INVESTMENT PERFORMANCE SUMMARY QUARTER ENDING June 30, 2019

OFFICE OF THE STATE TREASURER & CASH MANAGEMENT POLICY BOARD

June 30, 2019 John Krimmel, CPA, CFA, Partner Kevin M. Leonard, Partner





NEPC, LLC -

Introduction

Financial markets the world over have posted a string of impressive wins so far this year, much like the reigning World Cup champions, the United States women's soccer team. Something else they have in common: the unequal distribution of earnings.

For instance, within equities, the S&P 500 Index, which breached a new high of 3000 points, is far outpacing international stocks with its year-to-date returns of over 18%. To this end, just as the US women's soccer team's stellar performance reinforces the case for pay equity and equal treatment, we remind investors to use their gains from high-performing assets to rebalance their portfolios.

Our recommendation to rebalance comes amid a clash in sentiment as investors oscillate between a buoyant stock market and pessimistic economic signals from the bond market. These seemingly contradictory points of view have fueled robust gains in interest-rate markets, an unusual occurrence caused by sovereign bond yields declining the world over even as risk assets show little sign of faltering.

At NEPC, we believe these mixed signals are the new normal. We see no meaningful signs of an impending US recession and find the current investment dynamic to be a common characteristic of the late stage of an economic cycle. In addition to rebalancing gains from US equities, we recommend potentially trimming exposure to non-US developed equities where risks are tilted more to the downside, especially in Europe. Where appropriate, we believe holding total equity exposure marginally below strategic targets is a sensible posture, given the disparate messages from equity and bond markets.



Introduction (continued)

In fixed income, we advocate reducing exposure to lower-quality credit amid a substantive decline in credit spreads since the beginning of the year. In addition, we recommend assets that serve as dry powder in times of market stress, for instance, Treasuries, cash equivalents and shorter-term maturities in safe haven debt. With the US yield curve remaining flat and inverted at certain points, we encourage a shorter duration bias for non-LDI investors with Treasuries yielding around 2% across most parts of the yield curve.

Moving to emerging markets, we maintain an overweight posture in equities and are supportive of increasing the relative size of emerging stocks compared to total equity exposure as developed market positions in the portfolio are rebalanced. We are optimistic of some form of resolution to the ongoing trade dispute between the United States and China, and we believe even a narrow agreement between the two nations will remove a headwind for stocks in emerging markets and Asia.

Global Equities

In the US, large-cap financials led the charge with returns of 8.4% in the second quarter. The MSCI ACWI Index increased 3.6%, with financials up 6.6%; energy was the only outlier, losing 0.8%.

During the same period, the HFRI Equity Hedge Index gained 1.7%. There was a wide dispersion in the performance of emerging markets hedge funds with those concentrating on India and China taking the biggest hits, losing 1.5% and 1.6%, respectively; strategies focused on Eastern Europe and Latin America led with returns of 7.2% and 4.4%, respectively.



Global Equities (continued)

Earnings for S&P 500 companies for the second quarter are estimated to fall 3.0% from a year ago; this forecast comes on the back of a 4.1% fall in the first quarter, according to FactSet data. The last time around earnings were down two consecutive quarters was in 2016. We continue to closely monitor growth estimates and valuation multiples.

In private equity, fundraising totaled \$111.5 billion in the second quarter, just shy of the \$113.1 billion raised in the previous quarter and lower than the quarterly one, three- and five-year averages, according to data provider Preqin. Additionally, the number of funds raised, at 267, was the lowest since 2013. While the current pace of fundraising is on track to match the total dollar amount raised last year, the number of funds is expected to shrink by a fourth at the present rate. For the three months ended June 30, the value of US buyouts—a combination of confirmed and yet-to-close deals—rebounded from the first quarter to \$160.4 billion as transactions totaling \$2.5 billion or more accounted for 26% of deal activity, according to data from PitchBook.

In venture capital, funds invested, at \$31.5 billion, were down from \$34.5 billion in the first quarter, but they were still higher than recent averages, according to PitchBook. Buyout exits totaled a lackluster \$62.0 billion in the second quarter. In contrast, venture exits hit a new high of \$138.3 billion during the same period, bringing total liquidity this year to \$188.4 billion while surpassing 2018's record of \$127.2 billion; the main driver of this wave of liquidity were the hefty IPOs—all over \$10 billion—of Lyft, Uber, Slack, Pinterest and Zoom Video.



Global Fixed Income

In fixed income, spreads for investment-grade credit were little changed, at 119 basis points, amid steady demand. In contrast, spreads on the riskier CCC-rated segment of high-yield debt widened as much as 70 basis points, underscoring investor concerns around credit risk associated with the late stage of an economic cycle. The Bloomberg Barclays Aggregate and the Bloomberg Barclays US Long Treasury indexes were up 3.1% and 6.0%, respectively, in the second quarter. The Bloomberg Barclays High Yield Index gained 2.5% and leveraged loans returned 1.6%, according to the S&P LSTA Leveraged Loan Index. Net outflows continued for high yield and levered loan funds, while investment-grade funds experienced net inflows during the quarter.

In the same period, credit hedge funds maintained their positive trajectory with the HFRI ED: Credit Arbitrage Index gaining 3.1% and the HFRI ED: Distressed/Restructuring Index up 1.8%.

Outside the US, emerging market debt rallied with local currency-denominated debt posting a return of 5.6% for the quarter. External emerging market sovereign debt continued its strong run, returning 4.4% for the quarter. Valuations and fundamentals remain favorable for emerging economies given the Federal Reserve's more dovish stance.

That said, we believe current spread levels do not fully reflect the underlying credit risks in the market, increasing the appeal of safe-haven fixed-income assets. The significant growth of credit markets since the financial crisis, accompanied by deteriorating credit quality and increasing amounts of leverage, may eventually attract investors of distressed debt. Niche lending emerging market debt (local), and investment grade collateralized loan obligations (IG-CLOs) offer the potential for risk compensation given their structural nuances and opportunity for credit selection.



Final Thoughts

Our message is a bit more defensive as we encourage investors to harvest the stellar returns reaped so far in 2019. With global equity and interest-rate markets posting strong gains this year, we revert to a simple principle of reducing exposure to assets that have exceeded expectations. Specifically, we encourage investors to cut back on lower-quality credit and rebalance equity exposure by paring positions in developed markets. We still find emerging market stocks promising and maintain our overweight position on them. At the same time, we encourage investors to consider assets that can serve as dry powder in times of market stress. To this end, we remind investors of the benefits of a diversified and balanced portfolio as risks associated with the late stage of an economic cycle are skewed towards the negative but can offer positive returns for investors for an extended period before the final whistle is blown.



CALENDAR YEAR INDEX PERFORMANCE

	2013	2014	2015	2016	2017	2018	Q1	Q2	YTD	5yr	10yr
Reserve Custom Index	0.12%	1.10%	0.86%	1.15%	1.00%	1.88%	2.19%	2.71%	4.96%	2.03%	1.95%
Endowment Custom Index	14.46%	5.43%	-0.07%	5.71%	14.52%	-5.07%	8.63%	3.75%	12.71%	5.31%	8.19%
3-Month Treasury Bill	0.05%	0.03%	0.03%	0.27%	0.84%	1.86%	0.60%	0.61%	1.21%	0.84%	0.46%
6-Month Treasury Bill	0.10%	0.06%	0.10%	0.40%	0.88%	1.91%	0.61%	0.63%	1.24%	0.91%	0.51%
BAML 1-3 Yr Govt/Credit A+	0.55%	0.72%	0.66%	1.06%	0.70%	1.65%	1.10%	1.47%	2.59%	1.37%	1.47%
BAML 1-5 Yr Govt/Credit A+	0.10%	1.42%	1.07%	1.30%	1.02%	1.50%	1.41%	1.86%	3.30%	1.72%	2.07%
BAML 5-10 Yr Govt/Credit A+	-3.82%	6.61%	1.95%	1.95%	2.98%	0.59%	3.13%	3.75%	7.00%	3.34%	4.65%
BBrg Barclays US Aggregate	-2.02%	5.97%	0.55%	2.65%	3.54%	0.01%	2.94%	3.08%	6.11%	2.95%	3.90%
BC Municipal Bond	-2.55%	9.05%	3.30%	0.25%	5.45%	1.28%	2.90%	2.14%	5.09%	3.64%	4.72%
BC US Corp High Yield	7.44%	2.45%	-4.47%	17.13%	7.50%	-2.08%	7.26%	2.50%	9.94%	4.70%	9.24%
BC Long Treasuries	-12.66%	25.07%	-1.21%	1.33%	8.53%	-1.84%	4.67%	6.03%	10.98%	5.71%	6.53%
BC US Long Credit	-6.62%	16.39%	-4.56%	10.22%	12.21%	-6.76%	7.86%	7.02%	15.44%	5.78%	8.41%
MSCI World Index	26.68%	4.94%	-0.87%	7.51%	22.40%	-8.71%	12.48%	4.00%	1.69%	1.26%	0.94%



Source: Bloomberg, Barclays, Alerian, Nareit, MSCI, JP Morgan, Credit Suisse, Thomson One

EXECUTIVE SUMMARY

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NEPC, LLC —

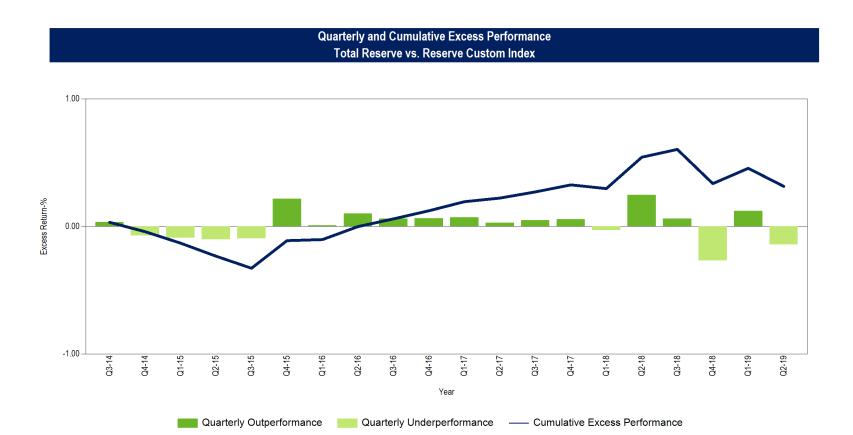
TOTAL FUND PERFORMANCE SUMMARY

	Market Value	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	Inception	Inception Date
Delaware Total Consolidation	\$2,652,150,975	1.92%	3.90%	5.26%	2.35%	1.85%	2.11%	Jan-05
Total Liquidity & Reserve	\$2,580,630,879	1.87%	3.61%	5.25%			2.38%	Nov-16
Total Liquidity	\$756,757,968	0.84%	1.69%	2.89%	1.69%	1.26%	1.81%	Jan-05
eV US Cash Management Net Median		0.63%	1.27%	2.38%	1.49%	1.04%	1.51%	Jan-05
Total Reserve	\$1,823,872,911	2.57%	4.94%	6.95%	2.44%	2.09%	2.47%	Jan-05
Reserve Custom Index		2.71%	4.96%	7.19%	2.33%	2.03%	2.67%	Jan-05
eV US Interm Duration Fixed Inc Net Median		2.44%	4.94%	6.63%	2.04%	2.35%	3.78%	Jan-05
Total Endowment	\$71,520,096	3.61%	13.12%	6.50%	8.41%		5.95%	Aug-15
Endowment Custom Index		3.75%	12.71%	7.33%	8.07%	5.31%	6.01%	Aug-15
eV Global Balanced Net Median		2.84%	12.21%	6.57%	8.08%	5.33%	6.25%	Aug-15

Fiscal year ends June 30.

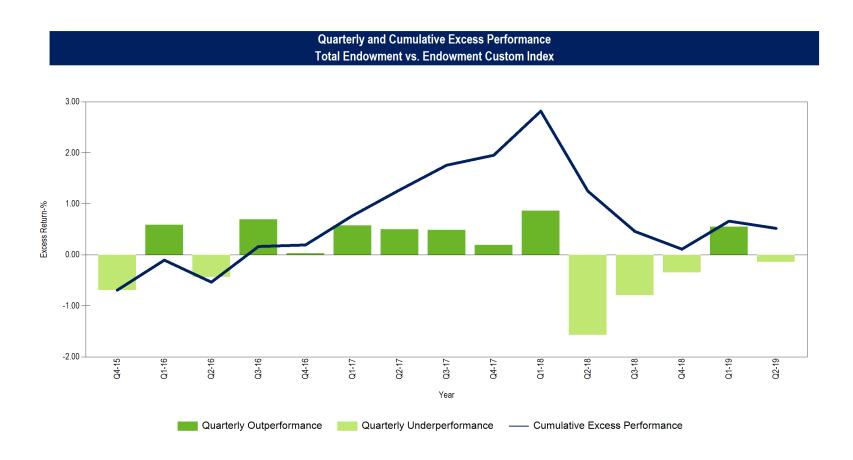


TOTAL FUND PERFORMANCE SUMMARY



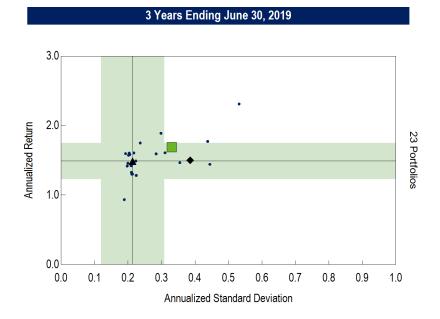


TOTAL FUND PERFORMANCE SUMMARY



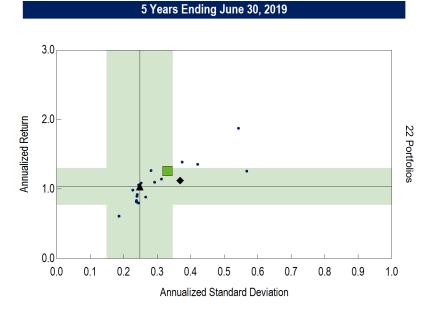


LIQUIDITY RISK/RETURN - 3 & 5 YEARS



- Total Liquidity
- Liquidity Custom Index
- ▲ Universe Median
- 68% Confidence Interval
- eV US Cash Management Net

3 Years Ending June 30, 2019										
	Anlzd Ret	Anlzd Std Dev	Sharpe Ratio							
Total Liquidity	1.69%	0.33%	0.87							

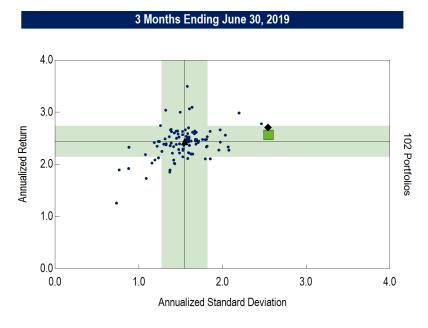


- Total Liquidity
- ◆ Liquidity Custom Index
- ▲ Universe Median
- 68% Confidence Interval
- eV US Cash Management Net

5 Years Ending June 30, 2019										
	Anlzd Ret	Anlzd Std Dev	Sharpe Ratio							
Total Liquidity	1.26%	0.33%	1.17							

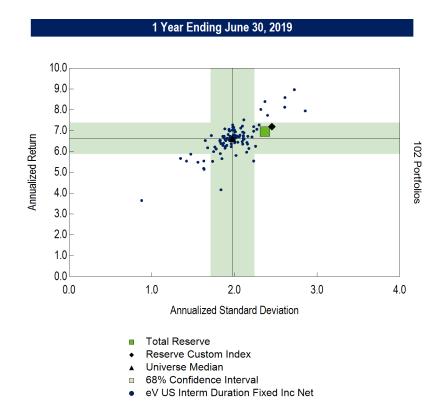


RESERVE RISK/RETURN - 3 MONTHS & 12 MONTHS



- Total Reserve
- Reserve Custom Index
- ▲ Universe Median
- 68% Confidence Interval
- eV US Interm Duration Fixed Inc Net

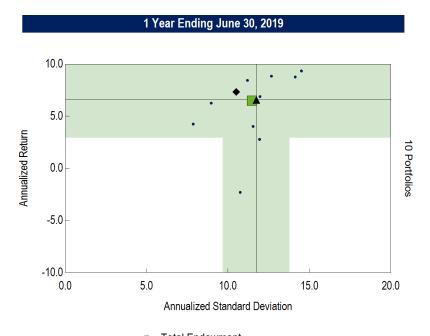
3 Months Ending June 30, 2019											
	Anlzd Ret	Anlzd Std Dev	Sharpe Ratio								
Total Reserve	2.57%	2.55%	0.77								
Reserve Custom Index	2.71%	2.54%	0.82								



1 Year Ending June 30, 2019											
	Anlzd Ret	Anlzd Std Dev	Sharpe Ratio								
Total Reserve	6.95%	2.37%	1.97								
Reserve Custom Index	7.19%	2.45%	2.00								

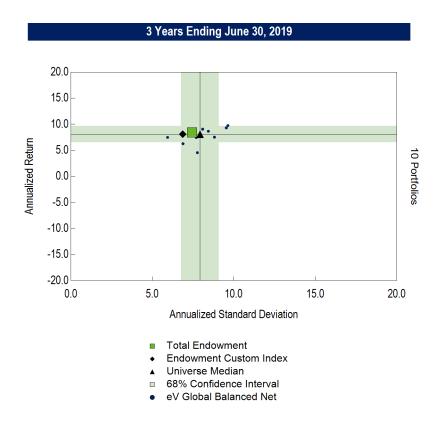


ENDOWMENT RISK/RETURN - 1 YEAR & 3 YEAR



- Total Endowment
- Endowment Custom Index
- Universe Median
- 68% Confidence Interval
- eV Global Balanced Net

1 Year Ending June 30, 2019										
	Anlzd Ret	Anlzd Std Dev	Sharpe Ratio							
Total Endowment	6.50%	11.46%	0.37							
Endowment Custom Index	7.33%	10.50%	0.48							



 3 Years Ending June 30, 2019

 AnIzd Ret
 AnIzd Std Dev
 Sharpe Ratio

 Total Endowment
 8.41%
 7.44%
 0.94

 Endowment Custom Index
 8.07%
 6.87%
 0.97



TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	Inception (%)	Inception Date
Delaware Total Consolidation	2,652,150,975	100.00	1.92		3.90		5.26		2.35	-	1.85		2.11	Jan-05
Total Liquidity & Reserve	2,580,630,879	97.30	1.87		3.61		5.25						2.38	Nov-16
Total Liquidity	756,757,968	28.53	0.84	14	1.69	16	2.89	13	1.69	16	1.26	18	1.81	Jan-05
eV US Cash Management Net Median			0.63		1.27		2.38		1.49		1.04		1.51	Jan-05
PFM Asset Management	379,459,861	14.31	0.82	16	1.65	18	2.76	19	1.73	15	1.33	12	1.19	Jun-13
Wilmington Liquidity	377,298,107	14.23	0.86	13	1.73	15	3.00	11	1.58	41	1.21	22	4.19	Jan-85
Total Reserve	1,823,872,911	68.77	2.57	26	4.94	51	6.95	24	2.44	17	2.09	83	2.47	Jan-05
Reserve Custom Index			2.71	8	4.96	49	7.19	12	2.33	23	2.03	91	2.67	Jan-05
eV US Interm Duration Fixed Inc Net Median			2.44		4.94		6.63		2.04		2.35		3.78	Jan-05
JPM Intermediate	446,232,523	16.83	1.45	58	2.79	62	4.33	49	1.59	72	1.59	55	1.47	Jun-13
J.P. Morgan Custom Index			1.47	52	2.59	75	4.17	56	1.45	81	1.50	69	1.37	Jun-13
Blackrock Financial Mangement	450,402,164	16.98	1.79	13	3.40	23	5.10	14					4.25	Mar-18
Blackrock Custom Index			1.86	8	3.30	29	5.14	12	1.73	59	1.66	50	4.14	Mar-18
Chandler Asset Management	465,725,064	17.56	3.27	28	6.63	37	9.04	6	3.05		2.56		2.25	Jun-13
Lazard Financial Management	461,513,160	17.40	3.71	4	6.90	20	9.31	3					7.24	Mar-18
Chandler/Lazard Custom Index			3.75	4	7.00	17	9.76	1	3.08	15	2.47	94	7.27	Mar-18
Total Endowment	71,520,096	2.70	3.61	35	13.12	37	6.50	52	8.41	47			5.95	Aug-15
Endowment Custom Index			3.75	33	12.71	42	7.33	42	8.07	51	5.31	51	6.01	Aug-15
eV Global Balanced Net Median			2.84		12.21		6.57		8.08		5.33		6.25	Aug-15
SEI Funds	24,666,596	0.93	3.46	37	13.30	35	6.32	55	8.93	28			6.91	Aug-15
MSIFT Global Strategist	23,080,612	0.87	3.47	37	11.88	67	6.11	57	7.99	51			5.31	Aug-15
JP Morgan Diversified	23,772,475	0.90	3.91	31	14.17	32	6.64	49	8.96	27			6.22	Aug-15
Cash Account	413	0.00	0.56	97	1.15	92	1.93	98	1.10	98			0.88	Aug-15

Notes: Net of Fees. Results for periods longer than one year are annualized.

Performance history through 12/2015 is from BNY Mellon. NEPC Performance start date is January 2016. Fiscal Year end is June 30.

Endowment Custom Index consists of 60% MSCI World Index/40% BBgBarc US Aggregate.

Post 3/1/2018 Reserve Custom Index is comprised of 25% BBgBarc US Govt/Credit 1-3 Yr, BBgBarc US Govt/Credit 1-5 Yr, and BBgBarc US Govt/Credit 5-10 Yr.

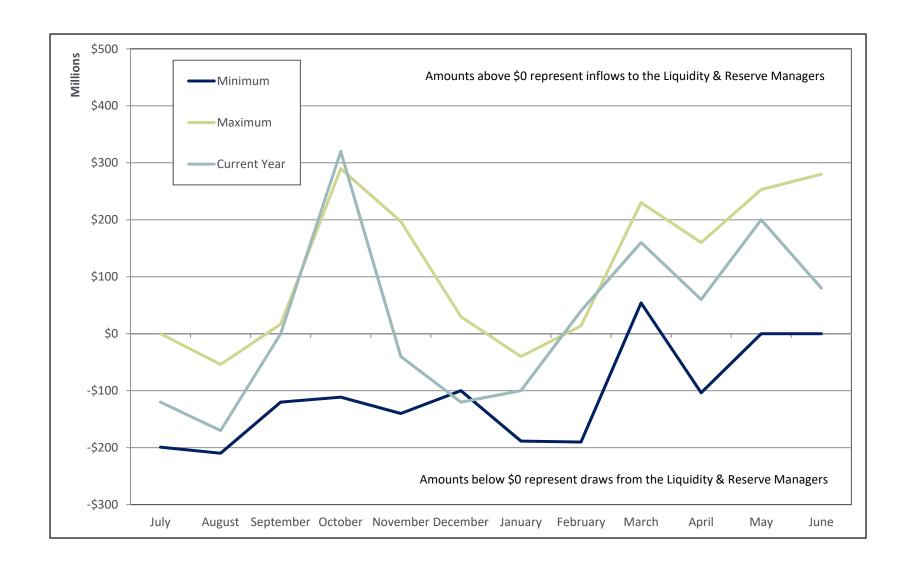
Blackrock Custom Index consists of 100% BofA Merrill Lynch 1-5 year Corporate/Gov A+ or Better and 75% BofA Merrill Lynch 1-5 year Govt/Corporate A+ or Better/ 25% 6 Month Treasury Bill prior to 4/1/2018.

J.P Morgan Custom Index consists of 100% BofA Merrill Lynch 1-3 year Corporate/Gov A+ or Better and 75% BofA Merrill Lynch 1-5 year Govt/Corporate A+ or Better/ 25% 6 Month Treasury Bill prior to 4/1/2018.

Chandler/Lazard Custom Index consists of 100% BofA Merrill Lynch 5-10 year Gov/Credit A+ or Better and 75% BofA Merrill Lynch 1-5 year Govt/Corporate A+ or Better/ 25% 6 Month Treasury Bill prior to 4/1/2018.



CASH FLOWS - FISCAL YEAR 2019





MONTH ENDED JUNE 30, 2019

			•	_	in Market Valuding June 30, 2	19							
	Beginning						U	nrealized Gain	ا	Realized Gain	ı	Amortization /	Ending Market
	Market Value	Contributions	Withdrawals		Fees	Income		(Loss)		(Loss)		Accretion	Value
Liquidity Managers													
PFM Asset Management	\$ 498,160,522	\$ -	\$ (120,000,000)	\$	-	\$ 849,322	\$	322,810	\$	72,443	\$	54,764	\$ 379,459,861
Wilmington Liquidity	\$ 495,896,065	\$ -	\$ (120,000,000)	\$	-	\$ 693,088	\$	455,073	\$	90,564	\$	163,318	\$ 377,298,107
Total Liquidity Managers	\$ 994,056,587	\$ -	\$ (240,000,000)	\$	-	\$ 1,542,410	\$	777,884	\$	163,006	\$	218,081	\$ 756,757,968
Reserve Managers													
BlackRock Financial Management	\$ 367,560,802	\$ 80,000,000	\$ -	\$	-	\$ 817,736	\$	1,800,961	\$	225,100	\$	(2,435)	\$ 450,402,164
Chandler Asset Management	\$ 379,869,957	\$ 80,000,000	\$ -	\$	-	\$ 893,204	\$	4,881,442	\$	-	\$	80,461	\$ 465,725,064
JPM Intermediate	\$ 364,046,748	\$ 80,000,000	\$ -	\$	-	\$ 817,155	\$	892,644	\$	443,630	\$	32,347	\$ 446,232,523
Lazard Asset Management	\$ 375,182,222	\$ 80,000,000	\$ -	\$	-	\$ 875,056	\$	4,822,942	\$	552,892	\$	80,047	\$ 461,513,160
Total Reserve Managers	\$ 1,486,659,729	\$ 320,000,000	\$ -	\$	-	\$ 3,403,151	\$	12,397,989	\$	1,221,622	\$	190,420	\$ 1,823,872,911
Total Liquidity & Reserve Managers	\$ 2,480,716,316	\$ 320,000,000	\$ (240,000,000)	\$	-	\$ 4,945,561	\$	13,175,872	\$	1,384,628	\$	408,502	\$ 2,580,630,879
Land & Water Endowment													
SEI Funds	\$ 23,537,479	\$ -	\$ -	\$	-	\$ 22,759	\$	1,005,207	\$	101,152	\$	-	\$ 24,666,596
MSIFT Global Strategist	\$ 22,041,041	\$ -	\$ -	\$	-	\$ 497	\$	1,039,074	\$	-	\$	-	\$ 23,080,612
JP Morgan Diversified	\$ 22,693,795	\$ -	\$ -	\$	-	\$ 169,242	\$	909,438		-	\$	-	\$ 23,772,475
Cash Account	\$ 413	\$ -	\$ -			\$ 1	\$	-	\$	-	\$	-	\$ 413
Total Land & Water Endowment	\$ 68,272,728	\$ -	\$ -	\$	-	\$ 192,499	\$	2,953,719	\$	101,152			\$ 71,520,096
Total	\$ 2,548,989,044	\$ 320,000,000	\$ (240,000,000)	\$	-	\$ 5,138,060	\$	16,129,591	\$	1,485,780	\$	408,502	\$ 2,652,150,975

Footnotes:

 $\label{thm:constraints} Values\ provided\ by\ Northern\ Trust\ and\ are\ reconciled\ to\ the\ audited\ custodian\ reports.$

Income is a product of income received during the month plus accrued income.

Numbers may not add due to rounding.



FISCAL YEAR TO DATE

					Fisca	al Yea	larket Valu r-to-Date ne 30, 2019									
		Beginning Market Value	Contributions		Withdrawals		Fees	Income	Ur	nrealized Gain (Loss)	ا	Realized Gain (Loss)	F	Amortization / Accretion	ا	Ending Market Value
		Market value	Continuutions		Withurawais		rees	псотте		(LUSS)		(LUSS)		Accretion		value
Liquidity Managers																
PFM Asset Management	\$	492,906,444	\$ 390,000,000	\$	(515,013,748)	\$	(306,286)	\$ 8,433,242	\$	1,344,840	\$	260,679	\$	1,834,689	\$	379,459,861
Wilmington Liquidity	\$	489,669,700	\$ 488,885,000	\$	(613,885,000)	\$	(314,417)	\$ 7,429,413	\$	2,700,054	\$	313,201	\$	2,500,157	\$	377,298,107
Total Liquidity Managers	\$	982,576,144	\$ 878,885,000	\$(1,128,898,748)	\$	(620,703)	\$ 15,862,656	\$	4,044,894	\$	573,879	\$	4,334,846	\$	756,757,968
Reserve Managers																
BlackRock Financial Management	\$	304,178,445	\$ 130,000,000	\$	- 5	\$	(233,742)	\$ 7,294,867	\$	9,450,677	\$	(757,052)	\$	468,968	\$	450,402,164
Chandler Asset Management	\$	306,602,083	\$ 130,000,000	\$	- 5	\$	(234,665)	\$ 8,402,814	\$	20,048,986	\$	(223,336)	\$	1,129,183	\$	465,725,064
JPM Intermediate	\$	302,598,195	\$ 130,000,000	\$	- 5	\$	(299,344)	\$ 7,400,834	\$	6,949,721	\$	(1,003,023)	\$	586,139	\$	446,232,523
Lazard Asset Management	\$	301,883,237	\$ 130,000,314	\$	- 5	\$	(363,960)	\$ 8,207,042	\$	18,755,882	\$	1,705,859	\$	1,324,787	\$	461,513,160
Total Reserve Managers	\$	1,215,261,960	\$ 520,000,314	\$	- (\$ (1,131,711)	\$ 31,305,557	\$	55,205,266	\$	(277,552)	\$	3,509,077	\$	1,823,872,911
Total Liquidity & Reserve Managers	\$	2,197,838,104	\$ 1,398,885,314	\$(1,128,898,748)	\$ (1,752,414)	\$ 47,168,213	\$	59,250,160	\$	296,327	\$	7,843,923	\$	2,580,630,879
Land & Water Endowment																
SEI Funds	\$	22,673,974	\$ 1,272,105	\$	(783,310)	\$	(80,596)	\$ 578,751	\$	368,657	\$	637,016	\$	-	\$	24,666,596
MSIFT Global Strategist	\$	21,282,497	\$ 1,197,411	\$	(763,184)	\$	- 5	\$ 781,930	\$	(1,331,481)	\$	1,913,439	\$	-	\$	23,080,612
JP Morgan Diversified	\$	21,816,446	\$ 1,225,484	\$	(784,269)	\$	- 9	\$ 541,727	\$	(701,991)	\$	1,675,080	\$	-	\$	23,772,475
Cash Account	\$	3,571,583	\$ 2,359,591	\$	(5,957,999)	\$	- 5	\$ 27,239	\$	-	\$	-	\$	-	\$	413
Total Land & Water Endowment	\$	69,344,500	\$ 6,054,591	\$	(8,288,762)	\$	(80,596)	\$ 1,929,647	\$	(1,664,816)	\$	4,225,535			\$	71,520,096
Total	\$:	2,267,182,604	\$ 1,404,939,905	\$(1,137,187,510)	\$ (1,833,010)	\$ 49,097,860	\$	57,585,345	\$	4,521,862	\$	7,843,923	\$	2,652,150,975

Footnotes:

Values provided by Northern Trust and are reconciled to the audited custodian reports.

Income is a product of income received during the month plus accrued income.

Numbers may not add due to rounding.



YIELD AND DURATION POSITIONING

Liquidity Portfolio Yield and Duration Analysis												
	Portfolio	Beno	hmark									
	Portfolio Value	% of Assets	<u>Yield</u>	Duration		<u>Yield</u>	<u>Duration</u>					
PFM \$	379,459,861	14.7%	2.33%	0.55	6-Month Treasury Bill	2.05%	0.45					
Wilmington Trust \$	377,298,107	14.6%	2.26%	0.79	6-Month Treasury Bill	2.05%	0.45					
Total Liquidity \$	756,757,968	29.3%	2.30%	0.67	6-Month Treasury Bill	2.05%	0.45					

	Reserve Portfolio Yield and Duration Analysis												
	Portfolio	Benchmarl	(
	<u>Portfolio Value</u>	% of Assets	<u>Yield</u>	Duration		<u>Yield</u>	<u>Duration</u>						
JP Morgan \$	446,232,523	17.3%	2.06%	1.81	BAML 1-3 Yr Govt/Credit A+	1.99%	1.84						
BlackRock \$	450,402,164	17.5%	1.97%	2.77	BAML 1-5 Yr Govt/Credit A+	1.99%	2.57						
Chandler \$	465,725,064	18.0%	2.22%	5.87	BAML 5-10 Yr Govt/Credit A+	2.25%	6.35						
Lazard \$	461,513,160	17.9%	2.12%	6.27	BAML 5-10 Yr Govt/Credit A+	2.25%	6.35						
Total Reserve \$	1,823,872,911	70.7%	2.09%	4.21	Custom Reserve Benchmark	2.12%	4.28						

Total Liquidity & Reserve Portfolio Yield and Duration Analysis							
	Portfolio				Ber	nchmark	
	Portfolio Value		<u>Yield</u>	<u>Duration</u>		<u>Yield</u>	<u>Duration</u>
Total Liquidity & Reserve \$	2,580,630,879	100.0%	2.15%	3.17	Weighted Average	2.11%	3.51

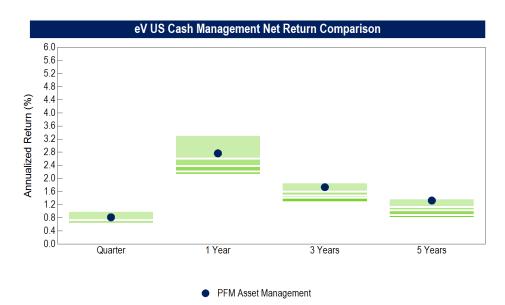


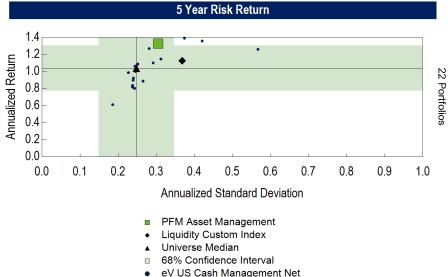
Source: Bloomberg, Barclays, Alerian, Nareit, MSCI, JP Morgan, Credit Suisse, Thomson One

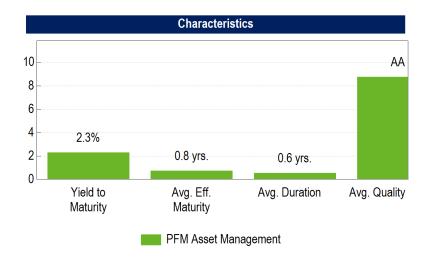
LIQUIDITY MANAGER REVIEW

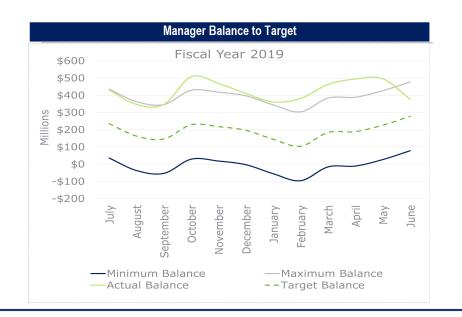
NEPC, LLC -

PFM ASSET MANAGEMENT



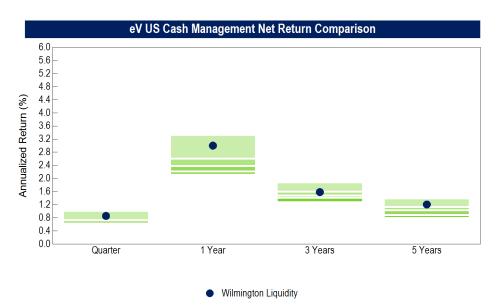




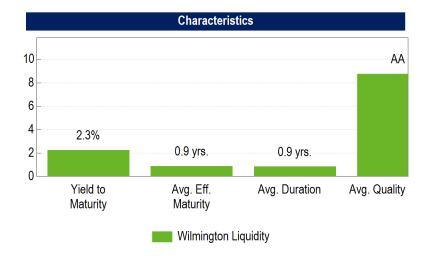


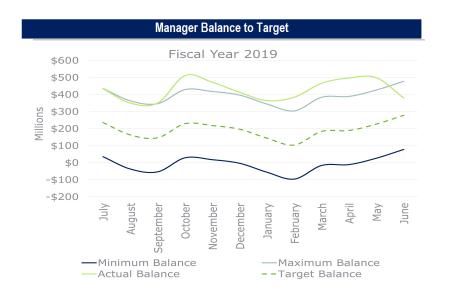


WILMINGTON LIQUIDITY







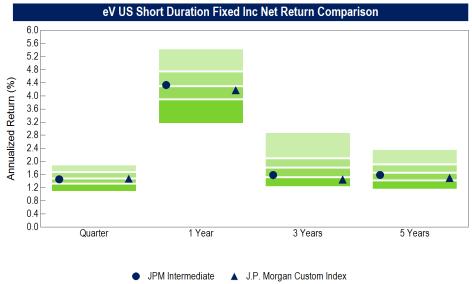




RESERVE MANAGER REVIEW

NEPC, LLC —

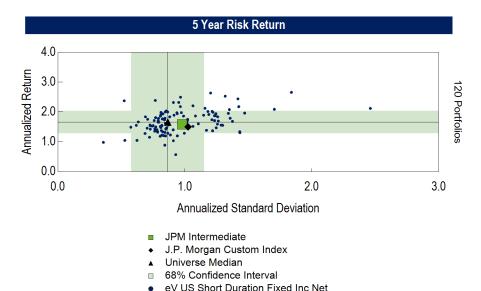
JPM INTERMEDIATE





JPM Intermediate





Qualitative Attribution

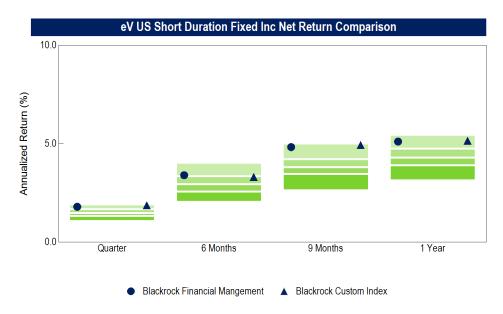
Duration and Yield Positioning: The portfolio was positioned with a slightly shorter duration bias versus the benchmark, as JP Morgan was constructive on the economy and saw little risk of a near-term recession. **Result:** Value detracted due to shortened relative duration and interest rates moving lower throughout the quarter.

Credit Positioning: The portfolio was overweight Credit versus Treasuries and within Credit was overweight Financials versus Industrials.

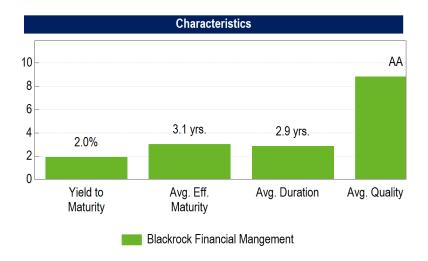
Result: Value increased due to positive overweight to Corporates as they outperformed Treasuries in the quarter.

Other Positioning: JP Morgan forecasts that the Fed will continue to reduce interest rates and expects another two rate cuts this year. The rally in the second quarter provided an opportune time to sell corporate positions that performed well and to allocate gains back into Treasuries. As of 2Q2019, the portfolio is close to a neutral risk position versus the benchmark and JP Morgan will look for periods of volatility and spread widening to add back risk as appropriate.

BLACKROCK FINANCIAL MANAGEMENT







Qualitative Attribution

Duration and Yield Positioning: The portfolio was positioned with a slightly longer duration bias versus the benchmark, as market expectations for a rate cut started to meaningfully increase after the Federal Reserve's March meeting.

Result: Neutral value due to duration and yield positioning for the quarter.

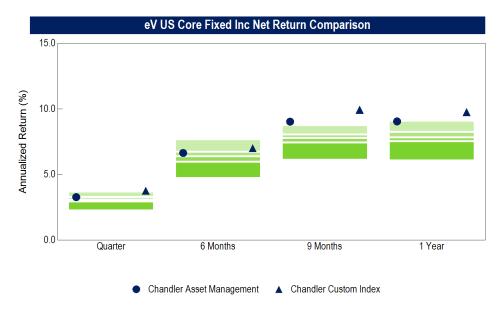
Credit Positioning: The portfolio was overweight Corporates and Securitized securities for the quarter and underweight Government Related and Treasury securities, respectively.

Result: Value added via overweight to corporate credit supported by exposure to ABS and mortgages.

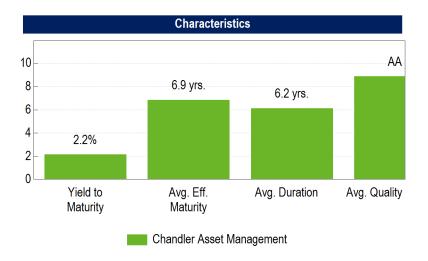
Other Positioning: Strong performance in April and June was enough to offset negative sentiment in May. As a result, many short duration fixed income sectors produced positive excess returns versus duration adjusted Treasuries. Within investment grade credit, dovish rhetoric from the Fed and the ECB, as well as the de-escalation of the trade conflict between the US and China, kept 3-year and 5-year spreads relatively unchanged in the second quarter, at 73 bps and 99 bps, respectively.



CHANDLER ASSET MANAGEMENT







Qualitative Attribution

Duration and Yield Positioning: The portfolio was modestly short the duration of the benchmark based on the view that the stability in global risk assets would keep interest rates from pricing in a material change to monetary policy.

Result: Value detracted due to shortened relative duration and interest rates moving lower throughout the quarter.

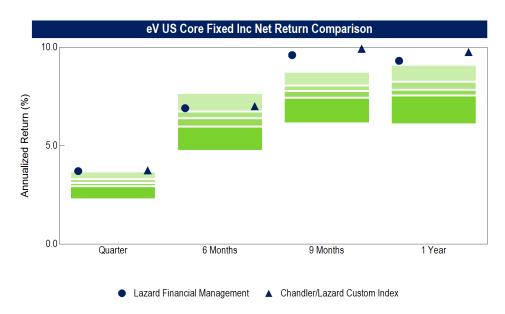
Credit Positioning: The portfolio remained defensively positioned with overweighting Corporates and Agencies.

Result: Value increased relative to the benchmark due to the positive overweight to Corporates.

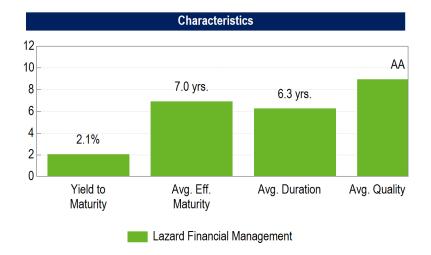
Other Positioning: The spread curve in the regional banking sector remains flat, and a relative value concern, however, given the roll down of the securities currently held in the portfolio, Chandler will be looking to be more opportunistic in adjusting exposures in the sub-sector on a going forward basis.



LAZARD FINANCIAL MANAGEMENT







Qualitative Attribution

Duration and Yield Positioning: In terms of relative interest rate exposure, the portfolio was positioned for a flattening scenario going into the 2nd quarter, carrying an underweight to the five-year part of the curve spectrum but maintaining a neutral overall duration position relative to the 5-10 year benchmark.

Result: Value detracted due to interest rate positioning as the applicable portion of the US Treasury curve steepened modestly.

Credit Positioning: The portfolio remained defensively positioned carrying an underweight to both Corporate and Non-US Government credit risk.

Result: Value detracted as corporate credit performed strongly during the quarter.

Other Positioning: Lazard continues to search for attractively priced Arated corporate positions with little success. In the meantime, the portfolio continues to hold high-quality, short duration asset backed securities, which have added value relative to Treasury positions.

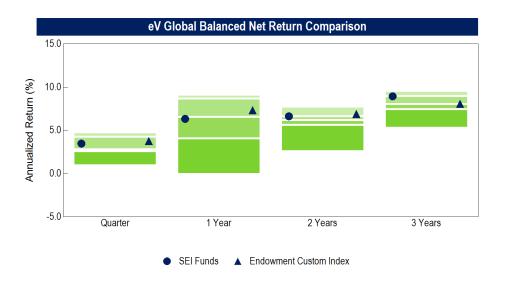


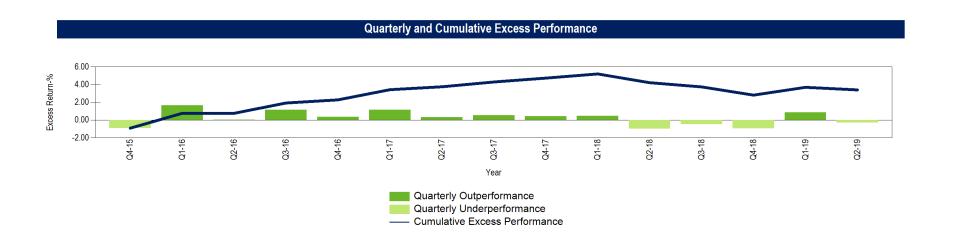
ENDOWMENT MANAGER REVIEW

NEPC, LLC —

SEI FUNDS

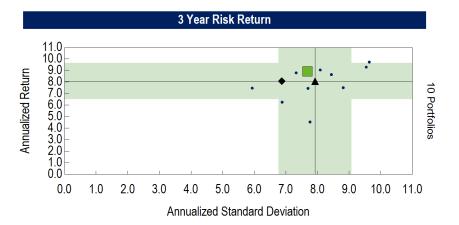
SEI Funds manages a multi-asset class portfolio subject to a 60% target equity allocation which will be held in a range of 45% to 75%, with international equities not to exceed 35% of the equity allocation. A combination of fixed income, alternative investments, and cash will account for the remaining 40% target allocation. Funds will be managed by the following SEI strategies: SEI US Managed Volatility Strategy, SEI S&P 500 Index Strategy, SEI Extended Markets Index Strategy, SEI Small Cap II Equity Strategy, SEI World Equity ex-US Strategy, SEI Core Fixed Income Strategy, SEI High Yield Strategy, and SEI Emerging Markets Debt Strategy.



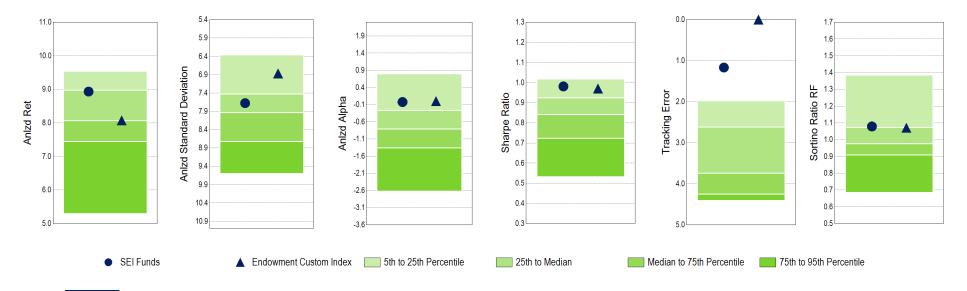




SEI FUNDS



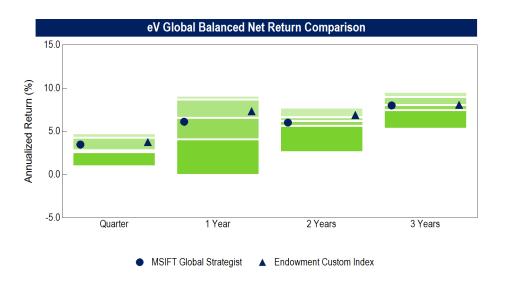
- SEI Funds
- ◆ Endowment Custom Index
- ▲ Universe Median
- 68% Confidence Interval
- eV Global Balanced Net





MSIFT GLOBAL STRATEGIST

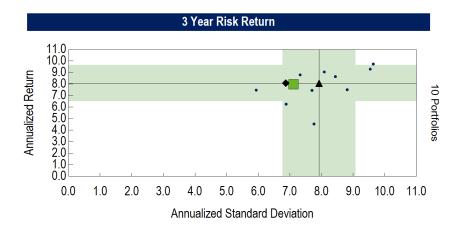
Morgan Stanley manages a multi-asset class portfolio. The portfolio seeks to achieve its investment objective by investing primarily in a blend of equity and fixed income securities of U.S. and non-U.S. issuers. The equity portfolio will be diversified by types of securities (i.e. common and preferred shares of equity), issuer, industry and sectors. The fixed income portfolio will be diversified by security types (i.e government, agency and corporate bonds), issuer, duration and yield characteristics.



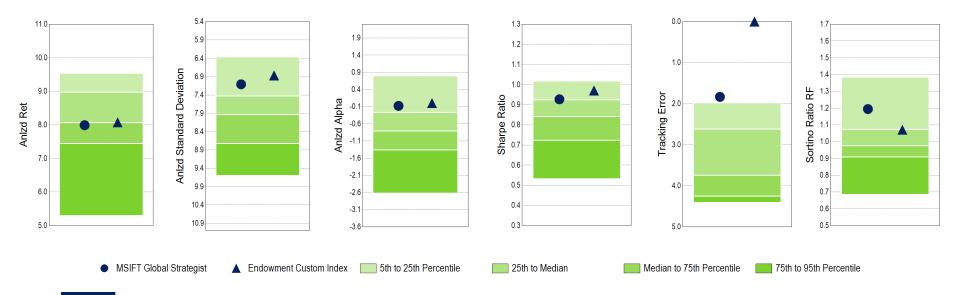




MSIFT GLOBAL STRATEGIST

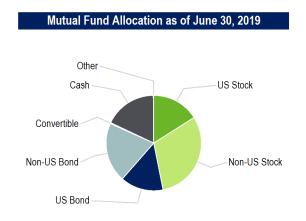


- MSIFT Global Strategist
- ◆ Endowment Custom Index
- ▲ Universe Median
- 68% Confidence Interval
- eV Global Balanced Net





MSIFT GLOBAL STRATEGIST



Portfolio Fund Information as	of June 30, 2019
Ticker	MPBAX
Morningstar Category	World Allocation
Average Market Cap (\$mm)	47,155.35
Net Assets (\$mm)	59.79
% Assets in Top 10 Holdings	43.08
Total Number of Holdings	1,570
Manager Name	Mark A. Bavoso
Manager Tenure	9
Expense Ratio	0.74%
Closed to New Investors	No

Fund Characteristics as of June 30, 2019			
Sharpe Ratio (3 Year)	0.93		
Average Market Cap (\$mm)	47,155.35		
Price/Earnings	14.64		
Price/Book	1.84		
Price/Sales	1.31		
Price/Cash Flow	6.73		
Dividend Yield	3.25		
Number of Equity Holdings	1,248		
R-Squared (3 Year)	0.93		
Alpha (3 Year)	0.00%		

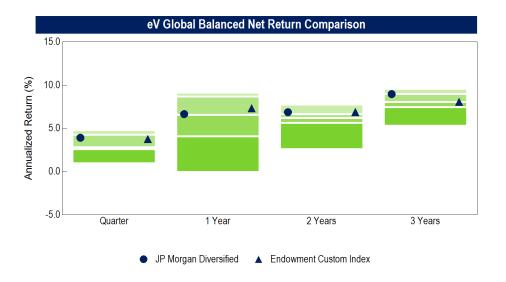
Top Holdings as of June 30, 2019	
S+P500 EMINI FUT SEP19 XCME 20190920	10.91%
AUSTRALIA 3 YEAR BOND SEPT19	6.01%
MS INST. FUND TRUST GLBL STRATEGIST CAYMAN POR LTD	4.90%
1265771 TRS USD P V 03MLIBOR II1758120190123 EQUITYTRS	4.25%
1265771 TRS USD R E II1760260190123 EQUITYTRS	4.15%
US 10YR NOTE (CBT)SEP19 XCBT 20190919	3.11%
1265804 TRS USD P V 03MLIBOR II2081480190206 EQUITYTRS	2.90%
1265804 TRS USD R E II2084320190206 EQUITYTRS	2.90%
MSCI EMGMKT SEP19 IFUS 20190920	2.01%
EURO BUND FUTURE SEPT19	1.94%

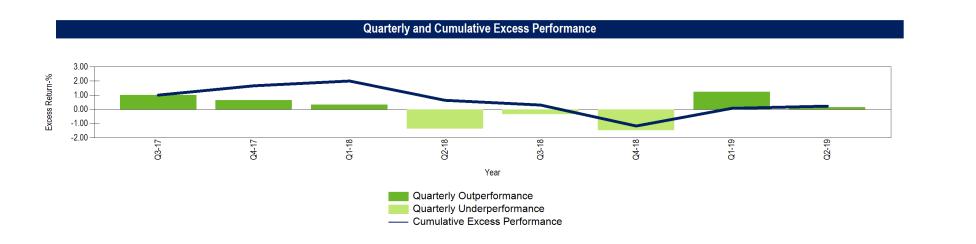
Sector Allocation as of June 30, 2019	
BASIC MATERIALS	5.20%
COMMUNICATION SERVICES	4.58%
CONSUMER CYCLICAL	10.00%
CONSUMER DEFENSIVE	9.16%
ENERGY	7.37%
FINANCIAL SERVICES	19.08%
HEALTHCARE	9.26%
INDUSTRIALS	15.56%
REAL ESTATE	5.54%
TECHNOLOGY	10.71%
UTILITIES	3.55%



JP MORGAN DIVERSIFIED

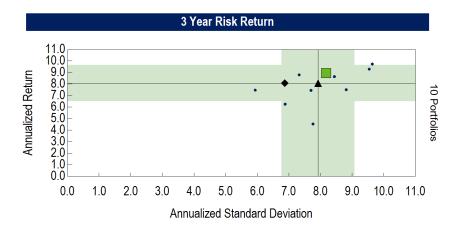
J.P Morgan manages a diversified mutli-asset class portfolio. The strategy seeks to provide a high total return from a diversified portfolio of equity and fixed income investments based on a model allocation. JP Morgan may periodically increase or decrease the Fund's actual asset allocation according to the relative attractiveness of each asset class. Within its equity allocations, the Fund primarily invests in the common stock and convertible securities of U.S. and foreign companies. Within its fixed income allocations, the Fund primarily invests in corporate bonds, mortgage-backed securities, mortgage "dollar rolls" and U.S. government securities.



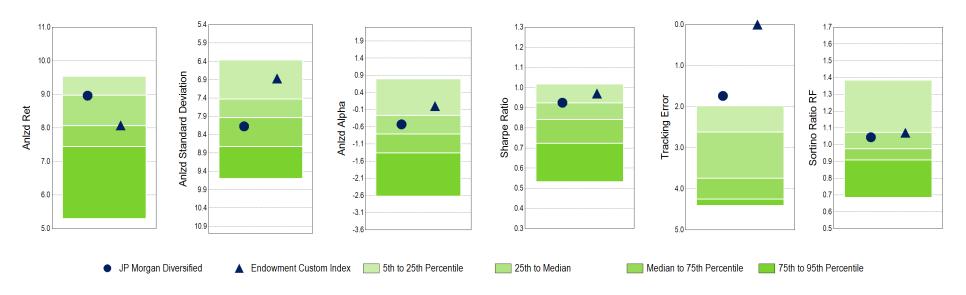




JP MORGAN DIVERSIFIED



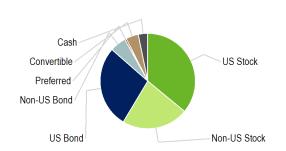
- JP Morgan Diversified
- ◆ Endowment Custom Index
- ▲ Universe Median
- 68% Confidence Interval
- eV Global Balanced Net





JP MORGAN DIVERSIFIED

Mutual Fund Allocation as of June 30, 2019



Top Holdings as of June 30, 2019	
JPMORGAN CORE PLUS BOND R6	2.34%
JPMORGAN EMERGING MARKETS DEBT R6	2.29%
JPMORGAN EMERGING MARKETS STRAT DBT R6	1.77%
MICROSOFT CORP	1.47%
AMAZON.COM INC	1.06%
UNITED STATES TREASURY NOTES 2%	0.69%
APPLE INC	0.66%
PFIZER INC	0.58%
VISA INC CLASS A	0.49%
MASTERCARD INC A	0.48%

Portfolio Fund Information as	of June 30, 2019
Ticker	JPDVX
Morningstar Category	Allocation50% to 70% Equity
Average Market Cap (\$mm)	46,515.07
Net Assets (\$mm)	222.36
% Assets in Top 10 Holdings	11.83
Total Number of Holdings	3,554
Manager Name	Nicole Goldberger
Manager Tenure	8
Expense Ratio	0.66%
Closed to New Investors	No

Fund Characteristics as of J	une 30, 2019
Sharpe Ratio (3 Year)	0.92
Average Market Cap (\$mm)	46,515.07
Price/Earnings	16.90
Price/Book	2.28
Price/Sales	1.65
Price/Cash Flow	7.95
Dividend Yield	2.40
Number of Equity Holdings	1,915
R-Squared (3 Year)	0.98
Alpha (3 Year)	-0.04%

Sector Allocation as of June 30, 2019	
BASIC MATERIALS	3.71%
COMMUNICATION SERVICES	2.58%
CONSUMER CYCLICAL	13.41%
CONSUMER DEFENSIVE	6.56%
ENERGY	4.89%
FINANCIAL SERVICES	19.01%
HEALTHCARE	10.35%
INDUSTRIALS	10.90%
REAL ESTATE	7.12%
TECHNOLOGY	18.41%
UTILITIES	3.06%



APPENDIX

NEPC, LLC —

GLOSSARY OF INVESTMENT TERMINOLOGY

Of Portfolios/Observations¹ - The total number of data points that make up a specified universe

Allocation Index³ - The allocation index measures the value added (or subtracted) to each portfolio by active management. It is calculated monthly: The portfolio asset allocation to each category from the prior month-end is multiplied by a specified market index.

Asset Allocation Effect² - Measures an investment manager's ability to effectively allocate their portfolio's assets to various sectors. The allocation effect determines whether the overweighting or underweighting of sectors relative to a benchmark contributes positively or negatively to the overall portfolio return. Positive allocation occurs when the portfolio is over weighted in a sector that outperforms the benchmark and underweighted in a sector that underperforms the benchmark. Negative allocation occurs when the portfolio is over weighted in a sector that underperforms the benchmark and under weighted in a sector that outperforms the benchmark.

Agency Bonds (Agencies)³ - The full faith and credit of the United States government is normally not pledged to payment of principal and interest on the majority of government agencies issuing these bonds, with maturities of up to ten years. Their yields, therefore, are normally higher than government and their marketability is good, thereby qualifying them as a low risk-high liquidity type of investment. They are eligible as security for advances to the member banks by the Federal Reserve, which attests to their standing.

Asset Backed Securities (ABS)³ - Bonds which are similar to mortgagebacked securities but are collateralized by assets other than mortgages; commonly backed by credit card receivables, auto loans, or other types of consumer financing.

Attribution³ - Attribution is an analytical technique that allows us to evaluate the performance of the portfolio relative to the benchmark. A proper attribution tells us where value was added or subtracted as a result of the manager's decisions

Average Effective Maturity - For a single bond, it is a measure of maturity that takes into account the possibility that a bond might be called back to the issuer.

For a portfolio of bonds, average effective maturity is the weighted average of the maturities of the underlying bonds. The measure is computed by weighing each bond's maturity by its market value with respect to the portfolio and the likelihood of any of the bonds being called. In a pool of mortgages, this would also account for the likelihood of prepayments on the mortgages.

Batting Average¹ - A measurement representing an investment manager's ability to meet or beat an index.

Formula: Divide the number of days (or months, quarters, etc.) in which the manager beats or matches the index by the total number of days (or months, quarters, etc.) in the period of question and multiply that factor by 100.

Brinson Fachler (BF) Attribution¹ - The BF methodology is a highly accepted industry standard for calculating the allocation, selection, and interaction effects within a portfolio that collectively explains a portfolio's underlying performance. The main advantage of the BF methodology is that rather than using the overall return of the benchmark, it goes a level deeper than BHB and measures whether the benchmark sector, country, etc. outperformed/or underperformed the overall benchmark.

Brinson Hood Beebower (BHB) Attribution¹ - The BHB methodology shows that excess return must be equal to the sum of all other factors (i.e., allocation effect, selection effect, interaction effect, etc.). The advantage to using the BHB methodology is that it is a highly accepted industry standard for calculating the allocation, selection, and interaction effects within a portfolio that collectively explains a portfolio's underlying performance.

Corporate Bond (Corp) ⁴ - A debt security issued by a corporation and sold to investors. The backing for the bond is usually the payment ability of the company, which is typically money to be earned from future operations. In some cases, the company's physical assets may be used as collateral for bonds.

Correlation¹ - A range of statistical relationships between two or more random variables or observed data values. A correlation is a single number that describes the degree of relationship between variables.

Data Source: 1InvestorForce, 2Interaction Effect Performance Attribution, 3NEPC, LLC, 4Investopedia, 5Hedgeco.net



GLOSSARY OF INVESTMENT TERMINOLOGY

Coupon⁴ – The interest rate stated on a bond when it is issued. The coupon is typically paid semiannually. This is also referred to as the "coupon rate" or "coupon percent rate."

Currency Effect¹ - Is the effect that changes in currency exchange rates over time affect excess performance.

Derivative Instrument³ - A financial obligation that derives its precise value from the value of one or more other instruments (or assets) at the same point of time. For example, the relationship between the value of an S&P 500 futures contract (the derivative instrument in this case) is determined by the value of the S&P 500 Index and the value of a U.S. Treasury bill that matures at the expiration of the futures contract.

Downside Deviation¹ - Equals the standard deviation of negative return or the measure of downside risk focusing on the standard deviation of negative returns

Formula:

Annualized Standard Deviation (Fund Return - Average Fund Return) where average fund return is greater than individual fund returns, monthly or quarterly.

Duration³ - Duration is a measure of interest rate risk. The greater the duration of a bond, or a portfolio of bonds, the greater its price volatility will be in response to a change in interest rates. A bond's duration is inversely related to interest rates and directly related to time to maturity.

Equity/Debt/Cash Ratio¹ – The percentage of an investment or portfolio that is in Equity, Debt, and/or Cash (i.e. A 7/89/4 ratio represents an investment that is made up of 7% Equity, 89% Debt, and 4% Cash).

Foreign Bond³ - A bond that is issued in a domestic market by a foreign entity, in the domestic market's currency. A foreign bond is most often issued by a foreign firm to raise capital in a domestic market that would be most interested in purchasing the firm's debt. For foreign firms doing a large amount of business in the domestic market, issuing foreign bonds is a common practice.

Hard Hurdle⁵ – is a hurdle rate that once beaten allows a fund manager to charge a performance fee on only the funds above the specified hurdle rate. High-Water Mark⁴ - The highest peak in value that an investment fund/ account has reached. This term is often used in the context of fund manager compensation, which is performance based. Some performance-based fees only get paid when fund performance exceeds the high-water mark. The high-water mark ensures that the manager does not get paid large sums for poor performance.

Hurdle Rate⁴ - The minimum rate of return on an investment required, in order for a manager to collect incentive fees from the investor, which is usually tied to a benchmark.

Interaction Effects² - The interaction effect measures the combined impact of an investment manager's selection and allocation decisions within a sector. For example, if an investment manager had superior selection and over weighted that particular sector, the interaction effect is positive. If an investment manager had superior selection, but underweighted that sector, the interaction effect is negative. In this case, the investment manager did not take advantage of the superior selection by allocating more assets to that sector. Since many investment managers consider the interaction effect to be part of the selection or the allocation, it is often combined with the either effect.

Median³ - The value (rate of return, market sensitivity, etc.) that exceeds onehalf of the values in the population and that is exceeded by one-half of the values. The median has a percentile rank of 50.

Modified Duration³ - The percentage change in the price of a fixed income security that results from a change in yield.

Mortgage Backed Securities (MBS)³ - Bonds which are a general obligation of the issuing institution but are also collateralized by a pool of mortgages.

Municipal Bond (Muni) ⁴ - A debt security issued by a state, municipality or county to finance its capital expenditures.

Net Investment Change¹ – Is the change in an investment after accounting for all Net Cash Flows.

Performance Fee⁴ - A payment made to a fund manager for generating positive returns. The performance fee is generally calculated as a percentage of investment profits, often both realized and unrealized.

Data Source: 1InvestorForce, 2Interaction Effect Performance Attribution, 3NEPC, LLC, 4Investopedia, 5Hedgeco.net



GLOSSARY OF INVESTMENT TERMINOLOGY

Policy Index³ - A custom benchmark designed to indicate the returns that a passive investor would earn by consistently following the asset allocation targets set forth in this investment policy statement.

Price to Book (P/B)⁴ - A ratio used to compare a stock's market value to its book value. It is calculated by dividing the current closing price of the stock by the latest quarter's book value per share, also known as the "price-equity ratio".

Price to Earnings (P/E)³ - The weighted equity P/E is based on current price and trailing 12 months earnings per share (EPS).

Price to Sales (P/S)⁴ - A ratio for valuing a stock relative to its own past performance, other companies, or the market itself. Price to sales is calculated by dividing a stock's current price by its revenue per share for the trailing 12 months.

Return on Equity (ROE)⁴ - The amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.

Selection (or Manager) Effect² - Measures the investment manager's ability to select securities within a given sector relative to a benchmark. The over or underperformance of the portfolio is weighted by the benchmark weight, therefore, selection is not affected by the manager's allocation to the sector. The weight of the sector in the portfolio determines the size of the effect—the larger the sector, the larger the effect is, positive or negative.

Soft Hurdle rate⁵ – is a hurdle rate that once beaten allows a fund manager to charge a performance fee based on the entire annualized return.

Tiered Fee¹ – A fee structure that is paid to fund managers based on the size of the investment (i.e. 1.00% fee on the first \$10M invested, 0.90% on the next \$10M, and 0.80% on the remaining balance).

Total Effects² - The active management (total) effect is the sum of the selection, allocation, and interaction effects. It is also the difference between the total portfolio return and the total benchmark return. You can use the active management effect to determine the amount the investment manager has added to a portfolio's return.

Total Return¹ - The actual rate of return of an investment over a specified time period. Total return includes interest, capital gains, dividends, and distributions realized over a defined time period.

Universe3 - The list of all assets eligible for inclusion in a portfolio.

Upside Deviation - Standard Deviation of Positive Returns

Weighted Avg. Market Cap. ⁴ - A stock market index weighted by the market capitalization of each stock in the index. In such a weighting scheme, larger companies account for a greater portion of the index. Most indexes are constructed in this manner, with the best example being the S&P 500.

Yield (%)³ - The current yield of a security is the current indicated annual dividend rate divided by current price.

Yield to Maturity³ -The discount rate that equates the present value of cash flows, both principal and interest, to market price.

Data Source: ¹InvestorForce, ²Interaction Effect Performance Attribution, ³NEPC, LLC, ⁴Investopedia, ⁵Hedgeco.net



Information Disclaimer

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodian bank.
 Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
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Reporting Methodology

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.

