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Review for the Period Ending December 31, 2017

Glen Danahey, CIMA®, AIF®, ChFC®

Senior Vice President | Senior Portfolio Manager PNC Institutional Asset Management 1900 East 9th Street Cleveland, OH 44114

Tel: 216-222-9736 Fax: 216-222-9480

glen.danahey@pnc.com



Table of Contents

- I. Capital Markets Review
- II. Investment Policy Statement
- III. Portfolio Review
- IV. Investment Performance

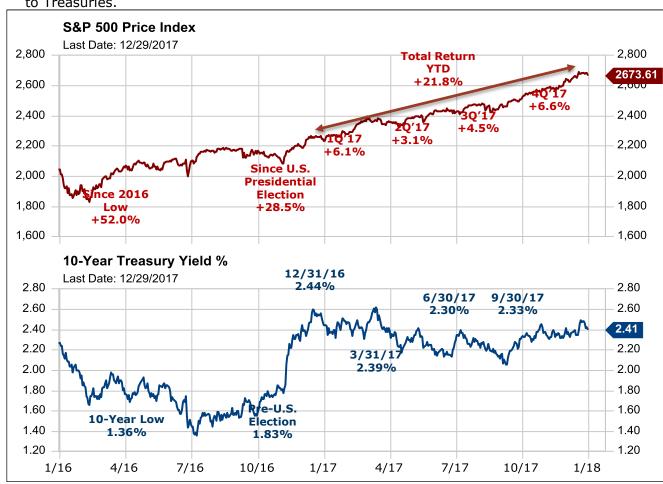




Executive Summary

Capital markets were mostly positive across most asset classes during 2017, despite increasing geopolitical risks.

- There were a number of events in the fourth quarter that gave market participants reason to be optimistic. Geopolitical tensions, while still present, failed to derail this optimism and volatility remained relatively low.
- Global equity markets reached new highs during the quarter, continuing the strong performance for the year, with the lower interest rate environment keeping global economic growth stable at a modest pace.
- During 2017, emerging market and growth style equities outpaced more developed and value style markets, respectively. A weaker dollar during the year further boosted international returns to U.S. investors.
- The U.S. Treasury yield curve continued to flatten during the quarter, with short-term rate increases coinciding with the Federal Reserve's normalization policy. During the year, rate decreases on longer duration Treasuries led to outperformance versus short-intermediate maturities. Continued spread tightening on corporate credit largely produced excess returns to Treasuries.





Fourth Quarter Events

Monetary Policy:

- The Federal Open Market Committee raised the federal funds rate 0.25% to a range of 1.25–1.50% on December 13, the third increase in the federal funds rate in 2017 and the fifth increase since the current tightening cycle began in late 2015.
- For the first time in over a decade, the Bank of England raised its policy rate from 0.25% to 0.5%. The Bank of Japan left monetary policy unchanged at its most recent meeting.
- On October 26, the European Central Bank moved to cut monthly bond purchases from 60 billion euros to 30 billion euros, starting in 2018 and extending through September.

Tax Reform:

- The long-anticipated Republican tax plan was unveiled, and the legislation was finalized and enacted at the end of December. The House and Senate made several compromises to merge their two bills, resulting in marked differences from the original bills.
- As opposed to the original 20% corporate tax rate, the merged bill calls for a 21% rate, becoming effective in 2018 (sooner than Senate bill called for in 2019).
- Most individuals will see changes in taxes this year, with five of seven brackets receiving lower rates.

Geopolitical Instability:

- Prime Minister Theresa May's government met a new setback December 20 when another major cabinet member resigned, following the November resignations of two primary Tory government members. These, and continuing resignations, may threaten future Brexit talks.
- The "war of words" between North Korea and the United States further escalated during the quarter.

 Major Asset Classes Total Returns

 Asset Class
 Index
 3 Month
 1 Yr
 3 Yrs*
 5 Yrs*
 10 Yrs*
 15 Yrs*

 Global Equity
 MSCI ACWI (USD)
 5.8%
 24.6%
 9.9%
 11.4%
 5.2%
 9.6%

 US Equity
 S&P 500®
 6.6%
 21.8%
 11.4%
 15.8%
 8.5%
 9.9%

 Russell 1000®
 6.6%
 21.7%
 11.2%
 15.7%
 8.6%
 10.2%

 Russell 1000® Growth
 7.9%
 30.2%
 13.8%
 17.3%
 10.0%
 7.1%
 9.6%

US Equity	S&P 500®	6.6%	21.8%	11.4%	15.8%	8.5%	9.9%
	Russell 1000®	6.6%	21.7%	11.2%	15.7%	8.6%	10.2%
	Russell 1000® Growth	7.9%	30.2%	13.8%	17.3%	10.0%	10.7%
	Russell 1000® Value	5.3%	13.7%	8.7%	14.0%	7.1%	9.6%
	Russell MidCap®	6.1%	18.5%	9.6%	15.0%	9.1%	12.1%
	Russell 2000®	3.3%	14.6%	10.0%	14.1%	8.7%	11.2%
Non-US Equity	MSCI ACWI ex USA (USD)	5.1%	27.8%	8.3%	7.3%	2.3%	9.2%
	MSCI World ex USA (USD)	4.3%	24.8%	7.9%	8.0%	2.4%	8.7%
	MSCI World Ex USA Small Cap (USD)	5.9%	31.5%	13.4%	11.8%	5.6%	12.2%
	MSCI Emerging Market (USD)	7.5%	37.8%	9.5%	4.7%	2.0%	12.7%
Global Fixed Income	Barclays Global Aggregate	1.1%	7.4%	2.0%	0.8%	3.1%	4.2%
US Fixed Income	Barclays US Aggregate (1-3 Y)	-0.2%	0.9%	0.9%	0.9%	1.9%	2.4%
	Barclays US Intermediate Aggregate	-0.1%	2.3%	1.8%	1.7%	3.5%	3.8%
	Barclays US Intermediate Govt/Credit	-0.2%	2.1%	1.8%	1.5%	3.3%	3.6%
	Barclays US Aggregate	0.4%	3.5%	2.2%	2.1%	4.0%	4.1%
	Barclays US Govt/Credit	0.5%	4.0%	2.4%	2.1%	4.1%	4.2%
	Barclays US High Yield	0.5%	7.5%	6.4%	5.8%	8.0%	9.0%
	S&P/LTSA Leverage Loan Index	0.9%	3.3%	3.7%	3.4%	4.6%	n/a
	Barclays US TIPS	1.3%	3.0%	2.1%	0.1%	3.5%	4.4%
Non-US Fixed Income	Citigroup Non-USD WGBI	1.6%	10.3%	2.0%	-0.3%	2.4%	4.1%
	JPM EMBI Global	0.5%	9.3%	6.8%	3.8%	7.1%	8.9%
Real Assets	Bloomberg Commodity Index	4.7%	1.7%	-5.0%	-8.5%	-6.8%	-0.3%
	S&P Global Infrastructure	1.9%	20.1%	6.1%	9.2%	3.4%	11.4%
	NAREIT All Equity REIT	2.5%	8.7%	6.7%	9.8%	7.8%	11.1%
Private Real Estate	NCREIF National Property Index*	1.7%	6.9%	9.8%	10.3%	6.2%	9.0%
Private Equity	Cambridge Private Equity Index**	3.8%	16.7%	10.4%	13.3%	9.6%	14.2%
Hedge Funds	HERX Equal Weighted Strategies	0.9%	4.7%	2.3%	2.5%	0.0%	1.8%

Hedge Funds HFRX Equal Weighted Strategies 0.9% 4.7% 2.35
Source: FTSE Russell, MSCI, S&P Dow Jones Indices, Bloomberg Barclays Indices, Citigroup, JP Morgan, NAREIT, NCREIF, HFR Indices, Cambridge Associates

Note *NCEIF Data as of 9/30/17, ** Cambridge Private Equity Index as of 9/30/17



U.S. Tax Reform

Progress in Washington was seen at year end, with passage of the second largest tax cut in U.S. history.

2018 Individual Marginal Tax Rate On Income Over						
2018 Tax Rates (2017)	Unmarried Individuals	Married Individuals Filing Joint Returns	For Heads of Households			
10.0%	\$0	\$0	\$0			
12.0% (15%)	\$9,525	\$19,050	\$13,600			
22.0% (25%)	\$38,700	\$77,400	\$51,800			
24.0% (28%)	\$82,500	\$165,000	\$82,500			
32.0% (33%)	\$157,500	\$315,000	\$157,500			
35.0%	\$200,000	\$400,000	\$200,000			
37.0% (39.6%)	\$500,000	\$600,000	\$500,000			

Source: Taxfoundation.org

Individual Tax Summary:

- Retains seven tax brackets; five of seven to see lower rate in 2018 from 2017.
- No "first in, first out" provision, which would have required individual investors looking to exit certain equity positions to sell them in the order they were acquired (potentially resulting in larger capital gains taxes).

Corporate Tax Summary:

- Federal corporate tax rate declines to 21%; corporate alternative minimum tax repealed.
- 100% expensing for capital equipment purchases.
- Reduced tax rate on repatriated foreign profits.
- Corporate net interest deduction capped at 30% of earnings before interest, taxes, depreciation, and amortization for the first five years, and 30% of earnings before interest and taxes thereafter.

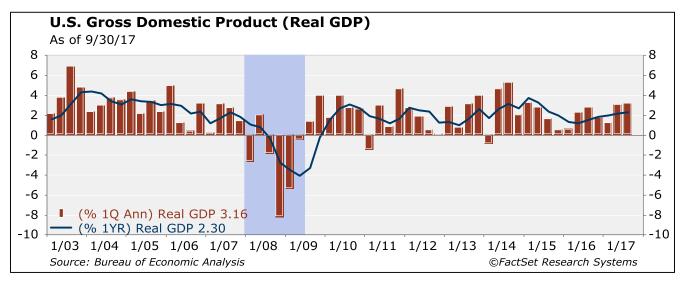
High potential to be stimulative short term, but not devoid of risks.

- We believe the result of this bill, which goes into effect in 2018, should be a net positive for both corporate earnings and economic growth in the short term, mainly 2018 and 2019. The PNC Economics team forecasts real GDP growth to accelerate by as much as 0.4% in 2018 from 2017's growth. For the long term, trend GDP growth is unlikely to be affected by the tax cut.
- The primary risk, in our view, is that adding this degree of fiscal stimulus to an economy already at full employment could lead to an "overheating."



U.S. Economic Review

U.S. economy bounces back with solid economic data following the hurricanes in the third quarter.



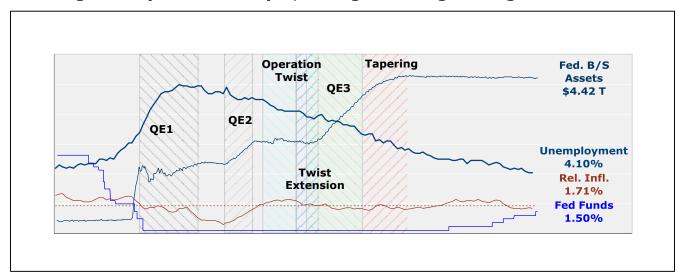
- Final estimate for real GDP in the third quarter was revised up to 3.2% in quarter-over-quarter, annualized terms, marking the fastest growth since 2014.
 The Atlanta Fed GDPNow is forecasting GDP in the fourth quarter to grow 2.7%.
- In the fourth quarter, the U.S. economy added an average of 204,000 jobs per month, above the average of 171,000 for all of 2017. The unemployment rate held steady at 4.1%.
- Modest wage growth remained the one weak spot in 2017, but wage gains have a good chance to pick up to nearly 3.0% as the labor market continues to tighten this year and some of the corporate tax cut are passed along to workers.
- Inflation has remained below the Federal Open Market Committee's (FOMC's) 2.0% target, with the Federal Reserve's primary measure of inflation, the personal consumption expenditure core deflator, at 1.5% year over year. Given the increasingly tight job market, this is unlikely to deter the FOMC from gradual federal funds rate hikes in 2018.

U.S. Economic Indicators				
Real GDP YoY% (3Q Final)	2.3%			
Nonfarm Payrolls YoY% (Dec)	1.4%			
Unemployment Rate (Dec)	4.1%			
Avg. Hourly Earnings YoY% (Dec)	2.5%			
Headline CPI YoY% (Nov)	2.2%			
Real Disposable Inc. YoY% (Nov)	1.9%			
Retail Sales YoY% (Nov)	5.8%			
Existing Home Sales (Nov)	5.81 M			
New Housing Starts (Nov)	1.3 M			
Case Shiller - 20-City YoY% (Oct)	6.4%			
Industrial Production YoY% (Nov)	3.4%			
ISM Manufacturing (Dec)	59.7%			
Non-ISM Manuf. (Dec)	55.9%			
Source: FactSet Research Systems Inc.				



The Federal Reserve (Fed) and U.S. Monetary Policy

Following the widely anticipated December rate hike, the Fed is now looking to keep the status quo, with gradual tightening in 2018 and 2019.



- The Federal Open Market Committee (FOMC) raised the federal funds rate 0.25% to a range of 1.25–1.50% on December 13, the third increase in the federal funds rate in 2017 and the fifth increase since the current tightening cycle began in late 2015.
- In a move seen as comforting to investors, President Donald Trump appointed Fed Governor Jerome Powell as Chair Janet Yellen's replacement.
- Governor Powell reaffirmed continuity on interest rates, but he also signaled he was thinking of how to cushion the next downturn when it occurs.
- The Fed expects to make gradual federal funds rate increases in 2018; the PNC Economics team forecasts three 0.25percentage-point federal funds target hikes in 2018 (June, September, and December).

FOMC Economic Projections

As of 12/13/17 FOMC Meeting

<mark>9/20</mark> 12/13	`17	`18	`19	Long Run
Real GDP	2.4 2.5	2.1 2.5	2.0 2.1	1.8
PCE	1.6 1.7	1.9	2.0	2.0
Fed Funds	1.4	2.1	2.7	2.8

Source: Federal Reserve

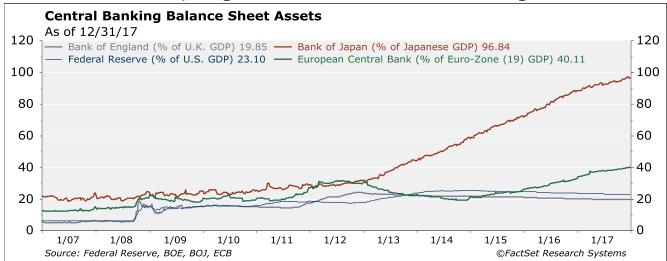
Previous Projection from 9/20 Meeting

Revised Projection From 12/13 Meeting Unchanged Projection

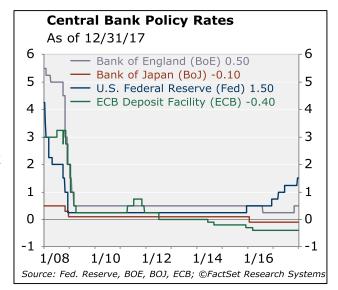


Global Monetary Policy

The European Central Bank (ECB) moves to cut monthly bond purchases in half starting in 2018. The Bank of Japan (BOJ) lowers short-term inflation estimates; long-term estimates remain unchanged.



- On October 26, the ECB moved to cut monthly bond purchases from 60 billion euros to 30 billion euros starting in 2018 and extending through September.
- Following the announcement to begin asset purchase tapering in 2018, the ECB reiterated its commitment to keep Eurozone benchmark interest rates at their present levels "well past the horizon" of the conclusion of net asset purchases.
- For the first time in over a decade, the Bank of England raised its policy rate from 0.25% to 0.5%. The Monetary Policy Committee's decision referred to Brexit as "the most significant influence on, and source of uncertainty about, the economic outlook."
- The BOJ left monetary policy unchanged at its most recent meeting but revised its inflation estimate for fiscal 2018 down from 1.1% to 0.8%. The longer-term inflation forecast remained unchanged, with the BOJ still targeting long-term inflation at 2%.





Developed International Economic Review

Eurozone and Japanese economies continue to show signs of momentum. The United Kingdom lags as inflation erodes purchasing power.

Economic Indicate	ors					
Sector	% of World GDP	Real GDP (YoY%)	Industrial Production (YoY%)	Inflation (YoY%)	Unemployment Rate %	10-Year Govt. Debt Yield %
United States	24.9%	2.3% (3Q)	3.4% (Nov)	2.2% (Nov)	4.1% (Dec)	2.41%
Japan	6.2%	2.1% (3Q)	3.9% (Oct)	0.6% (Nov)	2.7% (Nov)	0.04%
United Kingdom	3.2%	1.7% (3Q)	3.5% (Oct)	3.1% (Nov)	4.3% (Sep)	1.19%
Euro area	15.0%	2.5% (3Q)	3.6% (Oct)	1.7% (Nov)	7.3% (Oct)	0.9%
Germany	4.4%	2.8% (3Q)	5.7% (Nov)	1.6% (Dec)	3.6% (Nov)	0.43%
France	3.1%	2.3% (3Q)	2.5% (Nov)	1.1% (Nov)	9.7% (Sep)	0.77%
Italy	2.3%	1.7% (3Q)	3.4% (Oct)	0.9% (Dec)	11.0% (Nov)	1.98%
Spain	1.6%	3.1% (3Q)	4.1% (Oct)	1.2% (Dec)	16.7% (Nov)	1.54%
Canada	2.1%	3.0% (3Q)	n/a	2.0% (Nov)	5.7% (Dec)	2.04%
South Korea	1.9%	3.8% (3Q)	-1.4% (Nov)	1.5% (Dec)	3.7% (Nov)	2.48%
Australia	2.8%	1.8% (3Q)	3.5% (Sep)	1.8% (Sep)	5.4% (Nov)	2.63%

Source: FactSet Research Systems Inc., International Monetary Fund - World Economic Outlook Database, April 2017

- The European Central Bank made its October asset purchase tapering decision against the backdrop of a solid year for Eurozone growth. Real GDP grew 2.5% in year-over-year terms in the third quarter and has grown faster in those terms than U.S. GDP in three of the last four quarters. Unemployment is at its lowest since 2009. For 2018 the GDP growth estimate was increased from 1.8% to 2.3%, down slightly from 2017's estimate of 2.4% growth.
- The United Kingdom is an exception to 2017's goldilocks theme of low inflation and solid growth. Unlike the rest of the developed world, where rate hikes typically respond to improving growth, the Bank of England's rate hike responds to high inflation. While British jobs data are quite good—the unemployment rate is at its lowest in over 40 years—real GDP growth has lagged the Eurozone, United States, and even Japan in 2017, with inflation helping to erode consumer spending power and businesses reducing capital spending.
- Real GDP growth in Japan of 2.5% in the third quarter outpaced year-over-year estimates of 1.5% growth. This marks the seventh consecutive quarter of growth for Japan, the longest period of continuous economic growth since 2001. The Bank of Japan's measures of underlying inflation met consensus estimates, up 0.8% year over year. Along with help from a currently tight labor market, the Japanese government is attempting to push inflation closer to the central bank's 2.0% target by moving to reduce the corporate tax rate to 25% for companies that will raise wages by 3% or more.



Emerging Markets Economic Review

Economic data in China rebound and capital flows stabilize. Prospects for growth advance forward in Brazil and India.

Economic Indicators							
Sector	% of World GDP	Real GDP (YoY%)	Inflation (YoY%)	Govt. Debt (% of GDP)	Fiscal Balance (% of GDP)	Current Account (% of GDP)	
Emerging Markets	39.9%	n/a	n/a	n/a	n/a	n/a	
China	15.1%	6.8% (3Q)	1.9% (Dec)	15.2% (3Q)	2.4% (4Q)	1.3% (3Q)	
India	3.1%	6.3% (3Q)	4.0% (Nov)	45.9% (3Q)	-1.4% (3Q)	-1.2% (3Q)	
Brazil	2.7%	1.4% (3Q)	2.9% (Dec)	72.9% (3Q)	-4.8% (′15)	0.6% (3Q)	
Russia	2.0%	1.8% (3Q)	2.5% (Nov)	12.3% (3Q)	0.0% (3Q)	-0.6% (3Q)	
Indonesia	1.3%	5.1% (3Q)	3.6% (Dec)	16.4% (3Q)	-2.0% (′15)	-1.7% (3Q)	
Mexico	1.3%	1.6% (3Q)	6.8% (Dec)	45.9% (3Q)	-1.4% (3Q)	-1.8% (3Q)	
Turkey	1.0%	11.1% (3Q)	11.9% (Dec)	25.5% (3Q)	-0.9% (3Q)	-4.4% (3Q)	
Saudi Arabia	0.9%	-0.4% (3Q)	0.1% (Nov)	12.4% (`16)	-12.3% (′16)	5.9% (3Q)	
Argentina	0.8%	3.9% (3Q)	22.3% (Nov)	46.8% (2Q)	-4.6% (3Q)	-5.7% (3Q)	
Poland	0.6%	5.6% (3Q)	2.6% (Nov)	49.9% (3Q)	-0.4% (3Q)	-0.6% (3Q)	

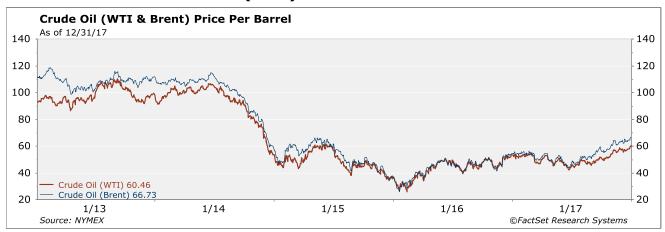
Source: FactSet Research Systems Inc., International Monetary Fund - World Economic Outlook Database, April 2017

- The Caixin China General Services PMI™ rose in consecutive months, up from 51.9 in November to 53.9 in December, more evidence to us that growth momentum seems stable. China's tightened capital controls, administrative restrictions on capital outflows, and the retreat of long-term U.S. interest rates over the course of 2017 have helped stem the capital outflows that threatened Chinese financial stability between 2014 and 2016. However, if long-term U.S. interest rates rise in 2018, we believe outflows may resume.
- We believe China seems headed toward moderate economic growth in 2018 despite tighter monetary policy. Central government expenditures fell 7.3% on the year in October and November 2017 after growing 11.7% in the January–September period. Aggregate financing to the nonfinancial sector grew 12.4% in year-earlier terms in November, close to its slowest since 2006.
- Real GDP in Brazil grew 1.4% in the third quarter from a year earlier, the fastest since first-quarter 2014. Employment grew 1.8% from a year earlier in the August-October period, faster than GDP, a sign to us that output growth is likely to accelerate.
- Moody's Investors Service upgraded India's foreign and local currency government bond ratings from Baa3 to Baa2 on November 16, citing "progress on economic and institutional reforms" that Moody's expects will help raise potential growth and tax revenues and lower India's debt-to-GDP ratio. Moody's also cited the Reserve Bank of India's successful shift to an inflation targeting regime as a tailwind to the growth outlook.

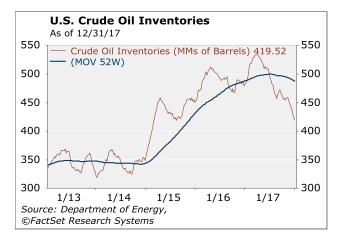


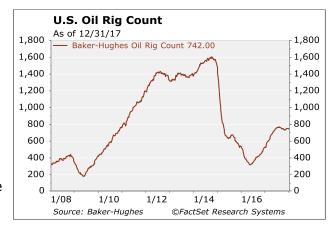
Energy and Policy

OPEC supply cuts, pipeline issues, and escalating Middle East tensions helped drive Brent crude to 2017 highs. U.S. production grew, capping West Texas Intermediate (WTI) oil.



- On December 11, the price of Brent crude jumped above \$65 a barrel for the first time in more than two years, primarily driven by headlines that a crack formed on the Forties pipeline in the North Sea, one of the world's largest pipelines.
- After meeting on November 30, in a unified move dissimilar to past meetings, OPEC members and nonmembers (Russia) decided to extend production cuts to the end of 2018.
- We believe higher global oil prices after Saudi Arabia arrested members of its royal family in November will likely lead to higher U.S. energy industry activity in the coming months and raise domestic crude output to new records in 2018.
- The Baker Hughes rig count, tallying the number of oil drilling rigs operating in the United States, rose in the week of November 10, 2017, to its highest since 2015.
- As U.S. production continues to grow while OPEC is focused on production cuts, WTI prices remain at a steep discount to Brent crude, likely putting a ceiling on additional oil price appreciation in the United States.







Foreign Exchange Rates

The dollar is set to rise in 2018, but foreign currencies will likely catch up by 2019 as the global recovery broadens.









Foreign Exchange Rates

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% Char	ıue ın	USU	Perso	ective

As of 12/31/17		12/31/2016	9/30/2017	12/31/2017	3 Month	1 Year
Trade-Weighted US	SD					
Broad	Nominal	127.56	117.93	120.04	1.8%	-5.9%
Major Currency	Nominal	95.39	87.08	88.92	2.1%	-6.8%
OITP	Nominal	161.88	151.11	153.44	1.5%	-5.2%
Currency Pairs	Country					
USD / EUR	Eurozone	1.05	1.18	1.20	-1.5%	-12.2%
USD / GBP	United Kingdom	1.24	1.34	1.35	-0.8%	-8.7%
JPY / USD	Japan	116.64	112.57	112.65	0.1%	-3.4%
USD / AUD	Australia	0.72	0.78	0.78	0.3%	-7.4%
CAD / USD	Canada	1.34	1.25	1.25	0.2%	-6.6%
MXN / USD	Mexico	20.60	18.16	19.57	7.7%	-5.0%
CNY / USD	China	6.95	6.64	6.51	-2.0%	-6.3%
INR / USD	India	67.87	65.32	63.83	-2.3%	-6.0%
BRL / USD	Brazil	3.25	3.16	3.32	4.9%	1.9%
RUB / USD	Russia	61.04	57.56	57.57	0.0%	-5.7%

Source: Factset Research Systems, PNC Economics



Corporate Earnings and Expectations

The third quarter was the fifth consecutive quarter of positive earnings growth; nearly 75% of companies beat estimates.

- Earnings grew 6.4% in the third quarter, with 9 of 11 sectors delivering positive results; excluding Energy, earnings grew 4.0%.
- Revenue growth also beat expectations, up over 6%, with positive results from every sector, excluding Telecommunication Services and Utilities.
- Bottom-line results outpaced revenues for the third consecutive quarter, indicating to us that margin expansion remains intact.
- Companies continue to surprise with share buybacks to enhance growth on a per-share basis, adding approximately 200 basis points to bottom-line earnings per share (EPS) for the quarter.

Bottoms-Up Consensus Revenue and Earnings Growth Estimates for the S&P 500® GICS Sectors								
	Third Qua	arter 2017		Fourth Qua	rter 2017	CY 2017	CY 2018	
GICS Sector	EPS % Beat	Revenue Growth%	EPS Growth%	Revenue Growth%	EPS Growth%	EPS Growth%	EPS Growth%	
S&P 500	73.8%	6.0%	6.4%	6.8%	10.8%	9.6%	11.6%	
Consumer Disc.	67.5%	3.0%	0.1%	4.7%	1.9%	2.3%	8.8%	
Consumer Staples	76.5%	4.5%	2.7%	4.3%	4.8%	2.4%	7.7%	
Energy	71.9%	19.7%	135.1%	17.1%	131.1%	274.8%	38.2%	
Financials	76.1%	2.3%	8.3%	2.8%	11.8%	6.8%	16.6%	
Health Care	74.2%	4.5%	6.8%	4.7%	3.3%	6.0%	6.5%	
Industrials	73.5%	6.5%	-0.1%	7.3%	1.6%	1.8%	9.4%	
Info. Tech.	91.3%	10.7%	20.0%	10.9%	15.7%	14.4%	13.1%	
Materials	72.0%	15.3%	10.6%	16.7%	29.0%	22.8%	18.5%	
Real Estate	72.3%	5.4%	8.4%	5.6%	2.8%	6.0%	6.5%	
Telecomm. Srvs.	33.3%	-1.0%	0.2%	1.7%	1.0%	1.6%	1.1%	
Utilities	50.0%	-2.8%	-4.0%	6.3%	14.2%	2.2%	4.7%	

Source: FactSet Research Systems Inc., PNC Earnings Updates 3Q17; Earnings Wrap-up November 14, 2017

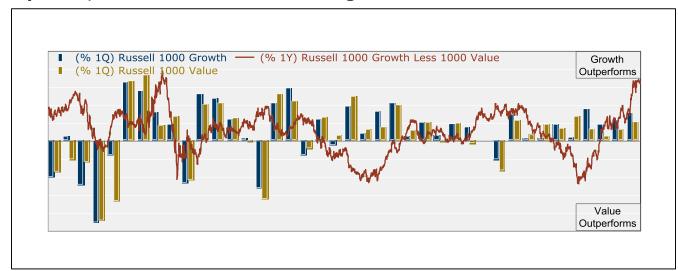
Fourth Quarter, 2017, and 2018 Expectations

- Bottom-up consensus for S&P 500 earnings indicates 10.8% growth on a year-over-year basis for the fourth quarter and 9.6% year-over-year for full-year 2017.
- For 2018, EPS growth is expected to accelerate to 11.6%. Earnings growth is forecasted to moderate in the Energy, Information Technology, Materials, and Telecommunication Services sectors; growth in other sectors is expected to accelerate, most notably in the consumer-related and industrial sectors.
- Currently, we believe 2017 earnings will end the year in a range of \$126-129 per share for the S&P 500. On a fundamental basis, excluding tax reform, we forecast mid-to-high-singledigit earnings growth in 2018 based on our forecast for global nominal growth of 5-7%. Consistent with this, we estimate 2018 S&P 500 EPS should grow to \$135-140, with a target of \$138, which valued the S&P 500 at 19.4x at the end of 2017.



U.S. Equity Markets

Domestic equity markets continued their advance in the fourth quarter, with the S&P 500[®] returning 6.6%.



- The fourth quarter closed out an impressive year that saw the S&P 500 up 21.8%, the best showing by the index since 2013 (32.4%) and third strongest year of the past 10 years after 2009 (26.5%).
- There were a number of events in the quarter that gave market participants reason to be optimistic, including the passage of the Tax Cuts and Jobs Act, continued robust corporate earnings growth, and a Federal Reserve rate hike. Geopolitical tensions, while still present, failed to derail market participant optimism and volatility remained low.
- All Global Industry Classification Standard (GICS) sectors ended the quarter positively, and growth outperformed value by a healthy margin. Consumer Discretionary, Information Technology, and Financials were the strongest-performing sectors in the S&P 500; Utilities, Health Care, and Real Estate were the weakest.
- Large cap stocks outperformed small cap stocks during the quarter, a dynamic that also held true for all of 2017.
- For the full year, growth outperformed value by the widest margin since 2009, a reversal of growth underperformance in 2016.

Domestic Equity Total Returns

As of 12/31/17	3 Month	1 Year	3Y (Ann)
Russell 3000®	6.3%	21.1%	11.1%
S&P 500®	6.6%	21.8%	11.4%
Growth	6.8%	27.4%	12.9%
Value	6.3%	15.4%	9.5%
Consumer Discretionary	9.9%	23.0%	12.8%
Consumer Staples	6.5%	13.5%	8.4%
Energy	6.0%	-1.0%	-0.2%
Financials	8.6%	22.2%	13.9%
Health Care	1.5%	22.1%	8.3%
Industrials	6.1%	21.0%	11.9%
Information Technology	9.0%	38.8%	18.7%
Materials	6.9%	23.8%	9.8%
Real Estate	3.2%	10.8%	6.3%
Telecom Services	3.6%	-1.3%	8.0%
Utilities	0.2%	12.1%	7.4%
Russell 1000®	6.6%	21.7%	11.2%
Growth	7.9%	30.2%	13.8%
Value	5.3%	13.7%	8.7%
Russell Midcap®	6.1%	18.5%	9.6%
Growth	6.8%	25.3%	10.3%
Value	5.5%	13.3%	9.0%
Russell 2000®	3.3%	14.6%	10.0%
Growth	4.6%	22.2%	10.3%
Value	2.0%	7.8%	9.5%

Source: Standard & Poor's, FTSE Russell



Non-U.S. Equity Markets

All major foreign equity indexes posted gains during the fourth quarter and the year, led by the emerging markets. A weaker dollar on the year boosted returns to U.S.-based investors.



- Despite increased geopolitical tensions, uneasy Brexit negotiations, and the Catalonia referendum to separate from Spain, international and emerging markets continued to soar, assisted by a declining dollar, low valuations, and strong earnings.
- In each quarter of 2017, small cap stocks performed better than large caps, and growth stocks outperformed value stocks.
- Cyclical sectors outpaced defensive sectors, with Materials and Energy performing the best during the quarter.
- Geographically, emerging markets outperformed developed countries during the quarter.
- Volatility has been missing in action this year. The CBOE Volatility Index® (VIX® Index), a proxy for market expectations of near-term volatility, has remained near historical lows all year.

Non-US Equity Total Returns (In USDs)

As of 12/31/17	3 Month	1 Year	3Y (Ann)
MSCI ACWI ex USA	5.1%		8.3%
MSCI World ex USA	4.3%	24.8%	7.9%
Growth	5.1%	28.1%	8.8%
Value	3.5%	21.8%	6.9%
MSCI World ex USA SC	5.9%	31.5%	13.4%
Growth	6.5%	34.6%	14.5%
Value	5.3%	28.6%	12.3%
MSCI EAFE	4.3%	25.6%	8.3%
North America	6.4%	21.6%	10.8%
Europe & Mid. East	2.3%	26.0%	7.2%
Europe	2.3%	26.2%	7.3%
Pacific	8.0%	25.0%	10.4%
MSCI Emerging Markets	7.5%	37.8%	9.5%
BRIC	6.6%	42.0%	11.5%
EM Latin America	-2.2%	24.2%	4.1%
EM EMEA	11.8%	25.2%	6.6%
EM Europe	5.3%	21.4%	9.6%
EM Asia	8.4%	43.3%	11.4%
China	7.6%	54.3%	13.0%
MSCI Frontier Markets	5.6%	32.3%	5.5%

Source: MSCI



Taxable Fixed Income Markets

Fixed income markets in the fourth quarter generally continued trends seen throughout 2017, with credit outperforming government.



- Amid the continued reach for yield in the fourth quarter, long Treasuries and long corporates were the best performers, ending a year that saw a rebound in these maturities following a postelection selloff. Short government and short credit were among the bottom performers.
- Non-U.S. outperformed for the quarter and for the year. In the fourth quarter, non-U.S. developed markets outperformed emerging markets as the euro strengthened and Latin American currencies declined mid-quarter. For the year, the declines did not weigh much on performance, with these currencies helping local emerging market debt to some of the strongest returns in the fixed income markets.
- Active management performance continued to mirror trends seen throughout most of 2017. Core fixed managers who overweighed corporates and securitized credit were helped versus their respective multisector benchmarks. Longer curve positioning also helped bolster results.

Global Fixed Income Total Returns

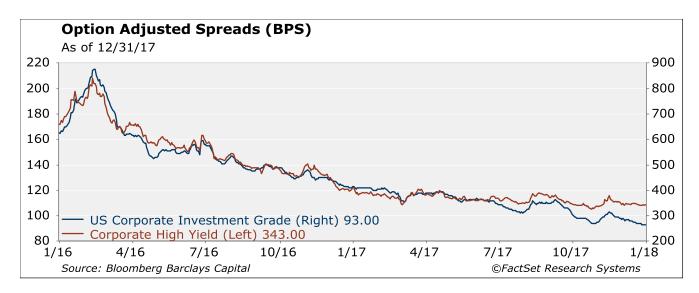
As of 12/31/17	3 Month	1 Year	3Y (Ann)
U.S. Aggregate	0.4%	3.5%	2.2%
Short 1-3 Year	-0.2%	0.9%	0.9%
Intermediate Aggregate	-0.1%	2.3%	1.8%
U.S. Govt/Credit	0.5%	4.0%	2.4%
Intermediate Govt/Credit	-0.2%	2.1%	1.8%
U.S. Treasury	0.1%	2.3%	1.4%
U.S. Treasury (1-3)	-0.4%	0.5%	0.8%
U.S. Treasury (3-5)	-0.6%	1.0%	1.3%
U.S. Treasury (5-7)	-0.5%	1.9%	1.7%
U.S. Treasury (7-10)	-0.3%	2.6%	1.7%
U.S. Treasury (10-20)	0.4%	4.2%	2.2%
U.S. Treasury (20+)	2.6%	9.0%	2.8%
U.S. TIPS	1.3%	3.0%	2.1%
U.S. Credit	1.0%	6.2%	3.6%
Securitized	0.2%	2.5%	1.9%
US MBS Fixed Rate	0.2%	2.5%	1.9%
US ABS	0.0%	1.6%	1.6%
Barclays US Universal	0.4%	4.1%	2.8%
Barclays Global Aggregate	1.1%	7.4%	2.0%
Ex. U.S.	1.6%	10.5%	1.8%
Citigroup Non-USD WGBI	1.6%	10.3%	2.0%
Hedged USD	1.1%	2.1%	2.9%
JP Morgan EMBI Global	0.5%	9.3%	6.8%

Source: Bloomberg Barclays Indices, Citigroup, JP Morgan



Taxable Fixed Income Markets

Reversing a year-long trend, investment-grade credit outperformed decelerating high yield in the fourth quarter.



- U.S. credit spreads saw retracement in November amid concerns of steep valuations and political risk, but rebounded to levels near where they began the month.
- Both investment-grade and high yield saw the biggest gains from commodity-linked industries – energy, metals, and mining.
- In investment grade, utilities and industrials posted stronger results than financials for the quarter and for 2017.
- Telecom, a large high yield index component, sold off for the quarter and lagged for the year on the back of slowing U.S. wireless growth and price pressures.
- In credit, the market favored passive overall. While most active high yield managers outperformed for the quarter, the better part of the universe lagged for the year. While lower quality helped the index for the year, telecom weakness held it back for the quarter.

Corporate Fixed Income Total Returns

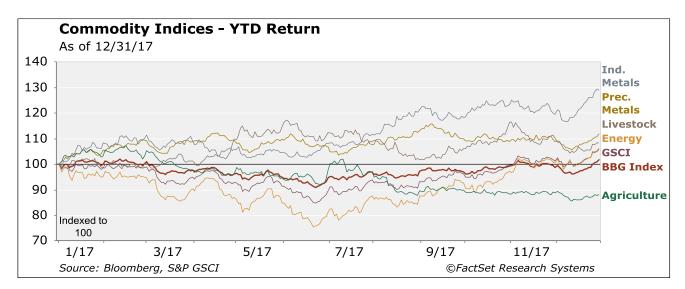
As of 12/31/17	3 Month	1 Year	3Y (Ann)
US Corporate Invest. Grade	1.2%	6.4%	3.9%
Industrials	1.3%	6.7%	4.0%
Basic	2.1%	10.2%	5.1%
Capital Goods	1.0%	5.4%	3.6%
Communications	1.5%	7.2%	4.2%
Consumer Cyclicals	1.3%	5.8%	3.7%
Consumer Non-cyclicals	0.9%	6.3%	3.9%
Energy	2.0%	7.4%	4.4%
Technology	0.8%	6.0%	3.9%
Transportation	0.8%	6.0%	3.9%
Utilities	1.9%	7.6%	4.0%
Electric	1.8%	7.5%	4.0%
Natural Gas	2.6%	8.4%	4.1%
Financial Institutions	0.8%	5.6%	3.7%
Banking	0.7%	5.1%	3.5%
Asset Managers	0.9%	6.3%	4.2%
Finance Company	0.1%	5.1%	4.2%
Insurance	1.5%	7.8%	4.4%
REITs	0.8%	5.7%	3.9%
AAA-Rated	1.9%	8.0%	3.9%
AA-Rated	0.7%	4.6%	3.0%
A-Rated	1.2%	5.9%	3.7%
BAA-Rated	1.2%	7.1%	4.2%
US Corporate High Yield	0.5%	7.5%	6.4%
Ba-Rated	0.4%	7.3%	6.2%
B-Rated	0.4%	6.5%	5.5%
CAA-Rated	1.0%	10.4%	8.4%

Source: Bloomberg Barclays Indices



Alternatives - Commodities

Commodity performance during the quarter was strong, with the Bloomberg Commodity Index rallying to finish the year slightly positive.



- During the quarter, broad-based gains were the result of continued weakness in the dollar and strong global growth, particularly in some emerging economies.
- Energy performance was positive with West Texas Intermediate crude and Brent crude rallying; natural gas continued to see weakness.
- Industrial metals were strong, with continued strength in the Chinese economy helping to drive prices higher.
- Grains were the only point of weakness, with the agricultural complex falling on record fall harvests.
- Despite strong gains in the energy complex, the Alerian Master Limited Partnership (MLP) Index once again fell during the quarter. This decoupling between MLP returns and energy prices was a constant theme in 2017.
- Moving into first-quarter 2018, commodity investors will be anxiously weather watching, Federal Reserve watching, and looking for signs of an economic slowdown.

Commodity Spot Rate Total Returns

As of 12/31/17	3 Month	1 Year	3Y (Ann)
Bloomberg Cmdty. Index	4.7%	1.7%	-5.0%
GS Commodity Index	9.9%	5.8%	-7.5%
Energy	14.8%	6.4%	-9.8%
Crude Oil	16.0%	4.1%	-15.0%
Natural Gas	-10.5%	-36.5%	-24.9%
Heating Oil	14.5%	16.8%	-2.8%
Gasoline	14.5%	4.1%	-0.7%
Industrial Metals	9.2%	29.1%	4.6%
Aluminum	7.6%	30.7%	3.7%
Copper	11.6%	29.4%	4.5%
Lead	-0.3%	22.2%	8.5%
Nickel	21.4%	25.6%	-6.9%
Zinc	6.1%	30.0%	13.8%
Precious Metals	1.9%	12.0%	2.6%
Gold	1.9%	12.8%	2.7%
Silver	2.5%	5.8%	1.7%
Agriculture	-2.0%	-11.9%	-11.2%
Wheat	-8.2%	-12.5%	-19.8%
Corn	-4.6%	-12.1%	-13.8%
Cotton	14.9%	12.5%	8.6%
Livestock	2.0%	8.4%	-6.4%
Cattle	0.9%	9.2%	-4.7%
Hogs CAR Caldan	7.8%	2.8%	-9.6%

Source: Bloomberg, S&P Goldman Sachs Commodity Index



Real Estate Investment Trusts (REITs)/Infrastructure

REITs continued to follow the 2017 trend of underperformance versus broad equities, trailing the S&P 500® in the fourth quarter; higher interest rates and persistent growth sentiments were headwinds.



- REITs reported a gain of 2.5% in the fourth quarter but underperformed the S&P 500 return of 6.6%; the asset class finished the year trailing by over -1,000 basis points.
- While third-quarter earnings-per-share growth for REITs outpaced that of the average S&P 500 sector, in general, value and high dividend securities lagged growth securities, helping to impede REIT performance.
- Sector returns were fairly divergent again in the fourth quarter, with three sectors yielding negative returns: Health Care, Diversified, and Residential. Retail led REITs forward, followed by Lodging, Office, and Self-Storage. Though Industrials and Data Centers lagged the top performers, both ended the year up over 20%.
- Infrastructure performance slowed to end 2017 up only 1.9% for the fourth guarter. Though gains were pared somewhat, the asset class returned 20.1% for the year, leading all alternative categories. Industrials carried returns for the index this quarter as the only sector in positive territory. Utilities and Energy were both 20 negative, hampering overall index returns.

Real Asset Total Returns

As of 12/31/17	3 Month	1 Year	3Y (Ann)
All Equity REITs	2.5%	8.7%	2.5%
All Equity Infrastructure	8.8%	35.4%	8.8%
All Timber	4.9%	21.9%	4.9%
Equity REITs	1.5%	5.2%	1.5%
Data Centers	0.4%	28.4%	0.4%
Diversified	-2.0%	-0.1%	-2.0%
Health Care	-5.3%	0.9%	-5.3%
Industrial	1.8%	20.6%	1.8%
Lodging/Resorts	5.4%	7.2%	5.4%
Office	3.3%	5.2%	3.3%
Residential	-0.2%	6.6%	-0.2%
Retail	6.8%	-4.8%	6.8%
Self Storage	3.3%	3.7%	3.3%
S&P Global Infrastructure	1.9%	20.1%	1.9%

Source: FTSE NAREIT, Standard & Poor's



Capital Markets Outlook

Economic and Asset Class Outlook

Despite elevated asset prices and a business cycle in its latter stages, fiscal stimulus and earnings beats can help drive markets higher in 2018.

- We believe the market can continue its upward trend well into 2018, and we expect global capital inflows into U.S. markets to increase as a result of tax reform. This potential uptick in investor demand could create an additional layer of underlying support for domestic equities, enabling an already high-priced market, in our view, to move even higher.
- The benefits of the new tax bill will likely continue to be priced into the markets as we begin 2018, albeit at varying levels per asset class. Small capitalization corporations seem to have the most potential for positive price movements since they typically have higher effective tax rates than their larger public peers.
- The earnings backdrop should remain supportive of U.S. stocks in 2018, despite pressure on profit margins from rising labor costs, higher input costs, and elevated interest rates. The synchronized global growth and weaker dollar aided multinational company revenues in 2017, and we expect at least the former factor to continue as a tailwind.

The extremely low volatility investors experienced in 2017 is not expected to continue in 2018; history says "mean reversion."

- It's likely, in our view, that equity sign movement will be larger and more frequent this year following the recent, sustained period of depressed volatility. Volatility, in itself, is not a direct influence on ultimate market performance, but it remains noteworthy nonetheless.
- Investors should be mentally prepared for higher volatility in 2018, with increased price fluctuation normal at this point in the business cycle. This volatility will not necessarily be accompanied by *poor* returns, just more "choppy" returns, in our view.

Interest rates will likely be affected by competing forces in the coming year, with certain pieces in place to potentially push rates higher.

• The potential for rising inflation, continued economic growth, and slow/steady central bank tightening may help interest rates move higher in the short term. The cyclical uptrend in inflation, a possibility as the unemployment rate moves toward 4.0%, remains vital to this.

First Quarter 2018 Market Events to Focus on Include:

Event	Date
Vacant Fed Seat Appointments	By 1/31/2018
United States FOMC Meetings	1/31/2018 & 3/21/2018
Italian General Election	3/4/2018
Brexit Negotiations	Ongoing
Catalonian Independence Referendum	Ongoing
German Government Ruling Coalition Talks	Ongoing
U.S. Infrastructure & Immigration Bill Negotiations	Ongoing



Investment Policy Statement

EXHIBIT 4

CLEVELAND PUBLIC LIBRARY

Finance Committee June 14, 2016

RESOLUTION REVISING THE LIBRARY'S INVESTMENT POLICY

- WHEREAS, On March 20, 2014, the Board of Library Trustees approved the Library's Investment Policy; and
- WHEREAS, It is now deemed necessary to amend the Library's Investment Policy; now therefore be it
- RESOLVED, That the Board of Library Trustees approves the attached Cleveland Public Library Investment Policy to become effective June 16, 2016; and be it further resolved
- RESOLVED, That the Fiscal Officer obtain the required acknowledgments and convey this policy to the Auditor of State.

CLEVELAND PUBLIC LIBRARY INVESTMENT POLICY

I. Introduction

The purpose of this investment policy is to establish priorities and guidelines regarding the investment management of the Library's investment funds [hereinafter referred to as the "Portfolio" (section II)] and the Library's endowment funds [hereinafter referred to as the "Endowments" (section III)]. Overall priorities and guidelines for the Portfolio are based upon *Ohio Revised Code* Chapter 135.14 and prudent money management. Guidelines for the Endowments are based upon *Ohio Revised Code* Chapter 2109.37 and 2109.371 as delineated by a 1975 Cuyahoga County Probate Court Order and a ruling from the Cuyahoga County Prosecutor's Office.

The effective date of this policy is June 16, 2016 and represents a revision to the previously submitted policy, dated March 20, 2014. It is the fourth revision to the original policy dated June 17, 2000 (1st revision September 18, 2003; 2nd revision September 15, 2005, 3rd revision March 20, 2014, 4th revision June 16, 2016). This policy includes [totally or partially] sections of the statute in order to describe eligible investments. In some sections, the policy places further limits upon the use of eligible investments or investment transactions.

II. The Portfolio

A. Investment Objectives

The investment objectives of the Portfolio, in priority order, include:

- 1. Compliance with all Federal and State laws
- 2. Safety of principal

Safety of principal is the most important objective. The investment of Library funds shall be conducted in a manner that seeks to ensure the preservation of capital within the context of the following criteria:

Credit Risk

Credit risk is the risk of loss due to the failure of a security issuer to pay principal or interest, or the failure of the issuer to make timely payments of principal or interest. Eligible investments, pursuant to Chapter 135.14 ORC, affected by credit risk include certificates of deposit, commercial paper, and bankers acceptances. Credit risk will be minimized by (1) diversifying assets by issuer; (2) ensuring that required, minimum credit quality ratings exist prior to the purchase of commercial paper and bankers acceptances; and (3) maintaining adequate collateralization of certificates of deposit and other deposit accounts pursuant to the method as determined by the Fiscal Officer.

Revised: June 16, 2016 Page 1

Market risk

The market value of securities in the Library's portfolio will increase or decrease based upon changes in the general level of interest rates. The effects of market value fluctuations will be mitigated by (1) maintenance of adequate liquidity so that current obligations can be met without a sale of securities; (2) diversification of maturities; (3) diversification of assets.

3. Liquidity

The portfolio shall remain sufficiently liquid to meet all current obligations of the Library. Minimum liquidity levels [as a percentage of average investable funds] may be established in order to meet all current obligations. The portfolio may also be structured so that securities mature concurrently with cash needs.

4. Yield

The portfolio shall be managed to consistently attain a market rate of return throughout budgetary and economic cycles. Whenever possible, and consistent with risk limitations and prudent investment management, the Library will seek to augment returns through the implementation of active portfolio management strategies.

B. Authorized Investments (itemized)

- U.S. Treasury Bills, Notes, and Bonds; various federal agency securities including issues of Federal National Mortgage Assn. (FNMA), Federal Home Loan Mortgage Corp. (FHLMC), Federal Home Loan Bank (FHLB), Federal Farm Credit Bank (FFCB), Government National Mortgage Association (GNMA), and other agencies or instrumentalities of the United States. Eligible investments include securities that may be "called" [by the issuer] prior to the final maturity date. Any eligible investment may be purchased at a premium or a discount. All federal agency securities shall be direct issuances of federal government agencies or instrumentalities.
- Bonds and other obligations of this state, or the political subdivisions of this state, provided that, with respect to bonds or other obligations of political subdivisions, all of the following apply:
- (a) The bonds or other obligations are payable from general revenues of the political subdivision and backed by the full faith and credit of the political subdivision.
- (b) The bonds or other obligations are rated at the time of purchase in the three highest classifications established by at least one nationally recognized standard rating service and purchased through a registered securities broker or dealer.
- (c) The aggregate value of the bonds or other obligations does not exceed twenty per cent of interim moneys available for investment at the time of purchase.

(d) The Library is not the sole purchaser of the bonds or other obligations at original issuance.

No investment shall be made under 135.14 (B)(4) of the ORC unless the Chief Financial Officer has completed additional training for making the investments authorized by 135.14 (B)(4). The type and amount of additional training shall be approved by the treasurer of the state and may be conducted by or provided under the supervision of the treasurer of state.

Up to forty per cent of interim moneys available for investment in either of the following:

- Commercial paper notes issued by an entity that is defined in division (D) of section 1705.01 of the Revised Code and that has assets exceeding five hundred million dollars, to which notes all of the following apply:
- (a) The notes are rated at the time of purchase in the highest classification established by at least two nationally recognized standard rating services.
- (b) The aggregate value of the notes does not exceed ten per cent of the aggregate value of the outstanding commercial paper of the issuing corporation.
 - (c) The notes mature not later than two hundred seventy days after purchase.
- (d) The investment in commercial paper notes of a single issuer shall not exceed in the aggregate five per cent of interim moneys available for investment at the time of purchase.
- Bankers acceptances of banks that are insured by the federal deposit insurance corporation and that mature not later than one hundred eighty days after purchase.

No investment shall be made pursuant to 135.14 (B)(7) ORC unless the Chief Financial Officer has completed additional training for making the investments authorized by 135.14 (B)(7). The type and amount of additional training shall be approved by the treasurer of state and may be conducted by or provided under the supervision of the treasurer of state.

- Interim deposits in the eligible institutions applying for interim moneys as provided in Section 135.08 ORC.
- No-load money market mutual funds, as defined in 135.14(B)(5), rated in the highest category by at least one nationally recognized rating agency, investing exclusively in the same types of eligible securities as defined in Division B(1) or B(2) under 135.14 ORC, and repurchase agreements secured by such obligations. Eligible money market funds shall comply with 135.01 ORC, regarding limitations and restrictions.
- Repurchase agreements with any eligible institution mentioned in section 135.03 ORC, or any eligible securities dealer pursuant to (M) of 135.14 ORC of this section, except that such eligible securities dealers shall be *restricted to primary government securities dealers*.

- Repurchase agreements will settle on a delivery versus payment basis with collateral held at a qualified custodian or agent, designated by the Library. Eligible repo collateral is restricted to securities listed in division (B)(1) or (B)(2) under 135.14 ORC. The market value of securities subject to a repurchase agreement must exceed the principal value of the repo amount by at least 2%. Prior to the execution of any repo transaction, a master repurchase agreement will be signed by the Library and the eligible parties. The Chief Financial Officer may determine that an additional market value of collateral will be required.
- The state treasurer's investment pool [STAROHIO], pursuant to Section 135.45 ORC, and any other investment alternative offered to political subdivisions by the Treasurer of State.
 - The use of derivative securities, as defined in 135.14 (C), is expressly prohibited.
- All eligible investments will mature within five years from the date of settlement, unless the investment is matched to a specific future obligation or debt of the Library, and the investment is specifically approved by the Board of Trustees.

The Chief Financial Officer shall determine, or approve, the method of calculating the average portfolio when percentage limitations must be determined for the investment in certain eligible investments, such as commercial paper, bankers acceptances, and obligations of political subdivisions.

C. <u>Prohibited Investments</u>

In addition to any express requirements of Chapter 135 or Section 351.20 of the Ohio Revised Code, the following are prohibited investment activities of the Library:

- The use of derivative securities, as defined in various sections of Chapter 135 of the Ohio Revised Code, specifically Section 135.14 ORC.
- A repurchase agreement under the terms of which the Library agrees to sell securities to a purchaser and agrees with that purchaser to unconditionally repurchase those securities (reverse repurchase agreement).
 - The issuance of taxable notes for the purpose of arbitrage.
- The use of leverage, in which the Library uses its current investment assets as collateral for the purpose of purchasing other assets.
- Contracting to sell securities, not owned by the Library, for the purpose of purchasing such securities at a later date on the speculation that bond prices will decline (short selling).
- Any investment made pursuant to this section must mature within five years from the date of settlement, unless the investment is matched to a specific obligation or debt of the subdivision, as provided for under [135.14(D) ORC].

Revised: June 16, 2016

D. Safekeeping and Custody

Securities purchased for the Library will be held in safekeeping by a qualified trustee [hereinafter referred to as the "Custodian"), as provided in Section 135.37 ORC. Securities held by the custodian will be evidenced by a monthly statement describing such securities. The custodian may safekeep the Library's securities in (1) Federal Reserve Bank book entry form; (2) Depository Trust Company (DTC) book entry form in the account of the custodian or the custodian's correspondent bank; or (3) Non-book entry (physical) securities held by the custodian or the custodian's correspondent bank. All securities transactions will settle using standard delivery-vs-payment (DVP) procedures. The records of the custodian shall identify such securities in the name of the Library. Under no circumstances will the Library's investment assets be held in safekeeping by a broker/dealer firm, or a firm acting on behalf of a broker/dealer firm.

E. The Board of Trustees of the Library

The Library Board of Trustees shall meet as necessary to review the Portfolio. Specific areas of review include the investment inventory, transactions for the period, and realized income. The Chief Financial Officer may also recommend changes to the existing investment policy. Any amended policy that has been approved by the Library Board shall be filed with the Auditor of State.

F. Portfolio Reporting

The Library shall maintain an inventory of all portfolio assets. A description of each security will include security type, issue/issuer, cost [original purchase cost or current book value], par value [maturity value], maturity date, settlement date [delivery versus payment date of purchased or sold securities], and any coupon [interest] rate. The investment report will also include a record of all security purchases and sales. Regularly issued reports will include a monthly portfolio report and a quarterly portfolio report to the Library detailing the *current* inventory of all securities, all investment transactions, any income received [maturities, interest payments, and sales], and any expenses paid. The report will also include the purchase yield of each security, the average-weighted yield and average-weighted maturity of the portfolio.

The portfolio report shall state the name(s) of any persons or entity effecting transactions on behalf of the investing authority.

G. Investment Advisors, Qualified Dealers and Financial Institutions

The Library may retain the services of a registered investment advisor. The investment advisor will manage the Library's portfolio and will be responsible for the investment and reinvestment of such investment assets, including the execution of investment transactions.

Upon the request of the Fiscal Officer, the investment advisor will attend meetings and will discuss all aspects of the Library's portfolio, including bond market conditions affecting the value of the Library's investments. The investment advisor will be required to issue portfolio reports as defined under section II-E of this investment policy ["Portfolio Reporting"].

Revised: June 16, 2016 Page 5

The investment advisor may transact business (execute the purchase and/or sale of securities) with eligible Ohio financial institutions, primary securities dealers regularly reporting to the New York Federal Reserve Bank, and regional securities firms or broker dealers licensed with the Ohio Department of Commerce, Division of Securities, to transact business in the State of Ohio.

Under no circumstances will brokers or broker/dealer firms act as an investment advisor or in a similar capacity as an investment advisor, either directly or indirectly, if such broker/dealer participates in transaction business (purchase and sale of securities) with the Fiscal Officer or the Fiscal Officer's investment advisor.

All persons or entities transacting investment business with the Library are required to sign the approved investment policy as an acknowledgment and understanding of the contents of said policy.

H. Sale of Securities Prior to Maturity

Portfolio securities may be "redeemed or sold" prior to maturity under the following conditions:

- (1) To meet additional liquidity needs
- (2) To purchase another security to increase yield or current income
- (3) To lengthen or shorten the portfolio's average maturity (average duration)
- (4) To realize any capital gains and/or income
- (5) To adjust the portfolio's asset allocation

Such transactions may be referred to as a "sale and purchase" or a "bond swap". For purposes of this section, redeemed shall also mean "called" in the case of a callable security.

I. Procedures for the Purchase and Sale of Securities

Securities will be purchased or sold through approved broker/dealers on a "best price and execution" basis. All such investment transactions will be communicated by electronic transmission to the Fiscal Officer or to an authorized representative, designated by the Fiscal Officer. A purchase or sale of securities will be represented by transaction advices issued by the Library's investment advisor, which will describe the transaction, including par value, coupon (if any), maturity date, and cost. A facsimile transmission will also be sent to the Library's designated custodian bank and will serve as an authorization to said custodian to receive or deliver securities versus payment. Confirmation advices, representing the purchase or sale of securities, will be issued by the eligible broker/dealer and sent to the investing authority. Copies of such advices will be sent to the Library's investment advisor.

III. The Endowment

A. Investment Objectives

The Library seeks to maximize the long-term total return of its Endowments. As a result, the maintenance and growth of the funds are the primary objectives. The Library's ability to achieve these returns will depend upon the acceptance of moderate risk, recognizing that a reasonable degree of volatility in market value is necessary to achieve long-term capital appreciation.

B. Authorized Investments

In recognition of the expected returns and volatility from financial assets, the Library will be invested in the following ranges with the target allocation noted:

	Range	<u>Target</u>
Equities	50-70%	60%
Fixed Income	15-35%	25%
Alternatives	0-30%	15%
Cash Equivalents	0-10%	

The midpoints of the above ranges will be considered the long-term or policy allocation. Any deviations beyond this mix of securities must have prior approval by the Board of Library Trustees. Allocations to cash equivalents are to be considered a subset of the Fixed Income allocation along with Convertible Assets.

Within the above ranges, the Library's Endowment Fund Manager will make all tactical asset allocation decisions (over-and-under-weights). Deviations outside of the above ranges require prior approval from the Library.

C. Equity Guidelines

Objective – Achieve long term returns which exceed those of the overall equity market. Specialty equities (styles differing from the S&P 500) have been incorporated into this policy with the intention of delivering superior long-term performance and improved diversification.

In evaluating long term (full market cycle) performance, overall equity returns will be compared to the indices noted below.

In recognition of the expected returns and volatility provided by different segments of the equity market, equity assets will be invested in the following ranges with the policy allocation noted:

	Range	% Allocation
Large-Cap Stocks	50-90%	60%
Mid-Cap Stocks	0-20%	10%
Small-Cap Stocks	0-20%	10%
International Equities	10-30%	20%

Equity assets will be managed in accordance with the following:

- Equity investments should be broadly diversified. The equity investment in any single company should not exceed 5 percent of the equity portfolio, based on market value. Investments in mutual funds are not be subject to this limit. Short sales, private securities, letter stock, commodities, and put and call contracts are expressly prohibited.
- Investments in Mid-Cap, Small Cap and International Equities may be made through the use of funds. Funds selected will be diversified and generally conform to the above-mentioned company and industry guidelines.
- Real Estate investment will be implemented through REIT investments or through the use of a REIT-based mutual fund.
- The overall equity benchmark is the MSCI ACWI. Managers will be measured against their respective category benchmark (i.e. Russell 2000 Index).

D. Fixed Income Guidelines

Objective – Achieve returns that exceed those of the investment grade aggregate bond market and to provide additional long-term performance. The Fixed Income Investment style returns will be compared to the Barclays Capital U.S. Aggregate Bond Index.

Fixed income assets will be managed in accordance with the following:

• Minimum criteria for direct investment in a bond:

Par Value of issue	\$100 million outstanding at time of
	purchase
Quality of issue	A or better by Standard & Poor's
al .	Or A2 or better by Moody's

• The Market value of the aggregate holdings of an individual corporate debtor should not exceed 5% of the organization's debt related assets.

Revised: June 16, 2016

- The average maturity of the bond portfolio should be within a +/- 25% range of the Barclays Capital U.S. Aggregate Bond Index. The investment manager will have full discretion to determine the average maturity within this range.
- The maximum maturity for individual U.S. Treasuries, Agencies, and corporate bonds will be 20 years.
- Individual mortgage-backed securities (MBS) and asset-backed securities (ABS) may have maturities of greater than 20 years but the duration should not exceed 12 years.
- Fixed Income mutual funds may be used to further enhance diversification, provide better coverage of the yield curve, and/or improve liquidity.

E. Liquidity Guidelines

Objective – Cash equivalents will be invested in an appropriate cash-equivalent fund. Returns should be comparable to or benchmarked to the 90-day Bank of America Merrill-Lynch Treasury Bill Index.

Cash equivalent investments must be made in high quality obligations of the U.S. Government and its Agencies. Money market mutual funds may be used, so long as these mutual funds meet the high standards suitable for the funds of this nature.

F. Prohibited Investments

The investment manager is prohibited from investments in the followings:

- Fixed Income securities not denominated in U.S. Dollars or Eurodollars
- Venture Capital
- Guaranteed Insurance Contracts
- Commodities
- Precious Metals or Gems
- Options, futures, or any contract whose value is derived from the price of an underlying asset or index (Derivatives)
- Short-selling and other hedging strategies
- Private Placements or "restricted" stock
- No investments in securities deemed to be in violation of prohibited transaction standard of ERISA.
- It is understood that investments into funds (i.e. mutual or ETF's) may utilize derivatives and are exempted from the above exceptions.

G. Investment Review

Objective – Achieve financial returns for the Library which preserve the principal asset value and are competitive relative to those offered by the financial markets.

Review – The Investment Committee will compare the investment performance of the Investment Manager to the following benchmarks:

• The blended performance of 60% MSCI ACWI 40% Barclays Capital U.S. Aggregate Bond Index policy benchmark over a full market cycle.

In addition, the Investment Committee will compare the various asset classes to the following benchmarks:

- 1. The annual total return of U.S. equity securities will be compared to the Russell 3000 Index measured over a three to five year time period.
- 2. Within each equity allocation/style, performance will be compared to the respective manager benchmark.
- 3. The annual total return of fixed income securities will be compared to the Barclays Capital U.S. Aggregate Bond Index over a three to five year time period.
- 4. Real Estate investment will be compared to the NAREIT (applicable benchmark) Index; Convertible Assets will be compared to BoA/Merrill Lynch Investment Grade Convertible Securities index.
- 5. The annual total return of cash equivalents will be compared to the BoA/Merrill Lynch 90 day T-Bill Index.

H. Endowment Fund Manager

The Board of Library Trustees shall select an endowment fund manager and custodian for the Library's Endowments by authorizing Board resolution. The Board of Library Trustees shall approve a separate written agreement with its selected endowment fund manager governing terms of service, compensation, and related issues.

Revised: June 16, 2016

IV. **Statements of Compliance**

This investment policy has been approved by the investing authority and the governing board and filed with the Auditor of State, pursuant to Ohio Revised Code 135.14 (N)(1).

All brokers, dealers, and financial institutions executing transactions initiated by the Library or the Library's investment advisor have signed the approved investment policy. Investment policies [signed by such brokers, dealers, and financial institutions] are filed with the Fiscal Officer of the Library.

The Library's Portfolio and Endowment investment advisors are registered with the Securities and Exchange Commission and/or the Comptroller of the Currency and possesses public funds investment management experience, specifically in the area of state and local government investment portfolios. The investment advisor has additionally signed the approved investment policy and the signed policy is filed with the Fiscal Officer of the Library.

Any amendments to this policy will be filed with the Auditor of State [Attn: Clerk of the Bureau, P.O. Box 1140, Columbus, OH, 43216-1140] within fifteen days of the effective date of the amendment.

The following broker/dealer/financial institution/investment advisor or endowment fund manager has signed, herein, this approved investment policy, having read the policy's contents thereby acknowledging comprehension and receipt:

Signature of Register Representative or

Financial Institution Representative

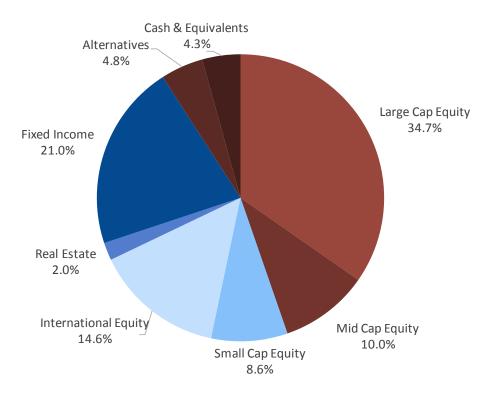
Type Name of Registered Representative

Financial Institution Representative

Portfolio Review

Asset Allocation

As of 12/31/2017



	Market Value	Portfolio Allocation	Policy Range
Large Cap Equity	\$8,629,260	34.7%	
Mid Cap Equity	\$2,497,352	10.0%	
Small Cap Equity	\$2,135,257	8.6%	
International Equity	\$3,630,513	14.6%	
Real Estate	\$507,720	2.0%	
Total Equity	\$17,400,102	69.9%	50% - 70%
Fixed Income	\$5,216,362	21.0%	15% - 35%
Alternatives	\$1,192,348	4.8%	0% - 30%
Cash & Equivalents	\$1,072,163	4.3%	0% - 10%
Total	\$24,880,974	100.0%	



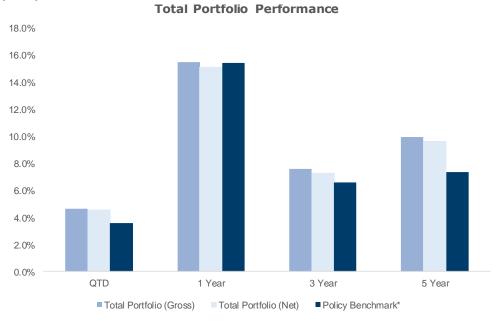
Portfolio Holdings

, ,			Market	0/ - f
Description	Units	Price	Value	% of Total
Description	Office	11100	Value	Total
Large Cap Core				
iShares Tr S&P 500 ETF	17,639	\$268.85	\$4,742,245	19.1
PNC Large Cap Core SMA	,	•	\$3,887,015	15.6
Mid Cap Core				
iShares Russell Midcap ETF	11,999	\$208.13	\$2,497,352	10.0
Small Cap Core				
PNC Small Cap Core Fund	41,471	\$23.96	\$993,649	4.0
Vanguard Small Cap ETF	7,724	\$147.80	\$1,141,607	4.6
International				
PNC International Equity Fund	80,326	\$24.44	\$1,963,162	7.9
Seafarer Overseas Growth & Income Fund	57,946	\$13.63	\$789,806	3.2
Vanguard Ftse All World Ex US Index Fund	16,037	\$54.72	\$877,545	3.5
varigadia i too i ii vvoita Ex oo ii taox i ana	10,007	ψο 1.7 2	φονν,σ ισ	0.0
Real Estate				
T Rowe Price Real Estate Fund	17,691	\$28.70	\$507,720	2.0
Total Equity			\$17,400,102	69.9
Fixed Income				
Metropolitan West Unconstrained	78,798	\$11.94	\$940,851	3.8
PNC Intermediate Govt Credit SMA			\$3,133,629	12.6
T Rowe Price Floating Rate Fund	57,947	\$10.02	\$580,633	2.3
Templeton Global Bond Fund	47,363	\$11.85	\$561,249	2.3
Total Fixed			¢E 246 262	21.0
I Oldi Fixed			\$5,216,362	21.0
Alternatives				
AQR Long-Short Equity Fund	50,119	\$13.88	\$695,648	2.8
ASG Global Alternatives	44,190	\$11.24	\$496,700	2.0
	,	•	, , , , , ,	
Total Alternatives			\$1,192,348	4.8
Short Term				
Cash & Equivalents	1,072,163	\$1.00	\$1,072,163	4.3
Total Short Term			\$1,072,163	4.3
Tatal for Assessment			404.000.07 :	400.0
Total for Account			\$24,880,974	100.0



Investment Performance

Total Portfolio Performance



	QTD	1 Year	3 Year	5 Year
Total Portfolio (Gross)	4.65%	15.50%	7.58%	9.96%
Total Portfolio (Net)	4.57%	15.14%	7.27%	9.65%
MSCI ACWI / Barclays U.S. Aggregate (60/40)	3.57%	15.41%	6.57%	7.37%
MSCI ACWI / Barclays Global Aggregate (60/40)	3.85%	17.09%	6.47%	6.81%
Total Equity	6.41%	21.14%	10.13%	14.08%
MSCI ACWI (Net)	5.73%	23.97%	9.30%	10.80%
Russell 3000	6.34%	21.13%	11.12%	15.58%
Total Fixed	-0.06%	2.25%	1.68%	1.34%
Barclays U.S. Aggregate	0.39%	3.54%	2.24%	2.10%
Barclays Global Aggregate	1.08%	7.39%	2.02%	0.79%



Manager Performance

As of 12/31/2017

	QTD	1 Year	3 Year	5 Year
Large Cap Core	7.45%	24.00%	11.04%	15.18%
iShares Tr S&P 500 ETF	6.80%	21.75%	11.36%	15.73%
S&P 500 TR	6.64%	21.83%	11.41%	15.79%
PNC Large Cap Core SMA	8.24%	26.61%	11.81%	15.66%
S&P 500 TR	6.64%	21.83%	11.41%	15.79%
Mid Cap Core	6.03%	18.23%	9.39%	14.09%
iShares Russell Midcap ETF	6.03%	18.23%	9.39%	14.09%
Russell Midcap	6.07%	18.52%	9.58%	14.96%
Small Cap Core	4.83%	9.58%	8.10%	13.21%
PNC Small Cap Core Fund	4.49%	9.98%	8.23%	13.30%
Russell 2000	3.34%	14.65%	9.96%	14.12%
Vanguard Small Cap ETF	5.13%	16.25%	9.84%	14.44%
CRSP US Small Cap Core Index	5.10%	16.24%	9.81%	14.43%
Total International	5.62%	31.18%	10.04%	10.43%
PNC International Equity Fund	5.43%	33.27%	10.59%	10.76%
MSCI ACWI Ex US Net	5.00%	27.19%	7.83%	6.80%
Vanguard Ftse All World Ex US Index Fund	4.68%	27.27%	8.32%	6.91%
FTSE All World Ex US Index	5.32%	27.47%	8.58%	7.50%
Seafarer Overseas Growth & Income Fund	7.16%	26.21%	9.76%	6.72%
MSCI Emerging Market Net	7.44%	37.28%	9.10%	4.35%
Other Equity	3.28%	4.42%	5.08%	
T Rowe Price Real Estate Fund	3.28%	4.42%	5.08%	9.22%
NAREIT ALL Equity Reits	2.48%	8.67%	6.67%	9.83%
Fixed Taxable	-0.06%	2.25%	1.68%	1.34%
Templeton Global Bond Fund	-1.82%	2.62%	1.64%	1.83%
Bloomberg Barclays Global Aggregate	1.08%	7.39%	2.02%	0.79%
T Rowe Price Floating Rate Fund	1.05%	3.66%	4.29%	3.89%
S&P/LSTA US Leveraged Loan	1.11%	4.12%	4.44%	4.03%
Metropolitan West Unconstrained	0.67%	3.98%	2.67%	2.95%
Bloomberg Barclays US Universal	0.41%	4.09%	2.80%	2.50%
PNC Intermediate Govt Credit SMA	-0.13%	2.15%	1.65%	1.32%
Bloomberg Barclays Intermediate Govt/Credit	-0.20%	2.14%	1.76%	1.50%

Inception Dates:

iShares S&P 500 ETF - 11/2016 PNC Large Cap Core SMA - 9/2009 iShares Russell Midcap ETF - 1/2013 PNC Small Cap Fund - 7/2004 Vanguard Small Cap ETF - 6/2017 PNC International Equity Fund - 8/1997 Vanguard FTSE All World Ex US ETF - 7/2017

Seafarer Overseas Growth & Income – 12/2016 T Rowe Price Real Estate Fund – 05/2014 Templeton Global Bond Fund – 7/2017 PNC Intermed Govt Credit SMA – 12/1990 T Rowe Price Floating Rate – 7/2017 Met West Unconstrained – 7/2017

INSTITUTIONAL

ADVISORY SOLUTIONS

Manager Performance

As of 12/31/2017

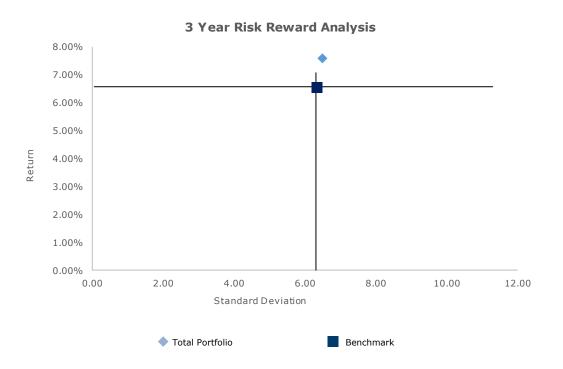
	QTD	1 Year	3 Year	5 Year
Total Alternatives	4.90%	17.32%		
AQR Long Short Equity Fund	3.17%	15.40%	14.59%	n/a
HFRX Equity Hedge	2.72%	9.98%	2.45%	3.92%
ASG Global Alternatives Fund	4.56%	10.93%	1.22%	4.54%
HFRX Global Hedge	1.50%	5.99%	1.54%	2.12%

Inception Dates:

AQR Long-Short Equity Fund - 12/2016 ASG Global Alternatives Fund - 10/2017



3 Year Risk Reward Analysis

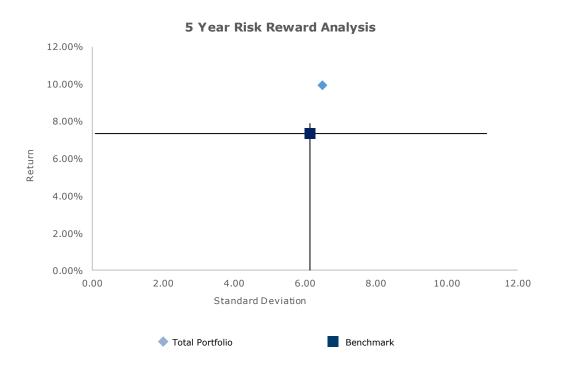


	Total Portfolio (Gross)	Policy Benchmark*
Return	7.58%	6.57%
Standard Deviation	6.49%	6.32%
Beta	.93	
Alpha	1.41	
Sharpe Ratio	1.12	.99



^{*}MSCI ACWI / Barclays U.S. Aggregate (60/40)

5 Year Risk Reward Analysis



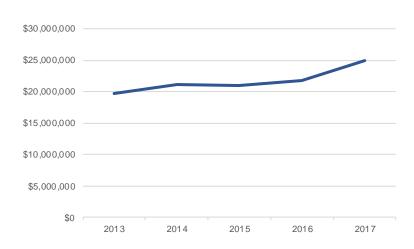
	Total Portfolio (Gross)	Policy Benchmark*
Return	9.96%	7.37%
Standard Deviation	6.50%	6.14%
Beta	.94	
Alpha	2.88	
Sharpe Ratio	1.50	1.17



Historical Balances and Cash Flows

As of 12/31/2017

Historical Balances and Cash Flows



	2013	2014	2015	2016	2017
Beginning Market Value	\$16,716,528	\$19,708,511	\$21,171,723	\$20,926,970	\$21,837,950
Net Contributions/Withdrawals	(\$152,787)	(\$227,107)	(\$681,346)	(\$245,183)	(\$315,577)
Income Received	\$333,678	\$333,729	\$370,231	\$384,744	\$457,621
Gain/Loss	\$2,811,092	\$1,356,589	\$66,362	\$771,419	\$2,900,981
Ending Market Value	\$19,708,511	\$21,171,723	\$20,926,970	\$21,837,950	\$24,880,974
Total Return	18.8%	8.7%	2.1%	5.6%	15.5%
Benchmark Return	12.3%	5.0%	-1.0%	5.9%	15.4%

Portfolio returns are presented gross of fees

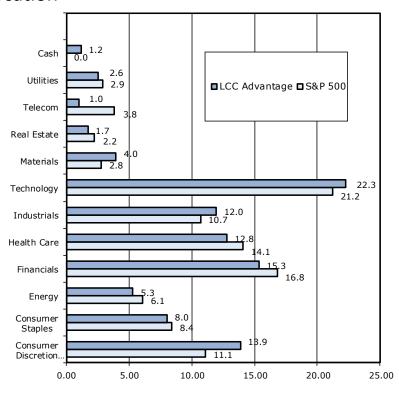


Large Cap Core Advantage Portfolio As of 12/31/17

Portfolio Valuation

	Number of Holdings	Dividend Yield
PNC Large Cap Core Advantage	67	1.7%
S&P 500	505	1.9%

Sector Allocation



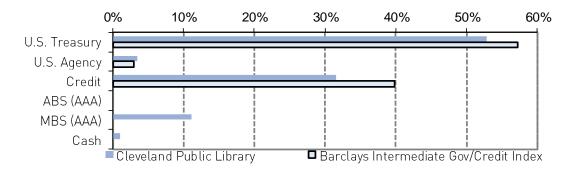
Top 10 Holdings

Si	ecurity Name	Wgt.
1	Apple Inc.	4.52%
2	JP Morgan Chase & Co.	3.50%
3	Alphabet Inc.	3.25%
4	Facebook Inc Cl A	2.90%
5	Constellation Brands Inc.	2.29%

S	Security Name	
6	Home Depot	2.28%
7	Comcast Corp Cl A	1.99%
8	Texas Instruments	1.93%
9	TE Connectivity	1.71%
10	ProLogis Inc.	1.70%



Fixed Income Allocation - Intermediate Govt Credit



	Market Value	Current Weight	Index Weight*	Difference
U.S. Treasury	\$1,654,065	52.8%	57.2%	-4.4%
U.S. Agency	\$110,426	3.5%	3.0%	-0.5%
Credit	\$989,047	31.6%	39.8%	-8.2%
ABS (AAA rated)	0	0.0%	0.0%	0.0%
MBS (AAA rated)	\$347,515	11.1%	0.0%	+11.1%
Cash	\$32,575	1.0%	0.0%	+1.0%
Total Portfolio	\$3,133,629	100.0%	100.0%	-



^{*}Barclays Intermediate Gov/Credit Index

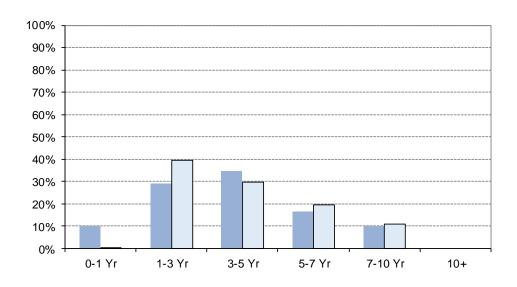
Fixed Income Structure - Intermediate Govt Credit

As of 12/31/2017

Portfolio Statistics

	Duration	YTM	Avg. Life	Avg. Coupon
Cleveland Public Library	3.76 yrs	2.28%	4.21 yrs	2.39%
Barclays Intermediate Gov/Credit Index	3.99 yrs	2.38%	4.36 yrs	2.46%

Effective Duration Buckets



■ Cleveland Public Library

□ Barclays Intermediate Gov/Credit Index

Quality Allocation

	AAA	AA	А	BBB	Avg.
Cleveland Public Library	71%	8%	20%	1%	Aa1
Barclays Intermediate Gov/Credit Index	65%	4%	14%	17%	Aa2



Disclosure

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