REGIONAL TRANSPORTATION COMMISSION OF WASHOE COUNTY (RTC)
INVESTMENT COMMITTEE MEETING

Tuesday **2:00 p.m.** **January 22, 2019**

PRESENT:

Stephanie Haddock, CGFM, RTC Director of Finance/CFO
Jelena Williams, RTC Financial Manager
Nelia Belen, RTC Accountant
Izac Chyou, Senior Managing Consultant, PFM Asset Management LLC

ABSENT: **Lee G. Gibson, AICP, RTC Executive Director**
Linda Merlin, Senior Accountant

The RTC Investment Committee Meeting was held on January 22, 2019 at 2:00 p.m. in the First Floor Conference Room, Suite 101, at the Regional Transportation Commission of Washoe County, 1105 Terminal Way, Reno, Nevada and was called to order by Stephanie Haddock. The following business was conducted:

ROLL CALL

Present: Stephanie Haddock, Jelena Williams, Nelia Belen and Izac Chyou

Absent: Lee Gibson and Linda Merlin

Item 1 APPROVAL OF AGENDA

Stephanie Haddock: It is 2:01 p.m. now, so we'll go ahead and call this meeting to order. If I can have a motion for approval of the Agenda?

Jelena Williams: I move to approve the Agenda.

Stephanie Haddock: I have a motion, can I have a second?

Nelia Belen: Second.

Stephanie Haddock: Thank you. All those in favor say Aye.

Response: Aye.

Stephanie Haddock: Motion passes.

Item 2 PUBLIC INPUT

Stephanie Haddock: I see there is no public input, so we'll move on.

***Item 3* APPROVAL OF MINUTES**

Stephanie Haddock: Can I have a motion to approve the minutes?

Jelena Williams: I make a motion to approve the minutes from the October 23, 2018 meeting.

Nelia Belen: Second

Stephanie Haddock: Thank you. All those in favor say Aye?

Response: Aye. Motion passes.

Item 4 DISCUSSION OF THE RTC DEBT SERVICE RESERVE INVESTMENT PERFORMANCE AND POSSIBLE APPROVAL OF A RECOMMENDATION TO BE PRESENTED TO THE RTC BOARD OF DIRECTORS

Stephanie Haddock: Item 4, a discussion of the RTC Debt Service Reserve Investment Performance and possible approval of a recommendation to be presented to the RTC Board of Directors.

Izac Chyou: Good to see everyone and Happy New Year. In front of you is the Quarterly report for the end of the year. During the last quarter, we had kind of a disconnect because there was a lot going on with the market. So, I'll talk to you a little bit about what was happening and the portfolio performance.

On Page 1, Economic Summary, at the top left you'll see US Real GDP. We are showing Q3, as the Q4 numbers aren't out yet. For Q3 the return is 3.4%. You can see Q2 had a solid 4.1%. Q1 was softer around 2%. Expected GDP growth for the 4th Quarter is going to be softer than Q2 and Q3. Longer term expectation for GDP is actually starting to come down. Folks are starting to think that we will actually have softer overall GDP, maybe into that 2% range median term, then into the longer term, maybe down to the 1%, so much softer.

Inflation on the right, you'll see the two measures, CPI in blue, which is the Consumer Price Index and PCE, Personal Consumption Expenditures Index. As a reminder, CPI is the broader and more widely used measure of inflation, but we show PCE, because that is what the Fed uses to measure inflation. Both of them are pretty constant and right around that 2% target. You can see the CPI is around 2.2% and then PCE moved from 1.8% to 1.9%, so pretty much right at that 2% inflationary target, and it's been there for some time.

On the bottom left, the unemployment rates have a slight uptick to 3.9%, but nothing concerning. Still an extremely low tight employment market. We've actually started to see some wage growth happen again, so wages grew at 3.2%, which is basically the same reading that we got in October, which was a good performance for wage growth. So, we are starting to see some more upward pressure.

Consumer confidence there, it says hits the highest since 2000. You can kind of see that start to dip down a little bit. Overall, the general sense is that we are starting to see some weaker data come in. With that said, individually that is not concerning, but when you take everything as a whole of what's happening, then maybe there is some more room for concern. With the Geopolitics that are happening globally, we still have a lot of pressures with China and trade war tensions. We still have geopolitical pressures with North Korea, Russia, Turkey, and quite substantial pressures in the UK with the Brexit happening. Volatility across the world has increased. Most notably maybe less on the next page when you show what volatility looks like for stocks. This is called the Vix Index.

You may hear in the news, people talk about volatility. Volatility is essentially the dispersion of returns and how quickly they move. You can see here, that the average 10-year is just below 20%, so somewhere around 18% volatility. A normal period with very little volatility is basically anything around or under 15%. When you have extreme times of stress, you'll get into the 30%-35% range. You can see here that we have those, and they're followed by sharp market corrections. We saw the market correct in January of 2018, and we saw a market correction in the 4th Quarter.

That market correction, on the following Page 3, you can see what that looks like for domestic equities. For Domestic equities, the three indexes we're showing are the S&P 500, the Dow Jones and the NASDAQ. The S&P 500 is very widely used as the 500 names in the country. The NASDAQ historically was the technology index, but that's grown to include a lot more than just technology stocks. The Dow Jones remains the Top 40 largest in the US. You'll see on the far right in red, this is essentially the market correction that coincides with that volatility that we saw on the prior page. For example, where the returns that we earned in the S&P in 2017 hit a peak return of 21.83%, and then had a -4.39% return in the 4th Quarter.

Stephanie Haddock: So, this is just showing the 4th Quarter?

Izac Chyou: The red is just the 4th Quarter. So, if you look at the white on the left that is the first three quarters of the year. You'll see the January dip where we started up almost 8% until the end of January when we went negative. Then we climbed back up again, then we dropped. Then we steadily climbed after March, and through April we climbed and climbed until we hit October, then there was a sharp selloff.

Stephanie Haddock: But the boxes that you are representing here, is that the entire January to December time period or just the 4th Quarter.

Izac Chyou: This is for the entire calendar year for 2018, and we had a -4.39%.

Stephanie Haddock: Ok, I just wanted to make sure.

Izac Chyou: 2017 was at 21.83%. So, over the last two years, when you take them into account, we're still quite positive. What drove a lot of this was fear. The valuations of stocks continued to grow making them expensive. 2017 had very low volatility and the stocks just kind of went up. That's essentially called momentum trading, where people just keep buying and valuations become richer and richer. Then people start taking gains. And there is a lot of news around the Feds trajectory in raising rates, and that was also a factor of this correction. So, the Fed in the 4th Quarter changed their rhetoric as to future rate hikes. What you hear in the news, they have been now more dovish, whereas prior they have been more hawkish. Hawkish means they are raising rates, and dovish means they will be easing up on raising rates, possibly loosening policy.

Why? Jerome Powell, who is the Fed Chair, essentially started looking out of market and saying, "You know, maybe we can take our foot off the brakes for a little bit here, we're maybe slowing down too much". So, the Fed went from, at the end of September, thinking we're going to have four rate hikes in 2019, down to two. Since then, the market is now thinking we're not going to have any this year. So, that is essentially saying, "Well, you know, maybe we raised too much, maybe there is a correction on the horizon where we will start going the other way, right, with the Fed lowering rates?" So, all of the geopolitics, all of the stock correction, all of the change in rhetoric from the Fed, all of these things cause panic in the market. When there is panic, there is something that is called Flight Quality. Quality being US Treasuries. So, basically any investors that invest in corporate bonds and investors that invest in stocks, move out of those assets and into US Treasuries for safety. So, we saw treasury yields drive down because of the demand. Demand in the bond market for bonds drives yields down.

Here on the next page, Page 4, you actually see what the 2-year treasury yield curve looks like for the year. Essentially, in the first three quarters we had this positive upward growth where we hit 2.82% in September, and then we dropped down 33 basis points to 2.49%. So it's a different direction. This is the Flight to Quality correction.

If you wanted to see that further, you could see on the US Treasury Yield Curve that shows the maturities from 3-months out to 10-years. That solid blue line is our new yield curve as of the end of the year, and we compare that to the yield curve as of December of 2017 and December of 2016. You'll notice there is a new shape; there is a dip now. This dip basically means that you get paid more on a 1-year bond than you do on a 5-year, which is called an inversion. You can see that in the table on the right, where the 1-year paid 2.6% and the 5-year paid 2.51%. We've started to see this inversion that we've talked about. Inversion meaning, typically in a normal yield curve, you get paid more to invest longer out than you do shorter, because you're taking on the extra risk, and you need to be compensated for that. Many times people look at the inversion of the yield curve as a predictor of a recession. Most notably, people look at the relationship between the 2-year and 10-year, the 2-year and 5-year and also the 3-month and 10-year. 2-year and 10-year has been very strong predictor, as well as the 3-month and 10-year. We haven't inverted for those relationships, but the spread between the 2-year and 10-year is very narrow. If we actually looked at this today, the 10-year has actually come down more, and we've seen the 2-year sort of moderate and go up and down. We've seen some upward appreciation, but the spread is still very narrow and there is still the possibility of inversion.

Now, is the inversion of the yield curve always a predictor of a recession? It has been over the last six recessions, but the factors that are driving the change today of the yield curve are different than those of prior factors. So the Feds raised rates, in other environments when the inversion happened, the Fed was not raising rates. We have extremely low unemployment at 3.9%. In general, the health of the economy in the numbers are still very good, although we are starting to see things turn over. So, the housing market is starting to show weaker signs, and will continue to show weaker signs as mortgage prices continue to rise, making affordability difficult. We've started to see new home loan mortgage and applications go down. Other things, we've seen softer manufacturing numbers. Consumer confidence still remains high, but we are starting to see things kind of turn a little bit. The unemployment rate remaining quite low at 3.9% is a good sign, which is something we will continue to monitor.

Again, each one of those individual factors is not necessarily concerning, but when we couple that globally, when you think about what is happening outside of the US with Brexit, the UK, China trade war tensions, our own domestic issues here with the government shut down, the possibility for the government shutdown to impact our GDP in the coming future is actually here. The cost of this shutdown is pretty meaningful. I read that to build the Wall it will cost around $5.7 billion. The government shutdown has already cost the government $3.9 billion, and if we expect it to continue in the next couple of weeks, then we can get up to somewhere around $7.6 billion of costs to the government from the shutdown. So, the government shutdown costs can exceed the price of the Wall, but of course, there are politics that are involved, it's not just about the cost. There could be some bigger lags.

Stephanie Haddock: What did they say those costs were associated with the government shutdown? Yes, there will be back pay for all of the employee's more than likely, but they don't give them more than that do they?

Izac Chyou: No and that's the thing, they don't and that is something I need to go back and look at. I just found that figure kind of alarming, but it is something that I need to go back and understand more fully.

Stephanie Haddock: I mean is it a loss of fees?

Izac Chyou: I think it's some of that, collecting fees and we're also coming into taxes and it's possible that certain essential parts of the government need to be paid. Homeland Security still falls underneath the government shutdown, it's impacted. Treasury is impacted.

Stephanie Haddock: I'd just be curious, I thought maybe you knew, and I would love to know what the government number comes to be with that cost. Is it that we're going out there and subcontracting out to temporary services maybe, to cover some of the issues that we're having?

Izac Chyou: That's what I'm saying, I think some of it is definitely that.

Jelena Williams: I think it's also fixed cost, they are still liable to pay certain things, buildings and insurance they have to continue to pay.

Izac Chyou: So there is a lot going on and a lot going on at a lot of places. Interestingly, if you look at a measure called the CEO Sentiment, which basically pulls the CEO's of the largest corporations in the United States, and asks them what their outlook is and their confidence level, they moved from 52% down to 47% confidence. So, they are becoming less confident going forward and these are the same corporations that have rules and highering to do, continuing to expand and now they are definitely feeling, and probably likely going to slow down on some of that. So it will be interesting how that continues.

Stephanie Haddock: They are seeing the changeover of the Congress and this is the first of what I'm sure is going to be many gridlock situations where they are going battle for the rest of this term.

Izac Chyou: Then locally, you have Tesla here that has been employing a lot of individuals, and Tesla has been getting hit lately, and they've actually started to do layoffs as well. I'm not sure what it is in Reno specifically or Washoe County, but it's definitely coming down the pipelines, so we'll have to see how that impacts.

With the buying of Treasuries and the selloff of riskier assets, we saw Corporate Bond spreads widen out. Again, a Corporate Bond Spread is the amount that you get paid to own a Corporate Bond versus a US Treasury. Typically, you get paid a premium to own a Corporate Bond because you're taking what's called a credit risk over a US Treasury. What we saw was, you can look at the chart, spreads have actually been coming down since December 2015. Spreads hit a peak in December 2015 and came down, this is essentially were people feeling confident in the economy, confident in moving into riskier assets. So, Corporate Bonds over US Treasuries. That demand for Corporate Bonds started to drive down their yields and the spread that they pay over the US Treasuries. Then, we saw the widening happen, meaning that the volatility in stocks created panic and that is essentially a sign of stress and Corporate Bonds spread widened out. Corporate Bonds started having to pay more to attract buyers. A lot of investors moved out of the Corporate Bonds space. This means that as the spread narrows, Corporate Bonds will become more expensive, because relative to US Treasuries, you're not getting compensated as much. When the spread widens out, they become cheaper, but you're also possibly now in an environment where there is more at risk. So, you've seen risks increase for Corporate Bonds. So, in general, it is something that we are watching as well, and it's a leading indicator for the rest of the market.

Lastly, on Page 7, we're showing the dot plot that was released after that December meeting and the dot plot of the FOMC, which is the Federal Open Market Committee. They are showing where they think rates should be going forward. You'll see the 2018 blue line extending from the clump of dots all in a row. Each one of those is a voting member of the Fed and they thought that the Fed Funds Rate, which is a short term loan rate for banks, should be essentially between 2.25% to 2.5%. So, they were correct, because they raised rates by one-quarter in December at the end of the year.

In order to get to that next average, you need two more rate hikes for that clump. The Fed is indicating that this year, there should be two more rate hikes. The market however, says maybe we will get one and the market is the green line.

So, in 2019, will we see two rate hikes? Maybe. Will we see one rate hike? Possibly. Is it possible that we see no rate hikes? Yah, if the data we see keeps getting softer and softer, then the likelihood of further rate hikes becomes diminished and the rising interest rate environment that we were in, might be behind us and maybe going forward we are going to be more in this neutral environment for now. If there is a correction and the market reverses and we enter a recession, then the Fed will likely move in the other direction with the falling interest rate.

On Page 8, you can see the allocation of the bond reserves of the various portfolios. I know at the end of the year you guys were quite busy and these reserve allocations dropped by $10 million. So, you can see that the Series 2009, Series 2010, the EF and the B, still remain the largest of the group there.

Stephanie Haddock: So, will there be a new reallocation among these, because technically we eliminated the reserves on the Series 2009 and 2013, and all we have left is the 2010.

Izac Chyou: I will have to double check with the operations team. There isn't going to be anything that is going to be sold, just because there is going to be a loss, but I think it could be just the accounting methodology of how they were looking to split the assets. Yes, you're right, I could double check to see if there is any difference.

Stephanie Haddock: At the end of December around the 21st or 22nd, before Christmas at least, is when they did everything. After closing I would assume we wouldn't see 2009 and 2013, it would be just spreading them throughout the 2010.

Izac Chyou: I'll double check.

Stephanie Haddock: I mean I think the balance looks correct, because again we sold $14 million for that Bond Refunding and elimination of the reserves.

Izac Chyou: I'll double check and it could be just a timing issue.

(February 1, 2019 RTC received the updated quarterly report, which shows the allocations per the December liquidation of the 2009 and 2013 bonds, which is attached.)

Izac Chyou: So, I talked about some of the bullet points here already in the recap, but just in general, in the rising interest rate environment, you really want to have a net short duration, which is a lower interest rate sensitivity to the rising interest rate as there is an inverse relationship with market values of bonds. There has been a US Treasury or higher credit quality bias in the portfolio, so not a lot of agency opportunities, we preferred hold US Treasury, but the short term commercial paper market looked attractive.

From a compliance perspective, the portfolio has been in compliance throughout the quarter and also throughout the year with the investment policy, and also with the Nevada Revised Statutes. You can see that on Page 10, where we list on the left the various security types, the market value and the percent of the portfolio and what is permitted by policy.

Page 11 gives you a relative perspective of the portfolio's yield versus what else is out there to see where we are today versus the market. You can see that the maturity cost of the portfolio was 1.89%. The portfolio yield was 1.51% over the last 12 months, so trailing one year. Compare that to the prior trailing 12 months, it was 1.31%, so yet in this rising interest rate environment, the portfolio has had a higher yield. The 1-year and 2-year Treasury Yields are shown there, and your portfolio has a duration closer to 1-year, but the difference is because your portfolio has a more buy and hold strategy, it's not necessarily something that is actively trading just to keep the yield up. So, you do see some spread between the two. The 1-year treasury is much more sensitive moving with the rising interest rates.

The upward slope here, we talked about the yield environment, when there are maturities you are able to pick up at higher yields, which is starting to boost up the yield. From an earnings perspective on the next Page 12, you'll see on the right there is the Accrual (Amortized Cost) Basis column. On the bottom right you see $64,353.33, which is how much was earned over the quarter.

On Page 13, when we look at the accrual earnings year over year, you can see that we've actually had, with the rising interest rate environment starting in 2016, the earnings of the portfolio move up. So, for the four quarters for the calendar year, you earned about $350,000.

Page 14 shows some of the key statistics in the portfolio and the duration of the portfolio is 1.17 years, again that is the interest rate sensitivity. The yield to market of the portfolio is 2.60%. So if you were going to go out and buying your portfolio again today in the open market, the average yields of those bonds would be 2.60%.

Stephanie Haddock: Of course they would be.

Izac Chyou: The average credit quality of the portfolio is AA and it's dominated by US Treasuries, again there is good value in US Treasuries and they performed quite well last quarter. There are some commercial paper positions that you see, JP Morgan and Credit Agricole. Then the following two pages are our outlook going forward.

What I've kind of alluded to is that things aren't too bad, but things have changed. The outlook going forward based here by the Feds projections have become less optimistic. We talked about the GDP coming down, but you can see that where there is red, that means there was a correction downward, where there is green, was a correction upward. They downgraded their December 2018 projection from 3% for real GDP and then for this year, they are downgrading to 2.3%. Inflation has moved from around 2.0% to 1.9%, so softer growth numbers expected going forward. The path of Fed fund future hikes, the path of Fed further tightening has also come down quite a bit. The likelihood of future rate hikes is much less today, again, possibly two directed by the Fed, but the market is now saying at most one if that. A much different environment.

We're still going to favor US Treasuries over Agencies for the most part, however we are starting to see Agencies that are attractive in certain parts of the yield curve. What really looks attractive right now are the commercial paper and the negotiable CDs relative to Treasuries. Not much change from a strategy perspective quarter over quarter.

Stephanie Haddock: So, we really shouldn't have any changes for the short term?

Izac Chyou: No. It's funny, but I really feel like we're in this inflection point, but who knows how long we're going to be at this inflection. Things definitely are different the start of this year than they were just in September during the 3rd Quarter. It will be interesting to see how everything plays out.

Stephanie Haddock: It's interesting you mention that track weakness in the short term bonds or the long term bonds. As sellers of bonds, we experienced that when our underwriters went out into the market. Anything that was less than 10-years sold very quickly. We struggled over the 10-year mark to get the bonds sold. We had Wells Fargo as our main underwriter and I think they did their job of underwriting quite a bit. It was an interesting day to watch, it was one of the most stressful things I've ever experienced actually, having to watch the sale and get feedback on that the entire day. I saw it live. It's good for us, as the people, having to pay the interest, and that things were in line with the higher rates versus the lower rates on the investment side, it's funny how we're on both sides of that market.

Izac Chyou: Yah, exactly. As both the issuer and as the consumer.

Stephanie Haddock: Ok, thank you, so there will be no action for the Board. I'll just need a motion to accept Izac's report.

Jelena Williams: I make a motion to accept the report.

Nelia Belen: Second.

Stephanie Haddock: All those in favor say "Aye".

Response: Aye.

Stephanie Haddock: The motion carries.

Item 5 MEMBER ITEMS

Stephanie Haddock: Member items. Does anyone have any member items?

Response: None

Item 6 PUBLIC INPUT

Stephanie Haddock: Public Input. Seeing no public input, I move for adjournment.

Item 7 ADJOURNMENT

Stephanie Haddock: Do we have a motion for adjournment.

Jelena Williams: Motion to adjourn.

Nelia Belen: Second.

Stephanie Haddock: We are adjourned.

The meeting adjourned at 2:32 p.m.

Stephanie Haddock

Stephanie Haddock, CGFM
Director of Finance/CFO
Regional Transportation Commission

WASHOE COUNTY RTC

Investment Performance Review

For the Quarter Ended December 31, 2018

Client Management Team

Monique Spyke, Managing Director

Izac Chyou, Senior Managing Consultant

PFM Asset Management LLC

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415-982-5544

213 Market Street
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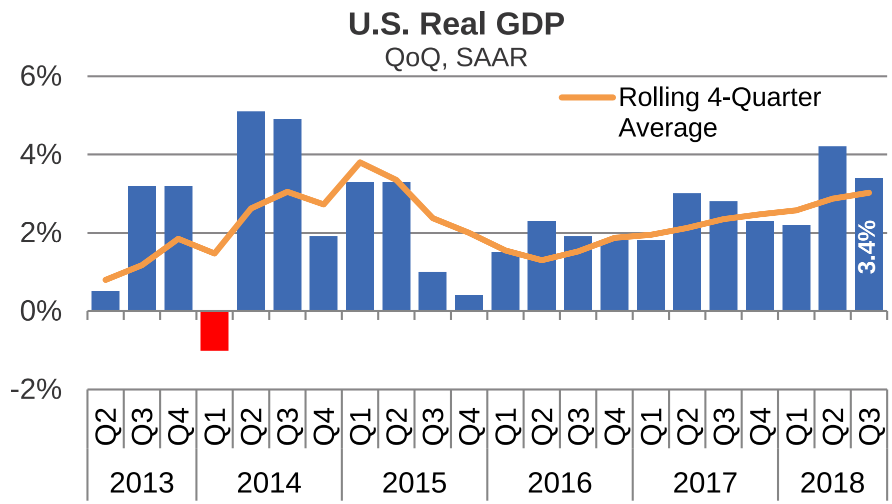
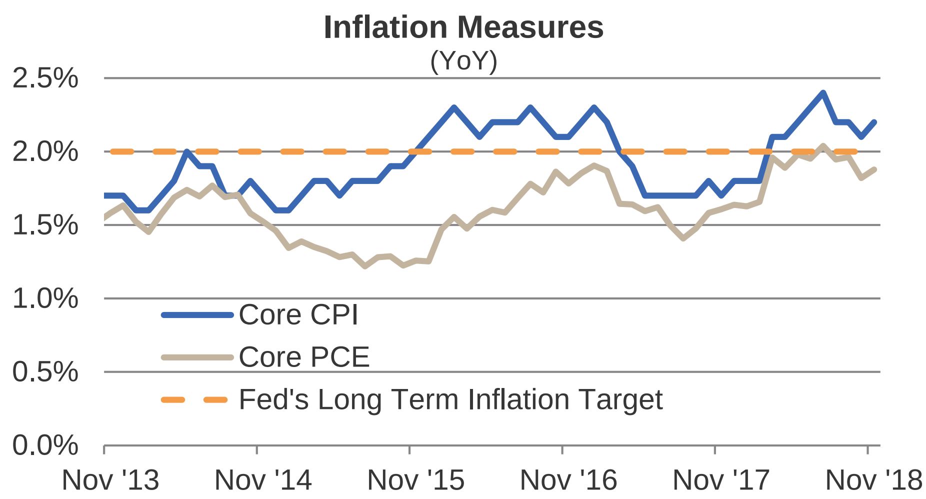
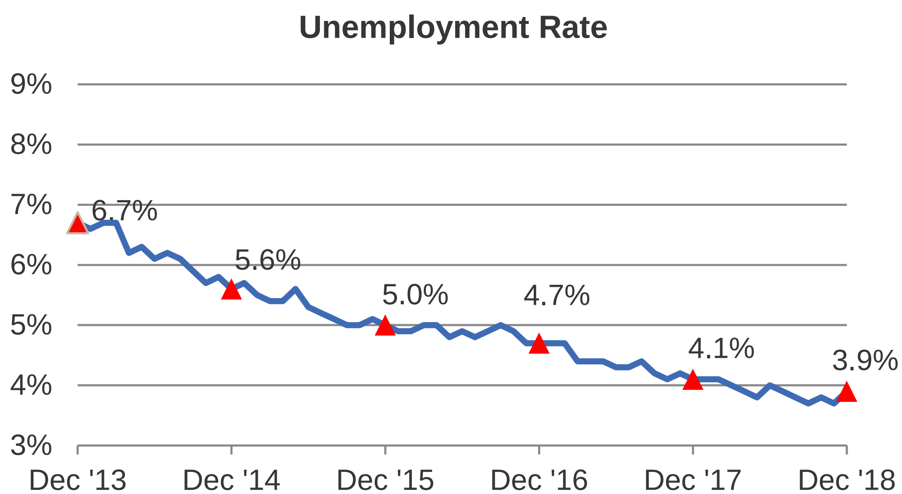
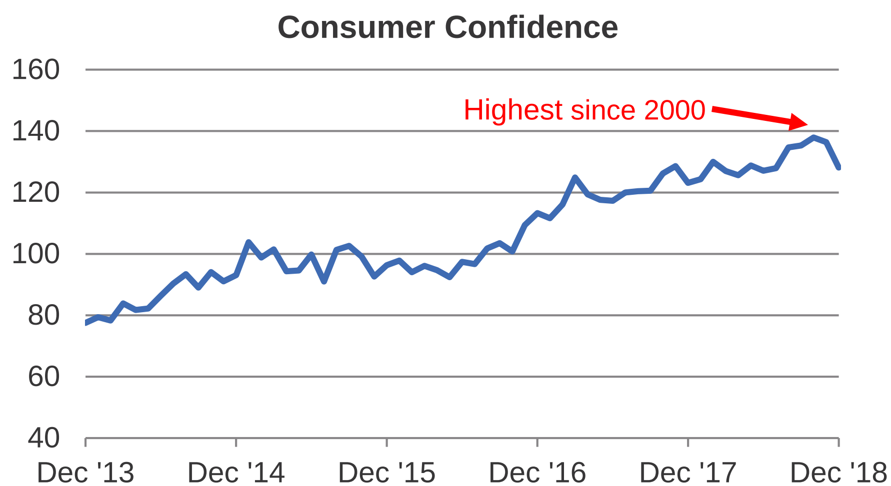
Market Update

Economic Summary



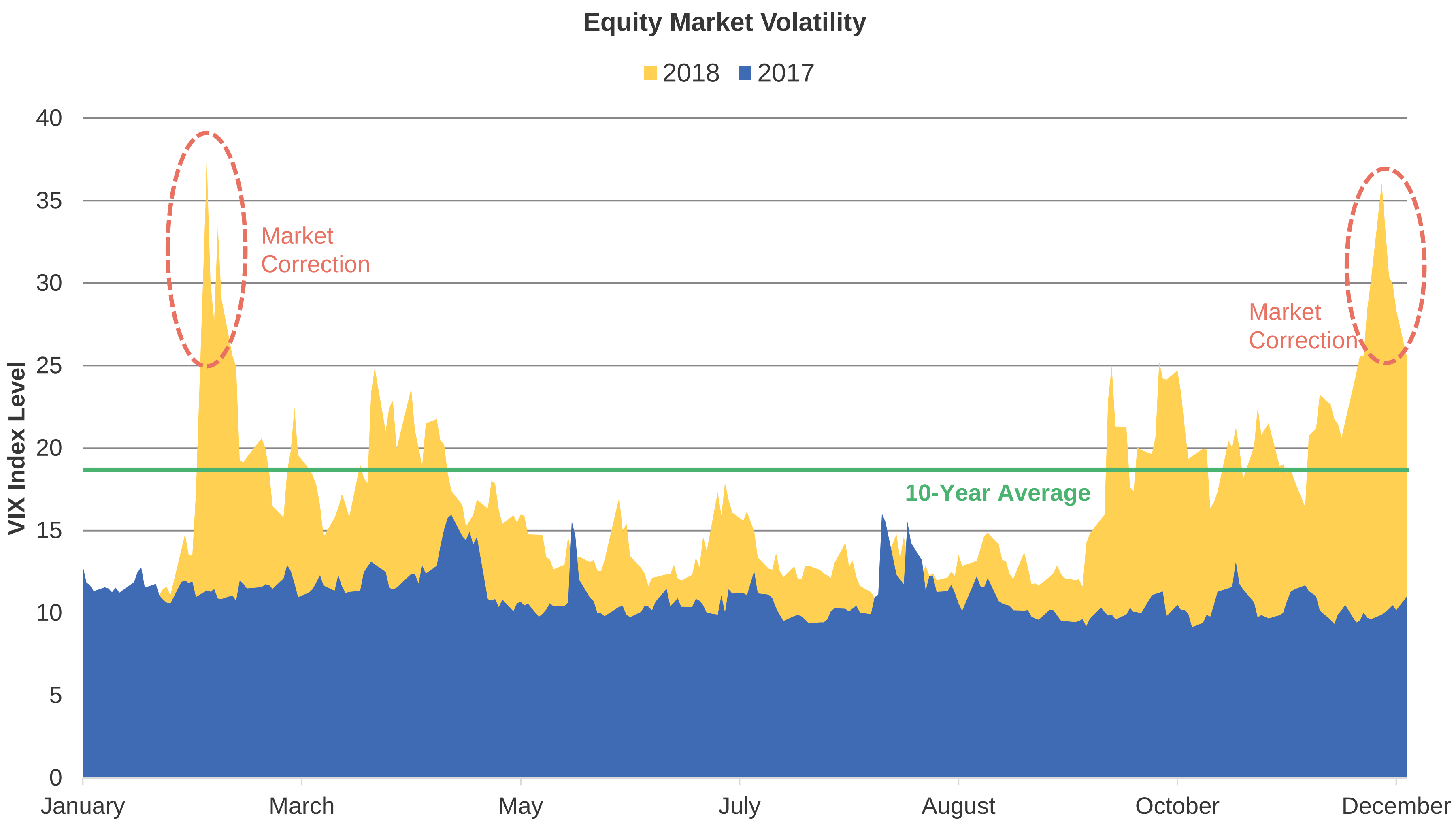






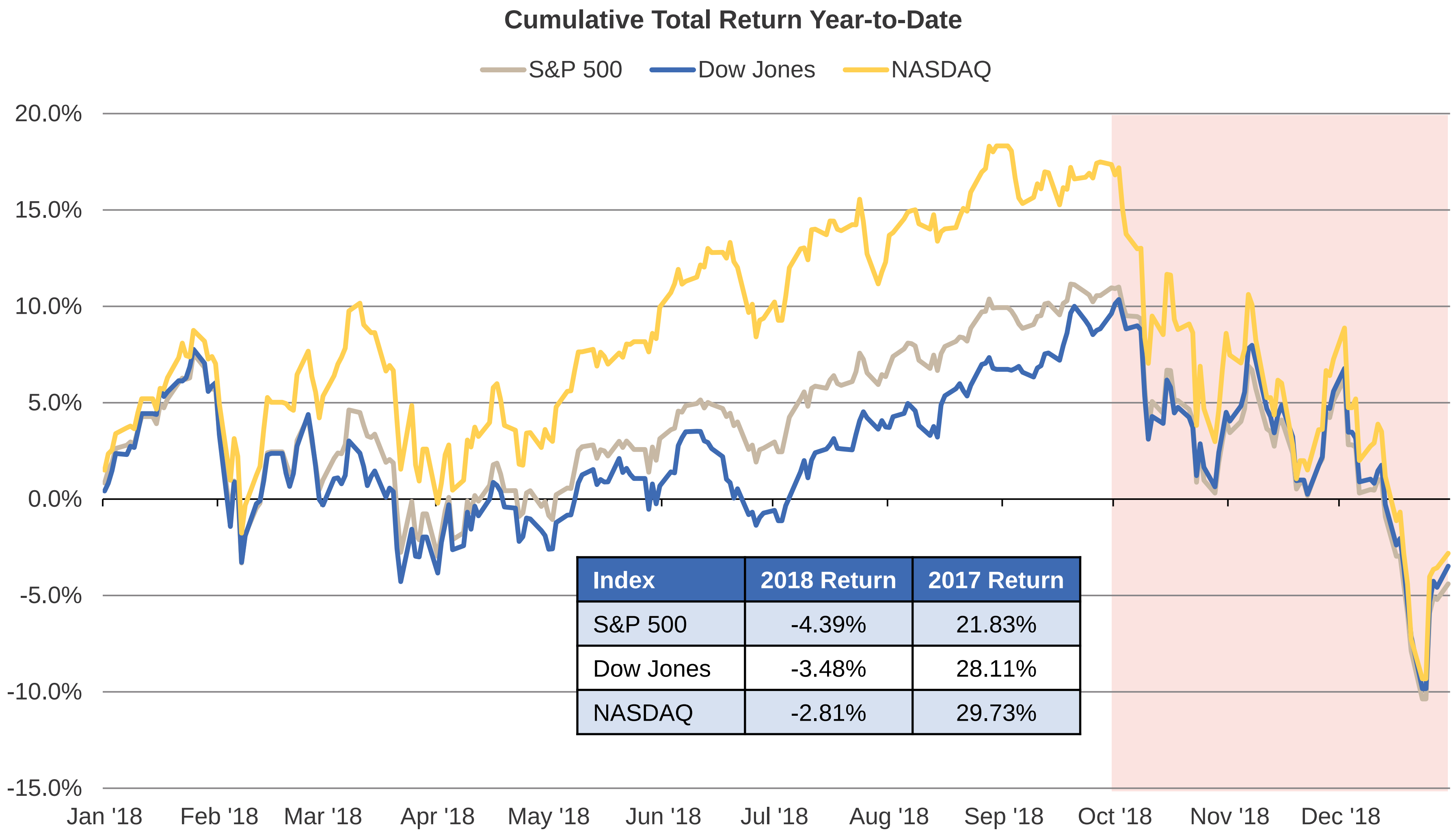
Source: Bloomberg, latest data available as of 12/31/2018.

The Return of Volatility in 2018



Source: Bloomberg, as of 12/31/2018. VIX Index is the Chicago Board Options Exchange SPX Volatility Index, which reflects a market estimate of future volatility.

Fourth Quarter Stock Sell-Off Erases Year-to-Date Gains



Index	2018 Return	2017 Return
S&P 500	-4.39%	21.83%
Dow Jones	-3.48%	28.11%
NASDAQ	-2.81%	29.73%

Source: Bloomberg, as of 12/31/2018.

Treasury Yields Fall from Recent Highs

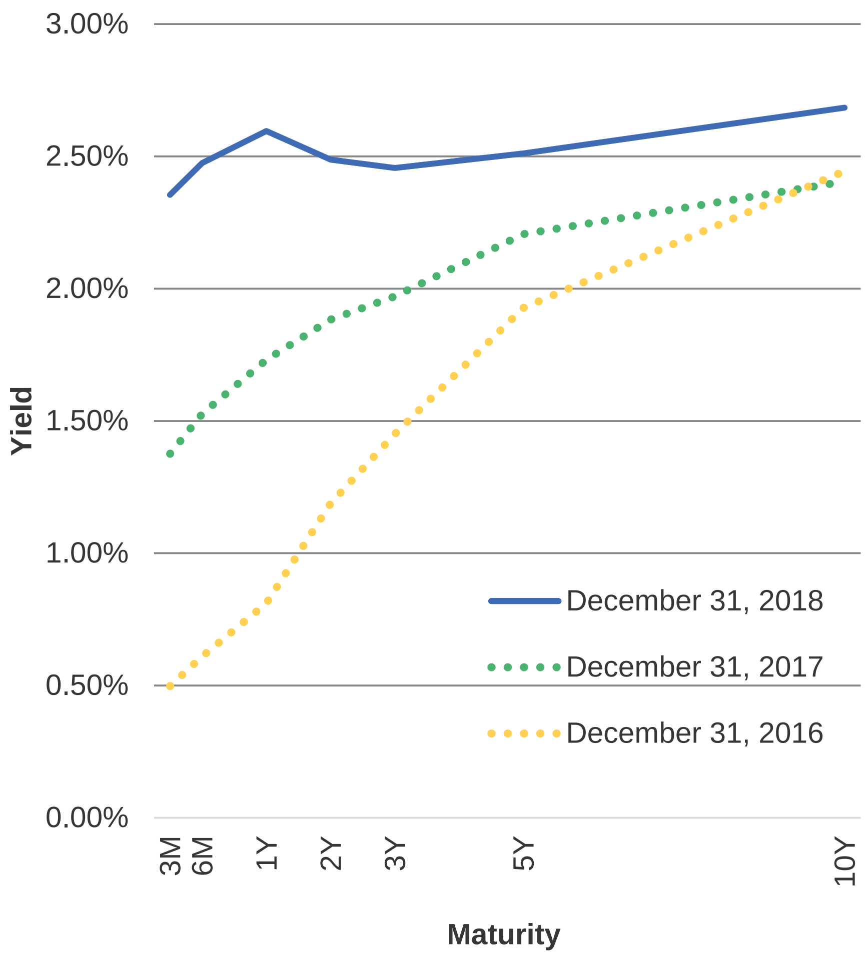
- The sell-off in equity markets in the fourth quarter sparked a flight to quality as investors sought the relative safety of U.S. Treasury obligations, pushing yields lower.
- As was widely expected, the Federal Reserve raised the federal funds' target rate by 25 basis points for the fourth time in 2018 at its December meeting, but the consequential bump in yields was overcome by continued equity market uncertainty.
- The 2-year Treasury decreased by 33 basis points to end the quarter at 2.49%.

2-Year U.S. Treasury

Source: Bloomberg, as of 12/31/2018.

U.S. Treasury Curve

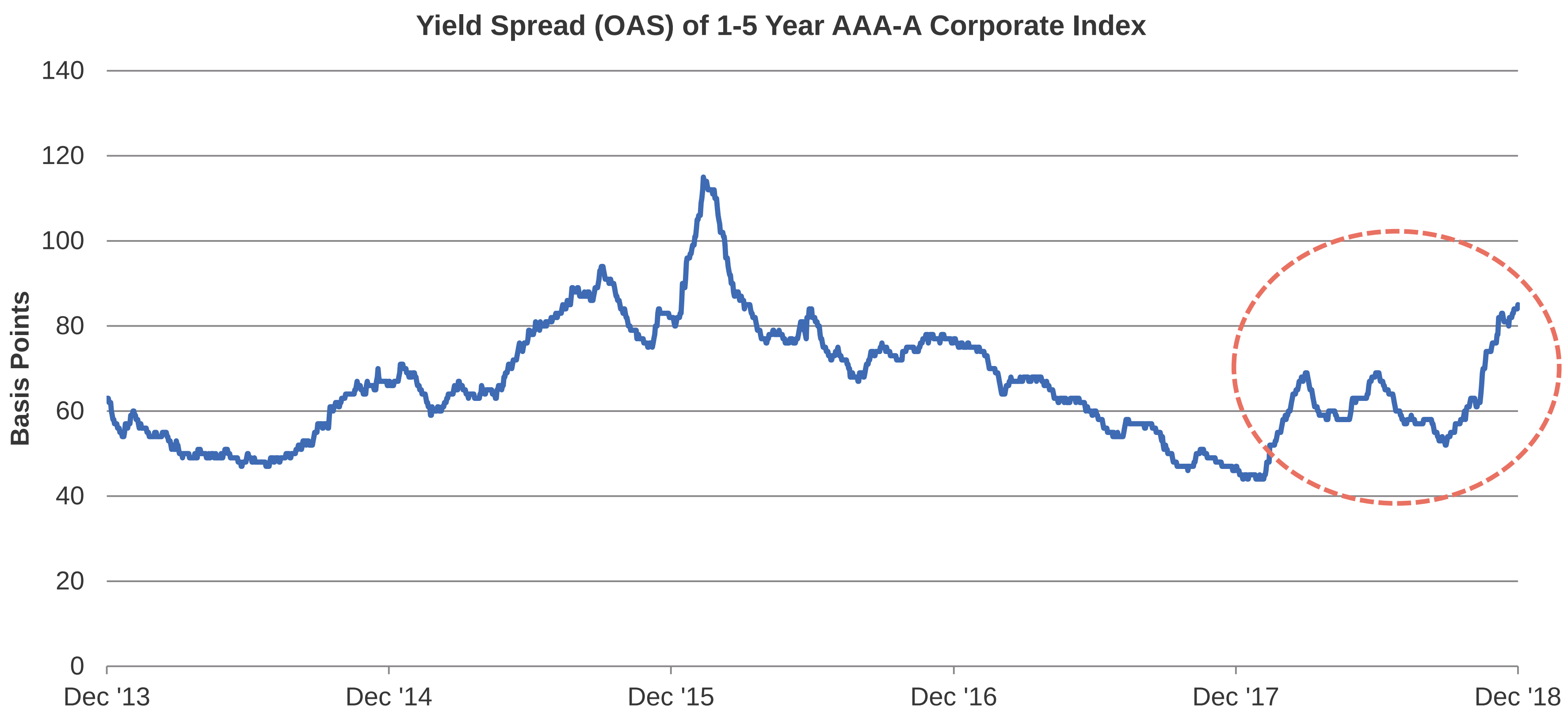
	4Q2018 12/31/18	4Q2017 12/31/17	4Q2016 12/31/16
3-month	2.35%	1.38%	0.50%
6-month	2.48%	1.53%	0.61%
1-year	2.60%	1.73%	0.81%
2-year	2.49%	1.88%	1.19%
3-year	2.46%	1.97%	1.45%
5-year	2.51%	2.21%	1.93%
10-year	2.68%	2.41%	2.44%



Source: Bloomberg, as of 12/31/2018.

Credit Spreads Widen with Market Volatility

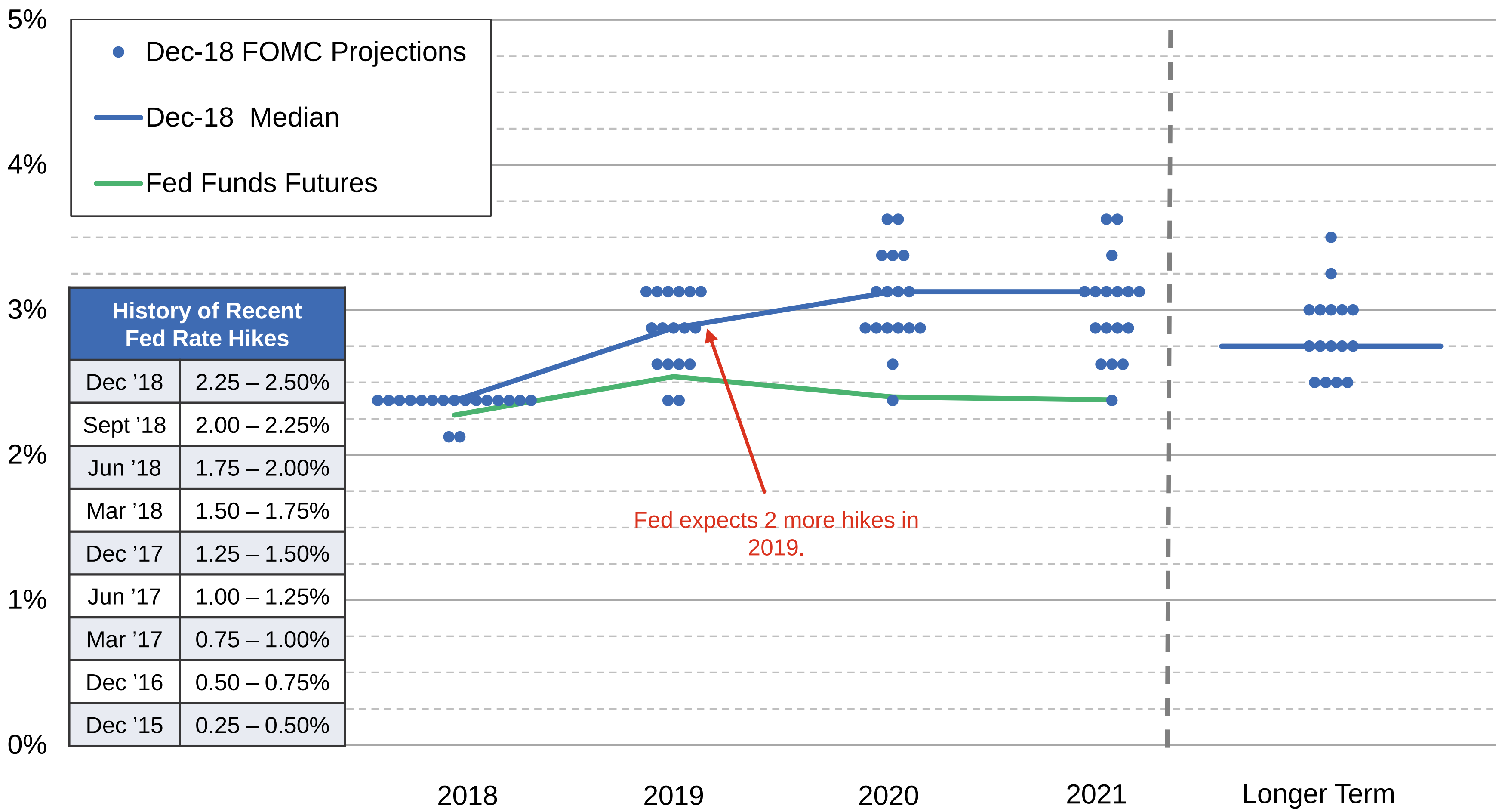
- Volatility in equity markets in the fourth quarter caused an increase in demand for haven assets like Treasury bonds, widening credit spreads further to the highest level since 2016.



Source: ICE BofAML Indices, as of 12/31/2018. OAS is option-adjusted spread versus a comparable maturity Treasury.

FOMC "Dot Plot" – A Fourth 2018 Rate Hike in December

Fed Participants' Assessments of "Appropriate" Monetary Policy
December 2018



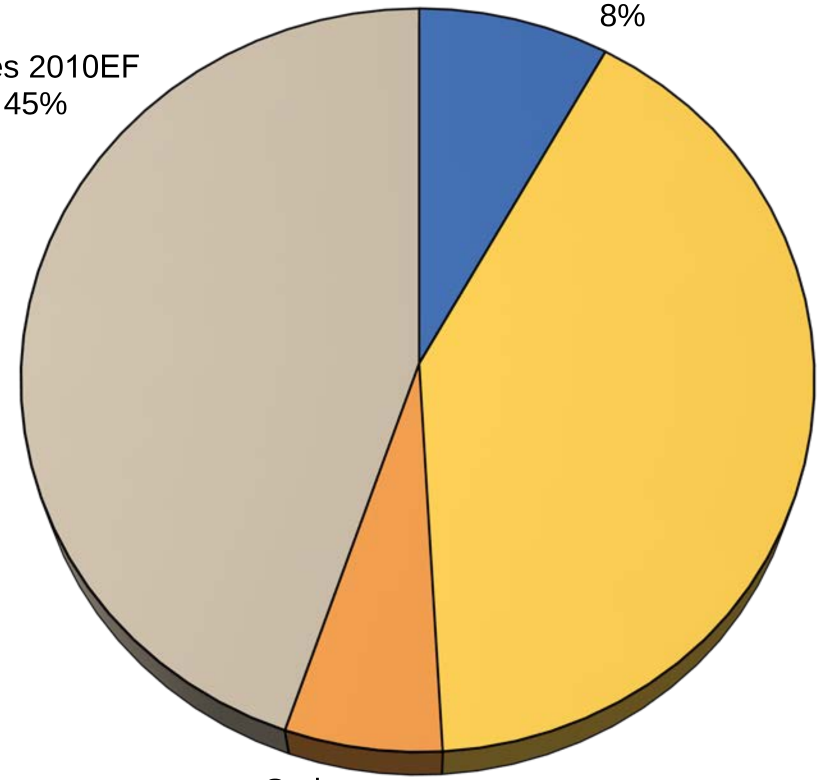
History of Recent Fed Rate Hikes	
Dec '18	2.25 – 2.50%
Sept '18	2.00 – 2.25%
Jun '18	1.75 – 2.00%
Mar '18	1.50 – 1.75%
Dec '17	1.25 – 1.50%
Jun '17	1.00 – 1.25%
Mar '17	0.75 – 1.00%
Dec '16	0.50 – 0.75%
Dec '15	0.25 – 0.50%

Source: Federal Reserve and Bloomberg. Individual dots represent each Fed members' judgment of the midpoint of the appropriate target range for the federal funds rate at each year-end. Fed funds futures as of 12/19/2018.

Investment Strategy and Portfolio Characteristics

Allocation of Bond Reserve Portfolios

	Market Value[1]
Series 2009	-
Series 2010A	1,103,194
Series 2010B	5,595,510
Series 2010C	837,287
Series 2010EF	6,107,268
Series 2010H	-
Series 2013	-
Total	**13,643,259**



1. Includes accrued interest and money market funds.

Portfolio Recap

- Investors gravitated toward lower-risk assets through the final months of 2018 as volatility surged, stocks lost their footing, credit spreads widened, and the belly of the curve (maturities between one and five years) began trading at rates lower than shorter- and longer-term securities (maturities one year or less and maturities greater than five years). U.S. Treasury yields reversed course during the quarter as maturities beyond one year declined 30 – 40 basis points (0.30% to 0.40%).

- For the past several quarters we have positioned the portfolio with a duration less than that of the benchmark. This benefited the portfolio for most of 2018 as the Federal Reserve raised rates, and yields across the curve increased. However, in the fourth quarter, sudden shifts in market sentiment caused interest rates to fall, which eroded some of those benefits, negatively impacting portfolio performance versus the benchmark. At the same time, the declines in longer-term yields positively impacted the portfolio's absolute performance.
  - Our strategy over the past several months was to actively reduce exposure to credit sectors (and increase allocations to safer U.S. Treasuries), which helped to reduce relative underperformance versus the benchmark as U.S. Treasuries outperformed credit sectors for the quarter.
  - The federal agency sector generated positive returns for the fourth quarter, adding to the overall performance of the portfolio, while underperforming comparable U.S. Treasuries.
  - After yields narrowed to 12-month lows in the third quarter, spreads on commercial paper issuers rebounded in the fourth quarter. As a result, the portfolio benefited from additional allocations to these high-quality, short-term credit instruments at attractive yields.

Sector Allocation and Compliance

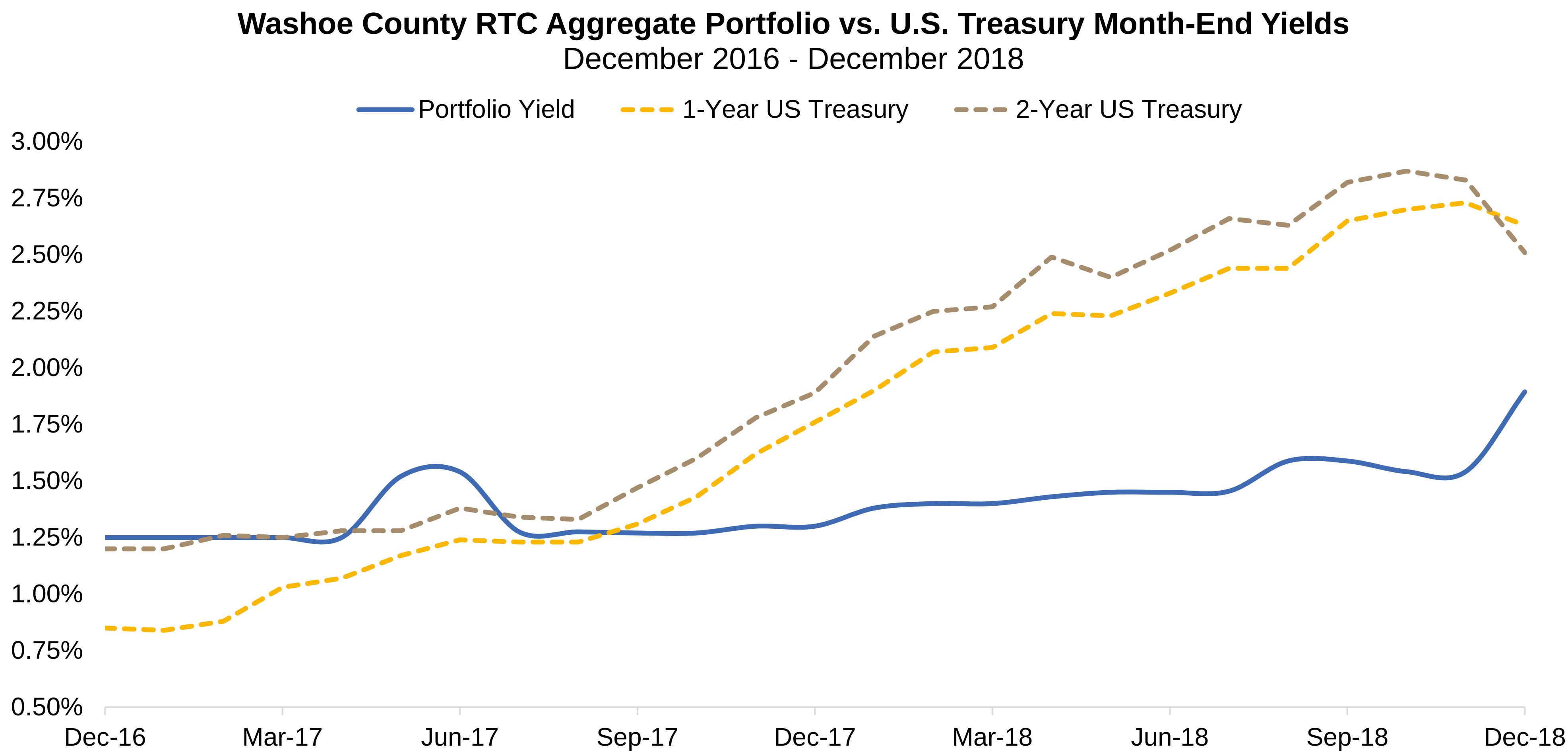
- The portfolio is in compliance with the County's Investment Policy and Nevada Revised Statutes.

Security Type	Market Value	% of Portfolio	% Change vs. 9/30/18	Permitted by Policy	In Compliance
U.S. Treasury	$11,431,905	84.2%	+1.1%	100%	✓
Federal Agency	$245,866	1.8%	+0.9%	100%	✓
Commercial Paper	$1,787,028	13.2%	-2.4%	20%	✓
Securities Sub-Total	**$13,464,799**	**99.2%**			
Accrued Interest	$68,618				
Securities Total	**$13,533,417**				
Money Market Fund	$109,841	0.8%	+0.4%	100%	✓
Total Investments	**$13,643,259**	**100.0%**			

As of December 31, 2018. Detail may not add to total due to rounding. Current investment policy as of December 2011.

Portfolio Yield

- The yield to maturity at cost on the aggregate portfolio was 1.89% as of December 31, 2018.
  - The average portfolio yield was 1.51% over the last trailing twelve months (1/1/18 – 12/31/18) compared to the average yield of 1.31% during the prior year's trailing twelve months (1/1/17 – 12/31/17).



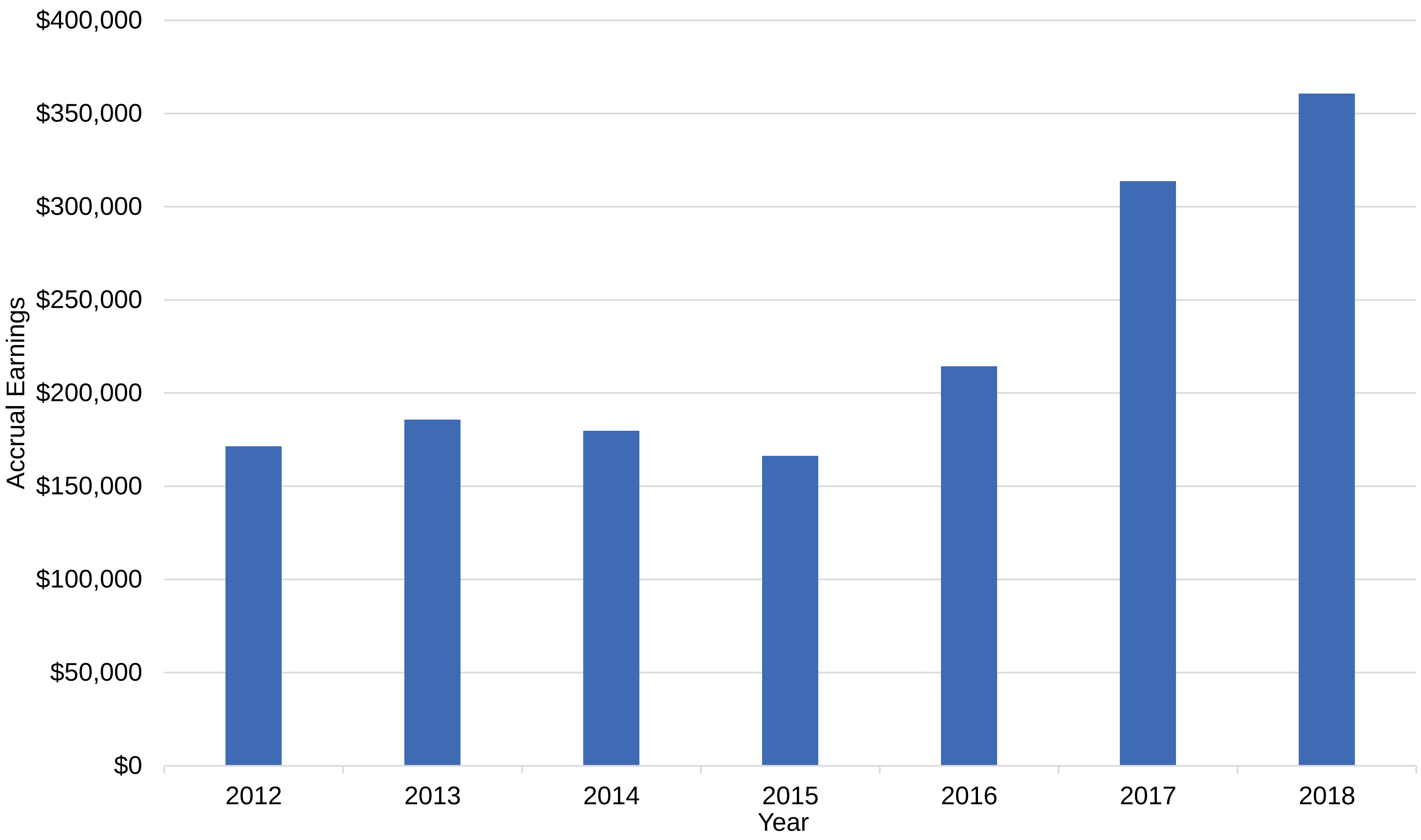
Source: Bloomberg

Portfolio Earnings

Quarter-Ended December 31, 2018

	Market Value Basis	Accrual (Amortized Cost) Basis
Beginning Value (09/30/2018)	$27,283,405.03	$27,536,900.39
Net Purchases/Sales	($13,933,158.21)	($13,933,158.21)
Change in Value	$114,552.62	($12,920.63)
Ending Value (12/31/2018)	$13,464,799.44	$13,590,821.55
Interest Earned	$77,273.96	$77,273.96
Portfolio Earnings	$191,826.58	$64,353.33

Accrual Earnings by Year

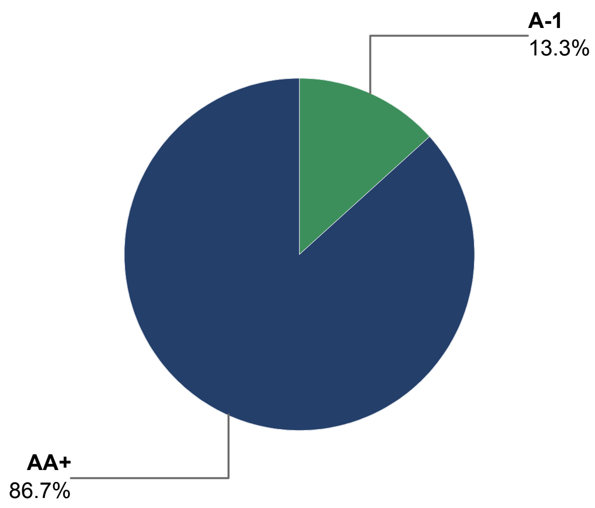


Portfolio Statistics

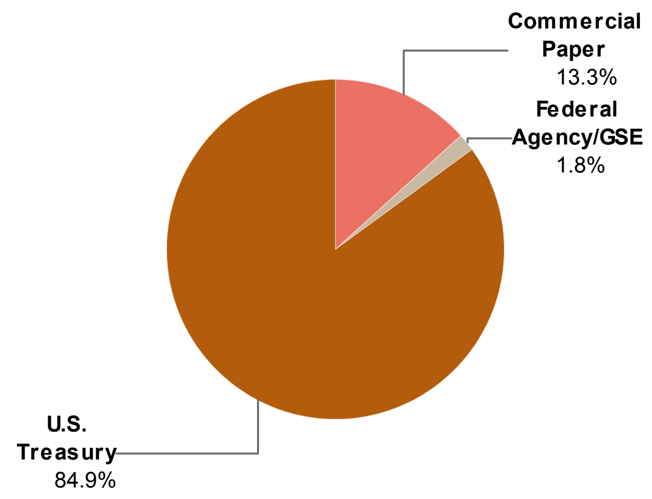
As of December 31, 2018

Par Value:	$13,658,000
Total Market Value:	$13,643,259
Security Market Value:	$13,464,799
Accrued Interest:	$68,618
Cash:	$109,841
Amortized Cost:	$13,590,822
Yield at Market:	2.60%
Yield at Cost:	1.89%
Effective Duration:	1.17 Years
Duration to Worst:	1.17 Years
Average Maturity:	1.20 Years
Average Credit: *	AA

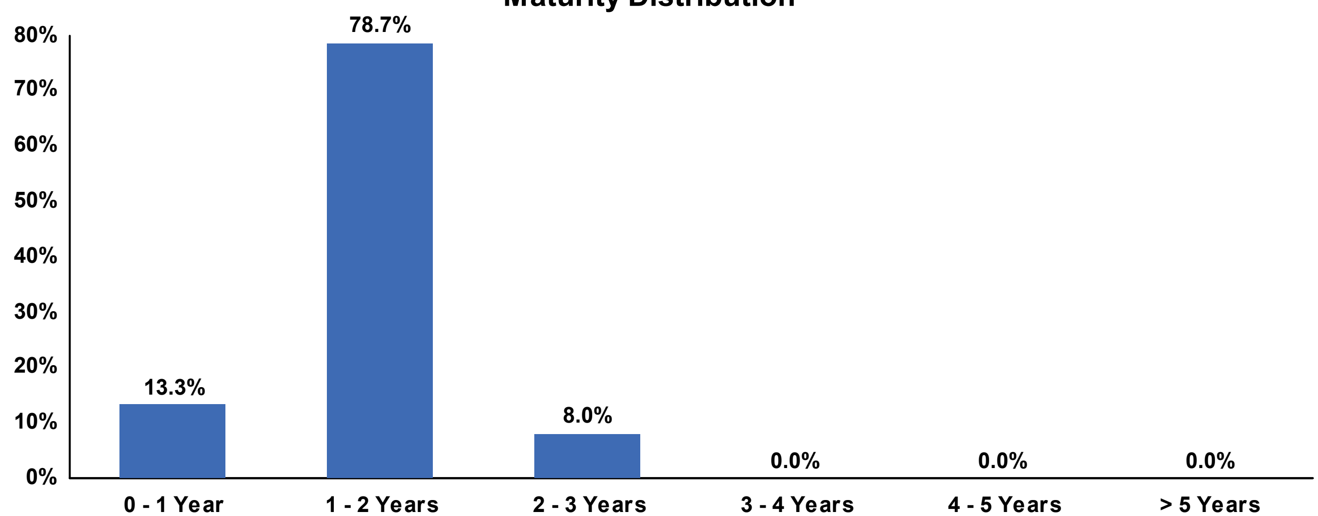
Credit Quality (S&P Ratings)



Sector Allocation



Maturity Distribution



* *An average of each security's credit rating assigned a numeric value and adjusted for its relative weighting in the portfolio.*

Issuer Distribution

As of December 31, 2018

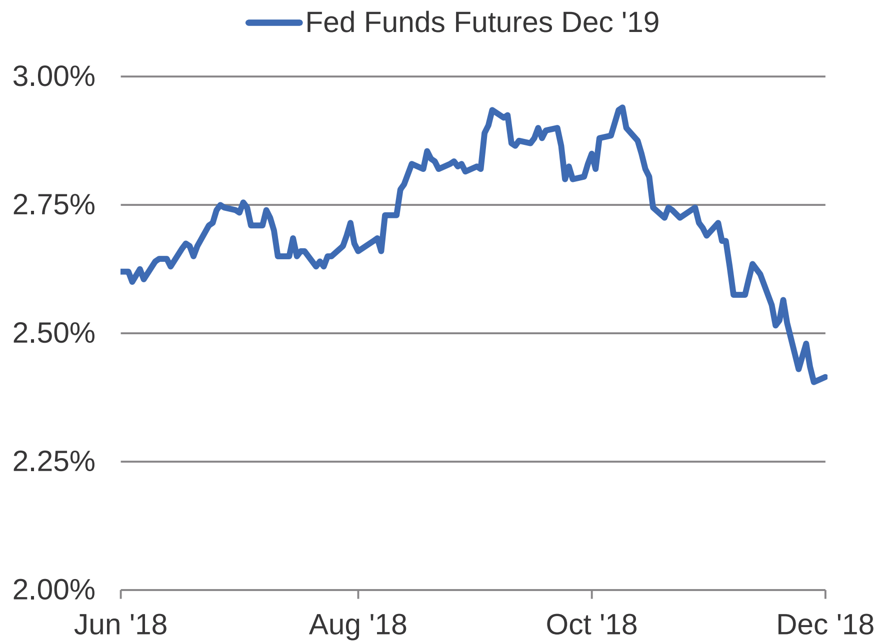
Issuer	Market Value ($)	% of Portfolio
UNITED STATES TREASURY	11,431,905	84.9%
CREDIT AGRICOLE SA	897,324	6.7%
JP MORGAN CHASE & CO	889,704	6.6%
FANNIE MAE	245,866	1.8%
Grand Total:	**13,464,799**	**100.0%**

Fed Expectations for 2019 Less Optimistic

- According to the Federal Open Market Committee meeting minutes from December, the Committee believes that risks to the economic outlook are roughly balanced, but it will continue to monitor global economic and financial developments and assess their implications for the economic outlook.
- The Committee has grown less optimistic regarding near-term economic growth as its December projections for 2019 real GDP and inflation have decreased from the prior quarter's expectations.

Indicator	2018		2019		Longer run	
	Sept.	Dec.	Sept.	Dec.	Sept.	Dec.
Real GDP (YoY)	3.1%	**3.0%**	2.5%	**2.3%**	1.8%	**1.9%**
Unemployment Rate	3.7%	3.7%	3.5%	3.5%	4.5%	**4.4%**
PCE Inflation (YoY)	2.1%	**1.9%**	2.0%	**1.9%**	2.0%	2.0%
Core PCE (YoY)	2.0%	**1.9%**	2.1%	**2.0%**	-	-
Federal Funds Rate (Median)	2.4%	2.4%	3.1%	2.9%	3.0%	2.8%

Market Implied Expectations Drop for Fed Funds Rate at Year-End 2019



Source: Federal Reserve, Bloomberg as of 12/31/2018.

Investment Strategy Outlook

- While the path of future Fed rate hikes is less clear than in recent years, we expect future tightening (additional Fed rate hikes) to be modest. Further, political gridlock adds additional uncertainty. As a result, we will seek to increase portfolio duration to be more in line with (neutral to) the benchmark.

- Our outlooks for the major investment-grade fixed income sectors are as follows:
    - Federal agency spreads (incremental yield) remain very narrow as most maturities offer less than five basis points (0.05%) of incremental yield relative to U.S. Treasuries. We will continue to moderate use of agencies where yield differences are narrow, seeking better relative value in either Treasuries or other sectors. Callable agencies will continue to be evaluated, and, where analyses indicate strong value, we will seek to utilize these securities as portfolio diversifiers.
    - Short-term money market investors continue to reap the rewards of current monetary policy as the fed funds effective rate now nears two and a half percent. Commercial paper has since normalized following very narrow yield differences at year-end, and once again provide an attractive, high-quality source of incremental income.

Account Transactions and Holdings

Quarterly Portfolio Transactions

Trade Date	Settle Date	Par ($)	CUSIP	Security Description	Coupon	Maturity Date	Transact Amt ($)	Yield at Market	Realized G/L (BV)
INTEREST									
10/1/18	10/1/18	0	MONEY0002	MONEY MARKET FUND			149.51		
11/1/18	11/1/18	0	MONEY0002	MONEY MARKET FUND			1,279.22		
12/3/18	12/3/18	0	MONEY0002	MONEY MARKET FUND			3,888.19		
Total INTEREST		**0**					**5,316.92**		
MATURITY									
10/17/18	10/17/18	800,000	25214PE58	DEXIA CREDIT LOCAL SA NY COMM PAPER	0.00%	10/17/18	800,000.00		0.00
10/22/18	10/22/18	800,000	09659CKN7	BNP PARIBAS NY BRANCH COMM PAPER	0.00%	10/22/18	800,000.00		0.00
10/29/18	10/29/18	900,000	06538CKV2	MUFG BANK LTD/NY COMM PAPER	0.00%	10/29/18	900,000.00		0.00
Total MATURITY		**2,500,000**					**2,500,000.00**		**0.00**
SELL									
12/18/18	12/19/18	2,430,000	912828SD3	US TREASURY NOTES	1.25%	1/31/19	2,438,315.99	2.41%	(3,797.33)
12/18/18	12/19/18	2,220,000	912828SD3	US TREASURY NOTES	1.25%	1/31/19	2,227,597.31	2.41%	(3,469.17)
12/18/18	12/19/18	400,000	912828SD3	US TREASURY NOTES	1.25%	1/31/19	401,368.89	2.41%	(625.07)
12/18/18	12/19/18	1,350,000	912828SD3	US TREASURY NOTES	1.25%	1/31/19	1,354,619.98	2.41%	(2,109.64)
12/18/18	12/19/18	3,000,000	912828SD3	US TREASURY NOTES	1.25%	1/31/19	3,010,266.65	2.41%	(4,688.06)
12/18/18	12/19/18	220,000	912828SD3	US TREASURY NOTES	1.25%	1/31/19	220,752.89	2.41%	(343.79)
12/18/18	12/19/18	350,000	912828B33	US TREASURY NOTES	1.50%	1/31/19	351,642.41	2.39%	(513.02)
12/18/18	12/19/18	1,500,000	912828H52	US TREASURY NOTES	1.25%	1/31/20	1,483,863.79	2.67%	(20,574.17)

Trade Date	Settle Date	Par ($)	CUSIP	Security Description	Coupon	Maturity Date	Transact Amt ($)	Yield at Market	Realized G/L (BV)
Total SELL		**11,470,000**					**11,488,427.91**		**-36,120.25**

Managed Account Detail of Securities Held

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
U.S. Treasury Bond / Note											
US TREASURY NOTES DTD 02/02/2015 1.250% 01/31/2020	912828H52	350,000.00	AA+	Aaa	11/22/2016	11/23/2016	348,195.31	1.42	1,830.84	349,379.31	344,941.45
US TREASURY NOTES DTD 02/02/2015 1.250% 01/31/2020	912828H52	285,000.00	AA+	Aaa	11/22/2016	11/23/2016	283,530.47	1.42	1,490.83	284,494.58	280,880.90
US TREASURY NOTES DTD 02/02/2015 1.250% 01/31/2020	912828H52	255,000.00	AA+	Aaa	11/22/2016	11/23/2016	253,685.16	1.42	1,333.90	254,547.78	251,314.49
US TREASURY NOTES DTD 02/02/2015 1.250% 01/31/2020	912828H52	1,275,000.00	AA+	Aaa	11/22/2016	11/23/2016	1,268,425.78	1.42	6,669.50	1,272,738.92	1,256,572.43
US TREASURY NOTES DTD 02/02/2015 1.250% 01/31/2020	912828H52	1,680,000.00	AA+	Aaa	11/22/2016	11/23/2016	1,671,337.50	1.42	8,788.04	1,677,020.69	1,655,718.96
US TREASURY NOTES DTD 02/02/2015 1.250% 01/31/2020	912828H52	3,000,000.00	AA+	Aaa	8/13/2018	8/14/2018	2,944,335.94	2.55	15,692.93	2,958,642.57	2,956,641.00
US TREASURY NOTES DTD 07/31/2015 1.625% 07/31/2020	912828XM7	48,000.00	AA+	Aaa	11/22/2016	11/23/2016	48,105.00	1.56	326.41	48,045.92	47,319.36
US TREASURY NOTES DTD 07/31/2015 1.625% 07/31/2020	912828XM7	395,000.00	AA+	Aaa	7/27/2017	7/28/2017	396,141.80	1.53	2,686.11	395,606.78	389,398.90
US TREASURY NOTES DTD 07/31/2015 1.625% 07/31/2020	912828XM7	1,240,000.00	AA+	Aaa	11/22/2016	11/23/2016	1,242,712.50	1.56	8,432.34	1,241,186.27	1,222,416.80
US TREASURY NOTES DTD 07/31/2015 1.625% 07/31/2020	912828XM7	1,740,000.00	AA+	Aaa	11/22/2016	11/23/2016	1,743,806.25	1.56	11,832.47	1,741,664.61	1,715,326.80
US TREASURY NOTES DTD 07/31/2015 1.625% 07/31/2020	912828XM7	240,000.00	AA+	Aaa	11/22/2016	11/23/2016	240,525.00	1.56	1,632.07	240,229.60	236,596.80
US TREASURY NOTES DTD 01/31/2016 1.375% 01/31/2021	912828N89	1,100,000.00	AA+	Aaa	11/22/2016	11/23/2016	1,086,292.97	1.68	6,329.48	1,093,070.88	1,074,777.00
Security Type Sub-Total		**11,608,000.00**					**11,527,093.68**	**1.78**	**67,044.92**	**11,556,627.91**	**11,431,904.89**
Federal Agency Bond / Note											
FNMA NOTES DTD 08/01/2017 1.500% 07/30/2020	3135G0T60	250,000.00	AA+	Aaa	4/26/2018	4/27/2018	244,155.00	2.57	1,572.92	245,877.15	245,866.25

Managed Account Detail of Securities Held

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Security Type Sub-Total		**250,000.00**					**244,155.00**	**2.57**	**1,572.92**	**245,877.15**	**245,866.25**
Commercial Paper											
CREDIT AGRICOLE CIB NY COMM PAPER DTD 05/17/2018 0.000% 02/11/2019	22533UPB3	900,000.00	A-1	P-1	8/13/2018	8/14/2018	889,140.00	2.43	0.00	897,540.00	897,324.30
JP MORGAN SECURITIES LLC COMM PAPER DTD 08/27/2018 0.000% 05/24/2019	46640QSQ5	900,000.00	A-1	P-1	8/28/2018	8/28/2018	882,649.50	2.63	0.00	890,776.49	889,704.00
Security Type Sub-Total		**1,800,000.00**					**1,771,789.50**	**2.53**	**0.00**	**1,788,316.49**	**1,787,028.30**
Managed Account Sub Total		**13,658,000.00**					**13,543,038.18**	**1.89**	**68,617.84**	**13,590,821.55**	**13,464,799.44**
Securities Sub-Total		**$13,658,000.00**					**$13,543,038.18**	**1.89%**	**$68,617.84**	**$13,590,821.55**	**$13,464,799.44**
Accrued Interest											**$68,617.84**
Total Investments											**$13,533,417.28**

Bolded items are forward settling trades.

IMPORTANT DISCLOSURES

This material is based on information obtained from sources generally believed to be reliable and available to the public; however, PFM Asset Management LLC cannot guarantee its accuracy, completeness or suitability. This material is for general information purposes only and is not intended to provide specific advice or a specific recommendation. All statements as to what will or may happen under certain circumstances are based on assumptions, some, but not all of which, are noted in the presentation. Assumptions may or may not be proven correct as actual events occur, and results may depend on events outside of your or our control. Changes in assumptions may have a material effect on results. Past performance does not necessarily reflect and is not a guaranty of future results. The information contained in this presentation is not an offer to purchase or sell any securities.

- Market values that include accrued interest are derived from closing bid prices as of the last business day of the month as supplied by Interactive Data, Bloomberg, or Telerate. Where prices are not available from generally recognized sources, the securities are priced using a yield based matrix system to arrive at estimated market value.
- In accordance with generally accepted accounting principles, information is presented on a trade date basis; forward settling purchases are included in the monthly balances, and forward settling sales are excluded.
- Performance is presented in accordance with the CFA Institute's Global Investment Performance Standards (GIPS). Unless otherwise noted, performance is shown gross of fees. Quarterly returns are presented on an unannualized basis. Returns for periods greater than one year are presented on an annualized basis. Past performance is not indicative of future returns.
- Bank of America/Merrill Lynch Indices provided by Bloomberg Financial Markets.
- Money market fund/cash balances are included in performance and duration computations.
- Standard & Poor's is the source of the credit ratings. Distribution of credit rating is exclusive of money market fund/LGIP holdings.
- Callable securities in the portfolio are included in the maturity distribution analysis to their stated maturity date, although, they may be called prior to maturity.
- MBS maturities are represented by expected average life.

GLOSSARY

- **ACCRUED INTEREST:** Interest that is due on a bond or other fixed-income security since the last interest payment was made.
- **AGENCIES:** Federal agency securities and/or Government-sponsored enterprises.
- **AMORTIZED COST:** The original cost of the principal of the security is adjusted for the amount of the periodic reduction of any discount or premium from the purchase date until the date of the report. Discount or premium with respect to short-term securities (those with less than one year to maturity at time of issuance) is amortized on a straight-line basis. Such discount or premium with respect to longer-term securities is amortized using the constant yield basis.
- **BANKERS' ACCEPTANCE:** A draft or bill or exchange accepted by a bank or trust company. The accepting institution guarantees payment of the bill as well as the insurer.
- **COMMERCIAL PAPER:** An unsecured obligation issued by a corporation or bank to finance its short-term credit needs, such as accounts receivable and inventory.
- **CONTRIBUTION TO DURATION:** Represents each sector or maturity range's relative contribution to the overall duration of the portfolio measured as a percentage weighting. Since duration is a key measure of interest rate sensitivity, the contribution to duration measures the relative amount or contribution of that sector or maturity range to the total rate sensitivity of the portfolio.
- **DURATION TO WORST:** A measure of the sensitivity of a security's price to a change in interest rates, stated in years, computed from cash flows to the maturity date or to the put date, whichever results in the highest yield to the investor.
- **EFFECTIVE DURATION:** A measure of the sensitivity of a security's price to a change in interest rates, stated in years.
- **EFFECTIVE YIELD:** The total yield an investor receives in relation to the nominal yield or coupon of a bond. Effective yield takes into account the power of compounding on investment returns, while nominal yield does not.
- **FDIC:** Federal Deposit Insurance Corporation. A federal agency that insures bank deposits to a specified amount.
- **INTEREST RATE:** Interest per year divided by principal amount and expressed as a percentage.
- **MARKET VALUE:** The value that would be received or paid for an investment in an orderly transaction between market participants at the measurement date.
- **MATURITY:** The date upon which the principal or stated value of an investment becomes due and payable.
- **NEGOTIABLE CERTIFICATES OF DEPOSIT:** A CD with a very large denomination, usually $1 million or more, that can be traded in secondary markets.
- **PAR VALUE:** The nominal dollar face amount of a security.

GLOSSARY

- **PASS-THROUGH SECURITY:** A security representing pooled debt obligations that passes income from debtors to its shareholders. The most common type is the mortgage-backed security.
- **REPURCHASE AGREEMENTS:** A holder of securities sells these securities to an investor with an agreement to repurchase them at a fixed price on a fixed date.
- **SETTLE DATE:** The date on which the transaction is settled and monies/securities are exchanged. If the settle date of the transaction (i.e., coupon payments and maturity proceeds) occurs on a non-business day, the funds are exchanged on the next business day.
- **TRADE DATE:** The date on which the transaction occurred; however, the final consummation of the security transaction and payment has not yet taken place.
- **UNSETTLED TRADE:** A trade which has been executed; however, the final consummation of the security transaction and payment has not yet taken place.
- **U.S. TREASURY:** The department of the U.S. government that issues Treasury securities.
- **YIELD:** The rate of return based on the current market value, the annual interest receipts, maturity value, and the time period remaining until maturity, stated as a percentage on an annualized basis.
- **YTM AT COST:** The yield to maturity at cost is the expected rate of return based on the original cost, the annual interest receipts, maturity value, and the time period from purchase date to maturity, stated as a percentage on an annualized basis.
- **YTM AT MARKET:** The yield to maturity at market is the rate of return based on the current market value, the annual interest receipts, maturity value, and the time period remaining until maturity, stated as a percentage on an annualized basis.