THE ADVISOR

Q4 2018

DARDEN CAPITAL MANAGEMENT

UNIVERSITY of VIRGINIA | DARDEN SCHOOL of BUSINESS

A LETTER FROM THE CEO:

February 1, 2019

Greetings,

It is with great pleasure that we at Darden Capital Management bring you the Q4 2018 edition of *The Advisor*. As we carry through on our commitment to bring you *The Advisor* on a quarterly basis, within the enclosed pages you will find investor letters from each of our five portfolios detailing their experiences during the quarter, as well as select investment ideas.

Ryan Claxton, DCM CEO

This most recent quarter was a fascinating time to be a student of the markets. Up until October, the current members of DCM had experienced relatively quiet market conditions during our collective Darden careers. Those peaceful waters were disturbed almost immediately as the calendar turned to October, upset by a storm of interest rates, trade wars, and a government shutdown—to name just a few of the many disturbances raising doubts about future profits just as year-over-year results for companies began to lap the tailwind from the Trump tax cuts. As you'll see through the following pages, our portfolio teams gained wisdom and valuable experience through the challenges faced during this tumultuous period.

We often receive questions about risk management. In particular, how does DCM monitor the downside? It is my firm belief that volatility does not equal risk, as may be taught in many a finance course. Risk, in my mind, has to do with the likelihood of permanent loss of capital. Investors seem to forget that by its true definition, volatility is two-sided. *Is a stock riskier if its price increases by 50% or if it gets cut in half over the course of a week?* This question was recently debated in our Mayo Center reading seminar. The loss-averse human instinct is probably that the downside is riskier. Modern portfolio theory would say that they are equally risky.

How about a classic Darden response: *it depends on the context*. What is most likely to happen *next*? Up or down, bull or bear, that is the question that I hope our portfolio teams continue to focus on. I am encouraged on a daily basis by the aplomb with which our portfolio teams have conducted themselves throughout our management period. There have been no signs of panic among this group—all five portfolios have remained focused on the fundamental security research that is at the core of DCM. Over the long term, I believe that poise will continue to pay off.

As we move forward into the new year, the executive team remains focused on providing the best possible experiential learning to our members. We have several exciting speakers planned who we hope will complement the learnings of the academic program and build upon the sessions we hosted during the fall, in addition to several crossover opportunities between the first and second year classes as we move ever so quickly toward the selection of our next class of DCM students.

As always, DCM is continuously looking for ways to engage with and learn from our alumni. We hope that the enclosed pages evoke fond memories of your Darden experience, and maybe even provide a new idea or two. If you would like more information on anything provided here, or simply want to reconnect with your DCM fund, please do not hesitate to reach out. We would be happy to host you back at Darden anytime, and hope to see you in the Capital Markets Room again soon.

All the best,

Ryan H. Claxton, CFA
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2018–2019 DARDEN CAPITAL MANAGEMENT

EXECUTIVE TEAM

Ryan Claxton	Chief Executive Officer
Marnie Lanphier	Chief Investment Officer
Scott Lusk	Chief Financial Officer
Macrae Gould	Director of Research

JEFFERSON FUND

Michael Kellett	Senior Portfolio Manager
Juan Jaramillo	Portfolio Manager
Annie Madeira	Portfolio Manager
Grant Moraven	Portfolio Manager

CAVALIER FUND

Peter Taylor	Senior Portfolio Manager
Maria Melchor	Portfolio Manager
Itay Ron	Portfolio Manager
Freyan Soonawalla	Portfolio Manager

MONTICELLO FUND

Sofia Scott	Senior Portfolio Manager
Sid Rajagopalan	Portfolio Manager
Wenda Sun	Portfolio Manager
Tris Worth	Portfolio Manager

DARDEN FUND

Miller Jump	Senior Portfolio Manager
Rutvik Karve	Portfolio Manager
Jorge Quinteros	Portfolio Manager
Lex Utt	Portfolio Manager

ROTUNDA FUND

Kyle Rose	Senior Portfolio Manager
Emily Caldwell	Portfolio Manager
Jay Kanakiya	Portfolio Manager
Anne McKenna	Portfolio Manager

PORTFOLIO UPDATES

CAVALIER FUND

"Have you heard that it was good to gain the day?
I also say it is good to fall, battles are lost in the same spirit in
which they are won."
-Walt Whitman, *Leaves of Grass*

To Our Friends and Partners:

The beginning of the fourth quarter of 2018 marked a period of high volatility, with the S&P 500 dropping from a peak of 2925.51 on October 3rd to a bottom of 2351.10 on December 24th.[1] What was the market discounting?

For one, the strong earnings growth for US companies seemed to be a major question mark for investors preparing to enter 2019. Sell-side analysts rushed to downgrade earnings estimates in December, but it seems investors voted with their wallets before the publications. The federal reserve raised interest rates in December to a fed funds rate of 2.5%, but as we ended the year interest rate futures were at odds with the fed's dot plot, implying less rate hikes for 2019 than initially anticipated. So, with lower earnings and neutral interest rate expectations, was the near 600-point drop justified?

Consider what else may have been keeping investors up at night. With a government shutdown beginning on December 22nd, we have some key events in March of which to take heed. March 1st marks a "hard deadline" for trade talks with China, with more tariffs expected in the event of a no-deal scenario. March 1st also marks another "debt ceiling" event after the most recent suspension; a shut-down government cannot put a band-aid on this one. Finally, we have Brexit coming on March 29th, with the possibility of an extension should English lawmakers come to an agreement—it doesn't look likely. In short, there are exogenous events around the globe that have a strong likelihood of curbing global growth.

	Cavalier	S&P 500
Year to Date	5.00%	-4.88%
3/31/18 - 12/31/18	-0.05%	-4.15%

Our Cavalier Fund team is taking these "uncertainty factors" to heart and is continuing to proceed with caution. Perhaps some of our cautiousness allowed us to end the year in the black, while remaining invested in our core ideas.

On October 3rd, we began investing the proceeds from the sale of MSG into a defensive name, Franco-Nevada Corporation (FNV), traded in New York and Toronto. In early October, we read that precious metal focused equities were the cheapest they've been relative to the S&P 500 in 20 years. I hosted a conference call with Darden Alum John Hathaway (MBA '67), a partner at Tocqueville Asset Management and Senior Portfolio Manager of the Tocqueville Gold Fund (TGLDX). He turned us on to FNV as a company with a conservative management team and storied history of creating shareholder value through their precious metals royalty model. Precious metals equities had sold off against a strong market in September due to concerns over a strengthening US dollar on the back of further interest rate hikes. Similar to John, we found the extreme net bullish position in USD futures to be overdone and thought FNV offered the best way to play the space. The company was approximately $12 billion in market capitalization with zero net debt and 77% EBITDA margins. FNV possesses operational "optionality" as they do not participate in the cost equation of resource extraction; once the royalty is "paid-for", they receive the contractual proceeds at advantageous economics. Our variant perception lied not only in the optionality inherent in the business model, but in something the street could not model in for reputation's sake. The company historically compounds its returns on royalties by reinvesting the cash flows into new projects over time. By taking a "compounders" view of the stock and reinvesting future cash streams at low-end economics (for conservatism), we found FNV undervalued with compelling risk/reward characteristics.

[1] Bloomberg

The announcement that Tesla would report earnings a week earlier than expected was a surprise to seemingly the entire market. The stock rallied the following day as Morgan Stanley issued a positive earnings expectation followed by Citron Research's Andrew Left announcing his "short" was now a "long". To hedge our short position, we bought short-dated call options and largely mitigated losses the ensuing days as the stock rallied. We closed out the short and the calls, deciding that despite our ongoing acceptance of the thesis, the position was too time consuming. It is hard to short a good marketer in Elon Musk; better opportunities for short alpha exist elsewhere.

Marnie Lanphier from the executive team pitched Live Nation Entertainment (LYV) as a "carry-over" position from the Darden Small Cap Strategy. We liked what we heard and along with extensive collaboration with SPM Miller Jump, decided to take in part of the position. LYV puts on 30,000 shows for 90 million fans a year and owns the ticketing site Ticketmaster. They maintain a massive competitive advantage in the entertainment space through their vertical integration and remain natural acquirers of concert venues around the globe. Demographic trends are positive for the company and the valuation is compelling given their future growth potential. The valuation was also affected by anti-trust concerns, which we found to have been mitigated by the company.

PM Freyan Soonawalla pitched Activision Blizzard (ATVI) in November and we decided to add it to the portfolio after the stock dropped from a high of $84 a share to $50. ATVI is a leading developer and publisher of video games and operates an eSports league. The company has leading game franchises and was punished for seemingly one-time negative guidance. The long-term secular trends for the company, however, remain intact. The company possesses industry-leading margins and a shift to digital distribution will bode well for future profitability. Opportunities for in-game player purchases reflect a more stable earnings profile in the future, while aggressive expansion into eSports through their *Overwatch* league portends to be a massive secular growth driver. We felt the company's 18x forward Price to Earnings multiple offered good value given what is set to come.

To maintain our cautiousness in light of the additions, we conducted a portfolio rebalance on December 10th, just before the precipitous slide that occurred into year-end. We sold 9% of our equity exposure from "heavier" positions in the portfolio, also taking aim at some legacy names we felt might not be playing out as originally predicted. We invested 5% of the portfolio into short-term US government bonds and initiated a 3% short position on the SPDR Communications ETF (XLC), with which our portfolio had significant overlap. We were rewarded for taking action as we finished the year up 5% with the benchmark down 4.88%.

We continue to welcome feedback from our sponsors and peers and are excited to enter the new year with fresh ideas and continued governance. We would like to thank the Mayo Center for their ongoing support, and for all of those that take an interest in our operation.

Sincerely,

Peter Taylor
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DARDEN FUND

To Our Investors:

Over the course of the fourth quarter we weathered considerable waves in the US Small-Cap space while keeping an eye on the horizon. After changing our mandate in October to more closely align our stock universe with that of our benchmark (the Russell 2000) we were tasked with finding multiple new positions to replace the forced sales of companies that had outgrown our mandate from years past like Markel, Live Nation, and Interactive Brokers. (Kudos to the prior fund managers for picking such successful names!). Over the course of October and November we made the transition into new names that we believe can be just as successful in the future. Executive summaries of the new names in the portfolio are below:

Central Garden & Pet (CENT): The pet supplies market has experienced strong growth in recent years and will continue to see strong growth due to an increase in pet-owning households and changing attitudes towards pets. The industry is highly fragmented with approximately 1,400 manufacturers and ample opportunities for M&A activity, a core strength of the Company. Similarly, the lawn and garden market has experienced strong growth from changing demographics as baby boomers leave the workforce and start participating in more lawn and garden activities.

MKS Instruments (MKSI): MKS is a global provider of instruments, subsystems, and process control solutions. The company's core competencies lie in pressure management & control. Its primary served markets are manufacturers of capital equipment for thin film including semiconductor devices, process manufacturing, environmental, life sciences and scientific research. Recently, MKS has been building revenue streams away from its earlier bread and butter semiconductor business (which grows slower) to get into more areas such as industrial machining and PCBs, and is doubling down on its fast-growing Lasers and Industrials segment with acquisitions such as Electro Scientific (ESI).

Cloudera (CLDR): On October 3rd Cloudera and Hortonworks (HDP) announced a stock for stock merger of equals that will have significant implications for the data storage and analytics industries for years to come. The combined company will possess significant advantages to traditional on premises solutions as well as cloud provider infrastructure given their scalability and system agnostic approach. As the industry continues to grow at a 21% CAGR pace over the next five years, Cloudera will stand to outpace that and take meaningful share particularly with larger enterprises who require their services for scalability, regulatory, and security purposes. The companies will combine to form a solution for the enterprise that covers all data from collection at the Edge, to data warehousing, to analysis with AI. This move is a major step in the direction of becoming a solution for "everything Big Data."

Ensco (ESV): As the offshore drilling market has begun to recover from the decline in oil prices in 2015, Ensco has been very successful at winning new contracts compared to its peers. In addition to winning new drilling contracts on its own, Ensco has agreed to a merger with fellow offshore drilling company Rowan that will diversify its fleet geographically and by ship type (Floater vs Jackup). Continuing the consolidation trend in this industry, Ensco has been able to do this without having to pay a premium for Rowan. This deal should help increase utilization and day rates for offshore drillers.

Despite major volatility in the market of late, we do not believe that the thesis has fundamentally changed for any of our names, and we believe that the uncertainty of the quarter may prove to have provided a great opportunity for us when we look back a year from now. Ultimately, though the last few months have proved disappointing in terms of absolute performance, we take pride in our resilience relative to the benchmark. I credit this to the selection and allocation decisions made by all members of our team. As we look forward to our last quarter managing the fund before we turn it over to the class of 2020, we are excited to see our work play out. Having the opportunity to manage the portfolio has been a tremendous learning experience for all of us, and we appreciate all of the people who have made the experience possible. We look forward to spending these last three months pushing our portfolio and investment process to the highest level that we can.

Sincerely,

Miller Jump
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JEFFERSON FUND

Dear Jefferson Fund Stakeholders,

Hello again, and happy new year! I hope everyone's 2019 is off to a great start. The Jefferson Fund team is back from winter break and ready to make the most of our final semester at Darden. I am happy to present our most recent quarterly letter below; I hope that you find it useful and informative. Feel free to share your thoughts with me and ask any questions that come to mind – my email is KellettM19@darden.virginia.edu.

SECTION 1: Lessons Learned from a Tumultuous Quarter

The final quarter of 2018 was wild – relative market calm and investor enthusiasm were quickly replaced with unease and double-digit negative returns for virtually all U.S. equity markets. Returns in the Jefferson Fund were no exception, as the fund returned -13.18% in the quarter (more on performance later in this letter). As we turn the page to 2019, the investing landscape is quite different from one year ago. Going into 2018, tax cuts had investors feeling bullish, a trade war seemed farfetched, economic data was good, and bitcoin had recently traded over $20,000 (perhaps the ultimate gauge of bullish sentiment). Now, investors are bearish around companies' abilities to keep improving results with tax cuts in the rearview mirror, a trade war is in full swing, there is little economic data being released due to a long government shutdown (and many CFOs expect a 2019 recession), and bitcoin is trading at $3,700.

Does this shift in the market environment change how we run the Jefferson Fund? After all, this portfolio has had phenomenal returns through the late stages of a bull market over the past few years, and it slightly underperformed the index during this most recent quarter; does this mean that the entire portfolio needs to turn over in order to outperform in a bear market? The short answer is no; we are looking for stocks that will add significant value over the next 5-10 years through both growth of the intrinsic value and the discount to intrinsic value closing. Even if one of those factors does not play out to the extent that we believe it will, the other gives us some margin of safety. But the truth of this quarter is that my own thinking about portfolio construction for the fund has evolved through experiencing this large drawdown, and my opinion of how this portfolio should be structured has changed a bit.

In my first letter I noted that I firmly believe in the "quality over quantity" school of investing and that I intended to run a concentrated, best-ideas portfolio. This thinking has not changed, but I have come to believe that this conviction-driven approach needs to be tweaked within the construct of DCM. Our portfolio had 16 stocks at the end of the third quarter, a number that I would be perfectly comfortable with in a full-time investing job in which all my time is dedicating to equity research. But DCM is not that; our short-term period with discretion over the portfolios means that we are managing a conviction-driven portfolio in which the large majority of stocks were bought because of the conviction of previous portfolio managers – not us. When the market is moving steadily upward, it is all well and good to feel like you have conviction from transition documents, conversations with the previous team, and our ongoing monitoring. But when these stocks start falling substantially, we found it much harder to keep conviction in the fund's legacy holdings than in our additions from earlier this year; even though **United Rentals** and **Facebook** have not performed well, we have more conviction in these stocks than some of our longer-dated holdings. We have been able to build conviction on the fly and only sold out of one stock during the quarter, but this experience has made me leery of holding positions that represent upwards of 8% of the portfolio when we were not the team that originally built conviction in the stock. Therefore, I think the more appropriate way to translate a concentrated, best-ideas portfolio into the realm of DCM is to diversify a bit more, running a portfolio of 20-25 stocks, with 4-5% position sizes, where bad news (and unexpectedly steep short-term price declines) in a stock that the team does not quite know as well as the original analyst would not hurt the portfolio as much.

The risk management reason to run a more concentrated portfolio is that having a portfolio that is too diversified opens you up to not being on top of every single name and understanding the risks; a concentrated, best-ideas portfolio is thus actually less risky and gives each stock the ability to substantially boost performance. But in DCM, where the portfolio is constantly shifting hands, and the team's attention must be dominated by other Darden classes and the job search, there are sure to be important nuggets that fall through the cracks, no matter how many stocks are in the portfolio. I feel that a slightly more diversified portfolio than is called for by the Jefferson Fund's philosophy of the past two years is the more prudent way to move forward. The portfolio has 18 stocks today, and I hope to expand this to at least 20 by the end of the quarter, which marks the transition to the next team.

I believe that this incremental diversification is a more prudent method of risk management for this portfolio than the alternatives of holding more cash or minimizing tracking error by holding index ETFs. Our job as the portfolio managers of a small satellite fund in your overall portfolio is to build the best value-oriented portfolio that we can to generate long-term alpha. Our mandate is not to time the market, and we do not believe that is where our skillset lies. Market-timing decisions should lie with you at the overall portfolio level and with funds that are explicitly meant to change their net exposure in different market environments (like DCM's Cavalier Fund). We also do not believe that diluting relative returns (and more closely mirroring the benchmark) by investing in an index ETF is true to the ideals of DCM – we are here to generate great returns over the long-term by using our critical thinking skills and Darden education to understand the qualitative aspects of great businesses, then using our human judgment and discipline to buy those stocks when they offer us attractive prices.

I do not come to these opinions casually. These are things I have been thinking about not just for the past few months, but for the several years in which I evaluated U.S. equity investment managers for Cambridge Associates and in my three internships with small investment firms over the past two years. DCM is different from a professional investment firm, and only by recognizing those differences, adapting best practices, and passing along our learnings to the next portfolio management team can we continue to add long-term value for our stakeholders and ensure that DCM remains a truly special organization.

SECTION 2: RECENT PERFORMANCE

The Jefferson Fund returned -13.18% in the three months ended 12/31/2018. For reference, the Russell 1000 Value Index (R1000V) returned -11.72%, and the broad-market Russell 1000 Index (R1000) returned -13.82%. Our best performers were **American Tower** (+9.5%), **Verizon** (+6.5%), new addition **NIKE** (+1.4% from our October purchase), **O'Reilly Automotive** (-0.9%), and **Berkshire Hathaway Class B shares** (-4.6%). We continue to believe that these businesses meet our qualitative hurdles, have strong competitive moats in place, and are trading at fair or good prices.

Our worst performers were **United Rentals** (-37.3%), **Realogy** (-28.5%), **Facebook** (-20.3%), and our two new video game holdings (each of which is a half position) – **Activision Blizzard** (-31.0%) and **Electronic Arts** (-16.8%). Of note, four of these positions are new to the portfolio since September, with the long-standing underperformer **Realogy** being the lone exception – more on this name in the next section. In all four cases, we believe the long-term investment theses still hold, even though the short-term market reaction has been discouraging, and we even added to our **United Rentals** stake in December. <u>It is our job to see through short-term noise to find long-term value. Even though our short-term appointment to the portfolio management team is not exactly aligned with this, we believe we would be doing a disservice to DCM's stakeholders if we managed it solely for performance during our tenure.</u>

For the 9-month period in which we have managed the portfolio, it has returned -6.61%, trailing a -5.59% return for the R1000V and a -4.12% return for the R1000. Our best performers for this period have been **O'Reilly Automotive** (+54.7%), **Verizon** (+21.8%), **salesforce.com** (+17.8%), **Microsoft** (+12.7%), and **American Tower** (+11.2%). Our worst performers were **Realogy** (-45.5%), **United Rentals** (-38.6%), **BlackRock** (-26.1%), the half position in **Activision Blizzard** (-31.0%), and the now-exited position in **Polaris Industries** (-22.9%).

Including the portfolio's extreme outperformance in the first quarter of 2018, the full-year 2018 return of approximately -2.80% was well ahead of -8.27% for the R1000V and -4.78% for the R1000, continuing the Jefferson Fund's longstanding pattern of outperformance.

SECTION 3: PORTFOLIO CHANGES

Portfolio activity was rather muted over the quarter, as we remained disciplined in the face of a volatile market. We sold **Polaris Industries** in October and purchased new stakes in **NIKE** (full position), **Activision Blizzard** (half position), and **Electronic Arts** (half position). These portfolio changes are detailed below, following an in-depth discussion on long-term underperformer **Realogy** – this month's "Investment in Focus."

Investment in Focus: Realogy (RLGY)

Realogy has been a particularly poor performer since we inherited the position, detracting 274 bps from performance over the past nine months (and 374 bps since it was added to the portfolio by the previous Jefferson Fund team). This drastic underperformance warranted a deep dive to underwrite the position. We continue to hold the stock, though we are not adding to the position, and we have reduced our 1-year price target meaningfully. The original thesis is still intact, though short-term pressures in the housing market and short-sellers heavily betting against the real estate industry have caused more short-term pain than we had originally anticipated when we inherited the position.

Realogy is a residential real estate franchising and brokerage company that operates in four segments: (1) Real Estate Franchise Services (RFG) – the world's largest franchisor of residential real estate brokerages, (2) Company-Owned Real Estate Brokerage (NRT) – the largest U.S. residential real estate brokerage firm, (3) Relocation (Cartus), and (4) Title & Settlement (TRG). Realogy has 300,000 independent agents worldwide operating under its brand names, which include Century 21, Coldwell Banker, and Sotheby's. RFG and NRT are by far the most important segments, representing a combined 83% of revenue and 86% of EBITDA. Though the economics of each segment differs – e.g. NRT is higher revenue and RFG is higher margin – Realogy does well when it sells more homes at higher prices.

Realogy is the top real estate brokerage company in the U.S., with a 16% market share and a growing portfolio of well-known and established brands (and involvement in over 27% of U.S. real estate transactions). Realogy's national scale and industry-leading market position creates a compelling value-add for real estate agents to work under a Realogy brand and for home buyers and sellers to use them. Realogy has historically had robust cash-flow generation and a strong balance sheet, but recent weakness in the housing market, intense competition for agents, and the rise of potentially disruptive competing business models have investors wondering if Realogy's competitive moat is shrinking. However, Realogy's significant moat around scale remains, and the company's footprint across every stage of the home-buying process provides some flywheel effects.

Our investment thesis rests on our belief that the real estate agent-based business model has long-term viability, and current pressures on the market will prove to be short-term. Real estate transactions remain too important and infrequent for residential buyers and sellers to attempt alone, so they will continue seek help from established professionals. New disrupting concepts have not caught on – channel checks of our millennial friends who have recently purchased homes have all used brokers, and even some companies that were created to disrupt the industry with new tech – like Compass – have pivoted to the traditional model. Though a lot of capital has flowed to concepts that seek to disrupt the traditional model, Realogy's scale should enable it to weather the initial onslaught from competitors and develop a strong response. The new CEO is very focused on improving Realogy's technology and utilizing the massive data advantage that its scale provides. Realogy is already copying and improving upon some of the unique concepts that new entrants like Redfin have pioneered. The lack of housing supply is currently constraining Realogy's (and the entire industry's) results. Though there are favorable long-term demographics emerging – such as a growing percentage of millennials looking to purchase homes – the short-term environment is very uncertain, and short-sellers have pummeled the stock (and the stocks of even new "disrupting" competitors). Though the short-term story remains uncertain (and the Jefferson Fund's holding period for this stock has not been a happy one), at today's price, near-term results do not have to be great to justify an investment, and we believe the potential volatility is distinctly skewed to the upside.

Additionally, Realogy has repurchased shares hand-over-fist as the stock price has fallen over the past year, showing its own conviction in how undervalued the shares have become, as well as its robust cash flow generation. To wit, the current free cash flow yield is about 13%.

There are two key risks to our investment thesis. The first is that the housing market remains sluggish, and broad economic uncertainty and interest rate increases pose a risk to the recovery. It is very difficult to underwrite this risk in the short-term, but we believe that the long-term signs are good: supply seems to be coming back, and Realogy's scale and technology improvements should allow it to continue to be a major player regardless. The second key risk is more analyzable: will intense competition for real estate agents lead to more attrition from Realogy's salesforce and significantly rising commission splits? We like that the pace of increases in commission splits has moderated recently and that Realogy is rolling out a new commission plan, but the main thing that gives us comfort here is that when all is said and done, the most important factor to an agent in getting paid is the ability to sell homes. So though there are low barriers to entry for real estate firms, if they cannot provide a platform and support that will help agents to sell houses, commission structures may not be as attractive as they appear. Realogy's footprint is unparalleled, and just being a part of its network affords agents a great opportunity. Though Realogy has fallen a bit behind in providing the best technology to agents and has lost some people (though retention is still 94% in its top two quartiles of agents, which represents 90% of gross commission income), Realogy is prioritizing providing better technology, leads, and data. Realogy has also had to pay higher commissions to cover agents' advertisements on Zillow, but in the long-term, Realogy wants to use its massive data to create tools that would add value for agents without them having to spend on Zillow.

Though Realogy is not our highest conviction name, we believe that the current risk-reward tradeoff is significantly skewed in our favor. We expect a return of about 35% on this stock over the next year, though if certain factors turn more positive for Realogy, we would not be surprised to see the price more than double. The downside case from today's depressed price is not nearly as punishing as the upside case is rewarding.

Buy: NIKE (NKE), October 2018

NIKE is the largest seller of athletic footwear and apparel in the world, and it reinforces its already strong brand recognition through unmatched league, team, and individual sponsorship deals with many of the best known and most visible names in professional sports. Though NIKE obviously has a long and storied history, the company is not content to rest on its laurels. NIKE continues to differentiate itself from brands that at one time seemed poised to become top challengers (like Under Armour), through both innovation and operational excellence, and we believe that NIKE's excellent management team has fostered a culture that will keep NIKE ahead of the game. NIKE still has a lot of room to grow, and its consistent commitment to R&D, manufacturing efficiencies, best-in-class product offerings, and digital initiatives is paying off. NIKE continues to be on the cutting edge of fashion and buzz-worthy campaigns (e.g. Colin Kaepernick), and margins are poised to significantly increase as its Consumer Direct Offense initiative grows out of its early stages. There is also long-term upside potential from strategic partnerships with digital leaders like WeChat to break into more lifestyle-focused categories. Although there is risk associated with exposure to changing trends in retail, exposure to currency risk, economic cycles, and the importance to renew expiring sponsorship deals with major sports leagues, we believe that NIKE shows all the signs of a long-term compounder that fits with our framework. We were thrilled when market volatility moved the stock price down from about fair value in September to give us a nice margin of safety for our October purchase.

Buy: Activision Blizzard (ATVI) and Electronic Arts (EA), October 2018

There are a lot of great tailwinds around the video game industry, with growth of 20% year-over-year and projections of continued double-digits expansion for many years to come. Wide adoption of smartphones and free-to-play games have increased the market significantly, and over 2.5 billion people play video games globally. Favorable industry tailwinds include: (1) Margins for all gaming companies are increasing as digital downloads replace physical discs; (2) Through this digital distribution model, new in-game content can now be released regularly, versus the historical trend of releasing new versions of franchise games every 2-3 years, which leads to some gamers spending 2-3x the original game price for extra content; (3) The eSports industry is poised to generate over $1 billion in revenue in 2019 and to grow substantially beyond that, with an audience that is larger than all sports leagues outside the NFL; (4) Video games are becoming more mainstream and accepted by adults, as games like *Fortnite* become more prominent in popular culture and as eSports monetary prizes and viewership increase; and (5) Gaming is likely to become cloud-based (and perhaps subscription-based) in the future, benefitting the video game developers by eliminating console fees.

With that backdrop, we decided to purchase half-stakes in Activision Blizzard and Electronic Arts, two of the leading video game content companies (and great cash flow generators). In this industry, content is king, and we think combining EA's high-floor properties (centered on the mammoth *FIFA* and *Madden* games) with Activision Blizzard's proven ability to innovate and create fresh and desirable content both in new games (*Overwatch*) and long-lasting franchises (*Call of Duty*) – plus its burgeoning mobile business through the King brand and its leading position in eSports – gives us the best of both worlds and protects us against one of these companies drastically underperforming in the short-term while the long-term story plays out. This is already playing out, as investors were disappointed with Activision Blizzard's third quarter earnings miss and a huge backlash from hardcore fans on news of an upcoming mobile version of the popular *Diablo* property. The earnings miss was actually ahead of management's guidance, but the big investor reaction to the downside showed that I had misjudged expectations. Though our investment thesis was centered on long-term industry trends and the company's leading positioning for this long-term growth, I failed to realize just how much that extremely positive long-term view had colored the market's expectations for the short-term. We remain optimistic for a positive earnings surprise for the fourth quarter, due to positive reception and an earlier release date than is typical for the new *Call of Duty* game, and we believe that much of the overly positive near-term expectations is no longer baked into the share price, which is down 31% from purchase. That said, we are being careful with this position (and with the EA position) and want to see how expectations change after the next quarterly report, which will include holiday shopping.

Sell: Polaris Industries (PII), October 2018

Polaris designs, engineers, and manufactures powersports vehicles that are sold all over the world. Though Polaris has beaten its quarterly estimates for the past three quarters, lowered guidance related to the impact of tariffs on the company has sent the stock price reeling, from a high of $130 in June to a low of $72 in December (we sold at $87.60 in October). While we were at first encouraged by management's comments that suggested that the company was managing through short-term tariff-related impacts to continue to add long-term value, the October quarterly call shifted in tone, scaring us that they were so focused on mitigating the impact of tariffs that they were losing focus on the business's long-term prospects.

Polaris is being disproportionately punished by tariffs because they manufacture so much in the U.S. Polaris needs to import parts from overseas and pays tariffs on those; then it exports vehicles overseas, with tariffs making them more expensive to end customers, which gives Polaris either the option to lose share as its vehicles are priced higher than non-U.S. competitor products or to cut prices and hurt the company's margins, which already incorporate higher expenses. This is not a great situation, and they hired someone to lobby Washington for relief (which is far from their core competency). Polaris hopes to have clarity on any potential relief by the Q1 earnings call in April, but we concluded that the continuing impact of tariffs would continue to weigh on Polaris's competitive advantages (which were already low by the standards of the rest of our portfolio). We sold out of Polaris and used the funds to purchase most of our stake in NIKE, which has been given us a better short-term return and better long-term business quality.

CLOSING REMARKS

Though market conditions were challenging in the fourth quarter, we believe that we kept a level-head through the market volatility and continued to add long-term value for the Jefferson Fund portfolio. As I noted in my letter last quarter: "Though we must report short-term results, I prefer to evaluate our performance internally on processes (and our companies' operational performance), not outcomes. Every great investor has had years of phenomenal performance and years of terrible performance. It takes time for skill to show through in the form of long-term outperformance. We ask that you not focus too much on our short-term results, good or bad."

Thank you very much, and I look forward to continuing to serve you over our team's final quarter in charge of the Jefferson Fund portfolio.

Thank you very much,

Michael Kellett
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MONTICELLO FUND

To Our Friends and Partners,

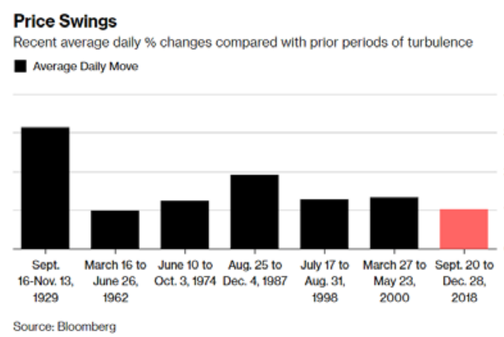
I want to begin this letter noting a leadership quality that has come into focus for me lately – the important wisdom in knowing what you don't know or don't understand. I recognize that the fourth quarter of 2018 began a new market environment prompting a gut check on our beliefs and hypotheses surrounding each investment thesis in our 28-position portfolio (See Section 1 below for market commentary). Now, more than ever we are focused on trusting and following our investment process that incorporates staying true to our conviction in names while simultaneously thinking critically about pieces we may be not know or may be missing in the story.

During the fourth quarter, the Monticello Fund ended -12.61% and the benchmark, the MSCI ACWI Index ended -9.17%, therefore over the three-month period we tracked but underperformed the benchmark performance. As mentioned in the Q3 Reflection Letter, we are long-term oriented portfolio, focused on the returns over market cycles. Over a three-year period, as of December 31, 2018, the Monticello Fund earned +6.41%, and the benchmark earned +8.61%. The returns were driven by gains in Microsoft Corp., Deere & Company, and Apple Inc. and offset by losses in JD.com, Aercap Holdings, and Davita Inc.

As mentioned in the Q3 newsletter, the Monticello Fund's Q4 goal was to deploy the 18% of dry powder we had in the MSCI ACWI Index. We were mindful of portfolio diversification but maintained our focus on high conviction names through the idea generation process. During the quarter we evaluated four new ideas, three of which we purchased (Section 2 below for investment rationale). Additionally, we were highly engaged with the Darden alumni community as we spoke with nine Darden alumni around the world to get investment ideas and insights from these veteran investment management professionals (Section 3 below for names and highlights from our conversation).

Reflections on Market Movements in Q4 2018

Peter Lynch of Fidelity in Boston simplified drivers of market movements by defining three causes: first - company earnings, second – interest rates, and third – expectations. I believe two of these factors were the drivers of the volatility we saw in markets in the fourth quarter. First, the Federal Reserve's continued monetary tightening with both rolling off balance sheet assets and increasing interest rates which has historically shook the markets, think 2001 and 2008. The second driver was a combination of tapered earnings expectations driven by global demand shrinking in markets like China because of impact of trade war on consumers. As long-term investors, the short-term noise around markets is difficult but essential to be able to tolerate. To ease our minds, it is helpful to put the price swing in perspective historically. The graph to the right shows that the price swing we saw in October was relatively "normal" regarding daily market movements in price over the last ~100 years. And if you're a financial crisis history buff as I am trying to become as a student of Bob Bruner's *Financial Crisis and Civic Reaction* course, then you'll notice that three of the seven price swings included led to a notable recession.



A comment on China exposure in the Monticello Fund as we are unique in the DCM suite of Funds with our international tilt. Napoleon Bonaparte once said "China is a sleeping giant. Let her sleep, for when she wakes she will move the world". What has unfolded over the last 14 months and particularly since July 2018 when President Trump engaged China in trade negotiations, is that China has become unavoidably relevant to company strategy and forward-looking behavior. Understanding China as a driver for growth is an essential part of earnings growth forecasts that we investors must listen to.

Comparatively for our Fund, the MSCI ACWI Index has 8.9% revenue exposure to China and the Monticello Fund has approximately 8.2% revenue exposure to China in aggregate. Our exposure is largely driven by positions in Apple, Celanese, Unilever, AerCap, Walmart, Sociedad Quimica y Minera de Chile, and Phillip Morris.

New Positions in Materials, Chemicals, and Telecommunications

Celanese (CE) – *As Pitched by Sid Rajagopalan, Portfolio Manager*

Celanese is a global specialty chemical company which produces specialty chemicals and advanced engineered materials. Celanese competes in a market that is partially commoditized, but the company has done an incredible job of diversifying the business and switching to more value-added and client-specific solutions. The company is not only diversified from an industry standpoint, but it is also diversified geographically. The investment is predicated on a few factors – first, the fundamentals of the business are solid. The company isn't highly levered and is able to deliver outsized returns, while trading at a relative discount. Management has been able to strategically acquire companies over the last few years to either vertically integrate or diversify the business. Outside of inorganic growth, the company's CEO has pushed cost-reduction as well as organic growth to improve the fundamentals of the business and expanding the margin. In addition, the stock pays a dividend which will provide stable future cash flows for investors, while leaving the opportunity open for buybacks if management believes the stock is cheap. From an industry standpoint, there are a couple of factors which make this industry especially attractive. Growth prospects, especially in terms of EPS, are considered to outpace the S&P 500 at least over the next year or two. The Acetyl market is in it's up-cycle but, more importantly, there are high barriers to entry. The industry is very relationship driven so it is hard to match the rolodex for an up-and-coming firm. In addition, there are major cost advantages that firms such as Celanese enjoys which will take heavy investment to replicate.

Sociedad Quimica y Minera De Chile (SQM) – *As Pitched by Tristram Worth, Portfolio Manager*

SQM, or Sociedad Química y Minera, is a Chilean chemical and mining company. SQM is the 2nd largest lithium producer in the world, with most of its operations focused on Lithium Carbonate from brine production. The company has a diversified portfolio of chemical offerings that are all derived from mining operations. SQM sells its offerings to specific customers (i.e., non-commodity products) based on customer needs and market conditions. With the expanding popularity of consumer electronics and electric vehicles, the demand for Lithium is expected to increase 3x by 2025. The lithium market is an oligopoly with few players that control the concentrated resources. SQM is poised to be a market leader with a defensible position due to access to low-cost lithium and its smart capex investment in production capacity. Even with fluctuating prices due to increased supply, SQM can be profitable when others cannot, giving it a unique competitive advantage. This combined with SQM's other strong chemical businesses and Chile's stable, growing economy makes SQM a solid long position.

Telenor (TENLY) – *As Pitched by Sofia Scott, Senior Portfolio Manager*

Telenor (TELNY) is a leading global telecommunications player and the largest telecommunications player in Norway with 40% market share in its home country. TELNY is geographically diversified with 190 million subscribers in over 10 countries within the Scandinavian and Asian regions. Telenor has 18% market share and is third largest in Sweden, 22% market share and second largest in Denmark, largest player in Thailand, third largest player in Malaysia, second largest player in Pakistan, largest player in Bangladesh and third largest in Malaysia. The company has consistently been able to achieve 1-3% of organic subscription growth, and 3-5% / year EBITDA growth, while providing dividend and engaging in stock buybacks. Given Telenor's dominance in market share in the countries in which it operates, TELNY is a best in class business with inorganic compounders through their past acquisitions and sell-offs to build and focus their global portfolio on regions where they believe they are adding the most value. For the Monticello portfolio, Telenor would provide the aggregate portfolio diversification in SE Asian markets, sustained cash-flow growth, consistent dividend yield, and valuation upside potential. Given Telenor's aggressive multi-year cost-cutting opportunity for both Operating Capex and CAPEX, there is opportunity for Operating FCF growing in the next 12 – 18 months.

The Wisdom of the Wonderful DCM Alumni

As many of our readers are aware, Darden Capital Management executive team and senior portfolio managers present twice a year to the Darden Board of Trustees. Following the Darden Board of Trustees Fall 2018 meeting, I had the pleasure of being introduced to Darden Trustee and Board member **Ro King '91** who enthusiastically offered to connect me and the Monticello team to Darden alumni and investors abroad. Throughout the Fall we spoke with Darden alumni and friends of the University in the following countries: Switzerland (**Martin King '91**), the U.S. (**Will Snellings '07**), Japan (**Ichiro Suzuki '84**), Vietnam (**Bradford Willmore '91**), Indonesia (**Daniel Budiman HBS '95**), the Philippines (**Antonio Periquet '90**), Norway (**Per-Andre Marum '91** and **Geir Atle Bore '12**). During these calls we heard anecdotes of the immediate pain felt from the trade wars within portfolio companies of private investments. We explored the unique risks in Asia public equity markets and risk mitigation techniques available to professional investors. In response to the "how to be successful investors" question, we were reminded to stay curious and do deep reading on areas of interest, to figure out where we want to focus / what noise to ignore, and lastly to not put family and loved ones on the backburner of a career. The conversations covered a variety of topics not mentioned above as well, and we are grateful for the interesting insights from all alumni who engaged with us!

From the left: Sid Rajagopalan - Monticello Portfolio Manager, Sofia Scott - Monticello Senior Portfolio Manager, Daniel Budiman - Founding Partner of Mahanusa Capital - Indonesia, and Ollie Budiman, Daniel's son and UVA Prospective Student.

Looking Forward

Over the next two months, the Monticello Fund team has a dual focus to review and monitor the investment theses of all our positions during the tumultuous time in the market, while secondly working on creative new ideas that will differentiate our portfolio from the benchmark. At the end of this quarter, four new portfolio managers will take over the Monticello Fund. With the support of the executive team at Darden Capital Management, the Monticello Fund will ensure a smooth transition passing on institutional knowledge as well as continuing the investment process of the Monticello Fund. We are looking forward to appointing the next group of individuals to build on the momentum we have built in managing the Fund in the past year.

Please let us know if you have any questions or comments.

Sincerely,

Sofia B. Scott
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ROTUNDA FUND

Dear Investors,

I write today to update you on the performance of your holdings with the ESG-oriented Rotunda Fund. Since the beginning of the quarter on October 1, 2018 the fund has returned (-11.9%) relative to the benchmark S&P 500 return of (-14.0%) for an outperformance of 2.1%. The fund has averaged three-year rolling returns of 9.8% relative to the benchmark S&P 500 index returns of 9.1% for three-year outperformance of 0.7%. Cash balance stands at 5.2% of available capital.

The top performers in the fund over the past three months have been Chipotle Mexican Grill (NYSE: CMG), Starbucks (NASDAQ: SBUX), and Waste Connections (NYSE: WCN), which have returned 20.8%, 12.1%, and 7.5%, respectively. Top detractors from performance have been Laboratory Corp. of America Holdings (NYSE: LH) and Dow DuPont (NYSE: DWDP), which have returned (-17.8%), and (-15.5%), respectively. We have found that much of overall performance this quarter was driven more by macroeconomic and geopolitical factors than the idiosyncratic factors that we expect to drive outperformance in the long term. The largest current holdings are Visa (NYSE: V), Waste Connections (NYSE: WCN), and Accenture Plc (NYSE: ACN), which stand at 7.3%, 7.2%, and 6.2% of AUM, respectively.

Over the course of the quarter we conducted surveillance reviews of existing holding Johnson & Johnson, which was originally purchased for the portfolio in multiple installments in 2010 and has been one of the biggest individual drivers of performance since that time. The modest initial position has grown to 5.2% of the portfolio balance currently. The investment committee elected to continue the holding based on a thesis of strong management being able to capitalize on market positioning with a proven track record of efficient capital allocation. The team also evaluated new investment ideas on CBRE Group (NYSE: CBRE) and New Age Beverage Company (NASDAQ: NBEV). The fund purchased a 4.5% position in CBRE, discussed in more detail below. The fund also sold a sizable portion of its stake in CMG to make room for new holdings after a great run that saw the stock price fly right past our target price.

One of our biggest disappointments of the quarter was the rapid decline and subsequent sale of recent addition United Natural Foods (NYSE: UNFI), which experienced a rapid drawdown following concerns over input prices, missed earnings, and additional clarity provided on the Supervalu acquisition. The initial investment thesis was predicated on the successful integration of Supervalu and the added benefits that come along with this, however management seemed to be struggling with this integration as market participants (ourselves included) became more and more skeptical of the purchase. We did not liquidate this position solely due to market losses, but rather because these developments were in direct contrast to our initial investment thesis, leading us to believe that the thesis was broken. After debriefing on how this pitfall could have been avoided, the team ultimately decided that the timeline for the initial thesis to play out was too brief in nature and ultimately dictated by too many unknowable variables. This lesson drove our decision to wait on adding NBEV to the portfolio following their acquisition of Morinda until we could get more clarity on the long-term impact.

Investment Highlight: CBRE Group, Inc.

CBRE Group is an industry-leading real estate company that most of you have probably heard of. They conduct primary operations in the U.S. and Canada, with additional operations in the EMEA and APAC regions. A sizable portion of their revenues are tied directly to domestic real estate activity, over which there have been concerns about a protracted slowdown. Perhaps unsurprisingly, they also almost went bankrupt during the ‘08 financial crisis, with share prices falling from $35/share to $3/share in just over a year. Have we sold you on why we purchased this yet?

In our Applied Securities Analysis class, we discussed the relative investing advantage of operating permanent capital across cycles that isn’t subject to immediate market whims. In this vein we identified companies that were well positioned to outperform their peers in the event of a market downturn as having the ability to survive while competitors could not. The phrase “What doesn’t kill you makes you stronger” comes to mind here. We believe CBRE is one of those companies.

Going into the financial crisis CBRE had a total debt/EBITDA ratio of 6.5x and interest coverage of only 2.0x. Today these numbers paint the picture of a significantly healthier and more stable company, with total debt/EBITDA of only 2.0x and interest coverage at 7.4x. Debt/total assets is only at 17.4%, relative to an industry average of ~50.0%. We believe that the institutional memory lasting from the financial crisis and through 12-year tenured CEO Bob Sulentic is leading to these more prudent fiscal decisions that will pay off in the event of a market downturn. The competition is somewhat fragmented, with smaller players and larger (more leveraged) competitors likely to experience financial troubles in the event of even relatively modest slowdowns in commercial and residential real estate activity. This would ultimately lead to reduced industry competition and a bigger piece of the pie for the established player CBRE.

However, we would not invest in CBRE solely under the proposal that they will do less poorly if things go south. We believe their business model possesses the characteristics of a best-in-class compounder. Their industry-leading position allows them to source the best talent and gain access to the most deal flow across markets in which they operate. Their relatively low leverage will allow them to continue buying up smaller players to leverage synergies from joint backend operations, a practice they have a proven history of executing. Additionally, although not a driver of our analysis, the opening of Hana as a competitor to the We Company provides additional upside if the industry can figure out a profitable way to scale the business model. We believe CBRE is a position that will be in the portfolio for many years to come.

To reiterate a point that was made in the previous investor letter, we will not add or maintain a portfolio position that does not meet our underwriting standards for *both* returns and ESG thesis. We believe CBRE satisfies the latter requirement with flying colors. From an environmental perspective, they have committed to science-based carbon emission targets, which are becoming increasingly common and more desirable in our environmental analysis framework. From a social perspective, the company shines on diversity metrics and has been making concerted efforts to increase the proportion of women in leadership roles in recent years. Finally, we believe corporate governance to be strong as executive compensation is significantly tied to stock options and grants with long vesting periods and CEO Bob Sulentic does not hold the Chairman title (something we really like to see). CBRE has also won multiple awards for their commitment to sustainability. We note we would like to see executive compensation tied to the successful attainment of their quantifiable sustainability targets, but that is unfortunately exceedingly rare in the marketplace today, so we do not penalize heavily on that factor.

Quarterly Reflection

What a quarter it has been! After a relatively uneventful first six months, November and December saw 15%-20% market swings resulting from a multitude of factors: market jitters over the increasing impact of trade wars on global growth and supply chains, concerns over interest rate hikes from the Federal Reserve, oil prices crashing from $73/barrel to $45/barrel in just three months, continued geopolitical tensions, the ongoing shutdown of a sizeable portion of the U.S. federal government, and the drop in housing activity, just to name a few. As a political and economics junky, this was an incredibly interesting time to be a market participant. However, it also served as a reminder to those of us who have spent most of our professional careers in a relatively prosperous bull market that there is a flip side to the coin. As portfolio managers we have a responsibility to be calm in an environment that often displays a short-term mindset.

As mentioned in our previous investor letter, the portfolio was well positioned for this market drawdown as lofty valuations have organically pushed industry allocations toward less cyclical industries that appear less frothy at the moment. The portfolio is most heavily underweight in technology and financials and most heavily overweight to utilities, leading to outperformance relative to our benchmark S&P 500 as market turbulence commenced. With these portfolio attributes and our current 5% cash balance, we would expect to experience relative underperformance during market euphoria and relative outperformance in market dislocations.

As we go forward into our last quarter before transitioning the portfolio to a new class of students, we continue our mission of increasing transparency and institutional memory of the Rotunda Fund while investing to generate alpha in a sustainable manner. We thank you for your continued trust in us and encourage you to reach out directly with any questions.

Sincerely,

Kyle Rose
RoseK19@darden.virginia.edu

SELECT INVESTMENT IDEAS

Company	*Portfolio Manager*
ACTIVISION BLIZZARD (ATVI)	Freyan Soonawalla, Cavalier Fund
CBRE GROUP (CBRE)	Kyle Rose, Rotunda Fund
CELANESE (CE)	Sid Rajagopalan, Monticello Fund
NIKE (NKE)	Annie Madeira, Jefferson Fund

Name: Freyan Soonawalla
Activision Blizzard, Inc (NASDAQ: ATVI)
Recommendation: Long position

Pitch Date: 11/14/2018
SoonawallaF19@darden.virginia.edu
Darden Capital Management

Activision is a leading developer and publisher of video games distributed on video game consoles, PC's and mobile devices. The company also operates an eSports league. The core user base is hard and mid-core gamers. Activision has differentiated itself for its compelling and owned IP, including blockbuster franchises such as *Call of Duty, World of Warcraft, Overwatch* and most recently *Candy Crush* through its acquisition of King. The company has expanded its audience reach by building on its established franchises but also investing and reinvesting heavily to increase consumer engagement, in-game monetization and new platforms such as its foray into mobile. While there remains some execution risk in 2019 coupled with recent negative engagement on core franchises, the company's long-term story will also depend on non-traditional growth drivers that we positive on – eSports, mobile advertising, and franchise expansions to mobile thereby leading to greater geographic diversification as well. We are also bullish on Activision's ability to lead the shift from "games as a service" to "games as a relationship" given its dedicated fan base and compelling content.

Key Statistics (as off 11/8/2019)			***1-yr PT***	***2-yr PT***	***Drivers:***
Stock Price	$55.01	Bull	$ 70.78	$ 77.84	Launch of Diablo Immortal in 2019 and meaningful contribution (expectations for franchise to contribute $300mm annual); meaningful upside from *CoD* ; annualize WoW expansions vs. current content drops; *Call of Duty* mobile expansion in China and mobile developments in the US; advertising in King gains considerable traction ($15mm in ad revenue each quarter)
Mkt Cap (in mm)	$41,975	Base	$ 62.61	$ 68.85	Ramp in Overwatch League franchise fees into 2020; Call of Duty Battle (Blackout) – Battle Royale mode. Expectations for it to contribute $25mm per month in 2019; Diablo launches in Q3 next year (revenues of $50M in Q3'19 and Q4'19); WoW content drops / expansions in 2019; $100mm contribution from Candy Crush
EV (in mm)	$42,408	Bear	$ 54.45	$ 59.87	Next version of CoD could be a disappointment (from Infinity Ward studio given 2013 and 2016 disappointments); Blizzard doesn't grow in 2019

<u>Our thesis and expectations of the company's long runway for growth are based on the following drivers:</u>

(1) Shift to digital: secular tailwind of digital downloads on consoles
  a. Leading to increased engagement and monetization – margin expansion (Exhibit 3 and 4)
  b. Main consoles (Xbox, PS4, Nintendo etc. have their own digital distribution platform to sell games exclusively to digital versions)
  c. ~50% of games are downloaded digitally and expect to increase to 60% in next five years

(2) Industry leading margins:
  a. Higher mix of PC and Mobile vs. console
    i. Cost to distribute a game on PC is lower than on console because of royalties paid to console makers are ~20 points hit to margins
    ii. Mobile commands relatively high gross margins in low-mid 70s because all content is delivered digitally
  b. Concentrated portfolio of new releases and popular scalable games
  c. Company owns IP, does not rely on licensed content (EA cost of licensed content = 30% vs. 3% of revenue for ATVI)

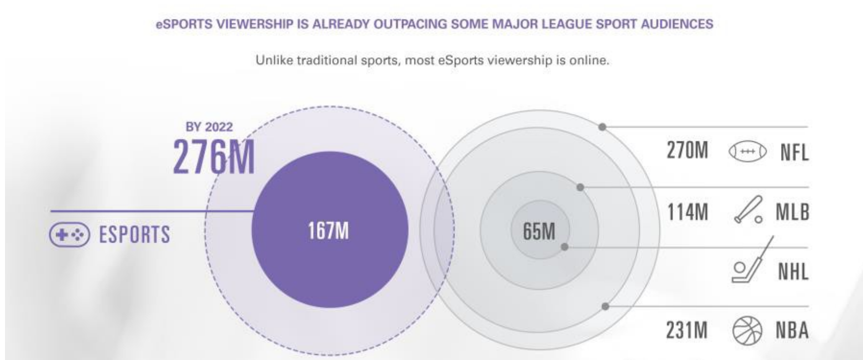
(3) Drive deep consumer engagement and Blizzard pipeline
  a. Focus on driving deep engagement with franchises:
    i. Overwatch → digital revenue + in-game monetization + OW League
    ii. Depth of content keeps consumers engaged for long periods of time after a game's release
  b. ATVI gamers average 52 minutes per day

(4) Opportunities for player investment via in-game monetization leading to a more predictable and valuable earnings stream:
  a. ATVI is providing opportunities outside of full-game purchases (microtransactions, downloadable content, expansion packs, content refreshes and upgrades, special events) allowing a shift towards a <u>more consistent, recurring and year-round revenue model (shift from holiday seasonality)</u>
  b. **Monetization of Shooters** (Call of Duty, Overwatch) –
    i. **micro-transactions** (periodic purchases on in-game content) lead to online player penetration
    ii. ~ success stories with EA's FIFA Ultimate Team and GTA Online (TTWO)
    iii. Franchises generate $15+ per player annually, potential for $450mm in annual micro-transaction revenue (80% op margins)

c. In addition to purchasing full-games or subscriptions, players can invest in certain games and franchises by **purchasing incremental in-game content** (larger downloadable content vs. smaller content / microtransactions).
d. Opportunity for advertising within certain franchises
e. Opportunity to drive new forms of player investment – e-sports, film, TV and consumer products

(5) Aggressive expansion into eSports via *Overwatch League* (direct and indirect revenue)

a. eSports is a series of video game tournaments held in major cities globally and broadcast on TV or streamed online (YouTube, MLG and Twitch)
    i. Events are held in marquee such as Staples Center in LA or MSG in New York; currently only 7% of e-Sports fans attend in-person)
b. Activision's franchise model is stable and is expected to attract long-term sponsorship
    i. ATVI estimates reach of eSports at 126mm worldwide
c. Acquired MLG in 2016 and formed Overwatch League, which is dedicated to its team-based shooter and will launch of *Call of Duty World League*
    i. ATVI signed a 2-year $90M deal with Twitch to distribute Overwatch League in North America
    ii. In China, ATVI signed non-exclusive deals with ZhanQi TV, Panda TV, and Netease CC
d. City based model: currently *OW* has 12 professional teams based in cities around the world; plan is to host home and away matches in each team's local city. Format gives teams more time to develop local playing facilities and fan base
    i. Team owners include: Bob Kraft (Pats owner) and Kevin Chou (Co-Founder of Kabam); NetEase will also own a team (global appeal)
    ii. Cities: Boston, NY, LA, SF, Shanghai and Seoul
    iii. Each team receives equal share of league revenue from sponsorship, ticket sales and broadcast rights
    iv. Each team signs a minimum of six players to 1-year contract – option to extend an additional year. Guarantee fixed salary of $50,000 per year + healthcare and retirement benefits, thereby attracting aspiring players and increasing quality of gameplay
    v. Potential for corporate sponsors and increased investment (in Q3 2018, net bookings grew 50% qoq)
e. Advertising and sponsorship are largest sources of eSports revenue today followed by Media Rights and Ticket sales. However, according to a study conducted by GS, **Media Rights will take over as the largest revenue opportunity in 2022** (~40% of the pie)
    i. Overwatch sponsors: Toyota, HP, Intel, T-Mobile, Sour Patch Kids
    ii. eSports audience is young (79% are below age of 35 acc. to date from NewZoo…coveted demographic for brands)
f. Estimates for market to reach $1bn in 2018 (ad revenue growth trails engagement growth) and $3bn by 2022
g. Twitch signed exclusive streaming deal with Blizzard that includes Overwatch and Hearthstone titles (willingness to pay for content with proven strong engagement)
h. Risk: BAMTech agreed to pay $300mm for technology right to League of Legends through 2023. These deals could be few and far between



(6) Longer term mobile strategy and mobile advertising upside via King acquisition

a. Opportunity to scale franchises globally to audiences for whom PCs or consoles are expensive; management has committed to mobile being the fastest growing platform for gaming
   i. King has a dominant position with its large userbase of mobile users
   ii. Investing in Activision (collaborating with Tencent on *CoD Mobile)* and Blizzard (*Diablo Immortal);*

b. Positive expectations that *Diablo Immoral* will be successful upon release (despite muted reaction at Blizzcon); management affirmed players' hands-on experience was well received; **expectations for 200mm MAUs of the ~1.8bn global mobile gamers**

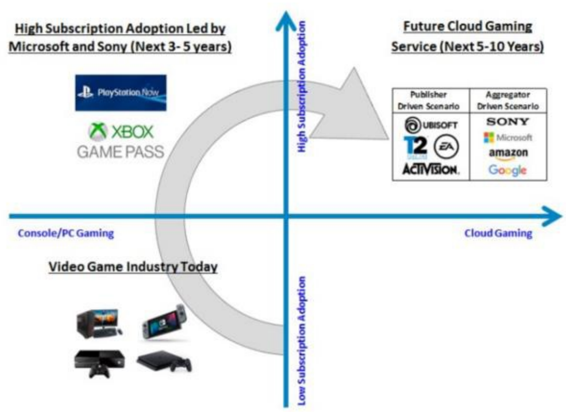
c. Advertising
   i. Estimate advertising will generate <$75mm in revenue but double in 2019 to $150mm
   ii. Reward-based ad format: offered a Candy Crush Saga "life" in exchange for watching a video ad (corporates who've tested – Nestle and Visa)
   iii. Assuming $6 CPM – serve an ad on 20% of game sessions to achieve ~$400mm in annual ad revenue (*Barclays research)*
   iv. Assuming $5 CPM – serve an ad on ads served o 15% of sessions could deliver $250mm in annual ad revenue (*Barclays research)*
   v. Industry statistic: ~300mm MAUs play games equating significant number of impressions for potential advertisers

(7) Growth in Asia:

a. According to MS Research, Asia represents 65% of global mobile game spending; estimate China's mobile market is larger than rest of Asia combined and revenue per player is higher in China and Korea than in the US
b. PC and Mobile gaming market in Asia could exceed $60bn by 2020 – 55% of global gaming
c. ATVI co-developed *Diablo Immortal* with NetEase in China
d. Overwatch became the most popular shooter title behind Tencent's *Crossfire,* a game that generated over $1.3bn in gross revenues in 2013
e. ATVI best positioned
   i. Largest Asia business of its peers due to very high concentration of revenue on PC and Mobile platform
   ii. Portfolio of existing IP is very popular contributing to ongoing recurring revenues
   iii. Has generated more revenue than EA, TTWO and Ubisoft combined in China
   iv. Blizzard has specific knowledge and expertise on PC and Mobile from decades of game development. 8 of top 10 most popular games in China are based on existing IP…positioning Blizzard in the best position to deliver multiple mobile hits given popularity of franchises such as Starcraft and World of Warcraft

(8) Less visibility but video games are poised to adopt subscription pricing and streaming delivery:

- Shift to buying more content via subscriptions (World of Warcraft Class will be part of franchise subscription to celebrate 15th anniversary)
- Receive more content via streaming (cloud gaming) pressuring console hardware makers
- Shift to cloud gaming can lower barriers to access of AAA content in Asia (given structurally different times consumers play video games than in Europe and US. Asians tend to play in PC cafes or during commutes)
- Pushback: non-console market well served by mobile; game subscriptions haven't historically made an impact and Netflix model works because they price below competition but led to margin dynamics.



Name: Kyle Rose
Date: 11/19/2018
CBRE Group, Inc. Class A (NYSE: CBRE)
RoseK19@darden.virginia.edu
Recommendation: Buy 4.5% Position
Darden Capital Management

Company Data	
Price	$43.72
Market Cap	$14.9B
Enterprise Value	$18.1B
EV/EBITDA	12.06x
P/E	18.07x

Business Description: CBRE Group, Inc. engages in the provision of commercial real estate and investment services. It operates through the following segments: Americas; Europe, Middle East and Africa (EMEA); Asia Pacific; Global Investment Management, and Development Services. The Americas segment comprises of operations throughout the United States and Canada as well as markets in Latin America. The EMEA segment offers residential property services. The Asia Pacific segment includes real estate services to corporations. The Global Investment Management segment is involved in investment management services to pension funds, insurance companies, sovereign wealth funds, foundations, endowments, and institutional investors. The Development Services segment consists of development services to users of and investors in commercial real estate.

Executive Summary: CBRE Group is the largest U.S.-domiciled provider of commercial and investment real estate services. CBRE is also expanding into the shared workspace category through new platform Hana, which helps property owners add flexible office space solutions. CBRE believes that this is a great market that will likely cover 5-10% of total occupied commercial space in ten years' time. CBRE's fortunes are very much tied to the broader economy and housing markets, however they are much less leveraged than almost all their competitors. If there is a recession, while their sales would drop significantly, it would likely prove a positive for their role in the industry in the long-term as many smaller competitors would be forced to liquidate or sell to the larger players. CBRE has been very active in the M&A market to gain share and know-how among local real estate markets and leverages its shared components and reputation to outcompete for talent and business. I also believe the market underestimates the pricing power of the top-heavy industry and see the potential for significant growth through Hana in a highly scalable industry in which they don't keep assets on balance sheet.

Management: Chief Executive Officer Robert (Bob) Sulentic is 61 years old and has a tenure of twelve years with the company. He has held executive positions with CBRE and Trammell Crow, and served on the board of directors for Baylor Health Care System and Staples, Inc. He received his MBA from HBS. Management compensation is in line with industry peers, with roughly 2/3 coming from stock options that vest over multiple years. This is similar for other members of the executive committee. Chairman Brandon Bridges Boze is only 37 years old and serves as a partner at ValueAct Capital Management, prior to which he worked in M&A at Lehman Brothers and Valeant Pharmaceuticals.

Investment Thesis:

1) Role as the dominant player in a market with compounder characteristics as a best in class business: CBRE has a compelling reputation in the industry and competes for a significant % of the available deals in its regional operating areas. In addition, the brand allows CBRE to source the best talent and expand to areas where others may not have any competitive advantages over local players. I expect CBRE to continue to take market share in the future from competitors and expand both organically and through M&A, as they leverage fixed costs across more geographies.
2) Leading and unlevered position in a cyclical industry: Debt/Total Cap is only 29% currently, relative to an industry average of approximately 50%. CBRE also has geographical diversification that the smaller players in the industry cannot compete with. If there is an economic downturn it is likely to hit competitors much harder, thinning out the playing field and allowing CBRE to take an expansive market share. As an investor with a long-term time horizon, this is an ideal scenario as many investors will likely liquidate in a downturn due to short term financial pressures.

Valuation: I valued CBRE with a DCF model that uses a five-year short-term growth period. The base case scenario assumes a constant gross margin, with revenue and COGS growing at 12% YOY. I believe this is conservative, as it is significantly slower than revenue growth has average over the past five or ten years. WACC was assumed to be 11% based on the current capital structure which I assumed was a long-term steady state, and the tax burden was anticipated to drop as the new effective tax rate came into effect. Net margins increased slightly over the five-year period, as there were assumed to be some economies of scale with the new Hana business and increased shared back office functions. Below are the sensitivities assuming changes to WACC, perpetuity growth rate, revenue and COGS growth rates, and SG&A growth rates:

		WACC				
		9%	10%	11%	12%	13%
Perpetuity Growth	1%	$ 63.79	$ 57.29	$ 51.91	$ 47.36	$ 43.44
	2%	$ 68.04	$ 60.42	$ 54.28	$ 49.20	$ 44.90
	3%	$ 73.70	$ 64.44	$ 57.25	$ 51.45	$ 46.64
	4%	$ 81.63	$ 69.81	$ 61.06	$ 54.26	$ 48.78
	5%	$ 93.52	$ 77.32	$ 66.15	$ 57.88	$ 51.45

		Rev and COGS Growth Rate				
		8%	10%	12%	14%	16%
SG&A Growth Rate	6%	$ 49.95	$ 62.06	$ 75.02	$ 88.87	$ 103.66
	8%	$ 41.37	$ 53.48	$ 66.44	$ 80.29	$ 95.09
	10%	$ 32.18	$ 44.29	$ 57.25	$ 71.10	$ 85.90
	12%	$ 22.35	$ 34.46	$ 47.41	$ 61.27	$ 76.06
	14%	$ 11.83	$ 23.94	$ 36.90	$ 50.76	$ 65.55

Risks:

1) Macroeconomic: CBRE's top-line revenue depends heavily on the health of the U.S. and global housing sectors. In 2009, concerns over the housing market almost eliminated commercial real estate activity and caused significant concern over CBRE's bankruptcy prospects as the interest coverage ratio in 2009 barely exceeded 1x.
    a. CBRE is significantly less levered than right before the financial crisis with an interest coverage ratio of 7.42 and LT Debt/Total Assets of only 17.41%. In addition, CBRE and secondary competitor Jones Lang LaSalle are much less levered than the smaller industry players and would likely survive a significant financial downturn while more levered players would struggle to survive. As a long-term investor this could be a very positive industry structure.
2) New Market Entrants: The commercial real estate investment and services market is one that has had very little innovation in recent decades. While the risk is not as great in the commercial real estate and investment space as it may be in the residential space, there are relatively low barriers to entry that could allow new entrants to take share.
    a. CBRE has been buying up many of the smaller players, and while there are a few VC-backed companies (like Compass), there has not been a significant amount of innovation coming from these startups. Right now, the oligopoly-like structure leads to relatively generous margins as pricing power is high from established players.

ESG Thesis: CBRE takes its social responsibility very seriously and was ranked on Barron's 2018 list of "Barron's 100 Most Sustainable Companies." They have committed to a considerable number of goals and have tangible steps and reporting metrics to measure their progress. However, to my knowledge, executive management is not compensated based on these metrics. The program is called Shared Advantage and seeks to maximize CBRE's impact on its communities.

1) Environmental: Morningstar's ESG ratings give CBRE a perfect score on environmental sustainability initiatives. The business model is environmentally friendly, however they have set tangible "Scope 1," "Scope 2," and "Scope 3" goals that are reported on every year to reduce carbon emissions as a company. They have made substantial progress in reducing their carbon footprint over the past two years.
2) Social: CBRE has been ranked among the top companies for diversity and inclusion by both Forbes and Fortune magazines and has seen a persistent increase in women in leadership roles in recent years. CBRE also supports the UN's Ten Principles which focuses on Human Rights, Labor, Environment, and Anti-Corruption. These are particularly important in the emerging economies in which CBRE operates.
3) Governance: Management compensation aligns the incentives of management with the long-term performance of the company through multi-year vesting of options and stock grants. The board of directors comprises nine independent members and the tenth, CEO Robert Sulentic, does not hold the chairman position. The board comprises three women and seven men, nine of whom are over the age of 50.

Name: Sid Rajagopalan
Date: 11/20/2018
Celanese (Ticker: CE)
RajagopalanS19@Darden.Virginia.edu
Recommendation: Long position (Target: $118; Average Target Price: $125)
Darden Capital Management

Company Data	
Price	$101.69
Market Cap	$13.71bn
Enterprise Value	$16.99bn
EV/EBITDA (LTM)	10.2x
P/E (LTM, NTM)	10.6x; 9.1x

Business Description: *Celanese is a global specialty chemical company which produces specialty chemicals and advanced engineered materials. There are two major parts of the business: Materials Solutions and Acetyl Chain. The Materials Solutions division makes engineered polymers that are used for various high-value applications, while the Acetyl Products (which are intermediate chemicals) are used across a variety of industries. The company has been enjoying a leading position due to a vertically integrated chain, large production capacity, operating efficiencies and proprietary technologies. In addition, the company has conducted strategic M&As to continue growth geographically.*

Major segments:

- ***Materials Solutions***
  - ***Advanced Engineered Materials** – This division leverages the company's project pipeline to rapidly commercialize projects. These are specialized in nature and Celanese's flexibility around manufacturing and expertise helps them meet the needs of the customers. Serve broad range of industries including medical, industrial, automotive and consumer industries.*
  - ***Consumer Specialties** – includes cellulose derivatives and food ingredients businesses. Cellulose derivatives – supply acetate tow (fiber used in cigarette filters) and acetate flake (processed wood pulp + acetic acid; it is further processed into acetate tow). There is also a food ingredients business where it produces a sweetener.*
- ***Acetyl Chain***
  - ***Industrial Specialties** – Includes emulsion polymers and EVA polymers business. End uses includes paints, coatings and adhesives, wire/cable and flexible packaging. It will see continued growth especially with expansion in Southeast Asia, which is seeing greater demand for ecologically friendly materials.*
  - ***Acetyl Intermediates** – Intermediate chemistry business which produces acetyl products such as acetic acid, acetic anhydride and acetate esters. The intermediaries are used as starting materials for colorants, paints, adhesives, coatings and pharma. Production sites in China, Germany, Mexico, Singapore and the US. Major uses include paints, coatings, adhesives lubricants, pharma etc.*

Executive Summary: *Celanese competes in a market that is partially commoditized, but the company has done an incredible job of diversifying the business and switching to more value-added and client-specific solutions. The company is not only diversified from an industry standpoint, but it is also diversified geographically. The investment is predicated on a few factors – first, the fundamentals of the business are solid. The company isn't highly levered and is able to deliver outsized returns, while trading at a relative discount. Management has been able to strategically acquire companies over the last few years in order to either vertically integrate or diversify the business. Outside of inorganic growth, the company's CEO has pushed cost-reduction as well as organic growth in order to improve the fundamentals of the business and expanding the margin. In addition, the stock pays a dividend which will provide stable future cash flows for investors, while leaving the opportunity open for buybacks if management believes the stock is cheap. From an industry standpoint, there are a couple of factors which make this industry especially attractive. Growth prospects, especially in terms of EPS, are considered to outpace the S&P 500 at least over the next year or two. The Acetyl market is in it's up-cycle but, more importantly, there are fairly high barriers to entry. The industry is very relationship driven so it is hard to match the rolodex for an up-and-coming firm. In addition, there are major cost advantages that firms such as Celanese enjoys which will take heavy investment to replicate. Finally, it is important to just follow the money. The company is printing cash and free cash flows are not being fairly valued by the market. The investment does come with risks, including the recent trade relations between the US and other countries, especially China. Despite facilities in various geographies, trade tensions will play an impact because China is the largest consumer of acetic products.*

Investment Thesis:

1) **Acquiring Growth** – One of the core competencies of the firm and a major reason for its growth is the success in its acquisitions. It has acquired 4 companies in the last three years, each serving different functions. The most recent acquisition of Next Polymers, which is an Indian based firm, serves to increase its geographic presence in one of the largest markets in the world. The company will continue to fuel growth via acquisitions and has earmarked $1.0bn to continue growth.

   To shed light on some of the key acquisitions recently, SO.F.TER. SPA complements the AEM business. It will be integrated with Celanese's materials capabilities with a portfolio of engineering thermoplastics (ETPs) and thermoplastic elastomers (TPEs). The adaptability of these products is useful in the auto sector, home appliances as well as the footwear market. The Nilit group's nylon and plastics compounding business, acquired in 2017, are also meeting the needs of industrial and auto industries as well as electrical/electronics industries. Nylon is increasing in application and end uses in growth industries. The Omni Plastics acquisitions in late 2017 was again a move to expand its engineered thermoplastic materials and the company has strategic initiatives in place for office furniture, filtration, lawn/garden as well as other specialty applications. These products are all complementary to the current business and are mostly geared towards the AEM segment. By focusing more on specialization, they have become a more diversified company.

2) **Enhanced Growth in High-Margin AEM Business** – The advanced materials business is the fastest growing division for Celanese. By 2019, AEM will account for 40% of earnings, compared with 35% in 2018. Margins have expanded in the EM segment. The segment had 925 new projects in Q3 (58% YoY growth). EM Margins improved 170bps year-over-year due to pricing in excess of raw materials. In addition, the company has been able to cut costs by improving its economies of scale. The current CEO has placed an incentive on cost cutting benefits so that has been an increasing effort for the company. The company only contracted 300 special projects in 2014, but ramped that amount up to almost 3000 by 2017. This will only increase over time to over 5000 contracts by 2020. Over the last several years, there has been a massive increase in this AEM business. Even if there are fluctuations in aggregate revenue due to the nature of acetyl products, they still made a significant profit, which is why the stock continued to rise during a "down-cycle" in the acetate market.

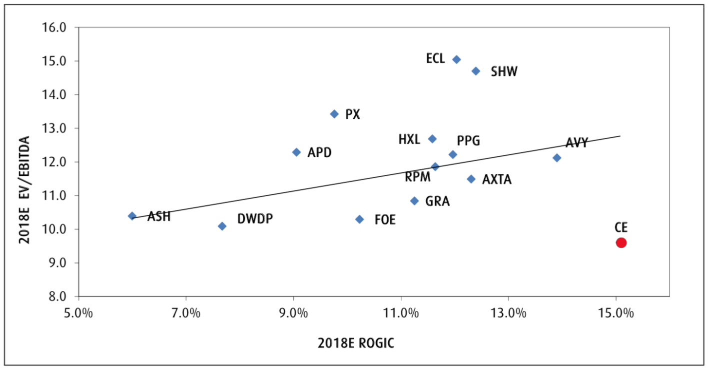
3) **Acetyl Upcycle Continuation** – The Acetyl Intermediates industry has grown as well, with increased income by 91% partly due to increased pricing. Volumes were slightly lower but higher prices reflect the current supply-demand dynamics. Even though some of the end-markets are assumed to have a lower growth potential, such as the auto industry, Celanese's auto business grew 8% last year (despite auto sales decline of 2%). Despite this being a commoditized industry, Celanese has enjoyed improvement in operating margins due to its position as the lowest-cost and ONLY fully integrated global acetyl producer. They monitor pricing trends and maintain incredible flexibility given they have vertical integration. Therefore, they get to control their supply / demand and can quickly adapt to shifting trends. In addition, the company has been able to raise prices as the investments made over time can finally pay off. Celanese will also benefit from a strong methanol market.

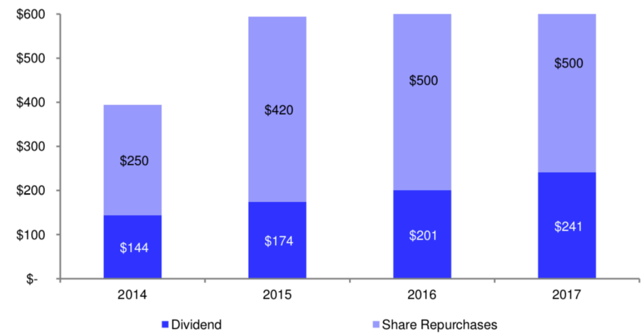
   The pricing power is evident based on the fact that Celanese has been increasing prices consistently. In fact, in the acetate tow business, Celanese has been able to raise prices at twice the rate of cost inflation due to the supply/demand dynamics. Despite downturns in the acetyl market in 2015-2016, gross margins stayed high and the company continued to produce free cash flow and positive net incomes.

4) **High Barriers to Entry** – Celanese's unique business model with its AP Plus acetic acid technology allows it to enjoy a per unit cost advantage across various feedstocks. The company has the ability to shift production and product to regions to maximize returns. The complexity of the chemicals business and the long-term relationships make this a difficult market to enter.

   Even though the switching costs aren't high, the primary industry for specialty polymers (AEM) is typically automobile and medical devices. These two industries account for 45% of revenue. Given the degree to which suppliers and OEMs work in tandem, parts are developed and designed for each specific vehicle. Given that R&D cycle, automakers rarely change suppliers and, in fact, will choose one supplier to be the sole supplier. Therefore, they will typically stick with a manufacturer for the vehicle life cycle (6-13 years). For medical devices, Celanese's products receive regulatory approval along with the medical device. Therefore, there is even less of a chance for them to switch suppliers.

5) **Strong Cash Flow Generation and Capital Allocation** – Company has nearly a 10% free cash flow yield. In addition, the company has been strategic about allocating capital. They have consistently continued buybacks as they have maintained their stock price is fairly cheap. In addition, they have been increasing the dividend, while stimulating growth in the business through M&As and capex investment. The only reason they are able to accomplish all four of these tasks is because of the tremendous free cash flow that the company is generating. Management is expecting a cumulative $34 billion in earnings from 2018-2020 and a $3.6bn of cash flow. While they don't have a specific buyback program in place, they will likely continue it given they have completed buybacks each year. Their plan is to return $2bn to shareholders as outlined in their previous plan. Based on the chart below, Celanese provides the highest returns on gross invested capital, while trading at the lowest multiple in the group. The market has not fairly valued the growth and, with continued EPS increases and raised guidance by the firm, this business should continue to deliver such outsized returns with the hope that the market would eventually fairly value the raw earnings.





Valuation:

A DCF Valuation was used in order to determine the valuation of the firm. Overall, the expected price of Celanese is $118/share based on conservative growth estimates. There is no advantage priced in for buybacks or growth-stimulating acquisitions. The 10.5x terminal multiple is assumed as the baseline using a blend of the Acetic division (9x) and AEM (12x). Over time, the AEM division will be a greater driver of growth. The estimates are relatively conservative with projections even below management consensus for the forecasts.

Enterprise Value	
Cumulative Present Value of FCF	**$4,967.0**
Terminal Value	
Terminal Year EBITDA (2022E)	$2,133.3
Exit Multiple	10.5x
Terminal Value	**$22,399.7**
Discount Factor	0.62
Present Value of Terminal Value	**$13,908.5**
% of Enterprise Value	*73.7%*
Enterprise Value	**$18,875.5**

Implied Equity Value and Share Price	
Enterprise Value	$18,875.5
Less: Total Debt	(3,425.0)
Less: Preferred Securities	-
Less: Noncontrolling Interest	(402.0)
Plus: Cash and Cash Equivalents	734.0
Implied Equity Value	**$15,782.5**
Implied Share Price	133.7
Implied Share Price	**$118.02**

Implied Perpetuity Growth Rate	
Terminal Year Free Cash Flow (2022E)	$1,424.7
WACC	10.0%
Terminal Value	$22,399.7
Implied Perpetuity Growth Rate	**3.1%**

Implied EV/EBITDA	
Enterprise Value	$18,875.5
LTM EBITDA	1,522.0
Implied EV/EBITDA	**12.4x**

Enterprise Value

WACC \ Exit Multiple	9.5x	10.0x	10.5x	11.0x	11.5x
9.0%	113	119	124	129	134
9.5%	111	116	121	126	131
10.0%	108	113	$118	123	128
10.5%	106	110	115	120	125
11.0%	103	108	113	117	122

Implied Perpetuity Growth Rate

WACC \ Exit Multiple	9.5x	10.0x	10.5x	11.0x	11.5x
9.0%	1.5%	1.9%	2.2%	2.5%	2.8%
9.5%	2.0%	2.3%	2.7%	3.0%	3.2%
10.0%	2.4%	2.8%	3.1%	3.4%	3.7%
10.5%	2.9%	3.3%	3.6%	3.9%	4.1%
11.0%	3.3%	3.7%	4.0%	4.3%	4.6%

Risks:

1) **Regulatory/Trade-related Risks** – There are potential impacts based on Chinese-US trade wars. First, CE has some exposure including its AEM segment and its Acetate Tow JVs. If growth in China slows or if there is deterioration in Chinese acetate tow, it could be a risk to the thesis.

2) **Shrinking Margins in EM or Acetyl Pricing** – Some of the business is commodity driven so there will be some volatility due to these acetic products. However, the business has diversified greatly and there is far more pricing power now. The company has been making a positive margin even in down cycles for acetyl, therefore it isn't a major concern for the business. There may also be slightly reduced margins in EM since margins have been fairly high. Regardless, there is incredible amount of free cash flow that will be generated in this business because of the increase in sheer volume of contracts.

3) **Uncertainty related to input costs** – There is always uncertainty related to input costs. If methanol or ethylene costs rise (which are building blocks in its compounds), it would face lower margins unless it is able to pass on those costs to customers (which it has been successful in doing). In addition, the company faces energy pricing risk because it uses low-cost US Nat Gas to produce its commodity chemicals.

4) **Slower customer segments, especially Auto** – almost 1/3 of its customers belong to the auto industry. Given the auto industry is going through a period of change where they are switching to lighter-weight vehicles, more product is required, which is why Celanese was able to see much higher growth. However, if there is a more serious slowdown in the market, this will adversely affect Celanese's business. It would also be affected by the end market falling with regards to Chinese cigarettes.

5) **Acquisition Risk** – Given the company plans to make acquisitions over the next few years, if they overpay for the acquisitions, that could be a risk to its free cash flow yield and returns to shareholders.

Name: Annie Madeira
Nike, Inc. (NYSE: NKE)
Recommendation: Long position (Target Price: $77.15)

Pitch Date: 10/23/2018
MadeiraA19@darden.virginia.edu
Darden Capital Management

Company Data (as of 10/23/18)	
Price	$71.35
Market Cap	$113.6bn
Enterprise Value	$117.9bn
EV/EBITDA	21.7
P/E (LTM)/(NTM)	56.9/22.8

Business Description:

Nike's principal business activity is the design, development, and worldwide marketing and selling of athletic footwear, equipment, accessories and services. Nike is the largest seller of athletic footwear and apparel in the world. Products are sold through Nike-owned stores, Nike's digital platform, independent distributors, licensees, and sales representatives worldwide. Virtually all manufacturing is done by independent contractors, with footwear and apparel produced almost entirely outside of the United States, and equipment produced both domestically and abroad. Nike's products are divided in to six key categories: Running, Nike Basketball, The Jordan Brand, Football (soccer), and Training and Sportswear. Sportswear, Running, and The Jordan Brand are the top sellers in footwear, while Training and Running are the top-selling apparel categories. Nike also markets apparel with licensed college and professional sports teams. Nike's wholly owned subsidiaries include Converse, which designs, distributes, and licenses casual sneakers, apparel and accessories, and Hurley, a designer, distributer and seller of youth lifestyle apparel and accessories. Nike's reportable operating segments are in North America, Europe, the Middle East & Africa, Greater China, and Asia Pacific & Latin America, with headquarters in Beaverton, Oregon. Nike employs 73,100 individuals worldwide (including retail and part-time). Major competitors include: Adidas, Anta, ASICS, Li Ning, Lululemon Athletica, Puma, Under Armour, and VF corporation.

Executive Summary:

Nike is the largest seller of athletic footwear and apparel worldwide. It reinforces its already strong brand recognition through unmatched league, team and individual sponsorship deals with many of the best known, and most visible, names in professional sports (NBA, NFL, MLS, SEC, Serena Williams, LeBron James, Tiger Woods). Nike continues to enter into strategic partnerships with other industry leaders worldwide (WeChat) in order to break into more lifestyle-focused categories. Its strong management team remains committed to innovation and digital expansion through various initiatives like the Consumer Direct Offense, and a dedicated team of research experts.

Investment Thesis:

1) *Investment in future initiatives shows there is substantial room to grow:* Nike has made a consistent commitment to innovation through R&D to improve its digital capabilities, manufacturing efficiencies, and best in class product offerings. It maintains its own staff of specialists in biomechanics, chemistry, exercise physiology, engineering, industrial design, and utilizes advisory boards of coaches, athletes, trainers, equipment managers, orthopedists, podiatrists, and athletes to design, develop, and test its industry-leading products. Its Consumer Direct Offense initiative, which is still in its early stages, has reiterated this commitment to innovation and digital expansion, and has already delivered encouraging results. Its recent experiments with store experience improvements (Nike Live) and app development (SNKRS) proved very successful and will soon be replicated in more regions.
2) *Experienced management team:* Nike's management team consists of 8 executives with a variety of experiences internally and externally. Time at the company ranges from 30 years to 3 years, which I believe provides and important mix of brand commitment and knowledge of the business, with outside industry experience.
3) *Brief drop in price:* While Nike's stock price has been steadily increasing in the last 10 years, the Kaepernick campaign and 1Q earnings release both caused a temporary dip, making this a strong time to buy. Coinciding with the marginal drop in price was record brand engagement as Nike's Google search index hit all-time highs. Similarly, Nike added $6 billion in market value since the release of the campaign, dispelling concerns over boycotts of the brand.

Valuation: *Based on DCF*

Scenario Analysis	Price	Upside to Current Price	Key Drivers
Bull	$110.48	55%	Slightly higher revenue growth across all regions, with more accelerated growth in Greater China, and APAC & Latin America. Slight increases in cost of sales and SG&A to support growth, with a 2.5% terminal growth rate.
Base	$77.15	8%	Consistent revenue growth across all regions, with more accelerated growth in Greater China. 5% increase in cost of sales year over year, and 7% increase in SG&A to support growth initiatives. 2.5% terminal growth rate.
Bear	$61.32	-14%	Decline in sales across all regions, still with slightly more growth in Greater China. Decreased costs slightly due to drop in sales. 2.5% terminal growth rate.

Risks:

1) Economic Slowdown/Cycle
   - *Mitigant: Global diversification; price flexibility through manufacturing efficiencies; proven solid performance through GFC*
2) Exposure to currency risk
   - *Mitigant: Foreign exchange risk management programs utilizing derivatives (options, forward contracts); global diversification of manufacturing and sales*
3) Exposure to changing trends in the retail industry
   - *Mitigant: Dedicated team of athletes and industry experts anticipating/adjusting to trends and ensuring product diversification*
4) Expiring sponsorship deals
   - *Mitigant: renewed NFL contract for 8 years starting in 2020; commitment to upgrading designs with athlete input; historic/consistent dominance in the space*