GREENLEAF TRUST

Perspectives

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William D. Johnston
Chairman, Greenleaf Trust

Economic Commentary

Happy New Year! On behalf of the entire team at Greenleaf Trust I offer our very sincere hope and wish that 2016 will be a terrific year for you and those that are dear to you. This month we will spend some time detailing what the current economic indicators are relating about our economy and also focus on what we see the economic picture to be like in 2016.

Presently, our economy is acting similar to what we have experienced over the past seven years (incremental growth in jobs and GDP). Data reported by Forbes as of December 30th of 2015 in key indicators is as follows.

EMPLOYMENT

CATEGORY	12/30/15	12/30/14	Change
Civilian Labor Force	157,301,000	156,402,000	.57%
Employed	149,364,000	147,331,000	1.38%
Initial Jobless Claims	21,985,000	21,895,000	0.42%
Continuing Jobless Claims	19,597,000	19,425,000	0.89%
Unemployment Rate	5.0%	5.8%	- 13.79%
U-6 Unemployment Rate	9.9%	11.4%	- 13.19%
Avg. Duration Unemployed	28 weeks	33 weeks	- 15.15%
Employment to population ratio	59.3%	59.2%	- .17%
Online Help Wanted Ads	5,684,000	5,234,000	8.60%

On balance, this is what we would expect from an economy growing at slightly above 2% year over year and creating about 200,000 new jobs per month in a country with a population growth rate of less than 1% per year. Critics of our economic growth have said that our civilian labor force is shrinking yet the data doesn't support that assumption. Our labor force and population growth rates are about even. The data demonstrates that two million more people are working today than were working at the end of 2014. Reported as well as U-6 unemployment rates are approaching normal full employment levels and several regions of our economy are reporting unemployment rates below three percent. Not surprisingly those regions are also experiencing wage increase rates in advance of the national average. The meeting notes of the last FOMC meeting, at which the Fed Funds rate was raised 0.25%, revealed some prolonged focus of several Fed Governors suggesting that labor force slack was diminishing and that expectation of increased wage rate increases were warranted. We have noted for some time that skilled and in-demand occupation wages have seen

Commentary, continued

"… significant unemployment created by the economic collapse, created the condition of stagnant wages over the past seven years. Current levels of employment as well as job growth suggest that those conditions may change in 2016."

significant increases year over year as slack in those areas was depleted long ago. The depth of the 2008/2009 recession, and significant unemployment created by the economic collapse, created the condition of stagnant wages over the past seven years. Current levels of employment as well as job growth suggest that those conditions may change in 2016.

CONSTRUCTION

Category	12/30/2015	12/30/2014	Change
New Housing Permits	1,289,000	979,900	19.46%
New Housing Starts	1,173,000	1,079,000	16.48%
Residential Spending	405 billion	347 billion	16.82%
Home Price Index	197.62	188.07	5.08%
New Home Sales	490,000	449,000	9.13%

The Case-Shiller data recently released is significant. While there are a few regions that continue to see excess inventory of homes, those regions are rapidly dwindling and several of the 10 composite SMSA regions are showing a return to peak 2006 prices. It is not difficult to find anecdotal stories of home owners who walked away from homes in 2009 and 2010 when their values were substantially below their mortgage balances only to find that their previous dream home has now fully recovered in market value. I have yet to find a solid statistical analysis that tracked the mortgage default values from 2009/2010 through to the current recovery, and I know that it isn't easy for individuals to foresee a brighter future in the face of doom and gloom panic. You have to at least wonder in retrospect how much more help and creativity our collective bodies such as the Fed and Treasury could have offered to homeowners caught in what now appears to be a short to medium term squeeze. Individual circumstances are just that, and nine years of asset value recovery may seem like a very long time to wait, yet the facts are detailing what was forecasted by many including us. The financial crisis created a recession that devalued real as well as financial assets would be followed by a slow growth economy for the next decade and the housing surplus excess created by greed-based financial instruments would take ten years to chew through. The significance of the Case-Shiller survey data is that in general (with some exceptions) the housing recovery has occurred.

PRODUCTION

Production indicators are dominated by energy, commodities, oil, mining and specialized utilities that support those industries. In this category all sectors are down year over year anywhere from -1.91% (petroleum capacity) to -61.5% (rotary rigs running). Most other sectors in the category were down in the teens, percentagewise. The capacity declines are reflective of the global supply glut that will not go away soon. The reduction in workforce within these industries nationwide is approaching five hundred thousand. As you can imagine the impact on our GDP has been negative and spreads across many sectors most notably, manufacturing, housing and retail. GDP forecasts for 2016 by most economists don't include growth contributions by this category.

CONSUMPTION and DISTRIBUTION

Category	12/30/15	12/30/14	Change
Total Auto / Truck sales	17.65 million units	16.96 million units	4.0 %
Consumer Spending	12.4 trillion	12.1 trillion	2.35%
Personal Income	15.6 trillion	14.9 trillion	4.60%
Personal Savings Rate	5.5%	4.3%	27.91%
Consumer Confidence	96.5%	3.4%	9 3.65%
Durable Goods Orders	242 billion $	243 billion $	-0.99%
Factory Shipments	478 billion	499 billion	- 4.79%
Retail Sales	448 billion	442 billion	1.35%

Personal income grew by 4.6%, which is a healthy growth rate, and consumer confidence was high — so why wasn't the consumer a stronger engine of growth? The savings rate tells much of the story. A 27% savings growth rate will definitely impact an economy as Japan well knows and who now is appealing to the Japanese population to part with some of their savings to boost the economy. I don't expect such an appeal to be a part of the political theatre of the 2016 Presidential election but it is plain to see that, other than for autos and homes, the confident US consumer's are saving their money. With unemployment declining and personal income rising, I'm not so sure a higher savings rate is a bad thing.

"… so why wasn't the consumer a stronger engine of growth? The savings rate tells much of the story."

All in all, 2015 was another incremental growth year that put more people to work and pulled more slack out of the labor force, even in the face of an imploding energy sector that laid off several hundred thousand employees and a strong dollar that impacted those industries that export their goods and services.

I read an interesting review of a study by Professors Bullock from University of Texas and Prior of Princeton that examined how people view data, and specifically economic data, which I have always felt was pretty straightforward because it either is going in the right or the wrong direction and, therefore, is becoming healthier or worse. Their study revealed that most people view economic data based upon their political beliefs and whether "their" party is in power. It didn't matter whether the respondents in the survey were Republicans or Democrats — since the survey began in 1983 the results have been consistent. Each person surveyed was asked questions about how they felt about specific economic data. If the President was not of their identified party the data was negative and if the President was of their party the data was reflected as positive. After reading the study results it prompted in my mind the question "Does political spin create the perception in the voter's mind or was it already there?"

We are looking forward to presenting our annual Year in Review and Look Forward Seminar on January 12th in Kalamazoo and on January 14th in Birmingham. Jim Gray and Dan Haines, along with our entire research team as well as our executive leadership team, will join me on those evenings. All clients and friends of Greenleaf Trust are invited and encouraged to attend. I hope to see you there. Happy New Year!

Michael F. Odar, CFA
President

I Can't Believe it's 2016 Already

As the old saying goes, time sure does fly when you're having fun. We enjoy our work and who we go to work for every day – our clients. And while we had a blast in 2015, we also accomplished a lot. So on the last day of the year, I am taking a few minutes to reflect on the previous 364 days that went by in the blink of an eye.

Two words that come to mind when I think about 2015 and our 17th year in business are growth and maturity. I believe over the course of the year we grew both smarter and stronger. And in doing so, we developed more capabilities for our clients. Below are some of the accomplishments that exemplify our growth and maturity.

- Won 11 awards at the state and national level in recognition of our unique culture including:
  - ◊ Number 23 of 50 Best Small & Medium Workplaces by Great Place to Work® and Fortune Magazine.
  - ◊ Best Places to Work for Millennials – Center for Generational Kinetics, Best Companies Group.
  - ◊ 100 Best Workplaces for Women – Great Place to Work®.
- Welcomed 10 new talented team members with diverse backgrounds, credentials, and industry experience. We now have 94 "Greenleafians."
- Opened new office locations in Traverse City and Petoskey. We also put plans in motion to open a new office in Grand Rapids in 2016.
- Increased assets under management in excess of 8% to just under $8 billion in total for individual, family, foundation, and retirement plan clients.
- Expanded our investment platform to include more access for clients to alternative asset classes and specialized third party investment managers.
- Achieved historic financial results that allowed us to increase performance bonuses for teammates and reinvest for future growth.
- Achieved Client Satisfaction Survey results indicating that over 97% of our clients feel as though they are treated as a very important client.
- Increased our community involvement through volunteer hours and investment as well as shrank our carbon footprint by leveraging technology and reducing the amount of paper sent to clients.
- Built new relationships with outside specialty service providers to benefit our clients in areas such as estate planning, unique asset valuation, family foundation development, and generational tax planning.

On the eve of 2016, we look forward to having just as much fun as we did in 2015. If we do, that will have meant we again filled the year with meaningful work on behalf of our clients.

"... time sure does fly when you're having fun."

The New Education Exception to the 10% Penalty on Early IRA Distributions

Thomas I. Meyers, Esq., CTFA
Trust Relationship Officer

Introduction

Generally, if you take a distribution from your IRA before you reach age 59½, you must pay a 10% additional tax ("penalty") on the early distribution. This applies to any IRA you own, whether it is a traditional IRA (including a SEP-IRA), a Roth IRA, or a SIMPLE IRA. (In fact, the additional tax on an early distribution from a SIMPLE IRA may be as high as 25%.)

However, you can take distributions from your IRAs for qualified higher education expenses without having to pay the 10% penalty. You may still owe income tax on all or a portion of the amount distributed, but you may not have to pay the 10% penalty.

Generally, if the taxable part of the distribution is less than or equal to the "adjusted qualified education expenses" ("AQEE"), none of the distribution is subject to the 10% penalty. If the taxable part of the distribution is more than the AQEE, only the excess is subject to the penalty.

"… you can take distributions from your IRAs for qualified higher education expenses without having to pay the 10% penalty."

Who Is Eligible?

You can take a distribution from your IRA before you reach age 59½ and not have to pay the 10% penalty if, for the year of the distribution, you pay qualified education expenses for yourself, your spouse, or you or your spouse's child, adopted child, foster child, or descendant of any of them.

Qualified Education Expenses

For purposes of the 10% penalty, "qualified" education expenses are tuition, fees, books, supplies, and equipment required for enrollment or attendance at an eligible educational institution. They also include expenses for special needs services incurred by or for special needs students in connection with their enrollment or attendance.

In addition, if the student is at least a half-time student, room and board are qualified education expenses. But the expense for room and board qualifies only to the extent that it is not more than the greater of the following two amounts:

1. The allowance for room and board, as determined by the eligible educational institution, that was included in the cost of attendance (for federal financial aid purposes) for a particular academic period and living arrangement of the student; or
2. The actual amount charged if the student is residing in housing owned or operated by the eligible educational institution.

211 SOUTH ROSE STREET, KALAMAZOO, MI 49007 269.388.9800

Education Exception, continued

"An eligible educational institution is… virtually [any] accredited public, nonprofit, and proprietary (privately owned profit-making) post-secondary institution."

Eligible Educational Institution

An eligible educational institution is any college, university, vocational school, or other postsecondary educational institution eligible to participate in a student aid program administered by the U.S. Department of Education. It includes virtually all accredited public, nonprofit, and proprietary (privately owned profit-making) post-secondary institutions. The educational institution should be able to tell you if it is an eligible educational institution. Note that certain educational institutions located outside the United States also participate in the U.S. Department of Education's Federal Student Aid (FSA) programs.

Half-Time Student

A student is enrolled "at least half-time" if he or she is enrolled for at least half the full-time academic work load for the course of study the student is pursuing as determined under the standards of the school where the student is enrolled.

Figuring the Amount Not Subject to the 10% Penalty

To determine the amount of your distribution that is not subject to the 10% penalty, first figure your adjusted qualified education expenses. You do this by reducing your total qualified education expenses by any tax-free educational assistance, which includes:

- Expenses used to figure the tax-free portion of distributions from a Coverdell education savings account;
- The tax-free part of scholarships and fellowship grants;
- Pell grants;
- Veterans' educational assistance;
- Employer-provided educational assistance; and
- Any other non-taxable (tax-free) payments (other than gifts or inheritances) received as educational assistance.

Do not reduce the qualified education expenses by amounts paid with funds the student receives as:

- Payment for services, such as wages;
- A loan;
- A gift;
- An inheritance given to either the student or the individual making the withdrawal; or
- A withdrawal from personal savings.

If your IRA distribution is equal to or less than your adjusted qualified education expenses, you are not subject to the 10% penalty.

Reporting Early Distributions

By January 31 of each year, the payer of your IRA distribution should send you Form 1099-R, Distributions From Pensions, Annuities, Retirement or Profit-Sharing Plans, IRAs, Insurance Contracts, etc. The information on this form will help you determine how much of your distribution is taxable for income tax purposes and how much is subject to the 10% penalty.

If you received an early distribution from your IRA, you must report the taxable earnings on Form 1040, line 15b (Form 1040NR, line 16b). Then, if you qualify for an exception for qualified higher education expenses, you must file Form 5329 to show how much, if any, of your early distribution is subject to the 10% penalty.

Forget the Year Ahead… Think Bigger!

Karen A. Bouche, CTFA
Executive Vice President
Family Office Advisor

The new year always brings with it a bit of ambition. A fresh start and a new set of months to work toward meeting those annual goals, whatever they may be. According to the Statistic Brain Research Institute, about 45% of Americans usually make New Year's resolutions but a mere 8% are successful in achieving them. How do they do it? Common tips for success include: keep it simple and realistic, be specific and tangible, measure your progress and, if you're brave enough, report your progress to others! It strikes me that if it is this difficult for one person to achieve success in an area that they alone have defined and deemed important, what happens to the statistics when the goals are shared? Some people that make resolutions state that they ultimately fail because they put others' needs in front of their own; that their desire to do more for their teammates at work, their children, or friends tends to take the time that they would have otherwise dedicated to themselves. If that is true, then a shared vision should have better statistics for success! Imagine if a family creates a shared vision and each year sets individual goals to make their own positive impact with that end vision in mind. The potential impact of articulating this vision could have lasting positive effects as families grow and generations multiply, all intentionally tying their own personal goals to the shared family vision.

It is easy to relate the concept of New Year's resolutions to the constant desire for growth and improvement for ourselves and our loved ones. Why should our goals be constrained to only 12 months? The time always seems to fly by too fast and the concept of starting over every year is not inspiring when you're talking about long-term goals and vision. Rather, the year could be

"… about 45% of Americans usually make New Year's resolutions but a mere 8% are successful in achieving them. How do they do it?"

Think Bigger, continued

a checkpoint to be sure you're headed in the right direction as an individual and as a group.

In the work that we do with families, we talk periodically about Family Governance. Family Governance is a term often used in reference to the structure that a wealthy family creates to efficiently manage the family's assets which could include family businesses, investments or other endeavors that the family has an interest in. More importantly, it lays out the structure of the growth and succession plan for future generations. It can help define at what age children in the family may gain access to the family's wealth, become involved with the family business, attend family meetings or retreats, and have a vote in the family's philanthropic endeavors. It could define the requirements necessary to be involved with family activities. It may lay out how often family meetings are and what topics family members can expect to learn about at various ages. It may seem overly structured to some, and it is. But for families with significant wealth and complexity in their lives, taking the time to create a shared vision for the future may be the first and most important step leading to success in achieving it. It helps to create clarity on what the family stands for, what is expected of family members and most importantly helps provide each family member with the tools necessary to keep the vision alive, for generations to come.

Chris A. Middleton, CTFA
Executive Vice President
Director of Retirement Plan Division

Millennials and the Student Loan Crisis

Millennials could be facing late retirement-- perhaps even as late as age 75. That equates to an average retirement date 13 years later than today's average retiree. What is the main driver of this shift? Student loan debt.

The average student loan debt today is $35,051, which is an increase of over $5,500 since 2012. Obviously a larger debt translates into larger monthly payments, which diverts money that could otherwise be going toward retirement savings. In just the last three years, the monthly payment for the average student loan debt has risen by more than $60. Although $60 does not sound significant, compounding these higher aggregate loan payments over several decades equates to a nest egg reduction of more than 30%, or nearly $700,000 by retirement age!

When people are locked into higher debt payments they are simply going to save less. The inability to save early is also met with the loss of earning interest and the powerful compounding effect on those savings. A bad combination, to be sure.

The impact of this student loan crisis is already rearing its ugly head within first-time home buyer metrics in an important way. The new buyers continue to be older. The median age is now 33, which is no surprise considering most student loans are repaid over a 10 year timeline. Just as one debt is being cancelled, another is started in the form of a mortgage payment. Intensifying this perfect storm, Millennials are spending larger portions of their income to buy these homes. In the 1970s first time home buyers purchased homes that cost about 1.7 times their annual income. Today that cost is averaging 2.6 times the new buyer's annual income.

Of course, there are many other issues impacting the likelihood of Millennials to take financial control of their life at an early age. Some cite a general distrust for investing because they have lived through some significant market turbulence. Others would mention the draw of immediate gratification and point out the obvious ways in which Millennials often pursue a life they desire despite the long-term financial detriment. Still others highlight the skyrocketing costs of higher education, which continue to challenge even financially well-prepared families and students. These are all valid topics but probably deserve their own article.

Regardless of the hurdles, Millennials do have one distinct advantage over everybody else: time. Four or five decades of saving and compounding are a financial game changer that can allow for successful outcomes. To use that time wisely though, this young generation needs to increase their savings rate from the current median of 6%. If a 23-year-old could save 15% per year, they could bring their expected retirement age down into the mid 60s, a decade earlier than their counterparts. Someone who finds a way to save 20% could retire in their early 60s, nearer today's retirement age. Of course, they might be hanging out with their parents down south while they wait for all of their friends to retire but there are worse things to endure, like being financially forced to find a part-time job at age 75.

"...compounding these higher aggregate loan payments over several decades equates to a nest egg reduction of more than 30%..."

Dan J. Rinzema, CFA, CFP®
Chief Client Officer

"We not only want to know if we are delivering on our promises, but we also crave candid feedback on our shortcomings."

Survey Says…

Continuous improvement is one of Greenleaf Trust's core values - it is a pillar of our culture and has become part of our DNA. Every tangible improvement we have made on behalf of our clients stems from a disciplined review of our practices. As we look for opportunities to serve our clients better, we begin by listening to those that matter most — our clients.

Our annual client satisfaction survey is designed to gauge Greenleaf Trust's collective efforts from our clients' perspective. We not only want to know if we are delivering on our promises, but we also crave candid feedback on our shortcomings. Analyzing the results helps us more closely align the voice of our clients with our daily impact and better understand how our clients feel about Greenleaf Trust's personalized service and customized solutions. The aim is to listen to client comments and suggestions so that we can enhance the services provided on their behalf. Simply put: when our clients speak, we listen.

Looking back, the 2013 year-end client satisfaction survey revealed that the format of our investment performance reporting could be improved to better meet the individual needs of our clients, as only 84% of respondents found the report meaningful. Given this feedback, we made it our goal to provide more customized, relevant and meaningful performance reporting. We heard what our clients wanted and responded with updated performance reports tailored to their specific needs. As a result, satisfaction with our quarterly investment performance report format jumped to 97%. Additionally, the 2014 year-end client satisfaction survey revealed that many clients wanted consolidation of monthly statement packaging. We listened and responded quickly by consolidating statement packaging starting in January of this year and the corresponding statement satisfaction score now registered at 98%.

When sending the 2015 survey, we asked for candid responses. Our clients answered in kind and survey participation more than tripled the industry average. Thank you to those that took the time to respond — we truly value your feedback. The following is a summary of what we heard you, our clients, say.

2015 CLIENT SATISFACTION SURVEY RESULTS
PERSONAL TRUST & WEALTH MANAGEMENT

99% find their Client Centric Team members to be easily accessible
99% feel their questions and concerns are answered in a prompt and satisfactory manner
96% are satisfied with the frequency of contact
98% feel as though they are treated as a very important client
98% believe we listen to and understand their unique goals and objectives
97% believe their accounts are tailored to meet their unique financial goals and objectives
93% believe we are successful in meeting their investment needs
94% say they would refer an individual to Greenleaf Trust
Satisfaction scores with our account statements, performance reports and newsletters uniformly exceeded 97%.

While we are pleased with the generally high marks received, we recognize there is always room for improvement. So, in order to enhance the value of our relationship with our clients and to achieve our standing goal of 100% client satisfaction on all fronts, we will intently focus on the specific suggestions and comments received. This includes individual client requests ranging from improved performance, to more interactive website tools, to additional communication regarding Greenleaf Trust's outlook regarding financial markets and corresponding portfolio positioning.

On the performance front, we have responded by enhancing our process with additional resources and a quality driven screen as outlined by Jim Gray, Chief Investment Officer, in the November Perspectives article entitled Fishing in the Right Pond. We are also currently exploring a cutting edge online platform that would revolutionize how our clients access their accounts through our website. While this will be a longer project to fully implement, we are committed to enhancing our clients' online experience. Lastly, our Research and Wealth Management teams are focusing on communication regarding trending economic and financial market topics and portfolio positioning through more consistent "News and Views" email messages, monthly trade letters, quarterly outlook documents, *Perspectives* articles, seminars, and a soon to be released monthly market themes piece — to name a few.

Again, thank you to all of our clients who took the time to respond to our recent client satisfaction survey. The overall response rate was gratifyingly high and the comments overwhelmingly positive. My colleagues and I are always receptive to your suggestions, and we hope you will never hesitate to share your candid opinions with us — when you speak, we listen. Thank you for allowing Greenleaf Trust the continued privilege of serving on your behalf.

"While we are pleased with the generally high marks received, we recognize there is always room for improvement."

If you'd like to join us in our efforts to conserve natural resources and create a greener environment, you may choose to save paper by receiving email notifications to view your statement online. Simply give us a call at 269.388.9800 and ask to speak with a member of your client centric team.

Christopher D. Burns, CFA, CPA
Fixed Income Associate

May the Forecast be with You

Let me offer a mea culpa. This article touches on two topics which can get wonky very quickly, Star Wars and bonds. Apologies in advance to fanatics of either topic for omissions or simplifications contained herein.

Over the holiday weekend, I went to see *Star Wars: The Force Awakens*. The film has been very successful with a worldwide box office gross now over $1 billion.[1] There are no spoilers in this article, so if you are among the few yet to see the movie, read on without hesitation.

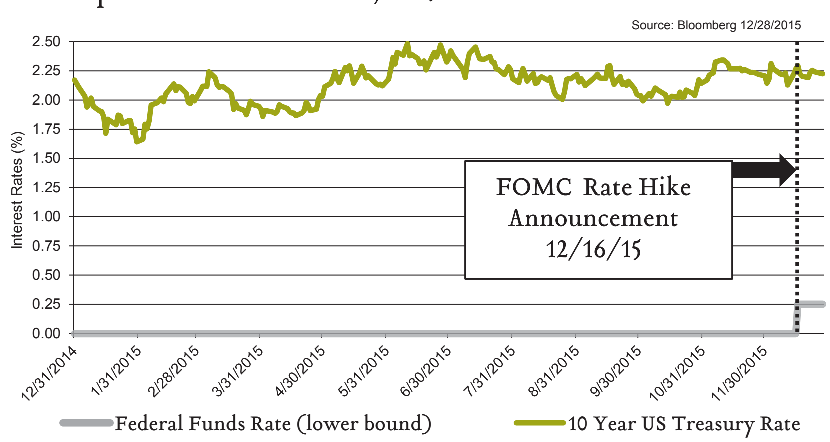
In the film, the Resistance battles the First Order for intergalactic supremacy. The Resistance is affiliated with the Light Side of the Force, while the First Order represents the Dark Side. Back in the 1977 film *Star Wars: Episode IV – A New Hope*, Obi-Wan Kenobi gave the first definition of The Force, saying:

"The Force is what gives a Jedi his power. It's an energy field created by all living things. It surrounds us and penetrates us. It binds the galaxy together." [2]

"For investors, the closest thing we have to The [Jedi] Force is the federal funds rate."

For investors, the closest thing we have to The Force is the federal funds rate. It represents the costs (benefits) of borrowing (lending) short-term funds in the US banking system and is set by the Federal Reserve. Many investors base the valuation of other assets, including longer-term bonds, credit, equities, currencies and real assets, off of the current value of the federal funds rate and their forecasts of this rate in the future.[3] In this way, the federal funds rate penetrates other areas of the financial markets and binds them together.

In December, the Federal Open Market Committee (FOMC) decided to raise their target for the federal funds rate one quarter of one percent (0.25%).[4] This decision, and the path of future rate hikes, is likely to impact the valuation of all financial assets. However, in this article I will focus on Greenleaf's views on the cyclical impact to intermediate US bonds which represent the bulk of our clients' fixed income assets. We will begin by reviewing how US interest rates have reacted since the announcement became public on December 16, 2015.



Very briefly, to explain how interest rates affect bond prices: if interest rates rise, bond prices fall and vice versa. As a bondholder, you are concerned that interest rates will rise rapidly and dramatically. As the chart above demonstrates, longer-term bond prices have reacted only modestly to the FED's decision. Perhaps counterintuitively, as the federal funds rate rose, 10 year yields fell!

How could this be? Are bond investors not paying attention, too busy planning their trip to the movie theatre for *Star Wars*? No, we posit that in fact there are different forces driving short-term interest rates and long-term interest rates and that a modest reaction from longer-term bondholders may indeed be rational and appropriate.

First, the reader should know the two extremes of competing ideas about how investors price bonds, the Light and Dark Side of the bond world, if you will. The first is the Pure Expectations Hypothesis. You could think of this idea as the Light Side, a theory that suggests fully rational, risk-neutral investors pricing longer-term bonds solely based on their expectation for future short-term interest rates. According to this theory, if the yield curve is steep (that is, if longer-maturity bonds yield a good deal more than shorter-maturity bonds), as it is today, that simply reflects investors' cumulative expectation that short-term interest rates are set to rise quickly in the future. At the other extreme is the Random Walk Theory. In this analogy, this would be the Dark Side, postulating that the shape of the yield curve reflects only investors' required compensation (a premium) for bearing interest rate risk and telling you nothing about expectations for the path of future interest rates; think unpredictability and chaos. According to this theory, steep yield curves suggest greater returns for holding long-term bonds, not an expectation of rising rates.[5]

Our view is that the truth lies somewhere in the middle. We believe useful information can be gleaned from looking at the current structure of the yield curve, but that there is also a time-varying premium required for investors to hold longer-term bonds. To build our expectations, we prefer analyzing drivers of short and long-term interest rates separately, and incorporating expectations for those drivers into our analysis. Such an analysis is not simple, as some drivers have counteracting effects on rates.

A summary of the most important drivers, and their typical impact and importance is shown in the table on the following page.

"… to explain how interest rates affect bond prices: if interest rates rise, bond prices fall and vice versa."

SHORT-TERM INTEREST RATES		LONG-TERM INTEREST RATES	
DRIVER	IMPACT	DRIVER	IMPACT
Monetary Policy	The FED uses monetary policy to set the federal funds rate target. This is the primary benchmark for short-term rates.	Monetary Policy	The FED uses its communications to guide market expectations of future federal funds rate targets. As mentioned, the Pure Expectations Hypothesis suggests that long-term rates are simply investors' expectation of future short-term rates. If expectations of future hikes increase, so too may longer-term yields.
Inflation	The FED has a dual mandate of full employment and stable prices. Higher inflation (i.e. unstable prices) implies higher policy rates.	Inflation	The impact is twofold: • higher inflation raises expectations of future federal funds rates, and • generally, higher inflation uncertainty increases yields as investors demand a greater premium to hold longer bonds.
Labor Market	The other side of the FED's dual mandate; lower unemployment implies the potential for higher policy rates because the FED does not need to be as accommodative to support the labor market.	Labor Market	Lower unemployment creates scarcity for workers and has the potential to raise real wages. Rising wages have the potential to increase aggregate demand and generate demand-pull inflation, which coincides with rising long-term interest rates.
		Consumption and Productivity Growth	Higher consumption and productivity growth suggests higher real interest rates.
		Curve Steepness	Reflects some combination of expected future interest rates and a risk premium. [6]

"In the specific instance of the FED's decision to raise interest rates in December 2015, longer-term rates may be reacting to these drivers in countervailing ways."

There are myriad other factors that could be mentioned, but I will stop here for the sake of brevity.

In the specific instance of the FED's decision to raise interest rates in December 2015, longer-term rates may be reacting to these drivers in countervailing ways. To the extent that rising short-term rates slow consumption growth and inflation expectations, longer-term bond yields might be biased downward. However, an expectation of quickly rising short-term rates in the future may serve to raise longer-term bond yields as investors expect greater returns from buying and reinvesting in shorter-term bonds. In this way, we view investors' modest reaction to the rate hike as balanced and appropriate for the risks present in the market.

To further this thinking, you could consider the counterfactual; what if the FED did not raise rates in December? What may have been the reaction of longer-maturity bonds to that decision? Would they have moved lower, to reflect the fact that the FED will be slower in raising short-term interest rates than the market anticipated? Or would they have moved higher, reflecting the idea that easier monetary policy may spur additional inflation? Balancing these risks and generating a forecast is not easy, and we appreciate the inherent uncertainties.

At Greenleaf, we try to be modest about our ability to generate point estimates of future yields and bond prices. We do not think the Force is strong with us and weak with all other investors acting to set current bond prices. Nevertheless, we are positioning our fixed income portfolios to be slightly short of duration (interest rate risk) due to a view that rates may rise faster than the market is expecting. In 2016, we will be watching the FED's action closely and updating our rate expectations and duration positioning accordingly to help meet our clients' financial goals.

"We do not think the Force is strong with us and weak with all other investors..."

Sources

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Stock Market Pulse

Index	12/31/2015	Total Return Since 12/31/2014
S&P 1500	470.91	1.01%
DJIAK	17,425.03	0.21%
NASDAQ	5,007.41	6.96%
S&P 500	2,043.94	1.38%
S&P 400	1,398.58	-2.18%
S&P 600	671.74	-1.97%
NYSE Composite	10,143.42	-6.42%
Dow Jones Utilities	577.82	-3.06%
Barclays Aggregate Bond	108.01	0.48%

P/E Multiples	12/31/2015
S&P 1500	17.6x
DJIAK	14.3x
NASDAQ	20.8x
S&P 500	17.5x
S&P 400	18.5x
S&P 600	19.1x

Key Rates

Fed Funds Rate	0% to 0.25%
T Bill 90 Days	0.17%
T Bond 30 Yr	3.02%
Prime Rate	3.50%

Current Valuations

Index	Aggregate	P/E	Div. Yield
S&P 1500	470.91	17.6x	2.16%
S&P 500	2,043.94	17.5x	2.21%
DJIAK	17,425.03	14.3x	2.51%
Dow Jones Utilities	577.82	NA	3.57%

Spread Between 30 Year Government Yields and Market Dividend Yields: 0.86%

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