a product of FactSet's that has been growing and is projected to keep growing. The Wealth Management product gives access to portfolio analytics, multi-class research, global market analysis, and other tools that can be used to create digital client experiences.⁴ There has been solid growth in this product for FactSet. In the 2020 Quarter 1 Earnings call, Mr. Snow noted that the Wealth Management Software has had some nice wins at larger firms within the Americas and continues to perform well in the middle markets of wealth. Furthermore, the pipeline for its Wealth Management Software is healthy and it will continue to be a huge part of its investment strategy over the next few years as it continue to boost wealth offering in terms of research and technology.



Figure 12: FactSet 10-K

FactSet offers two main analytic software packages, Risk Analytics and Portfolio Analytics. Its Risk Analytics software package allows users to integrate fixed income, private assets, equity, and currency to gain a transparent view of risk distribution at the portfolio, factor, and asset levels using either a Monte Carlo or linear approach. FactSet's Portfolio Analytics software package allows individuals to measure performance, risk, style, and characteristics for multiple portfolios and asset classes with flexible reports and charts¹. Overall, there is a lot of potential for growth in its analytics division. As of recent, analytics main driver has been its performance with its fixed income and risk products. Analytics has also been a key driver of international revenues, which have grown 5% in the past 12-months.

Similar to ASV, we believe that these three products will see their growth rates slow down due to the switch to Passive Investment Management as well as the increasing competition from competitors beginning to sell their products globally. Last quarter, FactSet reported that its fourth major business segment, Research, shrunk. We believe that this negative quarter is a result of the increasing global competition FactSet is facing as well as individuals not needing all of FactSet's products anymore with the new style of Investment Management. We believe that in the coming quarters, the aforementioned effect will ripple into the CTS, Wealth Management, and Analytics business segments of FactSet and slow down their growth in these segments.

INDUSTRY OVERVIEW AND COMPETITIVE POSITIONING

INDUSTRY OVERVIEW

Overall, the niche industry of providing market data, research, and analytics is a very competitive market. Furthermore, this particular industry has been coming under pressure more recently with many individuals making the switch from Active Investment Management to Passive Investment Management. With this switch, there will be more pressure on the buy-side client base, which is FactSet's biggest customer. Although the industry is under pressure with the switch to Passive Investing, the industry will benefit from the fact that it is very expensive to onboard these data, research, and analytics platforms within its company. So, the retention ratio of these companies will very slowly decline over time as some customers decide that it is worth the headache of dropping these companies and making the complete transition to Passive Investment Management.

COMPETITION

FactSet identifies its main competitors as Bloomberg L.P., Refinitiv (formerly part of Thomson Reuters), and S&P Global Market Intelligence. There are other smaller firms such as Morningstar Direct that own a smaller percentage of the industry's market share however the former all are the main players. According to FactSet's 2019 annual 10-K Form, it cites "high barriers to entry"² for the competitive landscape so the threat of a new entrant taking up a large amount of market share in a short period of time is low. When identifying market share based on total client count and total professionals, Bloomberg, Refinitiv, and S&P all are private companies so acquiring information is predominantly through secondary sources. FactSet in its most recent 10-K quotes a total client count of 5,574 (net increase of 432 clients over the last 12 months) and 126,822 professionals using FactSet (representing a net increase of 34,925 over the last 12 months). According to an article released in March of 2018 on Finextra, market share of this industry is as follows: Bloomberg 33.2%, Reuters 22.5%, FactSet 4.5%. (Fig 4) Both Bloomberg and Reuters saw decreases in market share, 0.2% and 0.6% respectively, from the prior year.³

Bloomberg is a leader in the industry gaining the highest market share at 33.2% and its closest competitor is seen as Refinitiv. Bloomberg does cost the most to consumers, but does have some of the most advanced features. Bloomberg is often regarded with having the most in depth fixed income data with the most comprehensive bond market data. Bloomberg also offers on-the-go data and news with "Bloomberg Anywhere" which offers users the power of the terminal from your laptop or mobile device. Bloomberg also offers Execution Management & Electronic Trading with its: Commodities Electronic Trading (CMET), Execution Management System (EMSX), Fixed Income Trading, and FX Electronic Trading (FXGO). Finally, Bloomberg's interactive interface allows for instant news updates and timely articles.

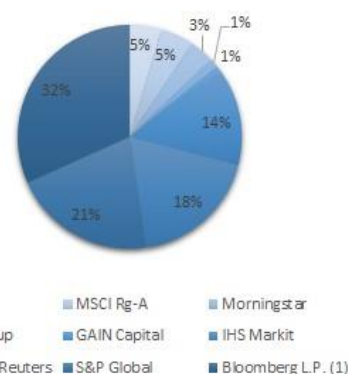
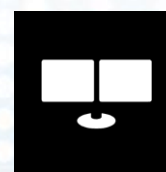


Figure 13: Market shares by companies
Team assessment and FactSet



THOMSON REUTERS

Bloomberg

1 FactSet.com
2 FactSet 10-K
3 Finextra

Refinitiv's Eikon has a number of important features and is generally considered a cheaper alternative to Bloomberg. A phrase that Refinitiv boasts is, "Reuters insights. Eikon intelligence,"¹ which is the accessibility to not only advanced technology by Eikon but also the use of thousands of in house and third party analysis from Reuters which provides a competitive advantage. Refinitiv also has the ability of an advanced intelligence search that provides relevant data and research in what called its "proprietary Natural Language search engine," which helps to improve ease of research. Eikon recently has unveiled the ability to access data from your mobile phone enhancing accessibility out of the office. Like Bloomberg, Eikon also gives you access to trading through the use of Autex Trade Route, a broker network, to Tradeweb, a fixed income and derivative market, and to FXall, a foreign exchange market.



S&P Global Market Intelligence Capital IQ offers similar services to FactSet and has 5.6% of the industry's market share. Capital IQ provides deep company research paired with a company and industry screening tool and a Microsoft Excel plug-in to make the transition from Capital IQ to Excel seamless. Additionally, it provide a Real Time Workstation with the compatibility to set up targeted email alerts to receive updates on news and transactions. Capital IQ, like Bloomberg and Refinitiv, provides mobile compatibility on mobile devices for on-the-go information. S&P IQ also provides thousands of company estimates to help make the most informed decisions.



FactSet provides all these features except for the Real Time Workstation with the compatibility to set up targeted email alerts. FactSet does however provide personalized packages for products in order to cater to each individual user. Additionally, in FactSet's 2019 10-K, it mention, "Buy-side clients account for 83.7% of ASV, which include traditional asset managers, wealth advisors, corporations, hedge funds, insurance companies, plan sponsors and fund of funds,"² which further articulates upon the best users for its interface. See [Appendix F & G](#) for full competition breakdown.



CORPORATE GOVERNANCE

MANAGEMENT

A strong driver for FactSet and important part of the further development of the firm lies in its management. Many members holding leadership positions such as CEO Philip Snow, Global Director of Analytics & Trading Solutions Robert Robie, Head of Strategic Resources and General Counsel Rachel Stern and Chief Human Resources Officer Daniel Viens all have extensive tenures ranging from 18 to 23 years. This can provide a sense of stability within the firm and is important in helping to keep FactSet's vision, values and identity intact. The other members in leadership positions that have not been with the firm very long have however held very senior positions at other acclaimed firms such as Gene Fernandez (CTO) also holding the position of CTO at JP Morgan and Helen Shan (CFO) also holding the position of CFO at Mercer. Having this strong leadership team with great academic and professional backgrounds helps to drive FactSet in the right direction. Leadership positions are further described in [Appendix B](#) and FactSet's Board of Directors are further described in [Appendix H & I](#).

Executive	Title	Tenure at FactSet
Philip Snow, CFA	CEO: 2015-Present	23 years
Gene Fernandez	CTO, CPO: 2017-Present	2 years
Helen Shan	EVP, CFO: 2018-Present	1 year

Figure 14: FactSet

SOCIAL IMPACT

FactSet is not only dedicated to building shareholder profit, but also engages in leaving a positive social impact as giving back to the community is something deeply intertwined in its culture. FactSet boasts Four Pillars of Service: Inspire Tomorrow's Engineers, Elevate to Educate, Alleviate Food Insecurity, and Protect Our Environment. As FactSet mentions on its company website, "We work with our non-profit partners to develop projects within our pillars that are both highly impactful for our communities and engage our employees in meaningful volunteer opportunities."



Source: FactSet.com

WOMAN ON BOARDS 2020

Another opportunity that FactSet engages that further articulates upon its corporate values is the Woman on Boards 2020 Initiative. This is an initiative to increase gender diversity for individual companies by having at least 20% of the members on its board of directors be women by the year 2020. The campaign, "will redefine good corporate governance and gender diversity standards, and create a cultural imperative for corporate action." FactSet is recognized as a "Winning Company" for participating.



Source: FactSet

1 Refinitiv
2 FactSet 2020 10-K

FINANCIAL ANALYSIS

SHARE REPURCHASES

From fiscal year 2014 to 2019, FactSet has returned over \$1.6 billion to shareholders through Share Repurchases. (Fig. 15) Additionally in 4 of the past 5 years, the capital returned to shareholders through both repurchases and dividends exceeds net income. (Fig. 16) As such, FactSet hurt its financial position for the future by paying out more to shareholders than the company's bottom line numbers provided. We believe that the buybacks are a way for FactSet to inflate its per share numbers with special emphasis put on Earnings Per Share (EPS). Each of the past 5 years, FactSet has had EPS growth that is significantly higher than Revenue growth. (Fig. 17) With a lack of significant cost cutting, it seems that the company is using these repurchases as a means for continued, significant, EPS growth. At the current rate of share repurchases, FactSet is signaling to us that there is no better way that the company could be allocating its capital in order to create more revenues. We interpret this as a sign that FactSet will be unable to achieve its revenue growth goals that it has projected. We also believe that this much share repurchasing is hurtful to the company in the long run and should provide a cautious signal to investors. With our belief that FactSet is overvalued, we see little benefit for the company to continue holding onto its shares. If reissued, the company would most likely be selling at a lower price than it bought the shares back for, causing an overall loss on the balance sheet and a decrease in financial condition. See Appendix J for full forecasted financial statements.



Figure 15: FactSet

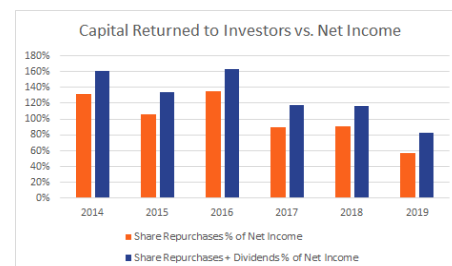


Figure 16: Team assessment

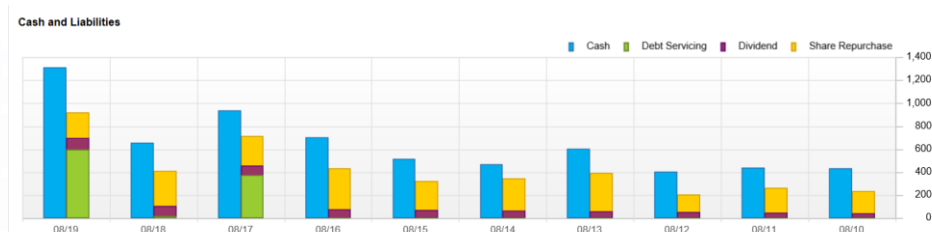


Figure 18: FactSet

DIVIDEND ANALYSIS

FactSet has had a stable and increasing dividend each year since 1999 with the average percentage increase over the 20-year span being 22.75%. Just as recently as November did "FactSet's Board of Directors approved a regular quarterly dividend of \$0.72 per share," which fell under FactSet's FY2020 Q1. That is an increase of \$0.08 or 12.5% from the prior Q1 in 2019. Additionally, FactSet has historically had ample CFO in order to cover its capital expenditures and its dividends paid out with FY 2020 projecting over \$300 million in ample liquidity. FactSet has limited ST Debt but does have half a billion in LT debt due in 2024 however it do have ample liquidity in revolvers, \$175 million, and cash to cover the debt. FactSet is also in good financial condition in terms of its liquidity ratios, ability to meet short term debt, and its solvency ratios, ability to meet long term debt. (See Appendix # for supporting statistics). The most recent year, FY2019, saw the strongest results in terms of solvency and liquidity. Additionally, because of the limited debt, FactSet has a low Net debt/EBITDA at 0.9x for November '19 and has great interest coverage with its EBITDA/Interest expense at 26.7x for November '19. Overall, there is no concern at the moment for a dividend cut. FactSet is sound and it have limited debt so it should be able to continue to at least maintain its dividends even in the event of an economic downturn. See Appendix K for full breakdown.

FactSet (FDS)	2019	2020E	2021E	2022E
FCF	368	418	426	480
Div. per share	\$ 2.72	\$ 3.04	\$ 3.36	\$ 3.68
x shares out.	38.1	37.9	38.0	38.0
= Div. paid	103.63	115.22	127.68	139.84
= FCF - Div.	264.37	302.78	298.32	340.16

Figure 19: Team assessment

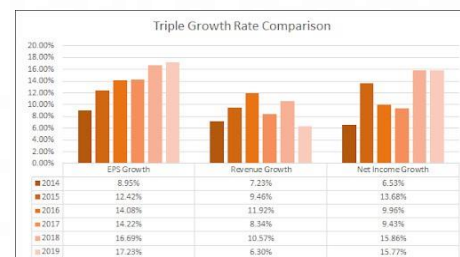
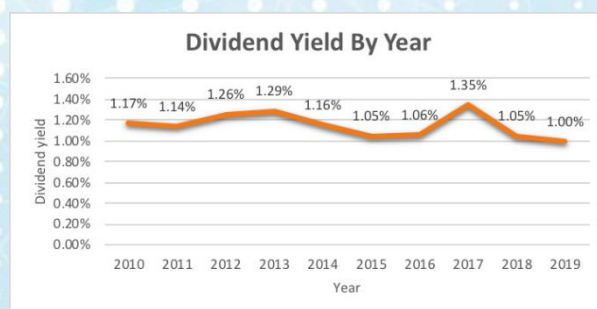


Figure 17: Team assessment

Figure 20: Team assessment



INVESTMENT RISK

COMPETITIVE RISK

Threat from market leaders: FactSet operates in the financial data market, which is led by a few major industry leaders. These companies hold a major percentage market share (Bloomberg 33%, Thomson Reuter 22%) and long-lasting customer relationships. To compete against these companies and increase market share will be a difficult task because of customer loyalty. Therefore, the growth of FactSet will mostly depends on the CAGR of the overall industry, which is forecasted to be 13.6% for the period of 2017-2026.

Competition from local firms: FactSet is experiencing a high growth in Asia Pacific (24% in 2019) and planning for expansion in this promising market. However, it will face competition from small and middle size local companies that operates in the same industry. Besides that, FactSet's other competitors have already targeted this niche market.

Threat from new entrants: Since the industry is highly profitable and the entry barrier is medium, it attracts new entrants to come into the business. (Fig. 21)

MARKET RISK

Risk from shifting investment trend: The major part of FactSet's revenue comes from buy-side investors and institutional clients with active investing with expectation to outperform the market. While active investment is still the dominant strategy in financial services industry, the shift to passive investing is continuing. Passive investing requires less monitor and effort in stock screening, which lower the demand for investment research and data analytics. The long-run public shift will not only affect the demand of FactSet products and the earnings of the company but also of the whole sector.

STRATEGIC RISK

Dependency on subscriptions and buy-side investors: FactSet's primary source of revenue is its subscriptions. The main clients are buy-side investors (account for 83.7% of ASV as of August 31, 2019)¹. Besides institutional investors, individual or small size investors could easily switch to another competitors if there is more pricing benefit or quality advance. (Fig. 21, 22)

Reputational risk: Beside software quality, companies differentiate themselves by the quality of customer service. Failure to manage customer service quality will result in client loss and lower revenue growth.

Innovation/ technology risk: The technology in the industry is changing fast with the burst of cloud computing and data management with frequent upgrade and innovation. The changing trend of technology will put pressure on research and development cost in order to increase the data management efficiency and keep up with competitors.

OPERATIONAL RISK

Human resource risk: FactSet operation relies on skilled and experienced labor, especially for the technology and sales departments, to develop and market products and services. Failure in human resource management will affect the business operation and growth rate adversely and as a result, negatively affect the stock price.

Research and analysis quality: The quality of research and analytics (made up 64% revenue of FactSet) is a key driver for ASV and revenue. A deteriorating quality of those products would make the company subject to the risk of clients and market share loss and create an opportunity for competitors to expand. The ability to perform high-quality analysis and research correlates highly with the skills of labor and access to company resources.

Cyber-security and system risk: The company is subject to system failure and security exploits such as data loss and cyber-attacks. The sources could be scams, viruses and employee errors or malfeasance. It could also be the incompatible merge between technology or new technology transition. The possible damage on clients' data and service quality can severely affect the client investor relationship as well as the company's reputation and value.

LEGAL AND COMPLIANCE RISK

Legal risk: FactSet is subject to data privacy and protection of personal information laws. Failure to comply with laws will result in fines, penalties and other legal obligation.

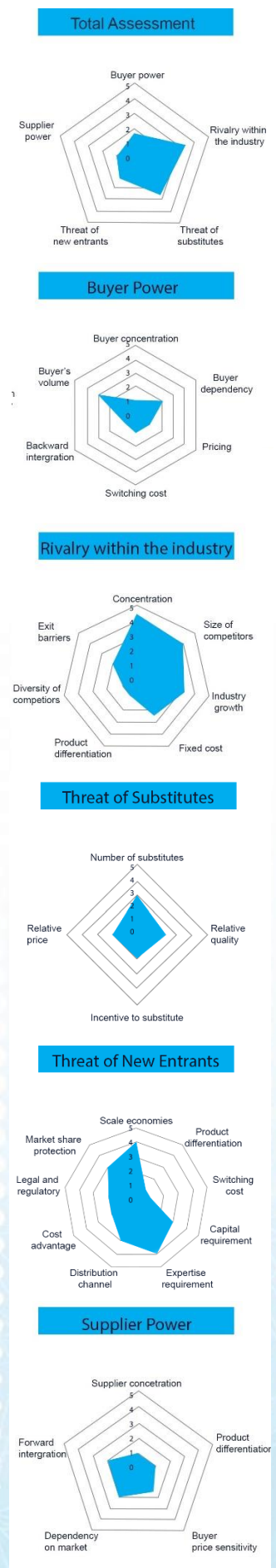


Figure 21: Porter's Five Forces Analysis

Tax risk: The US and France government is negotiating the “Digital Tax”, which will impact on profit shifting activity from overseas branches. FactSet’s European segment maintains offices in Avon and Paris, France. 40.9% of FactSet operating income is generated in the non-US segments (as of 2019), predominantly within branches in the UK, France, and Germany. If the digital tax is successfully negotiated, it will result in a loss in FactSet wealth and net income in the non-US segment. However, the tax reform is expected only after 2020.

FINANCIAL RISK

Exchange rate risk: Roughly 40% of FactSet revenue came in non-US segments and 28.4% in Europe segment (as of 2019). The income streams from those segments are subject to the volatility of exchange rate, namely Euro, Indian Rupee, Philippine Peso, British Pound Sterling, and Japanese Yen. The Euro, the common currency of the EU, is affected by the interest rate cut of the European Central Bank, showing a downward trend and is expected to keep depreciating against the Dollar. Failure to hedge the earnings in this segment will lead to earning loss and lower profit margin. (Fig. 23)

Impairment of goodwill: The loss in goodwill value could signify the deteriorating value of a company and result in loss of confidence of investors and shareholders. The carrying value of FactSet’s goodwill as of August 31, 2019 and 2018, was \$685.7 million and \$701.8 million respectively, which shows the decreased value of goodwill. The company reported to have no impairment lost in the fiscal year of 2019. (Fig. 24)

See [Appendix L & M](#) for full breakdown.

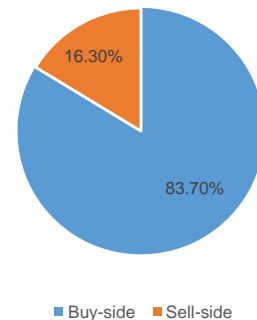


Figure 22: Growth Rate Distribution

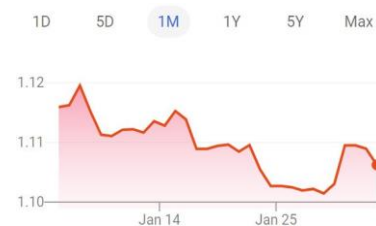


Figure 23: EURO/USD Exchange rate

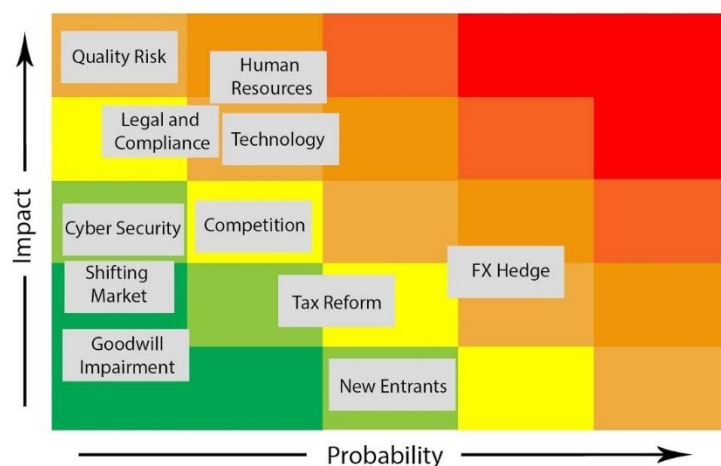


Figure 25: Risk Matrix
Team assessment

CONCLUSION

In conclusion, we as a group are bearish on FactSet and have given its stock a sell recommendation. According to our valuation models, we see a -10.33% downside from their closing price of \$276.56 on January 31, 2020 and have set a target price of \$248.02. One of the main catalysts of a lower price target was that we believe that the top and bottom-line growth rates for FactSet are currently overestimated. Not only is our sell recommendation based on our valuation models, but we also believe that fee compression, market saturation, and the transition to passive investing will negatively impact FactSet and the industry it operates within. FactSet’s overestimated growth outlooks and expensive multiples justify our sell recommendation.

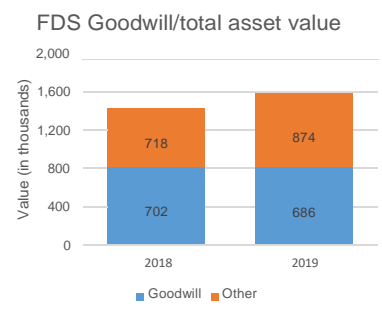


Figure 24: Goodwill/Asset ratio

APPENDIX

APPENDIX A

DISCOUNTED CASH FLOWS ANALYSIS

	(in millions)			
FactSet (FDS)				
Years	1	2	3	NPV of Terminal Value
Free Cash Flow	\$ 417.86	\$ 426.05	\$ 480.05	\$ 496.86
Present Values	\$ 386.30	\$ 364.12	\$ 379.29	\$ 10,639.321
				\$8,406.08
Enterprise Value	\$ 9,535.79			
Stocks Beta	0.92		Market Cap	\$ 10,460.40
Risk Free Rate	2%		Debt	574.2
Market Risk Premium	7%		EV	\$ 11,034.60
Long term growth rate	3.5%		% Equity	94.80%
Cost of Equity	8.44%		% Debt	5.20%
Cost of Debt	3.30%			
WACC	8.17%			
Value of Firm	\$ 9,536		Intrinsic Value	\$ 246.63
Less Debt	\$ 574.2		Stock Price	\$ 276.56
Cash + Marketable Sec	\$ 385.6		Potential Loss	-11%
Value of Operations	\$ 9,347			
Shares Out	38			

Source: Team assessment and Bloomberg

APPENDIX B

PE ANALYSIS

EPS-Based	2016	2017	2018	2019
EPS	\$8.19	\$6.51	\$6.78	\$9.08
Price High	\$178.00	\$199.00	\$235.00	\$286.00
Price Low	\$150.00	\$157.00	\$189.00	\$218.00
High P/E	21.73x	30.57x	34.66x	31.50x
Low P/E	18.32x	24.12x	27.88x	24.01x
2020 EPS Estimate		\$ 9.53		
2020 Potential Price Range				
Est. High Price		\$ 330.47	39.3%	
Est. Low Price		\$ 174.68	-36.8%	

APPENDIX C

PE ANALYSIS (CONT)

Appropriate P/E multiple	24.88x	
Target Price (P/E Based)	\$ 237.25	
Current Price	\$ 276.56	as of Friday 1/25
Upside/Downside	-14%	

Relative PE	Current PE	31 x
	Market PE	18.59 x
		1.67 67% overvalued

Source: Team assessment and Bloomberg

APPENDIX D

EV/EBITDA ANALYSIS

EV/EBITDA Valuation				
Factset				
EBITDA-Based	2016	2017	2018	2019
EV/EBITDA	18.03	15.38	20.78	21.11
2020 EBITDA Estimate		\$538.97		
2020 Potential EV Range				
Est. High EV	\$11,377.66			
Est. Low EV	\$ 9,717.63			
+ Cash and Equivalents	\$ 385.60			
- Total Debt	\$ 574.00			
- Preferred Stock	-			
- Minority Interest	-			
Appropriate EV/EBITDA multiple	18.83			
Equity Value	\$10,146.11			
Shares Outstanding	37.9			
Target Price (EV/EBITDA Based)	\$ 267.71			
Current Price	\$ 276.56			
Upside/Downside	-3%			

APPENDIX E

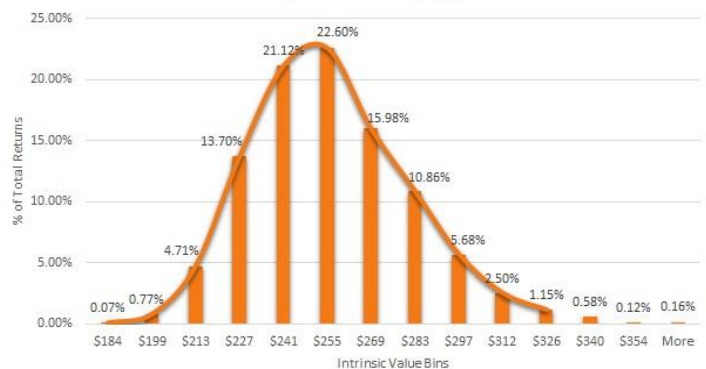
MONTE CARLO STIMULATION

All numbers in Millions of Dollars

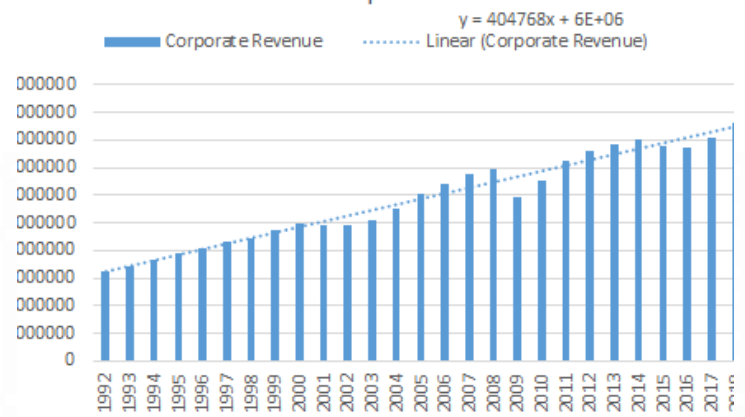
Year	Corporate Revenue	Growth of Corp. Revenues
1992	\$ 6,461,976	-
1993	\$ 6,803,941	5.29%
1994	\$ 7,321,656	7.61%
1995	\$ 7,865,268	7.42%
1996	\$ 8,217,751	4.48%
1997	\$ 8,683,942	5.67%
1998	\$ 8,906,400	2.56%
1999	\$ 9,431,666	5.90%
2000	\$ 9,998,899	6.01%
2001	\$ 9,819,280	-1.80%
2002	\$ 9,881,487	0.63%
2003	\$ 10,255,687	3.79%
2004	\$ 11,071,723	7.96%
2005	\$ 12,073,838	9.05%
2006	\$ 12,839,285	6.34%
2007	\$ 13,538,552	5.45%
2008	\$ 13,882,448	2.54%
2009	\$ 11,869,463	-14.50%
2010	\$ 13,064,179	10.07%
2011	\$ 14,489,672	10.91%
2012	\$ 15,187,610	4.82%
2013	\$ 15,635,706	2.95%
2014	\$ 16,077,856	2.83%
2015	\$ 15,527,150	-3.43%
2016	\$ 15,398,615	-0.83%
2017	\$ 16,231,659	5.41%
2018	\$ 17,221,751	6.10%
Average Growth Rate Rev.		3.97%

Source: Team assessment and Bloomberg

Monte Carlo Analysis with Varying Growth Rates



Growth of Corporate Revenue



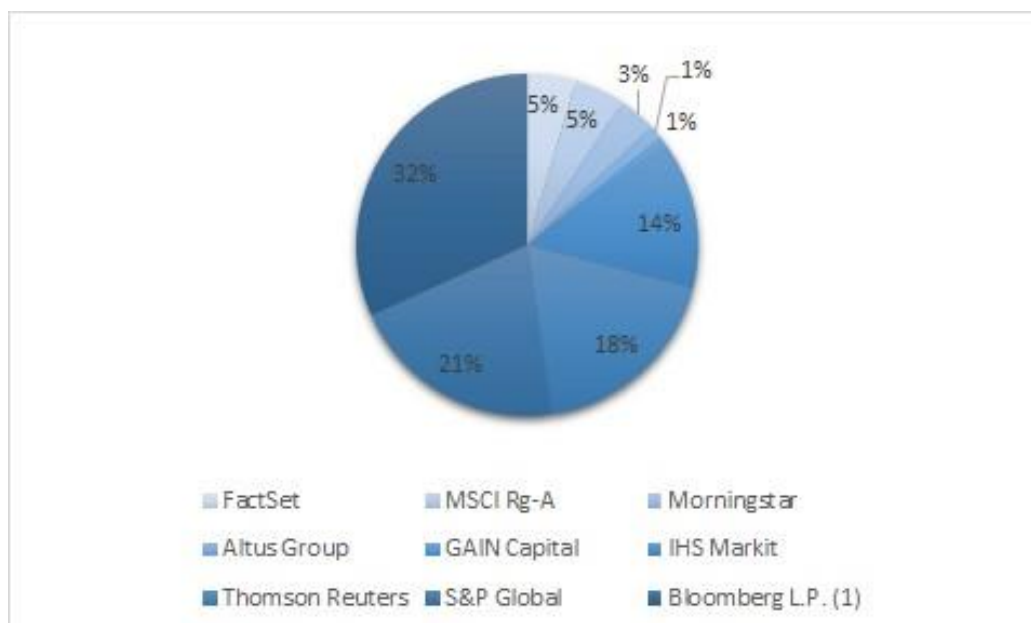
APPENDIX F

COMPETITION BREAKDOWN

Company Name	Fiscal Period	Price	Shares Outstanding	Market Value	Enterprise Value	Sales	% Sale	EBIT	EBITDA	Enterprise Value/ EBIT	Enterprise Value/ EBITDA
Average		133.20	191.7	25,056.8	27,078.7	2,865.2		836.0	1,082.9	40.17x	23.06x
Median		80.44	84.8	24,235.8	26,117.2	1,512.9		726.1	821.4	36.24x	23.04x
FactSet	11/30/2019	286.11	37.9	10,845.3	11,323.7	1,450.4	4.60%	452.8	513.4	25.01x	22.06x
MSCI Rg-A	09/30/2019	285.80	84.8	24,235.8	26,117.2	1,512.9	4.80%	726.1	821.4	35.97x	31.79x
Morningstar	09/30/2019	156.89	42.8	6,716.5	7,075.1	1,109.3	3.52%	199.2	308.7	35.52x	22.92x
Altus Group	09/30/2019	32.78	39.8	1,304.9	1,433.0	413.5	1.31%	25.0	63.0	57.41x	22.75x
GAIN Capital	09/30/2019	3.91	37.4	146.4	91.7	262.9	0.83%	-19.9	9.5	-	9.63x
IHS Markit	11/30/2019	78.86	392.9	30,987.9	36,017.0	4,414.6	14.01%	986.6	1,559.7	36.51x	23.09x
Thomson Reuters	09/30/2019	80.44	500.0	40,218.2	42,575.2	5,842.0	18.54%	834.0	1,509.0	51.05x	28.21x
S&P Global	09/30/2019	293.73	244.4	71,787.6	76,241.6	6,501.0	20.63%	#####	3,309.0	24.59x	23.04x
Bloomberg L.P. (1)	n/a	n/a	n/a	n/a	n/a	10,000.0	31.74%	n/a	n/a	n/a	n/a
Total						31,506.5	100.00%				

Source: Team assesment and Factset

(1) Estimation sale of \$10B



Source: Team assessment and Bloomberg

APPENDIX G PRODUCT DIFFERENTIATION

	Market Share / Users	Pricing	Good for:	Features
FactSet	2019 (10-K): 126,922 professionals	2017 (WSP): \$12,000 for full product per year	Buy side, Investment banking	Excel plug-in, FactSet Estimates, Screening, Personalized packages
Bloomberg	2017 (Finextra): 33.2% 2019 (company website): 325,000 professionals	2017 (WSP): \$24,000 for terminal but can drop to \$20,000 for two or more terminals per year	Buy side, sales and trading, asset management	Advanced Fixed Income data, real time breaking news and data, "Bloomberg Anywhere," Execution Management & Electronic Trading
Refinitiv (formerly Reuters)	2017 (Finextra): 22.5% 2019 (company website): 300,000+ professionals	2017 (WSP): \$22,000 for full product but can go as low as \$3,600 for less features	Buy side, sales and trading, asset management	"Reuters News," Intelligence Search, Mobile Device Compatibility, Customized Alerts, "Reuters insights. Eikon Intelligence," Access to Autex Trade Route, Tradeweb and FXall
S&P Global Market Intelligence Capital IQ	2017 (WSP): 5.6%	2017 (WSP): \$13,000 but can go up with more features or down to \$7,500 with a large amount of users	Investment banking	Mobile solutions, Excel plug-in, Real time Workstation, Targeted Email Alerts, Capital IQ Estimates, Screening

APPENDIX H

EXECUTIVES SUMMARY

EXECUTIVE	TITLE	FACTSET HISTORY	CAREER SUMMARY
Philip Snow, CFA	Chief Executive Officer	CFO: 2015 – present President: 2014 – 2015 SVP: 2013 – 2014 Consultant: 1996 – 2013 Tenure at FactSet: 23 yrs.	Snow has expertise in international management helping to grow FactSet's Asian Pacific Region. Snow also has backgrounds in chemistry and holds the CFA designation. Snow has been at the firm since 1996, thus he is an integral part of keeping FactSet's vision, values and identity intact.
Gene Fernandez	Chief Technology Officer, Chief Product Officer	CTO: 2017 – Present Tenure at FactSet: 2 years	Fernandez joined FactSet in 2017 but previously was CTO at JP Morgan with an integral role in helping to develop advanced engineering functionality. Fernandez is fairly new to FactSet but with his highly regarded past can help to grow functionality at FactSet.
Robert Robie	Executive Vice President and Global Director of Analytics & Trading Solutions	EVP: 2018 – Present SVP, Global Director of Analytics: 2018 – Present SVP, Fixed Income Analytics: 2013 – 2017 VP, Fixed Income Analytics: 2005 – 2013 Equity Portfolio Analytics: 2000 – 2005 Tenure at FactSet: 19 yrs	Robie's extensive analytical background helps him to be the perfect leader to oversee strategy, research, development & engineering for Analytics and Trading platforms. Robie also has a diverse education experience with a B.A. in Economics and Fine Arts from Beloit College. Climbing the ladder of positions at FactSet helps to further add to his expertise in running Analytics and Trading Solutions.
Helen Shan	Executive Vice President, Chief Financial Officer	EVP, CFO: 2018 – Present Tenure at FactSet: 1 year	Shan is responsible for the oversight of a multitude of operations such as financial reporting and performance. Shan has held a variety of positions at firms in the past such as Marsh and McLennan, Pitney Bowes Inc, and JP Morgan Securities. Shan was also CFO for Mercer and brings a wealth of knowledge and expertise to FactSet
Rachel R. Stern	Executive Vice President, Head of Strategic Resources and General Counsel	EVP: 2018 – Present SVP, Strategic Resources and General Counsel: 2009 – Present SVP, Third Party Content and General Counsel: 2006 – 2019 VP, General Counsel and Corporate Secretary: 2001 – 2006	Stern is another great example of members in leadership positions with a highly regarded education and decorated and extensive tenures at FactSet. Stern graduated from Yale University (B.A.), University of London (M.A.) and the University of Pennsylvania Law School (J.D.). Stern has had many positions in FactSet's legal department and is currently EVP and Head of Strategic Resources and General Counsel.

Source: FactSet

APPENDIX I

BOARD OF DIRECTORS SUMMARY

MEMBER	EXTERNAL / INTERNAL	COMMITTEE(S) / ROLE	CAREER SUMMARY
Robin A. Abrams	External	Audit, Nominating and Corporate Governance	Robin Abrams currently serves on the board of directors for four firms: HCL Technologies Ltd., Sierra Wireless, Inc., Lattice Semiconductor Corp., and Zephyr Sleep Technologies of Canada. In addition, she serves on the board of trustees for the Anita Borg Institute for Women and Technology. Previously she was the Interim CEO of ZILOG, Inc., and the CEO of Firefly Communications. Abrams has great experience with technology companies specifically with product development, and has management and decision making experience after serving at other firms as CEO. Board tenure at FactSet: 8 years
Scott A. Billeadeau, CFA	External	Head of Audit	Scott Billeadeau is a former Managing Director at Fifth Third Asset Management. Prior to that, he was a co-founder of Paladin Investment Associates, LLC. Billeadeau is a graduate of Princeton University (B.A.) and has expertise specifically in corporate finance, and accounting and strategy. Board tenure at FactSet: 18 years
Malcolm Frank	External	Compensation and Talent, Nominating and Corporate Governance	Malcolm Frank is currently the President of the information technology firm Cognizant Technology Solutions. Previously he was the co-founder, President and CEO of CXO systems and he was the founder, President, CEO and chairman of Nervewire. Frank is a leader in information technology management and is a graduate of Yale University. Board tenure at FactSet: 3 years
Sheila B. Jordan	External	Audit	Sheila Jordan currently is SVP, CIO at Symantec Corporation. She also serves as global executive sponsor for the Symantec Women's Action Network. Previously she was CIO at The Walt Disney Company, among other notable positions. Jordan has great experience with information technology development and implementation at brings that expertise to FactSet. Board tenure at FactSet: 3 years
James J. McGonigle	External	Head of Nominating and Corporate Governance	James McGonigle is the former Chairman and CEO of The Corporate Executive Board Company a firm he was with from 1997-2009. McGonigle also held other positions at various other firms namely: The Advisory Board Company and McKinsey & Company. McGonigle holds degrees from Princeton University (B.A.) and Harvard Law School (J.D.) and brings to FactSet leadership and management experience from his previous positions, Board tenure at FactSet: 17 years

Source: FactSet

MEMBER	EXTERNAL / INTERNAL	COMMITTEE(S) / ROLE	CAREER SUMMARY
Laurie Siegel	External	Head of Compensation and Talent	Laurie Siegel is the President of LAS Advisory Services. She currently is a member of the board of directors of CenturyLink, Inc., and of Volt Information Sciences. Siegel held various positions in human resources at firms such as Tyco International Ltd. and Honeywell International Inc. Siegel has both an M.B.A and Masters in City and Regional Planning from Harvard University. Siegel brings to FactSet executive and leadership experience with various acclaimed multinational firms. Board tenure at FactSet: 4 years
Joseph R. Zimmel	External	Audit, Compensation and Talent	Joseph Zimmel is a retired Managing Director of Goldman, Sachs & Co., has had an extensive career in investment banking and currently serves as a member of the Board of Directors of Century Link, Inc. Board tenure at FactSet: 12 years
Philip A. Hadley, CFA	Internal	Chairman of Board of Directors	Philip Hadley was the previous CEO at FactSet until 2015 and has been with the firm since 1985. Hadley is currently on the board of advisors at Kum & Go. With his prior CEO experience at FactSet and long tenure, Hadley brings great expertise, leadership and vision.
Philip Snow, CFA	Internal	Chief Executive Officer	See leadership description

APPENDIX J FINANCIAL STATEMENTS

FINANCIAL STATEMENTS	Historical Results FY Ending Aug					Forecast Period				
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

All numbers in millions

Assumptions

Income statement

Revenue Growth (% Change)		12.0%	8.3%	10.6%	6.3%	6.0%	6.0%	5.0%	5.0%	5.0%
Cost of Goods Sold (% of Revenue)	37.1%	39.6%	24.3%	27.9%	27.1%	26.8%	26.5%	26.2%	26.0%	25.7%
SG&A as % of Sales	26.8%	25.7%	24.8%	24.0%	23.3%	22.8%	22.3%	21.9%	21.5%	21.0%
R&D as % of Sales			17.61%	16.08%	14.96%	15.00%	15.00%	15.00%	15.00%	15.00%
Tax Rate (% of Earnings Before Tax)	28.1%	26.9%	26.1%	24.5%	16.5%	21.0%	21.0%	21.0%	21.0%	21.0%

Balance Sheet

PPE Growth Rate	-	42.7%	18.8%	0.0%	31.8%	5.0%	5.0%	5.0%	5.0%	5.0%
PPE Depreciation	53%	45%	48%	57%	46%	50%	50%	50%	50%	50%

Income Statement

Revenue	1,007	1,127	1,221	1,350	1,435	1,521	1,613	1,693	1,778	1,867
Cost of Goods Sold (COGS)	374	446	297	376	388	407	428	444	462	480
Gross Profit	633	681	924	974	1,047	1,114	1,185	1,249	1,316	1,387
Expenses										
SG&A Expense	270	290	302	325	334	347	360	371	381	393
R&D Expense	-	-	215	217	215	228	242	254	267	280
EBITDA	363	391	407	432	499	539	583	624	668	714
Non-operating Income - Net	1	114	(3)	5	2	29	8	11	13	15
Depreciation & Amortization	31	38	48	57	60	70	73	77	81	85
Unusual Expense - Net	3	10	18	17	-	-	-	-	-	-
Interest	0	3	8	16	20	17	17	18	19	22
Total Expenses	303	227	595	628	627	632	684	708	735	764
Earnings Before Tax	330	454	330	346	420	482	501	541	581	623
Taxes	93	122	86	85	69	101	105	114	122	131
Hedge & Restructuring Net	(4)	(7)	(15)	(6)	(2)	(7)	(7)	(7)	(6)	(6)
Net Earnings	241	339	258	267	353	374	389	420	453	486
Earnings Per Share	\$ 5.76	\$ 8.36	\$ 6.83	\$ 7.09	\$ 9.08	\$ 9.53	\$ 9.91	\$ 10.70	\$ 11.55	\$ 12.40

FINANCIAL STATEMENTS All numbers in millions	Historical Results FY Ending Aug					Forecast Period				
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Balance Sheet										
Assets										
Cash	182	253	227	238	386	389	344	451	628	840
Accounts Receivable	95	98	148	157	146	165	174	185	196	208
Other Current Assets	27	19	34	36	52	54	57	60	63	66
Current Assets	304	369	409	431	584	554	518	636	824	1,047
Property & Equipment	59	85	101	101	133	139	146	153	161	169
Intangible Assets	348	546	881	851	806	846	888	933	979	1,028
Deferred Tax Assets	21	13	7	10	8	12	10	9	10	10
Other Assets	4	6	15	28	30	32	35	37	40	43
Total Assets	737	1,019	1,413	1,419	1,560	1,583	1,597	1,769	2,014	2,297
Liabilities										
Accounts Payable	34	46	59	72	80	60	65	69	71	71
Income Tax Payable	4	8	11	8	-	16	11	13	14	11
Other Current Liabilities	102	104	130	141	139	140	144	147	149	150
Total Current Liabilities	140	158	201	221	219	216	220	229	234	232
Long-Term Debt	35	300	575	575	574	574	574	574	574	-
Provision for Risks & Changes	-	-	-	20	15	21	22	25	24	25
Deferred Tax Liabilities	9	11	36	30	27	29	32	35	38	42
Other Liabilities	22	33	41	47	52	62	74	78	81	85
Total Liabilities	205.1	501.8	853.7	893.5	887.9	902.6	921.6	941.2	951.2	383.8
Shareholder's Equity										
Equity Capital	532	517	560	526	672	681	676	828	1,062	1,913
Shareholder's Equity	532	517	560	526	672	681	676	828	1,062	1,913
Total Liabilities & Shareholder's Equity	737	1,019	1,413	1,419	1,560	1,583	1,597	1,769	2,014	2,297
<i>Difference</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>
Cash Flow Statement										
Operating Cash Flow										
Net Earnings	241	339	258	267	353	374	389	420	453	486
Plus: Depreciation & Amortization	31	38	48	57	60	70	73	77	81	85
Deferred Taxes & Investment Credits	(1)	5	5	(2)	(2)	1	1	1	(0)	0
Other Funds	(3)	(101)	25	32	33	(3)	(3)	17	15	12
Funds from Operations	269	281	337	354	444	442	460	514	549	583
Changes in Working Capital	38	51	(16)	32	(16)	16	6	7	7	8
Cash from Operations	306	331	321	386	427	457	466	521	556	591
Investing Cash Flow										
Capital Expenditures	(26)	(48)	(37)	(34)	(59)	(39)	(40)	(41)	(42)	(43)
Net Assets from Acquisition	(35)	(263)	(303)	(15)	-	-	-	-	-	-
Sale of Fixed Asset & Businesses	-	153	-	-	-	-	-	-	-	-
Purchase/Sale of Investments	(4.4)	(0.9)	(7.4)	(0.0)	3.3	(1.0)	(0.5)	(0.4)	0.8	0.4
Cash from Investing	(65)	(158)	(347)	(49)	(56)	(40)	(41)	(41)	(41)	(42)
Financing Cash Flow										
Cash dividends Paid	(67)	(74)	(81)	(89)	(100)	(103)	(105)	(108)	(110)	(113)
Change in Capital Stock	(185)	(300)	(211)	(232)	(113)	(208)	(213)	(196)	(192)	(184)
Issuance (repayment) of debt	35	265	275	-	-	-	-	-	-	(575)
Other Funds	29	18	9	2	(1)	-	-	-	-	-
Cash from Financing	(187)	(91)	(8)	(320)	(214)	(311)	(318)	(303)	(303)	(873)
Exchange Rate Effect	(12)	(12)	1	(3)	(6)	-	-	-	-	-
Net Increase (decrease) in Cash	42	69	(34)	14	151	106	107	176	212	(324)
Opening Cash Balance	776	818	888	562	238	238	344	451	628	840
Closing Cash Balance	818	888	854	576	389	344	451	628	840	515
Free Cash Flow	281	283	284	352	368	418	426	480	514	548
FCF - Dividends	214	209	203	263	268	315	321	372	404	435

Source: Team assessment and FactSet

APPENDIX K

DIVIDEND ANALYSIS

	2015	2016	2017	2018	2019	2020E	2021E	2022E
FCF	281	283	284	352	368	418	426	480
Div. per share	\$ 1.48	\$ 1.66	\$ 2.12	\$ 2.40	\$ 2.72	\$ 3.04	\$ 3.36	\$ 3.68
x shares out.	41.32	40.04	39.00	38.20	38.10	37.90	38.00	38.00
= Div. paid	61.15	66.47	82.68	91.68	103.63	115.22	127.68	139.84
= FCF - Div.	219.85	216.53	201.32	260.32	264.37	302.78	298.32	340.16
* millions								
Liquidity Ratios								
	2017	2018	2019					
Current Ratio	2.04	1.95	2.67					
Quick Ratio	1.87	1.78	2.43					
Cash Ratio	1.13	1.08	1.76					
Solvency Ratios								
	2017	2018	2019					
Debt to Assets	0.60	0.63	0.57					
Debt to Capital	0.60	0.63	0.57					
Debt to Equity	1.53	1.70	1.32					
Net debt/EBITDA Nov '19 = 0.9x								
EBITDA/Interest Exp. Nov '19 = 26.7x								
Source: Team assessment and FactSet								

Liquidity Summary

	Nov '19	Aug '19
Cash & ST Investments	362.3	365.6
L7 Receivables Available	175.0	175.0
Unsec. Rev. Facility	175.0	175.0
Total Liquidity	812.3	865.6

All figures in millions of USD
Source: FactSet DCS, FactSet Fundamentals

LT Debt by Maturity Summary

Maturity Type: Aggregate

Year	Revolving Credit	Term Loans	Notes/Bonds
2019	0	0	0
2020	0	0	0
2021	0	0	0
2022	0	0	0
2023	0	0	0
2024	0	0	512
2025	0	0	0
2026	0	0	0
2027	0	0	0
2028	0	0	0
2029	0	0	0

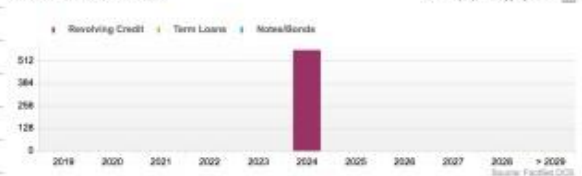
Source: FactSet DCS

Liquidity Summary

	Nov '19	Aug '19
Cash & ST Investments	222.3	395.6
LT Receivables Available	175.0	175.0
Unsec. Rev Facility	175.0	175.0
Total Liquidity	572.3	665.6

All figures in millions of USD
Source: FactSet DCS, FactSet Fundamentals

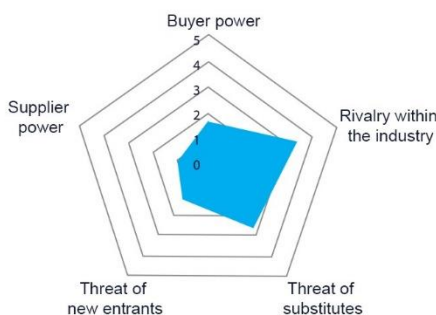
LT Debt by Maturity Summary



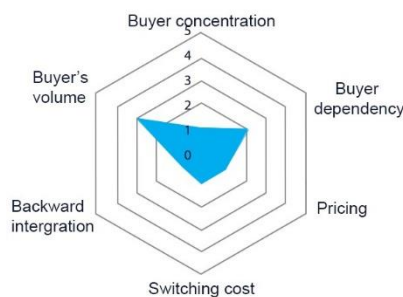
APPENDIX L

PORTER'S FIVE FORCES ANALYSIS

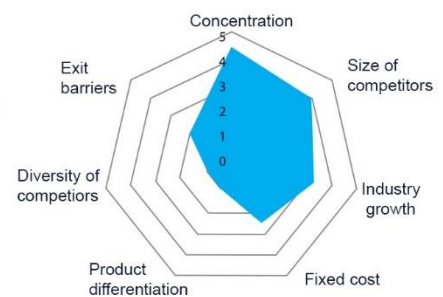
Total Assessment



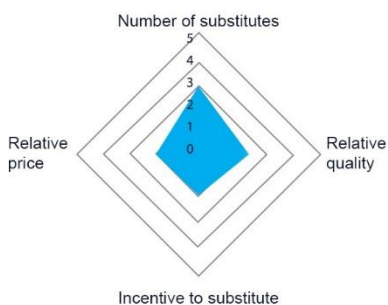
Buyer Power



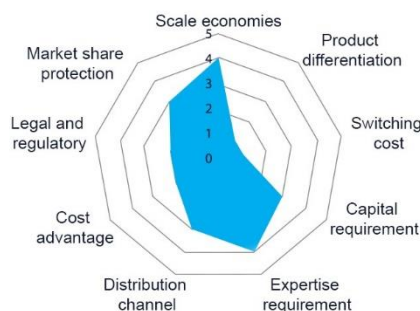
Rivalry within the industry



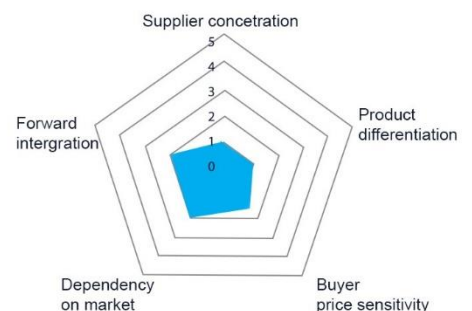
Threat of Substitutes



Threat of New Entrants



Supplier Power



BUYER POWER

Buyer concentration:	Sales spread among the investment industry. Most users are buy-side and investment banking clients.
Dependence of a buyer's purchase on a particular supplier/ differentiation	FactSet's data and research are standardized products which can be replicated easily. FactSet also operates in a highly competitive market led by a few major market leaders.
Pricing sensitivity	Since the products are highly personalized, negotiation is possible as the pricing matrix depends heavily on clients characteristics.
Switching cost	For research and analytics, subscriptions are easy to cancel with low to no penalties. There is also no installment cost for terminals on clients computers.
Backward Integration	For institutional clients, efficiency in data processing is critical. Therefore, no backward integration incentive as it would draw more costs and interrupt the neutrality of data.
Buyers's volume	High volume for institutional clients, low for individual investors.

THREAT OF SUBSTITUTES

Number of substitutes	Limited terminal alternatives (Bloomberg, Eikon, Capital IQ) but several alternatives for research and data analytics tool (Morningstar, Robinhood...)
Relative price	The price of full package is \$12,000 per year, relatively cheaper than other competitors (Bloomberg \$24,000, Reuters \$22,000)
Relative quality	High quality. More user-friendly UI with simple features. Hence, the products is lack of some complex features that could be found in other competitors'.
Incentive to substitute	High 95% retention rate. Customers are satisfied with the quality and pricing of the products.

RIVALRY WITHIN THE INDUSTRY

Concentration	High concentration with major market share held by a few market leaders. Followed by several small companies with standardized products.
Size of Competitors	The market consists of both large, well-capitalized companies and smaller, niche firms. 2-3 dominant competitors (Bloomberg, Thomson Reuters 39.6B) with large size. FactSet's market cap is one fourth of Reuters.
Industry Growth	Estimated CAGR for the sector is 13.6% for the period of 2017-2026. The steady growth rate signifies growing opportunities for mid and small-size companies and the rising demand in end-users industry. ¹
Fixed Costs	FactSet R&D cost was \$214.7 million, \$217.1 million and \$215.0 million during fiscal years 2019, 2018 and 2017 with low R&D to sale ratio (<0.1%). R&D cost would rise back with the rising of the demand for cloud data system and technology investment. System maintenance cost will rise as the firm is expanding and because of cloud-based hosting and licensed software arrangements.
Product Differentiation	Low differentiation. Hence, companies differentiate themselves by research quality and outstanding customer services.
Diversity of Competitors	Low. Competitors have similar characteristics and products.

1 Globalnewswire

THREAT OF NEW ENTRANTS

Scale Economies	The market has unlimited growth opportunities because of the growing size of financial service sector (CAGR 13.6%) and the rising demand of data in emerging markets.
Product Differentiation	Low differentiation. Data is standardized while there are some differences in UI and features. FactSet's customizable products is one of its competitive advantage to differentiate its products from other standard and one-price products.
Switching Costs	Subscription to FactSet is easy to cancel and switch to another data provider.
Capital requirements	Data systems are costly to acquire in order to create a wide database. The upfront cost accounts for software development, data acquisition, data hosting system and human resources are high as the business requires high-skilled labor and advanced technology.
Expertise requirement	The business nature requires skilled labor with expertise in both financial services industry for research purpose and technology and computer-related industry for development purposes. FactSet has a 40-year expertise in research and financial data industry.
Distribution channels	FactSet distribution channel via cloud hosting. It has a strong customer relationship with 95% ASV retention rate.
Cost advantage	FactSet achieves cost advantage because of economic of scales in data acquisition.
Legal and regulatory barriers	As a public company, FactSet is subjected to SEC laws. The company operates in regions with regulation on data privacy and protection of personal information.

SUPPLIER POWER

Supplier concentration	High concentration as FactSet acquires data from some major data providers and proceeds for research and analytics purposes.
Product differentiation	Low differentiation as vendor/supplier provides a standard data. However, supplies may specialize in some distinct categories of data.
Buyer's price sensitivity	The high data demand keep buyer's price sensitivity stably low
Dependency on the industry	Low because of the vast number of buyers in the market.
Forward integration	High due to suppliers are able to produce the same product and compete in the market.

Source: Team assessment and FactSet

APPENDIX M SWOT ANALYSIS

STRENGTHS	FactSet offers personalized package with different quote based on clients need and request. This strategy offers a customizable experience and lowers the price of the product for smaller investors.
	Up-to-date technology and skilled labor.
	Strong online presence and user-friendly user interface.
	Strong client relationship with 95% annual returning clients.
WEAKNESSES	Operating in high concentration market with major market share held by big competitors.
	Unpublished pricing chart could lead to unfairness in customizable pricing.

OPPORTUNITIES	Opportunities in emerging markets with diversified needs, especially in Asia
	Development and adaptation of new technology in data base management.
	Estimated CAGR for the sector is 13.6% for the period of 2017-2026. The steady growth rate signifies growing opportunities for mid and small-size companies and the rising demand in end-users industry.
THREATS	Subject to regulation and tax reform, especially for foreign operation.
	Dependency on ability to process data efficiently and technology advance.
	Competition from local financial data firms or global competitor while expanding in Asia and non-US expansion requires cultural intelligence.
	Euro depreciation against dollar will result in loss in international segment.
	Shifting trend from active investing to passive investing.