ANNUAL REPORT 2016

BASIS: Bond And Securities Investing by Students

January 1 – December 31, 2016

Pamplin College of Business

Submitted to the Virginia Tech Foundation in February 2016

For the names of members who contributed to this report, please consult the last page of the report.

bond and securities investing by students BASIS

Table of Contents

About BASIS 1
Letter from the Executives 3
Performance Overview 6
Industrials and Utilities (I/U) 11
- Sector Overview 11
- Performance 11
- Holdings 14
- Looking Ahead 15

Financials 16
- Sector Overview 16
- Performance 16
- Holdings 18
- Looking Ahead 18

Rates Sector 20
Treasuires 20
- Sector Overview 20
- Performance 20
- Looking Ahead 22

SAS 23
- Sector Overview 23
- Performance 23
- Looking Ahead 24

Placement 25
Special Thanks 25
Management 26

bond and securities investing by students
BASIS

About BASIS

BASIS is the largest completely student run fixed income portfolio in the country. We manage five million dollars for our client the Virginia Tech Foundation by investing in fixed income securities. BASIS has a dual mandate of generating competitive returns for our client while striving to provide an unparalleled educational experience for each of our members. Through their experiences of managing real money, our members are able to go beyond the classroom and separate themselves in the workplace.

Many students on college campuses have extensive knowledge of equity markets, but only a few can grasp the inner workings of the fixed income market. The fixed income market is rarely talked about, but it plays a huge a role in our markets as the bond market is one and half times great than the equities market. The fixed income market is known to be one of the more challenging markets to grasp and understand. That is why BASIS requires its members to be some of the top students that Virginia Tech has to offer. In addition to being bright, succeeding in BASIS and the fixed income markets requires that our members must have an unrivaled work ethic to compete at the highest level. Our members received the best learning experience a college organization can offer which is why our members are at the top of their recruiting class for any career path they wish to pursue.

BASIS selects members from all majors across the University. That allows us to have the best talent and a more diverse set of viewpoints. In order to select the best performing credits for our portfolio, our members contribute their diverse range of skills such as finance, accounting, economics, communications, engineering, mathematics, and programming. Members with a leadership role in BASIS have a wide range of duties that require them to develop countless skills for their future employer while simultaneously delivering unparalleled credit analysis to the group. Members are asked throughout the year to provide credit research to the group on topics such as stock buy backs' effects on credit spreads to other topics such as interest rates movements' effects on insurance companies' earnings. Members are required to follow certain companies, and they must stay up-to-date on current news related to their holdings. They also must send in quarterly reports when earnings are released for their respective holdings. Members use a wide range of resources to do their analysis such as Microsoft Excel to create professional quality models and graphs, and Bloomberg Terminals to uncover trends of which the average investor may not be aware. Finally, our students must have top-level communication skills in order for the portfolio to succeed. They are required to present their thoughts to the group and must be able to defend their opinions while getting questioned from the rest of the organization. Through all this experience, our members grow immensely not only professionally but also personally.

In order to achieve the highest returns for our client, our analysts are divided into four sectors plus a new task group. Analysts specialize in their respective sector. The four sectors of BASIS are Treasuries, Sovereigns/Agencies/Supranationals (SAS), Financials,

Industrials/Utilities (I/U), and our newly formed group is the Quantitative Group. The analysts of the Treasury sector help our executive team find the optimal positioning on the yield curve while monitoring American macroeconomic events. They develop tools that allow them to predict factors important to portfolio performance such as inflation and short term yield curve movements. Our SAS sector covers US agencies and also can invest in sovereign debt as long as it is issued in USD. SAS has the tough task of understanding and predicting the movements of foreign currencies, developing analysis for foreign macro events – especially changes in policies by foreign central banks. The Treasury and the SAS sector send daily updates to the group about interest rate movements and daily world events. Their updates allow all BASIS members to have the latest information when making an investment decision. The Financials and I/U sectors handle the task of finding the best possible credits for our portfolio. Analyst keep up-to-date on earnings calls and build forecasting models about future earnings in order to get a leg up on the market. Those models will better allow our members to see if a company has a chance of a possible downgrade in the future. Along with building models in Excel, our analysts keep up-to-date on industry trends that could have an effect on our holdings' cash flows. We recently established a new group that focuses on in-depth quantitative analysis. The group focuses on making tools that are informative and easy to use for all members.

Finally, members with leadership roles in BASIS have duties similar to Fortune 500 companies' executives. BASIS executives train new members, foster open line of communication with all members, enforce deadlines, and ensure that BASIS is producing high quality work. BASIS executives make decisions regarding portfolio strategy and tactical allocation. Executive members vote as part of an investment committee during buy pitches, and once a buy pitch has been approved, the authorized traders contact our four brokers to execute the trade. While the executive team mainly focuses on ensuring competitive returns for our client, they also do a wide range of others things for the group. The executives supervise recruiting, they make human resource decisions, they work with our faculty advisor, and finally they make presentations to the Virginia Tech Foundation, Pamplin College of Business and other parties.

BASIS celebrated its 10th year anniversary this year, and it's truly amazing to see how much this organization has grown. The Capital Call of $400,000 this year caps a total of $2.5 million returned to the Foundation over our 10 years of managing the portfolio. The support from the Foundation, the College, and the Department is why BASIS is able to produce some of the best college graduates in the nation while also having returns that compete with some of the best professional bond funds in the world.

Letter from BASIS Executive Officers

Dear Virginia Tech Foundation,

Geopolitical events and monetary policy drove the fixed income markets in 2016. BASIS had an unparalleled opportunity to examine how both micro and macro forces influence movements in the yield curve. Coming off the first Fed rate hike in almost a decade, 2016 started out with a bang. Concerns of Chinese GDP growth, European banks, and a bottomless pit for commodity prices, meant recession fears were surfacing. However, positive data coming out of the US (1.6% 4Q15 GDP growth) along with increased confidence coming from large institutional investors and rebounding commodities prices helped to eased concerns over a global slowdown. The UK referendum on European Union membership quickly changed investor's minds as the "Leave" vote prevailed. Yields on the 10-year Treasury plummeted to the lowest levels ever, touching 1.37%, while the Pound hit a 30 year low of $1.33 per Pound. Even with the Eurozone in turmoil, US economic data continued to impress, beating expectations and showing that the business cycle still had room to run. Following the populist wave that was running through Europe, the US elected Donald Trump to the office of President in November. With the election came the "Trump rally." Equity markets pushed all-time highs with the Dow pushing towards 20,000 all while signs of a bear market in bonds began to surface. Proposed plans of tax cuts, infrastructure spending, and pro-business and expansionary policies painted pictures of economic growth and a revival of inflation that helped the yields on the 10-year Treasury skyrocket from 1.4% to 2.4% in just one month. Stronger economic growth, an uptick in inflation, and an improving labor market gave the Fed "room" to raise rates in their December 2016 meeting. It is worth noting that they, similar to the end of 2015, highlighted plans to raise interest rates 2-3 times during the year. BASIS identifies the major themes in 2017 as the international divergence of monetary policies, the introduction of fiscal policy in the US, and the potential for de-globalization.

BASIS's performance for calendar year 2016 was 3.61%, underperforming our benchmark by 103 basis points. Our group strives to outperform our benchmark and has been taking actions throughout the end of the Fall 2016 semester and the beginning of 2017 to improve both relative and absolute performance. We believe that we have identified the steps necessary to position our portfolio more favorably for our investment horizon. Throughout the year, we maintained an overweight duration with a preference towards the long end of the curve. That was a favorable view for us during the start of the year given recession fears and increased volatility. However, as the year progressed, our view on the markets began to change. We now see a path for multiple rate hikes in 2017 as well as an increase in inflation expectations that we believe will push the entire curve upwards. With our view, we have taken a slightly underweight duration position with focus on 5-10-year buckets. We believe that with the divergence of monetary policy between various central banks, foreign investment will flow into the US holding the belly and long-end of the curve down slightly while the short-end rises with Fed hikes. We see a path for all rates to rise albeit in a bear flattener scenario. Looking at the US Treasury Actives forward curve, the market is currently pricing in that same bear flattener scenario.

The inflection point appears to be around the 5-7 year buckets. We also believe that the forwards curve is underestimating inflation as evidenced by the projected rise of both the 20 and 30 year (approx. 11 basis point rise throughout 2017). With that view, we are planning to hold our underweight duration play for the first half of 2017 and gradually transition towards an overweight duration as the Trump administration matures and we gain a clearer picture of the new administration.

BASIS had a difficult task of analyzing various credit holdings and potential opportunities. Given the record year for debt issuance and just over five trillion dollars in announced and completed M&A in 2016, members gained experience examining how corporate actions affect bondholders. Additionally, we have had the opportunity to analyze and make decisions on numerous tender offers. Looking forward, as the current credit cycle continues to mature, we find it increasingly important to look for healthy credit metrics as well as a company's distribution of debt by maturity bucket. We believe that will ultimately help us pick better credits on a risk/return basis and move towards our goal of becoming overweight credit and underweight Treasuries.

BASIS continues to focus on its new member recruiting and on improving our top-level junior analyst training program. As stated in last year's annual report, we moved our main recruiting to the fall. We accepted two new analysts who are transfer students in the spring of 2016 semester. This past fall we accepted 15 members into our group, which brings us to a total of 35 members. We took in a large class, because the quality of the applicant pool was unusually strong. All of our accepted junior analysts from the fall 2015 recruiting class passed the junior analyst exam. That high pass rate speaks volumes to the teaching abilities of our older members. We continued our mentoring program, as a way for older members to nurture the development of our newer members. Our training program continues to improve and because of the now two semester training program, our new members are performing better in BASIS and are better able to separate themselves at their internships. The first semester of training focuses on the operations of BASIS and doing a credit analysis, while the second semester of training focuses on bond math. Along with our junior analyst training, we also require outside work for new members so they are constantly improving. We require our new members to get Bloomberg certified so they are efficient and can effectively use our resources. During JA training, we also assign projects throughout such as a career project, where new members have to contact alumnus to learn about the alumnus's career. That project serves two purposes in the development of our members: one it allows them to learn in depth about the careers they are pursuing, and two it allows our members to develop networking skills that are vital for the business world. By becoming better connected with top notch professionals, our members can receive top notch advice and experience early, so they can give back sooner in their BASIS career to the portfolio. Also, during their first semester, new members have to give an abridged credit pitch to the group.

In 2016, we kept the four-sector organizational structure in order to allow our analysts to continue to specialize in the areas that interest them most. In December, it was proposed and approved to add a new division to BASIS called the Quantitative Group.

The group will be shaped and molded throughout 2017. The founding members of the Quant Group are some of the more experienced members of BASIS. The Quant Group will allow us to attract more quantitatively-minded people and increase our appeal to mathematics and engineering majors. It's exciting to think about the materials and models they will be able to produce in 2017. All sectors will produce newsletter articles in 2017, those articles will allow our members to research current events that interest them and gain more experience writing professionally. Sectors also have bi-weekly presentations where they present analysis and insight about the credit markets to the group. Those presentations are followed with question and answer sessions.

Although BASIS's chief goals are to provide professional level portfolio management and a world-class educational experience, we are also dedicated to giving back to the university and the general public. We had several events through the year that were open to the public including Bloomberg trainings, where we taught students how to use the Bloomberg terminals as real Wall Street traders do. BASIS had a week full of events for our 10th anniversary. During that week, we provided the public with resume reviews, a demonstration of an actual bond trade, and finally a panel discussion with our senior members and one of our alumni from 2006. It was a huge success, and BASIS can't wait for another decade of improvements and prosperity. We also visited a local high school and taught them about currency movements.

Mark and I were elected at the end of the fall 2016 semester to serve as CEO's for the spring 2017 semester. We are very grateful for the opportunity to serve as Co-CEOs of the group.

We are extremely thankful for the opportunity that the Virginia Tech Foundation offers us. We realize this is a once in a lifetime opportunity and experience that is not offered at many other universities. Thank you to all members of BASIS who put in countless of hours of work to make sure that BASIS continues to provide the best materials possible. We could not do it without you. The members of BASIS are our colleagues, but more importantly we are proud that the members of BASIS are our lifelong friends. We are also grateful for the unsung heroes of BASIS, our alumni. They give so much back to us, and when we graduate we will do the same. Finally, we would like to extend a huge thank you to our faculty advisor Dr. George Morgan. He puts just as much time in as our members and goes over and beyond of what is expected of him. He is our biggest supporter and always puts our interests ahead of his own, and we can't thank him enough for that. BASIS would not be what it is today without him.

We look forward to another great year of investing, learning, and conquering new challenges.

Best Regards,

Mark Edwards, Co-CEO

Mike Orcutt, Co-CEO

Performance Overview

Figure 1: BASIS Return vs. Index

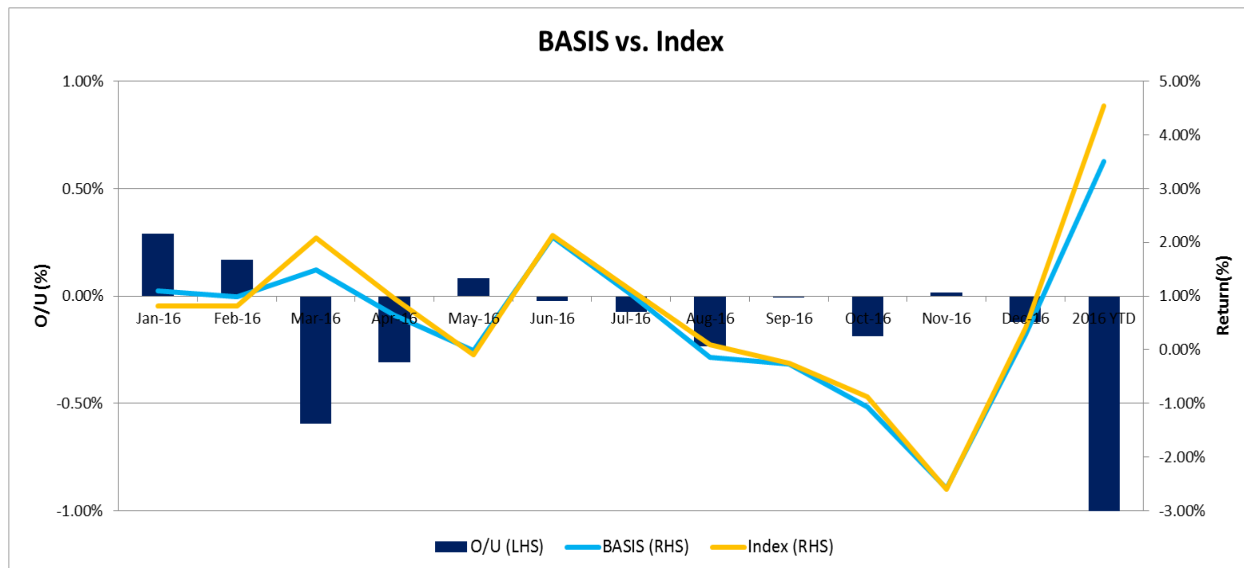


Table 1: BASIS Return vs. Index

	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	2016 YTD
BASIS	1.10%	0.99%	1.48%	0.64%	-0.01%	2.10%	1.03%	-0.14%	-0.26%	-1.07%	-2.59%	0.28%	3.51%
Index	0.81%	0.82%	2.08%	0.95%	-0.10%	2.13%	1.11%	0.09%	-0.25%	-0.88%	-2.61%	0.40%	4.54%
O/U Returns	0.29%	0.17%	-0.60%	-0.31%	0.08%	-0.02%	-0.07%	-0.24%	-0.01%	-0.19%	0.02%	-0.12%	-1.03%

Table 2: Portfolio Duration versus Index in 2016

	January 1, 2016	April 1, 2016	September 30, 2016	December 31, 2016
BASIS	6.58	6.55	6.41	6.39
Index	6.24	6.43	6.74	6.46
O/U	5.55%	1.96%	-4.85%	-1.05%

Table 3: Sector Breakdown by Market Value

	January 1 Market Value	% Total	April 1 Market Value	% Total	September 30 Market Value	% Total	December 31 Market Value	% Total
Cash	$ 903.00	0.02%	$ 205,563.61	3.94%	$ 161,423.00	3.00%	$ 152,261.67	3.17%
I/U	$ 2,160,803.00	42.85%	$ 2,188,261.39	41.96%	$ 2,213,875.00	41.18%	$ 2,357,739.65	49.03%
Financials	$ 1,413,722.00	28.03%	$ 1,257,646.31	24.11%	$ 1,374,376.00	25.57%	$ 415,718.57	8.65%
SAS	$ 515,347.00	10.22%	$ 522,173.81	10.01%	$ 421,471.00	7.84%	$ 997,489.31	20.75%
Treasuries	$ 952,463.00	18.89%	$ 1,041,985.67	19.98%	$ 1,204,726.00	22.41%	$ 885,115.40	18.41%
Total	**$ 5,043,238.00**		**$ 5,215,631.00**		**$ 5,375,872.00**		**$ 4,808,319.80**	

BASIS returned $400,000 to our client between Sept 30th and Dec 31st

Figure 2: Duration Contribution (January 1)

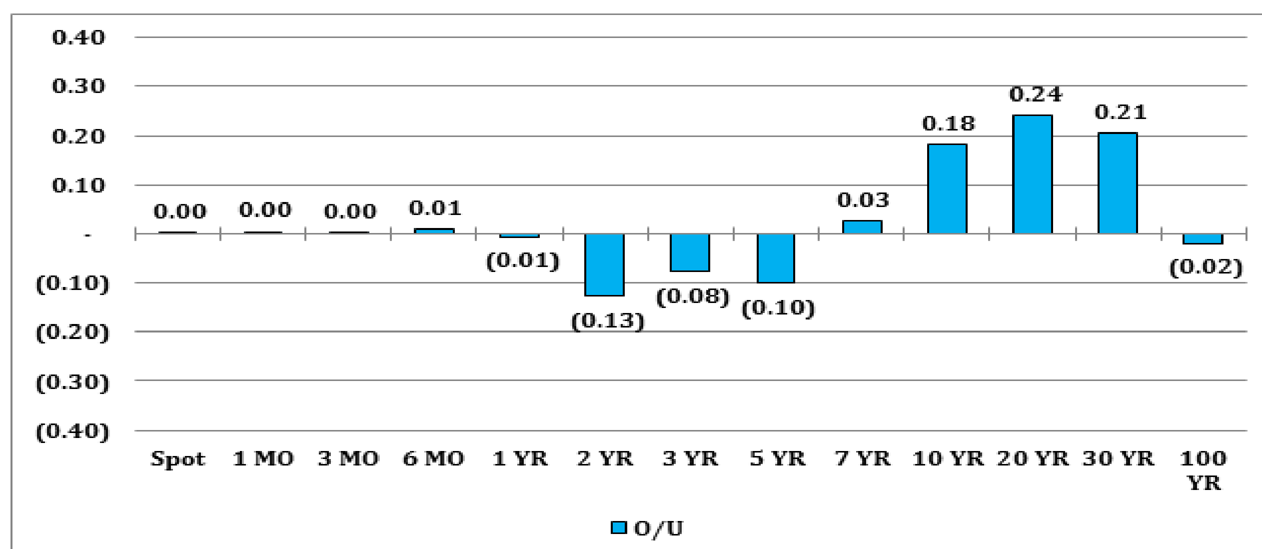
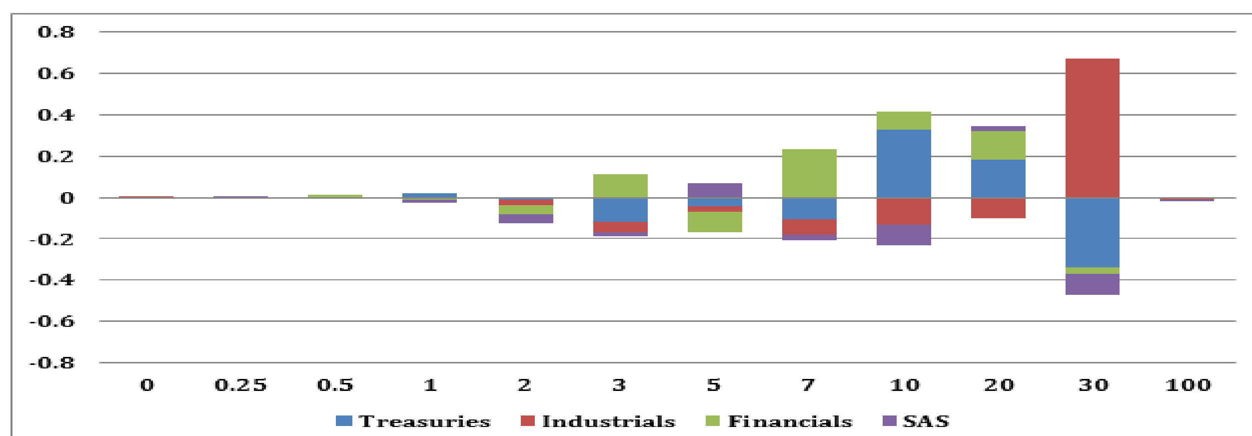


Figure 3: O/U Sector Duration Contribution (January 1)



In the first quarter of 2016, BASIS achieved two months of outperformance. Figures 2 and 3 show the portfolio's positioning at the start of the year. Because we favored higher rated US-centric credits, we escaped most of the carnage taking place with some of the energy and lower credit rated names. During January and February, we outperformed the index by 29 bps and 17 bps, respectively. March was the first month of underperformance in 2016. Continuing the market rebound that began in February, credits that were higher risk became the popular trade. Our strategy to stay away from such names because of fears that credit cycle was nearing an end ultimately led to us being about 60 bps under the index.

April was another month of relatively poor performance to the index driven by an underperformance of 43 bps within I/U. Treasuries also slightly underperformed by 1 basis point in April. Going into the summer, we bought 100k positions in WFC 4.125% 08/15/2023 and UNH 2.875% 12/15/2021 and sold 100k in WY 7.375% 03/15/2032. Those transactions allowed us to increase our exposure to financials and health care while reducing exposure to Weyerhaeuser that we felt had too much credit risk related to commodities exposure. Buying 100k in T 1.375% 04/30/21, 36k in T 2.5 02/15/2046, and 38k in T 4.5% 02/15/2036 allowed us to keep our cash balance relatively low going into the summer while increasing our position in long UST. That enabled us to move our Treasuries portfolio as much as possible toward a bull-flattener positioning and achieving our overall portfolio duration goal going in to the summer.

During May and June, BASIS saw somewhat of a reversal in performance. In May, we outperformed by 8 bps and in June we underperformed just slightly by 2 bps. Those were primarily driven by I/U underperforming less significantly by 4 bps in May and 2 bps in June. Treasuries drove performance in June as our Treasuries sector outperformed by 27 bps due to our Treasuries position on the curve and the flight to quality caused by Brexit concerns that drove Treasury yields down.

A characteristic of our portfolio that adversely affected our returns is our lack of credit risk and energy exposure. In previous semesters, our bearish outlook on emerging markets, commodities, and the global economy as a whole drove us to focus on purchasing high quality, US-centric names. Our portfolio is therefore overweight A and AA rated credit and underweight BBB rated credit.

That adversely affected our returns in 2016 as BBB credits rallied significantly compared to their A and AA peers. That is evidenced by the poor returns in I/U during the months of March, April, and August. In those months, commodity-related sectors outperformed as prices stabilized and second quarter earnings in the sector were better than expected. Given our significant underweight position in energy and that a large portion of BBB names in the index are energy or mining companies, BBB energy names rallied, causing our I/U sector to underperform more than any other months, with underperformance of 93 bps, 43 bps, and 44 bps in March, April, and August, respectively. We plan to fix those areas of weakness in our portfolio by adding exposure

to BBB and BBB- credits and energy names to mitigate underperformance from subsequent rallies as we are increasingly bullish on the energy sector.

August was another month of underperformance for our portfolio as we underperformed the index by 24 bps. That was driven by a 44 bps underperformance in I/U and 11 bps underperformance in Treasuries, somewhat offset by Financials overperforming by 7 bps. Although a relatively slow month for the markets, Treasury yields rose across the curve as positive economic data and comments from Chairwoman Yellen hinted towards a September rate hike.

In September, BASIS underperformed the index just slightly by 1 bp. Performance was hindered by our I/U and Treasury sectors that underperformed by 11 bps and 1 bp, respectively. That underperformance was countered by outperformance in our Financials and SAS sectors which outperformed by 8 bps and 22 bps respectively. Our Financials outperformance can be attributed to the increasing likelihood of a December rate hike and the subsequent performance enhancement that banks should see in their revenues from such a hike.

In October, we executed a series of trades designed to meet the $400k capital call to the VTF and to reposition our portfolio to reverse the trend of underperformance we have seen in 2016. Our ORCL 4.125% 05/15/2045 bonds were sold. That reduced our overweight positions both within the Technology industry and within the 30 year bucket in I/U, where we are heavily overweight. We also sold $80k of Ford 6.50% 08/01/2018 bonds. That decision was reached because of our belief that auto sales will experience declining growth and because of our desire to reallocate these funds toward increasing exposure in an industry such as Energy or Consumer Goods. We also sold $100k MS 7.250% 04/01/2032 bonds. That decision was reached in order to reduce our portfolio's largest exposure to one counterparty and not become significantly more overweight Financials as the portfolio is repositioned after the $400k capital call. We chose to sell our 2032 MS position rather than our 2023 MS position because we believed the 2023 subordinated notes would perform well given the very high capital adequacy ratios of MS, requiring less issuance of Tier 2 Capital. We also adjusted our positioning in Treasuries by selling $220k in T 2.75 02/28/18 and T 3.125% 4/30/2017 and buying $70k in T 2.5% 02/15/2046. Those trades reversed our underweight position in the 30-year bucket for Treasuries, creating a more defined flattening bet on the long end of the curve.

In November, following the surprise election of Donald Trump, the bond market witnessed one of the largest selloffs in recent years. Driven by strong relative performance in both our IU and SAS holdings, BASIS was able to outperform the index by 6 bps. Our Treasuries holdings proved to be the main drag on performance as the long-end of the curve sold off drastically. Additionally, November came with a change in the management team and a re-evaluation of the positioning of the portfolio. Expecting a continued selloff in Treasuries, we began crafting a plan to reduce our exposure and become underweight Treasuries and overweight credit. As a result of those trades in October, the $50k of WFC 5.625% 10/15/2016 maturing in October, and the $72k of P&G 4.7% 02/15/2019 being

called on a make whole call provision on November 3, we had significant capital to put towards buys. To move towards our desired positioning, we purchased $100K of O'Reilly's Automotive. Declining auto sales and the inverse relationship it holds with auto parts dealers was the main motivation of the buy.

Closing out the year, we underperformed the index by 12 bps in December. Our SAS holdings helped performance by outperforming the index by 25 bps. Throughout the month, we began to shift the portfolio to an underweight duration position betting on multiple Fed rate hikes and higher than expected inflation. To help us move towards our goal, we sold $50K of T 1.75% 1/31/2023 and $150K of T 2.125% 05/15/2026. The proceeds from those sells, along with additional capital we gained from the tender of our LNC 8.75%, went towards the $100K purchases each of Cubesmart LP (2026), Diageo (2022), and Enterprise Product Partners (2019). Throughout December, we made substantial progress towards our positioning goals.

Looking forward to 2017, we hope to continue to make progress towards our positioning of the portfolio. With numerous buy presentations scheduled, we are going to get the chance to re-evaluate our credit holdings from a relative value standpoint. That will allow us to see if we are getting the best return given the risk taken. Additionally the re-evaluation will clear the way for us to sell some holdings, freeing up cash needed for future purchases. We plan on using the funds to purchase a SAS holding, thereby reducing our dramatic underweight position in SAS and benefiting BASIS from a diversification standpoint as we will reduce losses during times when SAS performs well. We are also focused on increasing exposure to sectors that we believe have the potential to outperform in the coming years. Examples would be in financials (banking or insurance), healthcare (big pharma), and consumer goods (focusing on producers of American goods).

Figure 4: Duration Contribution (December 31)

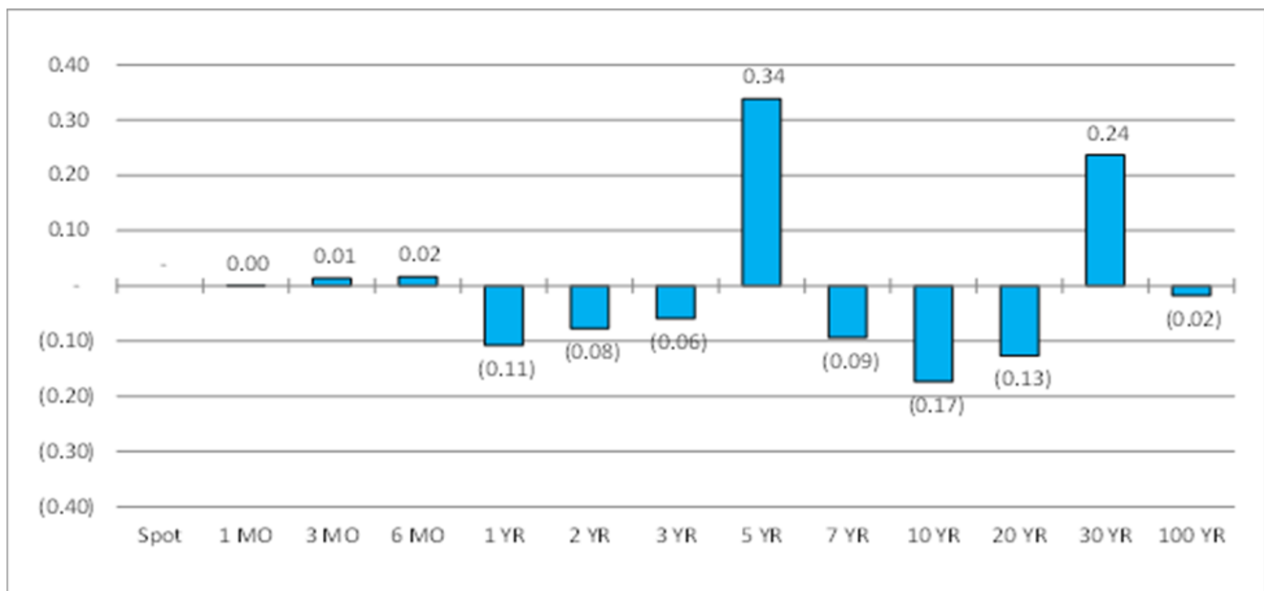
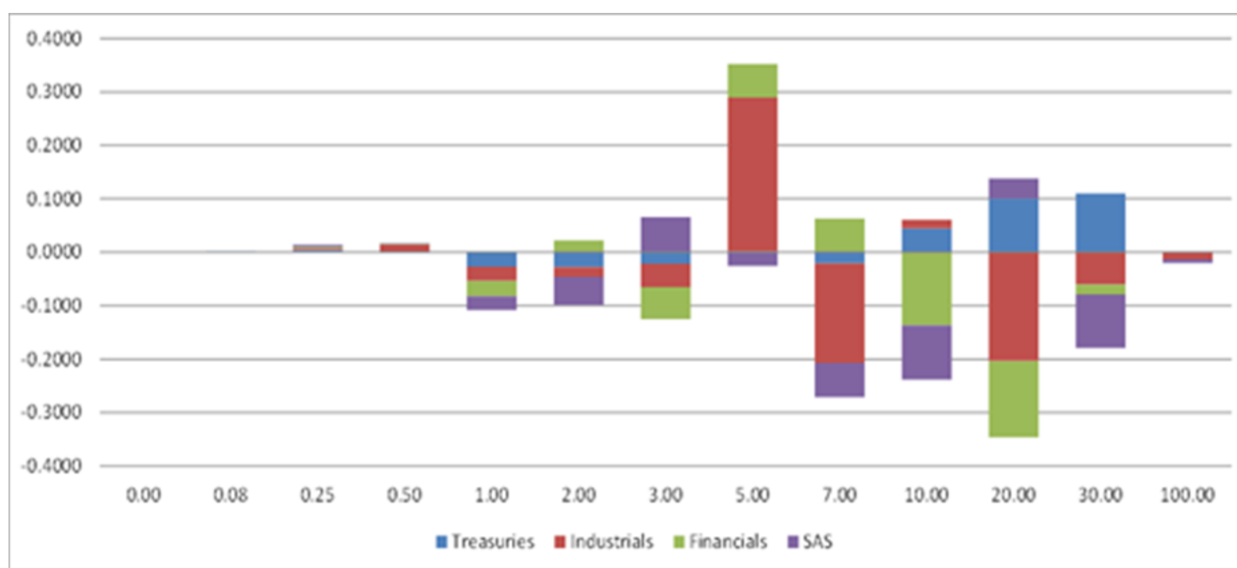


Figure 5: O/U Sector Duration Contribution (December 31)



Industrials & Utilities (I/U)

Sector Overview

During 2016, I/U's performance was driven primarily by our underweight position in energy and metals and mining. We went into the beginning of year, overweight the long end of the curve and underweight in energy and foreign markets exposure holdings. At the start of May, the I/U team slightly increased our exposure to the health care industry with purchases of Teva and United Health Group, after the sale of Allergan in March. We went into the summer positioned for a bull flattener overweight the long end of the curve and underweight the short end. Credit performance was mostly driven by the rebound in commodities and the British exit from the EU. Absolutely, we performed well in the early months of the summer, due to the flight to quality during market volatility caused by Brexit at end of June, but our underperformance in August was poor due to the steepening of the yield curve. In the month of November, the I/U sector did not perform well absolutely, but November was the only month that the BASIS I/U portfolio outperformed the index in 2016. In the final month of the year, we made an effort to alter our sub-industry positioning and become more neutral with the index. First, we brought up our exposure in energy with the purchase of Enterprise Product Partners bonds, and then we brought up our exposure in REIT's with the purchase of CubeSmart bonds. That was a move to play into our strength of investing in the best credits in the industry and try to not make any large bets on the sub-industries themselves.

Performance

In the first two months of year, we beat our index quite soundly. Our outperformance was mainly due to underweight exposure to energy and the Asian markets. We did not make any trades in the beginning of the year. In the months of March and April, we greatly underperformed the index mainly due to our very underweight position in the energy sector. With energy prices rallying, the energy sector tightened from 415 bps to 244 bps from March 1st to May 1st. That greatly affected our performance as I/U's duration contribution in energy was vastly exceeded by the sector's duration contribution to the index. Thus despite the fact that March was our month with the strongest absolute performance (2.56%) of the year, our performance did not achieve the same level as the index's return. I/U's performance was also affected by our overweight position in long higher-rated credit. March and April saw significant improvement within the U.S economy, and a risk-on sentiment from investors led to steepening of the credit curve and outperformance within lower-rated IG credit. Due to investors wanting to take more risk, we saw investors chase low grade credits and shorter maturity securities. That combined with improvement in the energy sector led to our significant underperformance.

Over the summer, energy's continued rally was muted by investor's flight to quality during market volatility caused by Brexit. I/U was well-positioned for the volatility by being overweight higher-rated credit and overweight the long end of the curve which outperformed during the summer months. That outperformance countered energy's further rally from 244 bps to 189 bps spreads from May 1st to August 31st. In September, energy widened slightly to 191 bps. September's underperformance was mostly due to our overweight position in long credit. I/U's performance was also bolstered by the return of the American consumer in our consumer and capital goods holdings. Record automotive sales gave our Ford holding strong returns, and our overweight position in capital goods benefited from the continuous improvement in the U.S economy. However, we decided that October would be a good time to sell Ford with the rate hikes potentially influencing potential car buyers. We then purchased O'Reilly Auto Parts as a play on the fact that people will try to fix their cars more than we expect them to buy new.

Our underperformance in October can be partly attributed to the rally in spreads. Spreads during the month rallied approximately 10bps from 140 bps to 131 bps before ending the month at 138 bps. The movement in spreads were due to higher UST yields, stronger than expected 3Q earnings, rising political uncertainty, and higher issuance volumes driven by strong M&A. Our performance was most influenced by rising UST yields, as I/U was significantly overweight the 30-year bucket and underweight the belly and short end of the curve. We saw the 10's-30's credit curve steepen by approximately 2 bps, while the overall curve steepened by approximately 6 bps. That steepening of the curve had the greatest influence on our returns as we were positioned for a flattener. November was the first positive return since February. That was mostly due to the 10's-30's credit curve flattening by approximately 15 bps while the 5's-10's credit curve flattened by only 5 bps. I/U also saw improvement in credit quality across its holdings as

leverage excluding commodities increased by 0.03x to 2.51x, which was the smallest increase in leverage since the fourth quarter of 2014. Interest coverage excluding commodities improved by 0.04x to 10.28x driven by a lower yield environment and marginal EBITDA growth.

In December, we remained overweight I/U, specifically the long end of the curve. Again, we saw the long end of the credit curve flatten by 11 bps. However, our poor performance was driven by being underweight the 5, 7, 10, and 20-year buckets which also saw a substantial decline in yields. The decline in long term yields was in part due to the rise in short rates orchestrated by the Federal Reserve. Technicals in credit continued to improve as net issuance slowed and ended the year at $1.18tr and strong foreign demand continued despite rising currency hedging costs. Those in part contributed to spreads rallying 46 bps during 2016 providing an overall positive nominal return for the year.

Figure 6: I/U Subindustry Positioning (as of 12/31/2016)

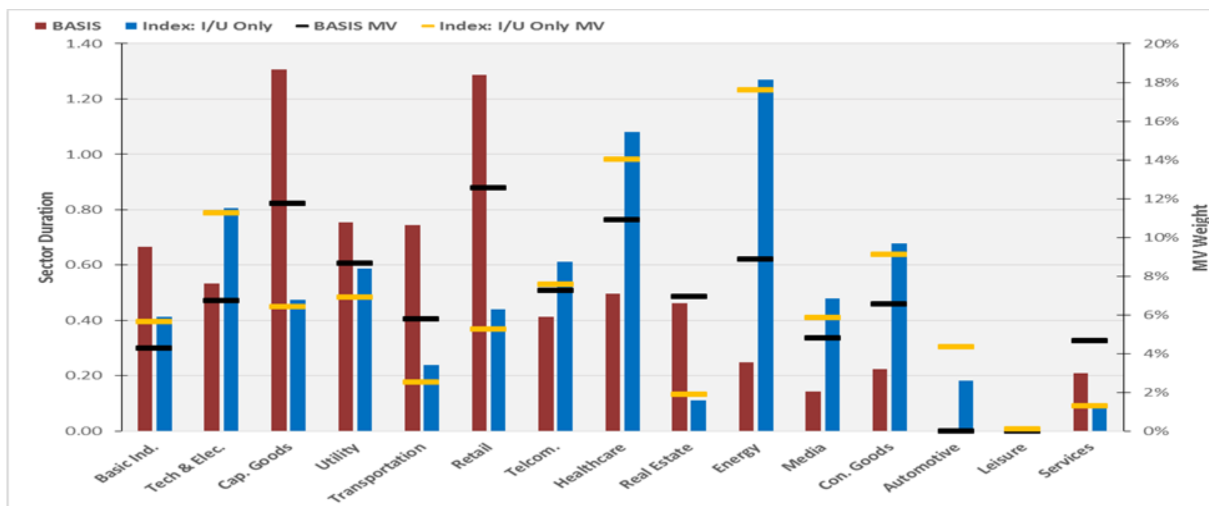


Figure 7: I/U Return vs. Index

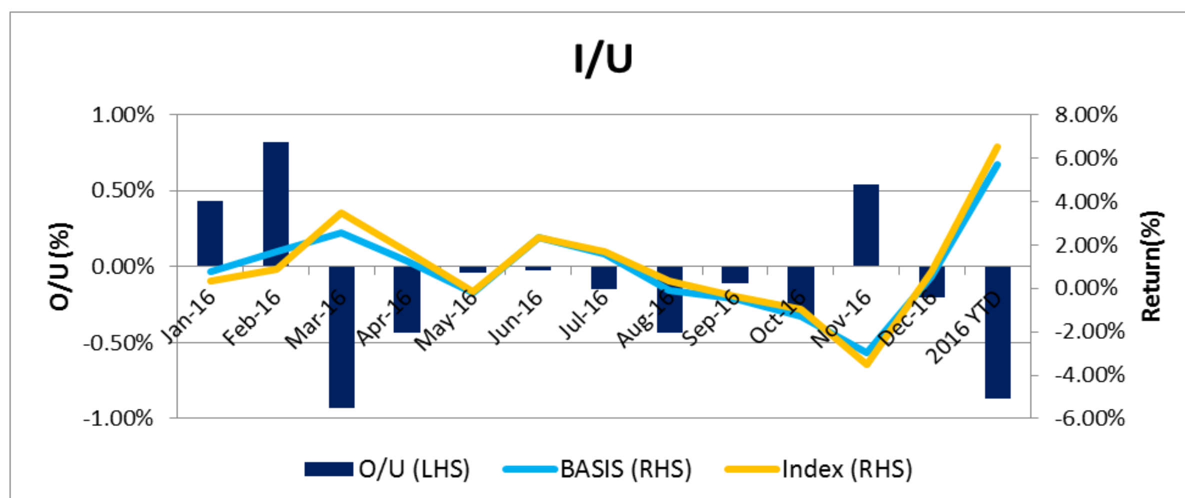


Table 4: I/U Return vs. Index

	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	2016 YTD
BASIS	0.78%	1.69%	2.56%	1.24%	-0.21%	2.34%	1.57%	-0.08%	-0.48%	-1.31%	-2.98%	0.56%	5.68%
Index	0.35%	0.87%	3.49%	1.67%	-0.17%	2.37%	1.72%	0.36%	-0.37%	-0.99%	-3.52%	0.76%	6.54%
O/U Returns	0.43%	0.82%	-0.93%	-0.43%	-0.04%	-0.02%	-0.15%	-0.44%	-0.11%	-0.33%	0.54%	-0.20%	-0.87%

Holdings

Table 5: I/U Holdings

Security
CBS 5.750% 04/15/2020
CSCO 2.200% 02/28/2021
CUBE 3.125% 09/01/2026
DE 8.100% 05/15/2030
DGELN 2.875% 05/11/2022
EQR 4.625% 12/15/2021
ECL 4.350% 12/08/2021
EMR 5.000% 04/15/2019
EPD 6.500% 01/31/2019
EL 5.550% 05/15/2017
EXC 6.200% 10/01/2017
GE 6.750% 03/15/2032
INTC 4.800% 10/01/2041
IP 4.800% 06/15/2044
XOM 8.625% 08/15/2021
NOC 3.850% 04/15/2045
ORLY 3.800% 09/01/2022
POTCN 3.250% 12/01/2017
EIX 3.600% 02/01/2045
SYK 4.375% 01/15/2020
TEVA 2.950% 12/18/2022
UPS 6.200% 01/15/2038
UNH 2.875% 12/15/2021
VZ 5.150% 09/15/2023
WMT 7.550% 02/15/2030

Looking Ahead

Currently, we want to maintain a neutral to slightly overweight credit strategy. With the current possibility of multiple interest rate hikes in the next 6 months, we do not want to leave ourselves too exposed in the corporate sector. One strategy we are considering is moving into the belly of the curve, focusing on lower grade bonds that are a slightly less liquid and so provide better returns to patient, longer-run holders. With all of the uncertainty in US and foreign markets, we want to keep our future investments strictly focused on companies with good business models that we think could be undervalued and could add more to our portfolio regardless of market outlook. Additionally, we will be conducting a thorough analysis to re-examine what the market may have overlooked regarding a Trump presidency's implications for the corporate bond market and the sub-industries for whom the benefits of his policies may have been underestimated.

Financials

Sector Overview

In 2016, the Financials portfolio underperformed relative to the index. Returning 3.14% throughout the year, we came in 1.47% under the index. We saw the financial sector benefit substantially from the surprise election of Donald Trump as prospects of a lighter regulatory environment, steeper yield curve, and multiple rate hikes in 2017 seem more realistic. The main month for underperformance was November where we underperformed the index by 1.01%, the worst month of the year. As the market reanalyzed the policies of the new administration, bonds from banks and insurance companies began to recover some of their original losses. Following the sale of our 2032 Morgan Stanley bond (to meet the capital call), we became underweight the banking sector. Due to our positive outlook for US banks and insurance companies, especially when compared to their European peers, we have since worked to reverse that positioning.

Performance

Throughout most of the year, our decision to have minimal exposure to European financials benefited us as US centric names outperformed European names. Brexit uncertainty, low and negative rates, and regulation continue to weigh on European names and have been the main drivers of underperformance. In the US, the delaying of a Fed rate hike weighed on financials from September to November. Following the election, banks and insurance began to see a rebound that continued into December as the Fed decided to raise rates for the first time in 2016. Another record year for M&A, IPOs, and debt issuance benefited our investment banking holdings that experienced significant spread tightening.

Our relatively overweight Financials sector position that benefited us in 2015 changed after the maturities of our Goldman Sachs and Wells Fargo bonds, our selling of our Morgan Stanley and Standard Chartered bonds, as well as our partial Lincoln National tender. As a result of the tender, the financials portfolio came to a slightly underweight (2.34%) position, from a duration contribution standpoint, relative to the index.

A key month of outperformance was May where we outperformed the index by 35 bps as seen in Figure 9. May's outperformance was primarily interest rate driven. During that month, short and medium term interest rates increased and the long end of the yield curve flattened by 9 bps. We were also overweight duration for May which added to the outperformance.

Turning to November, we underperformed the index by -1.01%. We believe that was largely attributable to our underweight property and casualty insurance positioning. P&C lead the sector's performance for the month of November, largely due to favorable adjustments in the reserve requirements and a proposed drop in the corporate tax rate.

Figure 9: Financials Return vs. Index

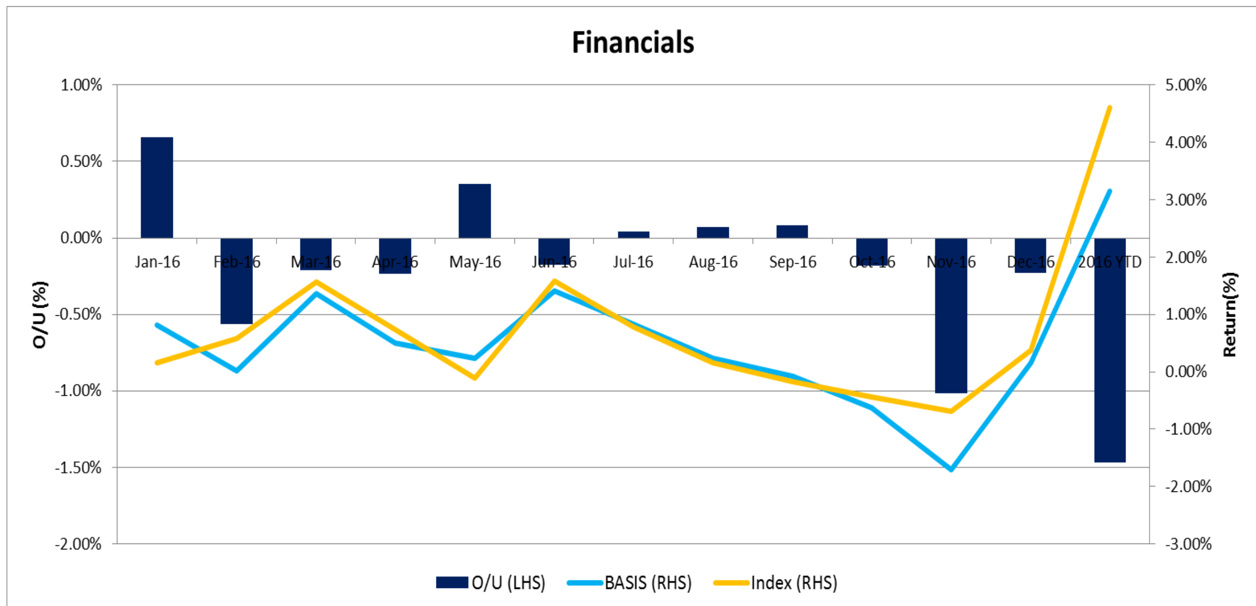


Table 6: Financials Return vs. Index

	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	2016 YTD
BASIS	0.82%	0.02%	1.36%	0.51%	0.24%	1.41%	0.83%	0.23%	-0.09%	-0.63%	-1.70%	0.15%	3.14%
Index	0.16%	0.58%	1.57%	0.74%	-0.11%	1.59%	0.78%	0.16%	-0.17%	-0.45%	-0.69%	0.38%	4.61%
O/U Returns	0.66%	-0.56%	-0.21%	-0.24%	0.35%	-0.18%	0.04%	0.07%	0.08%	-0.18%	-1.01%	-0.23%	-1.47%

Figure 10: Financials Subindustry Positioning (as of 12/31/2016)

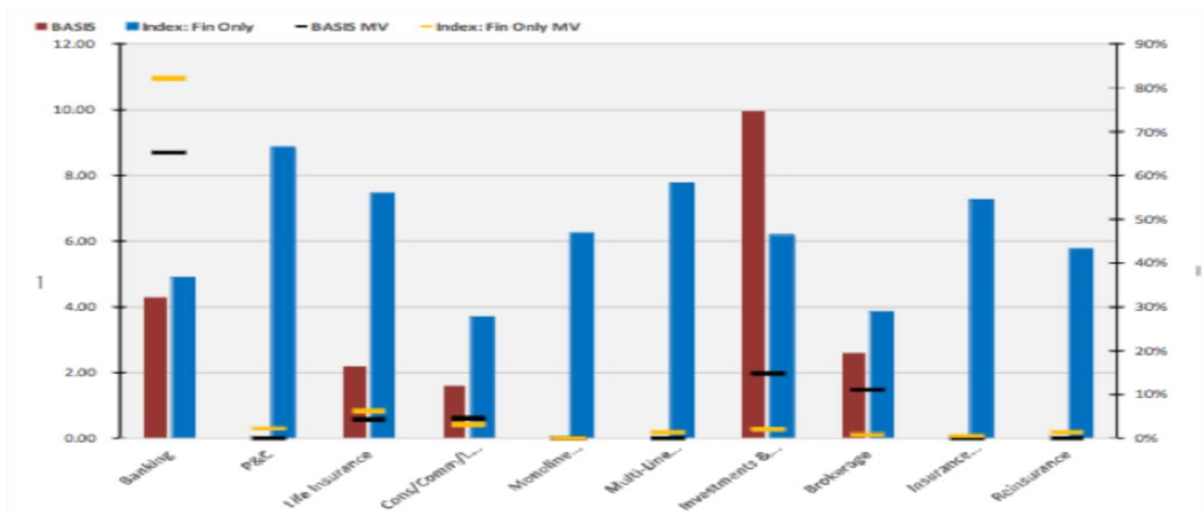


Table 7: Holdings

Security
AMG 3.500% 08/01/2025
BX 5.000% 06/15/2044
COF 3.500% 06/15/2023
RABOBK 3.875% 02/08/202
GS 3.625% 01/22/2023
JPM 6.300% 04/23/2019
LNC 8.750% 07/01/2019
MS 4.875% 11/01/2022
NRUC 10.375% 11/01/2018
PNC 6.700% 06/10/2019
AMTD 5.600% 12/01/2019
WFC 5.750% 06/15/2017

Looking Forward

Following the 2016 U.S. election of Donald Trump, the financial sector has rallied based upon increased expectations of rising interest rates and promises of fiscal stimulus as well as deregulation and corporate tax cuts. Moving into 2017, we will be keeping a close eye on the actions of the Trump administration to see if their plans materialize into policy and justify the rich prices we have witnessed across the Financials sector.

Our current focus is the implications of U.S. monetary and fiscal policy for the Financials sector. We expect many US banks and insurance companies will see a positive contribution to profits from the rise in US interest rates. The current tightening cycle began in Dec. 2015 with a 25-bps boost in the Fed Funds rate to 0.25-0.50% followed by another upward move in Dec. 2016. In December, Federal Open Market Committee members projected the Fed Funds rate to reach 1.4% in 2017 and that a neutral rate of 3% would not be reached until 2019. The predicted acceleration of the pace of rate hikes is being driven primarily by growth in expected inflation and strong economic data. The increase in infrastructure spending that we will likely witness under Trump, as well as the corporate tax cuts, could generate a large deficit, and when combined with a substantial uptick in inflation, rates will rise. We currently expect to see two to three rate hikes in 2017 with the expectation that some banks with the right structure will see a benefit in their net interest margin and some types of insurance companies will see a boost to their investment income .

We predict that investment banks will benefit the most from reduced regulation under the new Trump administration. Thus far, financial reform hasn't been highlighted as one of the incoming administration's 100-day priorities. However, the president's website has noted that the financial services policy team will work to "dismantle" Dodd-Frank and replace it with pro-growth policies. We believe that a repeal will greatly benefit

the financial sector, specifically investment banks via their trading revenues. Amending the Volcker Rule could weaken proprietary-trading restrictions for banks and could potentially increase market making and liquidity. Banks such as Bank of America, Goldman Sachs, Morgan Stanley, Citigroup and JPMorgan have been prohibited from proprietary trading since July 21, 2015. Other regulatory changes under the Trump administration related to the Dodd-Frank Act involve revisions to the fiduciary rule. Even though the rule affects $3 trillion worth of assets in advised individual retirement accounts, we believe that even if this law were to be passed, it will not hurt our performance greatly relative to our index. Financial firms have already said they would navigate the rule by doing away with commissions-based models while other banks such as Morgan Stanley and Wells Fargo ensure that their financial advisers have their clients sign best-interest contract exemption.

We predict several positive factors will contribute to financials' sector enhanced performance. Positive factors for the financial sector include: improving consumer finances and reduced debt loads for consumers that lower the risks of defaults and give consumers room to add to debt should they desire to do so. Also a reduced regulatory burden with the new mix in Washington could increase profitability. In addition, higher short term interest rates could make lending and fixed income investing more profitable. However, a rapid increase in interest rates could pose risks including dampening of the demand for borrowing and decreasing the market value of fixed rate debt. We maintain relative confidence in the ability of the financial services industry to reshape itself and adjust to the changing environment and believe that it could gain the flexibility to do so with a new environment in Washington.

Rates

Treasuries

Sector Overview

U.S. Treasury yields fluctuated more than usual during 2016 as the 10-year yield fell as low as 1.36% and rose as high as 2.59%. The volatility was due to a variety of different factors. The 10-year yield started the year around 2.25% but, for the most part, fell for the first few months following the December 2015 rate hike and the market correction at the beginning of the year. As the global economy sputtered, investors flocked to safe haven assets like Treasuries, which was the reason for the drop in yields. There was also a big swing down in yields during the summer as a result of Brexit. The 10-year yield fell to an historic low of 1.35% as a similar safe haven investment trend persisted. Treasury yields have trended upwards since mid-July as Brexit fears quickly eased. The U.S. election at the beginning of November was another major market moving event as the 10-year yield increased over 40 bps in the week following Trump's victory. Yields continued to rise going into December and with a Fed rate hike at the end of the year. Trump's plans and potential new policies are forecasted to produce heavy spending and inflation, which is a main reason for the rise in Treasury yields.

Short term U.S. rates, set by the Fed, now reside in a 0.50% to 0.75% range. That is achieved by using interest on excess reserves (IOER) as the ceiling and the Fed's new overnight reverse repo program (ON RRP) as the floor. The Fed has indicated that those two tools will serve as the new mechanism for setting the Federal Funds interest rate. The Fed raised rates only once in 2016 (December) by 25 bps, despite prior expectations for more at the beginning of 2016.

Central Bank action across the globe, not just in the U.S., was a central theme in 2016. The European Central Bank increased their stimulus program last year to include corporate bond purchases as they continued to struggle with combating stagnant inflation and economic growth. European government bond yields in the EU fell to historical lows with many falling into negative territory. The German 10-year yield fell into negative territory in July and hovered around 0% for a few months before rising slightly above 0% at the end of the year. The ECB continued to cut their growth outlook and inflation expectations. Many investors believe that the ECB might provide additional stimulus in the coming months or extend the program. The Bank of Japan also increased stimulus last year with negative interest rates and helicopter money. Japanese 10-year government yields fell further into negative territory over the summer, hitting a low of -0.27% in July. Japan faces similar problems to the ECB as increased stimulus has not seemed to boost economic growth and inflation as much as expected. With the Fed moving in the opposite direction of those other major central banks, increased funds flowing into the U.S. are the result as investors look to take advantage of the higher yields comparatively to their overseas counterparts.

Oil has been another large macro story this year. WTI prices started the year very low in the $35 to $40 range as dollar strengthen and the global economy sputtered. Oil prices proved volatile throughout the year rising above and falling below $50 many times. The end of the year saw a boost to oil prices as OPEC finally agreed to a long-talked-about production cut. It will be interesting to see going into 2017 the effect that the production cut will have and if OPEC members will comply with the agreement. Oil prices closed above $50 to end the year.

Performance

The Treasuries sector underperformed approximately 91 bps in 2016. The majority of the underperformance was due to a poor end to the year. The sector started the year with minimal losses in the first few months before seeing positive returns in May and April. The beginning of 2016 saw a major dip in Treasuries yields, especially on the long end of the curve, due to the flight to quality sentiment mentioned above. During those first few months, our duration contribution in Treasuries was slightly underweight versus the index, which contributed to our slight underperformance in a falling rate environment. Towards the end of the semester, we shifted our positioning to a bull flattener, becoming overweight Treasuries and overweight total portfolio duration. The reasoning behind that strategy was the global economic uncertainty and a potential Brexit going into the summer months would likely lower the yield curve. Our strategy paid off big time in June as the British Referendum resulted in a majority vote to leave the EU. That left investors all around the globe uncertain of what was to come in the near future, which led to an inflow of investment into safe haven assets, such as Treasuries. The same bull flattener position that rewarded us in June came back to haunt us in November as Donald Trump was voted into office. Treasury yields sky-rocketed in November following the election, causing the worst performance of 2016 for the Treasuries sector. Since that time, we have been working to adjust our position to become better suited for the effects of a Trump presidency. We are currently slightly underweight total portfolio duration and underweight Treasuries.

Figure 8: Treasuries Return vs. Index Return by Month

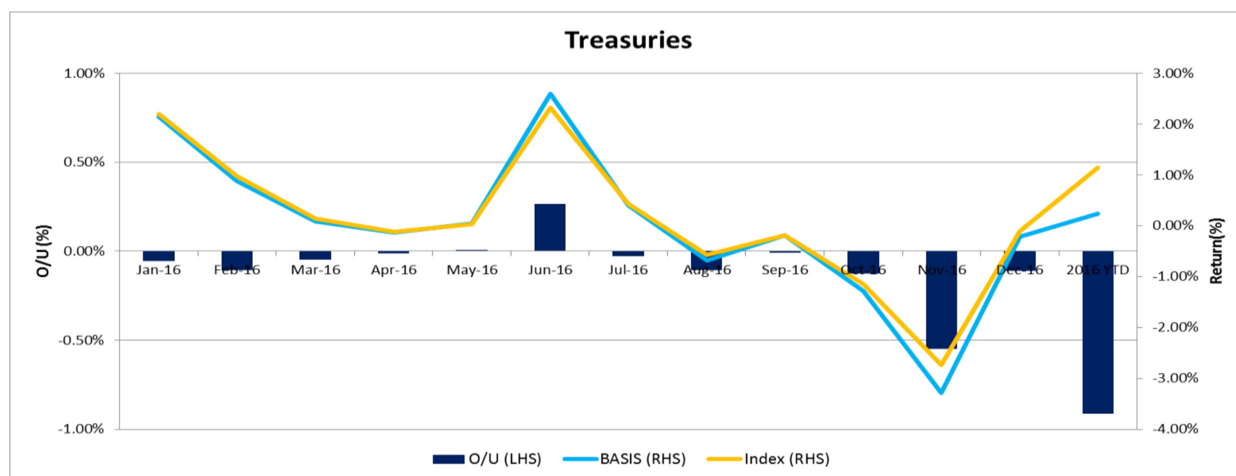


Table 8: Treasuries Return vs. Index Return by Month

	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	2016 YTD
BASIS	2.14%	0.88%	0.09%	-0.13%	0.04%	2.59%	0.40%	-0.68%	-0.19%	-1.28%	-3.28%	-0.22%	0.23%
Index	2.20%	0.98%	0.14%	-0.12%	0.04%	2.33%	0.43%	-0.57%	-0.18%	-1.15%	-2.73%	-0.11%	1.14%
O/U Returns	-0.06%	-0.11%	-0.05%	-0.01%	0.01%	0.27%	-0.03%	-0.11%	-0.01%	-0.13%	-0.55%	-0.11%	-0.91%

Recent Trades

Please see the Appendix for a list of the recent trades and Treasuries holdings.

Looking Forward

BASIS is in the process of adjusting our curve positioning to become more underweight duration versus the index. The group's macroeconomic outlook is turning more bullish as the U.S. economy is picking up and the world economy is becoming more stable. Additionally, the recent change in president and his potential policy changes is helping shape our views. Trump's plan to increase infrastructure spending, cut taxes for business and the middle class, and possibly decrease regulations will likely spur economic growth and inflation. The markets already seem to be pricing that in as bonds have sold off and equities have risen since Election Day. The 10-year breakeven rate has risen almost 20 bps during this short time span, signaling that investors are expecting higher inflation. Another major factor in the market for 2017 is the Federal Reserve. A series of rate hikes in 2017 could slow down the economy and push down inflation. The BASIS rates group believes the Fed will raise rates 2-3 time in 2017, barring an unforeseen slowdown in the economy or a major political event (similar to Brexit). Although a series of rate hikes could cause downward pressure on prices, we believe that factors mentioned above will outweigh the downside/slowdown of a rate hike and that the economy is strong enough to withstand multiple rate hikes. Additionally, the Fed typically will make it known ahead of time before they hike.

As a result of our macro view, we believe Treasury yields will rise. Inflation is one of the biggest factors for long term bonds and the rising inflation expectations is a signal that longer bonds will not perform well in 2017. As a group, BASIS is working to position the portfolio to take advantage of that. That means selling some of our 20 and 30 year holdings and investing in the belly of the curve (5-10-year buckets). The goal is for the portfolio to be underweight total duration by about 1-2%. We would also like to be underweight Treasuries versus the index.

Another major risk for Treasuries, along with a rate hike, is the potential unwinding of the Fed's balance sheet. The Fed has been considering shrinking its massive $4.5 billion balance sheet for a while, and there has been talk recently that the Fed could start doing that in the near future. The Fed could do that by either not reinvesting coupons and maturing bonds or by selling some of their longer (or shorter) holdings. They currently have Treasuries of all maturities on their balance sheet, with over $630 billion worth of Treasuries maturing over 10 years from now. The likely scenario would be the Fed ending the process of reinvesting their maturing securities (instead of selling).

Although, many analysts believe that is not likely to occur until at least the end of 2018 and believe that it would be approached very carefully.

SAS

Sector Overview

SAS performed well in 2016 as BASIS maintains a low risk profile overall versus our SAS index. Forty percent of SAS holdings consist of US Agencies that offer low spread above US Treasuries. Those bonds benefited from the risk-off investor sentiment that was prevalent many times throughout the year. BASIS's riskier holdings consist of Qatar, TVA, and British Columbia. Our Qatar bond sold off at the beginning of the year when oil was below $40 but has since tightened and remained stable. The same can be said for our British Columbia bond.

Many emerging market countries in the SAS category performed poorly in 2016. Low oil prices and higher uncertainty contributed to that as many countries rely on oil and other commodity-based revenue for a significant portion of their revenue. Even countries that are not reliant on commodity revenue are finding themselves in a tough environment as a strong USD has hurt issuers of USD debt. A stronger dollar will likely continue with the potential rate hikes in 2017 and a U.S.-centric focus by the new President. That will continue to have negative effects for emerging markets countries as their currencies continue to sell off.

Performance

The SAS sector underperformed the index by 8 bps in 2016. The main reason for the underperformance was a bad start to the year as our sovereigns performed poorly with the market correction and extremely low oil prices at the beginning of 2016. Both our Qatar and British Columbia bonds suffered greatly during those months but have since stabilized. Starting in May, SAS outperformed the index every month, except two, for the rest of the year.

Figure 8: SAS Return vs. Index Return by Month

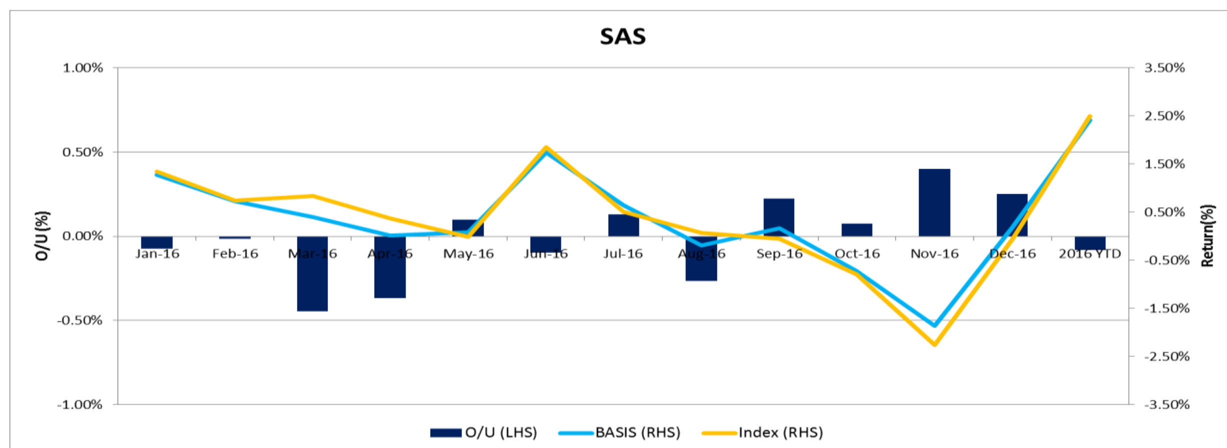


Table 9: SAS Return vs. Index Return by Month

	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	2016 YTD
BASIS	1.27%	0.72%	0.39%	0.01%	0.09%	1.75%	0.64%	-0.19%	0.16%	-0.72%	-1.86%	0.19%	2.42%
Index	1.35%	0.74%	0.84%	0.38%	-0.01%	1.84%	0.51%	0.07%	-0.06%	-0.80%	-2.26%	-0.06%	2.50%
O/U Returns	-0.07%	-0.02%	-0.45%	-0.37%	0.10%	-0.10%	0.13%	-0.27%	0.22%	0.07%	0.40%	0.25%	-0.08%

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Looking Forward

BASIS remains heavily underweight the SAS sector. Moving towards a more neutral positioning by increasing our SAS exposure is a major goal for 2017. Liquidity has been a concern in the past for BASIS when trading certain Sovereigns and Agencies. The group will analyze how big of an effect liquidity may have and see if we want to continue our current strategy of putting less exposure in Treasury bonds and instead investing in higher returning but less liquid SAS bonds.

As a sector, we are researching potential sovereigns to purchase. Many sovereigns offer a good amount of spread over Treasuries but also present more risks. Although Agencies are safer and more liquid than Sovereigns, they offer very little spread over Treasuries. That is one of the main reasons we are favoring Sovereigns. We want to increase our SAS exposure through stable, safe Sovereigns.

Many sovereigns are correlated to oil and other commodities, posing problems when oil prices are volatile. To combat that, we are looking at high credit quality and politically stable nations. Because of the latter, we have been avoiding many emerging market economies. Additionally, we are staying away from Europe, for the most part, as there is still so much uncertainty with Brexit and the effects it will have on the Eurozone.

bond and securities investing by students
BASIS

Placement

BASIS had another strong and impressive year for placement. BASIS continues to hold its 100% job placement statistic. Our internship placement was great this year as we placed eight members at either the Big Four accounting firms or Wall Street. Through the coaching of our senior members, our younger members were able to receive many offers from their top choices.

Full Time		Internship	
Accenture	Management Consulting	BAML	Sales and Trading
Baker Tilly	Tax	BBT	Investment Banking
Burdette Smith & BISP	Audit	Credit Suisse	Capital Markets
Capital One	Corporate Finance	Credit Suisse	Sales and Trading
Ernst and Young	Risk Advisory	Deloitte	Cyber Risk
Freedie Mac	Portofolio Management	Deloitte	Audit
Goldman Sachs	Investment Banking (2)	Ernst and Young	Risk Advisory
Goldman Sachs	Sales and Trading	Goldman Sachs	Sales and Trading
KPMG	Financial Advisory	Goldman Sachs	Private Wealth Management
Lockheed Martin	Corporate Finance	Lockheed Martin	Computer Engineering
RBC Capital Markets	Sales and Trading	Procter & Gamble	Chemical Engineering

Special Thanks

BASIS is very thankful for the help and support we receive from the Virginia Tech Foundation, the Pamplin College of Business and the Virginia Tech Finance Department. Additionally, we would also like to thank the BASIS Advisory Board and our alumni across the country for their ongoing guidance in the organization's direction and in our strong career placement. BASIS is very grateful for the 25 alumni who have donated to continue the GEM Scholarship.

We are proud that over 33% of BASIS alumni have made donations to the VT Foundation, a percent giving rate that is several times larger than the average for the university or the Pamplin College. We are grateful for the continued support that we receive from our corporate sponsors and individuals who provided major funding.

- Altria
- Bloomberg
- Goldman Sachs
- JP Morgan/Chase
- Wells Fargo
- Greg Cole
- Mike Dawson
- Kevin Klose
- Rollin Lynn
- Ben Marshall
- Alex Navin

- Greg Poos
- RJ St Thomas
- Michael Vuong
- Stuart Vyule
- Jason Weiskopf
- Tyler Wilson

Finally, we would like to extend a huge thanks to all the team members of BASIS for the countless hours they put day in and day out to make BASIS a better organization when they first received an offer to be a part of BASIS. Dr. George Morgan is the reason why BASIS is where it is today and we cannot thank him enough for what he does for us. He always puts BASIS' needs ahead of his own and we are forever grateful for that. BASIS has grown into an even smarter and better connected group in 2016, we hope to continue that trend in 2017.

Management Team

The management team members responsible for the performance of the fund and for the completion of this report are:

Michael Orcutt, Co-CEO

Mark Edwards, Co-CEO

Cameron Maples, CFO

Eddie Gerow, Sector Head, I/U

Debbie Cadenas, Sector Head, Financials

Kevin Musco, Sector Head, Rates

Danny Murray and Zarek Stafford contributed significantly to this report.

The Faculty advisor for BASIS is Dr. George Morgan.