

FY2019 Q3 Investment Reports

BACKGROUND

The Oregon State University (university) investment reports for the third quarter (Q3) of FY2019 are presented in the following three sections:

- **FY2019 Q3 Public University Fund Investment Report** – This section includes a report on the investments of the Public University Fund (PUF) for the third quarter of FY2019. The PUF is an investment pool that is administered by the university on behalf of all Oregon public university participants, pursuant to legislation adopted by the 2014 Legislature. The PUF holds assets of the following participating Oregon public universities: Eastern Oregon University, Oregon Institute of Technology, Oregon State University, Portland State University, Southern Oregon University, and Western Oregon University.
- **FY2019 Q3 Oregon State University Investment Report** – This section includes a report on the investments of the operating and endowment assets of the university. This report reflects the university's operating assets that are invested in the PUF, the university's endowment and quasi-endowment investments managed by the Oregon State University Foundation, the land held as separately invested endowments, and the land grant endowment that is invested in the PUF.
- **FY2019 Q3 Market Background** – This section provides a general discussion of the investment markets and related performance information during the third quarter of FY2019 (i.e., January 1 – March 31, 2019).

FY2019 Q3 PUBLIC UNIVERSITY FUND INVESTMENT REPORT

(Prepared by the Public University Fund Administrator)

Performance

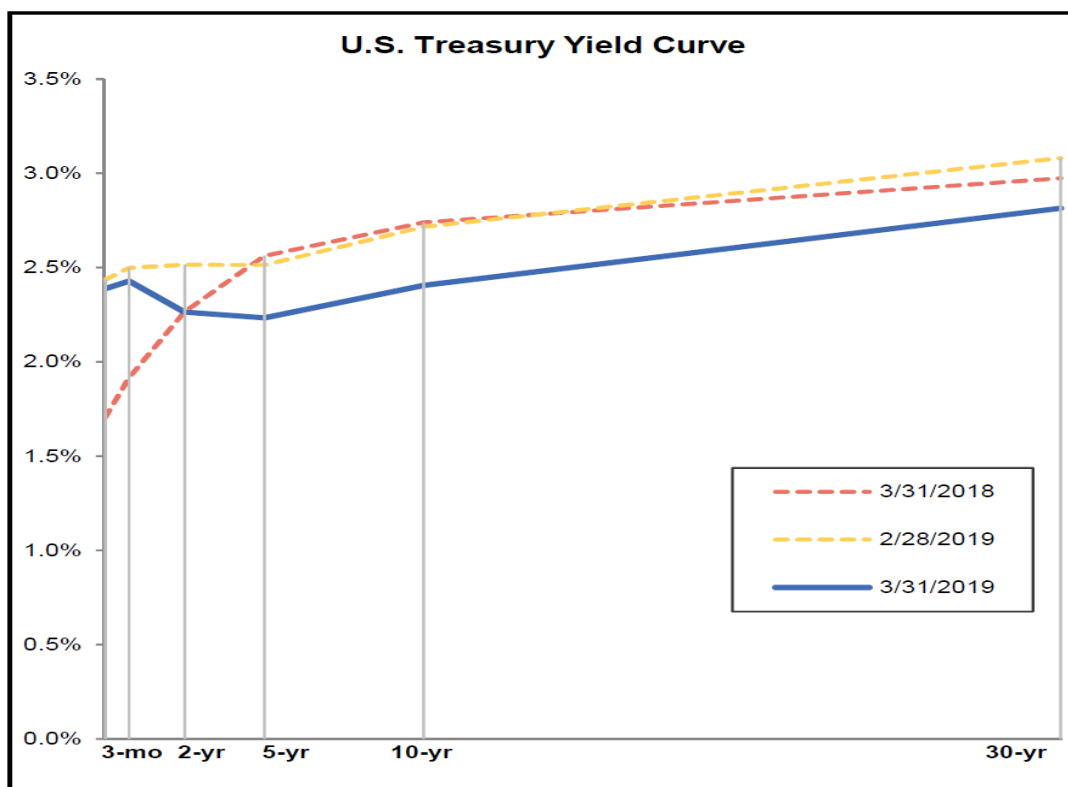
The Public University Fund (PUF) gained 1.7% for the quarter and 3.4% for the fiscal year-to-date through March 31, 2019. The PUF's three-year average return was 2.1%.

The Oregon Short-Term Fund (OSTF) returned 0.7% for the quarter, outperforming its benchmark by 10 basis points. The Core Bond Fund returned 2.2% for the quarter, underperforming its benchmark by 10 basis points. The investment yield on the PUF portfolio was 0.7% for the quarter.

In April, Oregon State Treasury fixed income portfolio manager, Tom Lofton, conducted a quarterly performance review with university staff. The fixed income markets posted strong returns during the quarter as short-term interest rates declined following the Federal Reserve's dovish comments. Segments of the yield curve remain inverted for a second consecutive quarter, particularly the 6-month to 5-year maturities. As depicted by the blue line in the following graph, the yield on the 3-month Treasury bill (2.39%) was higher than the 5-year Treasury note (2.23%).

The Core Bond Fund ended the quarter with a large underweight to agency mortgage-backed securities, compared to its benchmark, as Mr. Lofton concluded the risk/reward relationship was

no longer compelling given the strong sector rally during the quarter. Mr. Lofton will seek opportunities to reposition assets into the agency mortgage-backed sector when valuations improve.



Public University Fund Performance

	Quarter Ended 3-31-19	Current Fiscal YTD	Prior Fiscal YTD	3-Year Avg.	Market Value	Asset Allocation	Policy Allocation
Oregon Short-Term Fund	0.7%	1.9%	1.2%	1.6%	\$222,226,990	36.7%	\$100 million target ¹
<i>Benchmark - 91 day T-Bill</i>	0.6%	1.7%	0.9%	1.2%			
PUF Core Bond Fund	2.2%	4.1%	-0.5%	N/A	383,039,971	63.3%	
<i>Blended Benchmark ²</i>	2.3%	4.3%	-0.6%	1.6%			
Total-PUF Total Return	1.7%	3.4%	0.5%	2.1%	\$605,266,961	100.0%	
<i>PUF Investment Yield</i>	0.7%	2.0%	1.5%	2.1%			

¹ The PUF policy guidelines define investment allocation targets based upon total participant dollars committed. Core balances in excess of liquidity requirements for the participants are available for investment in the Core Bond Fund. Maximum core investment allocations are determined based upon anticipated average cash balances for all participants during the fiscal year.

² The Blended Benchmark comprises the Bloomberg Barclay’s Aggregate 3-5 Years Index (75%) and the Bloomberg Barclay’s Aggregate 5-7 Years Index (25%).

A description of each investment pool’s portfolio characteristics and market exposures is included in Appendix A of this report.

Investment Income and Participant Ownership

During the quarter, investment earnings distributed to the participants totaled \$4,188,593.

	Earnings Distribution ¹	Market Value as of 3/31/19	% Ownership
Oregon State University ²	\$ 1,901,837	\$ 248,595,614	41.1%
Portland State University	1,440,166	229,813,633	38.0%
Western Oregon University	342,838	51,711,632	8.6%
Southern Oregon University	176,764	28,746,941	4.7%
Oregon Institute of Technology	186,800	25,616,422	4.2%
Eastern Oregon University	140,188	20,782,719	3.4%
Grand Total	\$ 4,188,593	\$ 605,266,961	100.0%

¹ The earnings available for distribution to participants were earned during the months of December 2018 through February 2019 and distributed to participants in March 2019. Earnings are distributed to participants based upon average cash and investment balances on deposit during the same period, which differs from the total market value at the end of the quarter.

² As of March 31, 2019, Oregon State University’s total PUF market value consisted of operating assets, valued at \$248,268,114, and the land grant endowment, valued at \$327,500

FY2019 Q3 OREGON STATE UNIVERSITY INVESTMENT REPORT

The schedule of Oregon State University’s investments is shown in the following investment summary.

Public University Fund Performance

Oregon State University’s operating assets and the land grant endowment are invested in the Public University Fund (PUF). The report on the investment performance of the PUF, provided in the separate section above, shows the PUF gained 1.7% for the third quarter.

OSU Endowment Asset Performance

The OSU Endowment Assets, including those managed by the OSU Foundation, gained 7.5% during the third quarter. The three year average total return was 9.8%. The total market value of the OSU endowment assets as of March 31, 2019, was \$54,291,980.

The OSU Foundation, pursuant to an investment management contract, is managing the majority of the university’s endowment assets. The OSU Foundation’s Endowment Pool gained 8.7% during the quarter, underperforming its benchmark by 140 basis points. The three year average return was 9.6%, outperforming its benchmark by 110 basis points.

Oregon State University
Investment Summary
as of March 31, 2019
(Net of Fees)

	Quarter Ended 3/31/2019	Current Fiscal YTD	Prior Fiscal YTD	3 Yr Avg	5 Yr Avg	10 Yr Avg	Market Value	Actual Asset Allocation	Policy Allocation Range
OSU Operating Assets Invested in Public University Fund									
Oregon Short - Term Fund	0.7%	1.9%	1.2%	1.6%	1.2%	0.9%	\$ 91,152,961	36.7%	1
Benchmark - 91 day T-Bill	0.6%	1.7%	0.9%	1.2%	0.7%	0.4%			
PUF Core Bond Fund	2.2%	4.1%	-0.5%	N/A	N/A	N/A	157,115,153	63.3%	1
Blended Benchmark ²	2.3%	4.3%	-0.6%	1.6%	2.7%	N/A			
Public University Fund Total Return	1.7%	3.4%	0.5%	2.1%			<u>\$ 248,268,114</u>	<u>100.0%</u>	
Public University Fund Investment Yield	0.7%	2.0%	1.5%	2.1%					
OSU Endowment Assets									
OSU Endowment Assets Invested in the OSUF Endowment Pool									
Total Global Equity	13.3%	1.7%	12.5%				\$ 25,587,946	54.0%	50.0%
Benchmark - MSCI All Country World Index	12.2%	2.1%	10.1%						
Total Global Fixed Income	2.9%	3.3%	3.9%				3,911,443	8.3%	5.0%
Benchmark - Bloomberg Barclays Global Agg. Bond Index	2.2%	2.5%	4.3%						
Total Absolute Return	3.1%	-2.9%	3.3%				5,329,044	11.2%	10.0%
Benchmark - HFRI Fund of Funds Index	4.6%	-0.4%	5.0%						
Total Real Assets	8.1%	1.2%	-0.8%				5,205,775	11.0%	10.0%
Benchmark - Real Assets Custom ³	8.1%	1.6%	3.1%						
Total Private Capital	1.2%	15.2%	15.2%				6,585,447	13.9%	25.0%
Benchmark - No benchmark provided									
Total Cash	0.0%	0.0%	0.0%				791,771	1.6%	0.0%
Total OSU Endowment Assets Invested in OSUF Endow. Pool ⁴	8.7%	2.6%	8.5%	9.6%			<u>47,411,426</u>	<u>100.0%</u>	<u>100.0%</u>
Benchmark-80% MSCI ACWI/20% BBG Barclays Global Agg. ⁵	10.1%	2.3%	9.0%	8.5%					
Other OSU Endowment Assets									
Land Held as Separately Invested Endowment Funds ⁶	0.0%	0.0%	0.0%	9.9%			6,553,054		
Other Endowment Assets Invested in the PUF	1.7%	3.4%	0.5%	2.1%			327,500		
Total Other OSU Endowment Assets							<u>6,880,554</u>		
Total OSU Endowment Assets	7.5%	2.2%	7.7%	9.8%			<u>\$ 54,291,980</u>		

(continued on next page)

Oregon State University**Investment Summary****as of March 31, 2019**

- ¹ The Public University Fund (PUF) policy guidelines define investment allocation targets based upon total participant dollars committed. Core balances in excess of liquidity requirements for the participants are available for investment in the Core Bond Fund. Maximum core investment allocations are determined based upon anticipated average cash balances for all participants during the fiscal year.
- ² Blended Benchmark Composition: 75% Bloomberg Barclay's Aggregate 3-5 Years Index, 25% Bloomberg Barclay's Aggregate 5-7 Years Index.
- ³ Real Assets Custom Benchmark: 1/3 Financial Times Stock Exchange European Public Real Estate Association/National Association Real Estate Investment Trust Developed Index, 1/3 Bloomberg Commodity Index, 1/3 Bloomberg Barclays U.S. Treasury Inflation Protected Securities.
- ⁴ Investment returns are reported net of investment manager fees; gross of the Foundation's administrative fees.
- ⁵ The Endowed Pool benchmark consists of 80% of the MSCI ACWI and 20% of the Barclays Global Aggregate. During the portfolio transition period (July 2016), as agreed with OSUF, the benchmark return was equal to the actual return of the portfolio. Prior to 7/1/16, the benchmark consisted of 15% S&P 500 / 4% Russell 1000 Growth / 17% MSCI EAFE / 6% MSCI Emerging Markets / 6.5% Barclays Aggregate / 6.5% Citi WGBI / 3% Principal Diversified Real Assets Custom Blend / 18% HFRI Fund of Funds Composite Index / 3% S&P North American Natural Resources Sector Index / 3% Alerian MLP Index / 5% NCREIF Townsend Blended Index / 10% Burgiss Global Private Equity Index / 2% 91 Day T-Bills / 1% Mercer Illiquid Natural Resources Index.
- ⁶ Physical appraisals completed every five years. Valuations in interim years provided by faculty. Investment returns updated annually during the fiscal fourth quarter. Land held as separately invested endowments may not be sold, with the exception of the Matteson property, beginning 2/25/2035. Land use is restricted to teaching and research. Partial harvests, consistent with good forestry management practices are allowed, with specified uses for ongoing funding for scholarships and an endowed chair.
- Note: Outlined returns underperformed their benchmark.

FY2019 Q3 OREGON STATE UNIVERSITY REPORT ON UNSPENT GENERAL REVENUE BOND PROCEEDS

The schedule of Oregon State University's unspent revenue bond proceeds as of March 31, 2019, is shown in the summary below.

Unspent Revenue Bond Proceeds

Issuance Year	2015 ¹	2016 ²	2017 ³	Total
Unspent Revenue Bond Proceeds	\$ 587,084	\$ 5,445,575	\$ 55,780,606	\$ 61,813,265
<i>Unallocated Revenue Bond Proceeds</i> ⁴	\$ -	\$ -	\$ -	\$ -

¹ Space Improvement Projects are forecasted to be fully expended in FY2020

² IT projects expected to be fully invoiced FY2020

³ Projects approved June 2017 are expected to be fully expended in FY2022

⁴ Currently all unspent revenue bond proceeds are allocated to capital projects previously approved by the Board

FY2019 Q3 MARKET BACKGROUND

(Prepared by Callan Associates, consultants to the Oregon Investment Council)

Macroeconomic Environment

With the equity market falling by nearly 20% at one point during the month of December, the worst for the S&P 500 since 1931, suffice it to say that calendar year 2018 ended with a thud rather than a bang. However, just as we saw a snap-back from the drawdown in early calendar year 2018 (for different reasons), the market once again exhibited a far more “risk-on” mood in January 2019, paving the way for double-digit equity gains as well as robust returns across high yield, bank loans, and a variety of other “plus” sectors within fixed income.

So what changed? Not a whole lot. In hindsight, poor liquidity late in the fourth calendar quarter exacerbated the sentiment-driven sell-off in risk markets (high yield and leveraged loans in particular) while unexpectedly dovish comments from the Federal Reserve (Fed) in the early part of the calendar year acted as a catalyst for a swift reversal. While there is some evidence of softening conditions in the U.S., data do not suggest that a recession is imminent. Corporate fundamentals remain solid, and while after-tax profits moderated in the fourth calendar quarter, earnings per share was up 14% on a year-over-year (y-o-y) basis. Likewise, unemployment remains low at 3.8%, and wages are rising as average hourly earnings surprised on the upside with a 3.4% increase over the past 12 months (February), the fastest in a decade. Fourth calendar quarter gross domestic product (GDP) was revised down to 2.2%, but while “sluggish” may be an apt term, this pace is not of recessionary ilk (full calendar year GDP was 2.9%). Manufacturing showed signs of slowing, with the most recent Purchasing Managers’ Index (as of March) indicating that the US remains in expansionary territory (above 50) with the latest reading at 54.2. Consumer spending softened during the fourth calendar quarter and the first two months of the calendar year, but the consumer remains in good shape with household debt service as a percentage of disposable income at the lowest level in decades. And inflation remains benign, with the Consumer Price Index (CPI) up 1.5% in February (y-o-y), notably lower than the 2.5% read from just a few months ago as falling energy prices (Energy CPI: -5.1% y-o-y) weighed heavily on the headline number. The Core CPI measure (excluding food and energy) was up 2.1% while the Fed’s preferred inflation gauge, the Personal Consumption Expenditures Deflator, rose 1.8% over the trailing year.

In March, the Fed’s pause was expected, but its dovish language was not, leading to a dizzying plummet in U.S. Treasury yields. The Fed voted unanimously to leave rates unchanged at 2.25%-2.50% and further indicated that no hikes were likely for the remainder of the calendar year, while lowering expectations for calendar year 2019 GDP from 2.3% to 2.1%. Finally, balance sheet “normalization” (maintaining the size of the balance sheet by reinvesting proceeds from maturities) was escalated to September 2019, sooner than expected. The yield curve is flirting with inverted status, but as of calendar quarter-end the widely watched spread between the 2-year and 10-year Treasury was +14 basis points. An inversion has been an accurate harbinger of recession, albeit up to 20 months out. In a stark reversal from the fourth calendar quarter, Fed fund futures revealed a 65% probability of a Fed cut in 2019.

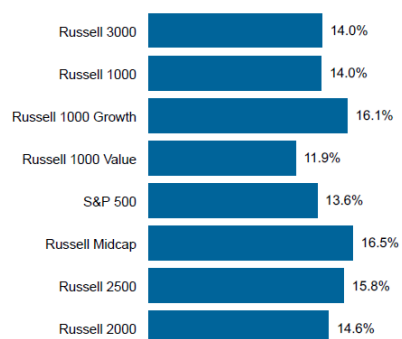
The picture is more worrisome overseas. With ambiguities regarding British Exit (Brexit), recession in Italy, and surprisingly weak manufacturing numbers out of Germany (Purchasing Manager’s Index 44.7), the European Central Bank (ECB) lowered its projections for euro zone GDP growth from 1.7% to 1.1%. It also indicated it would leave rates on hold at least through

the end of the calendar year. Further, in early March the ECB announced a new bank lending program to support growth. Euro zone GDP grew 1.1% in the fourth calendar quarter (+1.6% y-o-y), and the Organization for Economic Co-operation and Development estimates growth of just 1% for calendar year 2019, down from 1.8%. In Germany, the yield on the 10-year government bond turned negative for the first time since late calendar year 2016 and closed the quarter at -0.07%. China was also a worry—it lowered its growth target to 6.0%-6.5%, and the profits of industrial companies fell 14% in the first two months of calendar year 2019 versus one year ago, the worst since the Global Financial Crisis. (Spoiler: On April 1, 2019 China released its version of the Purchasing Manager’s Index, beating expectations and hitting the highest level in eight months, thus tempering worries over a dramatic slowdown.)

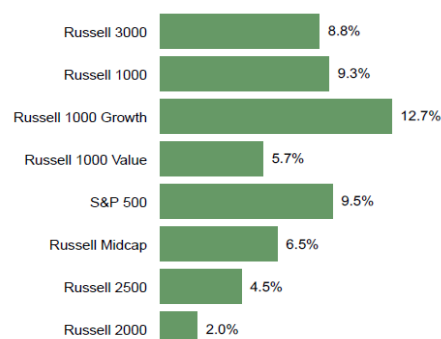
Equity Markets Results

U.S. equity markets had no problem erasing the pain of the fourth calendar quarter as the S&P 500 rose 13.6% with double-digit gains across cap and style spectrums. On a relative basis, Growth outperformed Value (Russell 1000 Growth: +16.1% vs. Russell 1000 Value: +11.9%), Small Cap outperformed Large Cap (Russell 2000: +14.6% vs. Russell 1000: +14.0%), and virtually all sectors delivered double-digit results with the exceptions being Financials (+8.6%) and Health Care (+6.6%). Volatility returned to more normalized levels, with just a few trading days seeing market movement of more than 2% in either direction (versus nearly 20% in the fourth calendar quarter.)

U.S. Equity: Quarterly Returns

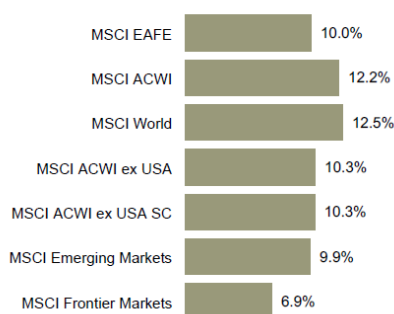


U.S. Equity: One-Year Returns

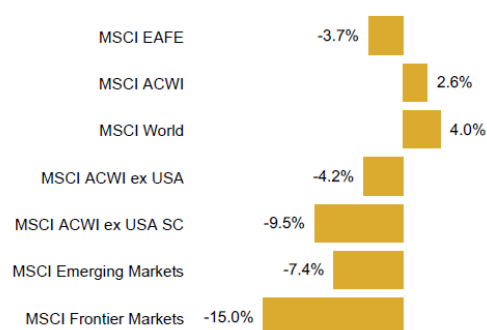


Non-U.S. developed (Morgan Stanley Capital Indices (MSCI) – Europe Australasia and Far East: 10.0%) and emerging market equities (MSCI Emerging Markets: +9.9%) also rebounded strongly in the first calendar quarter, but trailed their U.S. counterparts (and failed to make up for the pain felt in the fourth calendar quarter). The U.K. (+11.9%), Canada (+15.4%), and Italy (+14.6%) were among the standout performers, while Japan (+6.7%) was a laggard but positive nonetheless. Similarly, emerging market performance was robust across the board as China (+17.7%), India (+7.2%), Russia (+12.2%), and Brazil (+8.1%) recorded strong returns. Turkey’s GDP dropped 3% y-o-y in the fourth calendar quarter amid economic and political woes and was the worst-performing country (-3.2%).

Global Equity: Quarterly Returns



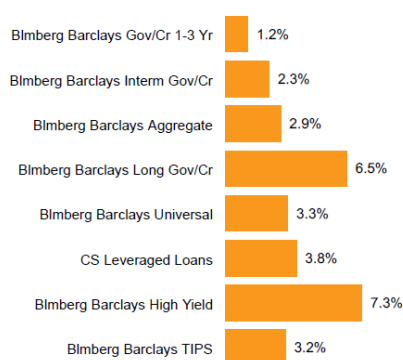
Global Equity: One-Year Returns



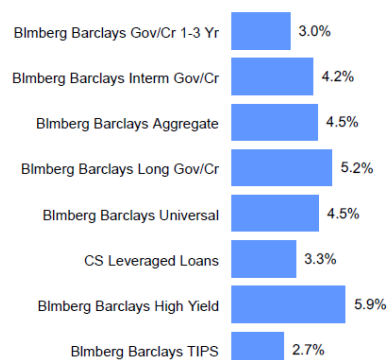
Fixed Income Markets Results

In the U.S., the Bloomberg Barclays U.S. Aggregate Bond Index rose 2.9% for the quarter, with investment grade corporates (Bloomberg Barclays Corporate: +5.1%) up the most. Yields fell sharply in March as the market digested unexpectedly dovish comments from the Fed. The 10-year U.S. Treasury returned 2.8% and its yield closed the quarter at 2.41%, down nearly 30 basis points (bps) from calendar year-end and significantly from the multi-year high of 3.24% hit in early November. Portions of the yield curve inverted, but the widely watched spread between the 2- and 10-year Treasury note remained positive at 14 bps. The high yield corporate bond market (Bloomberg Barclays High Yield: +7.3%) soared and the sector’s yield-to-worst ended the quarter at 6.4% after surging to nearly 8% in the fourth calendar quarter. Similarly, leveraged loans were up 4.0% after falling 3.5% (S&P Loan Syndications & Trading Association) in the fourth calendar quarter. While the fundamental picture for corporations remains intact, these returns were driven primarily by a strong technical tailwind on the back of a very weak December. Municipal bonds (Bloomberg Barclays Municipal Bond: +2.9%) outperformed U.S. Treasuries and were also helped by a favorable supply/demand backdrop. Municipal mutual funds absorbed roughly \$24 billion in inflows—the best first calendar quarter since data collection began in 1992.

U.S. Fixed Income: Quarterly Returns



U.S. Fixed Income: One-Year Returns



Overseas, yields across developed markets fell. The Global Aggregate Index rose 2.2% for the quarter on an unhedged basis. On a hedged basis, the Index gained 3.0%. The dollar appreciated modestly vs. the euro and yen, but lost ground vs. the U.K. pound and Canadian dollar. In Germany, the yield on the 10-year bond turned negative for the first time since late 2016 and closed the quarter at -0.07%. Emerging market debt also benefited from the reversal

in risk appetite. The U.S. dollar-denominated JP Morgan Emerging Markets Bond Global Diversified Index gained 7.0% with none of the index's 60+ countries delivering a negative result. Local currency emerging market debt, as measured by the JP Morgan Global Bond Emerging Markets Diversified Index, was up a more modest 2.9%, with notable underperformers being Turkey (-10.2%) and Argentina (-10.5%).

Other Assets Results

Real assets of all varieties enjoyed a strong first calendar quarter, perhaps none more than crude oil as the price of West Texas Intermediate extended over +30% through the end of March. Energy as a whole (measured by the Bloomberg Commodity Energy sub-index) was up nearly 16%, while commodities broadly produced a more modest positive return in calendar Q1 (Bloomberg Commodity Total Return Index: +6.3%) as gains in energy and metals were offset by negative returns for natural gas and the agriculture complex as a whole (Bloomberg Commodity Agriculture sub-index down -3.2%). Other yield-oriented real asset categories also saw healthy gains. Somewhat influenced by the buoyant price of oil (and equity markets as well), Master Limited Partnerships (Alerian MLP Index: +16.8%) also enjoyed a strong start to the calendar year with the yield spread between the Alerian Index and the 10-year Treasury remaining fairly wide at +500 basis points. Both U.S. and Non-U.S. listed real estate saw double digit gains in calendar Q1 (Financial Times Stock Exchange (FTSE) National Association of Real Estate Investment Trusts (NAREIT) Equity: +16.3%; FTSE European Public Real Estate Association/NAREIT Global: +15.0%) as did listed infrastructure assets (DJ Brookfield Global Infrastructure: +15.7%).

Closing Thoughts

With such a torrid start to the calendar year for broad asset classes following an almost equally disappointing end to calendar 2018, it will be very interesting to observe how investors react to the next series of potential market events. More periodic bouts of volatility seem almost inevitable, global growth concerns (particularly in Europe) are not going away, and of course there's the plodding and still undetermined outcome on a final Brexit deal. Thus, just as we have stated in the past, adherence to an appropriate and well-defined asset allocation remains the best course of action to manage the path to successful attainment of long term investment goals.

RECOMMENDATION

Staff recommend the Finance & Administration Committee accept the FY2019 Q3 Public University Fund Investment Report and the FY2019 Q3 Oregon State University Investment Report.

Oregon Short Term Fund

March 31, 2019

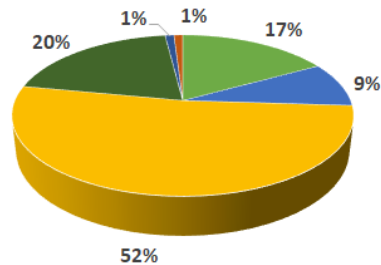
Portfolio Characteristics

Market Value 3/31/19	\$ 222,226,990
Weighted Average Credit Quality	AA
Book Yield (%)	2.79
Weighted Average Maturity (years)	1.15
Duration (years)	0.58
Spread Duration (rate)	0.92

Top 10 Issuers

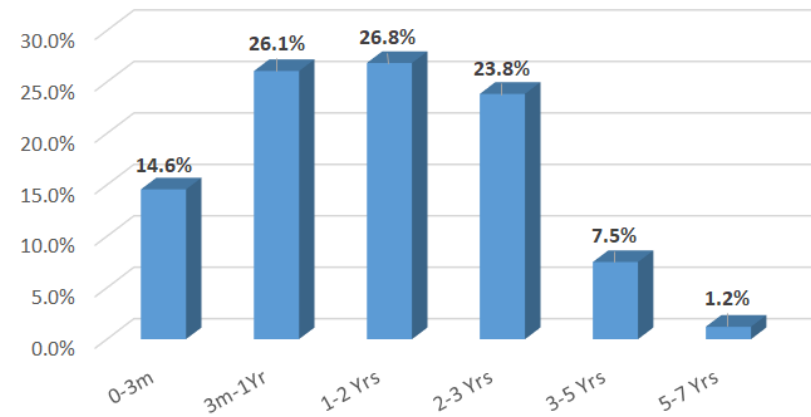
United States Treasury	17.3%
JP Morgan Chase & Co	3.3%
Wells Fargo & Company	3.0%
Citigroup Incorporated	2.7%
Caterpillar Incorporated	2.3%
Barclays Plc	2.2%
Goldman Sachs Group Incorporated (The)	2.2%
American Express Credit Account Master Trust	2.1%
Chase Issuance Trust	2.0%
Bank Of Montreal	1.8%
Total	38.9%

Sector Allocations

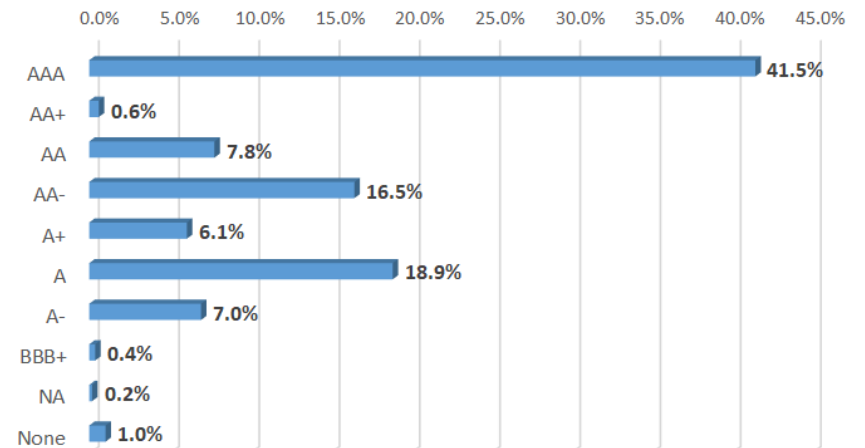


■ Treasuries ■ Government Related ■ Corporates ■ Securitized ■ Funds ■ Cash Securities

Maturity Breakdown



Credit Quality Distribution



Source: Oregon State Treasury

Core Bond Fund

March 31, 2019

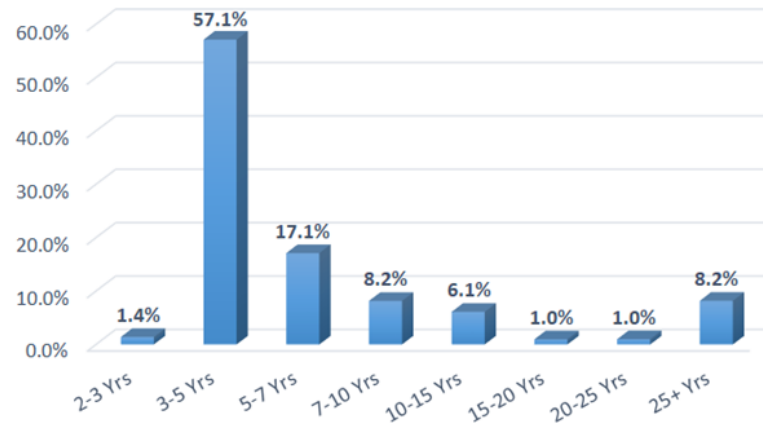
Portfolio Characteristics

Market Value 3/31/19	\$ 383,039,971
Weighted Average Credit Quality	AA+
Book Yield (%)	2.71
Weighted Average Maturity (years)	4.54
Duration (years)	3.69
Spread Duration (rate)	2.31

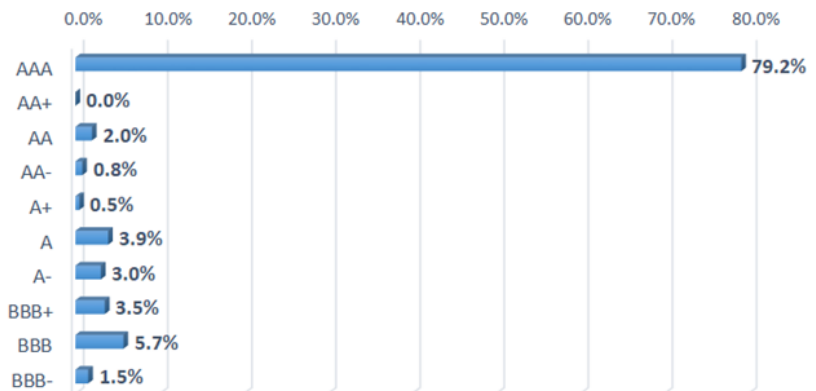
Top 10 Issuers

United States Treasury	55.0%
Federal National Mortgage Association	5.7%
Federal Home Loan Mortgage Corporation	4.2%
Federal Farm Credit Banks Funding Corporation	2.2%
European Investment Bank	2.0%
FHLMC Multifamily Structured Pass Through K040	1.3%
FHLMC Multifamily Structured Pass Through K058	1.3%
Capital One Multi-Asset Execution Trust	1.2%
Oregon State Treasury (Oregon Short-Term Fund)	1.1%
Sherwin-Williams Company (The)	1.0%
Total	75.0%

Maturity Breakdown

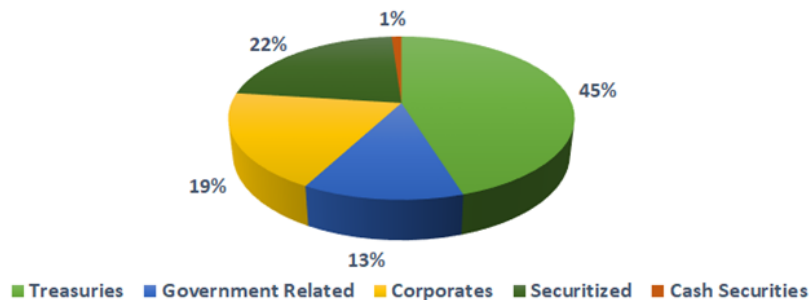


Credit Quality Distribution



Source: Oregon State Treasury

Sector Allocations



Source: Oregon State Treasury